

Client User Guide

Introduction

What is StoreGrid?

Very simply, Vembu StoreGrid is an extremely versatile Backup Software that works with your Existing Hardware !

StoreGrid literally creates a storage grid from free space on your network. For example, if you have a few PCs connected through a LAN but no backup server, StoreGrid can create a trusted intranet peer-to-peer backup solution to backup desktop and laptop data -it simply taps into surplus hard disk capacity on PCs in a network and uses this to back up user data.

But say, you did have a backup server (or servers) - StoreGrid could then be deployed in a conventional client-server mode. StoreGrid also handles remote online backups easily – ideal if you prefer backing up to a server outside your network.

Like we said, StoreGrid works with your existing hardware !

But there's more – StoreGrid is more than plain vanilla backup. Features include robust data encryption, compression & versioning – and all of these are user configurable. Backup schedules can be continuous, at fixed intervals, or at a particular time and day. When you do need to restore your data, you could drill down as deep as you'd like. Restore everything, just a few folders, or just a few files – its your call! With all this and a detailed reporting engine, you can control your backups the way you want. And yes, all of this at a

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How is StoreGrid different from other backup software?

The difference lies in its flexibility!

- StoreGrid allows the flexibility of multiple deployment modes – use it in Intranet P2P Backup Mode, Client-Server backup mode, or for Remote/Online Backups (or any other configuration we don't know of).
- Since it can be deployed in multiple ways, StoreGrid can be used by a variety of users.
- It works across various operating systems: Windows® XP, Windows 2000, Windows ME, Windows 2000/2003/2008 Server, Linux RedHat 8.0 & above, Debian 4.0, Mandrake 10.0 & above, SuSE 9.x & above, Mac OS X 10.x and FreeBSD 6.1 & above.
- StoreGrid allows users the flexibility to configure their backups the way they want. Every network is different. You are different. Your data is different. You need different backups for different data/users/networks – StoreGrid recognizes this and except for the source code, allows you to configure almost everything else – the way you want!

StoreGrid is different because it offers all this flexibility without compromising on the basics – your data is well encrypted and password protected, compressed, and best of all – StoreGrid quietly works without eating into your CPU, thanks to the incremental backup feature.

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1. Data Backup

1. Automatically detects changes in files and/or directories and backs up accordingly
2. Mobile (laptop) users' data can be backed up immediately as they connect to the LAN
3. Hot links provided for windows registry backup and windows system files backup, among others
4. Versioning support for backing up multiple versions of the same file
5. Incremental backups supported: backs up only changes in files and not the entire file every time. This saves bandwidth and time
6. Supports multiple periodical full backups and incremental backups in between two full backups
7. Supports MySQL Backup in Linux
8. Quick restore capability: end users can easily restore their data up to the file level
9. Optional compression of backed up data possible: saves disk space and network bandwidth
10. Support for auditing User Operations
11. Support for non-English PCs



2. Data Security

1. Encryption support provided to protect users' personal data
2. Robust encryption based on the blowfish algorithm
3. Authentication support between StoreGrid client and server



3. Deployment Flexibility

1. Trusted intranet P2P backup deployment
2. Typical client-server backup deployment
3. Remote backup with StoreGrid server residing outside the intranet
4. Permutations & combinations of 1,2 and 3



4. Supported Platforms - StoreGrid is platform independent and supports the following operating systems

1. Windows® Vista, Windows XP, Windows 2000, Windows 2000/2003 SBS/2003/2008 Server
2. Debian Linux 4.0
3. Mandrake Linux 10.0 and above
4. RedHat Linux 8.x and above
5. SuSE Linux 9.x and above
6. Mac OS X 10.x
7. FreeBSD 6.1 and above



5. Supported Browsers - StoreGrid requires one of the following browsers to be installed in the system

1. Internet Explorer 5.5 and above
2. Firefox 1.0 and above
3. Netscape 7.0 and above
4. Opera 7.01 and above
5. Mozilla 1.5 and above
6. Safari 1.2.4 and above



Terminology

These are some terms we use quite liberally – both in this document, and in our user interface. So here's a short description of what each of them means.

StoreGrid Service Provider Edition Terminology:

- **Service Provider** - The provider who offers the online backup service.
- **Reseller** - The reseller who sells the online backup service provided by the Service Provider to the end customers.
- **Customer** - The end customer of the Reseller/Service Provider who is backing up online to the service provider's data center.
- **Client** - PCs/Laptops/Servers in the customer site backing up to the StoreGrid server installed in the Service Provider's data center. These PCs have StoreGrid installed in the Client mode.
- **StoreGrid ID** - This is the unique ID each installation of StoreGrid is identified with. StoreGrid will prompt you to give an ID during the installation. It will automatically take the machine name as the StoreGrid ID by default.
- **MCALs** - MCALs are monthly licensing units. MCALs are added to the backup server by applying MCAL license keys. The added MCALs in the backup server are consumed on a monthly basis for licensing the clients that are backing up to the backup server. No MCALs are needed to be added in the replication server.

StoreGrid General Terminology:

StoreGrid Server:

A StoreGrid Server receives (and stores) backup data from StoreGrid Clients.

The backed up data is stored in the machine which runs the StoreGrid Server – a PC can run StoreGrid server if you plan to store data on that PC.

StoreGrid Client:

A machine that has data it wants to back up has to run StoreGrid Client.

The StoreGrid Client backs up its data on to a machine running StoreGrid Server.

(anyone who purchases a paid license of Vembu StoreGrid is also a StoreGrid client 😊)

Replication:

Term used for the process where a backup server sends its backup data to a replication server to create a redundant copy of the backup data.

StoreGrid Replication Server :

A machine that receives replication data from a backup server. In case the backup server crashes, it can be restored from the replicated data in the replication server. A backup server can replicate to only one replication server. A replication server can accept replication from more than one backup servers.

StoreGrid Cluster :

The term specifies the deployment of StoreGrid in a cluster. A number of StoreGrid Servers [Backup & Replication] can be deployed to be run as a single entity and all storing and accessing the StoreGrid metadata in a centralized StoreGrid Database using ODBC. This will enable StoreGrid Server to scale to multiple StoreGrid clients to connect for backup/restore processes simultaneously.

StoreGrid Cluster Node :

This mentions one of the StoreGrid Server instances running inside the StoreGrid Cluster. They get registered to the Cluster configuration as an active node in the cluster at startup.

Server Lookup :

A client looking up to the Master Server in the cluster to determine whom to connect for backup and restore.

StoreGrid Web Console :

This is the browser based StoreGrid user interface from which the backup, restore and administration of StoreGrid servers and clients are done.

Since the user interface is browser based, any StoreGrid Client or Server can be configured and administered from any location.

Remote / Online Backups :

The same as client-server (see above), except that the 'server' is outside the clients' network.

Web Services API :

The ability to access StoreGrid meta information via standard HTTP/HTTPS Requests from the StoreGrid Web Portal.

NAT/Firewall Configuration

This page provides information about the ports used by StoreGrid, and the ports that need to be opened to enable StoreGrid to work across NAT/Firewall.

The following ports are needed to be opened up at the StoreGrid Backup/Replication Servers for StoreGrid server to be able to receive the backup/restore/delete/replication/webservice requests from the clients:

- TCP Port 32004 - for processing Backup/Restore/Delete/Replication requests.
- TCP Port 32007 - for processing Backup/Restore/Delete/Replication requests.
- HTTP Port 6060 - for processing WebService requests.
- HTTP Port 6061 - for processing WebService requests.

In some cases, ports will need to be added to the Firewall exception list to ensure StoreGrid functioning smoothly for backups. As Windows XP SP2/SP3, Vista & Windows 7 OS have built in firewall which restrict ports opened by applications, the ports need to be added to the Firewall exception list. Hence, it is recommended to add the ports or StoreGrid.exe in the Firewall exception list for these operating systems.

The following ports are needed to be added to the Firewall exception list at the StoreGrid Clients:

- TCP Port 32005 - for processing Apache/PHP console requests to StoreGrid backend.
- TCP Port 32008 - for processing StoreGrid Exchange Mailbox backups in Windows 64 bit OS.
- HTTP Port 6060 - for processing WebConsole requests.
- HTTP Port 6061 - for processing WebConsole requests.

The purpose of the above ports are mentioned in detail below.

TCP Port 32004

StoreGrid Server opens this port. All Client-Server communication including backups, restore etc. (except TCP discovery) is done through this port. If a StoreGrid Server is behind a NAT/Firewall then this port needs to be opened to enable StoreGrid clients to backup to this server. Opening up this port is mandatory for the core functionality of backup and restore to work in StoreGrid. By default the port used by StoreGrid is 32004, if you have modified the 'Backup Server Port' during installation, then you have to open the corresponding port in your NAT/Firewall.

TCP SSL Port 32007

From StoreGrid v2.3, StoreGrid clients can send the backup data to the backup server on secure SSL port 32007. This port is disabled in the backup server and the client by default. SSL port can be enabled by changing the Enabled attribute to 1 in the SSL tag in the SGConfiguration.conf file. When enabled in the backup server, the StoreGrid backup server can accept backup requests on both port 32004 and the SSL port 32007. When enabled in the client, the client will start sending the backup data on the SSL port.

If SSL port is enabled in the backup server and in the client, all Client-Server communication including backups, restore etc. (except TCP discovery) from that client will be done through the SSL port 32007 and therefore if a StoreGrid Server is behind a NAT/Firewall then this port needs to be opened to enable the StoreGrid client to backup to this server.

By default the port used by StoreGrid for SSL is 32007. But it can be modified by changing the 'SSLServer' attribute in the 'Ports' tag in the SGConfiguration.conf file. This port number should be set the same in both the server and the client.

TCP Port 6060, 6061

These ports are used by the StoreGrid Web Server (Apache) to serve requests from StoreGrid WebConsole (User Interface). These ports are configurable. When you first install StoreGrid you would have been given an option to change these ports. The NAT/Firewall should also 'allow' these ports if you need the ability to connect/administer a StoreGrid peer behind the NAT/Firewall.

In a Backup Server Cluster setup, client machines make web service requests to the Server instances on these ports for cluster node lookup. Therefore, in a cluster environment, it is recommended that the server side firewall is configured to allow incoming HTTP/HTTPS traffic on these ports and the client side firewall is setup to allow outgoing HTTP/HTTPS traffic

on these ports. Similarly, in a Replication Server Cluster setup, the backup servers replicating to the cluster make HTTP/HTTPS requests on these ports.

TCP Port 32008(Windows 64-bit OS)

From StoreGrid v2.4 Exchange Mailbox backup and restore is supported for Exchange Server 2007. StoreGrid 64-bit client exe can send the backup request to the 32-bit client exe on port 32008 running in the same machine. If a StoreGrid Client is behind a NAT/Firewall then this port needs to be opened to enable Exchange 2007 Mailbox backup and restore to be performed. Opening up this port is mandatory for the core Exchange 2007 Mailbox functionality of backup and restore to work in StoreGrid. By default the port used by StoreGrid for Exchange 2007 Mailbox backup is 32008. But it can be modified by changing the "MAPI32Bit" attribute in the "Ports" tag in the SGConfiguration.conf file located in `<INSTALLATION_HOME>/conf` folder.

TCP Port 32005

Both StoreGrid Client and Server open this port. This port is used for two purposes:

1. For all communication between the PHP module (invoked by the StoreGrid browser based WebConsole) and the StoreGrid C++ modules. In StoreGrid, all UI requests from the browser are served by PHP pages, which in turn connect to this port to get the required data. By default the port used by StoreGrid is 32005, if you have modified the 'UI Communication Port' during installation, then you have to open the corresponding port in your NAT/Firewall.
2. StoreGrid peers also use this port to do a more complete discovery of each other sharing details about other peers etc. This TCP discovery is always enabled in StoreGrid.

This port need not be configured in the NAT/Firewall. If so, the only feature that would not work is: Switching to a StoreGrid peer behind the NAT/Firewall through the WebConsole of another StoreGrid peer outside the NAT/Firewall.

Multicast Ports (UDP) 6363, 6364 [optional, by default not used]

These two multicast ports are used by StoreGrid Clients and Servers for discovering peers within a subnet. In most networks, multicasting will work only within a subnet. There is no need to open these ports in firewall or NAT devices as multicast packets may not be sent across networks, anyway.

From StoreGrid v3.0, Multicast discovery is disabled by default. It can be enabled by changing the 'SocketDiscoveryEnabled' attribute in the SGInformation.conf file.

UDP Port 32006 [optional, by default not used]

This UDP port is used in discovery of StoreGrid peers in a network. StoreGrid does a UDP scanning on port 32006 of all possible IP Addresses in a network to detect the presence of other StoreGrid peers. There is no need to open this port in the NAT/firewall as StoreGrid does the UDP scanning only within its subnet. By default, UDP network scanning is disabled in StoreGrid.

Vembu StoreGrid Troubleshooting Guide

1. Description of the Error Codes
2. StoreGrid reports an error "Unable to list the Exchange mailbox users. Make sure sufficient permissions are available for the user account under which StoreGrid service is running.
3. StoreGrid reports an error "Unable to list the Exchange mailbox users..." when trying to configure mailbox level backup in 2007 Exchange server (64 bit) machines.
4. SG0147/SG0136: Unable to connect to the Backup Server
5. SG0198: Connection failure error / SG0083: Unable to send backup details to server
6. SG0132: Invalid remote socket
7. SG0145/SG0134: Unable to get target machine
8. SGRP0001: No Server available for Replication
9. SG0083: Exceeding allotted backup space in the server
10. Server incorrectly shows that a backup is still in progress when the client has suspended the backup
11. Clients not backing up to the server after moving the clients from trial customer
12. Problem in accessing the snapshot device while opening a file
13. "Error Code 21 Cannot Start StoreGrid" message from the tray / "Error in Starting StoreGrid" message from StoreGrid Tray
14. Client did not receive a valid license from the Backup Server
15. Customer Migration failed. The target customer does not have enough licenses(MCALs)
16. Failed to authenticate this client with the Backup Server
17. Backup request failed for backup [*Backup Name*] To Server [*Server Name*] with Error : Unable to take backup to Replication Server
18. On backup completion, a message "there were no modified files" is shown though several files were actually modified
19. SG: Unable to allot backup space
20. StoreGrid not able to backup over the internet
21. StoreGrid doesn't seem to work in XP SP2/SP3
22. Backup of trial customers stop at 100MB though enough space is allocated in the server
23. StoreGrid Server is not listed in the "Backup Servers" list
24. StoreGrid has exited, do you want to restart it
25. "Apache.exe could not be replaced" message during installation
26. Linux installation fails while installing GD/PHP (applicable only to versions older than 2.3)
27. Unable to log you in. Make sure StoreGrid is running. / No connection could be made because the target machine actively refused it
28. "Cannot export .\registry\regbackup.reg:Error opening the file. There may be a disk or file system error." error in Vista.
29. StoreGrid doesn't seem to run properly after upgrading Windows to Vista.
30. Error while dumping the Exchange Mail Boxes. Unable to create the PST file [or] "No new/modified files for backup"
31. Dump location does not have enough space to export the PST file
32. Error while creating the dump location <Dump_Location>

33. [Users Mailbox/folder are not listed in the "Add Exchange Mailbox Backup" page.](#)
34. [StoreGrid fails to list some files/folders during a backup schedule.](#)
35. [I had changed the dump location and now I am not able to restore the previous backups.\[Applicable for Exchange Server, Exchange Mailbox and SQL Server backups.\]](#)

1. Description of the Error Codes

Common StoreGrid Error Codes and their corresponding description are listed below. If you require further clarification on these or if you encounter a different error code from those listed below, contact us at storegrid-support@vembu.com

Error Codes	What does this error code mean?
SG0083	This error occurs when : <ol style="list-style-type: none"> i. The socket connection between the Client and the Server gets disconnected due to any external force such as an Internet Link error, Intrusion Detection software, Antivirus software or NAT/Firewall Idle socket configuration. Click here for the resolution ii. Exceeding allotted backup space in the server. Click here for the resolution
SG0198	This error occurs when the socket connection between the Client and the Server gets disconnected due to any external force such as a. Internet Link error, b. Intrusion Detection software, c. Antivirus software, d. NAT/Firewall Idle socket configuration. Click here for the resolution
SG0145/SG0134	Problem in resolving Backup Server Name and IP Address, DNS Lookup for Backup Server Name or IP Address failed. Click here for the resolution
SG0147/SG0136	Problem in connecting to Backup Server, Backup Port (32004) not opened up in NAT/Firewall or StoreGrid not running. Click here for the resolution
SG0200	No drive space available in the Backup Server to continue the backups
SG0191	Active backup is suspended in the client or the Backup Server
SG0178	Exceeding allotted backup space in Backup Server
SG0180	Backup space not configured for the client in the Backup Server
SG0601	Failed to initialize the compression module to compress file contents for backup
SG0094	Unable to read the file during time of backup
SG0290	Backup schedule is active during delete schedule configuration, suspend the backup and schedule delete
SG0291	Backup schedule Restore is active during delete schedule configuration, suspend the backup and schedule delete
SG0292	Backup schedule Delete is in progress, Delete schedule updated
SG0170	Unable to send out delete request to Backup Server for deletion of backup data from client
SG0132	Invalid remote socket. Click here for the resolution
SGRP0001	No Server available for Replication. Click here for the resolution
Error Code 21	Cannot Start StoreGrid or Error in Starting StoreGrid. Click here for the resolution

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2. **StoreGrid reports an error "Unable to list the Exchange mailbox users. Make sure sufficient permissions are available for the user account under which StoreGrid service is running.**

Resolution :

If you encounter an error while accessing "*Add Exchange Mailbox Backup*" page in the StoreGrid webconsole, then follow the steps given below to resolve the issue:

1. Create a new user with sufficient rights through Active Directory Users and Computers.
2. Assign "*Full Mailbox Access*" permission to that new user.
3. Use this new account with full mailbox rights as StoreGrid service's logon account and restart StoreGrid service. Specify the display name of this account [and global catalog server name in case of Windows Server 2008 machines] in the configuration page that opens on clicking the link shown at the bottom of the tree view section and check if mailboxes are listed successfully.
4. Add the '**MSPST MS**' service by modifying the **MAPI SVC.INF** file.
(**NOTE:** above 3 steps should resolve the issue in listing the Mailbox users in the "*Add Exchange Mailbox Backup*" page. However '**MSPST MS**' service should be added in the **MAPI SVC.INF** file to successfully backup the Exchange users mailbox).

Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.

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3. StoreGrid reports an error "Unable to list the Exchange mailbox users..." when trying to configure Exchange Mailbox level backup in 2007 Exchange server (64 bit) machines.

Resolution :

StoreGrid uses Microsoft's MAPI client component installed in the Exchange Server to backup the Exchange Mailboxes. For 64-bit environment the MAPI client component is yet to be released by Microsoft. Currently, StoreGrid uses its 32-bit exe to list, backup and restore the Exchange Mailboxes in 64-bit machines. To accomplish this, StoreGrid 32-bit exe requires Microsoft's 32-bit MAPI client component.

Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the Exchange 2007 mailboxes.

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4. SG0147/SG0136: Unable to connect to the Backup Server

Cause:

This error occurs when

- a. Client is not able to connect to the Backup Server's Backup Port (default 32004).
- b. StoreGrid is not started in the server machine, therefore Backup Port (default 32004) is not occupied by StoreGrid.

Resolution:

- i. Confirm if the client is able to connect the Backup Server's Backup Port (default 32004) by executing *telnet <Server Name/IP Address> <Backup Port>* command in the StoreGrid Client system through the command prompt.
- ii. If the telnet command doesn't work, then check the firewall configuration of the StoreGrid Server and make sure the Backup Port (default 32004) is open for the incoming traffic.
- iii. Check that the StoreGrid server is running in your StoreGrid Server machine and the Backup Port is in *LISTEN* state by executing *netstat -an | find <Backup Port>* [in Windows OS] or *netstat -an | grep <Backup Port>* [in Linux OS] in StoreGrid Backup Server system.
- iv. If Backup Port is not in *LISTEN* state, start the StoreGrid in the Backup Server. Also make sure StoreGrid is running as Server.
- v. If the Backup Port is in *LISTEN* state and telnet command fails, make sure the Backup Port is open in the Backup Server network's NAT/Firewall settings.

- vi. Also confirm that both the backup server and the client are configured with the same Backup Port (by default, the port should be 32004). Verify this by checking the < *StoreGrid Home*>/conf/SGConfiguration.conf file.
- vii. Refer the following URL to know more about NAT/Firewall configurations. [nat-firewall-configuration.html](#)

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5. SG0198: Connection failure error / SG0083: Unable to send backup details to server

Cause:

These errors occur when the connection between a client and the Backup Server is closed prematurely by an external force, while the StoreGrid is actively processing the backup data to the Backup Server. The external forces may be:

- a. NAT/Firewall configurations.
- b. Low end routers/switches.
- c. Intrusion detection software.
- d. Internet-link error.

Resolution:

- i. Most routers, NATs and firewalls keep a track of all connections made through them. They will assume a connection to be dead if no data is transferred in either direction for a certain time interval and they may then close the network connection. Hence, check the "Idle Socket Timeout" configuration in the NAT/Firewall settings.
- ii. The premature closure of the connection can be prevented by configuring either the *Keep Alive Time* in the Windows Registry or by configuring the *Application Level Keep Alive Time* (available since StoreGrid 2.2 Release)

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6. SG0132: Invalid remote socket

Cause:

This error message occurs when StoreGrid client exits or its connection is closed when the backup is in progress. Check the Client side historical backup report from the *Backup -> List Backup Schedules -> Backup Summary Report(action) -> Click to view historical backup report (link)*. The historical backup report page will show one of the following errors:

- a. 'StoreGrid stopped during backup' – This error indicates that either the StoreGrid process was stopped during backup or the StoreGrid Client machine was shutdown/restarted while the backup was in progress.
- b. 'Unable to send backup details...' - This error indicates that the socket connection was closed prematurely. Check the timeout settings in the server side NAT/Firewall settings. Sometimes an existing socket connection is closed when the socket remains idle for a specified time period.

Resolution:

- i. This problem occurs when the socket connection to the backup server from the client is disconnected for reason. When the connection between the client and the backup server is lost, the StoreGrid client will automatically try to reestablish the connection and proceed with the backup from where it left off. However, if the client is not able to reestablish the connection after several attempts, then this error message is thrown. In such a scenario, check the elements (NAT/firewall/Router) in the network and see if they are closing the connection for some reason.

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7. SG0145/SG0134: Unable to get target machine

Cause:

This error occurs when there is a problem in resolving the Backup Server's name at the client side. This can be verified by running the following commands in the client machine's command prompt:

- a. *ping <Backup Server Name>* command.
- b. *nslookup <Backup Server Name>* command.

If the above commands work, then the StoreGrid should be able to resolve the Backup Server's hostname. If the above commands fail, then check the DNS configurations on the client side and make sure that the client is able to lookup Backup Server's hostname. Also, try running the *telnet <Backup Server Name> <Backup Port>* (by default the Backup Port is 32004) command in the client machine. If the telnet command works (shows a blank console screen), then backup should work.

Resolution:

If the client is not able to resolve the Backup Server's hostname, try configuring the backup with the Backup Server's IP address as the server name by following the steps given below:

- i. Go to the *Settings -> Add/Delete peer* page in the StoreGrid Client web console.
- ii. Delete the Backup Server name from the list of StoreGrid running machines.
- iii. Add the IP address of the Backup Server in the Add Peer. Now the IP address of the Backup Server will be listed in the list of backup servers in the *Backup -> Add Backup* page.
- iv. Configure a backup using the Backup Server's IP from menu *Backup -> Add Backup* page.

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8. SGRP0001: No Server available for Replication

Cause:

This error will occur if the Backup Server is unable to connect to the Replication Server during the replication process due to one of the following reasons:

- a. Replication Server is not running in the system.
- b. Backup Server is not able to resolve the Replication Server's hostname due to DNS lookup issue.
- c. Replication Port (default: 32004) is not open in the Replication Server side NAT/Firewall/Router settings.

Resolution:

Use the following commands to check the connectivity from Backup Server to Replication Server:

- i. *ping <Replication Server Name>*
- ii. *nslookup <Replication Server Name>*
- iii. *telnet <Replication Server Name> <Replication port>*

If the above commands work, then replication should also work. If the *ping* and *nslookup* commands fail, then it is a DNS lookup issue for the Replication Server hostname from the Backup Server. If the telnet command fails, then check if the Replication Port is open in the firewall at the Replication Server and make sure StoreGrid Replication Server is running in that port.

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9. SG0083: Exceeding allotted backup space in the server

Cause:

This error occurs if the client is trying to use more backup space than the allotted space.

Resolution:

- i. Check the allotted space for the particular client in the Backup Server.

- ii. To increase the space for the client in Backup Server, go to *Server Admin -> Reseller Management -> List of Resellers -> [Reseller_Name] -> [Customer_Name] -> Edit Configuration (Action for the particular Client)* page and enter the required space in Space Allotted field. Refer to the URL <PageHelp/client-backup-configuration.html> for more details.

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10. Server incorrectly shows that a backup is still in progress when the client has suspended the backup

Cause:

This error occurs when the TCP connection between the client and the server is closed prematurely, due to which though the backup was suspended in the client, the server thinks that the backup is still in progress. In the next incremental backup schedule from the client, StoreGrid will reset the status of the backup schedule in the Backup Server. If the reset of active status completes successfully, then the StoreGrid client will continue the backup. However, if for some reason the reset of active status fails, then backup will fail with the 'Backup in progress' error message in the client's backup report.

Resolution:

- i. This error should be cleared during the next backup schedule. If it doesn't, then try restarting the Backup Server once to see if this error goes off in the subsequent schedule.
- ii. This issue is fixed in v2.3 by updating the status based on the Keep Alive messages (for each backup schedule) received from the clients.

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11. Clients not backing up to the server after moving the clients from trial customer

Cause:

This error could occur if the client is deactivated or the customer doesn't have enough MCALs.

Resolution:

Make sure that the customer and client are not deactivated by going to the *Server Admin -> Reseller Management -> Reseller [reseller name]* page and then checking the action (activate/deactivate) for the particular customer. To check the client status, go to *Server Admin -> Reseller Management -> Reseller [reseller name] -> Customer [customer name]* page and check the action (activate/deactivate) for the particular client.

- i. Ensure sufficient MCALs are available for the customer.
- ii. Check the MCAL's configuration to verify the MCAL's limit set to the particular customer.
- iii. Increase the allotted MCAL or edit the MCAL configuration for the customer to AUTO by choosing the option Automatically use MCALs from the *Server Admin -> Reseller Management -> Reseller [reseller name] -> <Customer Name> -> Edit Configuration* page.
- iv. Now, try configuring the backups from the client to the server and check if the error is resolved.

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12. Problem in accessing the snapshot device while opening file

Cause:

This error appears when the StoreGrid is unable to open the configured files for backup from the snapshot device, when the 'Volume Shadow Copy' option is enabled for the backup schedule. This happens if the file to be backed up doesn't exist when the snapshot is performed, but exists while StoreGrid is listing the files for backup.

Resolution:

StoreGrid will backup these skipped file(s) in the subsequent backup schedules

- i. Check the skipped files count in the next schedule.
- ii. If the problem persists, try disabling the 'Volume Shadow Copy' option for that backup schedule through the *Backup -> List Backup Schedules -> Edit(Action for the particular backup) -> Advanced Options* page.

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13. "Error Code 21 Cannot Start StoreGrid" message from the tray / "Error in Starting StoreGrid" message from StoreGrid Tray

Cause:

These errors occur when the StoreGrid tray is unable to start the StoreGrid Application or the Service. The reason could be one of the following:

- a. The StoreGrid Tray application doesn't have permissions to start the StoreGrid Service.
- b. The StoreGrid Application file is not available at the StoreGrid Tray Applications path, i.e < StoreGrid Home>\bin location.
- c. Another instance of StoreGrid is already running in the machine.

Resolution:

- i. Check if the StoreGrid Tray Application is running in an user account who has privileges to start the StoreGrid Service.
- ii. Check if the StoreGrid service's logon user has enough privileges to start Windows services.
- iii. Check if any other StoreGrid instance is already running in the system. You can verify this by checking for "StoreGrid.exe" process in the 'Task Manager' tool. If there is already another instance running, try stopping that process and then starting it again.

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14. Client did not receive a valid license from the Backup Server

Cause:

This error occurs if the client does not have enough MCALs for the Customer in the Backup Server. StoreGrid will validate the MCAL allotted for the client based on the MCAL pool allotted to the Customer or globally on the Server. The MCALs will be used every month for the clients in the Backup Server based on the client's operating system and the usage of SQL & Exchange Server Plugins in the client.

Resolution:

Apply MCALs for the customer. For more information on MCALs and their usage in the Backup Server, refer to the following URLs:

- i. For MCAL Management : [PageHelp/mcal-management.html](#)
- ii. To Add MCALs : [PageHelp/add-mcals.html](#)
- iii. For MCAL Utilization : [PageHelp/mcal-utilization.html](#)

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15. Customer Migration failed. The target customer does not have enough licenses (MCALs)

Cause:

The error message occurs when there are not enough MCALs available for the customer to which the clients are being

migrated.

Resolution:

- i. If the paid customer doesn't have enough MCALs for the new clients, generate the necessary MCALs through the Partner Zone from your existing MCAL credits and add them to the Backup Server using *Server Admin -> License management -> Add MCALs* page in the StoreGrid Web console.

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16. Failed to authenticate this client with the Backup Server

Cause 1:

If *Disable Auto Authorization* is selected in the Backup Server.

Resolution:

Enable *Auto Authorization* option for the particular customer and check.

Cause 2:

If there is a password mismatch between the Backup Server and the Client.

Resolution:

If this is the case,

- i. Reset the client's password in the StoreGrid Backup Server. Go to *Server Admin -> Reseller Management -> List of Resellers -> [Reseller Name] -> [Customer_Name] -> Reset Password (Action for the Backup Server)* page in the backup server's web console.
- ii. Reset the server password for the client through *Settings -> Authenticate Client -> Reset Password (Action for the Backup Server)* page in StoreGrid client's web console.
- iii. Authorize a new password (for both client and server) by editing the password in the Backup Server in *Server Admin -> Reseller Management -> List of Reseller -> [Reseller Name] -> [Customer_Name] -> Edit Client Configuration* page in the server web console and then authorizing the client with the same password from the *Settings -> Advanced Options -> Authorize Client* page in the client web console.
- iv. Resume the backup schedule and check if it works.

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17. Backup request failed for backup [Backup Name] To Server [Server Name] with Error : Unable to take backup to Replication Server

Cause:

This error will occur if the Backup is configured directly from the StoreGrid client to the StoreGrid Replication Server.

- a. The StoreGrid Replication Server will not accept the backup request from StoreGrid Clients.
- b. StoreGrid Replication Server is designed only for receiving replication requests and replication data from the Backup Server and to handle restore requests from the client.
- c. Similarly, the StoreGrid Backup Server is designed for receiving Backup/Restore Requests from the client.
- d. Hence, Replication Server will not process the backup request from the StoreGrid client.

Resolution:

- i. Configure backup from StoreGrid client to StoreGrid Backup Server.
- ii. Enable replication in the StoreGrid Backup Server for the corresponding customer.
- iii. The client will backup to their server and the backup data on the server will be replicated to Replication Server.

18. **On backup completion, a message "there were no modified files" is shown though several files were actually modified**

Cause:

This error might occur if files to be backed up are from a mapped drive and *Automatic Directory Monitoring* is enabled for the backup.

- a. StoreGrid client running on Windows OS can use the Windows Directory Monitoring to get a notification when a file configured for backup is added/deleted/modified.
- b. These notifications are saved in the database to create the list of files that need to be backed up during the next backup schedule.
- c. However, notifications are not sent by the Directory Monitoring when the files modified/deleted/updated are in a mapped drive.
- d. Therefore, StoreGrid will not be able to identify the changed files when Automatic Directory Monitoring is enabled for backup of files from a mapped drive.

Resolution:

- i. Disabling *Automatic Directory Monitoring* should resolve this issue.
- ii. Uncheck *Automatic Directory Monitoring* in the *Backup -> List Backup Schedules -> Edit Backup Configuration (Action for particular backup) -> Advanced Options* page.
- iii. If the backup is already in progress, then suspending and resuming it manually will make the StoreGrid list all files/folders for backup again and therefore the files will get picked up.

19. **SG: Unable to allot backup space**

Cause:

This error will occur if the sum of the allotted space for all the clients is larger than the total allotted space for the Backup Server.

Resolution:

- i. Before increasing the space for a client, confirm if the server has enough allotted space.
- ii. Then increase the allotted space for the client.
- iii. If the server does not have the necessary space, increase the allotted space for the Backup Server by going to *Settings -> Server Settings* page and then increase the allotted space for the client.
- iv. After increasing the allotted space for the client in the Backup Server, schedule the backup from the client and check if the backup is successful.

20. **StoreGrid not able to backup over the internet**

Cause:

StoreGrid is not able to connect to the server on the Backup Port (default 32004).

Resolution:

- i. Check the Backup Server side NAT/firewall settings. Make sure the incoming traffic on the Backup Port (default 32004) to the Backup Server is not blocked.

- ii. Run a quick check for the connectivity from the client with the command *telnet <server name/server IP Address> <Backup port>*.
- iii. If this command works, then the client should be able to backup to the server over the internet. If it fails, then make sure that Backup Port (32004) is open in the Firewall/NAT configuration in the network where the server is installed.

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21. StoreGrid doesn't seem to work in XP SP2/SP3

Cause:

In Windows XP SP2/SP3, the firewall is enabled by default. StoreGrid can neither discover other StoreGrid peers nor it can backup data to other machines.

Resolution:

Either disable the firewall settings or enable the ports for StoreGrid to work.

- a. To disable the firewall, follow the steps below:

1. Open *START->CONTROL PANEL->WINDOWS FIREWALL*
2. Select *Exceptions* tab
3. Under 'Programs and Services', click on *Add Programs* button
4. Browse and choose the StoreGrid.exe and Apache.exe. StoreGrid.exe is located at "InstallDir"\Vembu\StoreGrid\bin directory. Apache.exe is located at "InstallDir"\Vembu\StoreGrid\apache directory. "InstallDir " is the location where StoreGrid is installed (by default it is C:\Program Files).
5. Select *OK* to save the configuration and exit. StoreGrid can now use any TCP/UDP ports as the firewall settings have been disabled for the StoreGrid and Apache applications.

- b. Enable to the following ports:

TCP Ports: 32004, 32005, 32007, 32008, 6060, 6061

UDP Ports: 32006, 6363, 6364

1. Open *START->CONTROL PANEL->WINDOWS FIREWALL*
2. Select *Exceptions* tab
3. Under Programs and Services, click *Add Port* button
4. Add 4 TCP Ports with unique names, allowing TCP Port numbers 32004,32005, 32007, 32008, 6060 and 6061.
5. Add 3 UDP Ports with unique names, allowing UDP Port numbers 32006, 6363 and 6364.
6. Select *OK* to save the configuration and exit.

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22. Backup of trial customers stop at 100MB though enough space is allocated in the server

Cause:

From StoreGrid 2.2 release, StoreGrid Backup Server by default allocates 100 MB of disk space for the trial customers.

Resolution:

- a. This default value can be changed through the server webconsole *Server Admin -> Reseller Management -> Trial Client Settings (icon)* page. However, the changed space allocation configuration will be applicable only to the new trial clients

- b. To change the space allocated for the existing trial customers, go to *Server Admin -> Reseller Management -> <Reseller_Name> (Link) -> <Customer_Name> (Link) -> Edit Configuration (Action for the particular client)* page in the StoreGrid server webconsole.

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23. StoreGrid Server is not listed in the "Backup Servers" list

Cause:

StoreGrid automatically discovers other StoreGrid peers in a network using various means (multicast, UDP port scan, TCP port scan etc). If for some reason a StoreGrid server or client is not discovered automatically, it will not be listed in the 'Backup Servers' list.

Resolution:

Manually add the StoreGrid peer to the list from the menu item *Settings->Add Peer*. In the "Add Peer" page, enter the StoreGrid peer's name or IP address. This is especially relevant if some peers are outside the network (as in the case of remote online backups).

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24. StoreGrid has exited, do you want to restart it

Cause:

This error appears when StoreGrid application is shutdown and Windows does not clean up the TCP network connections.

Resolution:

Run the command `netstat -a` from a command window (*Start > All Programs > Accessories > Command Prompt*) and check if the TCP ports 32004 or 32005 are in listening mode. If the ports are in listening mode, then the system has to be restarted.

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25. "Apache.exe could not be replaced" message during installation

Cause:

This happens when the StoreGrid web server service (which uses Apache) did not exit properly when the previous installation of StoreGrid service was deleted.

Resolution:

Open the windows task manager and kill any instances of php and apache that is running. If this does not help, open the *Control Panel->Administrator Tool->Services* and stop the StoreGrid Web server service and then proceed with the install.

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26. Linux installation fails while installing GD/PHP (applicable only to versions older than 2.3)

Cause:

StoreGrid uses Apache, GD and PHP for its browser based user interface. StoreGrid is bundled with Apache, GD and PHP source files and these files get compiled during installation. StoreGrid installs Apache, GD and PHP in `/Vembu/StoreGrid` directory. And it is packaged with the modules that are required for StoreGrid user interface. If the required packages or third party libraries are not present, then the compilation will fail.

Resolution:

Before installing StoreGrid in linux machines, please check that the following packages are installed.

1. make, available from <http://ftp.gnu.org/pub/gnu/make/>
2. gcc, available from <http://gcc.gnu.org/>
3. g++, available from <http://gcc.gnu.org/>
4. libstdc++5, available from <http://gcc.gnu.org/libstdc++/>

The following third-party libraries will be used by GD if found by configure. While GD will compile and install even without these, it is recommended that at least zlib, libpng, freetype and jpeg are installed as well:

1. Data compression library: zlib, available from <http://www.gzip.org/zlib/>
2. Portable Network Graphics library; requires libpng, available from <http://http://www.libpng.org/pub/png/>
3. Free, high-quality, and portable font engine: FreeType 2.x, available from <http://www.freetype.org/>
4. Portable JPEG compression/decompression library: JPEG library, available from <http://www.ijg.org/>

To install PHP following 3rd-party libraries are required :

1. Flex, available from <http://lex.sourceforge.net/>
Flex is a tool for generating programs that perform pattern-matching on text.
2. Bison, available from <http://www.gnu.org/software/bison/>
Bison is a general-purpose parser generator that converts a grammar description for an LALR context-free grammar into a C program to parse that grammar.
3. libxml2, available from <http://www.xmlsoft.org/>

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27. Unable to log you in. Make sure StoreGrid is running / No connection could be made because the target machine actively refused it

Cause 1:

StoreGrid application is not running in the system.

Resolution:

In Windows OS.

- i. Confirm that the StoreGrid application [StoreGrid.exe] is running in the system by using "Task Manager".
- ii. If the application is not running, start StoreGrid through the StoreGrid system tray application.

In Linux OS

- i. Verify if the StoreGrid application is running in the system by executing the command 'ps -e |grep StoreGrid'.
- ii. If the application is not running, start it with the command "sh start VembuStoreGrid.sh" in < StoreGrid_HOME> directory.
- iii. If you see the following error message: "error while loading shared libraries: libstdc++.so.5..." while trying to start StoreGrid, check whether the libstdc++.so.5 and other compatible libraries are installed in that system. You can check this by listing the libraries by "ls -l /usr/lib/libstdc++.so.5*" command.
- iv. If it is a 64 bit system, make sure 32 bit compatible libraries are present in your 64 bit Linux OS as StoreGrid runs as a 32 bit application in a 64 bit Linux machine. If the libraries are missing, please install 32 bit compatible libraries in your system and then try to start StoreGrid.

For example, if your Linux flavor is Debian or Ubuntu or Gentoo, then install the 32 bit libraries with the following command:

```
$ apt-get install ia32-libs
```

For RedHat machine, you can search the dependency packages and install it by the following commands:-

\$yum search <Package Name> - To check the package is in the machine or not.

\$yum install <Package Name> - To install the package.

Note: The above command should be executed with the root user privileges.

Cause 2:

The StoreGrid web console is unable to connect the StoreGrid applications UI communication port [by default, 32005].

Resolution:

Confirm if the StoreGrid is in the listening mode at the UI communication port.

- i. Verify this by running the command 'netstat -an | find "32005"' in the command prompt to check if the port 32005 is in LISTEN state.
- ii. Run the "telnet <machine name> 32005" command in command prompt to confirm if the web console can access the StoreGrid application UI communication port.
- iii. If any personnel firewall/intrusion detection tools are installed in the system, try adding the StoreGrid.exe, SGTray.exe applications and 32005 default port in the NAT/Firewall configuration's exception list and then try logging into the StoreGrid's web console.

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28. Cannot export .\registry\regbackup.reg:Error opening the file. There may be a disk or file system error." error in Vista.

Cause:

This error message shows up in Windows Vista when the user does not have full administrator privileges. In Vista, an application can be run as a service only by the Administrator account. A user account cannot run it as a service even if it has all the administrative privileges.

Resolution:

- i. Select StoreGrid build exe.
- ii. Right click the exe and "run as an administrator".

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29. StoreGrid doesn't seem to run properly after upgrading Windows to Vista.

Cause 1:

If StoreGrid was installed in an older version of Windows and then if the OS was upgraded to Vista, StoreGrid may fail to run.

Resolution 1:

Install (upgrade) the same version of StoreGrid again on top of the existing install.

Cause 2:

StoreGrid is installed under C:/Program Files in Vista.

Resolution 2:

Make sure you run StoreGrid with the option "Run as Administrator". The reason been, Vista allows an application to access the 'Program Files' folder only when run as an administrator user. You can enable the 'Run as Administrator' option for the < StoreGrid Home>\bin\StoreGrid.exe application from it's file properties dialog through 'Compatibility' tab -> 'Privilege Level' -> 'Run this application as administrator' option.

If you don't have administrator access or if you don't want to run StoreGrid under the administrator account, make sure you install StoreGrid under your user account folder or install it in a folder which is not under 'Program Files'.

30. Error while dumping the Exchange Mail Boxes. Unable to create the PST file [or] "No new/modified files for backup"

Cause :

'MSPST MS' is not configured in the Exchange Server.

Solution :

The **MAPIVC.INF** file should have the information of the Microsoft Personal Folder store service. If this file does not have this information, then the Exchange Mailbox dump will fail with an error indicating that it was "Unable to create the PST file" [or] "No new/modified files for backup".

The **MAPIVC.INF** file is usually located in the Windows system directory (e.g.C:\Winnt\System32\ or C:\Windows\System32\).

Verify the file has an entry for the Microsoft Personal Folder store service. You can determine this by looking for the following information. If this information is not in the file then you need to add it in the proper sections:

Note: Please take copy of your "MAPIVC.INF" file before making any changes.

```
[Services]
MSPST MS=Personal Folders File (.pst)

[MSPST MS]
Providers=MSPST MSP
PR_SERVICE_DLL_NAME=mspst.dll
PR_SERVICE_INSTALL_ID={ 6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
PR_SERVICE_SUPPORT_FILES=mspst.dll
PR_SERVICE_ENTRY_NAME=PSTServiceEntry
PR_RESOURCE_FLAGS=SERVICE_NO_PRIMARY_IDENTITY

[MSPST MSP]
34140102=4e495441f9bfb80100aa0037d96e0000
PR_PROVIDER_DLL_NAME=mspst.dll
PR_SERVICE_INSTALL_ID={ 6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
PR_RESOURCE_TYPE=MAPI_STORE_PROVIDER
PR_RESOURCE_FLAGS=STATUS_DEFAULT_STORE
PR_DISPLAY_NAME=Personal Folders
PR_PROVIDER_DISPLAY=Personal Folders File (.pst)
```

Points to remember regarding the above content:

- In your **MAPIVC.INF** file, search for the text **[Services]**. If it is found in the file, just add the following line under **[Services]** if the following line does not exist under **[Services]**.

```
MSPST MS=Personal Folders File (.pst)
```

If the text **[Services]** is not found in the file, then you can add both the lines given below to your **MAPIVC.INF** file.

```
[Services]
MSPST MS=Personal Folders File (.pst)
```

- In your **MAPIVC.INF** file, search for the text **[MSPST MS]**. If it is found in the file, verify whether the content under this **[MSPST MS]** is the same as the content shown above. If the text **[MSPST MS]** is not found in the file, then you can add the complete entry of **[MSPST MS]** as given above.
- In your **MAPIVC.INF** file, search for the text **[MSPST MSP]**. If it is found in the file, verify whether the

content under this **[MSPST MSP]** is the same as the content shown above. If the text **[MSPST MSP]** is not found in the file, then you can add the complete entry of **[MSPST MSP]** as given above.

For more information on the format of the MAPISVC.INF file see the following Microsoft article:
<http://support.microsoft.com/kb/294470>

After modifying the MAPISVC.INF file, schedule the Exchange mailbox backup and check if the dump process runs successfully without any issues.

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31. **Dump location does not have enough space to export the PST file**

Cause :

The dump location configured for this backup schedule doesn't have enough free space to store the *.PST files.

Resolution :

Increase the free space or cleanup the used space for the drive which is configured as dump location for this backup schedule. Location configured for dump process can be viewed from the view backup configuration of that backup schedule.

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32. **Error while creating the dump location <Dump_Location>**

Cause :

The configured dump location for that particular backup schedule is not accessible or StoreGrid does not have enough permission to access the directory.

Resolution :

Make sure that the dump location drive exist in your StoreGrid client. If that drive exist, provide enough write permission to the user under which StoreGrid is installed.

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33. **Users Mailbox/folder are not listed in the "Add Exchange Mailbox Backup" page.**

Cause :

StoreGrid would fail to list the Exchange Users Mailbox folders for the following reasons.

1. Mailbox which was accessed does not exist in the Exchange Server or invalid logon information being used to list the users Mailbox.
2. Insufficient rights on the Exchange user mailbox.

Resolution :

Exchange Mail Level Backup requires "Full Control" access on the Exchange Server for the user account under which StoreGrid service is running. Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.

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34. **StoreGrid fails to list some files/folders during a backup schedule.**

StoreGrid fails to list the files/folders due to the following reasons:

Cause1:

If the file/folder doesn't have enough permission for the StoreGrid user.

Resolution1 :

- i. Check if StoreGrid logon user has 'Read' and 'List Folder Contents' access permissions for the skipped folder by going to 'Folder Properties -> Security' dialog.
- ii. If StoreGrid logon user doesn't have permission, enable the required permissions.
- iii. Reschedule the backup and check.

Cause 2:

If the file/folder doesn't have enough permission for the StoreGrid user.

Resolution 2:

- i. Check if StoreGrid logon user has 'Read' and 'List Folder Contents' access permissions for the skipped folder by going to 'Folder Properties -> Security' dialog.
- ii. If StoreGrid logon user doesn't have permission, enable the required permissions.
- iii. Reschedule the backup and check.

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35. **I had changed the dump location and now I am not able to restore the previous backups.[Applicable for Exchange Server, Exchange Mailbox and SQL Server backups.]**

Resolution :

Please follow the steps below to restore the files from backup server to client and then to the Exchange Server/SQL Server.

- i. Restore the files in the backup server side which were backed up before changing the dump location (i.e. backup files pertaining to the old dump location).
- ii. Transfer the restored files from the backup server to the client machine, say by using an external USB drive.
- iii. Edit the 'restore.conf' available in "<Restored_location>/plugin/" folder in client machine.
- iv. Change the 'DumpLocation' attribute value to old dump location in <StoreGrid><Restore><Plugin> tag.
- v. Save the 'restore.conf' configuration file.
- vi. In the client machine, choose the second option - "***I have previously restored data from my backup server to a local folder. I now want to use this data to restore the Exchange Mailbox.***" in 'Step 0' in the Restore Backup Data page and restore the files restored in step 2 by specifying the location of the files in 'Restore Location' field.

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Vembu StoreGrid Windows Client Installation Guide

Download the Windows installer, VembuStoreGrid_4_2_0_SP_Client_Only.exe

To install StoreGrid client on Windows machines, follow the steps given below:

1. Double click VembuStoreGrid_4_2_0_SP_Client_Only.exe and follow the instructions in the installation wizard. Click Next to begin the installation process.
2. **Vembu StoreGrid License Agreement** : Go through the license agreement, select "I accept the agreement" and proceed to the Next step. If you are updating from an earlier version, you will be asked to confirm this.
3. **Vembu StoreGrid - StoreGrid Identity** : (*StoreGrid will skip this step and retain existing settings if it detects an earlier version installed*)

The StoreGrid ID will be used to identify this installation of StoreGrid on your network / your online backup service provider's network. By default, StoreGrid takes the machine name. Ideally, enter the email ID of the client using this particular machine. Using an email ID ensures that your StoreGrid ID is truly unique. Note: The StoreGrid ID is case insensitive. Hence, the ' StoreGrid ID' you have entered will be automatically converted to lower case.

4. StoreGrid Installation Option :

Here you can choose an option to go with a Typical installation of StoreGrid or choose Custom installation where you can specify the various options.

- If you choose Typical installation, StoreGrid will be installed in "C:\Program Files\ Vembu\StoreGrid". In a desktop OS StoreGrid will be installed as a "Windows Application" and in a Server OS, StoreGrid will be installed as a Service, with default WebConsole configuration. If you have limited space in C: drive, choose Custom installation and select a different installation location.
- If you choose Custom installation, you can configure StoreGrid to be installed as a "Windows Service", at a desired location, with custom WebConsole configuration.

5. Custom Installation Option :

Follow the below steps if you choose Custom StoreGrid installation.

i. StoreGrid Installation Type (Windows Application or Service):

While installing StoreGrid v4.2, you can either install StoreGrid as a Windows Application or as a Windows Service.

StoreGrid can be installed as a Windows Application and it will run in the background. Note that if you choose this mode, StoreGrid will only start if the user who installed it logs in to the PC. If the user logs off, then StoreGrid will exit.

Advanced users may choose to install StoreGrid as a Windows Service. This would enable StoreGrid to run in the background, even when no users are logged in to the systems. This option is recommended for Servers where StoreGrid has to be run 24x7 without user logged in. To install as a Service, select "Install as a Windows service" and proceed to the next step.

ii. Vembu StoreGrid Service Configuration :

By default StoreGrid Service is selected to run from the Windows Local System Account. If you run StoreGrid service from the Local System Account, then StoreGrid will not be able to automatically collect information on User specific backup configurations like Outlook Email/Outlook Express, My Documents, Desktop, and IE Settings data for backup. You will need to manually select the required files and folders.

If you want to run StoreGrid service from a Windows User account, then select this option and provide the User Name and the Password for the user account in the appropriate fields and click Next. In this case, StoreGrid Service will always run from this user account. Hence, StoreGrid can correctly collect information on User specific backup configurations like Outlook/Outlook Express backup and IE Settings.

If your Windows user login is dependent on a Domain Controller, then run StoreGrid Service from the

Windows Local System Account. You can manually configure StoreGrid to run from a User account later by going to Control Panel -> Administrator Tools -> Services and changing the StoreGrid service options to run as a user.

NOTE : Please make sure, the User account configured for StoreGrid Service has 'Logon As Service' permission in Windows security policies.

- iii. **Choose Installation Location :** (*StoreGrid will skip this step and retain existing settings if it detects an earlier version installed*)

By default, StoreGrid will be installed under " Vembu\StoreGrid" in the "C:\Program Files" directory. Click Next to continue installation in the default directory. Click Browse to choose a different directory. Note that this will create the " Vembu\StoreGrid" directory under the directory you choose. Click Next to continue.

If StoreGrid detects existing data left behind from a previous installation of StoreGrid (wherein you uninstalled the previous version but left some data behind) it will prompt you for a desired action. If no 'old data' was found in the installation directory or if you are simply upgrading from an existing installed version, StoreGrid will skip this step.

- iv. **Vembu StoreGrid Configuration :** (*StoreGrid will skip this step and retain existing settings if it detects an earlier version installed*)

There are three parts to this step.

Configure Web Server Port : StoreGrid's user interface is browser based. You have the option to configure the port used by StoreGrid web server here. Once configured you need to use this port to start the StoreGrid Web Console from your browser. By default StoreGrid Web server is configured to run on port 6060. Unless you are an advanced user, please leave this as it is.

Username & Password : Since StoreGrid's user interface is browser based, you need to configure a username and password to login to StoreGrid Web Console. Note that you can add additional users, delete users, change password etc. from the Web Console UI after the installation. By default the username and password used by StoreGrid is "admin" and "admin". You have the option to change these default settings here.

Advanced Port Configuration (Including HTTPS): Click on the Advanced Port Configurations (Including HTTPS) link to configure StoreGrid backup server port, UI communication port and HTTPS port. Provide valid TCP port numbers for Backup Server Port, UI Communication Port and HTTPS port. You will be able to configure 'Advanced Port Configuration' while upgrading StoreGrid too.

- a. **Backup Server Port** is the port through which the installed StoreGrid client will back up the data to the backup server. The default value is 32004.
 - b. **UI Communication Port** is the port through which StoreGrid Apache/PHP modules communicate with StoreGrid to serve UI requests from the StoreGrid WebConsole. The default value is 32005.
 - c. **HTTPS Port:** HTTPS Port is the port used to access the StoreGrid Webconsole in a secured manner through HTTPS protocol. Default value is 6061.
 - d. **Enable HTTPS:** HTTPS Port is the secure webconsole port through which you can access the StoreGrid webconsole in secure manner. You should enable "Enable HTTPS" option to edit this value. If you have enabled HTTPS option, then you can access the StoreGrid webconsole through `https://<machine name>:<HTTPS port>` URL. And also, if you try to access the StoreGrid webconsole through `http://<machine name>:<webconsole port>`, then you will be automatically redirected to `https://<machine name>:<HTTPS port>` url.
- v. **Select Program Folder :** (*StoreGrid will skip this step and retain existing settings if it detects an earlier version installed*)

Click Next to select the Programs Folder to add the StoreGrid shortcuts (ideally, leave it as it is). Proceed to the next step to select required icons. For ease of use, allow the StoreGrid installer to create a desktop icon & a quick launch icon.

6. Click Next to review your settings. Thereafter, click Install, and proceed to install StoreGrid.

If you are updating from an earlier version, you will be informed that StoreGrid will now stop and restart after the installation.

7. After copying the StoreGrid files, a page will show the progress of StoreGrid installation. If StoreGrid installation completes successfully, you will be automatically redirected to the finished installation page. Otherwise, the

installation progress page will show the error details.

8. If this is the first time you are using StoreGrid, have a look at the README file when prompted; it will help you get started real quick.

Note

- A shortcut to start StoreGrid and StoreGrid Web Console will be created on the System Tray and in the Start > Programs > Vembu StoreGrid menu.
- After successful installation, you can open the StoreGrid Web Console by right-clicking the StoreGrid icon in your system tray and selecting the StoreGrid Web Console from the menu, or alternatively, doing the same through the Start > Programs > Vembu StoreGrid > StoreGrid Web Console menu. You will have to login to the Web Console using the username and password you provided in the "Vembu StoreGrid Configuration" screen during the installation.

Problem Starting StoreGrid in Vista

If StoreGrid is installed under C:/Program Files in Vista, then make sure you run StoreGrid with the option "Run as Administrator". The reason being, Vista allows an application to access the 'Program Files' folder only when run as an administrator user. You can enable the 'Run as Administrator' option for the < StoreGrid Home>\bin\StoreGrid.exe application through it's file properties dialog through 'Compatibility' tab -> 'Privilege Level' -> 'Run this application as administrator' option.

If you don't have administrator access or if you don't want to run StoreGrid under the administrator account, make sure you install StoreGrid under your user account folder or other than the 'Program Files' folder.

StoreGrid Silent Installation

1. What is a silent installation?

Some service providers prefer not to have their customers go through the step by step installation screens typical of most installations from within the windows operating system, and instead would like to install StoreGrid directly and 'silently' from the command line prompt.

The StoreGrid 'customized client build' you have been provided is capable of being installed from the command line exactly as described above. The same build will also work from within Windows(as a UI based installation) wherein you just double click the build file and follow the steps on the screen.

2. How do I do a 'silent install' from the command line?

For command line/silent installation, just follow the simple steps below:

- There are two options available: SILENT & VERYSILENT.
- In a SILENT installation, during installation, the Installation Progress page is displayed once installation has started and till it is complete.
- In a VERYSILENT installation, no Installation Progress page will be shown.

Syntax to be followed:

```
<Build File Name> [/SILENT or /VERYSILENT] /AGREE_LICENSE="yes/no" /SG_ID="< StoreGrid ID>"  
/DIR="< StoreGrid Home Path>" /SG_Type="service/application" /SG_User=" StoreGrid webconsole user name"  
/SG_Pass=" StoreGrid webconsole Password" /SG_Port=" StoreGrid webconsole port"  
/SG_PrevDataOption="delete/rename" /SG_BackupPort="The Backup server port." /SG_UIPort="The UI  
communication port." /SG_HTTPS="0/1" /SG_HTTPSPort="The HTTPS port." [/SG_WUser="Windows logon user  
name for StoreGrid service" /SG_WPass="Windows logon password for StoreGrid service"] /LOG="Installation log  
file name".
```

Note:

- /SILENT or /VERYSILENT must be the first argument immediately after the <build file name>
- Thereafter, there is no fixed order for providing the command line arguments.
- There should be a space between <build file name> and each command line arguments.
- Except user names and passwords, all other values are case insensitive
- We recommend that you provide the /LOG option the first couple of times that you use the silent installation so you can identify issues during the silent installation, if any.

Description of Arguments, etc (Arguments with * are mandatory):

Argument	Description	Values	Default Value	Note
*/SILENT */VERYSILENT	You must specify either one of these options	-	-	-
*AGREE_LICENSE	Do you agree with the License Agreement?	Yes / No	No	Hence this argument is necessarily required to be set to "Yes" to run the installation. Please install StoreGrid from within the Windows UI if you would like to see the license agreement. You may want to copy & paste this agreement on an html page on your website for your customers to read, if required.
*SG_ID	StoreGrid client id. Must not be null or invalid id. Ideally, this should be an email ID as this is unique and easily remembered. In fact, if you can, insist that all your customers use email IDs as StoreGrid IDs. As your business grows, you'll be glad you did!	-	-	<u>More on valid client IDs:</u> <ul style="list-style-type: none"> Allowed characters: [A-Z][a-z][0-9][- @ _ .] Value must not contain more than two "@" characters Must not start or end with special characters Length must be 1 - 50 characters.
DIR	Installation location	Any valid location	C:\Program Files\ #	This location is the StoreGrid Home.
SG_Type	StoreGrid installation type	Service / Application	Application (for Desktop OS), Service (for Server OS) #	If selected service option, please provide SG_WUser & SG_WPass also.
SG_WUser & SG_WPass	If StoreGrid installation type (see above) is Service, pls. provide the logon account details.	Valid Windows User name and Password	-	No additional details are required for installing for Local System Account.
SG_User & SG_Pass	Authentication details for StoreGrid webconsole [username & password]	-	User name: admin Password: admin	-
SG_Port	StoreGrid Webconsole port number.	Any valid TCP port number	6060 #	-
SG_PrevDataOption	During installation, if there is existing data from a previous installation of StoreGrid, what is to be done?	Delete / Rename	Rename	-
SG_BackupPort	The port through which StoreGrid clients will backup the data to the backup server.	Any valid TCP port number between 1 to 65535	32004 #	-

SG_UIPort	The port through which StoreGrid Apache/PHP modules communicate with StoreGrid to serve UI requests from the StoreGrid WebConsole.	Any valid TCP port number between 1 to 65535	32005 #	-
SG_HTTPS	You can enable the secure HTTPS web access by checking the "Enable HTTPS" check box.	0 / 1	1 #	0 - Disable 1 - Enable
SG_HTTPSPort	HTTPS Port is the secure webconsole port through which you can access the StoreGrid webconsole in secure manner.	Any valid TCP port number between 1 to 65535	6061 #	Must not be same as the SG_Port / SG_UIPort / SG_BackupPort
SG_WVValidate	Option to enable or disable validation of Windows login details.	Enable - 1 Disable - 0	Enable	Some machines do not validate Windows login details correctly – may reject even when the login details are right. In such cases, turning this option off may be advisable. If this option is turned off and if the login details entered are wrong, then the user may not be aware that the login details are wrong till the backup is scheduled and fails to run.
SG_SSL_SERVERPORT_STATUS	HTTPS Port is the secure webconsole port through which you can access the StoreGrid webconsole in secure manner.	Enable - 1 Disable - 0	0	This status tells if the client needs to connect to the backup server through the SSL enabled backup port or not. If this option is enabled, valid SSL Backup port should be specified during silent installation. If this option is not provided during upgrade, then the previous installation value is taken.
SG_SSL_SERVERPORT	Backup port with SSL security.	Valid port value	32007	The backup port value with SSL security option. It should be the same at backup server and client system. If this option is not provided then the previous installation value is taken.

- While upgrading StoreGrid, if these arguments not provided, the values will be taken from the previous installation. If it is a new installation, the default values as mentioned in the table will be used.

VERY IMPORTANT: SG_ID and AGREE_LICENSE are mandatory arguments (besides /SILENT or /VERYSILENT); all other arguments are optional.

Examples of valid Commands:

- Silent Install for a user whose SG installation will be referred by the StoreGrid ID: billg@vembu.com ; install as an application, the user will use the username: bill and password: abc123 to access the StoreGrid webconsole which must run on port 6087. Connects backup servers 3344 port for backup; The webconsole will communicate the StoreGrid application through 3355 port. The user would like to see the progress of the installation as it happens

Required command line is:

```
VembuStoreGrid_4_2_0_SP_Client_Only.exe
/SILENT
/AGREE_LICENSE="yes"
/SG_ID="billg@vembu.com"
/SG_Type="Application"
```

```
/SG_User="bill"  
/SG_Pass="abc123"  
/SG_Port="6087"  
/SG_BackupPort="3344"  
/SG_UIPort="3355"  
/SG_HTTPS="1"  
/SG_HTTPSPort="6088"
```

[Note: All the command line options should come in single line.]

- b. Silent Install for a user whose SG installation will be referred by the StoreGrid ID: billg@vembu.com ; install as an application (default for Desktop OS), the user will use the default username: admin and default password: admin to access the StoreGrid webconsole which must run on the default port 6060/6061. The user is not bothered about seeing the progress of the installation as it happens. Just install it!

Required command line is:

VembuStoreGrid_4_2_0_SP_Client_Only.exe

```
/SILENT
```

```
/AGREE_LICENSE="yes"
```

```
/SG_ID="billg@vembu.com"
```

[Note: All the command line options should come in single line.]

Vembu StoreGrid Linux Client Installation Guide

Download the Linux installer,

- For RedHat Linux 8.0, 9.0 and Later, RedHat EL 4 and Later, CentOS 4 and Later, Fedora Core 3 and Later, SuSE Linux 9.x and Later: **VembuStoreGrid_4_2_SP_RH_Client_Only.zip**
- For Debian Linux 4.0 and Later, Gentoo, Ubuntu 7.10 and Later :
VembuStoreGrid_4_2_SP_DBN_Client_Only.zip
- For Mandrake Linux 10.0 and Later: **VembuStoreGrid_4_2_SP_MDK_Client_Only.zip**

The Linux builds are pre-compiled and all the required dependencies are included in the build itself. You don't have to install the dependencies separately.

The libstdc++.so.5 is a run time compilation library required for StoreGrid Application to run in the machine. This library can be downloaded and installed from <http://gcc.gnu.org/libstdc++/>

Note: Linux installation should be run with the root user privileges.

To install StoreGrid client on Linux machines, follow the steps given below:

1. Unzip the downloaded ZIP file.
2. Execute the bin file
 - For RedHat Linux 8.0, 9.0 and Later, RedHat EL 4 and Later, CentOS 4 and Later, Fedora Core 3 and Later, SuSE Linux 9.x and Later: **./ VembuStoreGrid_4_2_SP_RH_Client_Only.bin**
 - For Debian Linux 4.0 and Later, Gentoo, Ubuntu 7.10 and Later : **./ VembuStoreGrid_4_2_SP_DBN_Client_Only.bin**
 - For Mandrake Linux 10.0 and Later: **./ VembuStoreGrid_4_2_SP_MDK_Client_Only.bin**

StoreGrid needs root user privileges. Hence if StoreGrid is installed as a user which does not have root privileges, the installation will abort with the message 'You need root user privileges'. This is applicable for upgrades as well.

3. The first step in the installation is to choose the type of installation. You can select from one of the two options :
 - You can install StoreGrid in a newly created StoreGrid user account, where the StoreGrid user account will be automatically created with root privileges
 - You can install StoreGrid in the current user account.

Choose option 1, if you want StoreGrid to backup user data, MySQL, System Files etc. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command `"/etc/init.d/ /etc/init.d/storegrid start/stop"`. You can check the status of StoreGrid application by running the command `"/etc/init.d/ /etc/init.d/storegrid status"`.

Choose option 2, if you want StoreGrid to be installed as an application to backup only the system files and folders. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script `start VembuStoreGrid.sh` and `stop VembuStoreGrid.sh`

4. If StoreGrid is installed fresh and you chose option 1 in the above step, then you will be asked to provide a password for the StoreGrid user account which is created. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command `"/etc/init.d/ /etc/init.d/storegrid start/stop"`. You can check the status of StoreGrid application by running the command `"/etc/init.d/ /etc/init.d/storegrid status"`.

If you chose option 2, then you will be taken to the next step directly. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script `start VembuStoreGrid.sh` and `stop VembuStoreGrid.sh`

5. Vembu StoreGrid License Agreement:

Read through the License Agreement carefully. If you agree, enter **Yes** to continue with the installation. If you do

not agree, enter **No** to abort the installation.

6. **StoreGrid Install Location:**

If you had chosen option 2 for the type of installation, StoreGrid will ask for a location to install StoreGrid. By default StoreGrid will be installed in the "Current Directory". StoreGrid setup will be installed under "Vembu/StoreGrid" in the "Current Directory" directory. To install in a different directory, enter the absolute path (full path) for Vembu StoreGrid installation. Note that the setup will create the "Vembu/StoreGrid" directory under the directory you entered.

Note : If StoreGrid is already in the installed location, StoreGrid will try to upgrade. The installation will ask the user whether the previous setup can be migrated or not. Enter 'yes' to continue upgradation and 'no' to abort the installation.

StoreGrid can be upgraded to v4.2 from StoreGrid version 4.0 and 4.1

7. **Assign A StoreGrid ID:**

StoreGrid ID is the unique name with which your StoreGrid installation is identified. By default, it takes your machine name as the StoreGrid ID. But we recommend giving a globally unique ID. Here you will be provided with these options:

- "Do you want to identify your machine name by other than hostname"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid ID.
- "Enter StoreGrid ID"
- Enter the StoreGrid ID for your installation. We recommend using your email id for this.

Note : The StoreGrid ID value is case insensitive. Hence, the 'StoreGrid ID' you have entered will be automatically converted to lower case.

8. **Vembu StoreGrid Web Console Authentication:**

StoreGrid's Web Console user interface is browser based; you need to configure a username and password to login to StoreGrid Web Console. Note that you can add additional users, delete users, change password etc. from the Web Console UI after the installation.

9. **Configure Backup Server Port and UI Communication Port**

By default StoreGrid uses the 'Backup Server Port' 32004, for all the client-server communications and the 'UI Communication Port' 32005 for communication between the StoreGrid Web Console and the StoreGrid Application. If you wish StoreGrid to use ports other than the default, you are provided with the following options here :

- "Do you want to change these ports from default value?"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid's Backup Server Port and the UI Communication Port.
- "Please enter a valid port value [numerical whole number] for Backup Server Port".
- Enter the Backup Server Port value here.
- "Please enter a valid port value [Numerical whole number] for UI Communication Port".
- Enter the UI Communication Port value here.

10. This installs the product and completes the installation process. After successful installation, you are provided with an option to start the StoreGrid. After the installation, you can start StoreGrid by executing the script "**start VembuStoreGrid.sh**" from the directory "<INSTALLATION_HOME>/Vembu/StoreGrid/".

Note:

After successful installation, you can open the StoreGrid Web Console from your browser by typing `http://<Your Machine Name>:6060`. You will have to login to the Web Console using the username and password you provided in the "Vembu StoreGrid Web Console Authentication" step during the installation.

Vembu StoreGrid Mac OS X Installation Guide

1. Login as an admin user. To confirm, go to 'System Preference -> Accounts -> Security'. The option 'Allow user to administer this computer' should be enabled. If the option is not enabled, please enable the option and reboot the system.
2. Download the build zip file and move it to the directory from where you want to run the StoreGrid installation.

Note: The steps given below should be done in the Finder window - Mac OSX file explorer window.

3. Unzip the downloaded installation zip by double clicking the zip file.
4. Go to the unzipped folder ('VembuStoreGrid_4_2_SP_CO_Mac' or 'VembuStoreGrid_4_2_SP_CO_IMac').
5. You will find two files namely:
 1. Install StoreGrid - Installer file
 2. VembuStoreGrid_4_2_SP_Mac_Client_Only.bin or VembuStoreGrid_4_2_SP_IMac_Client_Only.bin - Installation binary file

Double click the 'Install StoreGrid' file in the Finder window.

6. Provide the login password. Enter the currently logged in user's password and proceed with installation. This should complete the installation.

Note: If you get a prompt saying the 'entered password is incorrect or you don't have the admin rights', please verify whether the password you have entered is the password of the user you are currently logged in as.

StoreGrid has two types of installation

Typical Installation: StoreGrid will be installed with its default configurations except StoreGrid ID.

Custom Installation: User will be prompted to select with different inputs like web console username and password, web console ports, etc during the installation. If 'Run Later' option has been selected at the end of custom installation, then follow the steps give below to run StoreGrid:

1. Open the terminal console and switch to root user by executing the command 'sudo -s'. If it prompts for a password, enter the currently logged in user password [the password given at the start of StoreGrid installation].
2. Go to the '< StoreGrid_Installed_Dir>/Vembu/StoreGrid' directory and execute the following command to start StoreGrid: - sh start VembuStoreGrid.sh. The < StoreGrid_Installed_Dir> will be '/Applications' directory by default.

This step is not required if the option 'Run now' has been selected during 'Custom' installation or if you have opted for 'Typical' installation.

Note: To access StoreGrid setup after installation, you should be a root user. To do this, open the terminal console and switch to root user by executing the command 'sudo -s'. If it prompts for a password, enter the currently logged in user password [the password given at the start of StoreGrid installation].

Vembu StoreGrid FreeBSD (for FreeBSD 6.1 and above) Client Installation Guide

Download the zip file:

1. For FreeBSD 6.1 : **VembuStoreGrid_4_2_SP_FreeBSD_Client_Only.zip**

Vembu StoreGrid FreeBSD installation compiles and installs its own version of Apache, GD and PHP. So before installing StoreGrid in FreeBSD machines, please check that the following packages were installed.

1. **make**, available from <http://ftp.gnu.org/pub/gnu/make/>
2. **gcc**, available from <http://gcc.gnu.org/>
3. **g++**, available from <http://gcc.gnu.org/>
4. **libstdc++4**, available from <http://gcc.gnu.org/libstdc++/>

The following 3rd-party libraries will be used by gd if found by configure. While gd will compile and install even without these, we suggest that at least zlib and libpng are installed, and recommend that freetype and jpeg are installed as well:

1. Data compression library: **zlib**, available from <http://www.gzip.org/zlib/>
2. Portable Network Graphics library; requires **libpng**, available from <http://www.libpng.org/pub/png/>
3. Free, high-quality, and portable font engine: **FreeType 2.x**, available from <http://www.freetype.org>
4. Portable JPEG compression/decompression library: **JPEG** library, available from <http://www.ijg.org/>

To install PHP following 3rd-party libraries are required :

1. **Flex**, available from <http://flex.sourceforge.net/> -- Flex is a tool for generating programs that perform pattern-matching on text.
2. **Bison**, available from <http://www.gnu.org/software/bison/> -- Bison is a general-purpose parser generator that converts a grammar description for an LALR context-free grammar into a C program to parse that grammar.

(OR)

3. **libxml2**, available from <http://www.xmlsoft.org/> -- XML DOM library used by php's xml parser.
4. **bzip2** , available from <http://www.bzip.org/downloads.html> -- Free, patent free , high-quality data compressor.
5. **cURL** , available from <http://curl.haxx.se/download/> -- Free, patent free , high-quality data compressor.
6. **libmcrypt** , available from <http://sourceforge.net/projects/mcrypt> -- A simple crypting program.
7. **mhash** , available from http://sourceforge.net/project/showfiles.php?group_id=4286&package_id=4300 -- To support wide variety of hash algorithms.

To install Apache with HTTPS support, Open SSL libraries are required :

1. To enable https support in StoreGrid, please ensure that openssl package is installed on your system before you enable https support. You can download the latest openssl version from <http://www.openssl.org/source/>.

Once you have ensured that the above packages are all available in your FreeBSD machine, follow the steps given below to install StoreGrid:

1. Unzip the downloaded ZIP file.
2. Execute the bin file

VembuStoreGrid_4_2_SP_FreeBSD_Client_Only.bin

3. The first step in the installation is to choose the type of installation. You will be given two options:
 - a. You can install StoreGrid in a newly created StoreGrid user account, where the StoreGrid user account will be automatically created with root privileges

- b. You can install StoreGrid in the current user account without root privileges.

Choose option 1, if you want StoreGrid to have root privileges so that it can be configured to backup all the users data, MySQL, System Files etc. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command `"/etc/rc.d/ /etc/init.d/storegrid start/stop"`.

Choose option 2, if you want StoreGrid to only backup files in the current user directories. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script `start VembuStoreGrid.sh` and `stop VembuStoreGrid.sh`

4. If you chose option 1 in the above step, then you will either be asked to give the root password, or the installation will quit and ask you to login as root and start the installation process again. Once you give the root password, you will be asked to provide a password for the StoreGrid user account which will be created. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command `"/etc/rc.d/ /etc/init.d/storegrid start/stop"`.

If you chose option 2, then you will be taken to the next step directly. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script `start VembuStoreGrid.sh` and `stop VembuStoreGrid.sh`

5. Read through the License Agreement carefully. If you agree, enter **Yes** to continue with the installation. If you do not agree, enter **No** to abort the installation.
6. By default StoreGrid will be installed in the "Current Directory". Setup will install StoreGrid under "Vembu/StoreGrid" in the "Current Directory" directory. To install in a different directory, enter the **absolute path** for Vembu StoreGrid installation. Note that setup will create the "Vembu/StoreGrid" directory under the directory you entered.
7. **StoreGrid can be upgraded to v4.2 from StoreGrid version 4.0/4.1**

8. **Assign a StoreGrid ID:**

StoreGrid ID is the unique name with which your StoreGrid installation is identified. By default, it takes your machine name as the StoreGrid ID. But we recommend giving your email id as the StoreGrid ID so that it is globally unique. Here you will be provided with these options:

- "Do you want to identify your machine name by other than hostname"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid ID.
- "Enter StoreGrid ID"
- Enter the StoreGrid ID for your installation. We recommend using your email id for this.

Note: The StoreGrid ID value is case insensitive. Hence, the 'StoreGrid ID' you have entered will be automatically converted to lower case.

9. **Vembu StoreGrid Web Console Authentication:**

Since StoreGrid's user interface is browser based you need to configure a username and password to login to StoreGrid Web Console. Note that you can add additional users, delete users, change password etc. from the Web Console UI after the installation.

10. **Configure Backup Server Port and UI Communication Port**

By default StoreGrid uses the 'Backup Server Port' 32004, which is used for all the client-server communications like Backup/Restore, and the 'UI Communication Port' 32005, which is used for communication between the StoreGrid WebConsole and the StoreGrid Application. If you want to have StoreGrid using other than the default ports, here you will be provided with these options.

- "Do you want to change these ports from default value"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid's Backup Server Port and the UI Communication Port.
- "Please enter a numerical whole number value for Backup Server Port"
- Enter the Backup Server Port value here.
- "Please enter a numerical whole number value for UI Communication Port"

- Enter the UI Communication Port value here.

11. This installs the product and complete the installation process. After successful installation, you are provided with an option to start the StoreGrid. After the installation, You can start StoreGrid by executing the script "**start VembuStoreGrid.sh**" from the directory "<INSTALLATION_HOME>/ Vembu/StoreGrid/".

Note:

After successful installation, you can open the StoreGrid Web Console from your browser by typing `http://<Your Machine Name>:6060`. You will have to login to the Web Console using the username and password you provided in the " Vembu StoreGrid Web Console Authentication" step during the installation.

Vembu StoreGrid Solaris Client Installation Guide

Download the Solaris installer,

- For Intel Solaris, Sun Solaris and Later: **VembuStoreGrid_4_2_SP_Solaris_Client_Only.zip**

The Solaris builds are pre-compiled and all the required dependencies are included in the build itself. You don't have to install the dependencies separately.

The libstdc++.so.5 is a run time compilation library required for StoreGrid Application to run in the machine. The similar or higher version of library(libstdc++.so.5/libstdc++.so.6) might be already installed in the Solaris machine. If this is the case, then you have to create a link of the library by executing the following command

```
In /usr/sfw/lib/libstdc++.so.6 /usr/local/lib/libstdc++.so.5
```

Note: Solaris installation should be run with the root user privileges.

To install StoreGrid client on Solaris machines, follow the steps given below:

1. Unzip the downloaded ZIP file.
2. Execute the bin file after going to the location where the files are zipped
 - ./ VembuStoreGrid_4_2_SP_Solaris_Client_Only.bin

StoreGrid needs root user privileges. Hence if StoreGrid is installed as a user which does not have root privileges, the installation will abort with the message 'You need root user privileges'. This is applicable for upgrades as well.

3. The first step in the installation is to choose the type of installation. You can select from one of the two options :
 - You can install StoreGrid in a newly created StoreGrid user account, where the StoreGrid user account will be automatically created with root privileges
 - You can install StoreGrid in the current user account.

Choose option 1, if you want StoreGrid to backup user data, MySQL, System Files etc. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command "/etc/init.d/ /etc/init.d/storegrid start/stop". You can check the status of StoreGrid application by running the command "/etc/init.d/ /etc/init.d/storegrid status".

Choose option 2, if you want StoreGrid to be installed as an application to backup only the system files and folders. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script start VembuStoreGrid.sh and stop VembuStoreGrid.sh

4. If StoreGrid is installed fresh and you chose option 1 in the above step, then you will be asked to provide a password for the StoreGrid user account which is created. Note that StoreGrid will be installed as a daemon process and will automatically start when the system boots up. You can START and STOP StoreGrid by running the command "/etc/init.d/ /etc/init.d/storegrid start/stop". You can check the status of StoreGrid application by running the command "/etc/init.d/ /etc/init.d/storegrid status".

If you chose option 2, then you will be taken to the next step directly. Note that StoreGrid will be installed in the current user directory and has to be manually started every time the machine is rebooted. You can START and STOP StoreGrid by running the script start VembuStoreGrid.sh and stop VembuStoreGrid.sh

5. Vembu StoreGrid License Agreement:

Read through the License Agreement carefully. If you agree, enter **Yes** to continue with the installation. If you do not agree, enter **No** to abort the installation.

6. StoreGrid Install Location:

If you had chosen option 2 for the type of installation, StoreGrid will ask for a location to install StoreGrid. By default StoreGrid will be installed in the "Current Directory". StoreGrid setup will be installed under " Vembu/StoreGrid" in the "Current Directory" directory. To install in a different directory, enter the absolute path (full path) for Vembu StoreGrid installation. Note that the setup will create the " Vembu/StoreGrid" directory under the directory you entered.

Note : If StoreGrid is already in the installed location, StoreGrid will try to upgrade. The installation will ask the user whether the previous setup can be migrated or not. Enter 'yes' to continue upgradation and 'no' to abort the installation.

StoreGrid can be upgraded to v4.2 from StoreGrid version 4.0 and 4.1

7. Assign A StoreGrid ID:

StoreGrid ID is the unique name with which your StoreGrid installation is identified. By default, it takes your machine name as the StoreGrid ID. But we recommend giving a globally unique ID. Here you will be provided with these options:

- "Do you want to identify your machine name by other than hostname"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid ID.
- "Enter StoreGrid ID"
- Enter the StoreGrid ID for your installation. We recommend using your email id for this.

Note : The StoreGrid ID value is case insensitive. Hence, the ' StoreGrid ID' you have entered will be automatically converted to lower case.

8. Vembu StoreGrid Web Console Authentication:

StoreGrid's Web Console user interface is browser based; you need to configure a username and password to login to StoreGrid Web Console. Note that you can add additional users, delete users, change password etc. from the Web Console UI after the installation.

9. Configure Backup Server Port and UI Communication Port

By default StoreGrid uses the ' Backup Server Port' 32004, for all the client-server communications and the 'UI Communication Port' 32005 for communication between the StoreGrid Web Console and the StoreGrid Application. If you wish StoreGrid to use ports other than the default, you are provided with the following options here :

- "Do you want to change these ports from default value?"
- If you enter "y/Y" then following text will displayed in terminal to enter StoreGrid's Backup Server Port and the UI Communication Port.
- "Please enter a valid port value [numerical whole number] for Backup Server Port".
- Enter the Backup Server Port value here.
- "Please enter a valid port value [Numerical whole number] for UI Communication Port".
- Enter the UI Communication Port value here.

10. This installs the product and completes the installation process. After successful installation, you are provided with an option to start the StoreGrid. After the installation, you can start StoreGrid by executing the script "**start VembuStoreGrid.sh**" from the directory "<INSTALLATION_HOME>/ Vembu/StoreGrid/".

Note:

After successful installation, you can open the StoreGrid Web Console from your browser by typing `http://<Your Machine Name>:6060`. You will have to login to the Web Console using the username and password you provided in the " Vembu StoreGrid Web Console Authentication" step during the installation.

Configure Backup Schedule

Overview

This page enables the user to configure backup schedules. Once the schedule is configured, the client's data is backed up to the selected Backup Server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->Add Backup"

Configure Backup Schedule

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select Files And Folders To Backup

On the left side of the "Add a new Backup Schedule" page, is the tree with a list of drives and directories in the client machine. Select the directories and (or) files that need to be backed up as part of this schedule. Don't worry if some strange files/directories appear in this tree - StoreGrid allows you to backup hidden/system files as well, and while these may not be visible in your file explorer, they are nonetheless there!

You will also see shortcuts and icons of stuff you may routinely wish to backup, e.g. Outlook backup, IE/Firefox settings, Windows registry, etc.

If a file/folder is unselected under a selected drive/folder, it will be excluded from the backup by adding it to filters. These files/folders will be listed in the 'Edit Backup' page under the heading 'Files/folders excluded from the backup' in step2.

- Cross icon against a file/folder denotes that it is to be excluded from the backup.
- Greyed '-' icon against a drive/folder denotes that some of the files/folders are excluded from it.

Files/Folders Filter Settings (optional)

Standard Settings

Include Only Files of Type - Using this field you can specify one or more file types that should be backed up. For example, setting it to *.doc will backup only the files with extension doc (in the folders selected). However, any files specifically selected for backup in the tree will be backed up even if they are not .doc files – StoreGrid assumes that you selected these files with a reason!

You can specify multiple file types by separating them with commas (e.g. *.doc, *.xls).

Please note that these 'filter criteria' will not be applied for 'shortcut backup schedules' like IE Favorites, Outlook & Registry backups.

Exclude Files of Type - Using this field you can specify one or more specific type of files that should not be backed up. For example, setting it to *.gif will not backup any file with extension .gif for all the folders configured in the tree.

However, any files specifically selected for backup in the tree will be backed up even if they are .gif files – StoreGrid assumes that you selected these particular files with a reason!

You can specify multiple file types by separating them with comma (e.g. *.gif, *.jpg).

Please note that these 'filter criteria' will not be applied for 'shortcut backup schedules' like IE Favorites, Outlook & Registry backups.

Exclude Sub-folders - Check this option if you want to exclude all the sub-folders under your selected folders for backup.

Advanced Settings

In advanced file/folder filters, you can either specify text patterns or enter the file/folder name you want to include/exclude.

You can specify text patterns matching specific file and folder names that you want to include or exclude. Like for example, you can add a filter to include only those files whose names start with 'a' under the selected folders or in their immediate sub folders. As another example, you could specify a filter to exclude folders whose names contain the text 'temp'.

You can also enter the file/folder name with or without absolute path. Like for example, if you enter the file name test.txt, then all files with the name "test.txt" under the selected directories will be matched. If you enter the entire path C:/Document and Settings/temp/test.txt, then only that specific file will be matched.

You can specify maximum 20 filters. The filters work independent of each other; i.e., if you have a filter to include files starting with 'a' and another filter to include files starting with 'b', then the backup will include files starting with 'a' and files starting with 'b'.

Map External Drive

If you want to backup files and folders present in an external drive and if that drive is not listed in the file/folder selection tree, then you can map a drive letter to the UNC path of the external drive. Like for example you could assign letter X to an external drive's UNC path //SERVER_A/DATA. Once added, the mapped drive letter will appear in the file/folder selection tree and the files/folders in the external drive will be listed under the corresponding drive letter.

This feature is especially useful while configuring backups for files in external drives on Windows XP/2003/Vista where the mapped drives will not be listed in the file/folder selection tree if StoreGrid is run as a service.

NTFS Backup

StoreGrid uses a third party tool called 'Subinacl' to backup and restore the NTFS Permissions. Users must install Subinacl tool before using this feature. StoreGrid uses the Subinacl tool to dump the NTFS permissions and uploads the dump file to the backup server. During restore, StoreGrid will restore the dump file first and then using Subinacl it will restore the NTFS permissions of the files and folders automatically.

Server Side and Third party Restore are not supported with this plugin. Also, it cannot backup the permissions of the parent directory.

Step 3: Set Basic Configuration

Backup Type

Same Machine - You can backup this client machine to a drive attached to this client machine for the following two purposes:

1. When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.
2. If you want to keep a local backup copy that you want to restore quickly when needed.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data. Or, you can leave the backups in the local drive if you want to maintain a local copy of the backup that you can quickly restore.

NOTE: Deleted File Retention policies and Time Based version file Retention policy will not apply for a local backup. Only Version-Based Retention is supported for a local backup schedule. The Retention policies configured for this backup schedule will work only if the backup data is migrated from the local backup server/external drive into a remote backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Also keep a copy locally [for System State Plugin] (optional) :

Enabling this option will backup the data to the backup server and also keep a copy of the backup data in a local location. First the data will be backed up to the backup server and on completion of the backup, the copy of the backed up data will be saved in the specified local location. The local copy will provide for faster restores and redundancy. You can always do a restore from the backup server as well.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path where the System State dumps are to be stored temporarily before uploading them to the backup server. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server. Please note that once configured and saved the backup, you cannot change this location.

Note: StoreGrid does not support system root drive or mapped drive or StoreGrid installation location to be configured as the dump location for system state backup in Windows 2008.

Encryption

Password Protect this Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data. Make sure you use this option only when the backup server is setup such that the backup server requires the client machines to authenticate before accepting the backup from the client.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the

customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintain at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then StoreGrid retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, StoreGrid backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, StoreGrid will back up the entire file if the file was modified since the last backup schedule. In such a case, StoreGrid will retain multiple versions of the entire file as per the version retention count configure for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.

- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Retention policy for deleted files[for Windows only]

If the files configured for backup are deleted at the client side after a backup schedule, then the backed up data of those files will not be deleted in the backup server. It will be just flagged as "Deleted" during subsequent backup schedule. StoreGrid allows the user to choose whether or not to retain these "Deleted"(flagged as deleted) files in the Backup Server.

Note: This option is enabled only in Windows client machines and not supported in client machines running Linux, Mac or Free BSD operating systems.

- **Version-Based Retention:** Retains the specified versions(default is 5) of deleted files in the backup server.
- **Time-Based Retention:** Retains all available versions for the specified time period. The default setting is for 5 years, which means StoreGrid will keep all available versions for 5 years.
- **Don't retain deleted files:** If files are deleted in the client machine, all backed up versions of these files will be deleted from the server as well in the subsequent backup schedules. This is not recommended as you lose the data permanently.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Continuous

Choosing this option will execute an immediate backup; thereafter, StoreGrid continuously monitors any changes to the files or directories configured for backup. When changes occur, a backup is scheduled.

Run Every Few Hours

Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the check box against these days. If the "Select all days" check box is checked, then the schedule will be run on all the days of the week.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups.

However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Continuous, Run Every Few Hours and Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly backups, only Monthly additional full backups are possible. For Run Once Only backup, you cannot configure additional full backups.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure **"Store maximum of 6 full backups"** here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the check box, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible. In case of the Continuous backup or 'Run every...' scheduling options, backups will run each time StoreGrid restarts – by default.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Enable Automatic Directory Monitoring - If enabled, StoreGrid will be automatically notified by Windows OS of any file/folder changes. This will help StoreGrid efficiently identify changed files when it does the rsync based delta backup for changed files. If this option is disabled, then StoreGrid has to scan all the configured files/folders every time a backup is scheduled to detect changed files. So it is recommended that in Windows OS this option is enabled. In Linux and Mac OS X, this option should be disabled as there is no automatic directory monitoring support in Linux and Mac OS X. Note that even if directory monitoring is disabled StoreGrid will still do the rsync based delta back for changed files.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Volume Shadow Copy Service (VSS) - If enabled, StoreGrid will create snapshot(a read only copy) of the volume(s) corresponding to the configured folders/files and backup using the snapshot of the volume. Volume Shadow copy allows StoreGrid in creation of consistent backups, ensuring that the contents cannot change while the backup is being made, avoiding problems with file locking, as StoreGrid uses a read-only copy of the volume, it is able to access every file without interfering with other programs writing to those same files.

Requirements

1. StoreGrid uses the Microsoft's 'Volume Shadow Copy'(installed by default when Windows XP and later versions installed) Service to create snapshot. Hence, StoreGrid needs 'Volume Shadow Copy' Service to be configured with service start type 'Automatic' or 'Manual'.
2. Volume Shadow Copy Service needs at least 100 MB free disk space.

Backup NTFS Permissions for the files and folders configured (if applicable) - When this option is enabled, StoreGrid backs up the NTFS file permissions along with the files. The user needs to enable the option 'Backup NTFS Permissions for the files and folders configured (if applicable).' in 'advanced option' while configuring a backup schedule. By default this option will be disabled. During restore, the files are restored along with their permissions.

StoreGrid will not restore the NTFS Permissions during Server-Side and Third Party Restore.

Perform Synthetic Full Backup for files when the size of the incremental backup of a file exceeds certain % of the size of the initial full backup of the file - By default Synthetic Full Backup will be run when the size of the incremental exceeds 80% of the original backup data. A very low value will lead to too many Synthetic Full Backups been run and all those versions need to be maintained in the backup server. A very large value could lead to Synthetic Backups not running at all.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or it can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Pre & Post Backup Commands (Optional)

This feature provides the ability to configure running custom actions before and after executing a backup schedule. The custom actions may include running an application or some script files.

Pre & Post Backup Commands

When is this feature useful?

If an application has exclusively locked a file and you need to close the application before StoreGrid can

backup that file, then you can run a Pre-backup command to close the application and then a post-backup command to open the application again after StoreGrid successfully backs up the file.

How does this feature work?

Whenever a backup schedule starts, StoreGrid will start the Pre Backup commands and wait till the timeout value. After completing the Pre Backup commands, StoreGrid will transfer the configured files & folders to the backup server. After transferring the configured files and folders, StoreGrid will run the Post Backup Commands. If multiple servers are configured for the backup schedule, then both the Pre and Post Backup commands will run while backing up to each of the servers.

Pre & Post Backup command settings:

You can provide maximum of 5 Pre Backup commands and maximum of 5 Post Backup commands for each backup schedule. Both the Pre and Post Backup commands are optional.

Command Name: This field is mandatory. This is the command that should be run. The command should be provided with full path. If the command name is in the system command path, then providing full path for the command is not necessary. The command can be an executable file such as application exe, batch files, script files etc.

Example: C:\MyTools\myzip.exe. A simple zip tool which compresses the given files or folders.

Arguments: You can provide any command line arguments for the command to be executed.

Example: For the Command C:\MyTools\myzip.exe, the arguments may be 'High Zip Replace "D:\Project" myproject.zip' [without quotes]. Here, the High may denote high compression, Zip denotes zip file format, Replace denotes replacing existing files, 'D:\Project' denotes folder to compress and 'myproject.zip' denotes the target compressed file name.

Working Path: This field specifies the directory path from which the Command has to be run. If this field is left empty, then the command will be executed from the StoreGrid working path [StoreGrid Home]

Example: 'D:\Project'. The command will be executed from the directory D:\Project.

Timeout: This field is used to specify a timeout value, in seconds, for the command to finish execution. StoreGrid will wait for so many seconds for the Pre and post command to finish running. If the command still runs beyond the timeout period, then StoreGrid will abruptly terminate the command and will continue with the backup schedule.

Please note that if you provide -1 value, then the command will run till completion and StoreGrid will wait till the command completes. If command never completes, then StoreGrid may just infinitely wait without proceeding with the backup schedule.

Example: 60. For the myzip.exe command, the myzip.exe command will compress the given project folder up to 60 seconds. If the myzip.exe completes before the timeout period, say 15 seconds, then StoreGrid will immediately continue the next Pre Backup Command [if configured] or continue with the backup schedule.

So, the example command will look like below:

Command Name : C:\MyTools\myzip.exe

Arguments : High Zip Replace

Working Path : D:\Project

Time out : 60

The whole command will be run up to 60 seconds as below:

C:\MyTools\myzip.exe High Zip Replace "D:\Project"

Saving the configured backup

Once all the directories/files to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Limitations

1. The Files/Folders tree in this page is based on Java Script. So when a folder has 1000s of files, then the java script takes time to load the tree. Please be patient 😊
2. File/folder filters will not work for unicode files/folders in mapped network drives.
3. [For System State Plugin only] Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and local backup.

Synthetic Full Backups of files

Overview

StoreGrid backs up the entire file during the first backup. When changes are made to the file, StoreGrid backs up the changes in the file (with respect to the file's first backup) as version files in the subsequent incremental backup schedules. Over a period of time, the version files could grow in size as more and more changes are made to the file. To reduce the size of these version files, it is recommended to run Full Backup Schedules periodically.

However, running full backups periodically may not always be a viable option. The bandwidth between the client machines and the backup server may be limited. Seeding the full backups manually every time is resource intensive. Synthetic Full Backups addresses this scenario by reducing the need of doing frequent additional full backups.

How does Synthetic Full Backup for files work

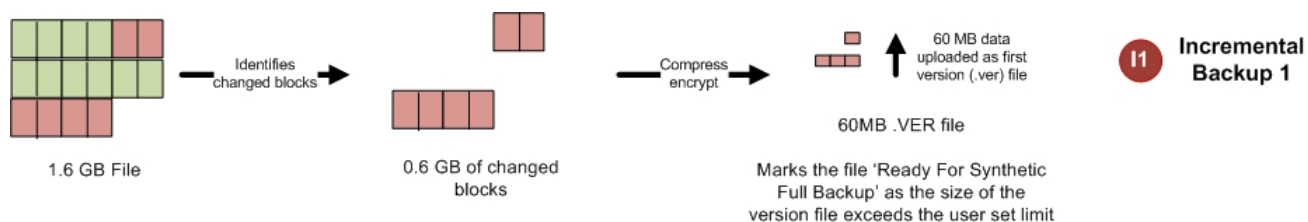
During file backups, StoreGrid client keeps a record of the amount of data uploaded (compressed size) for each of the backed up files. If the StoreGrid client detects that the compressed size of an incremental backup (compressed data of the changed bytes with the respect to the first backup) exceeds a certain percentage (can be set by the user) of the size of the compressed data that was uploaded during the file's first backup, it marks that file as 'Ready for Synthetic'. During the subsequent incremental backup of the file, the StoreGrid will do a 'Synthetic Full Backup' of the file. The Synthetic Full Backup works exactly like the incremental backup except that the metadata of the file gets updated to that Synthetic Full Backup version, so that during the subsequent incremental backups, the changed bytes with respect to the last synthetic full backup is backed up.

Example

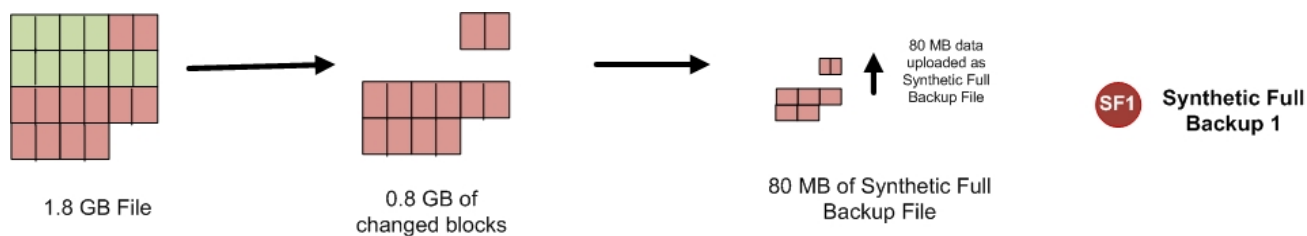
Assume you have a file of size 1GB that got compressed to 100MB and backed up initially.



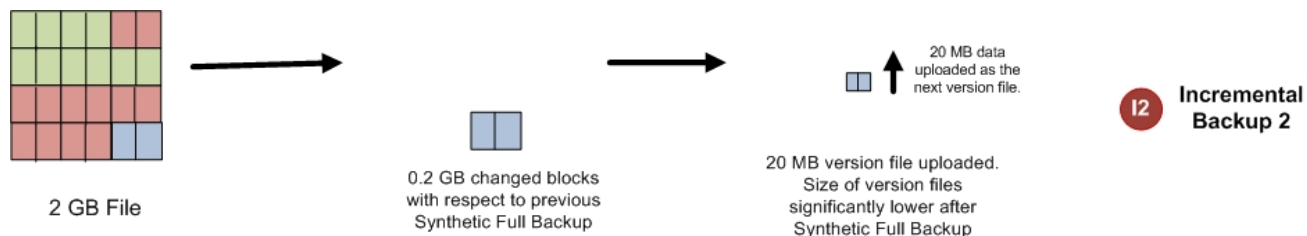
Say the file was modified to size 1.6GB. During the next incremental backup, StoreGrid would identify the changed blocks (assume for simplicity sake it is 0.6GB), compress (& encrypt) it to say 60MB and backs in up. The size of the first version is therefore 60MB, which is 60% size of the initial 100MB backup. Say Synthetic Full Backup was enabled for this backup schedule to do a Synthetic Full when the size of the version file reached 50% (default is 80%) of the initial back up. Since the size of the incremental was greater than 50%, StoreGrid will mark that file as 'Ready for Synthetic Full'.



During the next incremental backup, say the file is 1.8GB. StoreGrid will do a Synthetic Full Backup of the file and also update its metadata. It will backup the changed blocks (0.8GB) with respect to its previous full backup (just like an incremental backup) and mark it as a 'Synthetic Full' version in the backup server. The backup server doesn't merge the files in the backup server. The version files of the incremental and synthetic full backups remain as individual files.



During subsequent incremental backups, the version files created will be with respect to this last 'Synthetic Full' version and not the initial Full Backup. Therefore, if the file is 2GB in size, it will take the changed blocks of 0.2GB alone (remember the file was 1.8 GB when the 'Synthetic Full' was run), compress it to say 20MB and back it up. If Synthetic Backup was disabled, this version file would be of size 100MB (changed blocks of 1GB compressed to 100MB).



Restoring Synthetic Full Backups

For restoring a particular version of a file in a backup schedule that had Synthetic Full Backup enabled, the particular incremental version file and all the previous Synthetic Full Backup files along with the original full backup of the file are needed. Like for example, if O is the original (initial full) backup of the file, SF1, SF2 are the synthetic full backups and I1, I2, I3 and I4 are the incremental backups. Assume the sequence of the backups were as follows:

O, I1, I2, SF1, I3, SF2, I4

During the restore of the file version I4, StoreGrid would download and restore the backup files as follows:

$$R(I4) = O + SF1 + SF2 + I4$$

If the file version I3 needs to be restore, the files O, SF1 and I3 would be needed.

$$R(I3) = O + SF1 + I3$$

The backup server doesn't merge the files in the backup server. The version files of the incremental and synthetic full backups remain as individual files and they are merged in the client side only during restore.

Enabling Synthetic Full Backup for File Backups

By default, Synthetic Full Backup for file backups is disabled. If you are creating a new backup job or editing an existing backup schedule, you can enable Synthetic Full Backup for it by going to the *Advanced Options* in the *Add (or Edit) Backup Schedule* page and then selecting the option as shown below.

Advanced Backup Schedule Settings

Pre & Post Backup Commands

☐ Run this backup each time [] restarts.

☐ Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated).

☒ Attempt to run this backup every 05-[Default] minutes in case of non completion because of a problem (Network error etc.) Retry maximum 05-[Default] times

☒ Automatic Directory Monitoring. [Recommended]

☒ Volume Shadow Copy Service (VSS) [Windows 2003, XP, Vista, Windows 7, Windows sbs 2008 and Windows 2008]

☐ Backup NTFS Permissions for the files and folders configured (if applicable).

☒ Perform Synthetic Full Backup for files when the size of the incremental backup of a file exceeds 80-[Default] % of the size of the initial full backup of the file. ?

Other Backup Settings

Set CPU Utilization High-[Default]

Set Compression Enable-[Default]

Intelli-Delta Backup ? Enable-[Default]

Ok

Cancel

You can specify when the Synthetic Full Backup should run by specifying the limit of the version file size. By default it is 80% of the original backup data. A very low value will lead to too many Synthetic Full Backups been run and those need to be maintained in the backup server. A very large value could lead to Synthetic Backups not running at all.

FAQs

Is Synthetic Full backup run for all the files configured in the backup in the same incremental backup?

No. Synthetic Full Backup will be run only for those files which have been modified since last backup and whose last incremental backup size exceeded the limit set by the user for Synthetic Full Backup. For example, 100 files might have changed since last incremental backup schedule. Out of the 100, only 10 files were probably marked as 'Synthetic Full Backup' ready because their last incremental backup exceeded the limit. During the next incremental backup, Synthetic Full Backup will be run for only those 10 files. For the rest 90 files, it will be a regular incremental backup.

Will version file retention policies work when Synthetic Full Backup is enabled?

Yes. Both time based and version file count based retention policies will continue to work. The retention clean up will happen only for incremental backups and will not be applicable to Synthetic Full Backup files. All Synthetic Full Backups will be retained in the backup server as they are needed for restore.

Can Synthetic Full Backups be scheduled like Additional Full Backups?

No. For file backups, Synthetic Full Backups are automatically run during the regular incremental backup schedules, depending on whether the size of file's incremental is exceeding the user set limit or not.

Is there a way to find out which files have large number of Synthetic Full Backups?

Currently it is not available. This will be available in the backup reports in the future releases.

I have enabled Synthetic Full Backup. Can I forget about doing Additional Full Backup Schedules

Over a period of time, the number of Synthetic Full Backups could increase, especially for those files that change very

frequently and changes are significant. Therefore it might be a good idea to schedule full backups also, say once in 6 months.

Synthetic Full Backup for files is fine. How about Synthetic Full Backup for Exchange Server backup?

Synthetic Full Backup for Exchange Server backup is available. For details, please check [this help document](#).

Synthetic Full Backups of Exchange Server

Overview

During Exchange Server initial Full Backup, StoreGrid dumps the entire Exchange Server data and then the entire dump is encrypted and uploaded into the backup server. Subsequent changes in the Exchange Server data are backed up as individual logs files during StoreGrid's incremental backups. Over a period of time, the number of log files could grow. It is therefore recommended to run Additional Full Backups for Exchange server periodically.

However, running full backups periodically may not always be a viable option. The bandwidth between the client machines and the backup server may be limited. Seeding the full backups manually every time is resource intensive. Synthetic Full Backups for Exchange Server addresses this scenario by reducing the need of doing frequent additional full backups.

How does Synthetic Full Backups for Exchange Server work

During Synthetic Full backup of Exchange Server, StoreGrid client dumps the Exchange Server database and log files to a local temporary location, just like it does during the first full backup. StoreGrid client will then upload only the changed data with respect to the previous Full or Synthetic Full Backup to the backup server and not the entire dump.

The Synthetic Full Backups for Exchange Server can be scheduled just like the Full Backups. For example, you can schedule yearly full backups, with monthly synthetic full backups and daily incremental.

NOTE: Exchange Server log files will be purged on completion of the Synthetic Full Backup schedule.

Restoring Exchange Server Synthetic Full Backups

During the restore of Exchange Server data with Synthetic Full Backups, the log files up to the last Synthetic Full Backup and all the previous Synthetic Full Backup files along with the original full backup of the file are needed. Like for example, assume weekly synthetic full backups and daily incremental log backups. If O is the original (initial full) backup of the file, SF1, SF2 are the synthetic full backups and I1, I2, I3, I4 etc are the incremental log backups. Assume the sequence of the backups were as follows:

O, I1, I2, I3, I4, I5, SF1, I6, I7, I8, I9, I10, SF2, I11..

During the restore of version I9, StoreGrid would download and restore all log files backed up during I7, I8, I9 and I10 and also SF1 along with O:

$R(I9) = O + SF1 + I6 + I7 + I8 + I9$

If the version I11 needs to be restored, it would be:

$R(I11) = O + SF1 + SF2 + I11$

The backup server doesn't merge the files in the backup server. The version files of the incremental and synthetic full backups remain as individual files and they are merged in the client side only during restore.

Enabling Synthetic Full Backups for Exchange Server Backups

Synthetic Full Backups schedule can be selected while creating an Exchange Server backup. If a backup is already configured, it can be edited and the Synthetic Backup Schedule can be added to it. However, a full backup will be run after this change is done.

4

Full Backup Scheduling

?

☒ Run Monthly

Run Monthly at :

: on the
 of the following months.

☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun
☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

☐ Run Weekly

☐ Run Daily

☐ Run Every Few Hours

☐ Run Once Only

5

Synthetic Full Backup Scheduling

☒ ?

Run Monthly

Edit

At - 11 : 00 pm

On - First Sun

Months - ~~Jan~~ Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Synthetic Full Backup Configuration

☐ Run Monthly

☒ Run Weekly

Run Weekly at :

: on the following days.

☒ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☒ Sat ☐ Sun

☐ Run Daily

Ok

Cancel

Limitations

1. If Synthetic Full Backup schedule is added to an existing Exchange Server Backup that was first configured prior to v3.5, then a Full Backup of the Exchange Server will be scheduled immediately. If Synthetic Backup Schedule is added to a Exchange Backup Schedule that was first configured in v3.5, then another full backup will not be run.

Configure Exchange Server Backup

Overview

StoreGrid supports backup of Microsoft Exchange servers using Exchange Server Plugin. Exchange Server Plugin is an efficient way of backing up exchange servers.

The Exchange Server Plugin backup uses the VSS API [Volume Shadow Copy Services] for Exchange Server 2010 and ESE API for other lower versions of Exchange to backup Exchange Server databases. In Exchange Server backup, [except Exchange Server 2010 for which VSS is used] the initial backup will be compressed and dumped locally and thereafter transferred to the backup server. Locally dumped files will be deleted once the files are successfully transferred to the backup server thus releasing disk space in the local exchange server.

For Exchange Server 2000/2003/2007, the Exchange Server Plugin ESE API backup supports backup of storage groups in entirety, as well as individual databases within the storage groups. Because each storage group uses a single set of log files covering all of the databases in the storage group, restore and recovery operations should be done for the entire storage group.

Exchange Server 2010 no longer includes the concept of storage groups and since one set of log files is maintained for each database, the backup and restore operations are made simpler than other Exchange Server versions.

Backing up databases individually provides greater storage management flexibility. For example, critical databases might be backed up more frequently. Infrequently used or less critical databases might be backed up less frequently. Restoration of the storage group, however, should combine the archives and logs from all of the appropriate storage media, so that the database can be restored and recovered with minimal data loss.

IMPORTANT: Please ensure the following before configuring a Exchange Server backup.

- i. Ensure that the exchange databases configured for backup is mounted. A database must be online to be backed up. If a database has been dismounted it cannot be backed up, and the log sequence will not be truncated.
- ii. If a Storage Group or database is configured for either incremental or differential log backups, then the circular logging option should be disabled for the Storage Group / database. After disabling circular logging, "Microsoft Exchange Information Store" service must be restarted for Exchange 2000/2003/2007 and the database must be dismounted and mounted for Exchange Server 2010. Once you have disabled circular logging, we recommend that you run a fresh full backup before running an incremental or differential backup.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> Exchange Server"

Requirements

- Exchange Server 2000 with Service Pack 3 / Exchange Server 2003 / Exchange Server 2007 / Exchange Server 2010
- StoreGrid now supports backup of clustered Exchange Server Storage Groups. [Click here](#) to know more about configuring Exchange Server Cluster backup.

Exchange Server Backup Configuration

• Step 1: Schedule Name

Enter Backup Schedule Name: The first step in configuring the Exchange Server backup is to give a name for the backup schedule. StoreGrid supports creating multiple backup schedules each with its own configuration. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the

data to be restored using its schedule name.

• **Step 2: Select Backup Source**

On the left side of the "Add Exchange Server Backup" page, is the tree with a list of Storage Groups / Databases of the Exchange Server detected in the client machine. If a Storage Group / Database is already configured as part of another schedule, it will not be possible to include it in other backup schedules. In this case, the Checkbox will be displayed as an image.

• **Step 3: Set Basic Configuration**

Backup Type

Same Machine - You can backup this client machine to a drive attached to this client machine for the following two purposes:

1. When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.
2. If you want to keep a local backup copy that you want to restore quickly when needed.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data. Or, you can leave the backups in the local drive if you want to maintain a local copy of the backup that you can quickly restore.

NOTE: Deleted File Retention policies and Time Based version file Retention policy will not apply for a local backup. Only Version-Based Retention is supported for a local backup schedule. The Retention policies configured for this backup schedule will work only if the backup data is migrated from the local backup server/external drive into a remote backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Also keep a copy locally (optional) :

Enabling this option will backup the data to the backup server and also keep a copy of the backup data in a local location. First the data will be backed up to the backup server and on completion of the backup, the copy of the backed up data will be saved in the specified local location. The local copy will provide for faster restores and redundancy. You can always do a restore from the backup server as well.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path to which the Exchange Server database dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). In Exchange Server Plugin, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Encryption

Password Protect this Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data. Make sure you use this option only when the backup server is setup such that the backup server requires the client machines to authenticate before accepting the backup from the client.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

• Step 4: Full Backup Scheduling (Decide When To Do Full Backup)

This step allows you to configure the frequency at which a full backup of the selected database has to be done. A full backup is a complete backup of the selected databases and all necessary log files. Once full backup completes,

all log files older than the time when full backup started would be purged. Since full backups take more time to complete than a differential or incremental log backup, a full backup is typically configured to run weekly or monthly or much less frequently than differential or an incremental backup. Configuring a full backup scheduling is mandatory, i.e. this step cannot be skipped. StoreGrid will do a full backup dump of the Exchange Server database(s) whenever the full backup is scheduled and back it up.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

Run Once Only - Choosing this option will do the backup only once at the stipulated time.

• **Step 5: Synthetic Full Backup Scheduling (Optional)**

[Click here for more information on how Synthetic Full Backups works for Exchange Server Backups](#)

This step allows you to configure the frequency at which a synthetic full backup of the selected database has to be done. A synthetic full backup is a complete full [backup] dump of the selected databases and all necessary log files but only the changed data with respect to the previous full backup /synthetic full backup [whichever is recent] is uploaded to the backup server. Once synthetic full backup completes, all log files older than the time when synthetic full backup started would be purged. Since a synthetic full backup takes lesser time to complete than the full backup, it is typically configured to run weekly or monthly or much frequently than full backup [and less frequently than incremental/differential log backup]. Configuring a synthetic full backup scheduling is optional.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. StoreGrid will run at the stipulated time only.

• **Step 6: Log Backup Scheduling (Optional Step)**

Exchange Server Plugin users will have a drop-down box to optionally choose between Incremental/Differential Log Backups. StoreGrid will do a Incremental/Differential log backup dump of the database with respect to the previous full or synthetic full or incremental log backup whenever this Incremental/Differential log backup is scheduled.

Incremental Log Backup : An incremental log backup backs up only the log files since the last full or synthetic full or incremental backup. Once an incremental backup completes, all log files older than the time when incremental backup started would be purged. You cannot perform an incremental backup when circular logging is enabled in your exchange server settings. Since only changes are backed up, incremental backups typically run

faster than full and synthetic full backups. Also, as only the log files since the last backup are backed up, incremental backups will run faster than differential backups too. Hence incremental backups are always configured to be scheduled more frequently than a full and synthetic full backup. Configuring incremental backup scheduling is optional.

Differential Log Backup : A differential backup backs up only the log files since the last full backup or synthetic full backup even when the last backup was a incremental backup. The logs are not deleted after the differential backup completes. You cannot perform a differential backup when circular logging is enabled in your exchange server settings. Since only changes are backed up, differential log backups typically run faster than full and synthetic full backups. But, as all the log files since the last full backup or synthetic full backup are backed up, differential backups will take longer to finish than an incremental backup. Hence differential backups are configured to be scheduled more frequently than a full and synthetic full backup. Configuring differential backup scheduling is optional.

This step has the following options from which any one can be chosen.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

• **Advanced Settings (Optional)**

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are some options here on how the backup should be scheduled.

Maximum Number Of Full Backups : You can specify the maximum number of full backups that need to be stored in the server. For example if you configured a monthly full backup, then StoreGrid will take a full backup every month. After 6 months you will have 6 separate full backups in the backup server along with differential or incremental logs under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "Store maximum of 6 full backups" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its differential or incremental log backups thus retaining the last 6 months (full) backups.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) : If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if its not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (eg. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) : If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an

incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check : StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Saving the configured backup

Once all the Exchange Server Storage Group(s)/Database(s) to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



Exchange Server is not installed or not available in the system.

Cause : If Exchange Server services running in the local machine were not detected during StoreGrid installation process.

Solution: Please verify that the following files "XchangeServer.sgpl" & "ExchangeServer.sgpl" exist in "<StoreGrid_Home>\Vembu\StoreGrid\plugins" folder. If these files don't exist in the location, please try installing StoreGrid on top of the existing installation and check if you were able to create Exchange Server Backup schedule without errors.



The following message is displayed in the backup report "The database missed a previous full backup before the incremental backup".

Cause 1: After a successful restore, if incremental or differential logs backup is performed before running a full backup then Exchange Server backup report will display the above error message.

Solution 1: Check the option "Run additional full backup after saving this configuration" in the "Edit Exchange Server

Backup Schedule" page to run additional full backup and then proceed with the incremental or differential log backup.

Cause 2: If a new Database is added to existing Storage Group which was already configured for backup.

Solution 2: Check the option "Run additional full backup after saving this configuration" in the "Edit Exchange Server Backup Schedule" page to run additional full backup and then proceed with the incremental or differential log backup.

Cause 3: This issue could arise when StoreGrid is trying to run an incremental backup on a database in a Storage Group when at least one of the remaining databases in the Storage Group had not been configured for full backup at least once. In such a situation, Exchange Server will not allow StoreGrid to purge the logs files for the configured database.

Solution 3: Configure full backup for the remaining databases temporarily. And later you can delete this backup schedule if this backup is not needed.



The following message is displayed in the backup report. "No new/modified files for backup".

Cause 1 : If you try to do an incremental or a differential log backup on a exchange server that has circular logging enabled, Exchange server generates the above error message that the incremental or differential backup cannot be done.

Solution 1 : Turn off circular logging do an incremental or a differential log backup. To verify that circular logging is disabled, open Exchange System Manager and navigate through the console tree to Administrative Groups -> your administrative group -> Servers -> your server -> the storage group you want to check. Right click on the storage group, select properties, and verify that the "Enable Circular Logging" checkbox is not selected.

Cause 2 : If the temporary dump directory configured for backup schedule doesn't have enough space.

Solution 2 : Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved).



The following message is displayed in the backup report. "Backup is already active".

Cause : This message would be displayed in the client backup report in the following conditions :

- i. If the same Storage Group or the Database from the same Storage Group configured for backup is backed up by some other process.
- ii. If StoreGrid is killed or stopped and started immediately, while exchange server data dump was in progress. Then a previous instance of Backup (ESE API) could still be running in the background and it still has a connection open to the specified service. In this case a second instance will not be able to connect to the exchange server.

Solution : If the failed backup is a full backup, then edit the backup schedule to take an immediate full backup. For other backup schedules click schedule now button in the "List of Backup Schedule" for the backup schedule to take the backup.



The backup schedule fails with connection failure message [SG083, SG132...] in the backup report.

Cause : When StoreGrid is doing the local dump of the exchange server data, the client's socket connection to the backup server will be idle. Depending upon the time the dump process takes, some firewall/router/NAT settings may close this idle socket connection after a timeout period. Hence, after the dump process, when StoreGrid tries to transfer the dump file to the backup server, the connection is found to be invalid and the backup schedule fails.

Solution : Enable the Keep Alive setting for the backup in the StoreGrid configuration file [< StoreGrid Path>\conf\SGConfiguration.conf] by following the instructions given below:

- Stop StoreGrid
- Edit < StoreGrid Path>\conf\SGConfiguration.conf
- Set the <StoreGrid><Configuration><Module> tag, "KeepAliveEnabled" attribute's value as "1" and set the "KeepAliveTime" attribute value to desired value.

- Save the configuration file and restart StoreGrid.

Limitations

1. If locally dumped Exchange Server backup data is deleted manually while backup is in progress, then StoreGrid will not have the information about the manually deleted file in client machine backup report and in server backup report.
2. Local Dump path configured for Exchange Server backup should not contain special characters like single quote('), double quote(""), forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and plus(+).
3. If Exchange Server backup schedule is suspended while local dump is in progress, then StoreGrid will suspend the transfer of files to the backup server (till after the local dump process is completed). On resuming the same backup schedule, the dump process will not occur in the next schedule; instead, the locally dumped files will be transferred to server and an error message will be reported in backup report.
4. Please ensure that the dump location configured for the backup schedule has enough space and has valid read and write permission to accommodate the exchange dump data. Also, the dump location (full path) should be less than 256 characters.
5. If the Storage Group or Database is configured as part of one schedule, then it cannot be included in other backup schedules. If Databases under same Storage Group are configured as separate schedules, then enabling Multi-threaded scheduling in StoreGrid is not recommended for Exchange Server backups.
6. A Storage Group configured for backup in a backup schedule cannot be configured in a second backup schedule. If required, the first schedule has to be deleted first and thereafter configured in the second backup schedule.
7. Everytime a new Database is added under a Storage Group of the Exchange Server, then before running a differential or incremental backup, "Additional Full Backup" should be configured to run through the "Edit Exchange Server Backup" configuration.
8. When you try to restore an Exchange Database's full backup which was empty during its first full backup, then restore operation will fail. Hence you should ensure that Exchange Database is not empty when a full backup is scheduled.
9. Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and local backup.

Exchange Server Cluster Backup

Overview

StoreGrid supports backup of clustered Exchange Server Storage Groups. With StoreGrid client installed on any one of the clustered Exchange Server nodes, you can configure a backup schedule to backup the Exchange Server Storage Groups, after a small change in a configuration page in StoreGrid web-console. Even when a failover occurs, StoreGrid's Exchange Server Plugin will continue to backup the clustered Exchange Server.

Exchange Server Cluster Backup

• Requirements

- StoreGrid v3.1 and above
- Windows Server 2003 / Server 2008
- Microsoft Exchange Server 2003/2007
- To backup a clustered Exchange server you will need to install StoreGrid on any one of the clustered Exchange Server node

• Installation

- Install Exchange Management Tools [if not installed] in the cluster node where StoreGrid is [to be] installed.
- Install StoreGrid Client [if not installed] in the particular cluster node.

• Verification

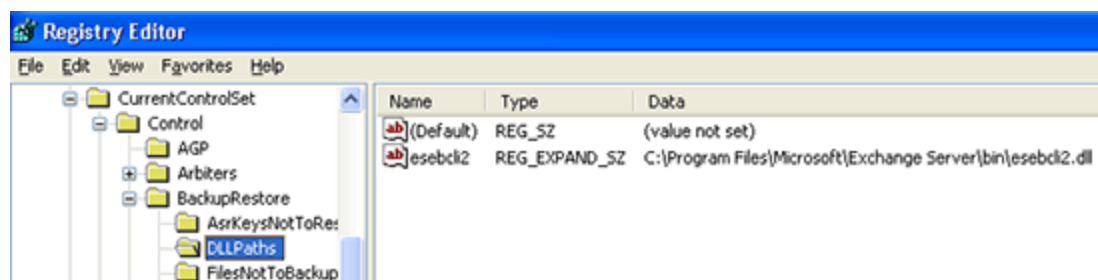
• DLL Path and Registry Entries:

Verify the following in the machine where StoreGrid is installed.

- Verify that **esebcli2.dll** file is located in the **<Exchange_Installation_Path>\Bin** folder.
Default location of *bin* folder in Exchange Server 2003 is **C:\Program Files\Exchsrvr\Bin**
Default location of *bin* folder in Exchange Server 2007 is **C:\Program Files\Microsoft\Exchange Server\Bin**

If this file does not exist in the machine, then copy this file directly from the Exchange Server 2003/2007 installation CD to "C:\Program Files\Exchsrvr\Bin\" or "C:\Program Files\Microsoft\Exchange Server\Bin\" folder.

- Start Registry Editor. Verify that a Value Name **esebcli2.dll** exists with its **full path** as **Value** in the following registry key
"HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\BackupRestore\DLLPaths".



NOTE: If the above entry does not exist in Registry, then create a new one with appropriate entries

as mentioned above.

- **Backup Permissions:**

Make sure that the logon account on which StoreGrid is running has backup permissions to backup the Exchange Server 2003/2007 databases.

- **Configuration**

Now login to the StoreGrid webconsole and access the "Add Exchange Server Backup" page through the menu 'Backup -> Plugin Backups -> Exchange Server'. In Step 2 [in StoreGrid web-console], a link [Click here to edit the Exchange Server name] to the 'Exchange Server Backup Configuration' page will be provided. From there you can enter the Exchange Server name in the textbox provided and save the configuration to list the Storage Groups in 'Add Exchange Server Backup' page for backup.

Troubleshooting Tips



Storage Groups are listed in "Backup -> Plugin Backups -> Exchange Server" page but backups are failing with errors.

Cause : If you have installed a version of Exchange Server 2007 that came pre-packaged with Exchange 2007 Service Pack 1, remote backups are disabled by default in registry settings. In such cases, backups will fail although the Storage Groups are listed successfully in "Exchange Server Backup" page.

Solution :

[Excerpt from Microsoft article]:

As part of the Microsoft continuing security initiatives, Microsoft Exchange Server 2007 Service Pack 1 (SP1) introduces a behavior change designed to reduce the attack surface of the system. This change directly affects remote streaming backups on Windows Server 2003.

To adhere to the Microsoft Secure by Default initiative, the remote streaming functionality disabled (server-wide) in Exchange 2007 SP1 is disabled by default. A manual override in the form of the following registry value must be enabled to restore this functionality. Set the value for the Value Name **Enable Remote Streaming Backup** to **1** for enabling remote backups:

Key : **HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeIS\ParametersSystem**

Value Name: **Enable Remote Streaming Backup**

Type: **DWORD**

Value: **0 = default behavior (remote backup disabled); 1 = remote backup enabled**



Registry Editor

File Edit View Favorites Help

Name	Type	Data
(Default)	REG_SZ	(value not set)
DB Recovery	REG_DWORD	0x00000000 (0)
Disable MAPI Clients	REG_SZ	0.0.0-5.3164.0
DSA Computer	REG_SZ	WINTEST12
MTA Computer	REG_SZ	WINTEST12
Online Compaction	REG_DWORD	0x00000001 (1)
Rpc/HTTP Port	REG_DWORD	0x00001771 (6001)
This Server	REG_SZ	WINTEST12
Working Directory	REG_SZ	C:\Program Files\Micro
Enable Remote Streaming Backup	REG_DWORD	0x00000001 (1)

NOTE: After entering the above registry value, restart the Microsoft Exchange Information Store service to apply the change.

Refer the following Microsoft article for more information on this:

<http://technet.microsoft.com/en-us/library/aa998870%28EXCHG.80%29.aspx>

Limitations

1. If you have configured Exchange server backups, then Exchange Server name cannot be edited. If you would like to backup a different Exchange Server, you have to delete the Exchange Server backups that have already been created and then try editing the Exchange Server name in the 'Exchange Server Backup Configuration' page mentioned above, under the title 'Configuration'.

Configure Exchange Mailbox Backup

Overview

StoreGrid Exchange Mailbox Plugin backs up users' mailboxes. It can backup at a folder level. You can backup all the data of a particular user (mailbox) or you can backup just a folder (like for example the inbox of an user) or you could backup a sub-folder (like for example, a sub-folder in the inbox).

StoreGrid should be running in the machine where Exchange Server is installed to create Exchange Mailbox backups. If multiple Exchange servers are used, then StoreGrid should be installed in all of them.

While StoreGrid is backing up, Exchange Server should be running. When StoreGrid is performing a backup, all the services including information store will continue to run normally. StoreGrid Exchange Mailbox Plugin extracts user's mailbox, folder or sub-folder data into separate PST files.

The Exchange Mailbox backup is not an alternative to Exchange Server backup. It instead provides optional granularity to the data to be backed up. Please note that an Exchange Mailbox restore alone cannot recover the Information Store after a disaster. It is most helpful in situations where an user loses an individual mailbox (like contacts, mails, calendar, tasks etc), in which case you don't have to restore the entire server to retrieve the mailbox. It lets you selectively restore just the mailbox, folder or sub-folder you want.

The Exchange Mailbox Plugin backup uses MAPI to backup users' Mailbox folders. In the Exchange Mailbox backup, the data (mailbox, folder or sub-folder) is extracted from the Exchange Server into *.PST files, which are dumped locally and then transferred to the backup server. The locally dumped files are deleted once the files are successfully transferred to the backup server.

Note:

1. Usually it is not enough to just backup mail boxes alone. It is recommended that you always configure the storage group for backups. You can have additional mailbox backups under the storage group so that you get additional granularity during restores wherein you can restore only a mailbox that is required.
2. If you just configure only mailbox backups and not configure the full storage group, then if your full exchange server crashes then you will not be able to restore your exchange server at all.
3. The best practice is to configure storage group backups and then configure additional mailbox backups for quick restores. Also for mailbox backups it is better to configure only critical mailboxes and not all mailboxes for backups as the mailbox backups takes a lot of time to backup than the full storage group itself.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> Exchange Mailbox"

Requirements

Exchange Server 2000 with Service Pack 3 / Exchange Server 2003 / Exchange Server 2007 / Exchange Server 2010.

Exchange Server 2010/2007 support - Since Exchange MAPI interface that StoreGrid uses for mailbox backup is available only in 32-bit version (though Exchange Server 2010/2007 is a 64-bit application), you need to install the Microsoft's 32-bit MAPI client component and 32-bit ESEBCL12.DLL.

Another important requirement is that the user account under which StoreGrid is installed should have enough permissions to access the users' mailboxes. Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.

Exchange Mailbox Backup Configuration

• **Step 1: Schedule Name**

Enter Backup Schedule Name: Give a name for the backup schedule. StoreGrid supports creating multiple backup schedules each with its own configuration. The backup schedule name uniquely identifies the backup. You can restore the data using the backup schedule name.

• **Step 2: Select Backup Source**

On the left side of the "Add Exchange Mailbox Backup" page, is the tree with the list of Users and their mailboxes and folders available in the Exchange Server. Select the Users' mailboxes or their folders or their sub-folders that need to be backed up as a part of this schedule.

• **Step 3: Set Basic Configuration**

Backup Type

Same Machine - You can backup this client machine to a drive attached to this client machine for the following two purposes:

1. When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.
2. If you want to keep a local backup copy that you want to restore quickly when needed.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data. Or, you can leave the backups in the local drive if you want to maintain a local copy of the backup that you can quickly restore.

NOTE: Deleted File Retention policies and Time Based version file Retention policy will not apply for a local backup. Only Version-Based Retention is supported for a local backup schedule. The Retention policies configured for this backup schedule will work only if the backup data is migrated from the local backup server/external drive into a remote backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Also keep a copy locally (optional) :

Enabling this option will backup the data to the backup server and also keep a copy of the backup data in a local location. First the data will be backed up to the backup server and on completion of the backup, the copy of the backed up data will be saved in the specified local location. The local copy will provide for faster restores and redundancy. You can always do a restore from the backup server as well.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Dump and upload parallelly

With this option backup data will be uploaded to the backup server as the data is dumped. The files that are uploaded will be deleted from the dump location. This option is recommended if you have limited dump space.

Temporary location for backup dumps

Enter the location/directory path to which the Exchange Mailbox dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). Please note that, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Encryption

Password Protect this Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data. Make sure you use this option only when the backup server is setup such that the backup server requires the client machines to authenticate before accepting the backup from the client.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

• Step 4: Full Backup Scheduling (Decide When To Do Full Backup)

This step allows you to configure the frequency at which a full backup of the selected users mailboxes has to be done. A full backup is a complete backup of the selected users mailbox folders. Since full backups take more time to complete than an incremental backup, a full backup is typically configured to run weekly or monthly or much less frequently than the incremental backup. Configuring a full backup schedule is mandatory, i.e. this step cannot be skipped. StoreGrid will do a full backup dump of the Exchange Mailboxes whenever the full backup is scheduled and back it up.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at a time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once the StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

Run Once Only - Choosing this option will do the backup only once at the stipulated time.

• Step 5: Incremental Backup Scheduling

StoreGrid will do a Incremental backup dump of the users mailbox with respect to the previous full or incremental backup; whenever the Incremental log backup is scheduled.

This step has the following options to choose from:

Run Weekly - Choose the time and the day of the week when the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of a week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

• Advanced Settings (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are some options here on how the backup should be scheduled.

Maximum Number Of Full Backups : You can specify the maximum number of full backups that need to be stored in the server. For example if you have configured a monthly full backup, then StoreGrid will take a full backup every month. After 6 months you will have 6 separate full backups in the backup server along with incremental backups under each of these 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "Store maximum of 6 full backups" here. In the 7th month, StoreGrid after finishing the 7th full backup, will delete the first full backup along with its incremental backups and retain the last 6 full backups.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) : If you enable this option, then the backup will be executed once immediately after you save the backup schedule – even if it is not the scheduled time. For example, if you configure a daily backup at 10.00 AM but you have configured the backup at 8.00 AM, then the backup schedule will be run once immediately at 8.00 AM and then as per the daily schedule at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) : If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check : StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Saving the configured backup

Once all the Exchange Mailboxes, folders and/or sub-folders that are to be backed up are selected and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup.

Troubleshooting Tips



In some cases you may not be able to expand any of the mailbox folders listed in the "Add Exchange Mailbox Backup" page.

Cause : This is due to insufficient permissions of the logon account used to perform the Exchange Mailbox backup.

Solution : If StoreGrid is installed as service, please ensure that StoreGrid service have full administrative privileges. If StoreGrid is installed with Administrator logon account and still you were not are able to expand the mailbox folders other than your own, please check that the StoreGrid service is configured to start with full administrative rights over the Exchange Server.

Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.



Users Mailbox/folder are not listed in the "Add Exchange Mailbox Backup" page.

Cause : StoreGrid would fail to list the Exchange Users Mailbox folders for the following reasons.

1. Mailbox which was accessed does not exist in the Exchange Server or invalid logon information being used to list the users Mailbox.
2. Insufficient rights on the Exchange user mailbox.

Solution : Exchange Mail Level Backup requires "Full Control" access on the Exchange Server for the user account under which StoreGrid service is running. Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.



Error while dumping the Exchange Mail Boxes. Unable to create the PST file [or] "No new/modified files for backup"

Cause : 'MSPST MS' is not configured in the Exchange Server.

Solution : Add the 'MSPST MS' service by modifying the MAPISVC.INF file.

The **MAPISVC.INF** file should have the information of the Microsoft Personal Folder store service. If this file does not have this information, then the Exchange Mailbox dump will fail with an error indicating that it was "Unable to create the PST file" [or] "No new/modified files for backup".

The **MAPISVC.INF** file is usually located in the Windows system directory (e.g.C:\Winnt\System32\ or C:\Windows\System32\).

Verify the file has an entry for the Microsoft Personal Folder store service. You can determine this by looking for the following information. If this information is not in the file then you need to add it in the proper sections:

[Services]
MSPST MS=Personal Folders File (.pst)

[MSPST MS]
Providers=MSPST MSP
PR_SERVICE_DLL_NAME=mspst.dll
PR_SERVICE_INSTALL_ID={6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
PR_SERVICE_SUPPORT_FILES=mspst.dll

```
PR_SERVICE_ENTRY_NAME=PSTServiceEntry
PR_RESOURCE_FLAGS=SERVICE_NO_PRIMARY_IDENTITY
```

[MSPST MSP]

```
34140102=4e495441f9bf80100aa0037d96e0000
```

```
PR_PROVIDER_DLL_NAME=mspst.dll
```

```
PR_SERVICE_INSTALL_ID={6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
```

```
PR_RESOURCE_TYPE=MAPI_STORE_PROVIDER
```

```
PR_RESOURCE_FLAGS=STATUS_DEFAULT_STORE
```

```
PR_DISPLAY_NAME=Personal Folders
```

```
PR_PROVIDER_DISPLAY=Personal Folders File (.pst)
```

For more information about the format of the MAPIVC.INF file see the following Microsoft article:

<http://support.microsoft.com/kb/294470>



Dump location does not have enough space to export the PST file.

Cause : The dump location configured for this backup schedule doesn't have enough free space to store the *.PST files.

Solution : Increase the free space or cleanup the used space for the drive which is configured as dump location for this backup schedule. Location configured for dump process can be viewed from the view backup configuration of that backup schedule.



Error while creating the dump location <Dump_Location>

Cause : The configured dump location for that particular backup schedule is not accessible or StoreGrid does not have enough permission to access the directory.

Solution : - Make sure that the dump location drive exist in your StoreGrid client. If that drive exist, provide enough write permission to the user under which StoreGrid is installed.

Limitations

1. It is recommended that only critical mailboxes be configured for backup using the StoreGrid Exchange Mailbox Backup. Backing up all the mail boxes individually takes much longer time than backing up the Entire database due to limitations of the MAPI protocol.
2. Local temporary dump location configured for Exchange Server backup should not contain special characters like single quote('), double quote("), forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and plus(+).
3. Please ensure that the dump location configured for the backup schedule has enough space and has valid read and write permissions to accommodate the users mailbox dump data. Also, the dump location full path should be less than 256 characters.
4. If an Exchange Mailbox name(user name) contains forward slash(/) or reverse slash(\), that mailbox might not be backed up. You will need to change the full name of that mailbox without the slash characters to get them backed up.
5. If any special character is present in any folder name (present under a user), that character will be replaced with other set of valid characters while creating the dump file.
6. Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and local backup.

Configure SQL Server Backup

Overview

StoreGrid supports backup of Microsoft SQL servers using SQL Server Plugin. SQL Server Plugin is a flexible and efficient option while backing up SQL servers.

StoreGrid's SQL Server plugin uses VDI API to backup database(s) and then uploads the locally dumped file to the backup server.

StoreGrid provides three types of backups for SQL Server database : Full, Differential and Transaction Log. Full backup type backs up the entire database. Differential backup type backs up only modified extents since the previous full backup. And Transaction log backup backs up the active portion and truncates the inactive portion of the transaction log. This section will give you information about how to configure MSSQL Server 2000/2005/2008 database(s) backup using StoreGrid.

You can also refer [SQL Backup and Restore](#) for more details on SQL Server backup and restore.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> SQL Server".

SQL Server Connection Settings

"SQL Server Connection Properties" page is used to configure StoreGrid with SQL Server connection properties. StoreGrid will use the connection properties to connect to the SQL server while listing the database(s) or while taking SQL Server database(s) backup.

- **SQL Server Instance Name**

This choice-box will list all the SQL Server instances detected in the local machine. You should choose the instance of SQL Server StoreGrid should connect to. StoreGrid will connect to this instance and list the databases in this instance to enable you to configure backup schedules for the databases.

- **Continue with previous authentication for this SQL Server Instance**

This option is provided if a user name and password have already been configured for the SQL-Server instance. By default "Yes" option is selected and the "No" option could be used to change the previously saved "User Name" and "Password" values.

- **Authentication**

Choose the authentication type to connect to the SQL Server instance selected.

Windows Authentication : Select this option if you have automatic access to the SQL Server through Microsoft Windows user names and passwords.

SQL Server Authentication : Select this option to access the SQL Server with a user name and password that the SQL Server manages.

- **User Name**

If you have selected the SQL Server Authentication option, specify the user name here.

- **Password**

If you have selected the SQL Server Authentication option, specify the password here.

- **Next Button**

If all the authentication parameters are correctly set then clicking the Next button will take you to the SQL Server Backup Configuration page.

- **Cancel Button**

Closes the "SQL Server Connection Properties" page without accepting the selections. And the UI will display the "List of Backup Schedules already created" page.

SQL Server Backup Configuration

• Step 1: Schedule Name

Schedule Name: The first step in configuring the SQL Server backup is to give a name for the backup schedule. StoreGrid supports creating multiple backup schedules each with its own configuration. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

• Step 2: Select Database(s)

SQL Server Instance Name: This field is a non-editable name of the SQL Server Instance for which the backup needs to be configured. If you want to change the SQL Server instance you need to go back to the SQL Server Connection Properties UI and choose the instance name again.

Select Database(s): Select the database name that needs to be backed up.

SQL Server databases are classified as Full Recovery, Bulk-Logged Recovery and Simple Recovery Models. When a particular Recovery Model is selected, the databases in the SQL server falling under that Recovery Model will be listed for backup. You can select all of them or individually select the ones you want to backup.

If a database is included in a backup schedule, then that particular database cannot be selected in another backup schedule; as the data might get inconsistent when backed up across two different backup schedules. Similarly, a database should not be configured with more than one backup software for the same reason.

Select All Databases for this schedule

If "Select All Databases for this Schedule" option is chosen, it will include all the databases present in the SQL server. If a new database is later added to the SQL Server, it will be automatically included in this backup schedule.

Select All Full Recovery Model databases

If "Select All Full Recovery Model databases" option is chosen, it will include all the databases with Full Recovery model from the SQL Server. If a new Full Recovery model database is later added to SQL Server, it will be automatically included in this schedule.

The Full Recovery Model provides extensive backup and restore capabilities. Full, differential and Transaction Log backup of the databases are supported.

To restore a Full Recovery Model database, a full backup has to be first restored. On top of the full backup, differential and/or Transaction Log backups could be restored to recover the database to the latest backup state.

Select All Simple Recovery Model databases

If "Select All Simple Recovery Model databases" option is chosen, it will include all the databases with Simple Recovery Model from the SQL Server. If a new Simple Recovery model database is later added to SQL Server instance, it will be automatically included in the backup schedule.

The Simple Recovery Model provides the simplest form of backup and restore. Full or differential backup of the databases could be done. Transaction log backups are not available for databases belonging to this model.

To restore a Simple Recovery Model database, a full backup has to be first restored. On top of the full backup, differential backups could be restored to recover the database to the latest backup state.

Select All Bulk-Logged Recovery Model databases

If "Select All Bulk-Logged Recovery Model databases" option is chosen, it will include all the databases with Bulk-Logged recovery model from the SQL Server. If a new Bulk-Logged recovery model database is later added to SQL Server, it will be automatically included in the backup schedule.

Similar to a Full Recovery Model database, Bulk Logged Model databases provide extensive backup and restore

capabilities. Full, differential and Transaction Log backup of the databases are supported. However, compared to the Full recovery model, which logs all transactions, the bulk-logged recovery model minimally logs bulk operations. Therefore, recovery is possible only to the end of a transaction log backup when the log backup contains bulk changes.

Like Full Recovery Model database, to restore a Bulk Logged Model database, a full backup has to be first restored. On top of the full backup, differential and/or Transaction Log backups could be restored to recover the database to the latest backup state.

Let me manually choose databases

If "Let me manually choose databases" option is chosen, then any databases can be selected for backup irrespective of the recovery model they belong to.

If a database does not support Differential/Transaction Log backups, then that Differential/Transaction Log backup will be skipped for that database and the error message will be reported in backup report.

The database 'tempdb' need not be configured as part of any of the above mentioned schedules. However, if it was configured for a backup, it will be skipped internally when the backup is scheduled. 'tempdb' is used internally by SQL Server just for saving temporary data.

• Step 3: Set Basic Configuration

Backup Type

Same Machine - You can backup this client machine to a drive attached to this client machine for the following two purposes:

1. When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Settings -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.
2. If you want to keep a local backup copy that you want to restore quickly when needed.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data. Or, you can leave the backups in the local drive if you want to maintain a local copy of the backup that you can quickly restore.

NOTE: Deleted File Retention policies and Time Based version file Retention policy will not apply for a local backup. Only Version-Based Retention is supported for a local backup schedule. The Retention policies configured for this backup schedule will work only if the backup data is migrated from the local backup server/external drive into a remote backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Also keep a copy locally (optional) :

Enabling this option will backup the data to the backup server and also keep a copy of the backup data in a local location. First the data will be backed up to the backup server and on completion of the backup, the copy of the backed up data will be saved in the specified local location. The local copy will provide for faster restores and redundancy. You can always do a restore from the backup server as well.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path to which the MSSQL Server database dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). Please note that, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Encryption

Password Protect this Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data. Make sure you use this option only when the backup server is setup such that the backup server requires the client machines to authenticate before accepting the backup from the client.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your

password in a safe place.

• **Step 4: Full Backup Scheduling (Decide When To Do Full Backup)**

Configuring this step is mandatory. StoreGrid will do a full backup dump of the database whenever the full backup is scheduled and back it up.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Settings, StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days. If the "Select all days" checkbox is checked, then the schedule will be run on all the days of the week.

Run Once Only - Choosing this option will do the backup only once at the stipulated time.

• **Step 5: Differential Backup Scheduling (Optional)**

Configuring this step is optional. StoreGrid will do a differential backup dump of the database with respect to the previous full backup whenever this differential backup is scheduled.

This step has the following options from which any one can be chosen.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

• **Step 6: Transaction Log Backup Scheduling (Optional)**

Configuring this step is optional. StoreGrid will do a transaction log backup dump of the database with respect to

the previous backup (full/differential/transaction log) whenever this transaction log backup is scheduled.

This step has the following options from which any one can be chosen.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days. If the "Select all days" checkbox is checked, then the schedule will be run on all the days of the week.

• **Advanced Settings (Optional)**

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

Maximum Number Of Full Backups : You can specify the maximum number of full backups that need to be stored in the server. For example if you configured a monthly full backup, then StoreGrid will take a full backup every month. After 6 months you will have 6 separate full backups in the backup server along with differential and transaction logs under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "Store maximum of 6 full backups" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its differential and transaction log backups thus retaining always the last 6 month backups.

Differential Backup Count : If the MSSQL Server differential backups are configured more frequently [Run every few hours] in StoreGrid SQL Server backup and the MSSQL Server databases are changing rapidly, then the clients backup space usage will grow faster. To avoid this, you can specify maximum number of Differential backups to be kept in the server. If the number of differential backups count exceeds this count then the oldest differential backup file and the transactions logs taken between that differential backup and its successive differential/full backup job are deleted. The default value is 5 and minimum value is 2.

If you are upgraded from StoreGrid 2.1 version, then the older SQL Server backup differential backup files will be deleted automatically when a new differential backup configure.

Read and verify the integrity of the backup on completion : If you enable this option, then SQL Server will perform a verification of the backup once it completes.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) : If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if its not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (eg. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) : If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be

configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check : StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Saving the configured backup

Once all the SQL Server database(s) to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



The following message is displayed in the backup report. "SQL Server Backup aborted because of error in getting the virtual device backup configuration. Check your database properties."

Cause 1 : If 'SQL Server' service is running in Local System account.

Solution 1 : Please check whether 'SQL Server' service is running in Local System account. If the SQL Server service is running in Local System Account, please change the SQL Server service's logon account to some other user account (Administrator) who has the full admin rights. You can change the SQL Server service's logon account type by following the steps:

- Open the Services control applet through "Control Panel -> Administrative Tools -> Services" shortcut or by running "services.msc" command in "Start -> Run" tool.
- Select the SQL Server service and then open its Properties dialog.
- In the SQL Server services Properties dialog, go to the "Logon" tab and update the user logon to be of the power user or a user who has full admin rights to list the SQL Server databases.
- After providing the correct user name and password details, click 'Apply' and 'Ok' to apply the changes.
- Restart the SQL Server service.

After changing the SQL Server service logon account, re-schedule the SQL Server backup and check whether the

issue resolved.

Cause 2 : If System resource utilization is high or Multithread backup is enabled in StoreGrid and one more backup is trying to start database dump process at a time.

Solution 2 : Adjust the "TimeOut" attribute value of "BeforeRun" tag in the plugin configuration file [< StoreGrid Path>/plugins/AdvMSSQLServer.sgpl] by following the instructions given below:

- Stop StoreGrid
- Edit < StoreGrid Path>/plugins/AdvMSSQLServer.sgpl
- Set the <StoreGrid><Configuration><Module> tag, "TimeOut" attributes value to desired value.
- Save the configuration file and restart StoreGrid



The following message is displayed in the backup report. "Check registration of SQLVDI.DLL and value of IID. This failure might happen if the DLL was not registered."

Cause : If the mssql server being upgraded from MSSQL Server 7, then there will be a problem in loading dll required for VDI backup.

Solution : You need to change the threading model in the registry entry. For more details about this, please refer the following url :- <http://support.microsoft.com/kb/323602>



The backup schedule fails with connection failure message [SG083, SG132...] in the backup report.

Cause : When StoreGrid is doing the local dump of the SQL server data, the client's socket connection to the backup server will be idle. Depending upon the time the dump process takes, some firewall/router/NAT settings may close this idle socket connection after a timeout period. Hence, after the dump process, when StoreGrid tries to transfer the dump file to the backup server, the connection is found to be invalid and the backup schedule fails.

Solution : Enable the Keep Alive setting for the backup in the StoreGrid configuration file [< StoreGrid Path>\conf\SGConfiguration.conf] by following the instructions given below:

- Stop StoreGrid
- Edit < StoreGrid Path>\conf\SGConfiguration.conf
- Set the <StoreGrid><Configuration><Module> tag, "KeepAliveEnabled" attribute's value as "1" and set the "KeepAliveTime" attribute value to desired value
- Save the configuration file and restart StoreGrid



When I try to create a MSSQL Server backup, i can see the SQL Server database(s) but the check box to click on is all greyed out.

Reason : If you had configured a MSSQL Server database(s) for backup in a backup schedule, the same should not be configured as a part of another backup schedule and therefore the checkboxes will be greyed out. The other backup schedule should be deleted first and there after it can be configured for backup in another backup schedule.

MSSQL Server changes the reference of the database dump when two schedules try to backup the same SQL Server Database and hence the backed up data of both the backup schedules might become inconsistent and therefore cannot be restored when backed up across two schedules.

Limitations

1. If locally dumped SQL Server database(s) backup data is deleted manually while backup is in progress, then StoreGrid will not have the information about the manually deleted file in client machine backup report and in server backup report.
2. Local Dump path configured for SQL Server database(s) backup is not recommended to have special characters like single quote('), double quote(""), forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and plus(+).

3. Please ensure that the dump location configured for the backup schedule has enough space and has valid read and write permission to accommodate the SQL Server database dump data. Also, the dump location (full path) should be less than 256 characters.
4. If StoreGrid is killed while SQL Server database(s) backup schedule configured with multiple database(s) dump process is active, then in the next schedule locally dumped files for the database will be transferred to backup server and dump process for the remaining database(s) will be processed in the next schedule.
5. If SQL Server database(s) backup schedule is suspended while local dump is in progress, then StoreGrid will suspend the backup after completing the current MS SQL database dump process. On resuming the same backup schedule, the dump process will not occur in the next schedule; instead, the locally dumped files will be transferred to server and an error message will be reported in backup report.
6. In multiple databases backup, if a database does not support Differential/Transaction Log backups, then that Differential/Transaction Log backup will be skipped for that database and the error message will be reported in backup report.
7. Number of differential backups count should be greater than or equal to 2.
8. If the local dump location is configured as a FAT32 disk partition, then the local dump file size should not exceed 4 GB as the FAT32 file system cannot hold file size more than 4 GB. In this case, StoreGrid cannot dump the data files and the backup schedule will fail.
9. Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and local backup.

Configure SharePoint Site Backup

Overview

StoreGrid supports a site-collection level backup of SharePoint versions SPS2003/WSS2.0, MOSS2007/WSS3.0 and MS SharePoint 2010

StoreGrid uses internal SharePoint dump utility(STSADM.EXE, offering a full fidelity backup) to dump the SharePoint site-collection(s) and then uploads the locally dumped file(s) to the backup server. During a full backup, the entire site-collection(s) is dumped locally and then the dumped file is transferred to the backup server. And during an incremental backup, the entire site-collection(s) is dumped locally and only the modified content since the previous full backup is transferred to the backup server.

SharePoint Site Backup is configured from the "Backup -> Plugin Backups -> SharePoint" page. All you have to do is to choose the site-collections or the portal sites listed in the SharePoint site tree and configure a backup.

This section explains how to configure the SharePoint Backup from the "Backup -> Plugin Backups -> SharePoint" page.

How to get here in the StoreGrid Web Console?

➔ In the top menu, select: "Backup -> Plugin Backups -> SharePoint"

Requirements

- SharePoint Portal Server 2003 / Microsoft Office SharePoint Server 2007 / Microsoft SharePoint 2010

SharePoint Backup

StoreGrid can be configured to backup the SharePoint sites available in the local machine. StoreGrid uses the internal backup utility (STSADM.exe) to list SharePoint site collections in the "Add SharePoint Site Backup" page and backup.

For MOSS2007/WSS3.0 and MS SharePoint 2010, all web-applications will be listed automatically in "Add SharePoint Site Backup" page if the STSADM.EXE path and other settings are valid.

For SPS2003/WSS2.0, before a SharePoint backup is configured in StoreGrid, configure [SharePoint settings](#) by going to the menu "Settings->Advanced Options" and clicking on the "[SharePoint Settings](#)" tab on the left hand side. From here, add the portal sites to be listed in "Add SharePoint Site Backup" page.

If SharePoint sites are not listed in the "Add SharePoint Site Backup" page, read the [SharePoint Settings](#) help document for more details.

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select SharePoint Site(s)

On the left side of the "Add SharePoint Site Backup" page, is the tree with a list of sites in the SharePoint Server. Select the sites that need to be backed up as part of this schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Also keep a copy locally (optional) :

Enabling this option will backup the data to the backup server and also keep a copy of the backup data in a local location. First the data will be backed up to the backup server and on completion of the backup, the copy of the backed up data will be saved in the specified local location. The local copy will provide for faster restores and redundancy. You can always do a restore from the backup server as well.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path where the SharePoint Server dumps are to be stored temporarily before uploading them to the backup server. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the

Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintain at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then StoreGrid retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, StoreGrid backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, StoreGrid will back up the entire file if the file was modified since the last backup schedule. In such a case, StoreGrid will retain multiple versions of the entire file as per the version retention count configure for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.

- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Every Few Hours

Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the check box against these days. If the "Select all days" check box is checked, then the schedule will be run on all the days of the week.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Every Few Hours and Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly backups, only Monthly additional full backups are possible. For Run Once Only backup, you cannot configure additional full backups.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure **"Store maximum of 6 full backups"** here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the check box, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible. In case of the 'Run every...' scheduling option, backups will run each time StoreGrid restarts – by default.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or it can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Pre & Post Backup Commands (Optional)

This feature provides the ability to configure running custom actions before and after executing a backup schedule. The custom actions may include running an application or some script files.

Pre & Post Backup Commands

When is this feature useful?

If an application has exclusively locked a file and you need to close the application before StoreGrid can backup that file, then you can run a pre-backup command to close the application and then a post-backup command to open the application again after StoreGrid successfully backs up the file.

How does this feature work?

Whenever a backup schedule starts, StoreGrid will start the Pre Backup commands and wait till the timeout value. After completing the Pre Backup commands, StoreGrid will transfer the configured files & folders to the backup server. After transferring the configured files and folders, StoreGrid will run the Post Backup Commands. If multiple servers are configured for the backup schedule, then both the Pre and Post Backup commands will run while backing up to each of the servers.

Pre & Post Backup command settings:

You can provide maximum of 5 Pre Backup commands and maximum of 5 Post Backup commands for each backup schedule. Both the Pre and Post Backup commands are optional.

Command Name: This field is mandatory. This is the command that should be run. The command should be provided with full path. If the command name is in the system command path, then providing full path for the command is not necessary. The command can be an executable file such as application exe, batch files, script files etc.

Example: C:\MyTools\myzip.exe. A simple zip tool which compresses the given files or folders.

Arguments: You can provide any command line arguments for the command to be executed.

Example: For the Command C:\MyTools\myzip.exe, the arguments may be 'High Zip Replace "D:\Project" myproject.zip' [without quotes]. Here, the High may denote high compression, Zip denotes zip file format, Replace denotes replacing existing files, 'D:\Project' denotes folder to compress and 'myproject.zip' denotes the target compressed file name.

Working Path: This field specifies the directory path from which the Command has to be run. If this field is left empty, then the command will be executed from the StoreGrid working path [StoreGrid Home]

Example: 'D:\Project'. The command will be executed from the directory D:\Project.

Timeout: This field is used to specify a timeout value, in seconds, for the command to finish execution. StoreGrid will wait for so many seconds for the pre and post command to finish running. If the command still runs beyond the timeout period, then StoreGrid will abruptly terminate the command and will continue with the backup schedule.

Please note that if you provide -1 value, then the command will run till completion and StoreGrid will wait till the command completes. If command never completes, then StoreGrid may just infinitely wait without proceeding with the backup schedule.

Example: 60. For the myzip.exe command, the myzip.exe command will compress the given project folder up to 60 seconds. If the myzip.exe completes before the timeout period, say 15 seconds, then StoreGrid will immediately continue the next Pre Backup Command [if configured] or continue with the backup schedule.

So, the example command will look like below:

Command Name : C:\MyTools\myzip.exe

Arguments : High Zip Replace

Working Path : D:\Project

Time out : 60

The whole command will be run up to 60 seconds as below:

C:\MyTools\myzip.exe High Zip Replace "D:\Project"

Saving the configured backup

Once all the SharePoint components to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup

servers.

Temporary Dump Path Details

Temporary dump files will be stored in the name

`<Temporary_Dump_Location>\<Backup_Name>\<Portal_Site_Name>\<Site_Collection_Name>\<Site_Collection_Name>.dat`

Note: Portal Site name and site collection name will be modified as per the following rules and used as file/folder name.

- The character colon (:) in the portal site URL will be replaced with "@".
- The Characters "<>/*?\" and space characters in the portal site/site collection will be replaced with underscore(_). Other characters will remain the same.
- "http://" or "https://" will be removed.

For example consider the following assumption:

- Take the portal URL as "http://winserver3:9090".
- Let one of the site collections under it be "http://winserver3:9090/sites/first-No.1site".
- Let the temporary dump path be "C:/TEMPORARYDUMP".
- Backup name be "MyShareBackup".

For the above assumptions, the dump file will be at the location,

`C:\TEMPORARYDUMP\MyShareBackup\winserver3@9090\winserver3@9090_sites_first-No.1site\winserver3@9090_sites_first-No.1site.dat`

Note: Backup file for a site collection will have ".dat" extension.

Troubleshooting Tips



SharePoint Sites not listed in the site selection tree in "Backup -> Plugin Backups -> SharePoint" page.

Cause 1 : If there is no portal site available to list [mostly this occurs for WSS2.0/SPS2003 only and there will not be any issues for WSS3.0/MOSS2007 or MS SharePoint 2010]

Solution 1: Enter a valid portal site URL and add to the list through the menu "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Portal Site Settings(tab)". Check if the added portal site is listed in the table below. Only the portal sites listed in this table will be listed in the "backup -> Plugin Backups -> SharePoint" page. Refer the help document for [SharePoint Settings](#) for more details

Cause 2: If the path of the STSADM.EXE provided in the "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Path Settings (tab)" is incorrect or empty.

Solution 2: Enter the exact path of the STSADM.EXE through the menu "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Path Settings(tab)".

For **WSS2.0/SPS2003**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/web server extensions/60/BIN* folder.

For **WSS3.0/MOSS2007**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/web server extensions/12/BIN* folder.

For **MS SharePoint 2010**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/Web Server Extensions/14/BIN* folder. Refer the help document for [SharePoint Settings](#) for more details

Cause 3 : SQL Server service is not running.

Solution 3: Check if the SQL Server instance associated with the SharePoint farm is running. If the SQL Server service is stopped StoreGrid will not be able to list the site collections under a portal site.



SharePoint portal sites are listed in "Add SharePoint Site Backup" page, but unable to list the site collections under a portal site when expanding the node of a portal site.

Cause 1 : No such portal site exists (the portal site might have been deleted from SharePoint central admin)

Solution 1: Check if the portal site that you try to list exists, valid and accessible via browser.

Cause 2 : Not even one valid site collection that is accessible via browser is available to list using STSADM.exe tool.

Solution 2: Check if the portal site you are trying to list has at least one valid, error free site collection under it which is accessible via web browser.

Cause 3 : SQL Server service is not running.

Solution 3: Check whether the SQL Server instance that is associated with the SharePoint farm is running or not. If the SQL Server service is stopped StoreGrid will not be able to list the site collections under a portal site.

Cause 4 : STSADM.EXE tool location invalid or not provided

Solution 4: Check if the STSADM.EXE tool exists in the location that is given in "Settings -> Advanced Options -> SharePoint Settings(Left Tab)" page.

Limitations

1. For WSS2.0/SPS2003, only the sites added from 'SharePoint Settings' page will be listed in 'Add SharePoint Site Backup' page.
2. Though the whole SharePoint Server or a whole portal site is selected for backup, only a site-collection level of backup will be done. Hence, to restore all the site-collections under a portal site, you need to restore the site-collections under that portal site one by one using STSADM.EXE.
3. Restoring default site-collections in WSS2.0/SPS2003 is not permitted. This attempt is strictly not recommended for WSS2.0/SPS2003.
4. A site-collection whose total size exceeds 15 GB cannot be backed up as this is being a limitation with STSADM.EXE [which StoreGrid uses] itself. However, in such cases, you can use StoreGrid's SQL Server backup feature for backing up the SQL databases being used by the SharePoint Server.
5. StoreGrid should be run with Administrator privileges to list and backup SharePoint sites as STSADM.EXE can be run only with Administrator permissions.
6. If the dump path of the SharePoint backup exceeds 255 characters, dump process will fail. Hence, make sure, you have entered a shorter dump path to enable the dump to complete successfully.
7. Restoring SharePoint 'Central Administration' may not bring the original Central Administration's whole UI and its functionalities.
8. Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and local backup.

Configure Disk Image Backup Schedule

Overview

Image Backup and Restore feature is an effective solution to recover data against system crashes and to recreate a system similar to the old one in its entirety. This page enables the user to configure disk image backup schedules. StoreGrid uses VSS (volume shadow snapshot) to take image backup of the entire disk or specific partitions. It dumps the disk data into a file of format VHD (Microsoft Hyper-v Virtual Harddisk format) locally and then uploads the dumped file to the selected Backup Server. The backed up image can be either restored to the same machine during disaster recovery or to a different machine on similar hardware or if the Backup is configured without Encryption and Compression enabled, the same image can be mounted and booted up as a virtual machine in the supported virtualization environment that includes Microsoft Hyper-V, Virtual PC, Virtual Server and Oracle Virtual Box.

In Advanced Image Backup option, the backed up VHD image even if it is compressed and encrypted can be converted into a virtual Hyper-V or VMWare image to boot up the machine as a virtual machine to quickly recovery when the new hardware for the crashed machine is not yet ready.

The restore process for these image backups are explained [in this document](#).

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->Plugin Backups->Disk Image"

Supported OSes

- Windows XP with sp2 and above
- Windows Server 2003 with sp2 and above
- Windows SBS 2003, 2008 & 2011
- Windows Vista
- Windows 7
- Windows Server 2008 & R2

Both 32 and 64 bit OSes are supported.

StoreGrid Advanced Image Backup Driver Installation

Advanced Image Backup requires an one-time image backup driver installation in this machine before the first backup can be run. This driver keeps track of the changes written to the disk. If the driver is not already installed, the Add Advanced Image Backup page will not list the disks for image backup. Instead it will provide a link to click to initiate the driver installation. Once the link is clicked, the driver installation will automatically start. Once the driver installation is complete, the machine will be rebooted.

NOTE: Installation of the driver will reboot the machine. Make sure all other applications are saved before installing the driver.

Configure Disk Image Backup Schedule

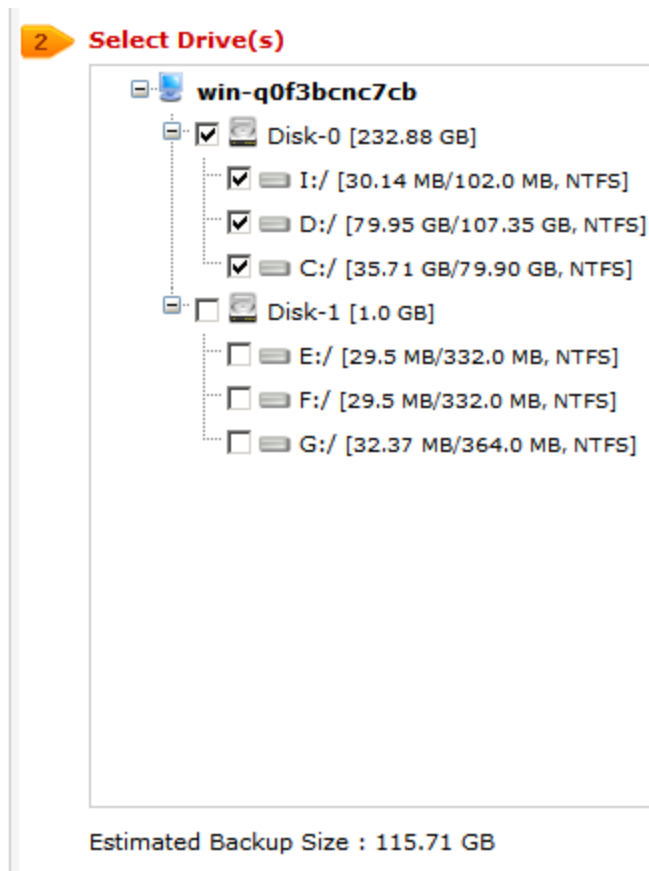
Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

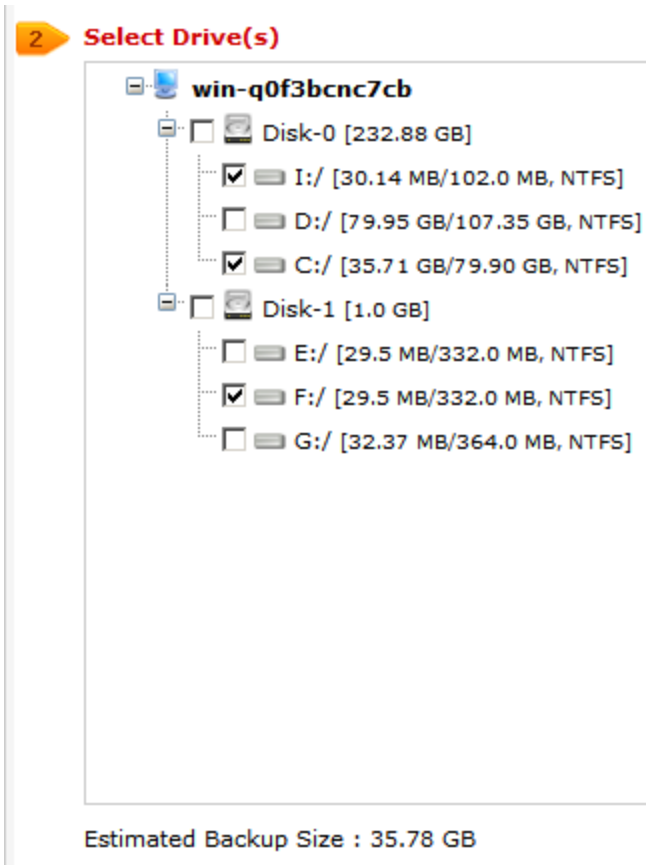
Step 2: Select Drive(s)

On the left side of the "Add Disk Image Backup" Page, is the tree with a list of disks/drives available in the client machine. You can either select the entire disks for backup or their individual partitions.

- **Selecting entire disks for backup:**



- **Selecting drives for backup:**



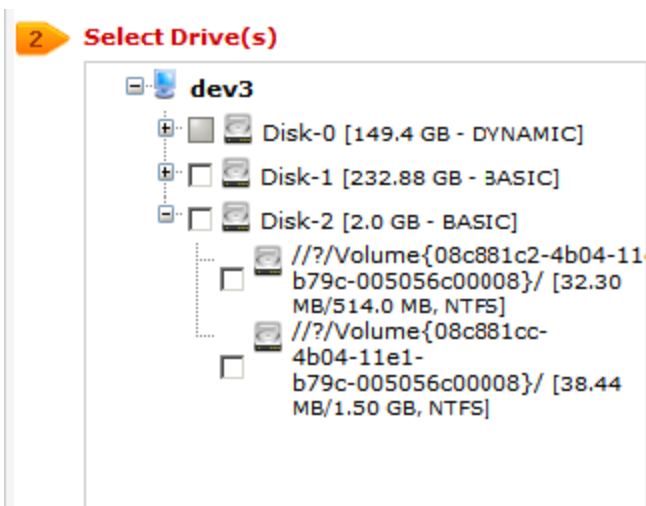
- **Estimated Backup Size:** Total used size of the drives selected for backup.

Assign Mount Point

StoreGrid Advance Backup assigns mount point to the volumes that do not have volume mount point or drive letter assigned. This is required as the volume without mount point cannot be scheduled for incremental backup.

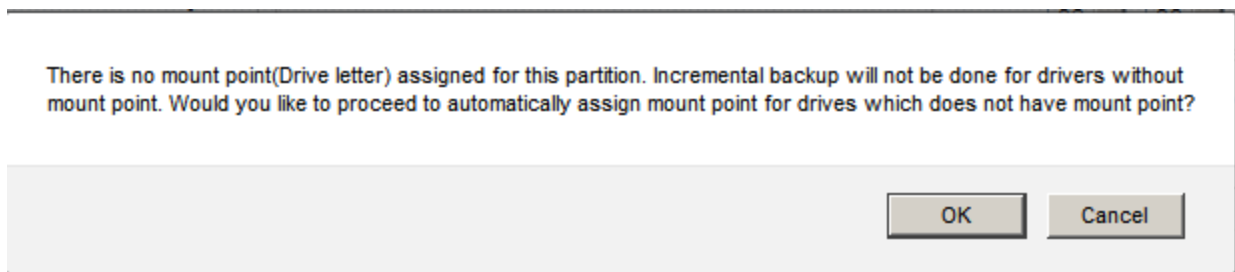
- **Select Disk/Volume for Backup**

Selecting disk or volume for Backup, checks if all the volumes have their respective drive letters assigned to it.



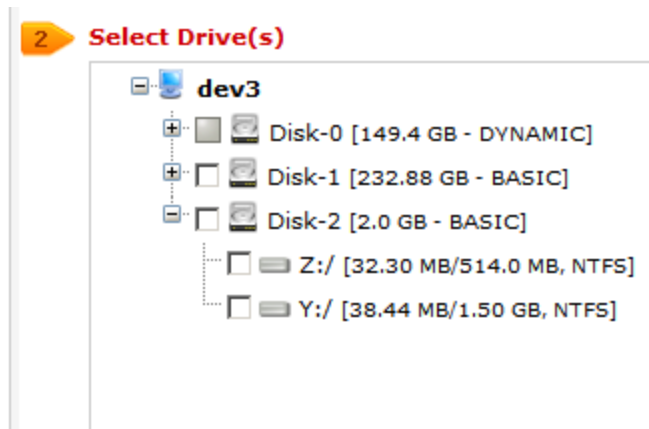
- **Auto Assign Mount Point**

If any of the volumes in the Select Drive(s) list doesn't have a mount point or drive letter assigned, StoreGrid prompts to auto assign mount point to the drive letter.



- **Select Drive(s) Refreshes**

On choosing to auto assign mount point, drive letter is assigned to the volumes.



Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server - If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Also Keep Data Locally - If you choose to backup in a remote server you can have this option enabled to

have a copy in the local machine.

Temporary location for backup dumps

Enter the location/directory path where the Disk Image backup dumps are to be stored temporarily before uploading them to the backup server. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server.

1. Size of the dump location could be huge

Disk Image backup is typically huge. The size of the backup depends on the data present in the drive been backed up. The size of each full image backup could easily be several GBs in size. Therefore, make sure the dump location specified has sufficient free space. Also once the backup is configured, you cannot change the dump location later on. Therefore make sure you specify the right dump location while configuring the backup schedule itself.

The dump location can also be a mapped/external drive. To specify a UNC path as dump location, first map the UNC path through the Mapped Drive Settings and then give the mapped drive letter as dump location. Once the backup is configured, you cannot change the dump location later on.

NOTE: StoreGrid Advanced Disk Image validates the dump location and local backup location with the selected source for enough free space for backup to complete.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data to the maximum. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression: - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

3 Set Basic Configuration

Backup Type

☐ Same Machine

☒ Remote Server

Select Backup Server

10.0.0.108

Test connectivity Add Backup Server

Temporary location for backup dumps ?

Add Mapped Drive

Encryption

NOTE: In case, the backup is configured without choosing to encrypt or compress the backup image, the backup can be restored from server and can be directly booted in any Supported virtualization environment that supports Microsoft VHD format. In case, of Local Backup Image, the backup image itself is bootable in supported virtualization environment.

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithms, Blow fish and Triple-DES. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected disk or drive backup will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected disk or drives. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

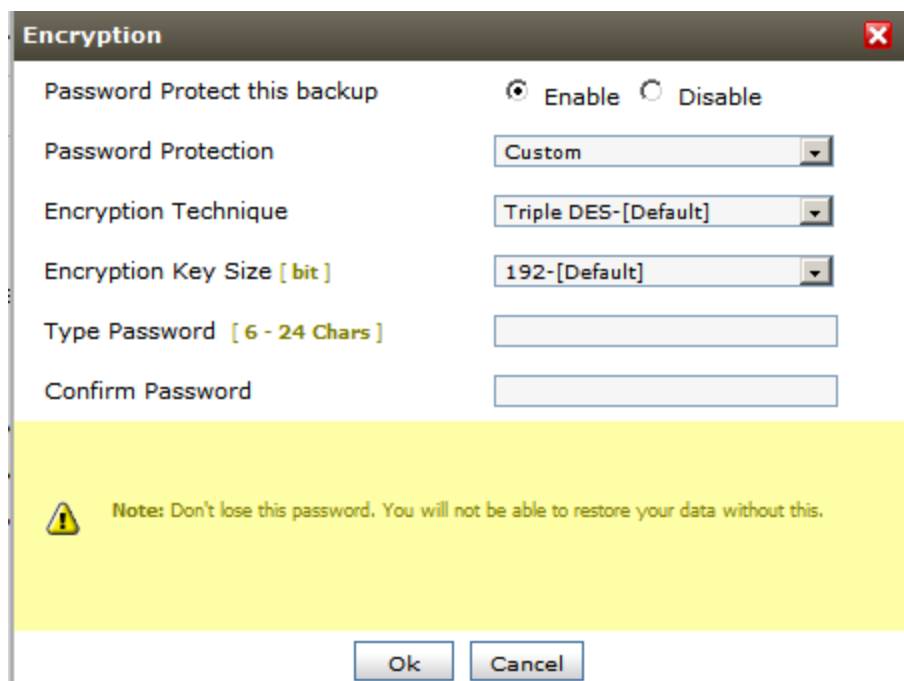
StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.



Encryption

Password Protect this backup ☒ Enable ☐ Disable


Password Protection Custom

Encryption Technique Triple DES-[Default]

Encryption Key Size [bit] 192-[Default]

Type Password [6 - 24 Chars]

Confirm Password

 Note: Don't lose this password. You will not be able to restore your data without this.

Ok Cancel

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Monthly

Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. StoreGrid will run at the stipulated time/day only.

4 Scheduling [Decide when to Backup]

☐ Run Daily ?

☒ Run Weekly ?

Run Weekly at :

09 : 00 PM on the following days.

Select Weekdays

☒ Sun ☒ Mon ☐ Tue ☐ Wed

☐ Thu ☐ Fri ☐ Sat

☐ Run Monthly ?

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups you can Configure Additional Full Backup (Additional full backup schedule is mandatory to keep the incremental limited. Please configure an additional full backup for this schedule).

For Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly and monthly backups, only Monthly additional full backups are possible.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If you have configured to store only 6 full backups "**Store maximum of 6 full backups**" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

NOTE: The Default full-backup to store is 2

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the check box, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Saving the configured backup

Once all the drives to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



The Dump Location you have configured is not a valid File System. Please configure NTFS drives as the dump Location.

Cause : This error will occur if the file system of the configured dump Location is not a NTFS File system.

Solution : Change the dump drive location to one in a NTFS file system.



Incremental backup fails with the error message in report "Volume without drive letter cannot be backed up incrementally. Incremental backup failed".

Cause : StoreGrid Advanced Image Backup does not support incremental backup for volumes without mount point.

Solution :When creating an incremental backup for volumes without mounts point, choose to auto assign mount point to the volume when prompted. You can also do the same manually through Disk Management. [Start -> Run -> diskmgmt.msc]

Limitations

1. VSS services should be enabled for image backups.
2. Incremental backup will fail or the particular volume will be skipped if the configured volume does not have mount-point(drive letter).
3. StoreGrid Advanced Disk Image does not support Dynamic Disks. Only Dynamic Volumes are supported. Also Disks and Volumes with GPT partition table are not supported. Such unsupported disks and volumes are greyed out and cannot be configured for backup.
4. Currently you can seed the local data to the remote server only. After performing the seed migration, you can continue this backup schedule only to the remote server, not to both remote server and same machine.

Configure VMWare Backup

Overview

Backup of Virtual Machines available under VMWare Server/VCenter is supported using VMWare Plugin. The plugin uses VMWare API's to backup the selected Guest OSes and then upload it to the backup server. StoreGrid provides an agentless backup of virtual machines. The client can be installed in any machine to backup the Virtual Machines

How to get here in the Web Console?



In the top menu, select: "Backup -> Plugin Backups -> VMWare".

VMWare Server Settings

The "Add VMWare Server Settings" page is used to configure the backup with VMWare Server/VCenter. The client uses the credentials to connect to the VMWare server/VCenter while listing the database(s) or while taking VMWare backup.

- **Select VMWare Server for backup**
This choice-box lists all the VMWare Servers/VCenters added in the client installation. Select the VMWare Server/VCenter to which the backup client should connect to. StoreGrid will connect to the VMWare server/VCenter and list the Guest OSes registered in this VMWare Server to enable you to configure backup schedules for the virtual machines.
- **Add VMWare Servers:** Select this option to access the VMWare Server/VCenter with a user name and password that the VMWare Server manages.
- **Host Name**
Specify the VMWare Server/VCenter (Host OS) name here.
- **Port Number**
Enter a valid VMWare Infrastructure webserver port number, on which you have installed VMWare Servers. This option need to be set for the VMWare host versions below ESX 3.x. The default VMWare Infrastructure webserver port is 8333.
- **User Name**
Specify the user name for the added VMWare Server/VCenter here.
- **Password**
Specify the password here.
- **Next Button**
If all the authentication parameters are correctly set in 'Add VMWare Servers' then clicking the 'Back to VMWare Backup page' will take you to select the VMWare Server to backup. Once you select the VMWare Server/VCenter, click 'Next' button. This will take you to the VMWare Server Backup Configuration page.

Configure Backup Schedule

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select Guest OS(es)

On the left side of the "VMWare Backup Schedule" Page, is the tree with a list of DataStores and the Guest OSes available in the VMWare Server. Select the DataStore/Guest OS that needs to be backed up as part of this schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Settings -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to the client and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity Before you select the backup server for this backup schedule, you can check the connectivity to backup server. StoreGrid also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Backup Process Type

File Streaming - When you select 'File Streaming' option, the VMWare machine backup will be uploaded directly from the VMWare host OS to the configured backup server. You need not specify the dump location to store the dumps locally and wait for the uploads. This option is therefore recommended when the backup server is in the same location (LAN) as the VMWare machines where network interruption is minimal.

Parallel Uploading - When this option is selected, you need to specify location/directory path where the VMWare backup dumps are to be stored temporarily before uploading them to the backup server. The size of each snapshot could easily be several GBs in size. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server. This option is recommended when the backup server and the VMWare machine are in different networks (across a WAN or internet).

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known

encryption algorithm, Blowfish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blowfish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Encryption Technique

StoreGrid supports encryption using Blowfish or Triple DES. The Blowfish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by the backup client for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blowfish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintained at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then the backup client retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, The backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, The client will back up the entire file if the file was modified since the last backup schedule. In such a case, The client will retain multiple versions of the entire file as per the version retention count configured for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.
- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, it will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, it will run at the stipulated time/day only.

Run Monthly

Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen, it will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly and monthly backups, only Monthly additional full backups are possible.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then it will take a full backup the first time and then weekly do an incremental backup. The next month, it will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure **"Store maximum of 6 full backups"** here. On the 7th month, after finishing the 7th full backup, StoreGrid will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are three options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the checkbox, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Perform Synthetic Full Backup for files when the size of the incremental backup of a file exceeds certain % of the size of the initial full backup of the file - By default Synthetic Full Backup will be run when the size of the incremental exceeds 80% of the original backup data. A very low value will lead to too many Synthetic Full Backups been run and all those versions need to be maintained in the backup server. A very large value could lead to Synthetic Backups not running at all.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or StoreGrid can backup only the modified

content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Saving the configured backup

Once all the Guest OSES to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



Error While Connecting to the VMWare Server 'server Name'. Reason: Insufficient permissions in host operating system.

Cause : This error is shown if the user name or the password for the VMWare Server is wrong.

Solution : Go to the page 'Backup ->Plugin Backups -> VMWare -> Add VMWare Servers' and edit the credential of the selected VMWare Server and save.



Error while connecting the VMWare Server 'server Name'. Reason: Please check VMware Server configuration settings and also check the VMware server is up.

Cause : This error is shown if unable to connect to the selected VMWare Server/VCenter or the VMWare Services are not started in the VMWare Servers/Vcenter

Solution :

1. Check if the selected VMWare Server is up and is accepting connections
2. Check if all the Services of VMWare are started in the selected VMWare Server
3. Check the network/firewall settings in the client machine and make sure StoreGrid is able to access the VMWare machine.



Error while dumping backup data in the client. This function cannot be performed because the handle is executing another function.

Cause : This error occurs if already the snapshot process is running for the selected Guest OS.

Solution : Make sure no other third party applications are running snapshots on the Guest OS.



Error while dumping backup data in the client. An error occurred while writing a file; the disk is full. Data has not been saved. Free some space and try again.

Cause : This error will occur if the location in the client machine where the backup data is dumped doesn't have enough free space to store the snapshots.

Solution : Please free or allocate more space in the dump location in the client machine and schedule again



Error While connecting to the VMWare Server 'server Name'. Reason: Unable to connect to the host.

Cause : This error will occur when StoreGrid is not able to connect to the selected VMWare Server as the VMWare services are not started.

Solution: Please start all the VMWare Services and then try again.



Error while dumping backup data in the client. The virtual machine cannot be found.

Cause : This error occurs if the configuration files of the virtual machine is not available or corrupted.

Solution: Please Check the VMWare Configuration files *.vmx and *.vmdk available in the Host OS VMFS file system. You can check this by powering on the particular Guest OS from VSphere Client console - this will give the exact error details of the issue.



Error While Getting VMWare Login Details Reason :The User Name or Password is empty. Please check the added VMWare Server 'VMWare Server' is Edited/Deleted

Cause : This error will be reported, if the name of the added VMWare Server is changed or the VMWare Server is deleted from the 'Added VMWare Server's List.

Solution:

1. If the added VMWare Server/Vcenter is deleted, add the VMWare Server/VCenter again in 'Add VMWare Server's page and schedule again.
2. If you have changed the credentials to the added VMWare Servers/VCenter, then edit the already added VMWare Servers/VCenter from the 'Add VMWare Server's' page and provide the credential again.

Limitations

1. VMware Server version lower than 2.0 are not supported.
2. VMware workstation is not supported.
3. VMware Server with free licenses are not supported.
4. Running VMWare backup by running the client on 64-bit Linux Operating Systems is not supported. Make sure the client is installed on 32 bit Linux OS or 32 or 64 bit Windows machine.

Related Links

[MySQL Settings \[For Windows\]](#)

[Restore MySQL database \[For Windows\]](#)

[Restore MySQL database \[For Linux/FreeBSD\]](#)

Configure MySQL Database Backup

Overview

StoreGrid supports backup of MySQL database(s) using the internal MySQLDump utility(mysql_dump) available in the local machine. StoreGrid supports Full and Incremental MySQL database backups while data is online and accessible. Full backup type backs up the entire MySQL database. Incremental backup type backs up only modified extents since the previous Full backup.

StoreGrid uses the internal MySQLDump utility(mysql_dump) to dump the database(s) and then uploads the locally dumped file to the backup server. During Full backup, the entire database(s) is dumped locally and then transfer the dumped file to the backup server. During Incremental backup, the entire database(s) is dumped locally and then transfer only the modified content since the previous Full backup to the backup server.

This section will give you information about how to configure MySQL database(s) backup using StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> MySQL"

Requirements

- Windows, Linux or FreeBSD
- MySQL 4.0 and later.

MySQL Backup [For Linux/FreeBSD]

To backup the MySQL databases, you need to install StoreGrid with root privileges in your Linux, FreeBSD system and you should know the user name and password for MySQL. By default, StoreGrid checks for 'mysql' under '/var/lib' folder in the system during the installation process. StoreGrid uses the internal MySQLDump utility (mysqldump) to backup MySQL Database(s) in the Linux/FreeBSD machines.

Please note that you need to install StoreGrid as root user to list the mysql databases for backup in the 'Backup -> Plugin Backups -> MySQL' page.

If you have installed StoreGrid with root user privilege and if you have installed MySQL in your Linux/FreeBSD machine, then the MySQL databases will be listed in the Step 2 of the 'Backup -> Plugin Backups -> MySQL' page. Then, you can configure the listed database(s) for backup.

Please note that you have to provide MySQL database username and password for the mysql backup to successfully dump the database data.

MySQL Backup [For Windows]

StoreGrid can be configured to backup the MySQL Database(s) available in the local machine. StoreGrid uses the internal MySQLDump utility (mysqldump.exe) to backup MySQL Database(s) and it uses the MySQL Exe (mysql.exe) to list the database names in the Step 2 of the 'Backup -> Plugin Backups -> MySQL' page.

In Windows, before a MySQL backup can be configured in StoreGrid, you should configure the [MySQL settings](#) through

"Settings->Advanced Options" and click on the "[MySQL Settings](#)" icon in the left hand side. Without correct values for MySQL settings, StoreGrid will not be able to list the databases to be configured for backups in "Backup -> Plugin Backups -> MySQL" page.

If "MySQL" database(s) is not listed in the Step 2 of the 'Backup -> Plugin Backups -> MySQL' page, then refer the [MySQL Settings](#) [For Windows] help for more details.

MySQL Backup Configuration

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select Database(s)

Select the databases that need to be backed up as a part of this schedule.

Select All Databases for this schedule

If "Select All Databases for this Schedule" option is chosen, it will include all the databases present in the MySQL server. If a new database is later added to the MySQL Server, it will be automatically included in this backup schedule.

Let me manually choose databases

If "Let me manually choose databases" option is chosen, then any databases can be selected for backup. However, if a new database is later added to the MySQL Server, it will not be automatically included in this backup schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blowfish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blowfish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blowfish or Triple DES. The Blowfish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blowfish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintained at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then StoreGrid retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, StoreGrid backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, StoreGrid will back up the entire file if the file was modified since the last backup schedule. In such a case, StoreGrid will retain multiple versions of the entire file as per the version retention count configured for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.
- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Every Few Hours

Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days. If the "Select all days" checkbox is checked, then the schedule will be run on all the days of the week.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups

in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Every Few Hours and Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly backups, only Monthly additional full backups are possible. For Run Once Only backup, you cannot configure additional full backups.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "**Store maximum of 6 full backups**" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the checkbox, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible. In case of the Continuous backup or 'Run every...' scheduling options, backups will run each time StoreGrid restarts – by default.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or it can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Pre & Post Backup Commands (Optional)

This feature provides the ability to configure running custom actions before and after executing a backup schedule. The custom actions may include running an application or some script files.

Pre & Post Backup Commands

When is this feature useful?

If an application has exclusively locked a file and you need to close the application before StoreGrid can backup that file, then you can run a pre-backup command to close the application and then a post-backup command to open the application again after StoreGrid successfully backs up the file.

How does this feature work?

Whenever a backup schedule starts, StoreGrid will start the Pre Backup commands and wait till the timeout value. After completing the Pre Backup commands, StoreGrid will transfer the configured files & folders to the backup server. After transferring the configured files and folders, StoreGrid will run the Post Backup Commands. If multiple servers are configured for the backup schedule, then both the Pre and Post Backup commands will run while backing up to each of the servers.

Pre & Post Backup command settings:

You can provide maximum of 5 Pre Backup commands and maximum of 5 Post Backup commands for each backup schedule. Both the Pre and Post Backup commands are optional.

Command Name: This field is mandatory. This is the command that should be run. The command should be provided with full path. If the command name is in the system command path, then providing full path for the command is not necessary. The command can be an executable file such as application exe, batch files, script files etc.

Example: C:\MyTools\myzip.exe. A simple zip tool which compresses the given files or folders.

Arguments: You can provide any command line arguments for the command to be executed.

Example: For the Command C:\MyTools\myzip.exe, the arguments may be 'High Zip Replace "D:\Project" myproject.zip' [without quotes]. Here, the High may denote high compression, Zip denotes zip file format, Replace denotes replacing existing files, 'D:\Project' denotes folder to compress and 'myproject.zip' denotes the target compressed file name.

Working Path: This field specifies the directory path from which the Command has to be run. If this field is left empty, then the command will be executed from the StoreGrid working path [StoreGrid Home]

Example: 'D:\Project'. The command will be executed from the directory D:\Project.

Timeout: This field is used to specify a timeout value, in seconds, for the command to finish execution. StoreGrid will wait for so many seconds for the pre and post command to finish running. If the command still runs beyond the timeout period, then StoreGrid will abruptly terminate the

command and will continue with the backup schedule.

Please note that if you provide -1 value, then the command will run till completion and StoreGrid will wait till the command completes. If command never completes, then StoreGrid may just infinitely wait without proceeding with the backup schedule.

Example: 60. For the myzip.exe command, the myzip.exe command will compress the given project folder up to 60 seconds. If the myzip.exe completes before the timeout period, say 15 seconds, then StoreGrid will immediately continue the next Pre Backup Command [if configured] or continue with the backup schedule.

So, the example command will look like below:

Command Name : C:\MyTools\myzip.exe

Arguments : High Zip Replace

Working Path : D:\Project

Time out : 60

The whole command will be run up to 60 seconds as below:

C:\MyTools\myzip.exe High Zip Replace "D:\Project"

Saving the configured backup

Once all the MySQL Server database(s) to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



Database names are not listed in the Step 2 of the 'Backup -> Plugin Backups -> MySQL' page(for windows).

Cause 1: If MySQL Settings for StoreGrid is not configured.

Solution : Configure MySQL settings from "Settings->Advanced Options" menu "MySQL Settings" icon in the left hand side and then check if MySQL database(s) are listed in the "Backup -> Plugin Backups -> MySQL" page (for windows).

Cause 2 : If MySQL service is not started in the machine.

Solution : Start the MySQL service and then check if MySQL database(s) are listed in the "Backup -> Plugin Backups -> MySQL" page (for windows).

Cause 3 : When the last time MySQL Settings was saved for mysql server instance port, MySQL Exe path field value was not modified/edited, or may be an older version (MySQL 4) exe path value was entered for the newer version (MySQL 5) port.

Solution : Enter the correct MySQL(version) Exe path value for the mysql server instance port selected.

Cause 4 : mysqldatabase.lst file present in the "<INSTALLATION_HOME>/plugins/MySQLServer/" folder does not have the database list.

Solution : Check the MySQL version running in the machine (4.x or 5.x). StoreGrid only supports listing MySQL 4.x and 5.x database(s) for backup.



Database names are listed in the Step 2 of the 'Backup -> Plugin Backups -> MySQL' page, but backup dump is not created.

Cause : Configured username and password in the MySQL settings page may not have access to the database(s) configured for the backup schedule.

Solution : Check if the user name and password entered in the MySQL settings have appropriate permissions to take a backup dump of the database(s).



MySQL Server backups failed after recovering StoreGrid client configurations from backup server through Client Disaster Recovery option.(for Windows)

Cause : MySQL Server details(UserName, Password, PortNumber) are not available in StoreGrid client machine.

Solution : In this case, save the MySQL Server details in [MySQL Settings](#)[For Windows] page before retrieving client configuration through [Disaster Recovery](#) option.

Limitations

1. Databases listed in the "Backup -> Plugin Backups -> MySQL" page(For Windows) will be for the the last saved MySQL Server instance port in the MySQL Settings.
2. Backup Report/View Backup/Edit Backup UI pages does not provide the details like MySQL Server name, port etc.

Configure Hyper-V Backup

Overview

Backup of Virtual Machines available under Hyper-V Server is supported using Hyper-V Plugin. Using the Hyper-V plugin, snapshots can be taken for the selected Guest OSes and then upload it to the backup server directly.

How to get here in the Web Console?



In the top menu, select: "Backup -> Plugin Backups -> Hyper-V".

Configure Backup Schedule

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select Guest OS(es)

On the left side of the "Hyper-V Backup Schedule" Page, is the tree with a list of Guest OSes available in the Hyper-V Server. Select the Guest OS that needs to be backed up as part of this schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Settings -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to the client and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected,

you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity Before you select the backup server for this backup schedule, you can check the connectivity to backup server. StoreGrid also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blowfish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blowfish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Encryption Technique

StoreGrid supports encryption using Blowfish or Triple DES. The Blowfish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by the backup client for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blowfish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintain at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then the backup client retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, The backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, The client will back up the entire file if the file was modified since the last backup schedule. In such a case, The client will retain multiple versions of the entire file as per the version retention count configure for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.
- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, it will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, it will run at the stipulated time/day only.

Run Monthly

Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen, it will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly and monthly backups, only Monthly additional full backups are possible.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then it will take a full backup the first time and then weekly do an incremental backup. The next month, it will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure **"Store maximum of 6 full backups"** here. On the 7th month, after finishing the 7th full backup, StoreGrid will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are three options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the checkbox, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Perform Synthetic Full Backup for files when the size of the incremental backup of a file exceeds certain % of the size of the initial full backup of the file - By default Synthetic Full Backup will be run when the size of the incremental exceeds 80% of the original backup data. A very low value will lead to too many Synthetic Full Backups been run and all those versions need to be maintained in the backup server. A very large value could lead to Synthetic Backups not running at all.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or StoreGrid can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Saving the configured backup

Once all the guest OSes to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup.

How to install StoreGrid in Hyper-V server 2008 R2

Download the Windows installer, VembuStoreGrid_4_1_0_SP_CO.exe and install VembuStoreGrid using Silent installation. Please refer the following help document for silent installation [Windows client-only installation](#)

NOTE: To backup Hyper-V guest OSes you must install PowerShell in Hyper-V Server 2008 R2 machine. Please follow the below steps:

1. Use the following command to displays a list of features and their status: DISM /Online /Get-Features
2. Enables the NetFx2-ServerCore feature: DISM /Online /Enable-Feature /FeatureName:NetFx2-ServerCore
3. Enables the PowerShell feature: DISM /Online /Enable-Feature /FeatureName:MicrosoftWindowsPowerShell

You need to install 'NetFx2-ServerCore' feature before you install PowerShell feature otherwise it will show you an error.

4. Restart the machine

Troubleshooting Tips



Unable to get the GUID of the GuestOS(s) configured for backup.

Cause : This error occurs for the following reasons:

- Powershell feature is not enabled in your machine.
- The configured guest OS is deleted/renamed from the Hyper-V Server.

Solution : If PowerShell is disabled then enable and restart the machine. If you have deleted the guest OS from the Hyper-V Server then you cannot backed up that machine or if you have renamed the guest OS then changed to the name which you have configured for backup.



*.VHD files not found for the backup. Please check whether *.VHD files attached for the selected Guest OS(es).

Cause : This error comes if the configured guest OS doesn't have the *.VHD files in the original location. This may

happen if you have *.VHD files in external drive and its disconnected during backup.

Solution : Attach the *.VHD files and schedule the backup again.



Error while backing [Guest_OS] : VSS service seems to be disabled.

Cause : Volume Shadow Copy or MS Software Shadow Copy Provider service is disabled.

Solution : Start the VSS services and schedule the backup again.



Error while dumping backup data in the client. An error occurred while writing a file; the disk is full. Data has not been saved. Free some space and try again.

Cause : This error will occur if the location in the client machine where the backup data is dumped doesn't have enough free space to store the snapshots.

Solution : Please free or allocate more space in the dump location in the client machine and schedule again



Error While connecting to the Hyper-V Server 'server Name'. Reason: Unable to connect to the host.

Cause : This error will occur when StoreGrid is not able to connect to the selected Hyper-V Server as the Hyper-V services are not started.

Solution: Please start all the Hyper-V Services and then try again.



Error while dumping backup data in the client. The virtual machine cannot be found.

Cause : This error occurs if the configuration files of the virtual machine is not available or corrupted.

Solution: Please Check the Hyper-V Configuration files *.vmx and *.vmdk available in the Host OS VMFS file system. You can check this by powering on the particular Guest OS from VSphere Client console - this will give the exact error details of the issue.



Error While Getting Hyper-V Login Details Reason :The User Name or Password is empty. Please check the added Hyper-V Server 'Hyper-V Server' is Edited/Deleted

Cause : This error will be reported, if the name of the added Hyper-V Server is changed or the Hyper-V Server is deleted from the 'Added Hyper-V Server's List.

Solution:

1. If the added Hyper-V Server is deleted, add the Hyper-V Server again in 'Add Hyper-V Server's page and schedule again.
2. If you have changed the credentials to the added Hyper-V Servers, then edit the already added Hyper-V Servers from the 'Add Hyper-V Server's' page and provide the credential again.

Limitations

1. StoreGrid client must be installed in the host machine
2. Only Windows 64 bit Operating systems are supported

3. Hyper-V backup in Cluster environment is not supported.
4. Virtual machines that are running operating systems that do not support VSS, such as Microsoft Windows 2000 or Windows NT 4.0 or Windows XP, Linux OSes will be put in a saved state while the VSS snapshot is created
5. Virtual machines that do not have Integration Services installed will be put in a saved state while the VSS snapshot is created.

Configure Outlook Plugin Backup

Overview

StoreGrid Microsoft Outlook Plugin backs up emails configured in the Outlook profile. All the emails and rules at folder level are backed up with this plugin

StoreGrid should be running in the machine where Microsoft Outlook is installed to create Microsoft Outlook backups.

In the Microsoft Outlook Plugin backup the data (folder or sub-folder) is extracted from the Microsoft Outlook PST into *.PST files, which are dumped locally and then transferred to the backup server. The locally dumped files are deleted once the files are successfully transferred to the backup server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> MS-Outlook"

Requirements

Microsoft Outlook 2007 / 2010.

IMPORTANT: StoreGrid Client (agent) must be running under the same user account as the Outlook profile. By default StoreGrid client is installed to run as a service under Local System Account. For Outlook Plugin backup to work you need to run the StoreGrid service under the user account. You need to therefore change the StoreGrid service logon user from the Windows Services Management Console.

Microsoft Outlook plugin Backup Configuration

• Step 1: Schedule Name

Enter Backup Schedule Name: Give a name for the backup schedule. StoreGrid supports creating multiple backup schedules each with its own configuration. The backup schedule name uniquely identifies the backup. You can restore the data using the backup schedule name.

• Step 2: Select Backup Source

On the left side of the "Add Microsoft Outlook plugin backup" page, Outlook configuration check box will be provided. Select the checkbox and proceed with the configuration.

• Step 3: Set Basic Configuration

Backup Type

Same Machine - You can backup this client machine to a drive attached to this client machine for the following

two purposes:

1. When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data. Or, you can leave the backups in the local drive if you want to maintain a local copy of the backup that you can quickly restore.

NOTE: Deleted File Retention policies and Time Based version file Retention policy will not apply for a local backup. Only Version-Based Retention is supported for a local backup schedule. The Retention policies configured for this backup schedule will work only if the backup data is migrated from the local backup server/external drive into a remote backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path to which the Outlook dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). Please note that, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Encryption

Password Protect this Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data. Make sure you use this option only when the backup server is setup such that the backup server requires the client machines to authenticate before accepting the backup from the client.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

• Step 4: Full Backup Scheduling (Decide When To Do Full Backup)

This step allows you to configure the frequency at which a full backup of the Microsoft Outlook has to be done. A full backup is a complete backup of the Microsoft Outlook folders. Since full backups take more time to complete than an incremental backup, a full backup is typically configured to run weekly or monthly or much less frequently than the incremental backup. Configuring a full backup schedule is mandatory, i.e. this step cannot be skipped. StoreGrid will do a full backup dump of the Microsoft Outlook whenever the full backup is scheduled and back it up.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at a time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once the StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

Run Once Only - Choosing this option will do the backup only once at the stipulated time.

• Step 5: Incremental Backup Scheduling

StoreGrid will do a Incremental backup dump of the Outlook user folders with respect to the previous full or incremental backup; whenever the Incremental log backup is scheduled.

This step has the following options to choose from:

Run Weekly - Choose the time and the day of the week when the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of a week. StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days.

Advanced Settings (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are some options here on how the backup should be scheduled.

Maximum Number Of Full Backups : You can specify the maximum number of full backups that need to be stored in the server. For example if you have configured a monthly full backup, then StoreGrid will take a full backup every month. After 6 months you will have 6 separate full backups in the backup server along with incremental backups under each of these 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "Store maximum of 6 full backups" here. In the 7th month, StoreGrid after finishing the 7th full backup, will delete the first full backup along with its incremental backups and retain the last 6 full backups.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) : If you enable this option, then the backup will be executed once immediately after you save the backup schedule – even if it is not the scheduled time. For example, if you configure a daily backup at 10.00 AM but you have configured the backup at 8.00 AM, then the backup schedule will be run once immediately at 8.00 AM and then as per the daily schedule at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) : If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check : StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Saving the configured backup

Once all the Outlook user account folders and/or sub-folders that are to be backed up are selected and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup.

Troubleshooting Tips



In "Step 2", instead of Outlook selection checkbox, the following message is shown : "MS-Outlook is not installed in this system".

Cause 1: If Microsoft Outlook was installed after installing StoreGrid in the machine.

Solution : Re-install StoreGrid, with the upgrade option, on top of the existing installation.

Cause 2 : If Microsoft Outlook service running in the local machine is not detected while installing StoreGrid.

Solution : Check if the file "MSOutlook.sgpl" is existing in "< StoreGrid_Home>\ Vembu\StoreGrid\plugins" folder. If this file does not exist in this location, try installing StoreGrid on top of the existing installation and check if you were able to create Outlook Backup schedule without errors.



Dump location does not have enough space to export the PST file.

Cause : The dump location configured for this backup schedule doesn't have enough free space to store the *.PST files.

Solution : Increase the free space or cleanup the used space for the drive which is configured as dump location for this backup schedule. Location configured for dump process can be viewed from the view backup configuration of that backup schedule.



There is no PST files available for backup.

Cause : StoreGrid may run under the user account which doesn't have Outlook profiles.

Solution : Please change the logon account for StoreGrid and restart. The logon account must be the user which have the Outlook profile to backup.



Error while creating the dump location <Dump_Location>

Cause : The configured dump location for that particular backup schedule is not accessible or StoreGrid does not have enough permission to access the directory.

Solution : - Make sure that the dump location drive exists in your StoreGrid client. If that drive exists, provide write permissions to the user under which StoreGrid is installed.

Limitations

1. Till the dump process of the Outlook is completed, newly configured PST (temporary) will be shown in Outlook console.
2. Performing more than one Outlook backup parallelly is not permitted
3. In Windows Server OS, If Outlook is opened, then the dump process will be carried out in application mode. In service mode it fails to dump (some times it starts the dump process after 15 min of Outlook starts).
4. For password protected PST file, we need to save the password in the system itself, else error message will be thrown.
5. Local temporary dump location configured for Outlook backup should not contain special characters like single quote('), double quote("), forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and plus(+).
6. Ensure that the dump location configured for the backup schedule has enough space and has valid read & write permissions to accommodate the Outlook's dump data. Also, the dump location's full path should be less than 256 characters.
7. During the dump process if we open the Outlook, then current dump file may be skipped (because Outlook will not release the current dump file handle).

Configure Oracle backup

Overview

StoreGrid supports hot backup of Oracle Databases. It is necessary that Oracle database be run in 'Archive log' mode.

During Full, Differential backups of Oracle Databases, StoreGrid will dump the Oracle database data to a temporary dump location and then it will transfer all the dumped files to the backup server. The dumped files will be deleted once they are uploaded to the backup server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> Oracle"

Requirements

- Oracle 9i, Oracle 10G and Oracle 11G

Steps to prepare Oracle database for a backup through StoreGrid

- StoreGrid supports Oracle hot-backup. Oracle Hot backup can be performed only when Oracle database is running under "Archive Log" mode. To bring the Oracle database in "ARCHIVE LOG" mode, follow the steps below:

Open RMAN and connect target database that you would like to backup. Run the following script to bring the Oracle database to Archive Log mode.

```
SET DBID <Database_ID>
RMAN TARGET /
RMAN> SHUTDOWN IMMEDIATE;
RMAN> STARTUP MOUNT;
RMAN> SQL "alter database archivelog";
RMAN> ALTER DATABASE OPEN;
```

- Specify a temporary dump location which has enough disk space to hold the Oracle database dump.

Oracle Backup Configuration

For Oracle Instance Connection Settings refer [Oracle settings](#) help document for more details.

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select the Oracle database

As per the instance chosen in the Oracle connection settings, Database name will be listed in the left side of the Add

Oracle Database page. Select the database that need to be backed up as part of this schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path where the Oracle Server dumps are to be stored temporarily before uploading them to the backup server. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Step 4: Full Backup Scheduling (Decide When To Do Full Backup)

Configuring this step is mandatory. StoreGrid will do a full backup dump of the database whenever the full backup is scheduled and back it up.

This step has the following options from which any one can be chosen.

Run Monthly At - Choose the time and day of the month the backup should run. StoreGrid will run the backup every month on the particular day and time chosen. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Settings, StoreGrid will run at the stipulated time/day only.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days. If the "Select all days" checkbox is checked, then the schedule will be run on all the days of the week.

Run Once Only - Choosing this option will do the backup only once at the stipulated time.

Step 5: Differential Backup Scheduling (Optional)

Configuring this step is optional. StoreGrid will do a differential backup dump of the database with respect to the previous full backup whenever this differential backup is scheduled.

This step has the following options from which any one can be chosen.

Run Weekly - Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Daily - Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Every Few Hours - Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Advanced Settings (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

Maximum Number Of Full Backups : You can specify the maximum number of full backups that need to be stored in the server. For example if you configured a monthly full backup, then StoreGrid will take a full backup every month. After 6 months you will have 6 separate full backups in the backup server along with differential and transaction logs under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "Store maximum of 6 full backups" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its differential and transaction log backups thus retaining always the last 6 month backups.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) : If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if its not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (eg. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) : If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Backup All Archive Log : if enabled, it will backup all archivelog files.

Backup the Archive Log from days older nth days: if enabled, it will backup all archive logs which are created from nth number of days. for example, if this option enabled as 'backup archive log older than 20 days' , then it will backup all archive logs which are created in the last 20 days and if the option 'Delete all backed up archive logs after successful backup' is enabled, it will delete all the archive logs which are older than 20 days.

Delete the backed up archive log files after backup has been completed successfully : If enabled, it will delete all the backed up archive logs on completion of the backup.

Do not backup archived backed up log that has already been backed up : if enabled, it does not backup archivlogs which are backed up already. This option is suitable when the options 'Backup the Archive Logs generated in the last N days' is enabled because without this option enabled, it might backup duplicate archive logs as it is backing up archive log in overlapped manner.

Data Integrity Check : StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. In general for a continuous backup, it is best to set the CPU utilization to Medium or Low. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Saving the configured backup

Once the Oracle database to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Temporary Dump Path Details

Temporary dump files will be stored in the name

`<Temporary_Dump_Location>\<Backup_Name>\<Machine_Name>\<Database_Name>\<File_Name>.BS`

Note: Backup file for a database will have ".BS" extension.

Troubleshooting Tips



Oracle RMAN Hot Backup could not be done on Oracle in NON-ARCHIVE Log mode. Please change DB Log Mode to ARCHIVE Log mode And then Schedule Additional Full Backup to fix this issue..

Cause : This error occurs when StoreGrid performs backup on Oracle database which is running under "NON-ARCHIVE" log mode.

Solution : To resolve this issue, Oracle database should be brought to "ARCHIVE" log mode.

Run the following script to bring Oracle database to "ARCHIVE" log mode.

```
SET ORACLE_SID = <SID>
RMAN TARGET /
RMAN> SHUTDOWN IMMEDIATE;
RMAN> STARTUP MOUNT;
RMAN> SQL "alter database archivelog";
RMAN> ALTER DATABASE OPEN;
```

Limitations

1. Mapped drive cannot be given as temporary dump location for Oracle backup.
2. If the local dump location is configured as a FAT32 disk partition, then the local dump file size should not exceed 4 GB as the FAT32 file system cannot hold file size more than 4 GB. In this case, StoreGrid cannot dump the data files and the backup schedule will fail.

Oracle Server Connection Properties

Overview

To backup Oracle Server database(s), StoreGrid Client (agent) should be installed on the machine running Oracle Server Database. StoreGrid should be provided with the Oracle Server connection settings to list and backup the Oracle Server database(s). StoreGrid will first backup the databases to a temporary location in the local machine before uploading them to the backup Server. This section explains how to configure the Oracle Server connection settings to list the Oracle Server database(s) for configuring backup.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> Oracle".

Requirements

Oracle 9i, Oracle 10G and Oracle 11G

Oracle Server Connection Settings

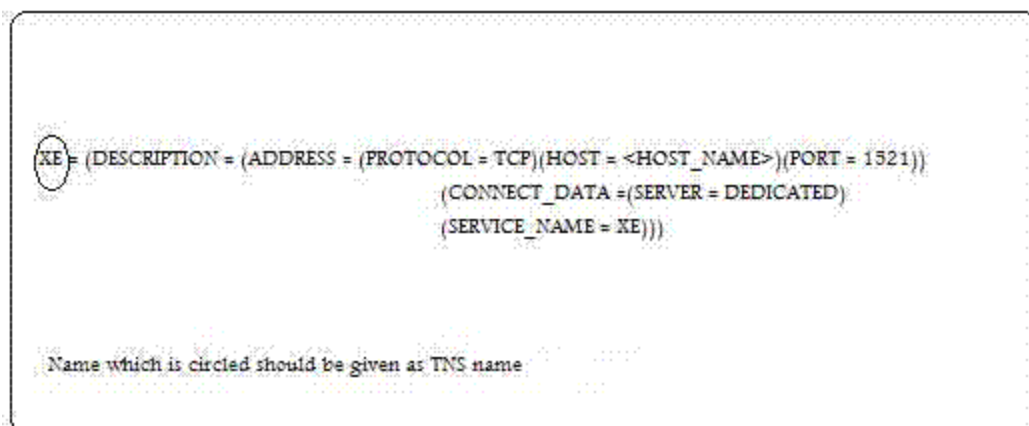
"Oracle Server Connection Settings " page is used to configure StoreGrid to connect to the Oracle Server using the settings specified in this page. You need to enter/select the Oracle TNS to connect and backup the Oracle databases.

- **TNS Name (can be found in tnsname.ora file)**

This selection box will list all the Oracle instances added previously. You should choose the instance of Oracle Server that you want to backup.

TNS name represents database address for establishing connections to the database. TNS name is usually available in "tnsname.ora" file located in <ORACLE_HOME>\NETWORK\ADMIN\ folder.

Sample "tnsname.ora" file : XE = (DESCRIPTION = (ADDRESS = (PROTOCOL = TCP)(HOST =)(PORT = 1521))(CONNECT_DATA =(SERVER = DEDICATED)(SERVICE_NAME = XE)))



- **Let me enter Instance Name**

This option is provided to add new Oracle-Server instance in StoreGrid Oracle Server Connection Settings.

- **Continue with previous authentication for this Oracle Server Instance**

This option is provided if a username and password have already been configured for the Oracle-Server instance. By default "Yes" option is selected and the "No" option could be used to change the previously saved "User Name"

and "Password" values.

- **User Name**

Specify the valid user name here. The user name which is specified should have sysdba privileges. You should not specify "sys" as username here.

- **Password**

Specify the valid password of user name that you have specified above.

- **Next Button**

If all the authentication parameters are correctly specified then clicking the Next button will take you to the Oracle Server Backup Configuration page.

- **Cancel Button**

Closes the "Oracle Server Connection Properties" page without accepting the selections. And the web console will display the list of Backup Schedules already created.

Troubleshooting Tips



Top of the screen shows the following message: "Oracle Server is not installed or not available in the system. ".

Cause 1: If Oracle Server was installed after installing StoreGrid in the machine.

Solution : Re-install StoreGrid, with the upgrade option, on top of the existing installation.

Cause 2: If Oracle service running in the local machine is not detected while installing StoreGrid.

Solution : Verify if the files "oracleserver.sgpl" exists in "< StoreGrid_Home>\ Vembu\StoreGrid\plugins" folder. If this file does not exist in the above location, try installing StoreGrid on top of the existing installation and check if you are able to create Oracle Server Backup schedule.



ORA-12154: TNS:could not resolve the connect identifier specified.

Cause : You have provided wrong Instance Name / User Name / Password

Solution : Please verify the provided Instance Name / User Name / Password



ORA-12541: TNS:no listener.

Cause : Oracle listener not started

Solution : Run the following command to start the listener **"lsnrctl start"**



ORA-12514: TNS:listener does not currently know of service requested in connect descriptor.

Cause : Database or Listener not started properly.

Solution : Check whether oracle database and Listener started properly.



ORA-01017: invalid username/password; logon denied.

Cause : Provided username / password incorrect.

Solution : Check whether given username and password correct.



ORA-12560: TNS:protocol adapter error.

Cause : Oracle home and bin path not set.

Solution 1: Check your \$ORACLE_HOME and \$PATH variables properly set

Solution 2: Ensure TNS_ADMIN set properly

Solution 3: In Windows, Verify that the database service is started. Verify the ORACLE_SID parameter properly set in your registry.



Can't open lib '/u01/app/oracle/product/11.2.0/db_1/lib/libsqora.so.11.1' : file not found.

Cause : Check LD_LIBRARY_PATH set properly.

Solution : export LD_LIBRARY_PATH=\$LD_LIBRARY_PATH:\$ORACLE_HOME/lib

Configure PostgreSQL Database Backup

Related Links

[PostgreSQL Settings](#)

[Restore PostgreSQL database](#)

Overview

StoreGrid supports backup of PostgreSQL database(s) using the internal PostgreSQLDump utility(pg_dump) available in the local machine. StoreGrid supports Full and Incremental PostgreSQL database backups while data is online and accessible. Full backup type backs up the entire PostgreSQL database. Incremental backup type backs up only modified extents since the previous Full backup.

StoreGrid uses the internal PostgreSQLDump utility(pg_dump) to dump the database(s) and then uploads the locally dumped file to the backup server. During Full backup, the entire database(s) is dumped locally and then transfer the dumped file to the backup server. During Incremental backup, the entire database(s) is dumped locally and then transfer only the modified content since the previous Full backup to the backup server.

This section will give you information about how to configure PostgreSQL database(s) backup using StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> PostgreSQL"

Requirements

- Windows or Linux
- PostgreSQL 8.3 and later.

PostgreSQL Backup

StoreGrid can be configured to backup the PostgreSQL Database(s) available in the local machine. StoreGrid uses the internal PostgreSQLDump utility (pg_dump) to backup PostgreSQL Database(s) and it uses the PostgreSQL utility (psql) to list the database names in the Step 2 of the 'Backup -> Plugin Backups -> PostgreSQL' page.

Before a PostgreSQL backup can be configured in StoreGrid, you should configure the PostgreSQL settings through "Settings->Advanced Options" and click on the "PostgreSQL Settings" icon in the left hand side. Without correct values for PostgreSQL settings, StoreGrid will not be able to list the databases to be configured for backups in "Backup -> Plugin Backups -> PostgreSQL" page.

If "PostgreSQL" database(s) is not listed in the Step 2 of the 'Backup -> Plugin Backups -> PostgreSQL' page, then refer the PostgreSQL Settings help for more details.

PostgreSQL Backup Configuration

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select Database(s)

Select the databases that need to be backed up as a part of this schedule.

Select All Databases for this schedule

If "Select All Databases for this Schedule" option is chosen, it will include all the databases present in the PostgreSQL server. If a new database is later added to the PostgreSQL Server, it will be automatically included in this backup schedule.

Let me manually choose databases

If "Let me manually choose databases" option is chosen, then any databases can be selected for backup. However, if a new database is later added to the PostgreSQL Server, it will not be automatically included in this backup schedule.

Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blowfish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blowfish algorithm with a 448 bit encryption key automatically generated by StoreGrid before been backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the

Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blowfish or Triple DES. The Blowfish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blowfish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintain at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.
2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then StoreGrid retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, StoreGrid backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, StoreGrid will back up the entire file if the file was modified since the last backup schedule. In such a case, StoreGrid will retain multiple versions of the entire file as per the version retention count configure for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time

period.

- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Every Few Hours

Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the checkbox against these days. If the "Select all days" checkbox is checked, then the schedule will be run on all the days of the week.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Every Few Hours and Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly backups, only Monthly additional full backups are possible. For Run Once Only backup, you cannot configure additional full backups.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure "**Store maximum of 6 full backups**" here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the checkbox, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible. In case of the Continuous backup or 'Run every...' scheduling options, backups will run each time StoreGrid restarts – by default.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or it can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Pre & Post Backup Commands (Optional)

This feature provides the ability to configure running custom actions before and after executing a backup schedule. The

custom actions may include running an application or some script files.

Pre & Post Backup Commands

When is this feature useful?

If an application has exclusively locked a file and you need to close the application before StoreGrid can backup that file, then you can run a pre-backup command to close the application and then a post-backup command to open the application again after StoreGrid successfully backs up the file.

How does this feature work?

Whenever a backup schedule starts, StoreGrid will start the Pre Backup commands and wait till the timeout value. After completing the Pre Backup commands, StoreGrid will transfer the configured files & folders to the backup server. After transferring the configured files and folders, StoreGrid will run the Post Backup Commands. If multiple servers are configured for the backup schedule, then both the Pre and Post Backup commands will run while backing up to each of the servers.

Pre & Post Backup command settings:

You can provide maximum of 5 Pre Backup commands and maximum of 5 Post Backup commands for each backup schedule. Both the Pre and Post Backup commands are optional.

Command Name: This field is mandatory. This is the command that should be run. The command should be provided with full path. If the command name is in the system command path, then providing full path for the command is not necessary. The command can be an executable file such as application exe, batch files, script files etc.

Example: C:\MyTools\myzip.exe. A simple zip tool which compresses the given files or folders.

Arguments: You can provide any command line arguments for the command to be executed.

Example: For the Command C:\MyTools\myzip.exe, the arguments may be 'High Zip Replace "D:\Project" myproject.zip' [without quotes]. Here, the High may denote high compression, Zip denotes zip file format, Replace denotes replacing existing files, 'D:\Project' denotes folder to compress and 'myproject.zip' denotes the target compressed file name.

Working Path: This field specifies the directory path from which the Command has to be run. If this field is left empty, then the command will be executed from the StoreGrid working path [StoreGrid Home]

Example: 'D:\Project'. The command will be executed from the directory D:\Project.

Timeout: This field is used to specify a timeout value, in seconds, for the command to finish execution. StoreGrid will wait for so many seconds for the pre and post command to finish running. If the command still runs beyond the timeout period, then StoreGrid will abruptly terminate the command and will continue with the backup schedule.

Please note that if you provide -1 value, then the command will run till completion and StoreGrid will wait till the command completes. If command never completes, then StoreGrid may just infinitely wait without proceeding with the backup schedule.

Example: 60. For the myzip.exe command, the myzip.exe command will compress the given project folder up to 60 seconds. If the myzip.exe completes before the timeout period, say 15 seconds, then StoreGrid will immediately continue the next Pre Backup Command [if configured] or continue with the backup schedule.

So, the example command will look like below:

Command Name : C:\MyTools\myzip.exe

Arguments : High Zip Replace

Working Path : D:\Project

Time out : 60

The whole command will be run up to 60 seconds as below:

C:\MyTools\myzip.exe High Zip Replace "D:\Project"

Saving the configured backup

Once all the PostgreSQL Server database(s) to be backed up are chosen and the configuration options are set, you simply

need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



Database names are not listed in the Step 2 of the 'Backup -> Plugin Backups -> PostgreSQL' page.

Cause 1: If PostgreSQL Settings for StoreGrid is not configured.

Solution : Configure postgresQL settings from "Settings->Advanced Options" menu "PostgreSQL Settings" icon in the left hand side and then check if PostgreSQL database(s) are listed in the "Backup -> Plugin Backups -> postgresQL" page.

Cause 2 : If PostgreSQL service is not started in the machine.

Solution : Start the PostgreSQL service and then check if PostgreSQL database(s) are listed in the "Backup -> Plugin Backups -> PostgreSQL" page.

Cause 3 : postgresqlatabase.lst file present in the "<INSTALLATION_HOME>/plugins/PostgreSQLServer/" folder does not have the database list.

Solution : Check the PostgreSQL version running in the machine (8.3 and above). StoreGrid only supports listing PostgreSQL 8.3 and above version database(s) for backup.



Database names are listed in the Step 2 of the 'Backup -> Plugin Backups -> PostgreSQL' page, but backup dump is not created.

Cause : Configured username and password in the PostgreSQL settings page may not have access to the database(s) configured for the backup schedule.

Solution : Check if the user name and password entered in the PostgreSQL settings have appropriate permissions to take a backup dump of the database(s).



PostgreSQL Server backups failed after recovering StoreGrid client configurations from backup server through Client Disaster Recovery option.

Cause : PostgreSQL Server details(UserName, Password, PortNumber) are not available in StoreGrid client machine.

Solution : In this case, save the PostgreSQL Server details in [PostgreSQL Settings](#) page before retrieving client configuration through [Disaster Recovery](#) option.

Limitations

1. Databases listed in the "Backup -> Plugin Backups -> PostgreSQL" page will be for the the last saved PostgreSQL Server instance port in the PostgreSQL Settings.
2. Backup Report/View Backup/Edit Backup UI pages does not provide the details like PostgreSQL Server name, port etc.

PostgreSQL Settings

Overview

StoreGrid can be configured to backup the PostgreSQL Database(s) available in the local machine. StoreGrid uses the internal PostgreSQLDump utility (pg_dump) to backup PostgreSQL Database(s) and it uses the PostgreSQL utility (psql) to list the database names in "Backup -> Plugin Backups -> PostgreSQL" page.

Before a PostgreSQL backup can be configured in StoreGrid, you should configure the PostgreSQL settings. Without correct values for these settings, StoreGrid will not be able to list the databases to be configured for backups.

This section explains how to configure the PostgreSQL settings so that StoreGrid can list the PostgreSQL database(s) in "Backup -> Plugin Backups -> PostgreSQL" page.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings->PostgreSQL Settings".

PostgreSQL Settings

Before a PostgreSQL backup can be configured in StoreGrid, you should configure the PostgreSQL settings from "Settings->PostgreSQL Settings" menu. With the values entered in the PostgreSQL settings, StoreGrid will create a backup dump of the PostgreSQL database.

- **PostgreSQL Server Name**

This is a non-editable field. "localhost" will be used as the value.

- **PostgreSQL Server Instance Port**

By default PostgreSQL server uses port 5432. But PostgreSQL supports running multiple instances and in that case each instance will be using its own port. If you have just one instance of PostgreSQL running, simply enter the port number here or leave the default as it is and save it. But if you have multiple PostgreSQL instances running, then you can provide the ports for all the instances in the following manner:

Once you have configured one port for one of the instances and saved it, this field will have two options "**1. Choose a port from the list**" and "**2. Add an additional port**".

By selecting "Add an additional port" you can add additional ports for other PostgreSQL instances running.

By selecting "Choose from the list", you can select any one of the ports already configured. This step is required before you configure PostgreSQL backup from the "Backup -> Plugin Backups -> PostgreSQL" page. Depending upon the PostgreSQL instance for which you want to configure the backup, you should first select the appropriate port, save it and then go backup to "Backup -> Plugin Backups -> PostgreSQL" page to configure PostgreSQL backup for that instance. The PostgreSQL databases listed in the "Backup->Create PostgreSQL Database Backup" page will be for the PostgreSQL Server instance whose port was last selected and saved from this PostgreSQL settings page.

- **PostgreSQL EXE Path**

Enter the location of the **psql** file for the postgresql server instance in the local machine. For example, if **psql** file is present in the "C:/Program Files/PostgreSQL/PostgreSQL Server/8.3/bin/" folder, then enter "C:/Program Files/PostgreSQL/PostgreSQL Server/8.3/bin/" as this field value. Please note that exe file name "psql" should not be appended to the path value.

- **PostgreSQL Dump EXE Path**

Enter the location of the **pg_dump** file for the postgresql server instance in the local machine. For Example, if **psql** file is present in the "C:/Program Files/PostgreSQL/PostgreSQL Server/8.3/bin/" folder, then enter "C:/Program Files/PostgreSQL/PostgreSQL Server/8.3/bin/" as this field value. Please note that exe file name "pg_dump" should not be appended to the path value.

- **PostgreSQL User Name**

Provide the PostgreSQL server instance authentication user name here. Note that each instance can have its own

authentication user name and password. Make sure you give the correct user name matching the PostgreSQL server instance you have chosen in the "PostgreSQL Server Instance Port" field.

- **PostgreSQL Password**

Provide the PostgreSQL server instance authentication password here. Note that each instance can have its own authentication user name and password. Make sure you give the correct user name matching the PostgreSQL server instance you have chosen in the "PostgreSQL Server Instance Port" field.

The option **"Continue with previous authentication for this PostgreSQL Server Instance"** is provided if a user name and password have already been configured for the PostgreSQL server instance. By default "Yes" option is selected and the "No" option could be used to change the previously saved "User Name" and "Password" values.

- **Temporary location to store the backup dumps**

Enter the location/directory path to which the PostgreSQL database dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). Please note that, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Once these PostgreSQL settings are correctly configured and saved, the tree in the "Backup -> Plugin Backups -> PostgreSQL" page will display the option to configure a postgresql database backup.

Configure cPanel Backup

Overview

StoreGrid can be configured to backup the websites (domain) on a shared web hosting managed by cPanel control panel. StoreGrid backups the entire home directory, MySQL databases, Email Forwarder settings, Email Filter settings and offers a fine granular restore of the cPanel accounts. You can also recover all the accounts in a single click in case of server crash or loss of the accounts caused by an unfortunate disaster.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup -> Plugin Backups -> cPanel"

Requirements

- Domain accounts (websites) on a shared web hosting managed by cPanel [control panel]

Add cPanel Backup

Step 1: Schedule Name

The first step in configuring a backup is to give a name for the backup schedule. The backup schedule name will uniquely identify the backup. While restoring your backup data, you need to choose the data to be restored using its schedule name.

Step 2: Select the cPanel Accounts/Domains

On the left side of the page is the tree listing the cPanel accounts and the components [Home Directory, MySQL databases etc.] for backup under an account. You can select all the accounts or select only a few accounts or just a few components under an account for backup as you wish.

2

Select the cPanel Accounts/Domains

List of cPanel Accounts/Domains

Filter by:

- ☒ root@cpanelttest.india.vembu.com [WHM Login]
- ☒ joy21 (joy.joy21.seashells.nl)
- ☒ joy28 (joy.joy28.seashells.nl)
- ☒ joy15 (joy.joy15.seashells.nl)
- ☒ joy4 (joy.joy4.seashells.nl)
- ☒ joy20 (joy.joy20.seashells.nl)
- ☒ joy27 (joy.joy27.seashells.nl)
- ☒ joy3 (joy.joy3.seashells.nl)
- ☒ joy14 (joy.joy14.seashells.nl)
- ☒ joy26 (joy.joy26.seashells.nl)
- ☒ joy2 (joy.joy2.seashells.nl)
- ☒ joy13 (joy.joy13.seashells.nl)
- ☒ joy9 (joy.joy9.seashells.nl)
- ☒ joy25 (joy.joy25.seashells.nl)

Exclude the following components:

☐ Account Settings ☐ Home Dir. ☐ MySQL

☐ Email Fwdrs. ☐ Email Filters

Step 3: Set Basic Configuration

Backup Type

Same Machine - When large amount of data has to be backed up, it might take significant amount of time to transfer all the data to a remote backup server over WAN/Internet. You can take the backup to a local external drive connected to the client machine and then physically move the external drive to the backup server location to migrate the data into the backup server. In such cases, you can select the backup type to be 'Same Machine'. Once the data is migrated to the backup server using the Server Side Seed Backup Migration, you will have to perform Seed Backup Migration (under Backup -> Seed Backup Migration) in the client machine to make it to run its backups to the remote server directly thereafter.

Local Backup location: Enter the location/directory path where the backup is to be stored in the same machine. This location should be accessible to StoreGrid process and should have enough free disk space for the backup data. You can copy data from this location to the backup server as seed backup data.

NOTE: Retention policies will not apply for a local backup. The Retention policies configured for this backup schedule will work only if the backup data is migrated into a backup server (seed backup).

Remote Server - Select this option if you want the backup data to be transferred to a backup server directly when the backup schedule runs.

Select Backup Server :

This is the list of peers/backup servers in which the backup data can be stored. Once the backup server is selected, you cannot change the server name. In case the backup server name or IP address is to be changed in future, you can change it from the Seed Backup Migration page. The client will run the backup to the selected backup server.

Test connectivity - Before you select the backup server for this backup schedule, you can check the connectivity to backup server. It also checks the different settings configured in the backup server for this client and confirms if this client can backup to the chosen backup server or not.

Add Backup Server- If you don't see a particular backup server listed, you need to first add it by following this link before you can select it for this backup schedule.

Temporary location for backup dumps

Enter the location/directory path where the backup files of the domains are stored temporarily before uploading them to the backup server. Ensure that there is enough disk space in the configured temporary dump location. The backup dumps stored in the temporary location will be deleted once they are transferred successfully to remote backup server.

Encryption

Password Protect This Backup

This option is to enable or disable encryption of the data that is being backed up. StoreGrid uses a well known encryption algorithm, Blow fish. If enabled, a password has to be specified which will be used for generating the encryption key. Encrypting data ensures that it cannot be read in the destination machine (backup server) where your backup is stored, and is especially relevant for sensitive information.

Password Protection

This option is to enable System Generated Encryption Key or use a Customized Encryption key for encrypting the backup data.

System Generated: The selected files and folders will be encrypted using Blow fish algorithm with a 448 bit encryption key automatically generated by StoreGrid before being backed up. No password will be required while restoring the data.

Custom: This will enable the user to select the custom Encryption Technique, Encryption Key Size and the Encryption Key that needs to be used for encrypting the selected files and folders. Please don't lose the customized encryption key, as the backed up data cannot be restored without this key.

Default Encryption Password: The selected files and folders will be encrypted with the Default Encryption Password as provided in the "Settings -> Advanced Options -> Default Encryption Password" page. Default Encryption Password is a convenient way to use the same password for all the backup schedules created in this client machine. It saves you from having to remember a different password for each backup set.

Encryption Technique

StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size

StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password

Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Retention Policies (Optional)

StoreGrid provides the retention feature where backups of multiple versions of a file can be maintain at the backup server. StoreGrid cleans up the version files in the backup server based on two major retention policies:

1. **Version-Based Retention** - Retains multiple version files in the backup server based on the version file count.

2. **Time-Based Retention** - Retains multiple version files in the backup up server based on the age of the version files.

Retention policy for backed up files

Version-Based Retention

StoreGrid can retain backups of multiple versions of a file based on the version retention count specified. The number of version files to be retained can be specified as any value from 0 to 99 with a default setting of 5. The backup version count can be 0 when the Intelli-Delta Backup is disabled in Advanced Options. This option is useful when you wish to store just the complete latest version of a file.

For example, if the version file retention count is specified as 5, then StoreGrid retains the latest five version files. These files can be restored from the backup server at any point of time. When the sixth version of the file is created, StoreGrid backup server automatically deletes the first version.

Note: When Intelli-Delta option is disabled for a backup schedule, StoreGrid will back up the entire file if the file was modified since the last backup schedule. In such a case, StoreGrid will retain multiple versions of the entire file as per the version retention count configure for that backup.

Time-Based Retention

StoreGrid can retain version files in the backup server based on the age of version files. Default setting is for 5 years, meaning the version files will be retained in the backup server for 5 years and then will be removed automatically. The maximum number of versions that can be created during the retention period can also be optionally further configured. There are two options:

- **Any number of versions can be created within this retention period** - This is the default setting. If enabled, StoreGrid retains all the versions created during the specified retention time period.
- **Restrict the maximum number of versions that can be created within this retention period to 'n'.** - If this option is enabled, StoreGrid will clean up the version files based on both; retention time period and maximum version file count. For example, if the retention time period is set to 1 month and maximum version file count is 5, StoreGrid will retain only the last five version files created within the last one month and versions older than one month will be deleted.

Step 4: Scheduling (Decide When To Backup)

This field has the following options from which any one can be chosen.

Run Every Few Hours

Choose the hours/minutes interval between each time StoreGrid must run. If StoreGrid is restarted in the interim, the backup will run once StoreGrid starts. Thereafter, StoreGrid automatically reschedules the next backup after the period you've set. For example, if you created a backup schedule at 10 am and set it to run every 1 hour, StoreGrid will first run the schedule at 10am and the next scheduled time will be 11am. However, if at 10.15am, StoreGrid is restarted, then the schedule will run once at 10.15am and the next scheduled time will now be set to 11.15am.

Additionally, you can also select the days in which this schedule should run. For example, if you do not want to run this backup schedule on Saturdays and Sundays, uncheck the check box against these days. If the "Select all days" check box is checked, then the schedule will be run on all the days of the week.

Run Daily

Choose the time at which the backup should run daily. This will execute the backup everyday at the time you have provided. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time only.

Run Weekly

Choose the time and the day of the week the backup should run. StoreGrid will execute the backup every week on the particular day and time chosen. Note that you can select multiple days of the week if you wish to run the backup on multiple days of the week. Unless you've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options, StoreGrid will run at the stipulated time/day only.

Run Once Only

Choosing this option will do the backup only once immediately. The backup will then be put into 'suspended mode'. If you wish to run this backup again, you'll have to manually select it from the [List Backup Schedules](#) page.

Step 5: Additional Full Backups

Typically, you would do a full backup the first time you backup your data and thereafter only do incremental backups. However, like in a typical enterprise scenario, if you want to run full backups periodically and run the incremental backups in between two full backups, then you can configure the scheduling for how to run the full backups here.

For Run Every Few Hours and Run Daily backups, the Additional Full Backup settings will allow you to configure **daily/weekly/monthly** additional full backups. For weekly backups, only Monthly additional full backups are possible. For Run Once Only backup, you cannot configure additional full backups.

Additionally you can specify the maximum number of full backups that need to be stored in the server. For example if you configured a weekly backup and additionally if you configure a monthly full backup, then StoreGrid will take a full backup the first time and then weekly do an incremental backup. The next month, StoreGrid will do a new full backup and subsequently run the weekly incremental backup over this full backup. After 6 months you will have 6 separate full backups in the backup server along with weekly incremental versions under each of the 6 full backups. If your policy is to retain only backup data for 6 months, then you can configure **"Store maximum of 6 full backups"** here. On the 7th month, StoreGrid, after finishing the 7th full backup, will delete the first full backup along with its weekly incremental backups thus retaining always the last 6 month backups.

Advanced Options (Optional)

If you want to configure some additional advanced options - like, CPU utilization, Compression settings, etc. click on the Advanced Options button.

Advanced Backup Schedule Settings

There are four options here on how the backup should be scheduled.

Run this backup each time StoreGrid restarts - If you enable this option by checking the check box, then this backup schedule will be run every time StoreGrid is restarted or the machine is rebooted irrespective of the actual schedule time of this backup schedule. This is to ensure that any modified or new files created when StoreGrid was down are backed up as soon as possible. In case of the 'Run every...' scheduling option, backups will run each time StoreGrid restarts – by default.

Run this backup immediately after saving this configuration (thereafter, Backups will be scheduled as per the schedule stipulated) - If you enable this option, then this backup schedule will be executed once immediately after you save this backup schedule – even if it's not yet 'time' as per the schedule. For example if you configure a daily backup at 10.00 AM but you configured the backup at 8.00 AM, then the backup schedule will be run once immediately (8.00 AM) and then as per schedule (e.g. daily at 10.00 AM).

Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) - If enabled, the user can choose to reschedule this backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc. The number of times the backup will be rescheduled (due to an error) can be configured to be in between 1-5 or unlimited, with the default setting as 5. This is to ensure that an incomplete backup is completed as soon as possible without waiting for the next actual schedule time. Note that this option is enabled by default.

Data Integrity Check - StoreGrid supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is then again backed up during the next backup schedule.

Other Backup Settings

Set CPU Utilization

For each backup schedule, you can also specify the CPU utilization level as Low, Medium or High. When you set the CPU Utilization to high, the backup will be really fast - but the backup process may affect the speed of other active applications. If CPU utilization is set to Low, the backup will take longer but will be done in a

non-intrusive manner allowing you to comfortably work on the computer as the backup continues in the background. For backups which are done every day or every week in 'off-hours', the CPU utilization can be set to High. Actual performance is obviously a function of your individual machine and your network. We encourage you to experiment with different settings to figure what works best for you.

Set Compression

If compression is enabled, data will be compressed in the client before it is uploaded into the backup server.

Enable - Compresses the data before backing it up. It might reduce the rate at which the client can send data to the backup server but it might save significant bandwidth and time when the data is backed up to a remote server over a WAN/Internet with limited bandwidth speed. Also, this saves disk space in the backup server.

No Compression - This option is suitable (fastest) for backing up data within a local network where bandwidth is not the limitation, but occupies more space on destination machine as no compression is being done.

Intelli-Delta Backup

When a backup schedule is executed, StoreGrid checks if the file has changed since the last backup. If yes, then StoreGrid can either backup the full file all over again or it can backup only the modified content (incremental). If "Intelli-Delta Backup" is set to ENABLE, only modified content in a file is backed up. If set to DISABLE, the full file will be backed up every time the schedule runs. Needless to say, an incremental backup is faster.

Pre & Post Backup Commands (Optional)

This feature provides the ability to configure running custom actions before and after executing a backup schedule. The custom actions may include running an application or some script files.

Pre & Post Backup Commands

When is this feature useful?

If an application has exclusively locked a file and you need to close the application before StoreGrid can backup that file, then you can run a pre-backup command to close the application and then a post-backup command to open the application again after StoreGrid successfully backs up the file.

How does this feature work?

Whenever a backup schedule starts, StoreGrid will start the Pre Backup commands and wait till the timeout value. After completing the Pre Backup commands, StoreGrid will transfer the configured files & folders to the backup server. After transferring the configured files and folders, StoreGrid will run the Post Backup Commands. If multiple servers are configured for the backup schedule, then both the Pre and Post Backup commands will run while backing up to each of the servers.

Pre & Post Backup command settings:

You can provide maximum of 5 Pre Backup commands and maximum of 5 Post Backup commands for each backup schedule. Both the Pre and Post Backup commands are optional.

Command Name: This field is mandatory. This is the command that should be run. The command should be provided with full path. If the command name is in the system command path, then providing full path for the command is not necessary. The command can be an executable file such as application exe, batch files, script files etc.

Example: C:\MyTools\myzip.exe. A simple zip tool which compresses the given files or folders.

Arguments: You can provide any command line arguments for the command to be executed.

Example: For the Command C:\MyTools\myzip.exe, the arguments may be 'High Zip Replace "D:\Project" myproject.zip' [without quotes]. Here, the High may denote high compression, Zip denotes zip file format, Replace denotes replacing existing files, 'D:\Project' denotes folder to compress and 'myproject.zip' denotes the target compressed file name.

Working Path: This field specifies the directory path from which the Command has to be run. If this field is left empty, then the command will be executed from the StoreGrid working path [StoreGrid Home]

Example: 'D:\Project'. The command will be executed from the directory D:\Project.

Timeout: This field is used to specify a timeout value, in seconds, for the command to finish execution. StoreGrid will wait for so many seconds for the pre and post command to finish running. If the command still runs beyond the timeout period, then StoreGrid will abruptly terminate the command and will continue with the backup schedule.

Please note that if you provide -1 value, then the command will run till completion and StoreGrid will wait till the command completes. If command never completes, then StoreGrid may just infinitely wait without proceeding with the backup schedule.

Example: 60. For the myzip.exe command, the myzip.exe command will compress the given project folder up to 60 seconds. If the myzip.exe completes before the timeout period, say 15 seconds, then StoreGrid will immediately continue the next Pre Backup Command [if configured] or continue with the backup schedule.

So, the example command will look like below:

Command Name : C:\MyTools\myzip.exe

Arguments : High Zip Replace

Working Path : D:\Project

Time out : 60

The whole command will be run up to 60 seconds as below:

C:\MyTools\myzip.exe High Zip Replace "D:\Project"

Saving the configured backup

Once all the components/accounts to be backed up are chosen and the configuration options are set, you simply need to click on the "Configure/Save Backup" button to activate the backup as per the schedule- on to the configured backup servers.

Troubleshooting Tips



I receive the error "Attempt to validate the existing authentication details failed. <Actual Error Message>" on clicking Next button in the first page after selecting the host and the user.

Cause 1 : If the password for the selected user is incorrect

Solution 1 : Click the second radio option for **Authentication Password** to enter the correct password and click **Next** button

Cause 2 : If the selected user is not existing in the host

Solution 2 : Make sure the user you have selected in the select box is available in the host. If the user is not existing in the host, you cannot configure a backup for that user account

Cause 3 : If the selected host is not reachable from the StoreGrid client

Solution 3 : Make sure the host is accessible from the StoreGrid client. You can confirm this by accessing the particular user account in the host from browser. After resolving the accessibility issues [if any] and you have made sure the host is accessible now, Click **Next** button to proceed further

Cause 4 : If the selected host (machine) is not up

Solution 4 : Make sure the host machine is running. If the host machine is not up, start the machine and then click **Next** button to proceed further



I receive the error "Failed to save the specified host and authentication details. <Actual Error Message>" when I try to add a host/user or update the latest password for a user.

Cause 1 : If the password for the specified user is incorrect

Solution 1 : Make sure you enter the correct password and then save the host/user

Cause 2 : If the particular user is not existing in the host

Solution 2 : Make sure the user you have specified is available in the host. If the user is not existing in the host, you cannot save the host/user.

Cause 3 : If the specified host is not reachable from the StoreGrid client

Solution 3 : Make sure the host is accessible from the StoreGrid client. You can confirm this by accessing the particular user account in the host from browser. After resolving the accessibility issues [if any] and you have made sure the host is accessible now, proceed to save the host/user details

Cause 4 : If the selected host (machine) is not up

Solution 4 : Make sure the host machine is running. If the host machine is not up, start the machine and then proceed to save the host/user



I receive the error "Failed to list the accounts present under the specified user. <Actual Error Message>" in edit backup page.

Cause 1 : If the password for the particular user [used as authentication] is incorrect in StoreGrid client [perhaps the password has been changed for the user recently]

Solution 1 : Go to Manage cPanel Hosts & Users page from the menu : "Settings -> Advanced Options -> Manage cPanel Hosts & Users" and update the latest password for the particular authentication user and then try editing the backup job.

Cause 2 : If the particular user [used as authentication] is not existing in the host

Solution 2 : Make sure particular user which is used as authentication for the particular backup is available in the host. If the user is not existing in the host, you cannot configure a new backup or edit an existing backup configured with that user account

Cause 3 : If the particular host is not reachable from the StoreGrid client

Solution 3 : Make sure the host is accessible from the StoreGrid client. You can confirm this by accessing the particular user account in the host from browser. After resolving the accessibility issues [if any] and you have made sure the host is accessible now, try editing the backup job.

Cause 4 : If the selected host (machine) is not up

Solution 4 : Make sure the host machine is running. If the host machine is not up, start the machine and then try editing the backup job

Limitations

1. If the temporary dump path for cPanel backup exceeds 255 characters, dump process will fail. Hence, make sure, you have entered a shorter dump path to enable the dump to complete successfully.

cPanel Admin Preferences

Overview

From this page, you can set your preferences for the cPanel backup and restore feature. Preferences include allowing/denying backup option (from cPanel console itself) for the cPanel end users and many more.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Advanced Options -> cPanel Admin Preferences"

Default Dump Location

You can set the default dump location to be shown in the Add cPanel Server backup page from this tab. Although only the dump location specified here is shown in the Add cPanel backup page by default, the dump location is always editable. hence you can change it if you wish to do so.

If you wish to set a different dump location for the cPanel backups configured by the resellers logged in to the StoreGrid webconsole, you can set it by enabling the checkbox for ***Use a different dump location for all resellers logging into StoreGrid webconsole***

If you wish to set a different dump location for the cPanel backups configured from cPanel console by the cPanel end users, you can set it by enabling the checkbox for ***Use a different dump location for all cPanel end users configuring backup from their cPanel console.***

NOTE : The dump location is not editable for the cPanel server backups configured by the resellers and cPanel end users.

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Default Backup Server

You can set the default backup server to get selected in the Add cPanel Server backup page from this tab. However, you can change the backup server while saving the backup if you wish to use a different one rather than the default backup server.

If you wish to set a different backup server for the cPanel backups configured by the resellers logged in to the StoreGrid webconsole, you can set it by enabling the checkbox for ***Use a different backup server for all resellers logging into StoreGrid webconsole***

If you wish to set a different backup server for the cPanel backups configured from cPanel console by the cPanel end users, you can set it by enabling the checkbox for ***Use a different backup server for all cPanel end users configuring backup from their cPanel console.***

NOTE : The backup server is not changeable for the cPanel server backups configured by the resellers and cPanel end users.

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cPanel End User Backup

With this option, you can decide to allow/restrict all/specific cPanel end users to configure backup from their cPanel console login itself.

- **Allow all of the end users to configure backup from cPanel console**

Select this option, if you wish to allow all the cPanel end users to configure a backup for their account from the cPanel console itself. Additionally, if you wish to deny the backup option for any of the cPanel end users (but all the others should be allowed backup option), you can add those users to the list by selecting the checkbox **However, do not allow the following users to configure backup from cPanel console (Black List)**

- **Do not allow any of the end users to configure backup from cPanel console**

Select this option, if you do not wish to allow any of the cPanel end users to configure a backup for their account from the cPanel console. Additionally, if you wish to allow the backup option for any of the cPanel end users (but all the others should not be allowed backup option), you can add those users to the list by selecting the checkbox **However, allow the following users to configure backup from cPanel console (White List)**

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cPanel End User Restore

With this option, you can decide to allow/restrict all/specific cPanel end users to perform restore of their account from their cPanel console login itself.

- **Allow all of the end users to perform restore from cPanel console**

Select this option, if you wish to allow all the cPanel end users to perform restore of their account from the cPanel console itself. Additionally, if you wish to deny the restore option for any of the cPanel end users (but all the others should be allowed restore option), you can add those users to the list by selecting the checkbox **However, do not allow the following users to perform restore from cPanel console (Black List)**

- **Do not allow any of the end users to perform restore from cPanel console**

Select this option, if you do not wish to allow any of the cPanel end users to perform restore of their account from the cPanel console. Additionally, if you wish to allow the restore option for any of the cPanel end users (but all the others should not be allowed restore option), you can add those users to the list by selecting the checkbox **However, allow the following users to perform restore from cPanel console (White List)**

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Reseller Logging in StoreGrid

With this option, you can decide to allow/restrict all/specific resellers to log in to StoreGrid webconsole.

- **Allow all the resellers to log into StoreGrid webconsole (with limited access)**

Select this option, if you wish to allow all the resellers to log into StoreGrid webconsole for performing backup & restore operations for their clients. Additionally, if you wish to deny the webconsole login for any of the resellers (but all the others should be allowed the webconsole login), you can add those users (resellers) to the list by selecting the checkbox **However, do not allow the following resellers to log into StoreGrid webconsole (Black List)**

- **Do not allow any of the resellers to log into StoreGrid webconsole**

Select this option, if you do not wish to allow any of the resellers to log into StoreGrid webconsole. Additionally, if you wish to allow the webconsole login for any of the resellers (but all the others should not be allowed the webconsole login), you can add those users (resellers) to the list by selecting the checkbox **However, allow the following resellers to log into StoreGrid webconsole (White List)**

NOTE : The resellers logging into StoreGrid webconsole will have access to only a very limited areas of the webconsole.

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Default Backup Name Prefix

This is the prefix used for the backup jobs configured from the cPanel console by the cPanel end users. For example, if the prefix is set as 'webbackup', backup name for the backup configured by the cPanel end user 'skilight' will be like

'webbackup(skilight)'. This has been made customizable because the backup name for the backup configured by the cPanel end users will be a predefined one and is not editable by them.

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Install/Uninstall End User Plugins

With this feature, you can install/uninstall StoreGrid Backup & Restore plugin in cPanel console from the StoreGrid client webconsole itself.

- **StoreGrid Backup Plugin in cPanel console:**

If the StoreGrid Backup plugin is already installed in the cPanel console, you will see the "Uninstall Now" button which on clicking will uninstall StoreGrid Backup plugin from the cPanel console.

If the StoreGrid Backup plugin is not installed in the cPanel console, you will see the "Install Now" button which on clicking will install StoreGrid Backup plugin in the cPanel console.

- **StoreGrid Restore Plugin in cPanel console:**

If the StoreGrid Restore plugin is already installed in the cPanel console, you will see the "Uninstall Now" button which on clicking will uninstall StoreGrid Restore plugin from the cPanel console.

If the StoreGrid Restore plugin is not installed in the cPanel console, you will see the "Install Now" button which on clicking will install StoreGrid Restore plugin in the cPanel console.

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Limitations

1. If the temporary dump path for cPanel backup exceeds 255 characters, dump process will fail. Hence, make sure, you have entered a shorter dump path to enable the dump to complete successfully.

Active Directory, System State Backup

Overview

The Active Directory, System State Backup uses the NTBackup utility to dump the data locally and thereafter uploads the locally dumped file to the backup server. This document describes the aspects of System State backup that is specific to Windows XP, Windows 2000 Professional, Windows 2000 Server, Windows 2003 Server, Windows 2003 SBS Server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->Add Backup" and choose the "System State" entry in the tree in step2

Requirements

- Windows XP, Windows 2000 Professional.
- Windows 2000 Server, Windows 2003 Server, Windows 2003 SBS Server.
- To backup Windows 2008 Server System State, refer the following document [System State Backup/Restore for Windows 2008](#)

Active Directory Backup

StoreGrid will backup Active Directory as part of the System State backup. Active Directory Backup is configured like any files and folder backup from the "Backup Schedule" page. All you have to do is to choose the "System State" entry in the tree and configure the backup

System State Backup

Select the 'System State' entry from the 'Step 2 (Select files and folders to Backup)' of the 'Backup -> Backup Schedule' page to configure System State backup. The following are backed up with System State backup:

1. Boot files, including the system files, and all files protected by Windows File Protection (WFP).
2. The registry.
3. Component Services Class registration database.
4. Active Directory (on a domain controller only).
5. Sysvol (on a domain controller only).
6. Certificate Services (on certification authority only).
7. Cluster database (on a cluster node only).
8. Performance counters configuration information.

The list of System State components is dynamic and may change depending on service pack and Operating System features installed. Normally the System State Backup in a Domain Controller includes the following system components,

1. Active Directory
2. System Files
3. COM+ Class Registration Database

4. SYSVOL
5. Cluster Quorum
6. Certificate Services
7. Registry
8. Internet Information Services
9. Event Logs
10. Windows Internet Name Service
11. Dynamic Host Configuration Protocol
12. Terminal Server Licensing

Limitations

1. For System State backups, dump location can not be altered, once it is saved.

Open File Backup

Open File Backup

During a backup, StoreGrid needs the requisite permission to access the file(s) that are to be backed up. Some (open) files may be in use at the time by other applications. While StoreGrid makes all possible efforts to backup these files, it may not always be possible.

For example, Microsoft Outlook cannot be backed up if it is open as StoreGrid cannot access the requisite files as Outlook does not permit the file to be shared! While StoreGrid can still manage Outlook Backups ([click for details](#)), the best way to handle open file backups is to use the Microsoft's Volume Shadow Copy Service. Please note that, Since StoreGrid 2.2 Release, StoreGrid supports Volume Shadow Copy Service based open file backups in Windows XP/2003/Vista OSes. By default, Volume Shadow Copy service based backup is enabled when you configure a backup schedule. You can change this settings from the "Advanced Options" in the backup schedule configuration page.

Outlook Backup

Outlook Backup

If you've created a StoreGrid backup schedule to backup your Outlook data (emails, calendar, notes, etc) there are a couple of points you need to be aware of.

If Outlook is open at the time StoreGrid attempts a backup, StoreGrid, by itself, will not be able to access all files required for backup. The best way to solve this is to use the Volume Shadow Copy Service. StoreGrid by default uses this service and unless you turn this service off explicitly, StoreGrid will be able to backup Outlook even when it is open.

Windows Mail Backup

Overview

As a part of Windows Mail backup StoreGrid can backup mails, accounts, Windows Mail settings, calendar and contacts.

While configuring Windows Mail Backup with StoreGrid, one should be aware of the following points:

1. To backup Windows Mail, VSS option should be enabled to backup the data without having to shutdown Windows Mail. This is because Windows Mail database and temporary log files are exclusively locked by Windows Mail application.
2. Database and log files might be skipped if VSS is disabled and if the backup is run while the Windows application is running. To run a successful backup with VSS disabled, Windows Mail application should be closed before the backup process starts.
3. In Windows Vista, to initiate VSS based Backup, windows user needs Administrator user privileges (or at least Administrator group privileges) to run StoreGrid. Otherwise, StoreGrid will skip the Windows Mail database and other log files for backup. If the user doesn't have administrator privileges, then Windows Mail should be closed before the backup process to complete the backup successfully without skipping any files.

Backup Privilege

In Windows Vista, there are two types of Users - Standard Users and Administrator. Standard Users have less privilege and they don't have access to the system resources such as ("%programfiles%", "%windir%" and "HKLM\Software" in Registry entries). Accessing these files/folders needs security elevation. "Administrator" user has rights to access all system resources. In Windows Vista, if administrator user is logged in as a Standard user, the Administrator user gets only Standard access token and when the Administrator user accesses those resources, the use would also need security elevation.

Deleted/Moved Mails Notification

Windows Mail uses ESE (Extensible Storage Engine) Technology for indexing. Every single mail is stored as a flat file (*.eml file). If a user deletes a mail from "Inbox" folder, then the .eml file corresponding to that mail will be deleted from the "Windows Mail" folder. Directory Monitoring should be enabled in StoreGrid to notify if mails were deleted/moved to other folder in the Windows Mail application.

Backup process while Windows Mail application is in use (open)

Windows Mail uses ESE(Extensible Storage Engine) Technology to store the mails in the client system.

ESE Technology uses edb.log and edb.chk point files to avoid the database inconsistency caused by power failure, system crash and archive the ACID Prosperity. Hence, Windows Mail logs all the transactions in the log file and at the end, updates all the transaction to Windows Mail database while closing the Windows Mail application. The details of mails deleted or moved are initially stored in the log files by Windows Mail application. These log files will be committed to the database files when the Windows Mail application is closed.

StoreGrid will backup the database files as well as the log files. During restore, StoreGrid will restore the database as well as the log files. However, after restore, unless the log files are committed to the database (by closing the Windows Mail application), the information stored in the log files such as read mails, deleted mails, mail moved to different folder etc will not be available. Therefore, after restore read mails may show up as unread, deleted mails may be still present and moved mails may still be in the old location. However, these details will be appropriately updated once the Windows Mail application is closed and opened once.

Best Practice

Configure Windows Mail backup using StoreGrid with "Automatic Directory Monitoring" and "Volume Shadow Copy Service (VSS)" options enabled in Windows Vista machines. Configure hourly/daily/weekly incremental backups with weekly/monthly additional full backups.

Trouble shooting Tips



I have deleted some mails from my inbox folder, but still these mails are listed in the restore tree and not showing up as deleted.

Cause 1: This problem will occur if Automatic Directory Monitoring option has been disabled for the Windows Mail backup schedule.

Solution 1: Edit and save the configured Windows Mail backup schedule by enabling "Automatic Directory Monitoring" option in the "Advanced Options". The deleted mail notification will then be propagated to the backup server and the mails will be listed as deleted files in the restore page.

Cause 2: If Windows Mail default storage location had been changed after configuring the Windows Mail backup using StoreGrid. Since StoreGrid will look for the deleted/moved mail notifications in the old Windows Storage location, this new Storage location will not be updated in the "Automatic Directory Monitoring" list.

Solution 2: Edit and save the configured Windows Mail backup schedule without modifying existing backup configurations. The new Windows Mail storage location will then be updated in the "Automatic Directory Monitoring" list. Now the deleted mail notification should be propagated to the backup server and should list them as deleted files in the restore page.



Windows Mail Backup fails to dump the registry entries in the local dump location <INSTALLATION_HOME>/data/Windows Mail/{UserName}/WindowsMailBackup.reg.

Cause : Windows user may not be having enough permissions to access the {INSTALLATION_HOME} Dir.

Solution : StoreGrid should be run with Administrator privileges.



Windows mail does not shutdown properly.

Cause : After restoring the files from Windows Mail backup, sometimes you might see the error "Windows mail does not shutdown properly" on starting Windows Mail application.

Solution : This is a harmless error and Windows Mail will recover automatically.



Problem occurs in backing up the Windows mail files and folders while Windows Mail application is in use.

Cause : Windows Mail databases, logs and check point files are exclusively locked by Windows Mail when it is open. To backup those files using StoreGrid, Windows Mail should be closed or StoreGrid should use Volume Shadow copy Services to backup.

Solution : Enable Volume Shadow copy Services for that backup configuration.

Note : If the backup skips some files even after enabling VSS, then check whether the user has Administrator privileges.

Limitations

1. Windows Mail database and temporary log file might be skipped even if VSS is enabled for backup when Windows Mail rejects StoreGrid's read request of its database. This might happen when Windows mail is about to open the database while StoreGrid backup is in progress. The files that are skipped will however be backed up in the next schedule.
2. VSS snapshot error might occur for Windows Mail temporary files(tmp.edb) and some deleted mails. These temporary files will be created at the time of closing/opening the Windows Mail application. StoreGrid will search for these temporary files listed for backup and generate VSS snapshot error if these files were not found for backup.
3. Temporary files(tmp.edb) may be sometimes skipped with the error "Error in Signature file"

NTFS Permission Backup

Overview

NTFS permission backup feature has been designed to backup and restore users/groups NTFS permissions of the files configured for backup. This feature will work only on a Windows OS with NTFS file system.

How to get here in the StoreGrid Web Console?

→ In the top menu of Backup Client, select: "Backup -> Add Backup". page.

NTFS Permission Backup

Backup/Restore of NTFS permission is of two types: Plugin and File level.

Plugin Type

StoreGrid uses a third party tool called "Subinacl" to backup and restore the NTFS Permissions. Users must install Subinacl tool before using this feature. StoreGrid uses the "Subinacl" tool to dump the NTFS permissions and uploads the dump file to the backup server. During restore, StoreGrid will restore the dump file first and then using "Subinacl" it will restore the NTFS permissions of the files and folders automatically.

[Click here](#) to download Subinacl.

Server Side and Third party Restore are not supported with this plugin. Also, it cannot backup the permissions of the parent directory

File Level

In this type of NTFS permission backup, StoreGrid backs up the NTFS Permissions as it backs up the files.

The user needs to enable the option "Backup NTFS Permissions for the files and folders configured (if applicable)." in "advanced option" while configuring a backup schedule. By default this option will be disabled. The permissions are restored along with files.

StoreGrid will not restore the NTFS Permissions during Server-Side and Third Party Restore.

Advanced Filter Settings

Overview

This feature enables you to filter files/folders in a backup schedule by choosing the appropriate options in the available select boxes and entering the plain text that should be matched with the file/folder name "starts with/contains/ends with" that text.

How to get here in the StoreGrid Web Console?

→ In the top menu of Backup Client, select: "Backup -> Add Backup" page. Then click the "Files/Folders Filter" button available below the files/folders tree in Step 2.

Or select "Backup -> List Backup Schedules" page. Here click on the "Edit" icon and then the "Files/Folders Filter" button available below "List of files and folders selected for backup".

Advanced Filter Settings

In advanced file/folder filters you can either specify text patterns or enter the file/folder name you want to include/exclude.

You can specify text patterns matching specific file and folder names that you want to include or exclude. Like for example, you can add a filter to include only those files whose names start with 'a' under the selected folders or in their immediate sub folders. As another example, you could specify a filter to exclude folders whose names contain the text 'temp'.

You can also enter the file/folder name with or without absolute path. Like for example, if you enter the filename test.txt, then all files with the name "test.txt" under the selected directories will be matched. If you enter the entire path C:/Document and Settings/temp/test.txt, then only that specific file will be matched.

You can specify maximum 20 filters. The filters work independently of each other; i.e., if you have a filter to include files starting with 'a' and another filter to include files starting with 'b', then the backup will include files starting with 'a' and files starting with 'b'.

Check Backup Progress

Overview

As soon as you configure a backup from the [Configure Backup Schedule](#) page, you will be taken to a new page which will show the backup schedule just configured. It will also pop up a window which will show the progress of this backup – if it is currently in progress.

If the pop up window does not open automatically (could also happen if you have popup blockers installed), you can click on the "Backup Progress" button in the "View Backup Configuration" page.

Alternatively, you can go to the [List Backup Schedules](#) page from the backup menu and then click on the backup name. This will also open the 'backup progress' window - if the backup is active!

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules" page and click on the backup name. Backup progress window opens if the backup is in progress.

What does the 'Check Backup Progress' window tell you?

Overall Progress

- **Backup Name** - Displays the backup schedule name.
- **Backup Server** - Displays the name of the backup server to which the backup data is being transferred.
- **Warning** - Displays any error or warning messages generated during the current backup progress.
- **Reconnection Error** - When the connection between the client and the backup server is interrupted, the appropriate error message is shown here.
- **Reconnection Attempts** - The number of times the connection between the client and the backup server was interrupted.
- **Bandwidth Throttling** - Rate configured at the client/server to restrict the bandwidth usage.
- **Files Processed** - The total number of files that StoreGrid has uploaded (new files or modified files) or ignored (unmodified since last backup) so far.
- **Transfer Rate** - Displays the transfer rate of the backup data being transferred to the server.
- **Original Size** - The original size of the backup data transferred so far.
- **Compressed Size** - Displays the compressed size of the original backup data.
- **Messages** - Displays the current backup progress message.
- **Added Files** - Displays the number of newly added files backed up so far.
- **Modified Files** - Displays number of files which were modified since the last backup schedule and have been backed up in the current backup schedule.
- **Skipped Files** - Displays the number of files that is skipped for backup. StoreGrid could skip a file for reasons such as:
 - a. Not enough permission to read the file,
 - b. The file is being modified when the backup of the file happens.
- **Skipped Folders** - The number of folders that could not be backed up. Some of the reasons why a folder may not be backed up are:

- a. The folder did not have appropriate permissions for StoreGrid to read.
 - b. The folder may have been modified while StoreGrid is trying to backup it up.
 - c. The folder may have been temporarily available when StoreGrid listed the folders to backup but was later not available when StoreGrid tried to backup.
- **Deleted Files** - Displays number of files which were deleted since the last backup schedule and the delete notifications have been processed in the current backup schedule.

Current Progress

- **Processed (so far)** - Displays the size of the file being processed for transfer with the original file size.
- **Transfer Rate** - Displays the transfer rate of the file currently being transferred to the server.
- **Time Left** - Displays the estimated time of completion of file transfer for the file which is currently being transferred.
- **Uploaded Size** - Displays the total number of bytes transferred to the server as part of the current file.
- **Current File** - Displays the current file that is being transferred.

Abort Backup

The backup process can be aborted by clicking this icon. When aborted, the backup will then run during the next scheduled time. If the backup is scheduled to 'Run Once' and is aborted, the backup schedule will go to a suspended state.

Note: If SQL/Exchange backups are scheduled to 'Run Once' are aborted, then the backups will run during the next scheduled time.

Limitations

The backup progress window polls the StoreGrid Client every single second to get the progress of backup. This process can slow down the actual backup operation by between 50% to 75% ! So, for large backup schedules it is better to keep the backup progress window closed and open it only occasionally to check the backup progress.

Suspend Backup Schedule

Overview

You can suspend and then later resume a backup schedule from the List of Backup Schedule page. If a backup schedule is resumed, it will run once immediately and then be scheduled.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules" page. From the list of backup schedules, click on the Suspend/Resume icon in the Action column of the backup schedule that you want to suspend or resume.

Suspend Backup Schedule

To suspend (and later resume) a backup schedule, you need to do the following:

Go to the [List of Backup Schedule](#) page.

In the column titled "Action", you will see:

- **Suspend / Resume** - Clicking on this icon will toggle between suspending and resuming a backup. Any resumed backup will run immediately once and then be scheduled.
- **Schedule Now**- When a backup is in idle status in StoreGrid client web console page "Backup -> List Backup Schedules" page, then you can click "Schedule Now" action in the action column of that page. This will schedule that backup immediately.

Edit Backup Schedule

Overview

This page is used to edit a configured backup schedule.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column of the backup schedule that you want to edit.

Edit Backup Schedule

In the Edit Backup Schedule page, note that only some of the configuration options are editable.

More specifically, the following options are not editable:

1. Backup name
2. Plugin Type
3. Backup Type
4. Local Backup location (for Same Machine backup)
5. Backup Server (for Remote backup) - To change the backup server for the backup schedule, go to **Backup -> Seed Backup Migration** page
6. Intelli-Delta Backup
7. Compression type
8. Encryption (and password)

Limitations

Some of the backup schedule parameters cannot be edited as allowing these to be edited could make the new backup data and the old backup data (already backed up) incompatible.

Edit Exchange Server Backup Schedule

Overview

This section gives information about how to edit a configured Exchange Server backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column of the MS Exchange Server backup schedule that you want to edit.

Edit Exchange Server Backup Schedule

This page is used to edit a configured MS Exchange Server backup schedule. Note that only some of the configuration options are editable.

Edit the Exchange Server backup schedule details as required. The following options are editable:

- **Also keep a copy locally [If already disabled and enabled now, doing an additional full backup is mandatory]**
- **CPU Utilization settings**
- **Temporary location for backup dumps**
- **Full Backup Scheduling settings**
- **Synthetic Full Backup Scheduling settings**
- **Log Backup Scheduling settings**
- **Max. No. of Full backups to be retained in the server**
- **Run this backup every 5 minutes in case of non completion because of a problem (Network error etc.)**

The following options are additional configurable options:

- **Run additional full backup after saving this configuration:**
When this option is selected StoreGrid will take an additional full backup for the Exchange Server database(s) configured in this schedule after saving this configuration.
- **Run additional synthetic full backup after saving this configuration:**
When this option is selected StoreGrid will take an additional synthetic full backup for the Exchange Server databases after saving this configuration. Please refer this article for more details on [Synthetic Full Backup of Exchange Server](#).
- **Suspend Backup**
This option shows the status of this backup schedule, whether it is suspended or not. And the same option can be edited and saved to suspend the backup schedule.

Please note that the following options are not editable:

1. **Compression type**
2. **Encryption (and password)**
3. **Backup Server(s)**

Limitations

1. Some of the backup schedule parameters cannot be edited. Editing settings like compression, encryption etc will make the new backup data and the old backup data (already backed up) incompatible.
2. Storage Groups/Databases configured for the backup schedule cannot be removed or additional Storage Group/Database cannot be added into the backup schedule.

Edit Exchange Mailbox Backup Schedule

Overview

This section gives information on how to edit an Exchange Mailbox backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column against the MS Exchange Mailbox backup schedule.

Edit Exchange Mailbox Backup Schedule

This page is to edit a configured MS Exchange Mailbox backup schedule. Please note that only some of the options can be edited.

The following options are editable:

- **Mailboxes/Folders configured for backup.** Mailboxes can be added to or removed from the existing exchange mailbox backup schedule.
- **Also keep a copy locally** [If already disabled and enabled now, doing an additional full backup is mandatory]
- **Dump and upload parallelly** [you can enable or disable]
- **CPU Utilization settings**
- **Temporary location for backup dumps**
- **Full Backup Scheduling settings**
- **Incremental Backup Scheduling settings**
- **Max. No. of Full backups to be retained in the server**
- **Run this backup every 5 minutes in case of non completion because of a problem (Network error etc.)**

The following options are additional configurable options:

- **Run additional full backup after saving this configuration:**
When this option is selected, StoreGrid will schedule an additional full backup for the Exchange mailbox configured in this schedule. The additional full backup will run immediately after saving the configuration provided no other StoreGrid backup is running in this client machine.
- **Suspend Backup**
This option shows the status of the backup schedule - whether it is suspended or not. This option can be edited and saved to suspend the backup schedule.

Please note that the following options are not editable:

1. **Compression type**
2. **Encryption (and password)**
3. **Backup Server(s)**

Limitations

1. Some of the backup schedule parameters cannot be edited. Editing settings like compression, encryption etc will make the new and old backup data incompatible.

Edit SQL Server Backup Schedule

Overview

This section will give you information about how to edit a configured SQL Server backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column of the MS SQL Server backup schedule that you want to edit.

Edit SQL Server Backup Schedule

This page is used to edit a configured MS SQL Server backup schedule. Note that only some of the configuration options are editable.

Edit the SQL Server backup schedule details as required. The following options are editable:

- **Select Database(s)** - This option allows you to add/remove SQL database[s] from an existing backup schedule. The database(s) can be selected based on recovery model.
- **Also keep a copy locally [If already disabled and enabled now, doing an additional full backup is mandatory]**
- CPU Utilization settings.
- Temporary location for backup dumps
- Full Backup Scheduling settings.
- Differential Backup Scheduling settings.
- Transaction Log Backup Scheduling settings.
- Max. No. of Full backups to be retained in the server.
- Max. No. of Differential backups to be retained in the server.
- Read and verify the integrity of the backup on completion.
- Run this backup every 5 minutes in case of non completion because of a problem (Network error etc.)

The following options are additional configurable options:

- **Run additional full backup after saving this configuration :**
When this option is selected StoreGrid will take an additional full backup for the SQL Server database(s) configured in this schedule after saving this configuration.
- **Suspend Backup**
This option shows the status of this backup schedule, whether it is suspended or not. And the same option can be used to suspend the backup schedule.

Please note that the following options are not editable:

1. Compression type.
2. Encryption (and password).
3. Backup Server(s).

Limitations

1. Some of the backup schedule parameters cannot be edited. Editing settings like compression, encryption etc will make the new backup data and the old backup data (already backed up) incompatible.

Edit Oracle Server Backup Schedule

Overview

This section will give you information about how to edit a saved Oracle Server backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column of the Oracle Server backup schedule that you want to edit.

Edit Oracle Server Backup Schedule

The following options are editable:

- CPU Utilization settings.
- Temporary location for backup dumps
- Full Backup Scheduling settings.
- Differential Backup Scheduling settings.
- Max. No. of Full backups to be retained in the server.
- Run this backup every 5 minutes in case of non completion because of a problem (Network error etc.)
- Backup All Archive Log
- Backup the Archive Log from days older nth days
- Delete the backed up archive log files after backup has been completed successfully
- Do not backup archived backed up log that has already been backed up

The following options are additional configurable options:

- **Run additional full backup after saving this configuration :**
When this option is selected StoreGrid will run an additional full backup for the Oracle Server database configured in this schedule after saving this configuration.
- **Suspend Backup**
This option shows the status of this backup schedule, whether it is suspended or not. And the same option can be used to suspend the backup schedule.

Please note that the following options are not editable:

1. Compression type.
2. Encryption (and password).
3. Backup Server(s).

Edit Microsoft Outlook Plugin Backup Schedule

Overview

This section gives information on how to edit a Microsoft Outlook backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedules". From the list of backup schedules, click on the edit icon in the Action column against the Microsoft Outlook backup schedule.

Edit Microsoft Outlook Backup Schedule

The following options are editable:

- **CPU Utilization settings**
- **Temporary location for backup dumps**
- **Full Backup Scheduling settings**
- **Incremental Backup Scheduling settings**
- **Max. No. of Full backups to be retained in the server**
- **Run this backup every 5 minutes in case of non completion because of a problem (Network error etc.)**

The following options are additional configurable options:

- **Run additional full backup after saving this configuration:**
When this option is selected, StoreGrid will schedule an additional full backup for the Microsoft Outlook data. The additional full backup will run immediately after saving the configuration provided no other StoreGrid backup is running in this client machine.
- **Suspend Backup**
This option shows the status of the backup schedule - whether it is suspended or not. This option can be edited and saved to suspend the backup schedule.

Please note that the following options are not editable:

1. **Compression type**
2. **Encryption (and password)**
3. **Backup Server(s)**

Limitations

1. Some of the backup schedule parameters cannot be edited. Editing settings like compression, encryption etc will make the new and old backup data incompatible.

View Backup Schedule

Overview

Very simply, this page displays details on schedules you've previously configured !

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup-> List Backup Schedules" .

From the list of backup schedules, click on the view icon in the Action column of the backup schedule that you want to view.

View Backup Schedule

Clicking on the View icon in the Action column of the selected backup schedule displays all backup details for this schedule. You can check the Backup Progress from this page if the selected backup is in progress.

Delete Backup Data/Schedule

Overview

From this page you can delete the backup schedule in the client along with its backup data in the backup server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup-> List Backup Schedules".

From the list of backup schedules, click on the delete icon in the Action column of the backup schedule that you want to delete.

Delete Backup Data/Schedule

From this page you can delete the backup schedule in the client along its backup data in the backup server.

The following options are configurable before proceeding with the delete operation:

1. What to delete
 - i. **Backup Schedule & Data** - If you choose this option, the backup schedule in the client and the backup data in the backup server will be deleted.
 - **Delete backup schedule (from client) even if server is down**
 - If you select yes, then the backup schedule in the client will be immediately deleted and a request to delete the backup data will sent to the backup server. If the backup server is down, an alert will be shown that the backup data could not be deleted and you will then have to manually delete the backup data from the backup server.
 - If you select 'No' for this option, the backup schedule in the client will not be deleted unless the backup data in the backup server is deleted. The client will send a request to the backup server to delete the data and if the backup server is down, the client will again send the request after 5 minutes. The number of times the client should try resending the delete request can be configured through the DeleteSchedule entry in the SGConfiguration.conf file. By default, it is 5.
 - ii. **Backup Data only** - If you choose this option, it will only delete the backup data from the server and the backup schedule will remain in the client.
 - **Delete specific files only**
 - No, delete all files in this schedule - All the backup data of this backup schedule will be deleted in the backup server.
 - Yes, let me choose files to delete - You will be taken to a different page where you can select the specific files that you want to delete. This option will not be available for 'Same Machine' backups.
2. Backup server(s) from which the backup data is to be deleted.
3. If the backup is password enabled, then you need to provide the password too.

Once all the options are set as described above, click on the Delete button to activate the delete operation. The status of the delete can be viewed from the [Deleted Backup Reports](#) page.

Please note the following:

1. If a backup is in progress when the delete operation was invoked, then the backup will be suspended automatically and the backup data (and schedule) will be deleted.
2. If there are problems with the delete operation, the status report will indicate that and the delete operation will be scheduled every 5 minutes.

3. If a restore of the backup data is in progress when the delete operation is invoked, then the delete operation will be aborted. The delete operation has to be manually invoked again.

Permanently Deleting Only Specific Files From The Server

After providing the required parameters, select the radio button "Backup Data only". You will see a choice "Delete specific files only ?". Select the radio button "Yes, let me choose files to delete" for that choice. When you select that radio button, StoreGrid will list the backup data tree which will help you to filter the files and then delete the data.

Permanently Deleting All Files From The Server

After providing the required parameters, select the option "Backup Data only" and then select "No, delete all files in this schedule" and then click the delete button. Your backup data will be deleted in the selected backup servers.

Limitations

If a backup could not be deleted because of some reason (the backup server being down permanently etc.) then the delete operation will be scheduled every 5 minutes. There is no way to cancel the delete operation. It will be scheduled again even when StoreGrid is stopped and restarted. The number of times the delete operation will be rescheduled depends upon the DeleteSchedule entry in the SGConfiguration.conf file.

Permanently Delete Files From Server

Overview

In StoreGrid you can delete specific files and folders of a backup schedule permanently from the backup server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Backup->List Backup Schedule". This will list the list of backup schedules configured in a table format. From the backup schedule row for which files have to be deleted permanently from the server, click on the delete icon in the Action column. This will take you to the "Delete Backup Data/Schedule" page. select the radio button "Backup Data only". You will see a choice asking as "Delete specific files only ?". Select the radio button "Yes, let me choose files to delete" for that choice.

Permanently Delete Files From Server

To delete specific files and folders of a backup schedule permanently from the backup server, you need to follow the steps below:

Backup Name	Status	Backup Server(s)	Next Schedule Time	Actions						
				Abort Backup	Suspend/Resume	Schedule Now	View	Edit	Delete	Reports
Desktop	Idle	clustertest2	Mon 08 Feb 2010 17:42:43							
test-11	Idle	clustertest2	Sun 14 Feb 2010 21:00:00							

Step 1: Select The Backup Name And The Backup Server - The backup name is a non editable field here. The backup server will also be non-editable if the backup schedule is backing up to only one server. If the backup schedule is backing up to more than one server, then you need to choose the server here from the choice box.

Step 1

Select server on which to delete data

Backup Server

clustertest2

Step 2: Select Version To Delete - Here all the full backups that have been taken are listed with the timestamp when each of these full backups was taken. If the backup schedule was not configured with multiple full backups, then this list will have only one entry - that of the first full backup. You can choose any full backup based on the timestamp for deletion. Note that the tree in Step 3 loads with the files/folders based on what full backup you choose here. Also, by default the tree in step 3 is loaded for the latest full backup of the backup schedule.

Step 2

Select version to delete

Tue 28 Jul 2009 15:48:35

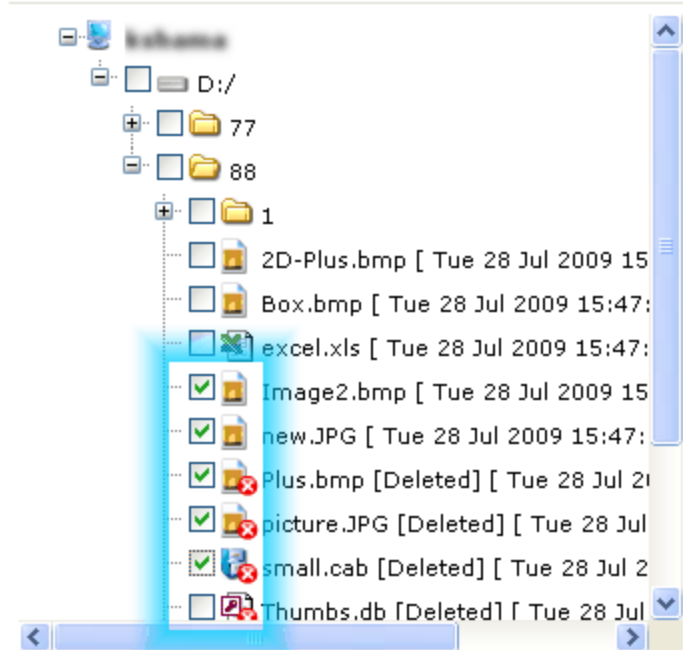
Step 3: Select Files And Folders - Here is where you have to select the files/folders to be permanently deleted from the server. You can filter the tree by entering a wild card (*.doc etc.) in the **Filter files/folders** text field. Note that the tree will not list the number of versions of each file. The idea is if you delete a file permanently from the server, then all its versions under the chosen full backup (in Step 2) will be deleted.

Step 3

Select files & folders to delete

Filter files

Go



Step 4: Confirm Delete Settings - You need to provide the following inputs here:

1. If your backup schedule is password protected, you need to provide the password here.
2. If you check the "Remove Deleted Files Only" checkbox, then the delete operation will delete only the files on the server that have been deleted in the the client machine. That is, if a file has been deleted by the user in the client, then StoreGrid client would have saved the information that the file has been deleted in the client. The StoreGrid server in turn would tag the file as deleted. So, by checking this checkbox, you are configuring deletion of only deleted files. This feature is useful as you can select the entire Root Drive in the tree and check this checkbox and perform the delete operation. The server will only permanently delete the files tagged as deleted in the client.

Client Deleted Backup Report

Overview

This page gives a status report of the delete backup operations initiated by this StoreGrid Client.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports->Deleted Backups"

Client Deleted Backup Report

The following information is provided in the report for each delete operation scheduled/executed.

Backup Schedule Name - This is the backup schedule name (for which the delete operation was scheduled)

Backup Server(s) - The backup server on which this schedule's backup data is to be deleted.

Status - This gives the status of the delete operation.

Deleted Time - The time at which the delete operation was scheduled.

Total Time Taken - Time taken to execute the delete operation.

Attempts - The number of times StoreGrid attempted to execute the delete operation (this is more than 1, if there was a problem performing the delete).

Deleted Files - When few files are permanently deleted from the server, the file count is listed here. If all backup data is deleted, the file count will not be available.

Message - This is any remarks StoreGrid has on the delete operation.

StoreGrid User Plugins For Backups

Overview

StoreGrid supports creating custom plugins for backups. These plugins are useful where before and after a backup is done you need to run a command. For example, the command may interface with an application and create some files/folders which need to be backed up by StoreGrid.

Configure User Plugin

The user plugin is configured by creating an XML file. The following describes with an example how the XML file is created and how you can integrate the plug-in with StoreGrid.

Step 1: Creating the plugin XML file

The plugin XML file (say, TestPlugin.sgpl) has to be created under the "plugins" directory under the StoreGrid Installation Directory. Note that you can create any number of plugins and each plugin file has to be in a different name. The plugin created here will automatically appear in the Backup Configuration Tree in the ["Add Backup Schedule"](#) page.

Step 2: Editing the plugin XML file

The following plugin XML file is used to illustrate how a user plugin is created in StoreGrid.

```
<StoreGrid>
  <SGPlugins>
    <Plugin Name="TestPlugin" IsValid="1">
      <BeforeRun Command="D:\joe\work\zipSource.bat" WorkingDir="D:\joe\Backup" TimeOut="180000"/>
      <BeforeRun Command="D:\joe\work\zipData.bat" WorkingDir="D:\joe\Backup" TimeOut="180000"/>
      <AfterRun Command="D:\joe\work\cleanSourceBk.bat" WorkingDir="D:\joe\Backup" TimeOut="180000"/>
      <AfterRun Command="D:\joe\work\cleanDataBk.bat" WorkingDir="D:\joe\Backup" TimeOut="180000"/>
      <BackupPath>
        <Path Name="D:\joe\Backup\workSource.zip"/>
        <Path Name="D:\joe\Backup\workData.zip"/>
        <Path Name="D:\joe\Backup\MiscFiles"/>
      </BackupPath>
    </Plugin>
  </SGPlugins>
</StoreGrid>
```

Plugin Tag : This tag is used to configure the following attributes for the plugin

Name - This is used to give a name for the plugin. This name will appear in the backup configuration tree in the ["Add Backup Schedule"](#) page.

IsValid - A value of 1 means the plugin is active and will be displayed in the tree. A value of zero means the plugin is inactive and will not be displayed in the tree.

BeforeRun Tag: This tag is used to configure the command that needs to be run before StoreGrid runs the backup schedule for this plugin. You can run multiple commands by giving each command under a BeforeRun XML tag.

Command - The command that needs to be run is given here. In the above example the batch files zipSource.bat and zipData.bat are run.

WorkingDir - This is the directory from which the command has to be run.

TimeOut - StoreGrid will timeout the command if the command does not finish within this time. This timeout value is in milliseconds. "-1" denotes infinite timeout value.

AfterRun Tag: This tag is used to configure the command that needs to be run after StoreGrid finishes the backup

schedule for this plugin. You can run multiple commands by giving each command under a AfterRun XML tag.

Command - The command that needs to be run is given here. In the above example the batch files cleanSourceBk.bat and cleanDataBk.bat are run.

WorkingDir - This is the directory from which the command has to be run.

TimeOut - StoreGrid will timeout the command if the command does not finish within this time. This timeout value in milliseconds. "-1" denotes infinite timeout value.

BackupPath Tag: This is the list of files and folders that needs to be backed by StoreGrid after running the BeforeRun commands and before running the AfterRun commands. In the above example, StoreGrid will backup the files "D:\joe\Backup\workSource.zip", "D:\joe\Backup\workData.zip", and the folder "D:\joe\Backup\MiscFiles".

Configuring The Plugin Backup

Once the XML is created in the plugins directory, go to the [Add Backup Schedule](#) page in the StoreGrid webconsole. You will notice that the plugin name is displayed in the "Files/Folder" tree. You can select the plugin name in the tree and configure a backup schedule.

Restore Backup Data

Overview

In StoreGrid, restoring files and directories is quite simple and can easily be done by end users themselves without the help of System Administrators. StoreGrid can restore more than one backup at a time from the backup server. Therefore, you don't have to wait for the first restore operation to complete before starting the next one.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the backup schedule you want to restore, click on the Restore icon.

Restore Backup Data

The following are the steps to be followed while restoring data:

Step 1: Select The Backup Name And The Backup Server - The backup name is a non editable field here. The backup server will also be non-editable if the backup schedule is backing up to only one server. If the backup schedule is backing up to more than one server, then you need to choose the server here from the choice box.

Step 2: Select Version To Restore - Here you will see a tree with each parent node representing a full backup that has been done with the time stamp of the last incremental backup performed for this full backup. If the backup schedule was not configured with multiple full backups, then this list will have only one parent node- that of the first full backup. Under each parent node, a leaf node with timestamp represents an incremental backup that has been done. The leaf-node with the earliest timestamp represents the time when the full backup was done and all other time stamps represent an incremental backup on top of the full backup. You can choose any version based on timestamp for restoring. Note that the tree in Step 3 loads with the files/folders based on what timestamp/version you choose here. Also, by default the tree in step 3 is loaded for the latest backup of the backup schedule.

Step 3: Select Files And Folders - You could select the files/folders and their versions to restore from the file/folder tree. You can also specify the files/folder you want to restore in two other ways:

1. You can filter the tree by entering a wild card (*.doc etc.) in the **Filter files/folders** text field. Note that the tree will also list the number of versions of each file as of the timestamp chosen in Step 2. You can either choose a specific version of a file to restore or choose the root node to restore the latest version (as of the timestamp chosen in Step 2) of all the files.
2. You can also enter the names of the files and folders directly. Click on the [Let me directly enter the file/folder names instead of selecting them from the tree view](#) link in step 3. Enter the complete path of the file/folder to restore and click the **Add** button. You can remove the selected files and folders by clicking the **Remove** button. Please note that while restoring files this way, you will be able to restore only the latest version of the file that was available at the backup time that you selected in Step 2. If you are trying to restore a delete file, then you should enter the path to the file's parent folder and not the path of the delete file.

Step 4: The following are the options you have to provide in this step.

- **Password** - If you had password protected the backup schedule, you will need to provide the password here.
- **Restore Machine** - This is the StoreGrid client to which the backup data has to be restored to. The data can be moved either to the same machine or to a different (remote) machine. If the files have to be restored to a remote machine, you need to specify the remote machine's StoreGrid web console username and password.
- **Restore Deleted Files** - This has three options to choose from:
 1. **Skip Deleted Files** - Choosing this option will skip the deleted files and restore the rest.
 2. **Deleted Files Only** - Choosing this option will restore only the deleted files.
 3. **Include Deleted Files** - Choosing this option will restore all the files including the deleted files.

- **Restore Location** - You have two options:

1. **Original:** This option is applicable only if the data is restored to the same machine. Setting this option will restore the backup data to its original location. Note that if the original file is already present in that location, the restored file will be saved with an extension SG (eg. a.doc will be saved as a.doc.sg) unless you specify otherwise in the 'Advanced Settings' below.
2. **Alternate:** By setting this option, you can specify the alternate location to which the backup data has to be restored. The restored files will be saved in this location, but with their full original path – that way you know exactly where these files were in the first place!

- **Advanced Options** - When backup data is restored, it is possible that the original files are already present in the restore location. In this case StoreGrid by default will retain the original file and rename the restored file with an extension *.SG. "Advanced settings" allows you to change this. The following options are available:

1. Rename the restored file with a .SG extension and keep the existing file as it is. This is the default behavior, and is recommended.
2. Rename the existing file with a .SG extension and restore the backed up file as it is.
3. Overwrite the existing file with the restored file. If the existing file is different from the backed up file being restored, the contents of the existing file will be lost. Choose this option only if you are absolutely sure that the current file can be overwritten.

Restore and Cancel Button - Once all the options are set and the files and folders to be restored are selected, click on the Restore button to restore the files and folders. The status of the restore operation will be displayed on a pop-up browser window.

Limitations

1. Files/Folders entered manually for restore are case sensitive. Also, ensure that the complete path of the files/folders to be restored is entered.
2. A single deleted file/folder cannot be restored by entering the complete path to the deleted file in step 3. Instead, the path to the parent folder name that contains the deleted files/folders and then select the "Deleted Files Only" option in Step 4.
3. No error message will be displayed in the webconsole, if the files/folders entered manually for restore do not exist in the backup server or is not a part of the configured backup schedule. However, the error message will be reported in the restore progress and report.
4. Only the latest version will be restored if the files/folders to be restored is specified by entering the complete file/folder path in step 3. For example, if a file (image.jpg) has 4 versions (*.ver_001, *.ver_002, *.ver_003, *.ver_004), then by default the latest version (*.ver_004) will be restored for the selected timestamp.

Restore Exchange Server Backup Data

Related Links

[Exchange 2010 - Restore to Recovery Database](#)

Overview

Restoring a storage group or database is sometimes necessary when a database becomes corrupt. You can restore your Exchange databases using your most recent full backup and incremental or differential backups. This section will give you information on how to restore Exchange Server databases using StoreGrid.

Before you can attempt to restore a database in Exchange Server, please ensure that the following conditions are satisfied:

1. The Exchange Server must be running.
2. The database to be restored must be dismounted.
3. "This Database Can be overwritten by a restore" option must be checked for each database.
(Right click the store->Properties->Database)
4. Copies of the current *.edb, *.stm, *.log and other related files from the db storage location have been taken and all are moved from the original location to a separate safe location.
5. In Exchange 2000/2003/2007, restore has to be done at Storage Group level and not at database level. This is because all the databases within a Storage Group share a common set of logs and skipping any database during restore will make the Exchange System inconsistent.

The transaction log files in the backup set and the patch files are restored to the temporary disk location specified by the user *[This is not applicable for Exchange Server 2010]*. If you have selected to Mount Database after restore, the database is automatically mounted after the restore process.

The restore process relies on the user to provide a path to a temporary location that will be used during the restore. Separate Exchange restore processes running at the same time must use different disk locations. The temporary disk space required is about 10 megabytes (MB) more than the size of the transaction log files and patch files that are being restored.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the (Exchange) Backup Schedule you want to restore, click on the Restore icon.

Requirements

Exchange Server 2000 with Service Pack 3/ Exchange Server 2003 / Exchange Server 2007 / Exchange Server 2010.

Restore Exchange Server Backup Data

In StoreGrid, restoring Exchange Server database is quite simple and can easily be done. The following are the steps to be followed while restoring an Exchange Server:

• Step 0: Decide how to restore

Decide between restoring the Exchange Server directly from the backup server or if use data which has been previously restored from the backup server (to a local folder).

This step has the following options :

- Restore data from backup server

- I have previously restored data from my backup server to a local folder. I now want to use this data to restore the Exchange Server database.

1. If the second option is selected (to restore Exchange Server data from the previously restored data), then ensure that :
 - i. Exchange Server backup data was restored from backup server locally through the menu "Reseller Management->Reseller Name->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had previously chosen the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the Exchange Server later)" in "STEP 4: Confirm Exchange Server Restore Settings" of the Restore Exchange Server Data page (during your previous restore).
2. Enter the local restore location and click "Submit Location" button to restore Exchange Server data from the local folder.

• **Step 1: Choose backup server (in case of multiple servers)**

This step allows you to choose the backup server (if the backup schedule was configured to multiple servers). This step has the following options:

- **Backup Name** - The backup name is a non editable field here.
- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

• **Step 2: Select backups for Exchange Server restore**

This step allows you to choose the full backup version based on timestamp. This step has the following options:

- **Show backups after** - From the drop-down list, select the most recent full backup version based on timestamp to restore from. Once recent full backup version is selected and if "Load" button is clicked, StoreGrid will list the files available in the backup server.
- **Load** - Once you have selected the required timestamp in the field "Show backups after", this button can be used to list the files backed up to the backup server for restore (satisfying the timestamp criterion).
- **Select Files for Exchange Server restore** - StoreGrid will list the files based on what timestamp/version you have chosen in the "Show backups after" fields. Now, you will have to select the Storage Groups [or Databases in Exchange 2010] to be restored from the server.

• **Step 3: Confirm Restore Settings**

- **Password** - If you had password protected the backup schedule, you will need to provide the password here.
- **Restore Location** - You can specify the location to which the backup data has to be restored. The restored files will be saved in this location, but with their full original path – that way you know exactly where these files were in the first place !

Important : You must always provide an empty directory for the local restore location. There must be sufficient space in the directory to store the files; also ensure that the local restore location does not exceeds the 256 character limit.

• **Step 4: Confirm Exchange Server Restore Settings**

This step helps you restore backed up data right into the Exchange Server database. By default the option "After restoring data from my backup server, continue to restore the data into the Exchange Server" is selected. Alternatively you can also choose the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the Exchange Server later)".

This step has the following option:

- **Exchange Server Name** - Name of the Exchange Server from which Storage Group(s)/Databases(s) were configured for backup (and to which data has to be restored).
- **Temporary location for log and patch files** *[Not applicable for Exchange Server 2010]* - Enter a directory name in the Temporary location for log and patch files. This directory should be different from the one where the original log files are to be stored and should have sufficient disk space to store the files. During the restore process, Exchange will first apply the older transaction logs from the temporary directory and then apply the more recent logs from the original location.

To perform the restore, you must have sufficient space in the directory to store the files. The disk space requirement is about 10 MB more than the size of the transaction log files that are being restored. This temporary directory should be different from the restore location you provided in step 3. And this temporary directory should be a local drive and not a mapped network drive.

Important : The directory that you specify in the Temporary location for log and patch files box must not contain the original database or log files or the restore might fail.

Note : It is recommended that you create an empty temporary folder for this procedure. Because transaction logs are written per storage group, and not per database, using a temporary folder ensures that transaction log replay is isolated and will not interfere with undamaged databases that are still running in a storage group during recovery.

- **Last Restore Set(Log file replay will start after this restore completes.)** - Select the Last Restore Set check box only if this is the last backup set that you have to restore before you remount your databases.
- **Mount Database after restore** - Select the Mount Database After Restore check box, if this is the last backup set that you plan to restore, and you are sure that you are ready to mount the databases. It is recommended that you do not select this check box unless if this is the last backup set.

Select the Last Restore Set check box and the Mount Database After Restore check box if any of the following conditions apply:

- You are restoring from a normal (full) backup without any incremental or differential backups
 - You are restoring from the final incremental backup
 - You are restoring from the final differential backup
- **Restore Exchange server database backup data in uncompressed state** *[Not applicable for Exchange Server 2010]* - Normally for Exchange Server backups, the backed up data is substantially large. By default, the backup data is restored in compressed state as this requires less disk space in the client's restored location and the restore process is faster. However, you can to restore Exchange backup data in an uncompressed state if you wish to import it to the Exchange server manually later. To do this, select this check box and proceed with the restore. This option can also be used to access and use *.edb and *.log files with another third party tool.

Restore and Cancel Button - Once all the options are set and the files and folders to be restored are selected, click on the Restore button to restore the files and folders. The status of the restore operation will be displayed in a pop-up browser window.

Troubleshooting Tips

Exchange Server data restore fails with one of the following errors.



- "Error returned from a callback function call (0x%X)."
- "Restore ended with error 0xC8000263. Existing log file is not contiguous"

Cause 1: This would occur, if a full backup of the entire storage group is done, then the log files are purged and

thereafter, a previous backup of the Storage Group (before the last full backup is restored) is performed. This produces a gap in the log files that were purged.

Solution : If the Entire Storage Groups is scheduled for restore.

- i. Dismount all databases in that particular storage group.
- ii. Move the existing data *.edb, *.stm and other related files from the db storage location to another location.
- iii. Restore Exchange Server data.

Cause 2 : It can also happen if there is more than one database in a storage group, and only one of the databases is restored to the storage group.

Solution : If only one or two databases in a storage group are going to be restored while the other databases remain mounted:

- i. Dismount the particular database (that has to be restored).
- ii. Move the existing data *.edb, *.stm and other related files from the db storage location to another location.
- iii. Configure Exchange Server restore by deselecting the "Last Restore Set" option in restore page.
- iv. Once restore is completed successfully, view the contents of the restore.env file available in the location given in the "Temporary location for log and patch files" option by using the command "eseutil.exe /cm". Take a note of the log file sequence in the restore.env file.
- v. Move the log files in the database storage location of Exchange Information Storage group.
- vi. Perform a manual hard recovery with the /cc and /t switches of the eseutil command. For example: eseutil /cc temporary_folder /t (where temporary_folder is the folder that is specified in the Temporary location for log and patch files dialog box, such as C:\Temp\My Backup).
- vii. Mount the database.

[Click here](#) for more details about these steps.



<Information Storage Groups> and <Information Stores> might have not been dismounted yet.

Cause 1: The databases selected for restore was not dismounted before restore.

Solution : Dismount the respective databases before restore operation.

Cause 2: The restored Exchange Server data does not have *.edb/*.stm files.

Solution : While restoring the Exchange Server data in StoreGrid, verify that *.edb, *.stm and *.GUID files are listed under database name. If these files was not listed in please try listing these files from the other full backup timestamp/version and proceed with restore.

Limitations

1. Multiple incremental backup sets can only be restored as single restore set.
2. You must always provide an empty directory for the local restore location with sufficient space in the directory to store the files and ensure that the local restore location does not exceed the 256 character limit.
3. *[Not applicable for Exchange Server 2010]* You must always provide an empty directory for the "Temporary location for log and patch files" option. And this temporary directory must be a local drive and not a mapped network drive.

Restore Exchange Mailbox Backup Data

Related Links

[Exchange Mail Level Restore](#)

Overview

StoreGrid can restore mailbox data to an Exchange Server. This section gives the details on restoring individual or multiple users' mailbox to an Exchange Server. It can be done from a StoreGrid backup server using recent full or incremental backups. The data is first restored to a local drive and then to an Exchange Server without any interruption to the live Exchange Server.

The mailbox restore cannot be used to recover Exchange Server Information Store(s). During disaster recovery, mailbox can be restored to an Exchange Server only after the Storage Group(s)/MailStore(s) are recovered.

Before restoring mailboxes, please ensure the following:

1. The Exchange Server must be running.
2. Select just the specific mailboxes that you want to restore instead of the entire Mailbox Store /Public Folder.
3. Ensure that the Default Information Store[i.e. MailBox Store in First Storage Group] and the user's Information Store are mounted in your exchange server.

Note:

1. Usually it is not enough to just backup mail boxes alone. It is recommended that you always configure the storage group for backups. You can have additional mailbox backups under the storage group so that you get additional granularity during restores wherein you can restore only a mailbox that is required.
2. If you just configure only mailbox backups and not configure the full storage group, then if your full exchange server crashes then you will not be able to restore your exchange server at all.
3. The best practice is to configure storage group backups and then configure additional mailbox backups for quick restores. Also for mailbox backups it is better to configure only critical mailboxes and not all mailboxes for backups as the mailbox backups takes a lot of time to backup than the full storage group itself.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action column of the (Exchange Mailbox) Backup Schedule, click on the Restore icon.

Requirements

Exchange Server 2000 with Service Pack 3 / Exchange Server 2003 / Exchange Server 2007.

Restore Exchange Mailbox Backup Data

Restoring Exchange Mailbox in StoreGrid is quite simple and can be easily done following the steps mentioned below:

• Step 0: Decide how to restore

The user can select to restore the exchange mailbox directly from the backup server or from the previously restored data stored in the local folder.

This step has two options :

- Restore data from backup server
- I have previously restored data from my backup server to a local folder. I now want to use this data to restore

the Exchange Mailbox.

1. If the second option is selected (to restore user mailbox data to Exchange Server from the previously restored data), then please ensure
 - i. Exchange Mailbox backup data was restored from backup server locally through the menu "Server Admin -> Customer Management-> Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had previously chosen the option "Restore the data to the local disk only and do not automatically restore the data into the exchange server (I will separately restore the 'locally restored data' into the Exchange Server later).
2. Enter the local restore location and click "Submit Location" button to restore user mailbox data to Exchange Server from the local folder.

• **Step 1: Choose a backup server in case of multiple servers.**

This step allows you to choose the backup server if the replication feature was enabled in backup server for this client. This step has the following options:

- **Backup Name** - The backup name is a non-editable field.
- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

• **Step 2: Select Version To Restore**

Choose full or incremental backup versions based on the timestamp. A tree with a parent node represents a full backup and under it is a leaf node with timestamp representing an incremental backup. The leaf-node with the earliest timestamp represents the time when the full backup was done and all other time stamps represent incremental backup on top of that full backup. You can choose any version based on the timestamp for restore. Note that the tree in Step 3 loads the users' mailbox files based on the timestamp/version selected here. By default, the tree in step 3 is loaded for the latest backup of the backup schedule.

• **Step 3: Select backups for Exchange Mailbox restore**

StoreGrid will list the files based on the timestamp/version you have chosen in the "Step 2". Choose appropriate mailbox to be recovered/restored to an Exchange Server from StoreGrid backup server. In this step select the users' mailbox folders to be restored from the server.

• **Step 4: Confirm Restore Settings**

- **Password** - If the backup schedule is password protected, provide the password here.
- **Restore Location** - Specify the location for restore. The restored files will be saved in this location but with their full original path - that way you know exactly where these files were in the first place!. Make sure the directory you provide for restore has enough disk space and has valid read and write permissions. It is recommended to provide an empty directory or a new directory path for the local restore location.

Important : The directory specified in the restore location for restoring mailbox data must not contain the original or previously restored files or else the restore will fail.

• **Step 5: Confirm Exchange Mailbox Restore Settings**

This step restores the backed up mailbox data to the Exchange Server. By default the option "After restoring data from the backup server, continue to automatically restore the data into the Exchange Mailbox" is selected. This will restore the data to the Exchange Server. Alternatively, if you choose "Restore the data to the local disk only and do not automatically restore the data into the exchange server (I will separately restore the 'locally restored data' into the Exchange Server later)" the data will be in the specified restore location and will not be restored to the Exchange Server.

- **Exchange Server Name** - Name of the Exchange Server from which users' mailboxes were configured for backup and to which data is to be restored.
- **Restore and Cancel Button** - Once all the options are set and the users' mailbox to be restored are selected, click on the Restore button to restore the Exchange Mailbox. The status of the restore operation will be displayed in a pop-up browser window.

Limitations

1. The local restore location path name should not exceed the 256 character limit.
2. The local restore location and the directory must be empty and must not contain any of the previously restored files in it.
3. StoreGrid does not allow restoring the selected mailbox to an alternate Exchange Server. If needed, .PST files can be restored to alternate Exchange Server manually after restoring the files to local disk from backup server.
4. While restoring the complete contents of the selected folder to the original mailbox folder, the existing folder contents will not be deleted prior to performing the restore and restore process will append all emails to the folders. It may result in duplicate email items within the original folder.
5. Search and restoring individual mails is not supported, however restoring up to mailbox folders is supported using StoreGrid Exchange Mailbox plugin.
6. StoreGrid will not be able to restore the user mailbox, if the user is deleted from the Active Directory and from the Exchange Server.
7. Previous schedules cannot be restored in the client side after changing the dump location.

Exchange Mail Level Restore

Overview

In this page you can restore a single email/item to the Exchange Server from a mailbox level backup. Before proceeding with mail level restore, you need to restore the relevant mailboxes that contain the mails that you want to restore. Please refer [Mailbox Restore help document](#) for more details on restoring a mailbox. The mailboxes will be restored as PST files.

If you have got one or more PST files (restored mailboxes) in a local location in your machine, then you can do the following type of restores to any user mailbox present in the Exchange Server:

- Restore all the emails/items present in all the PST files available in a folder
- Restore all the emails/items present in a single PST file
- Restore one or more folders available in a single PST file
- Restore one or more emails/items listed from a single PST file
- Restore one or more emails/items listed from more than one PST files
- Restore the emails/items filtered by sender's email, receiver's email, subject, content or date range.

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How to get here in the Web Console?

→ In the top menu, select: "Restore -> Exchange Mail Level Restore".

Requirements

- **Exchange Server:**

Supported on Exchange Server 2000 with Service Pack 3 / Exchange Server 2003 / Exchange Server 2007 / Exchange Server 2010.

- **Other Requirements :**

Before proceeding to restore the emails/items using this feature, please ensure the following essentials:

1. Microsoft Exchange Information Store service must be running.
2. All the relevant information stores must be in mounted state.
3. You should have the PST files restored from your Exchange Mailbox backup in a local location. You can restore the mailboxes [as PST files] to a local location from the menu : 'Restore -> List Backups For Restore -> [your mailbox backup job name]' page.
4. Make sure the Exchange Mailboxes are listed in "Add Exchange Mailbox Backup" page.

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Exchange Mail Level Restore

Restoring Exchange Mailbox folders/subfolders/emails/items can be done by following the steps mentioned below:

Select Location

Here, you can either enter the path to a PST file available in your machine from which you want to restore the emails/items or you can just enter the folder path which contains the PST files and restore the emails/items available in

those PST files to the Exchange Server.

- **Loading a single PST file**

If you are sure that the emails/items you wish to restore are available in a particular PST file, then you can just load that PST file alone and restore the emails/items. You can enter the full path of the PST file directly in the text box or select the PST file by using the browse button.

- **Loading a folder which contains PST files**

If you are not sure about the PST file where the emails/items you wish to restore would be available, then you can just load the particular folder [which contains PST files]. You can enter the folder path directly in the text box or select the folder location by using the browse button.

Select Location

Restoring specific emails is a two step process. You need to first restore the appropriate mailboxes from 'Restore -> List Backups For Restore -> [your mailbox backup]' page. The mailboxes will be restored as PST files.

Once the mailboxes are restored, in this page you can specify the PST files that you want to restore emails from. You can either give the complete location to a PST file or the folder where the PST files are present.

Enter PST File /Folder Location

C:/Stephen_Inbox_PST/Inbox_30OCT2010_15_4

Browse

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Select Restore Option

In this step, the details of the PST file/folder you have loaded in Step 1 are displayed and the restore options are provided. You can select any one of the restore options to restore the emails/items to the Exchange Server.

Details shown for PST file selection:

- PST File Path : *Full path of the loaded PST file*
- PST Source : *Mailbox for which the loaded PST was created*
- Total Number of Items : *Total number of emails/items available in the loaded PST file.*

Select Restore Option

PST file path

C:/Stephen_Inbox_PST/Inbox_30OCT2010_15_48_37_TO_30OCT2010_16_17_04_FULL.pst

PST source

StephenMichael

Total number of items

20

☒ Let me manually choose the emails and restore them

☐ Let me first filter the emails and restore them

☐ Proceed to restore all the emails available in the selected PST file

Details shown [in a table] for folder selection

- PST File : *Full path of the PST file*
- Mailbox : *Mailbox for which the particular PST was created*
- Folder(s) : *Parent folder(s) available in the particular PST file. Total number of items available in the folder [including subfolders] is also shown.*
- Total Items : *Total number of items available in the particular PST file.*

Select Restore Option

Folder Selected : C:/PST Files/

PST File	Mailbox	Folder(s)	Total Items
C:/PST Files/Ben Smith/Inbox/Inbox_30OCT...	BenSmith	Inbox [237]	237
C:/PST Files/Christopher Craig/Inbox/Inb...	ChristopherCraig	Inbox [246]	246
C:/PST Files/James Daniel/Sent Items/Sen...	JamesDaniel	Sent Items [3]	3
C:/PST Files/Jason/Inbox/Inbox_30OCT2010...	Jason	Inbox [218]	218
C:/PST Files/Jason/Sent Items/Sent Items...	Jason	Sent Items [8]	8
C:/PST Files/Julia Grace/Inbox/Inbox_30O...	JuliaGrace	Inbox [230]	230
C:/PST Files/Julia Grace/Sent Items/Sent...	JuliaGrace	Sent Items [4]	4

☒ Let me manually choose the emails and restore them
 ☐ Let me first filter the emails and restore them
 ☐ Proceed to restore all the PST files available in the selected location

If you wish to load a particular PST file listed in the table, then you can just click on the file name and the particular PST file will be loaded after a confirmation.

Let me manually choose the emails and restore them

If you select this option, the emails/items available in the selected PST files will be listed and you will have to manually select the ones that you want to restore.

Let me first filter the emails and restore them

This option will let you first filter the emails/items and then select the ones that you want to restore. This option is recommended when you are trying restore some of the emails/items from a large set of data.

Proceed to restore all the emails available in the selected PST file *[Applicable only if single PST file is loaded]*

If this option is selected, all the emails/items available in the loaded PST file will be restored to the Exchange Server. You will not be shown the emails/folders listing and you will be directly asked for destination mailbox [to which the PST file should be restored].

Proceed to restore all the PST files available in the selected location *[Applicable only if a folder is loaded]*

If this option is selected, all the emails/items present inside all the PST files available within the selected folder path will be restored to the Exchange Server. You will not be shown the emails/items available and you will be directly asked for destination mailbox [to which all the PST files should be restored].

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Select Items

- **If single PST file is loaded**
 - In this page, the left frame will show the folder tree and the right frame will show the emails/items corresponding to the mailbox folder loaded or search done. By default, the emails/items available inside the first folder [as listed in the folder tree] will be listed when the PST file is initially loaded.

- To perform a folder/sub-folder level restore, select the checkboxes corresponding to the folders that you wish to restore to the destination mailbox.
- To perform a email/item level restore, click on a folder name to get the emails/items directly available in that folder to be listed in right frame.

Note:

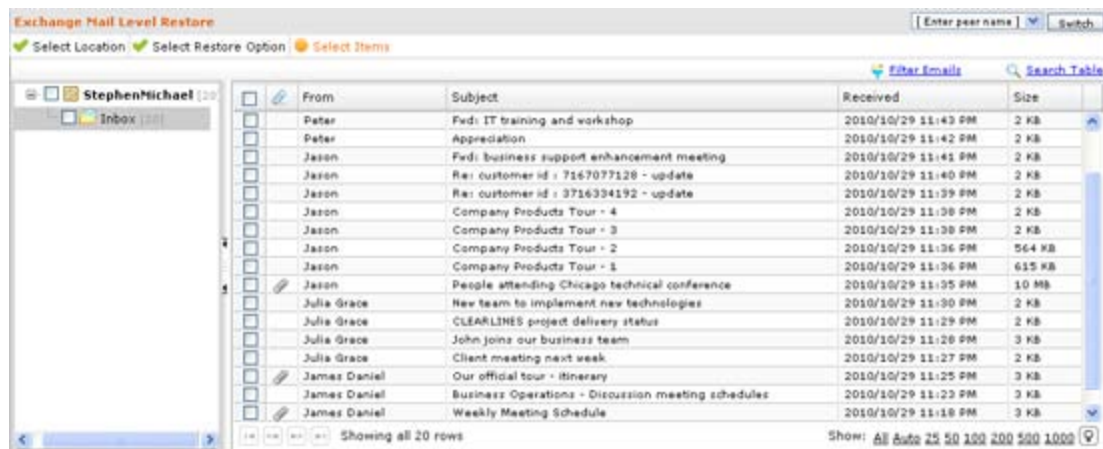
1) If you want to perform email/item level restore, you can do so for only one folder at a time. i.e. emails/items from different folders cannot be restored at a time (if you wish to restore only some specific emails/items).

2) If you have selected a folder by checking the checkbox against the folder name and you have unselected some emails/items (of the same folder) from right frame, then whole folder will be restored to the destination mailbox despite the selections made in right frame.

- You can also make use of the [Filter Emails](#) option to list emails/items from the entire PST file. This will list/restore the emails/items matching the specified filter criteria from all the folders available in the PST file.
- You can use the "Search Table" option to display only the emails/items [listed in the table alone] that match the text you enter in the textbox shown. Other emails/items that do not match the text entered will be hidden. When you clear the text field, again all the emails/items listed in the table will be visible.

• **If a folder containing PST files is loaded**

- In this page, the emails/items corresponding to the selection made in second step [Select Restore Option] will be listed.
- To restore the desired emails/items, just select the checkbox against the email/item and proceed to restore them.
- You can also make use of the [Filter Emails](#) option to search emails by applying/modifying the search criteria and list the emails in this page.
- You can use the "Search Table" option to display only the emails/items [listed in the table alone] that match the text you enter in the textbox shown. Other emails/items that do not match the text entered will be hidden. When you clear the text field, again all the emails/items listed in the table will be visible.



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Filter Emails

Using this option you can search and restore the emails by specifying filters.

• **Specify the search filters:**

Just enter the search text in the relevant textboxes and proceed to filter the emails. You can filter emails by specifying search string in any/all of the following fields.

- **Sender** - For searching in the "from" email address
- **To or CC** - For searching in the "to" or "cc" email addresses.
- **Subject** - For searching in the "subject" of the email
- **Message Body** - For searching in the entire content of the email [excluding attachments]
- **From Date** - For listing emails received after this date & time
- **To Date** - For listing emails received before this date & time

NOTE :

- 1) Only substring match is done and hence partial texts are allowed for search strings.
- 2) Case insensitive search is done and hence you can enter text in upper or lower case.
- 3) The fields left blank or just with spaces are ignored when search is done. Hence if you do not wish to include any field for searching the emails, just leave the field blank.

• **Select Search Criteria Combination:**

You can now choose to list the emails matching all/any of the specified filter constraints.

1. **List emails matching ANY of the above filter constraints** : The emails that match any of the specified filter constraints will be listed. If all the fields are left empty, all the emails should be listed.
2. **List emails matching ALL of the above filter constraints** : Only the emails that match all of the specified filter constraints will be listed.

• **Choose To List Or Restore Emails Right Away:**

From here, you can choose to list the emails [resulting from the search criteria you have specified] or choose to restore the matching emails directly to the Exchange Server [to the destination mailbox] without waiting for the mails to be listed and shown in the table.

1. **Filter and list the emails matching the specified filters** : Emails will be listed and you will be taken to the page where the emails matching your filter criteria are listed.
2. **Restore the emails matching the specified filters right away** : Emails matching your search criteria will not be listed in any page and you will not be required to wait. Just you will be asked for the destination mailbox and the restore process will start. Only the emails matching the specified search criteria will be restored.

• **Clear Fields** [Link at the top-right corner] :

If you want to clear all the fields and reset them to the default state, just click this link. This will clear all the fields and reset everything in this page to their defaults.

Filter Emails [Clear Fields](#)

From

To or Cc

Subject

Message Body

From Date

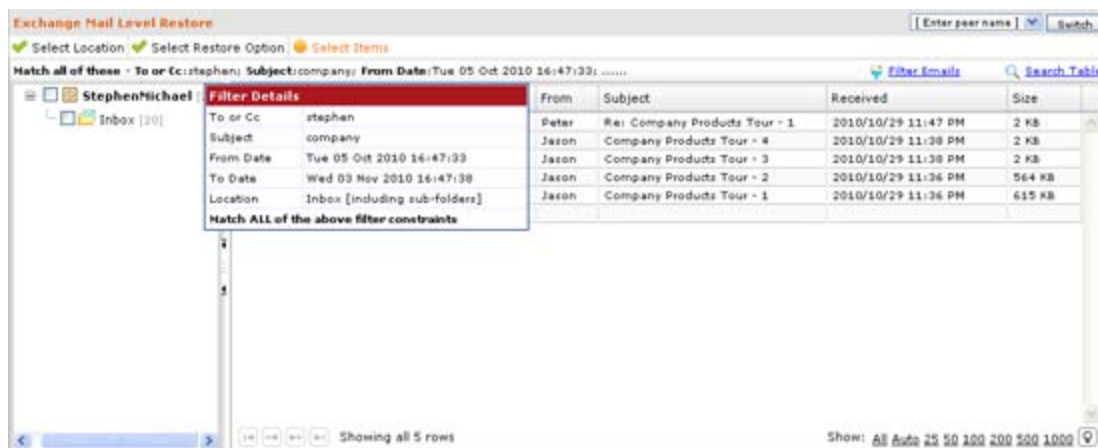
To Date

☐ List emails matching ANY of the above filters [fields left blank will be ignored]
☒ List emails matching ALL of the above filters [fields left blank will be ignored]

Look for emails matching the above criteria in

☒ Filter and list the emails matching the specified filters
☐ Restore the emails matching the specified filters right away

After search is completed and filtered emails are listed, you can see the summary of the filters you have applied at the top left corner of the "Select Items" panel.



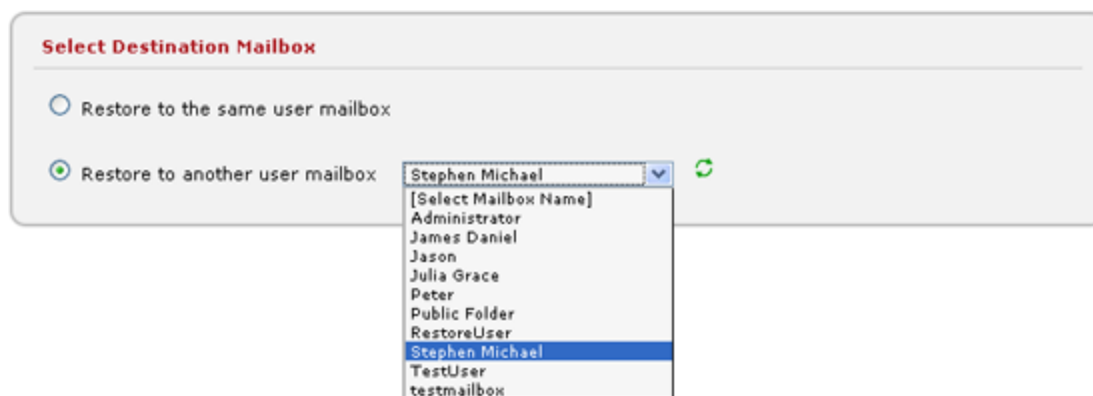
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Select Destination Mailbox

After selecting the items to restore, you need to select the mailbox to which the selected items should be restored. You can select any one of the two options available for selecting the destination mailbox.

- **Restore to the same user mailbox** - Choose this option if wish to restore the selected items to the same user mailbox from which the particular PST file was created.
- **Restore to another user mailbox** - If you would like to restore to any other preferred mailbox, you can choose this option and select the desired mailbox from the select box near this option. Click on the refresh icon to get the updated list of mailboxes present in this Exchange Server.

After selecting the destination mailbox, clicking on the 'Next' button will initiate the restore process after a confirmation.



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Restore Status

- This page will show the status of the recent and other mail level restore operations in progress.
- When this page is opened, a popup window showing the real time restore progress of the current restore operation will be opened. Make sure popup is not blocked in your browser to enable automatic opening of the restore progress window.
- In this page, you can also view the other previous restore operations in progress. Clicking on the progress image [green triangle] will open a popup window where the current progress of the particular restore operation will be displayed.

If you wish to view the restore reports of the previous PST restores done, you can do so by clicking the link "[Click here to view PST restore reports](#)" shown at the bottom of the information box.

Current Restore Status

Restore is in progress. [Click here](#) to view current progress

Other restore operations in progress

Restored Schedule	Exchange restore start time	Status
7--[MAILBOX_PST_RESTORE]	Sat 30 Oct 2010, 01:53:18 pm	▼
8--[MAILBOX_PST_RESTORE]	Sat 30 Oct 2010, 01:55:11 pm	▼


[Click here to view PST restore reports](#)

Restore Progress of [MAILBOX_PST_RESTORE] - Mozilla ...

http://...6666/templates/progress/clientside/mailrestoreprogress.sgp?mn=...

Overall Progress

Exchange Server Name - wintest30
Source File - D:/...est_new/Inbox_7500_Mails_175MB.pst
Destination Mailbox - **Stephen Michael**
Warning -

 **Exchange Mailbox restore is in progress** 00:00:03

Restored 0 of 2 folders

Restored Messages : 30 Restored Size : 779.91 KB

Current Progress

Restored : 30 of 218 Messages [13.00%]

Current Folder : **Inbox\TestInner**

* To enhance restore performance, close this progress window and open it only occasionally to check restore progress.

Done

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Troubleshooting Tips



Sometimes I receive the error "MAPI_E_CALL_FAILED".

Cause : The above error may come for any of the following reasons.

1. User account under which the application is running does not have enough permission to list the Exchange Mailboxes available in Exchange Server.
2. If any of the information store is dismounted.
3. Microsoft Exchange Information Store service is stopped.

Solution : Make sure the MS Exchange Information Store service is started and running and all the information stores are in mounted state. If the issue is due to permission problems, refer the [Exchange Mailbox Rights](#) help document to resolve the permission issues.



Sometimes I receive the error "MAPI_E_FAILONEPROVIDER" or "MAPI_E_UNCONFIGURED".

Cause : The destination user mailbox is not available in the Exchange Server.

Solution : Make sure the destination mailbox you have chosen for restore is existing and enabled in the Exchange Server.



Sometimes I receive the error "MAPI_W_PARTIAL_COMPLETION".

Cause : This error may come after the restore process has started for any of the following reasons:

1. The information store where the destination mailbox exists is dismounted.
2. Microsoft Exchange Information Store service is stopped.
3. The mailbox size limit is reached for the destination mailbox.

Solution : Start the MS Exchange Information Store service and mount the associated information stores. Start the restore process again. However, if the restore process has failed because the size limit of the destination mailbox has been reached, then you need to restore the emails to another mailbox and cannot continue to restore the emails to the particular mailbox unless you clean up some emails from that particular mailbox.

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Limitations

1. The selected emails will be added to the corresponding destination mailbox folder even though the same email exists in that folder already. This may result in duplication of some emails within the folder.
2. If the number of emails to be listed is more than 10,000, then only the first 10,000 emails will be listed in the table. You need to use the "Filter Emails" option and do a more refined search for getting a list of fewer number of emails.
3. If the destination user mailbox is not available in the Active Directory or in the Exchange Server, restore process will fail.

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Restore SQL Server Backup Data

Overview

You can restore your SQL Server databases using your most recent full backup. This section provides information on restoring SQL Server databases using StoreGrid.

You can also refer [SQL Backup and Restore](#) for more details on SQL Server backup and restore.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the (SQL) backup schedule you want to restore, click on the Restore icon.

Requirements

SQL Server 2000 / 2005 / 2008.

Restore SQL Server Backup Data

In StoreGrid, restoring SQL Server database is quite simple. The following are the steps to be followed while restoring SQL Server data:

• Step 0: Decide how to restore

Decide on whether the SQL Server database data has to be restored from the backup server or if you wish to use data which had been previously restored from the backup server to a local folder. This step has the following options:

- Restore data from backup server
- I have previously restored data from my backup server to a local folder. I now want to use this data to restore the SQL Server database.

1. If the second option is selected to restore SQL Server database from the previously restored data, then ensure that :
 - i. SQL Server database was restored from backup server locally through the menu "Reseller Management->Reseller Name->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had chosen the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the SQL Server later)" in "Confirm SQL Server Restore Settings" of the Restore SQL Server Database page in the previous restore.
2. Enter the local restore location and click "Submit Location" button to restore SQL Server data from the local folder.

• Step 1: Choose the backup server (in case of multiple servers)

This step allows you to choose the backup server if the backup schedule was configured to multiple servers. This step has the following options:

- **Backup Name** - The backup name is a non editable field here.
- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

• **Step 2: Select backups for database restore**

This step allows you to choose the database name and full backup version based on timestamp. This step has the following options:

- **SQL Server Instance Name** - The SQL Server Instance name is a non editable field here and this will display the instance name from which SQL Server database was configured.
- **Database Name** - The database name will also be a non-editable if the backup schedule is configured with single database. If the schedule is configured with multiple database, then you need to choose the database name here from the choice box. Select the database you wish to restore.
- **Show backups after** - From the drop-down list, select the most recent full backup version based on timestamp to restore from. Once recent full backup version is selected and the "Load" button is clicked, StoreGrid will list all the backups for the selected database, starting with the one selected in this field.
- **Load** - Based on the values selected in the fields "Database Name" and "Show backups after", clicking this button will list the files backed up to the backup server (available for restore).
- **Select Files for database restore** - This section will list the files based on what timestamp/version and database name you choose in the "Database Name" and "Show backups after" fields. Here is where you have to select the files to be restored from the server. StoreGrid displays a list of the backups available for the database selected in "Database Name", starting from the first backup selected in "Show backups after" fields.

This section has the following fields:

- **Type** - The type of backup, value can be either FULL/DIFFERENTIAL/TRANSACTION-LOG backups.
- **Backup Date** - The time at which the backup was transferred to backup server.
- **File Name** - The name of the file backed up.

• **Step 3: Confirm Restore Settings**

- **Password** - If you had password protected the backup schedule, you will need to provide the password here.
- **Restore Location** - You can specify the location to which the backup data has to be restored. The restored files will be saved in this location, but with their full original path – that way you know exactly where these files were in the first place !

Important : You must always provide an empty directory for the local restore location. There must be sufficient space in the directory to store the files; also ensure that the local restore location does not exceeds the 256 character limit.

• **Step 4: Configure SQL Server Database Restore**

This step helps you to restore backed up data right into the SQL Server database. By default, the option "After restoring data from my backup server, continue to restore the data into the SQL Server database" is selected. Alternatively you can also choose the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the SQL Server database later)".

This step has the following option:

- **Restore as database** - This drop-down list allows you to select an existing database, or, if you want to restore to a new database, type in a new database name. For a new database, the database will be created and then the contents of the backup will be restored. For an existing database, the contents of the backup

will be restored over the existing database.

- **Overwrite the existing database** - If you are restoring backups and you want to overwrite an existing database with a different name, you must use choose this option. If you are restoring backups to the same database, this option is not required.
- **Restore the database file as** - This displays the name and location of the physical files used when you restore your database. The location and names of the files are stored in the backup file, so if you are restoring to a different server or to a different database name, you must change these options for both the data file and the transaction log file.
- **Recovery State** - The Recovery state panel determines the state of the database after the restore operation. The default behavior is:
 - Leave the database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.(RESTORE WITH RECOVERY)

Note: Choose this option only if you are restoring all of the necessary backups now.

Alternatively, you can choose either of the following options:

- Leave the database non-operational, and do not roll back the uncommitted transactions. Additional transaction logs can be restored. (RESTORE WITH NORECOVERY)
- Leave the database in read-only mode. Undo uncommitted transactions, but save the undo actions in a standby file so that recovery effects can be reverted. (RESTORE WITH STANDBY)

StandBy file – A file required by SQL Server to track incomplete transactions if the backup is restored in standby state. The Standby file is used to undo uncommitted transactions when the database is brought fully online. If the Standby file does not exist, it will be automatically created.

Restore and Cancel Button - Once all the options are set and the files and folders to be restored are selected, click on the Restore button to restore the files and folders. The status of the restore operation will be displayed on a pop-up browser window.

Troubleshooting Tips

SQL Server restore fails with one of the following errors.



- "SQL Server restore aborted because of error in getting the virtual device backup configuration. Check your database properties. Check your database properties."
- "Exclusive access could not be obtained because the database is in use."

Cause : If more than one connection was opened to the database which was configured for restore.

Solution 1: Make sure that no other user is connected to that database. If possible close the connections open to that database.

Solution 2: Alternatively, change the database property to single user mode before restore operation and change the database property again to multiple user mode after restore.



Restore SQL Server Database page is not listing database available to restore.

Cause : This would occur, if StoreGrid client configurations are recovered from backup server through Client Disaster Recovery option.

Solution : Please re-enter the SQL Server Instance login details in "SQL Server Connection Properties" page through the menu "Backup -> Plugin Backups -> SQL Server" once and then try to restore the SQL Server database.



Restore SQL Server Database page is not listing databases available to restore.

Cause 1: If backed up SQL Server databases are Unavailable(OFFLINE/DETACHED/DELETED) to perform restore. Hence logical file name is not available to perform restore.

Cause 2: Check if backed up SQL Server databases contain any special characters like forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and plus(+).

Solution : Download the backed up SQL Server database dump file to client machine using the following steps:

- i. Restore SQL Server database locally in backup server through the menu "Customer Management->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transfer the restored data to client machine.
or
- ii. Choose the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the SQL Server later)" in "Confirm SQL Server Restore Settings" of the Restore SQL Server Database page to restore the SQL Server database locally in client machine.
- iii. After downloading the files from server, use second option (I have previously restored data from my backup server to a local folder. I now want to use this data to restore the SQL Server database) in Step 0 of the "Restore SQL Server Database" page to restore the SQL Server database.



I am backing up SQL-Server. How do I restore the SQL Server database in a different machine. For Example - If MACHINE A is configured to backup SQL Server database to SERVER A, how do I restore the backup from SERVER A to MACHINE B.

Solution : To restore SQL Server database in MACHINE B, please follow the steps given below:

- i. SQL-Server data could be restored from backup server A to MACHINE B in one of the following ways:-
 - a. Restore SQL Server database backup schedule data locally in backup server A through the menu "Customer Management->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and then manually transfer the data to MACHINE B.

OR

 - b. From MACHINE A itself, do a regular restore by choosing the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the SQL Server later)" in Step 4. And then manually transfer the data to MACHINE B.
- ii. Once the data has been transferred to MACHINE B, you need to edit the restore.conf located in "<RESTORED_LOCATION>/plugin/" folder.
 - a. Open the restore.conf located in "<RESTORED_LOCATION>/plugin/" folder.
 - b. Change the **SqlInstanceName** attribute value to MACHINE B SQL Server Instance name. And before restoring the SQL-Server, go to the "SQL Server connection properties" page and then login to MACHINE B SQL Server Instance at least once.
 - c. Change the **ClientIdentity** attribute value to MACHINE B StoreGrid Identity.
 - d. Save and close the file.
- iii. Database to be restored should not exist in the **Mapped Drive** of the MACHINE B. Please check that database files to be restored exist in the **Local Drive** of the MACHINE B, if not please transfer the restored data to the **Local Drive** of the MACHINE B.
- iv. In the top menu of the StoreGrid WebConsole, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the any SQL backup schedule, click on the Restore icon.
- v. Choose the second option in "Step 0: Decide how to restore" settings to restore SQL Server database from the previously restored data. And then enter the local restore location and click "Submit Location" button to restore SQL Server data from the local folder.
- vi. And Proceed with the remaining steps in Restore SQL Server Database page to restore the SQL Server database.

Limitations

1. If a backup schedule is configured with multiple database(s) (in client-side) only a single database is allowed to restore to the SQL Server at a time.
2. You must always provide an empty directory for the local restore location. There must be sufficient space in the directory to store the files; also ensure that the local restore location does not exceeds the 256 character limit.
3. Previous schedules cannot be restored in the client side after changing the dump location.
4. While restoring the deleted MS SQL Server database(s), the same cannot be restored directly to the MS SQL Server. First the deleted database(s) should be restored locally in the client machine and then should proceed with the 'Plugin local restore' feature to restore the deleted MS SQL Server database(s).

Restore Oracle Database

Overview

You can restore the backed up Oracle databases using your most recent backup version or using an earlier backed up version. This section gives information on how to restore Oracle database using StoreGrid.

Restore Oracle Database

Follow the instructions detailed below.

1. Follow the [steps for a regular restore operation](#) and restore the required Oracle database backup files [in which Oracle dump was made while Oracle backup was in progress].
2. Follow the Oracle restore steps below to restore the files contents to Oracle database.

Before restoring the Oracle database, Database ID of Oracle database should be known. Database ID can be identified in restored control files.

1. **Open the command prompt and set Oracle SID(system identifier) of the database that you are going to restore.**

For Windows: set ORACLE_SID = SID_NAME (Replace this SID_NAME with your Oracle SID name)

For Linux: export ORACLE_SID = SIDNAME

2. **Open Recovery Manager(RMAN) and Connect target database by running the following command:**

```
RMAN TARGET /
```

3. **Shutdown the Oracle database.**

```
RMAN> SHUTDOWN IMMEDIATE;
```

4. **Start the database instance without mounting Oracle database and restore the control file**

```
RMAN>STARTUP NOMOUNT
```

```
RMAN>RESTORE CONTROLFILE FROM 'CONTROL_FILE_PATH';
```

5. **Mount the database instance**

```
RMAN>SQL "alter database mount";
```

6. **Now restore the database by running the following command:**

```
RMAN>RESTORE DATABASE;
```

7. **After restoring the backed up datafiles from backup piece, Oracle should be recovered from the restored datafiles. Issue the following command to recover the database.**

```
RMAN>RECOVER DATABASE;
```

8. **If RECOVER DATABASE fails with the error that archive log or redo logs are missing, then perform incomplete recovery upto the available archive or redo log sequence.**

```
RMAN>RECOVER DATABASE UNTIL LOGSEQ=FromLOGSEQ; [FromLOGSEQ should be log sequence number from where archive or redo logs are not available for restore.]
```

Limitations

1. The backed up data has to be restored from the backup server to the Oracle dump location in the client machine from where it was backed up. Since RMAN can only recognize the files available in the dump location (which is the location to which RMAN dumped the files in the client), it is very critical that data is restored back into the same dump location while restoring the Oracle Databases.

Restore Microsoft Outlook Backup Data

Overview

StoreGrid can restore Outlook data to a PST file using the recent full or incremental backups. As per Outlook advanced restore selection the data is first restored to a local drive and then restored to the original PST file or to the new PST file. If it is new PST file, then you need to manually attach the PST file to Outlook.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action column of the (Outlook) Backup Schedule, click on the Restore icon.

Requirements

Microsoft Outlook 2007 / 2010.

Restore Microsoft Outlook Backup Data

Restoring Microsoft Outlook in StoreGrid is quite simple and can be easily done following the steps mentioned below:

• Step 0: Decide how to restore

The user can select to restore the MS Outlook data directly from the backup server or from the previously restored data stored in the local folder.

This step has two options :

- Restore data from backup server
- I have previously restored data from my backup server to a local folder. I now want to use this data to restore the Outlook.

1. If the second option is selected (to restore user Outlook data to MS Outlook from the previously restored data), then please ensure
 - i. Microsoft Outlook backup data was restored from backup server locally through the menu "Server Admin -> Customer Management->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had previously chosen the option "Restore the data to the local disk only and do not automatically restore the data into the Outlook (I will separately restore the 'locally restored data' into the Outlook later).
2. Enter the local restore location and click "Submit Location" button to restore Outlook data to MS Outlook from the local folder.

• Step 1: Choose a backup server in case of multiple servers.

This step allows you to choose the backup server if the replication feature was enabled in backup server for this client. This step has the following options:

- **Backup Name** - The backup name is a non-editable field.

- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

• **Step 2: Select Version To Restore**

Choose full or incremental backup versions based on the timestamp. A tree with a parent node represents a full backup and under it is a leaf node with timestamp representing an incremental backup. The leaf-node with the earliest timestamp represents the time when the full backup was done and all other time stamps represent incremental backup on top of that full backup. You can choose any version based on the timestamp for restore. Note that the tree in Step 3 loads the Outlook pst files based on the timestamp/version selected here. By default, the tree in step 3 is loaded for the latest backup of the backup schedule.

• **Step 3: Select backups for Outlook restore**

StoreGrid will list the Outlook restore selection option.

• **Step 4: Confirm Restore Settings**

- **Password** - If the backup schedule is password protected, provide the password here.
- **Restore Location** - Specify the location for restore. The restored files will be saved in this location but with their full original path - that way you know exactly where these files were in the first place!. Make sure the directory you provide for restore has enough disk space and has valid read and write permissions. It is recommended to provide an empty directory or a new directory path for the local restore location.

Important : The directory specified in the restore location for restoring Outlook data must not contain the original or previously restored files or else the restore will fail.

• **Step 5: Confirm Outlook Restore Settings**

As per Outlook advance selection, this step restores the backed up Outlook data to the New Outlook PST file or to the Old file location. By default the option "After restoring data from the backup server, continue to automatically restore the data into the Outlook" is selected. This will restore the data to the Outlook. Alternatively, if you choose "Restore the data to the local disk only and do not automatically restore the data into the Outlook (I will separately restore the 'locally restored data' into the Outlook later)" the data will be in the specified restore location and will not be restored to the Outlook.

• **Step 6: Outlook Advanced Settings**

When backup data is restored, it is possible that the original files are already present in the restore location. In this case StoreGrid by default will retain the original file and rename the restored file with an extension *.SG. "Advanced settings" allows you to change this. The following options are available:

1. Rename the restored file with a .SG extension and keep the existing file as it is. This is the default behavior, and is recommended.
2. Rename the existing file with a .SG extension and restore the backed up file as it is.

Location to restore the PST files:

In the above cases, if the original file location not present in the local machine then files will be merged into a PST file and restored to this location. You need to manually attach this PST file into Outlook later to see the restored email contents.

- **Restore and Cancel Button** - Once all the options are set and the Outlook restore option selected, click on the Restore button to restore the Microsoft Outlook Data. The status of the restore operation will be displayed in a pop-up browser window.

Restore PostgreSQL database

Overview

Restoring a database is sometimes necessary when a database becomes corrupt. You can restore your PostgreSQL Server databases using your most recent full backup. This section gives you information on how to restore PostgreSQL Server database using StoreGrid.

Restore PostgreSQL database

Restoring PostgreSQL databases require a couple of extra steps. Please follow the instructions detailed below in sequential order.

1. Follow the [steps for a regular restore operation](#) and restore the required database backup files.
2. Once restored, the required files are now in their designated locations:
<Restore Path>\<Temp_Dump_Location>\<Backup_Name>\<Database_Name>\<Restore_File_Name>
The restored PostgreSQL database files end with an extension ".sql". In order to use the restored database, please follow the steps given below:
 - i. If the restoring database is unavailable in PostgreSQL Server, create the database using the command "createdb <DB_NAME>".
 - ii. Reload the database with the data using **psql -U [username] [<DB_NAME>] < [<Restore Path>\<Dump_Location>\<Backup_Name>\<Database_Name>.sql]**. This will dump the sql back to the database.

Restore cPanel Backup Data

Overview

There may be times when you wish to restore your home directory or a MySQL database or email forwarder/filter settings of a domain on a shared web hosting. You can restore a selected component of an account if you have already backed up the account using StoreGrid's cPanel plugin. Read further to know more about restoring a cPanel account backup.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the (cPanel) Backup Schedule you want to restore, click on the Restore icon.

Requirements

A domain (website) on a shared web hosting managed by cPanel control panel

Restore cPanel Backup Data

In StoreGrid, restoring all or a single cPanel account is quite simple and can easily be done. Below are the steps to be followed while restoring a cPanel account.

• Select the restore source

Decide between restoring the cPanel backup directly from the backup server or if you want to use data which has been previously restored from the backup server (to a local folder).

This step has the following options :

- Restore data from backup server
- I have previously restored data from the backup server to a local folder. I now want to use that data to restore the backed up components to the particular cPanel account.

1. If the second option is selected (to restore cPanel backup data from the previously restored data), then ensure that :
 - i. The cPanel backup data was restored from backup server locally through the menu "Reseller Management-> Reseller Name-> Customer Name-> Client Name-> List of Backups-> Actions-> Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had previously chosen the option "Restore the data to the local disk only and do not automatically restore the data into cPanel account (I will separately run StoreGrid through the 'locally restored files' to restore the backup components into cPanel account) " in "STEP 4: Choose restore destination" of the Restore cPanel Backup Data page (during your previous restore).
2. Enter the local restore location and click "Next" button to proceed to the next page for restoring cPanel backup data from the local folder.

Select the restore type

Backup Name : cpanel-daily-backup

Backup Server : lntest1

☒ Restore data from backup server

☐ I have previously restored data from my backup server to a local folder. I now want to use this data from the local folder to restore it into the cPanel server.

Next

Back

• Step 1: Select restore type

In this step, you need to decide whether you wish to restore account by account or you wish to restore a specific component of more than one account in single click.

- **Restore by Account/Domain** - Select this option if wish to perform restore account by account. With this option, you can restore only one account in single click. All the accounts backed up will be listed in "Step 2" and you need to select the account to be restored.

Step 1

Select restore type

Backup Name : cpanel-daily-backup

Backup Server : lntest1

cPanel Host : cpaneltest.india.vembu.com

Restore by : ☒ Account/Domain ☐ Backup Component

Step 2

Select files to restore

cPanel Account/Domain : joy20 (joy.joy20.seashells.nl)

Select version : Wed 18 Jan 2012 08:13:12

Backup Component	File Name
<input type="radio"/> Account Settings	cpmove-joy20.tar.gz
<input type="radio"/> Home Directory	Click here to select files
<input type="radio"/> MySQL Databases Select/Deselect All	
<input type="checkbox"/> joy20_one	joy20_one.sql
<input type="radio"/> Email Forwarders Configuration Select/Deselect All	
<input type="checkbox"/> joy.joy20.seashells.nl	aliases-joy.joy20.seashells.nl.gz
<input type="radio"/> Email Filters Configuration Select/Deselect All	
<input type="checkbox"/> joy.joy20.seashells.nl	filter-joy.joy20.seashells.nl.gz

Step 3

Set restore location

Password Protected : No

Please enter the location to which you wish to restore your files (from the backup server) : /home/storegrid/Vembu/StoreGrid

Step 4

Choose restore destination

☒ After restoring data from the backup server, continue to automatically restore the data into the cPanel account
 ☐ Restore the data to the local disk only and do not automatically restore the data into cPanel account (I will separately run StoreGrid through the 'locally restored files' to restore the backup components into cPanel account)

Restore

Cancel

- **Restore by Backup Component** - Select this option if you wish to restore more than one account in a single click. Selecting this option will show a select box in "Step 2" with the following options : Entire Account, Account Settings, Home Directory / All Files, MySQL Databases, Email Forwarders Configuration, Email Filters Configuration

Step 1

Select restore type

Backup Name : cpanel-daily-backup

Backup Server : lntest1

cPanel Host : cpaneltest.india.vembu.com

Restore by : ☐ Account/Domain ☒ Backup Component

Step 2

Select files to restore

Backup Component : Entire Account

Select version : Wed 18 Jan 2012 08:13:12

Account/Domain	File Name
<input checked="" type="checkbox"/> joy14 (joy.joy14.seashells.nl)	
<input checked="" type="checkbox"/> joy15 (joy.joy15.seashells.nl)	
<input checked="" type="checkbox"/> joy20 (joy.joy20.seashells.nl)	
<input checked="" type="checkbox"/> joy21 (joy.joy21.seashells.nl)	
<input checked="" type="checkbox"/> joy27 (joy.joy27.seashells.nl)	
<input checked="" type="checkbox"/> joy28 (joy.joy28.seashells.nl)	
<input checked="" type="checkbox"/> joy3 (joy.joy3.seashells.nl)	
<input checked="" type="checkbox"/> joy4 (joy.joy4.seashells.nl)	

Step 3

Set restore location

Password Protected : No

Please enter the location to which you wish to restore your files (from the backup server) :

Step 4

Choose restore destination

☒ After restoring data from the backup server, continue to automatically restore the data into the cPanel account
 ☐ Restore the data to the local disk only and do not automatically restore the data into cPanel account (I will separately run StoreGrid through the 'locally restored files' to restore the backup components into cPanel account)

Restore

Cancel

• Step 2: Select files to restore

This step allows you to choose the full backup version based on timestamp. Based on the selection made in "Step 1", this step will show a list of either "cPanel Account/Domain" or "Backup Component".

- **cPanel Account/Domain** - Select the account to be restored and click "Load" button below (after selecting the version).
- **Backup Component** - Select the backup component to be listed for the accounts and click "Load" button (after selecting the version).
- **Select Version** - From this select box, you need to choose the preferred timestamp [at which schedules were run] for the backup.
- **Load** - Once you have selected the required timestamp in the field "Select Version", this button must be clicked to list the files backed up to the backup server for restore (satisfying the timestamp criterion).

On clicking the "Load" button, the backup components or accounts available for restore will be listed in the frame and you need to select the files/accounts to be restored and proceed to next step.

• Step 3: Set restore location

- **Password** - If you had password protected the backup schedule, you will need to provide the password here.
- **Restore Location** - You can specify the location to which the backup data has to be restored. The restored files will be saved in this location, but with their full original path – that way you know exactly where these files were in the first place !

Important : You must always provide an empty directory for the local restore location. There must be sufficient space in the directory to store the files; also ensure that the local restore location does not exceeds the 256 character limit.

• Step 4: Choose restore destination

This step helps you restore the backed up data right into the cPanel host or just restore the data to a local location alone. To accomplish this, there are two options:

- **After restoring data from the backup server, continue to automatically restore the data into the cPanel account** : This is the default option [selected by default] and with this option selected, the backup components selected for restore will be restored directly to the cPanel host.

IMPORTANT : Choosing this option will overwrite the files in the host machine and the old files could not be recovered once the restore is completed. For example, if you restore the Home Directory, all the files present in the Home Directory of the account will be overwritten by the restore files. And if you restore a MySQL database, the database currently existing in the cPanel host for this account will be overwritten by the restored database.

- **Restore the data to the local disk only and do not automatically restore the data into cPanel account (I will separately run StoreGrid through the 'locally restored files' to restore the backup components into cPanel account)** : If this option is selected, as it says, the files will be restored in the local location only and you can restore those files separately later.

Limitations

1. You must always provide an empty directory for the local restore location with sufficient space in the directory to store the files and ensure that the local restore location does not exceed the 256 character limit.

Restore SharePoint Site Collection

Overview

Restoring a site collection becomes necessary in the following situations:

- If a site-collection has been deleted in the SharePoint environment [intentionally/accidentally] and at a later point you need it.
- If a site-collection has been modified and you need the original.
- If you need a redundant copy of an important site-collection.
- If you lost a portal site and subsequently created a new one but now would like to restore the original site collections.

You can restore SharePoint site-collections using your most recent backup version or the preferred version of a backup file. This section gives information on how to restore SharePoint site collections using StoreGrid.

Restore SharePoint Site Collections

Restoring SharePoint Site-Collections in Windows requires a couple of extra steps. Follow the instructions detailed below.

1. Follow the [steps for a regular restore operation](#) and restore the required site-collection backup files.

2. Once restored, the required files are now in their designated locations:

<Restore

Path>\<Temp_Dump_Location>\<Backup_Name>\<Portal_Site_Name>\<Site_Collection_Name>\<Site_Collection_Name.dat>

The restored SharePoint site-collection files end with an extension ".dat".

Note: Portal Site name and site-collection name will be modified as per the following rules and used as file/folder name.

- The character colon (:) in the portal site URL will be replaced with "@".
- The Characters "<>/*?" and space characters in the portal-site/site-collection will be replaced with underscore(_). Other characters will remain the same.
- "http://" or "https://" will be removed.

For example:

- Assume that the portal URL is "http://winserver3:9090".
- Let one of the site-collections under it be "http://winserver3:9090/sites/first-No.1site".
- Let the temporary dump path be "C:/TEMPORARYDUMP".
- Backup name be "MySharePointBackup".

The above backup will be restored in the location:

<Restore Path>\C-Drive\TEMPORARYDUMP\MySharePointBackup\winserver3@9090\winserver3@9090_sites_first-No.1site\winserver3@9090_sites_first-No.1site.dat

3. In order to use the restored site-collection backup file, follow the steps given below:

- i. Open the command prompt and go to the location where the backup tool STSADM.exe is existing. Following are the default locations of STSADM.EXE file:

For WSS2.0/MOSS2003, it is located at "C:\Program Files\Common Files\Microsoft Shared\web server extensions\60\BIN\" folder.

For WSS3.0/MOSS2007, it is located at "C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\BIN\" folder.

For MS SharePoint 2010, it is located at "C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\BIN\" folder.

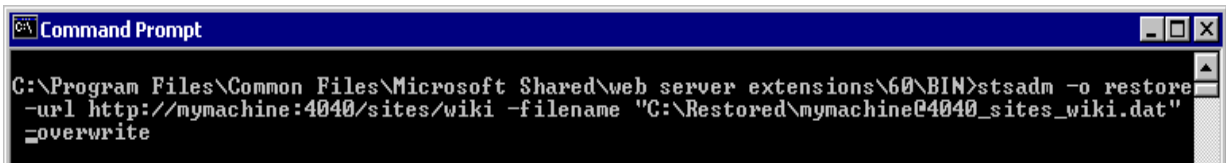
- ii. The restored *.dat file can be restored to a site-collection in any of the following restore strategies.

NOTE: Please read the [caution](#) section before proceeding to restore a site-collection.

Restore Strategy #1 : Restore the site-collection to the SAME site-collection which is still present or deleted:

In the command prompt, enter the following command.

stsadm.exe -o restore -url <Site_Collection_URL> -filename <Backup_File_Name> -overwrite



```
Command Prompt
C:\Program Files\Common Files\Microsoft Shared\web server extensions\60\BIN>stsadm -o restore
-url http://mymachine:4040/sites/wiki -filename "C:\Restored\mymachine@4040_sites_wiki.dat"
-overwrite
```

Note: If the site exists, the above command will completely overwrite the existing site-collection with the restored site. The existing new sub-sites, documents, events, contacts etc. that were not present in the backed up site will be deleted. If the site had been deleted in the portal, then the above command would restore the site-collection to the state as when it was backed up.

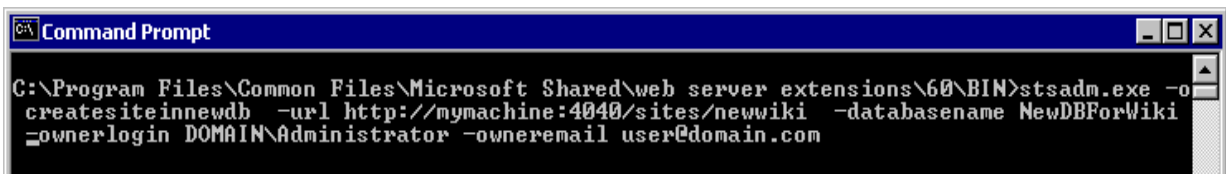
Restore Strategy #2 : Restore the site-collection to a NON-EXISTING, NEW site-collection:

NOTE: This restore strategy involves 2 steps and completely you need to use the command prompt if you wish to follow this restore strategy.

To restore the backed up site-collection to a new site-collection, first create a new site-collection in new database and then restore the backed up site-collection *.dat here.

In the command prompt, enter the following command.

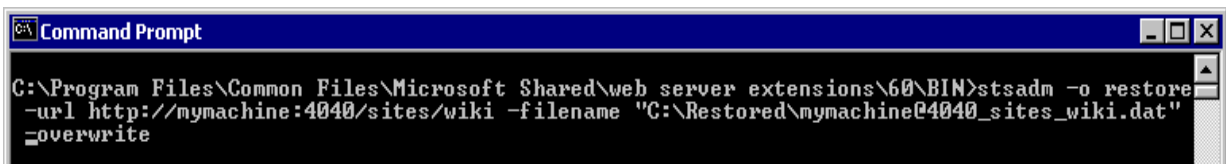
```
stsadm.exe -o createsiteinnewdb -url <New_Site_Collection_URL> -databasename
<New_Database_Name> -ownerlogin <Site_Collection_Owner> -owneremail
<Email_Of_Site_Collection_Owner>
```



```
Command Prompt
C:\Program Files\Common Files\Microsoft Shared\web server extensions\60\BIN>stsadm.exe -o
createsiteinnewdb -url http://mymachine:4040/sites/newwiki -databasename NewDBForWiki
-ownerlogin DOMAIN\Administrator -owneremail user@domain.com
```

The above command will create a new site in the specified new database. Now, run the following command to restore the backed up site-collection to the newly created site-collection.

```
stsadm.exe -o restore -url <New_Site_Collection_URL> -filename <Backup_File_Name> -overwrite
```



```
Command Prompt
C:\Program Files\Common Files\Microsoft Shared\web server extensions\60\BIN>stsadm -o restore
-url http://mymachine:4040/sites/wiki -filename "C:\Restored\mymachine@4040_sites_wiki.dat"
-overwrite
```

Note: The above command will restore the site-collection to the new site. Access this new site via browser and check if the restore operation was successful.

Caution

- Restoring default site-collections in WSS2.0/SPS2003 is not permitted. This attempt is strictly not recommended for WSS2.0/SPS2003.
- Do not restore a site-collection to an existing different site-collection in the same portal site which uses the same database.

Example:

Let us assume, a portal site named **portal_no.1** contains 3 site-collections, namely, **site_collection_no.1**, **site_collection_no.2**, **site_collection_no.3** and you have backed up these 3 sites. Now you wish to restore the **site_collection_no.1** to the portal site **portal_no.1**. To accomplish this, you could restore the *.dat file in any of the following ways:

1. Restore the *.dat file to the same site-collection [**site_collection_no.1**]
2. Restore the *.dat file to a new site-collection, say **site_collection_no.4** [which you like to create under **portal_no.1** itself].

If you wish to follow the second method [restoring to a new site-collection] you must create the new site-collection with the **createsiteinnewdb** switch using STSADM.EXE. See [restore strategy #2](#) for more information about this restore strategy.

DO NOT try to restore the *.dat file [back up of **site_collection_no.1**] to **site_collection_no.2** or **site_collection_no.3**.

Reason: Duplication of site-collections in a single database is not permissible and hence using the "stsadm.exe -o restore -url

..." command would destroy that restored site and would make it inaccessible via browser and corrupt. Therefore, for a risk free restore process, restore the site-collection to the same site or restore it to a new site-collection created in new database(using the command "stsadm.exe -o createsiteinnewdb -url ...").

- **Restoring SharePoint 'Central Administration' may not bring the original Central Administration's whole UI and its functionalities.**

Limitations

1. Restoring default site-collections in WSS2.0/SPS2003 is not permitted. This attempt is strictly not recommended for WSS2.0/SPS2003.
2. Restoring SharePoint 'Central Administration' may not bring the original Central Administration's whole UI and its functionalities.
3. The *.dat file path will not be same as the site-collection's URL because the temporary dump files are assigned a name, modified from the portal site and site-collection URL. The reason behind not using the site-collection URL as it is in the file name is that Windows doesn't allow some characters like \<>:/*?| in a file/folder name. The character ":" will be modified to "@" and the rest will be modified to "_" and used for file/folder names.
4. Though the whole SharePoint Server or a whole portal site is selected for backup, only a site-collection level of backup will be done. Hence, to restore all the site-collections under a portal site, you need to restore the site-collections under that portal site one by one using STSADM.EXE.

Disk Image Restore for Windows 2008 Server, Windows 7, Windows Vista Business Edition and above

Overview

This restore process applies to only to image backups that were configured using the Basic Image Backup option in Add Image Backup page as described [in this document](#). If you had selected the Advanced Image Backup option then please refer [the Advanced Image Backup recovery document](#).

Image Backup and Restore feature is an effective solution to recover data against system crashes and to recreate a system similar to the old one. It can restore the entire PC environment including the operating system, installed programs, user settings and data files.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List of Backups for Restore" page. In the Action column of the (Basic Image) Backup Schedule, click on the Restore icon.

Requirements

- Windows Server 2008 Datacenter
- Windows Server 2008 Enterprise
- Windows Server 2008 Standard
- Windows Server 2008 R2 Datacenter
- Windows Server 2008 R2 Enterprise
- Windows Server 2008 R2 Standard
- Windows 7 Professional
- Windows 7 Enterprise/Ultimate
- Windows Vista Business
- Windows Vista Enterprise
- Windows Vista Ultimate
- StoreGrid uses the command line utility 'Wbadmin' and this utility is available only in Windows Vista's Business, Enterprise and Ultimate editions and not in the Home Basic or Home Premium editions.

Supported OSes

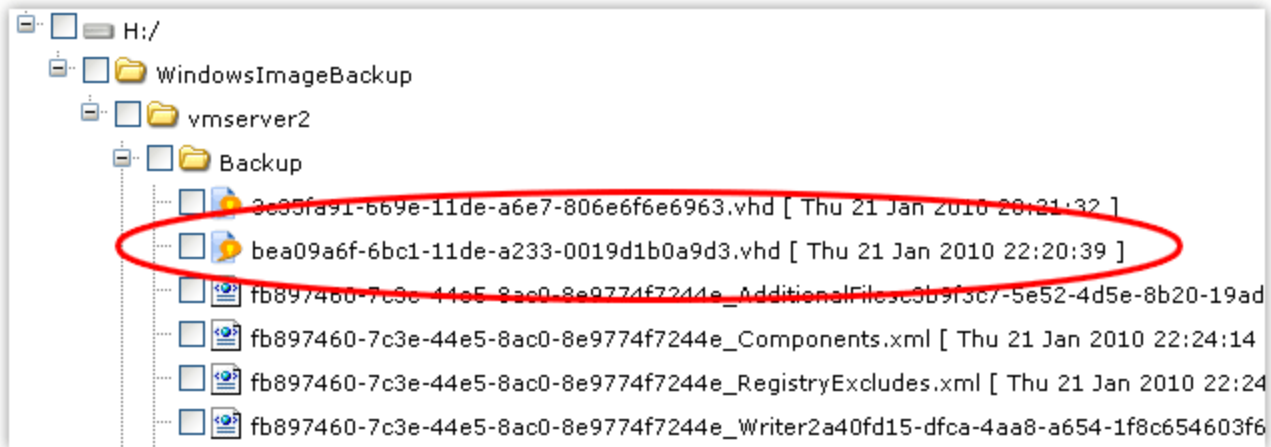
- Windows Server 2008 & R2 (Enterprise, Standard, Datacenter editions)
- Windows Vista (Business, Enterprise, Ultimate editions)
- Windows 7 (Professional, Enterprise, Ultimate editions)

Restoring Disk Image backup

Restoring Disk Image backup is a 2-step process.

- i. Restore the Disk Image backup data from the backup server to a folder in the client machine.
- ii. Use Windows Recovery Environment to boot the client machine using the restored image file.

Note: Before restoring the Disk Image backup from StoreGrid, confirm that the backup contains *.vhd files by expanding the restore tree in the restore backup page. If .vhd file is not listed, then it could be that the backup had failed or is incomplete.



The following steps listed below show how to recover the Disk Image of the configured drives using Windows Recovery Environment.

- i. Restore Disk Image backup data on the client machine by running the restore process through StoreGrid client's web console. Since the data to be restore could be huge, you could alternatively restore the backup on the backup server side using StoreGrid's Server Side Restore feature and ship the restore data to the client site.
- ii. **Windows Recovery Environment** identifies the Disk Image backup data if it has the following directory structure:

<Restore_drive>/Windows Image Backup/

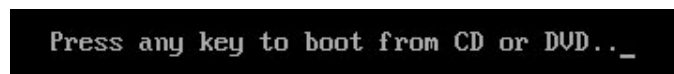
Copy the restored **Windows Image Backup** folder to the parent drive. Once the dump is available in the restore location, restart the machine in **Windows Recovery Environment** to recover the entire PC.

Follow the steps mentioned below to restore the Disk Image from the restored backup data.

- a. A Complete PC Backup can be restored within the Windows Recovery Environment. To access the Windows Recovery Environment, insert the corresponding Operating System DVD.

NOTE: Insert an appropriate DVD to restore the Disk Image. For example, to restore a 32 bit Disk Image data, insert only the 32 bit installation DVD.

As the BIOS listing the hardware and other information clears, a prompt similar to the screen shot below appears:



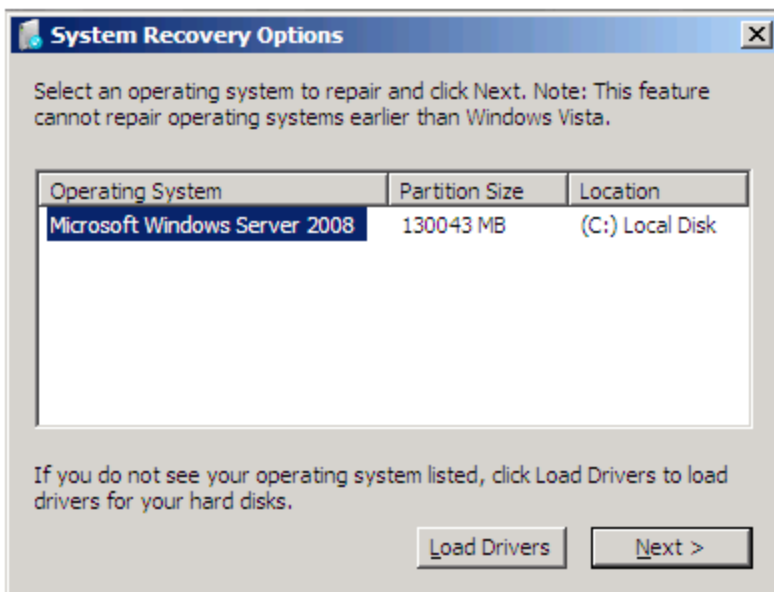
- b. Next a status bar stating **Windows is loading files....** is shown. On completion, you will be presented with a screen which prompts you for information about location and language. Configure the language, time, currency format, and keyboard or input method options.



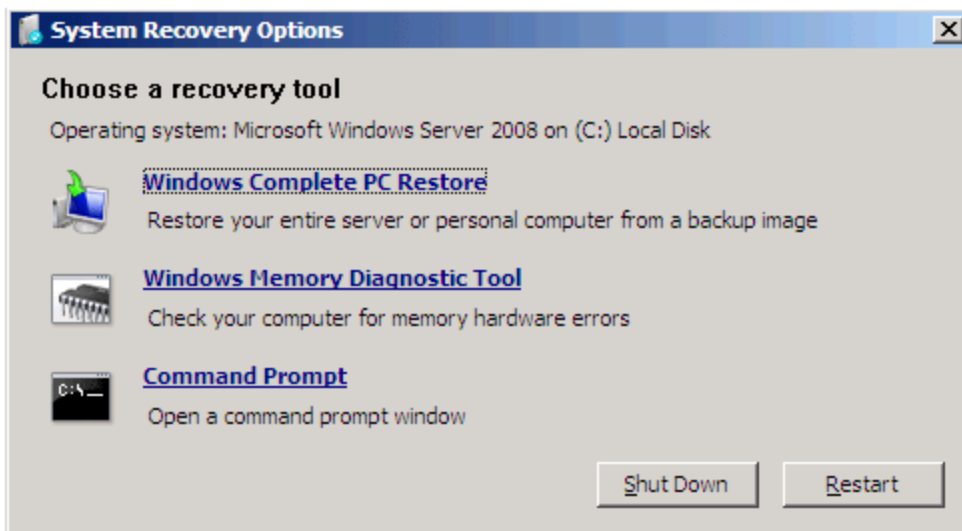
- c. Next screen is the main Windows Operating System setup where normally the Operating System is installed



- d. Click the **Repair your computer** option on your screen. It shows the **System Recovery Options** dialog box wherein the repair process will look for all Windows installations.



- e. Select the Windows installation you would like to repair and click **Next**. A list of available recovery tools is displayed.

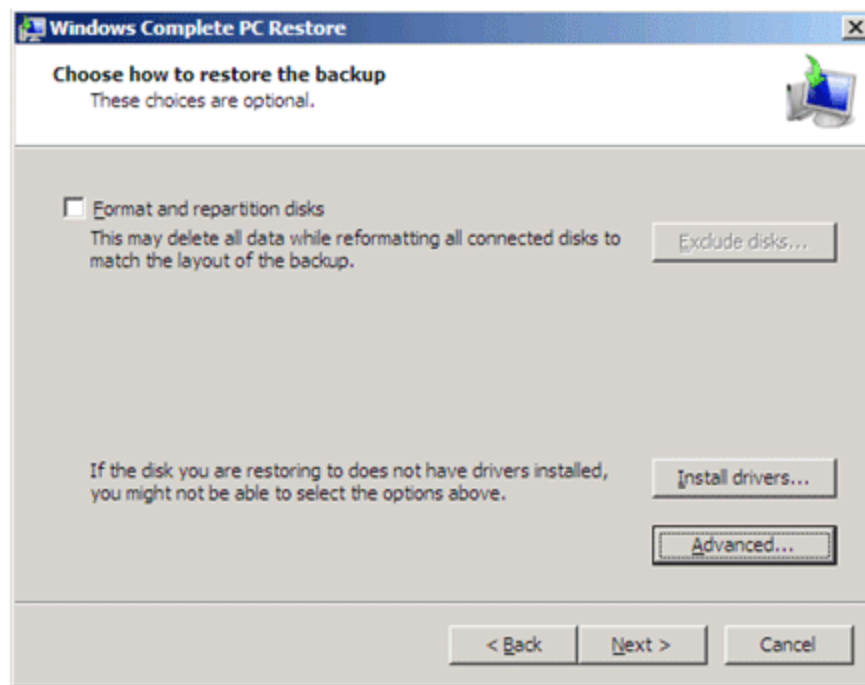


- f. Once you click on the **Windows Complete PC Restore** option, Complete PC Restore will search the hard drives and DVD media for any saved backup images. If there are no backup images found, then a message will appear stating 'No valid backup locations could be found'. If a backup was found on one of the drives or the inserted media, then the screen shot shown below is displayed:

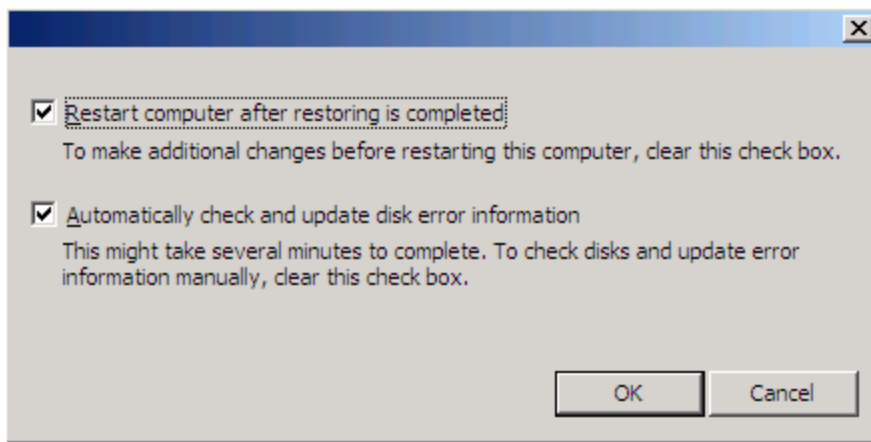


If the selected backup is the one you wish to restore, then proceed to **Next** and continue. If there is a different backup that you would like to use, then select **Restore a different backup** and click **Next**. Select the backup you wish to restore and press **Next**.

- g. In **Choose how to restore the backup** screen, you have the following restore options:



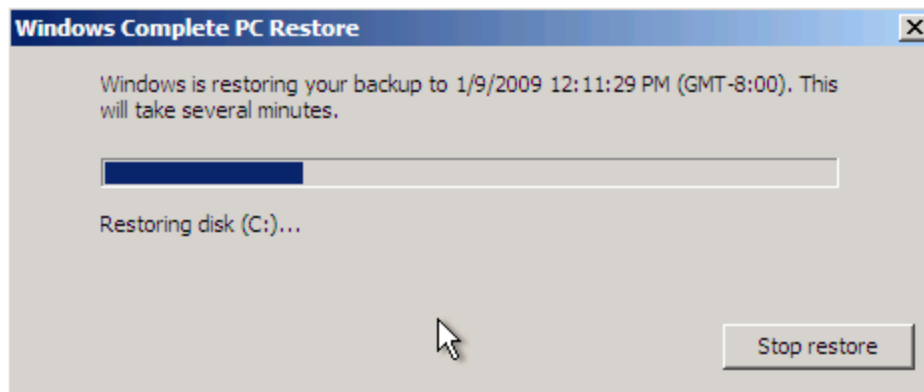
1. Install drivers for the disk you are restoring to by clicking the **Install Drivers** button.
2. Exclude disks option is to exclude the disks from formatting.
3. In the Advanced option, choose **Restart computer after the restoring is completed.** and **Automatically check and update disk error information**



Once you have added the extra options, click **Next**..

NOTE: It is important to note that with either option you select, all the data on the disk you are restoring to will be erased. When you are ready to continue, click **Finish** .

- h. A new window will open stating that all of your data will be erased. If you want to continue with the restore then you need to put a checkmark in the checkbox labeled **I confirm that I want to erase all existing data and restore the backup** and then press the OK button. This will now restore the Disk Image backup on your computer.



If you want to do the restore manually, the following lists the steps to do it from the command prompt:

1. Restart the machine in Windows recovery Environment and select the "Command prompt" option.
2. Run the following commands at the command prompt.

wbadmin get versions -backupTarget:[restored_drive].

The above command gives the version identifier of the backed up image.

3. Restore the Disk image using the following command
wbadmin start recovery -backupTarget:[restored_drive] -version:[version_identifier]

NOTE: You can't restore the drives which are backed up from two different hard disks. To restore the second hard disk drive, please follow the below steps.

1. Get the version identifier using the command specified above.
2. Using the version identifier you can get the backed up volumes by
wbadmin get items -version:[version_identifier] -backupTarget:[Restored_drive]
3. It will list all the volumes available in the backup. Select the **GUID** of the you wish to restore and use the following command.
wbadmin start recovery -version:[version_identifier] -items:\\?\Volume{GUID}\ - itemType:Volume -backupTarget:[restored_drive] -recoveryTarget:[new_partition]

Note: This will erase data available in the new partition and restore the selected volume. After successful restoration, restart the machine.

Limitations

1. Disk Image Restore feature is not supported in Windows XP, Windows Server 2003, Windows Vista Home and Windows Vista Premium.
2. The hardware configuration of the machine to which data is restored should be similar to the source machine.
3. The installation CD/DVD should be appropriate. For e.g., to install a 32 bit Disk Image data, insert only the 32 bit installation DVD.
4. Do not restore the incomplete backups. Before you restore, check whether *.vhd file is available in the restore tree.
5. While restoring, make sure you select one incremental backup to restore. If you select multiple incremental backups in a single restore, the restore data size will be huge.

Restore Image Backup Data

Overview

The image of a disk or a drive that StoreGrid backs up can be restored either as a file or during the restore the image can be applied directly into a disk. When the disk or drive that is to be restored is accessible from the StoreGrid machine running the image restore, the image can be directly applied into the disk. The steps for this are in the later half of this document.

However, often the disk may not be accessible or may be in a remote location. In such cases, the image can be restored as a file first, shipped to the client location and then applied into the disk through StoreGrid's Recovery CD. The second step of applying an image that is restored (as described in this page) back into the machine through **StoreGrid's Recovery CD is detailed in [this document](#)**.

StoreGrid can also convert the restored disk image to a virtual image in the following formats:

1. VMDK - VMWare's virtual machine image format. Image converted into VMDK format can be launched as a virtual machine on a VMWare Server.
2. VHD - Microsoft Hyper-V virtual machine format. Image converted into VHD format can be launched as a virtual machine in a Hyper-V environment.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Backups For Restore" page. In the Action column of the (Advanced Image) Backup Schedule, click on the Restore icon.

Supported OSes

- Windows XP with sp2
- Windows Server 2003 with sp2
- Windows SBS 2003, 2008 & 2011
- Windows Server 2008 & R2
- Windows Vista
- Windows 7

Both 32 and 64 bit OSes are supported.

Restore Bare Metal Backup Data

Step 1: Choose a backup server in case of multiple servers.

This step has the following options:

- **Backup Name** - The backup name is a non-editable field.
- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

Step 2: Select Version To Restore

Here you can choose to restore either the entire disk(s) or restore specific drive(s).

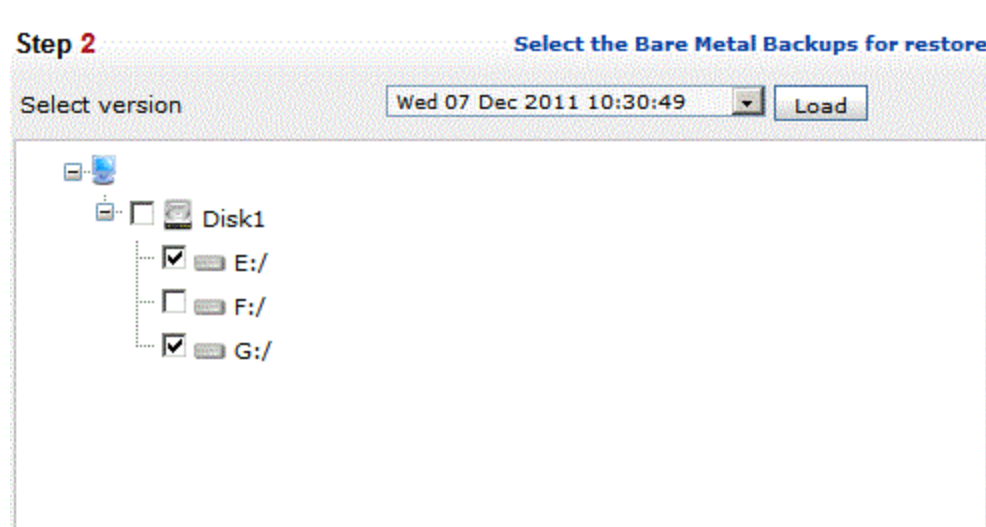
Selecting version for restore: Based on your backup schedule, you can select to restore any version of the backup image of a particular schedule. You can choose the version by scrolling down the select version option list in which the latest version of backup image with the time stamp will be on the top and the oldest backup image at the bottom of the list. select the desired version and click Load button to load the particular image for restore to continue. By default, the latest version of the backup image is loaded.



Selecting entire disk for restore: If you select to restore the entire disk, then in step 4 you can either restore the disk image to the hard disk or convert the disk image into a VMDK / VHD format or can download the disk image locally and use the image to restore to a harddisk using StoreGrid Recovery CD.



Selecting drive(s) for restore: Here you have the option to restore drive(s) alone to another drive(s).



Step 3: Confirm Restore Settings

- **Password** - If the backup schedule is password protected, provide the password here.
- **Restore Location** - Specify the location for restore. The restored files will be saved in this location but with their

full original path - that way you know exactly where these files were in the first place!. Make sure the directory you provide for restore has enough disk space and has valid read and write permissions. It is recommended to provide an empty directory or a new directory path for the local restore location.

Step 4: Confirm Bare Metal Restore Settings

Download Disk Image files

This option "Download the image file from backup server." is used to restore the backup as an image (.vhd) file. This option is useful when the disk that needs to be restored is in a remote location or is not accessible from the machine where StoreGrid is running. After restoring the files, you can take it to the client local and using the StoreGrid Recovery CD, you can restore the disk image file (present in external device) into the new hard disk. For more details on how to restore a disk using StoreGrid's Recovery CD, please refer to [this help document](#). If Compression and encryption is not enabled for the backup schedule, this downloaded Vhd file can be directly connected to any supporting virtualization environment like Microsoft Hyper-v and can be booted as ready to use VM

VMDK or VHD Conversion

Option 'Convert the restored disk image into VMDK/VHD format' is used to convert the disk image file into virtual files either VMDK - VMWare's virtual machine image format or VHD-Microsoft Hyper-V virtual machine format. The converted virtual image can be used to boot it up as a virtual machine in a VMWare or Hyper-V environment.

Note: While launching the VMDK/VHD file on a virtual machine environment, you have to inject the drivers through the Recovery CD

Hard disk or Partition restore

This steps restores the backed up disk image data to disk/driver. By default, the option 'Perform disk or partition restore...' is selected. This will restore the data to the hard disk/driver.

Note: In Windows Vista, Windows 7, Windows 2008 OSes, you have to set the BCD configuration through the Recovery CD if any problem occurred while booting the OS from the recovered hard disk data.

Step 4 Confirm Bare Metal Restore Settings

☐ Download the image file from backup server.

☐ Convert the restored disk image into VMDK format as ready-to-use VM. ?

☐ Convert the restored disk image into VHD format as ready-to-use VM. ?

☒ **Perform disk or partition restore.**

Source (Disk/Drive)	Destination (Disk/Drive)
Disk0	Select Disk Select Disk Disk-0 [127.0 GB]

• **Restore and Cancel Button** - Once all the options are set, click on the Restore button to restore the backup. The status of the restore operation will be displayed in a pop-up browser window.

Troubleshooting Tips

Building StoreGrid Recovery CD

Overview

Note: To Restore StoreGrid 4.0 and 4.1 BMR Backups please use StoreGrid 4.0 Recovery CD. To view StoreGrid 4.0 documentaion click [here](#).

Building StoreGrid Recovery CD is simple process. If you don't have Windows AIK ,You should download and install it as explained below.

User have to do download the StoreGrid Recovery CD builder files from StoreGrid website and build the recovery ISO using that. We couldn't build and distribute the ISO directly as Microsoft license restricts it.

Prerequisites

To build Storegrid Recovery CD following are needed,

1. Windows Automation Kit

You can download the Windows Automated Installation Kit (Windows AIK) from microsoft website

<http://www.microsoft.com/download/en/details.aspx?id=5753>.

Filename : KB3AIK_EN.iso (1.7GB)

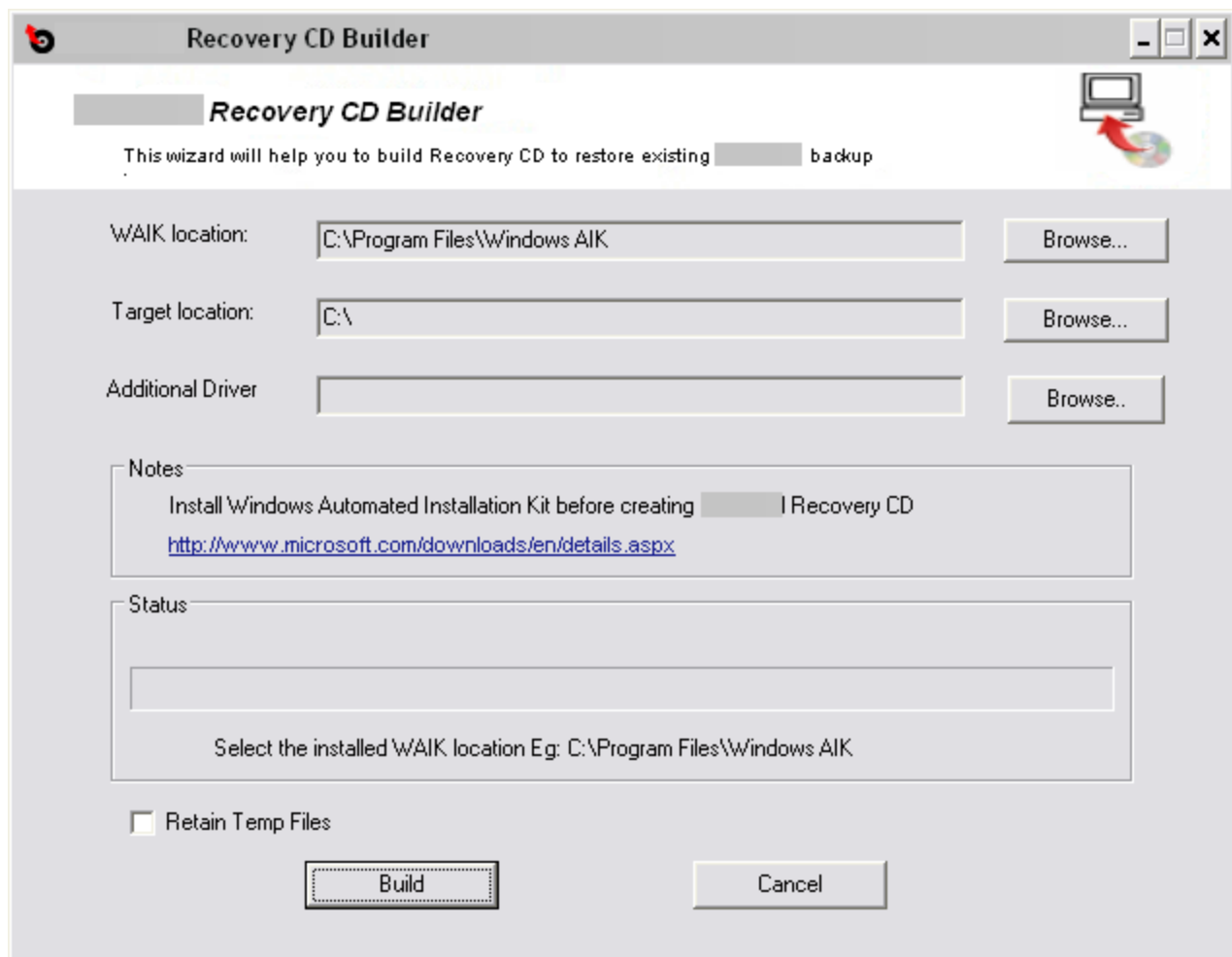
Write the downloaded ISO into a DVD and install the AIK using created DVD(Note: Latest Windows AIK won't install on xp and below OSs)

2. StoreGrid Recovery CD Builder

1. Click [here](#) to download StoreGrid Recovery CD Builder.
2. Extract the downloaded zip file.

Build Process

1. Open extracted storegrid builder files location and run StoreGrid Recovery CD Builder.exe.
2. Browse and select a location which have minimum 256MB space for TargetLocation.



3. This step is **optional**.

StoreGrid Recovery CD is based on Windows 7 . It have inbuild drivers for most commonly used devices. But if you are going to restore to a machine with devices which haven't supported by windows bydefault, then you have to put the all driver files for those devices in a folder and specify that path in Additional Driver.

The screenshot shows the 'Recovery CD Builder' window. At the top, the title bar reads 'Recovery CD Builder'. Below the title bar, the window has a header area with the text 'Recovery CD Builder' and a sub-header 'This wizard will help you to build Recovery CD to restore existing [redacted] backup'. To the right of the sub-header is an icon of a computer monitor with a red arrow pointing to a CD. The main area contains three input fields: 'WAIK location:' with the value 'C:\Program Files\Windows AIK' and a 'Browse...' button; 'Target location:' with the value 'C:\' and a 'Browse...' button; and 'Additional Driver' with the value 'D:\' and a 'Browse...' button. Below these is a 'Notes' section with the text 'Install Windows Automated Installation Kit before creating [redacted] Recovery CD' and a URL <http://www.microsoft.com/downloads/en/details.aspx>. Below the notes is a 'Status' section with a large empty text box and the instruction 'Select the installed WAIK location Eg: C:\Program Files\Windows AIK'. At the bottom, there is a checkbox labeled 'Retain Temp Files' which is currently unchecked. Finally, there are two buttons: 'Build' and 'Cancel'.

Recovery CD Builder

This wizard will help you to build Recovery CD to restore existing [redacted] backup

WAIK location: C:\Program Files\Windows AIK Browse...

Target location: C:\ Browse...

Additional Driver D:\ Browse..

Notes

Install Windows Automated Installation Kit before creating [redacted] Recovery CD

<http://www.microsoft.com/downloads/en/details.aspx>

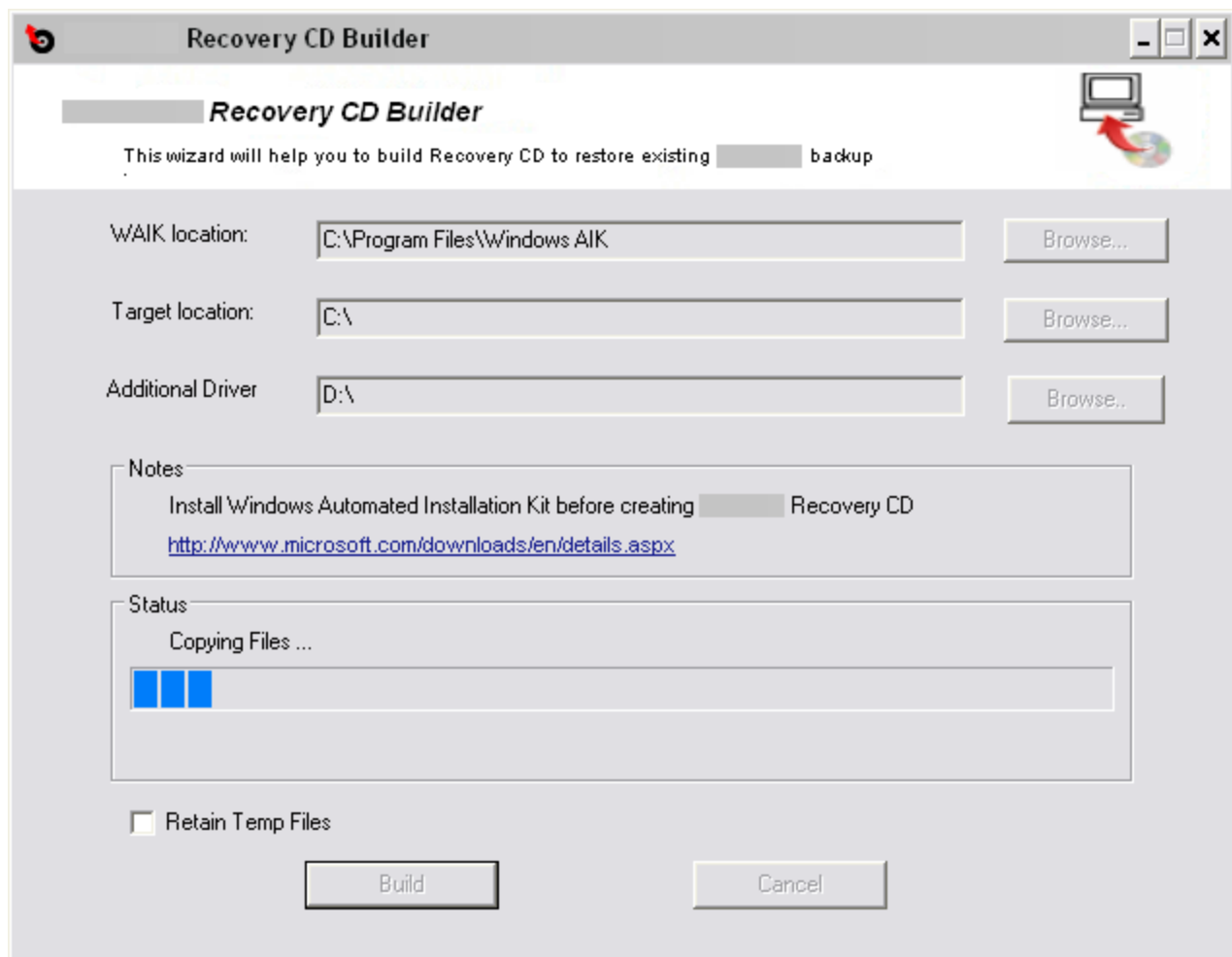
Status

Select the installed WAIK location Eg: C:\Program Files\Windows AIK

☐ Retain Temp Files

Build Cancel

4. If you are going to create Recovery USB select the 'Retain Temp Files' checkbox.
5. Click the Build to start the build process.



6. It will start the build and the create ISO file

ISO Usage

1. You can write it in a CD/DVD
or
2. You can write it into USB Flash drive

Use the following method to prepare the BMR Recovery USB

1. From a running **Windows Vista\Win 7\Win 2008**(Oss below vista are not supporting UFD partition) operating system or Windows PE session, insert your UFD device.
2. At a command prompt, use Diskpart to format the device as FAT32 spanning the entire device, and set the partition as active. For example,

```
diskpart
list disk
select disk DISK_INDEX
clean
create partition primary size=SIZE_OF_THE_DEVICE
select partition 1
active
format fs=fat32
assign
exit
```

DISK_INDEX is the index number you get from previous command

SIZE_OF_THE_DEVICE is the size you allocate for the Recovery Partition.It should be atleast 256MB

3. Copy all the content in the \ISO directory(Located in the system temp folder) onto your UFD device.

You can manually copy or use the xcopy command. For example,
xcopy D:\BmrRecoveryISO\winpe_iso\iso*. * /s /e /f f:\

where 'f:' is the letter of your UFD device.

For more info please, check the [Microsoft help document](#)

Restoring the client machine through StoreGrid's Recovery CD

Overview

StoreGrid supports creating an image of entire disk or specific partitions in Windows machines and then backing it up. In case the Windows client machine crashes completely or if a specific drive gets corrupted, it can be recovered from the StoreGrid's backed up image.

The restored StoreGrid image can be directly applied to the disk in the case the disk to be restored is accessible from the StoreGrid machine where the restore is run. This is covered in detail [here](#).

However, often the client machine may be in a different location or the disk may not be accessible from the machine where the StoreGrid image restore is run. In such cases, the restored StoreGrid image has to be shipped to the client's location and the image has to be applied through StoreGrid's Recovery CD.

This recovery is a two step process.

1. The image that is backed up by the StoreGrid client needs to be restored from the backup location. More details on it can be found [here](#).
2. Through StoreGrid's Recovery CD, the restored StoreGrid image file can then be used to either restore the entire disk and boot up the client machine (in case the image is of a boot - OS disk) or can be used to restore the specific partition (in case it is an image of a specific partition). This second step is explained in detail in this document.

StoreGrid's Recovery CD can also be used to convert the restored StoreGrid image (.vhd) file into a virtual image. The StoreGrid image file can be converted into one of the following two formats

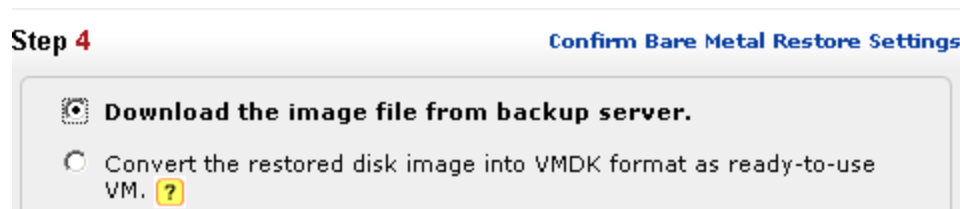
1. VMDK - VMWare's virtual machine image format. Image converted into VMDK format can be launched as a virtual machine on a VMWare Server.
2. VHD - Microsoft Hyper-V virtual machine format. StoreGrid uses VHD image format for backups. But if you opted encryption, compression, while taking backup, it must be decrypted and(or) decompressed before, used in Hyper-V Servers. Though you can use incremental VHD files directly, we suggest to use Fixed Size VHD Image. Image converted into VHD format can be launched as a virtual machine in a Hyper-V environment.

How to create a StoreGrid Recovery CD(ISO)

For step by step documentation of generating recovery cd, click [here](#).

Recovering the Client Machine with the restored StoreGrid Image file

1. Follow the steps mentioned [here](#) to recover the image file. In step 4, select the first option as shown below



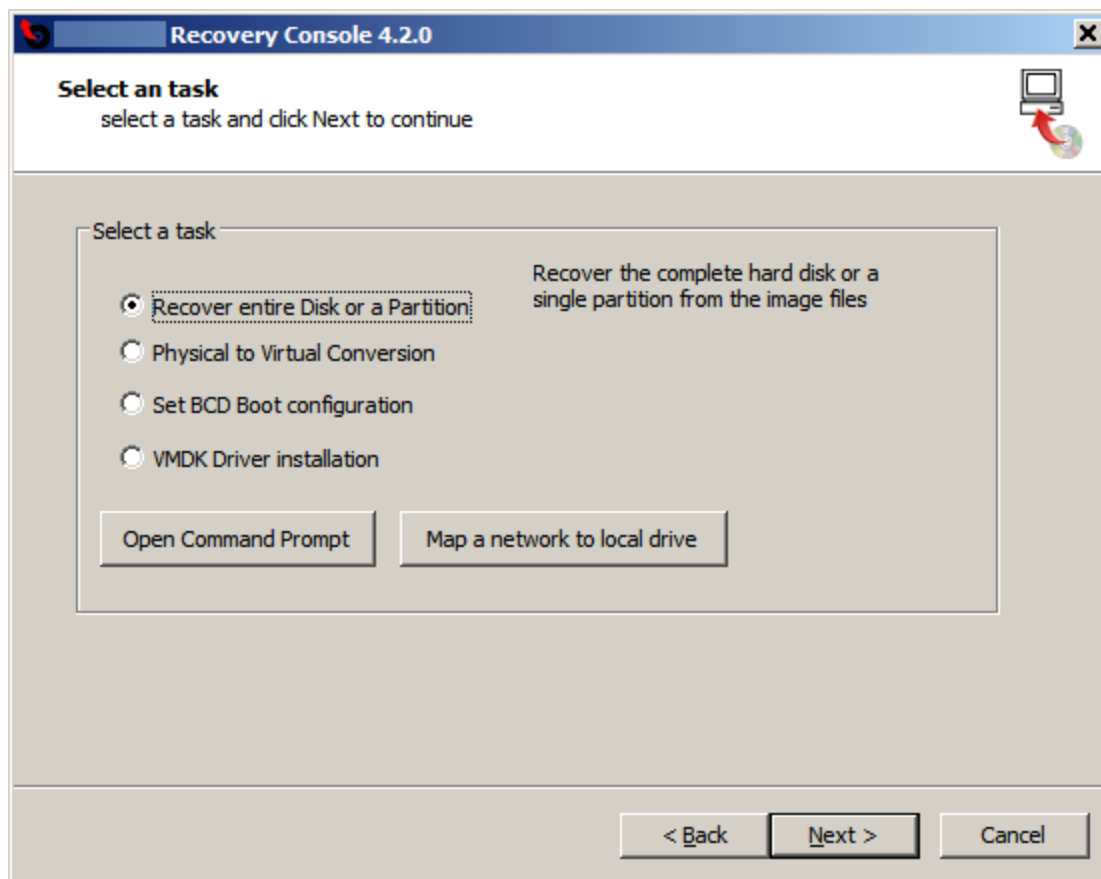
2. Download the StoreGrid Recovery CD ISO from [here](#) and burn it into a CD. Boot up the crashed machine with this CD.

Press any key to boot from CD or DVD..._

3. StoreGrid Recovery welcome wizard page will be displayed as shown below. Select Next to continue

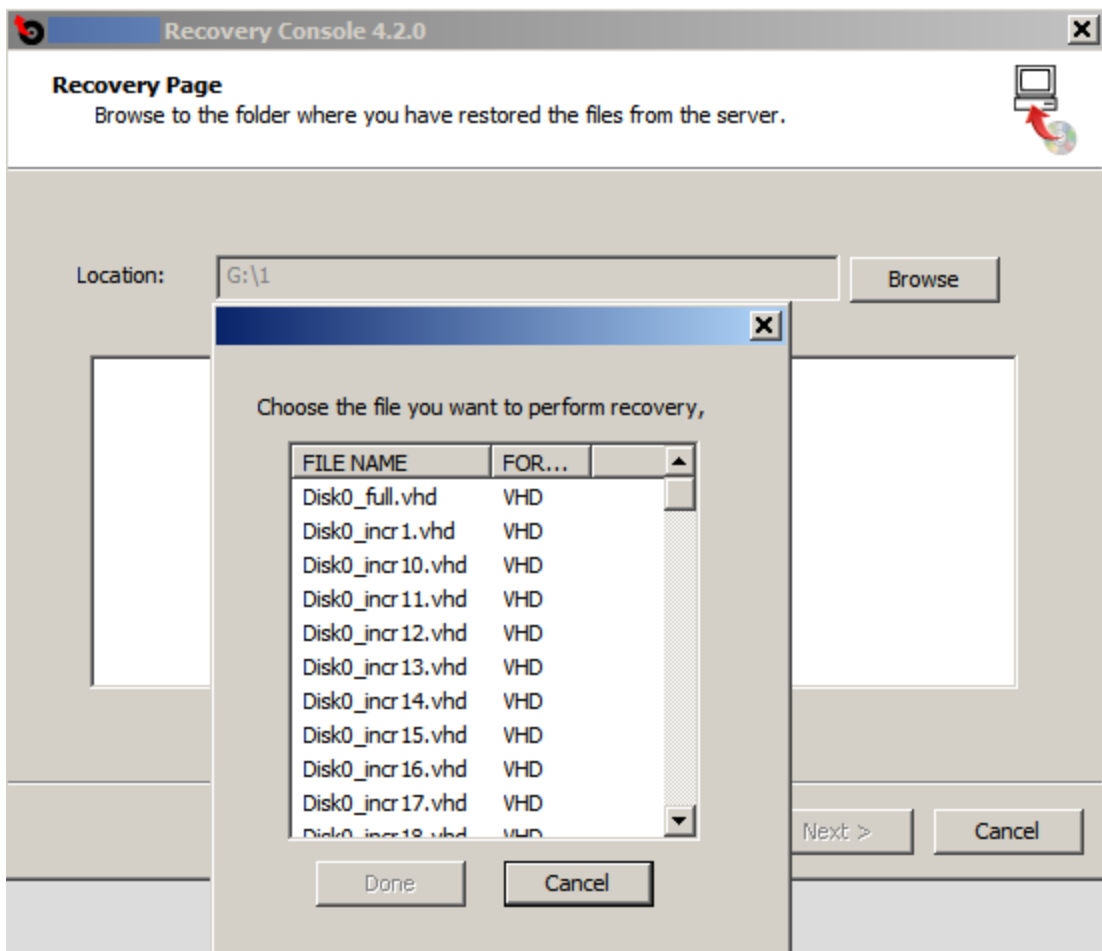


4. The tasks that can be performed with the Recovery CD will be listed as shown below. Select the **Recover entire Disk or Partition** and click Next.

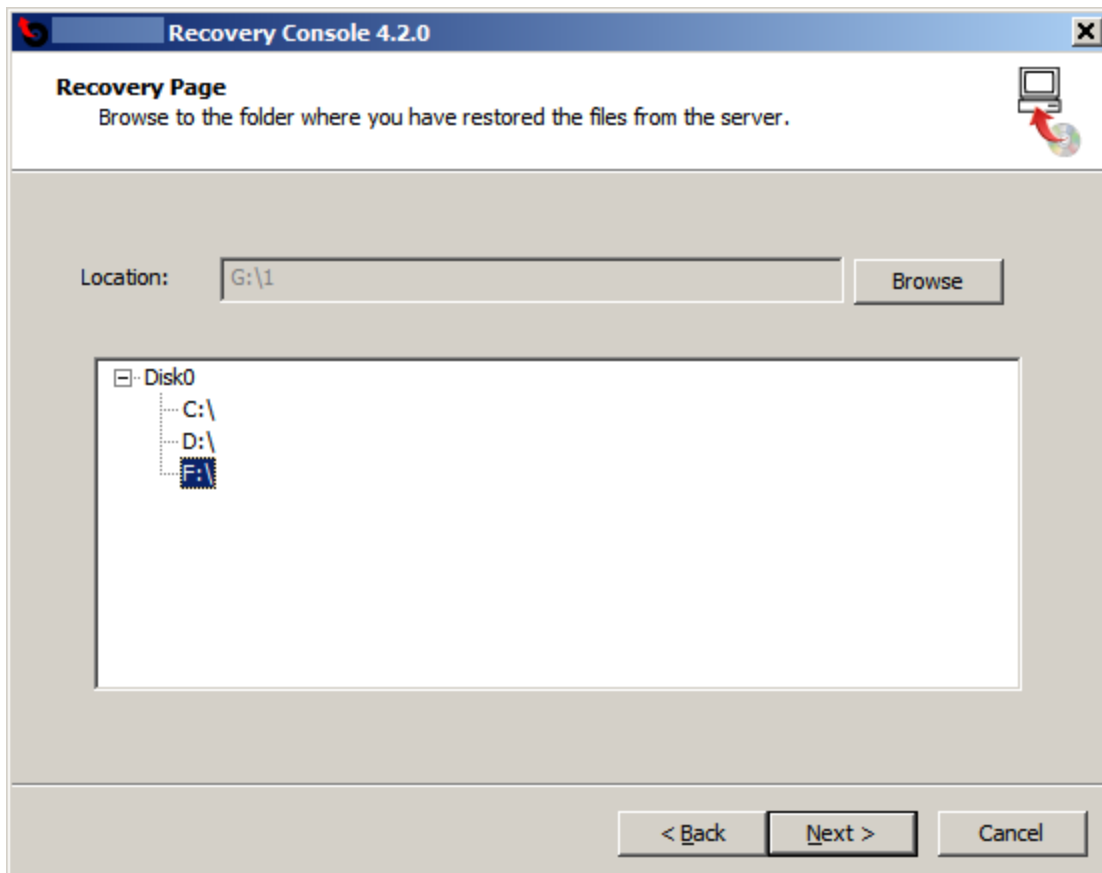


5. The next page will let you select the backup file to restore.

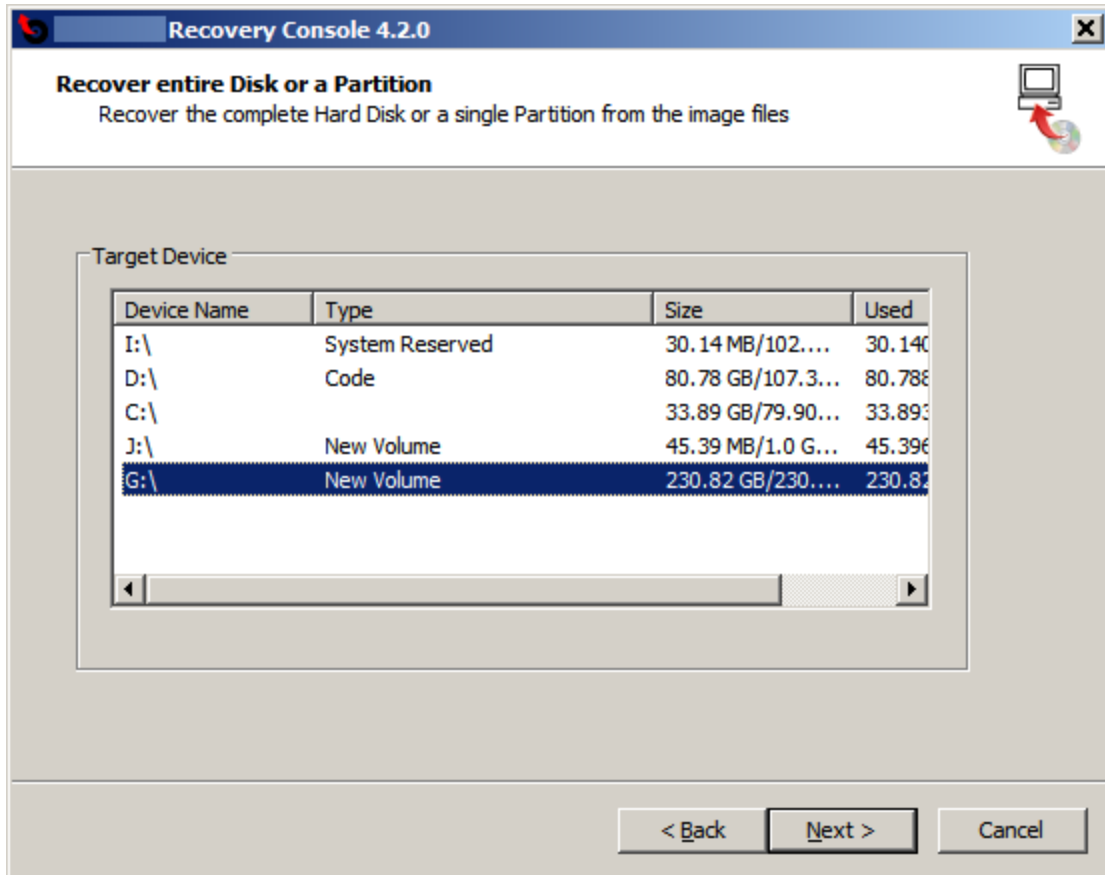
- Click **Browse** button and select the folder where the backup image was restored in the first step as described earlier in this document. From the list of Vhd file you may choose to select , which incremental vhd you wish to recover.



- From the selected vhd file select either Disk or Partition in the disk to restore.



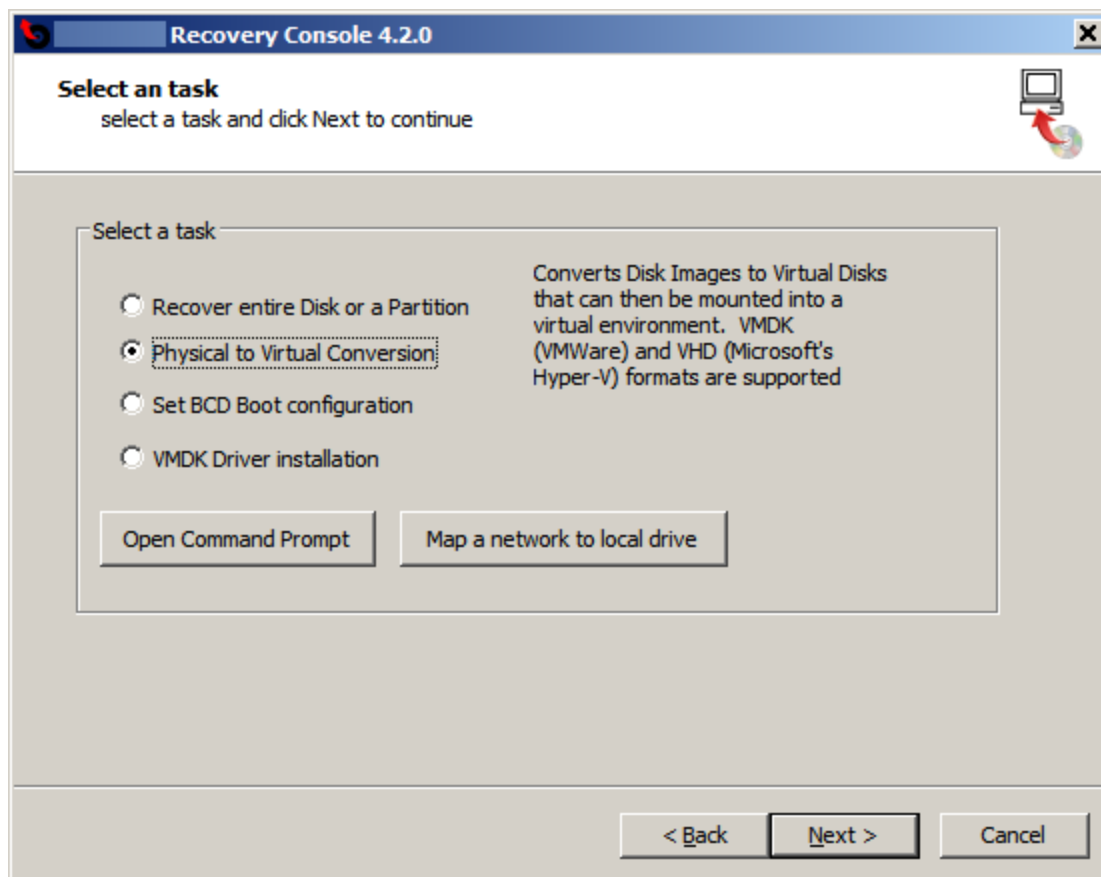
- Select the target Disk or Partition from the Target Device List to which you want to restore the image and click Next. Make sure selected disk is as large as the original disk.



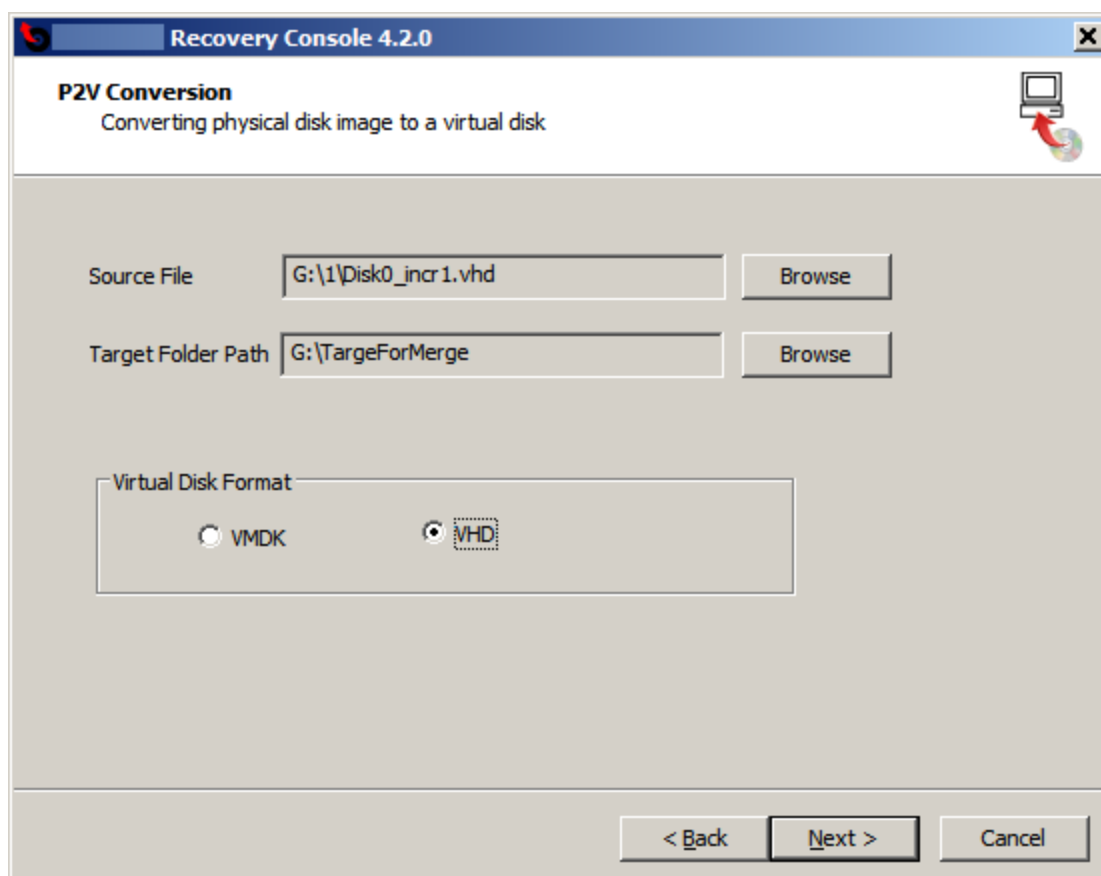
6. Depending on the used space the restore will take some time. After restore is completed click **Finish** button to restart the machine

Convert Physical Disk Image to a Virtual Image (P2V)

1. Run the StoreGrid Recovery CD and select the **Physical to Virtual Conversion** option and click Next.



2.
 1. Click **Browse** button and select image file that was restored from the backup data.
 2. Enter the target folder path where you want to store the converted virtual image file.
 3. Select the virtual environment type - VMWare or Hyper-v



3. Time for virtual conversion depends up on the size of the disk. After the conversion, click **Finish** button to restart the machine

NOTE:The image backup data can be restored as a virtual image directly during the restore as described here: [here](#)

Troubleshooting Tips

- **Failed to load in virtual environment after P2V conversion**

Select **Install virtual disk controller drivers** in the StoreGrid Recovery Task list and select the correct environment type and click next to install drivers

- **Failed to load after P2P conversion of Vista,Win7,Win2008**

Select **Set BCD Boot Configuration** in the StoreGrid Recovery Task list

Virtual Recovery as Hyper-v VM

Overview

The image of a disk or drive backup can be converted as ready to use VM. StoreGrid supports the following virtualization environment Microsoft Hyper-v, Virtual PC, Virtual Server, Oracle Virtual Box, VmWare. If the backup source harddisk has operating system, the converted image can be directly booted in the above mentioned virtualization platforms. The steps for booting in HyperV Manager is explained in detail [here](#).

How to boot as Hyper-v VM ?

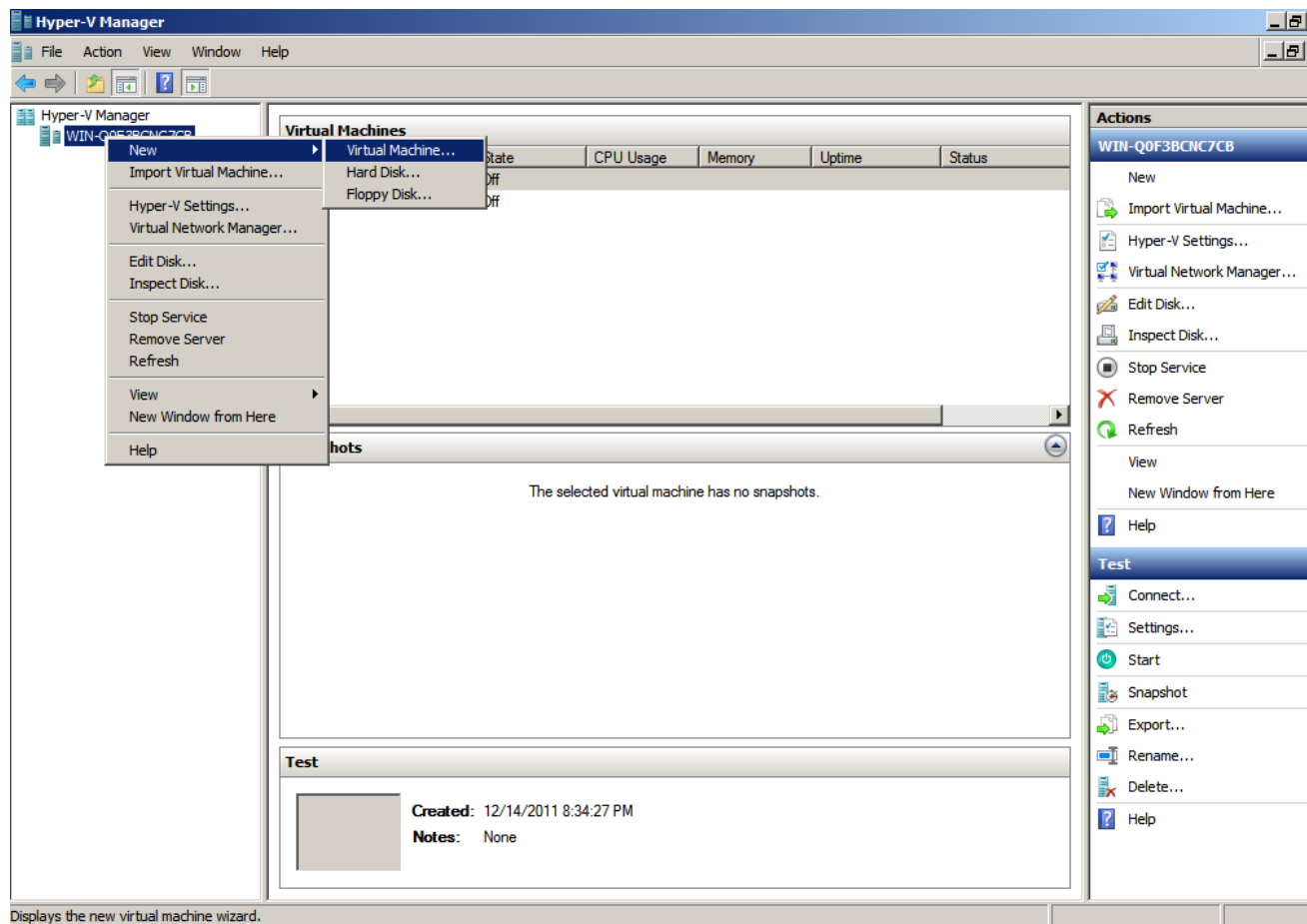
NOTE : It is assumed the backup image has been converted to VHD with help of [this document](#). The same conversion operation can be performed using StoreGrid Recovery CD as explained [here](#). If the backup is configured without enabling encryption and compression, the Backup VHD can be directly booted using Hyper-v.

Step 0: Launch Hyper-v :

Launch Hyper-v Manager from Start->All Programs->Administrative Tools->Hyper-V Manager. Note: Hyper-V Manager will be available in Windows 2008 R2 Operating System if the Hyper-v role is enabled in the server.

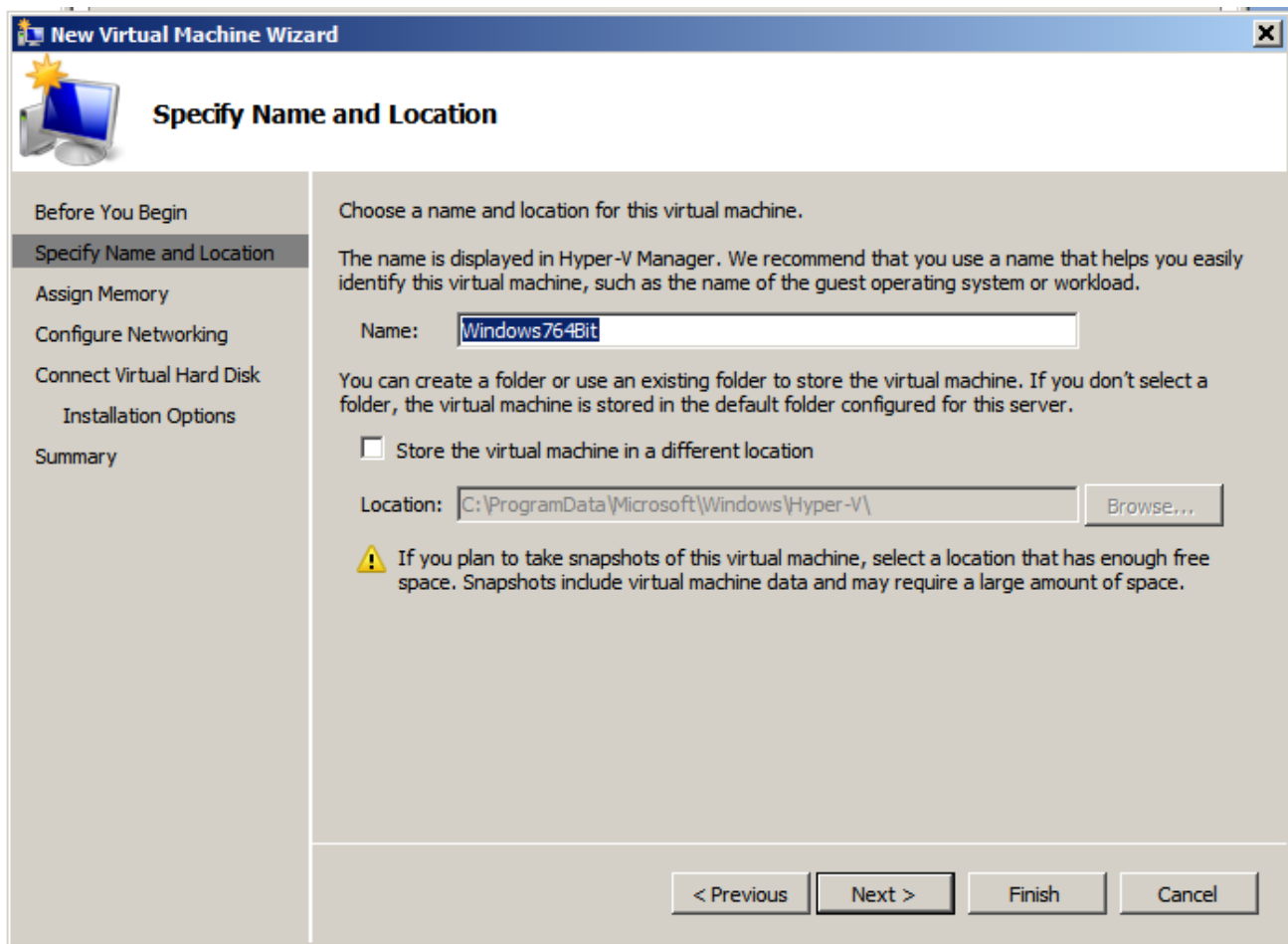
Step 1: Create New Virtual Machine :

Create New Virtual Machine by Right click -> New -> Virtual Machine or In Menu, Action -> New -> Virtual Machine



Step 2: Enter Name of Virtual Machine :

Enter the desired name for the new virtual machine.



The image shows a screenshot of the 'New Virtual Machine Wizard' window, specifically the 'Specify Name and Location' step. The window has a blue title bar with the text 'New Virtual Machine Wizard' and a close button. On the left side, there is a vertical navigation pane with icons and text for the following steps: 'Before You Begin', 'Specify Name and Location' (which is highlighted with a star icon), 'Assign Memory', 'Configure Networking', 'Connect Virtual Hard Disk', 'Installation Options', and 'Summary'. The main area of the wizard is titled 'Specify Name and Location' and contains the following text: 'Choose a name and location for this virtual machine. The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload.' Below this text, there is a 'Name:' label followed by a text box containing 'Windows764Bit'. Further down, there is a paragraph: 'You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server.' Below this paragraph, there is a checkbox labeled 'Store the virtual machine in a different location', which is currently unchecked. Underneath the checkbox, there is a 'Location:' label followed by a text box containing 'C:\ProgramData\Microsoft\Windows\Hyper-V\' and a 'Browse...' button. At the bottom of the main area, there is a yellow warning icon followed by the text: 'If you plan to take snapshots of this virtual machine, select a location that has enough free space. Snapshots include virtual machine data and may require a large amount of space.' At the very bottom of the window, there are four buttons: '< Previous', 'Next >', 'Finish', and 'Cancel'.

New Virtual Machine Wizard

Specify Name and Location

Before You Begin
Specify Name and Location
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Installation Options
Summary

Choose a name and location for this virtual machine.


The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload.

Name:

You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server.

☐ Store the virtual machine in a different location

Location:


 If you plan to take snapshots of this virtual machine, select a location that has enough free space. Snapshots include virtual machine data and may require a large amount of space.

< Previous Next > Finish Cancel

Step 3: Select Memory :

Select virtual **RAM Memory** in this page.


New Virtual Machine Wizard

 **Assign Memory**

Before You Begin
Specify Name and Location
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Installation Options
Summary

Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 8 MB through 1790 MB. To improve performance, specify more than the minimum amount recommended for the operating system.

Memory: MB

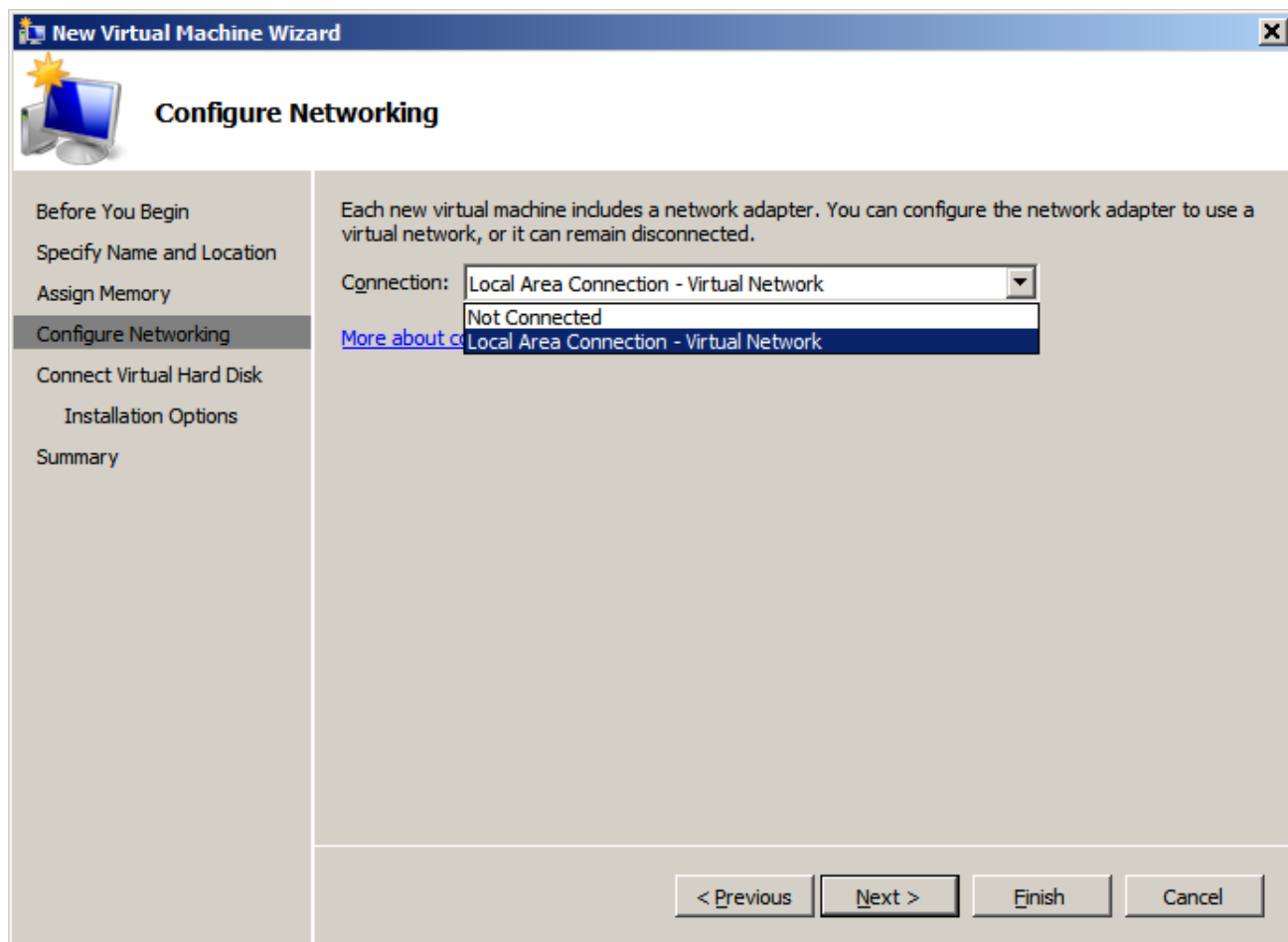
 When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.

[More about determining the memory to assign to a virtual machine](#)

< Previous Next > Finish Cancel

Step 4: Select Virtual Network :


Select the Virtual Network of choice from the drop down option, for the newly created VM.



Step 5: Select Hard Disk :

Choose to select **Use Existing Hard disk**. Click the browse icon and navigate to the location where the converted VHD exist and select the desired VHD.

New Virtual Machine Wizard

 **Connect Virtual Hard Disk**

Before You Begin
Specify Name and Location
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Summary

A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties.

☐ Create a virtual hard disk

Name:
Location:
Size: GB (Maximum: 2040 GB)

☒ Use an existing virtual hard disk

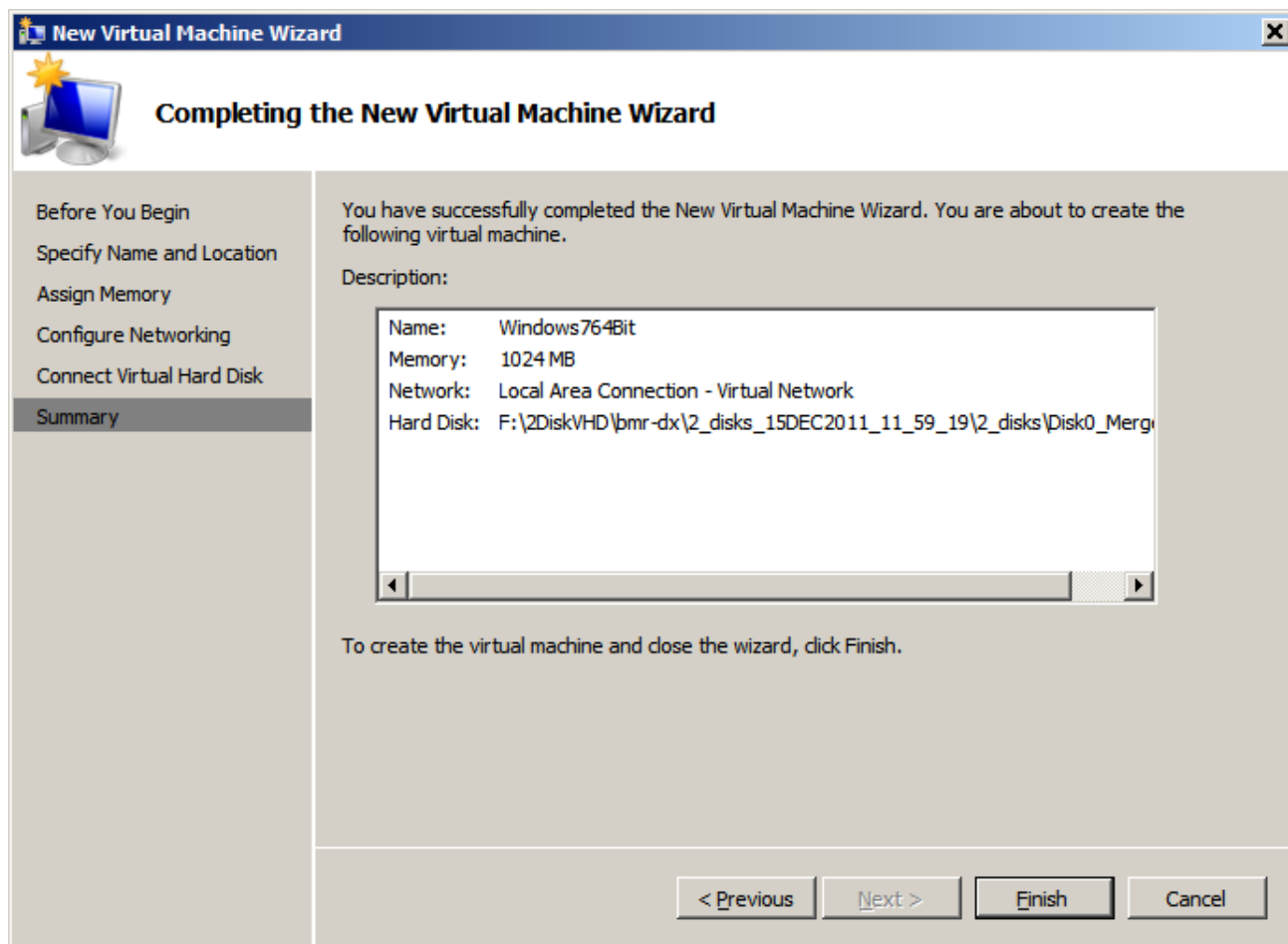
Location:

☐ Attach a virtual hard disk later

< Previous Next > Finish Cancel

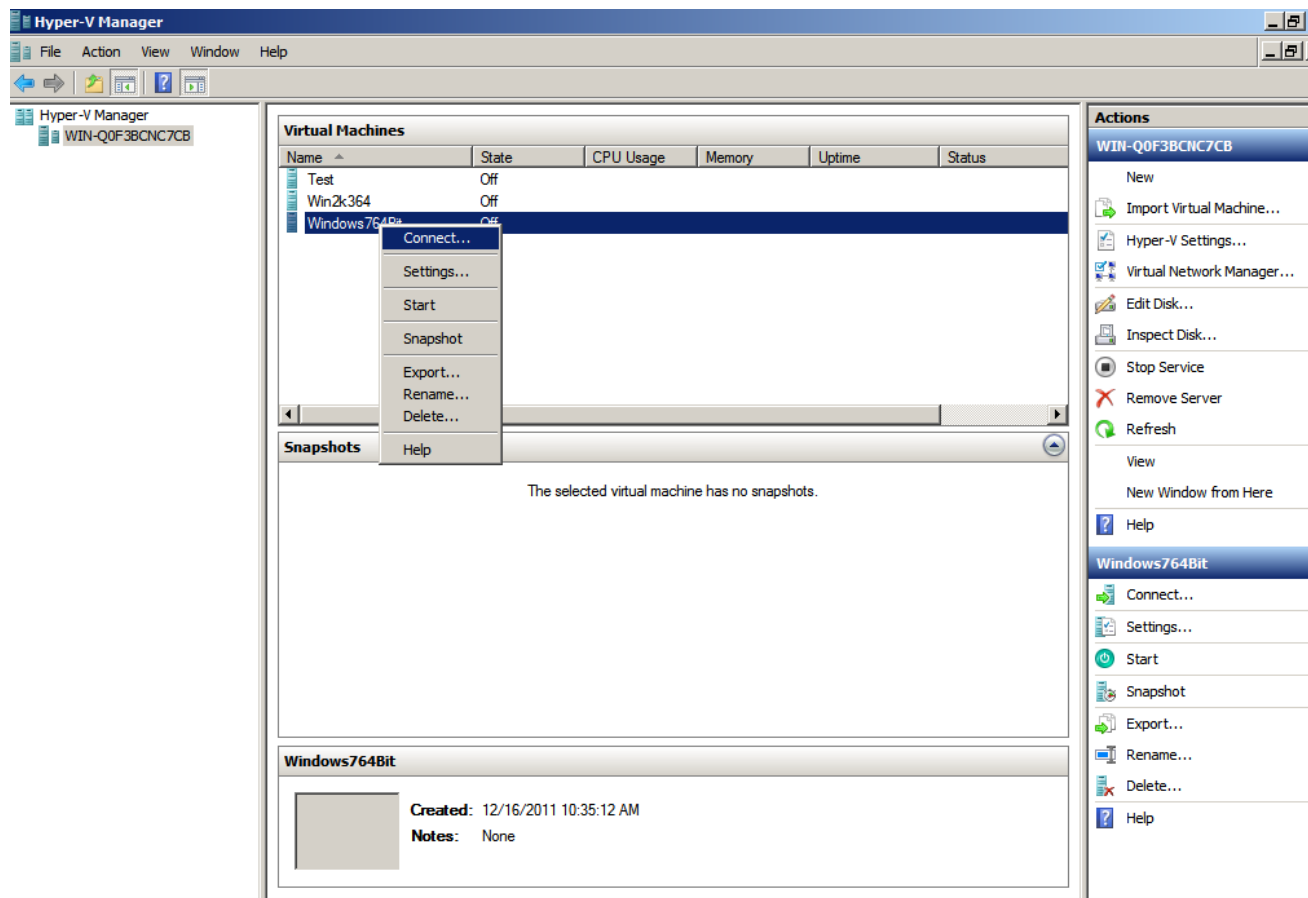
Step 6: Finish Page :

Now the process of creating Virtual Machine using Converted VHD is complete , click Finish to Exit.



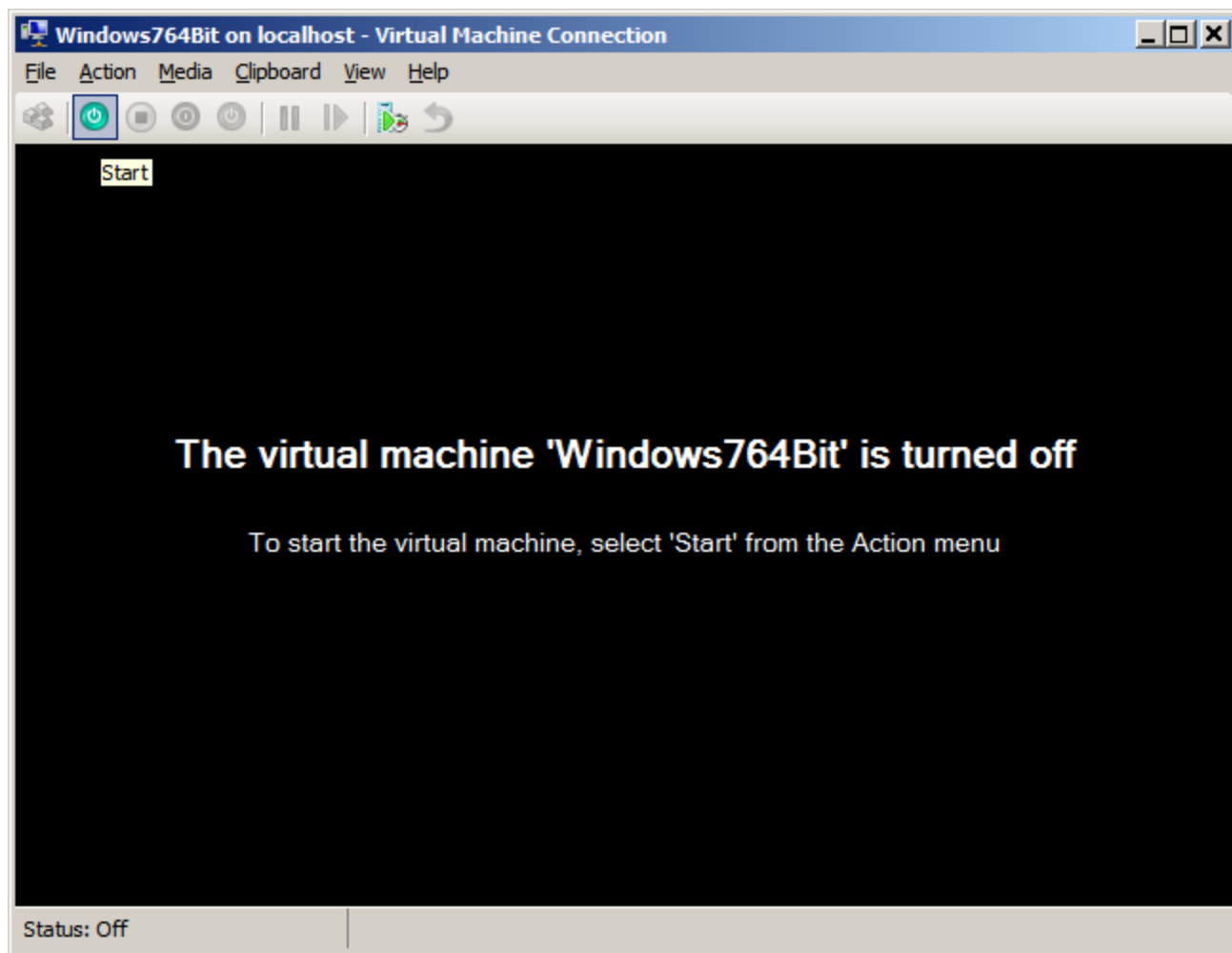
Step 7: Connect to Created Virtual Machine:

To connect the created VM, Right Click and select connect option.



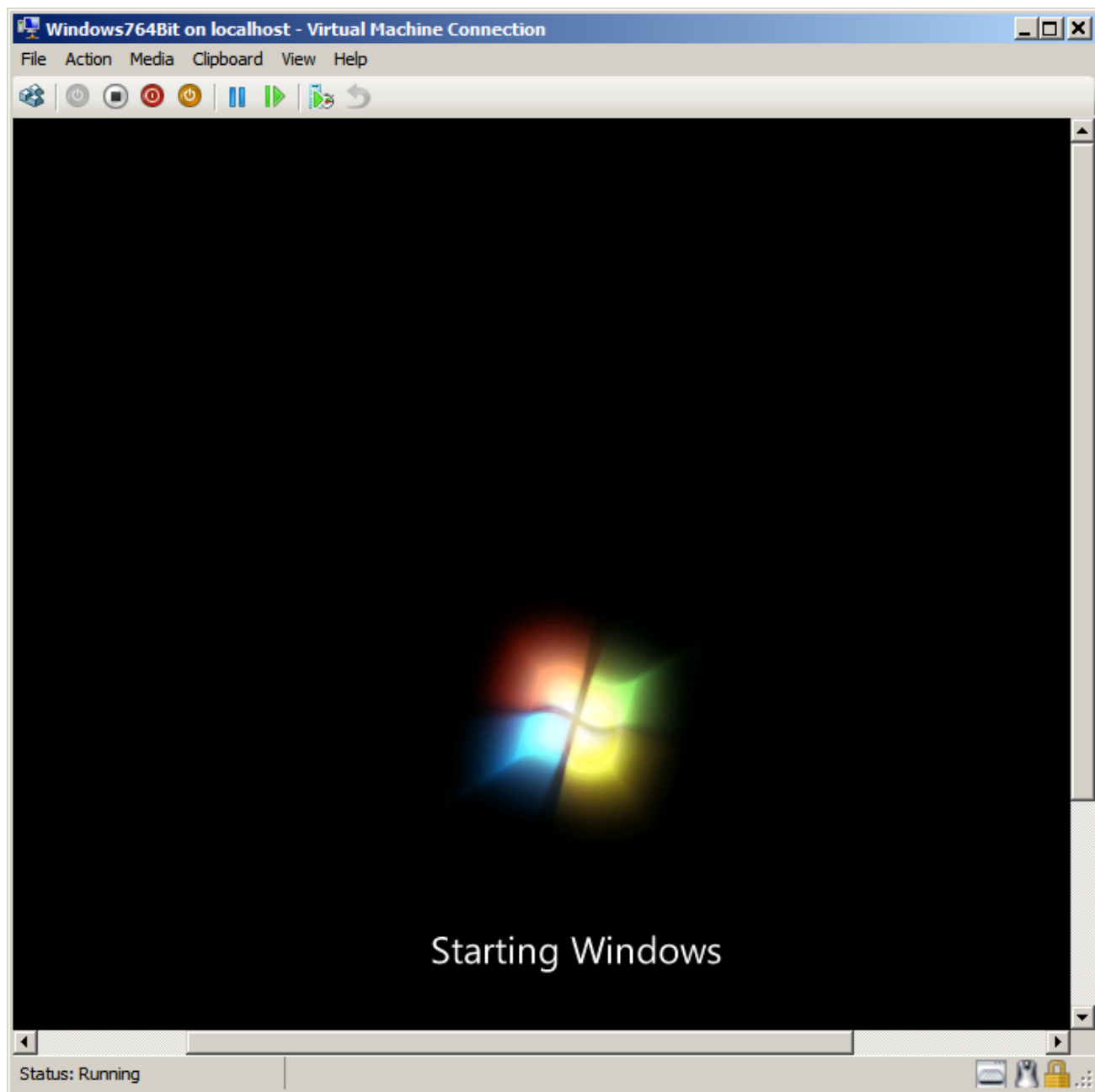
Step 8: Start Created Virtual Machine:

To start the created VM, Click the start button or you may choose Action->Start from the Menu Bar.



Step 9: Booting Screen :

VM gets started and you will get to see the booting screen.



Troubleshooting Tips

- **Resource Allocation Error**

Check whether you have allocated Virtual RAM memory that is more than 50% of the Host Operating System. It is recommended that you choose RAM memory less than 50% of the Host Operating System.

VMWare Guest OS Image Restore

Overview

VMWare Backup and Restore feature is an effective solution to recover data against system crashes and to recreate a system similar to the old one. It can restore the virtual machine includes the virtual machine's state and the data includes all the files that make-up the virtual machine, including disks, memory, and other devices, such as virtual network interface cards.

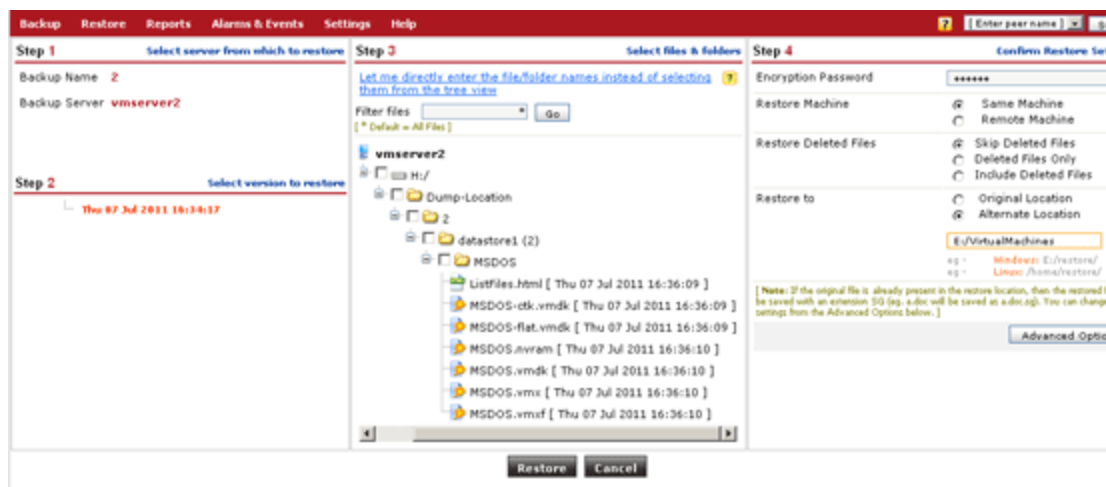
How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List of Backups for Restore" page. In the Action column of the (VMWare) Backup Schedule, click on the Restore icon.

Restoring virtual machines backup

Restoring VMWare backup is a 2-step process.

- i. Restore the VMWare backup data from the backup server to a folder in the client machine.



- ii. Use VSphere Client console to restore Guest OS snapshot file.

Note: Before restoring the VMWare backup from StoreGrid, confirm that the backup contains *.vmdk files by expanding the restore tree in the restore backup page. If .vmdk file is not listed, then it could be that the backup had failed or is incomplete.

The following steps listed below show how to recover the image of the configured Guest OSes using VSphere Client Console.

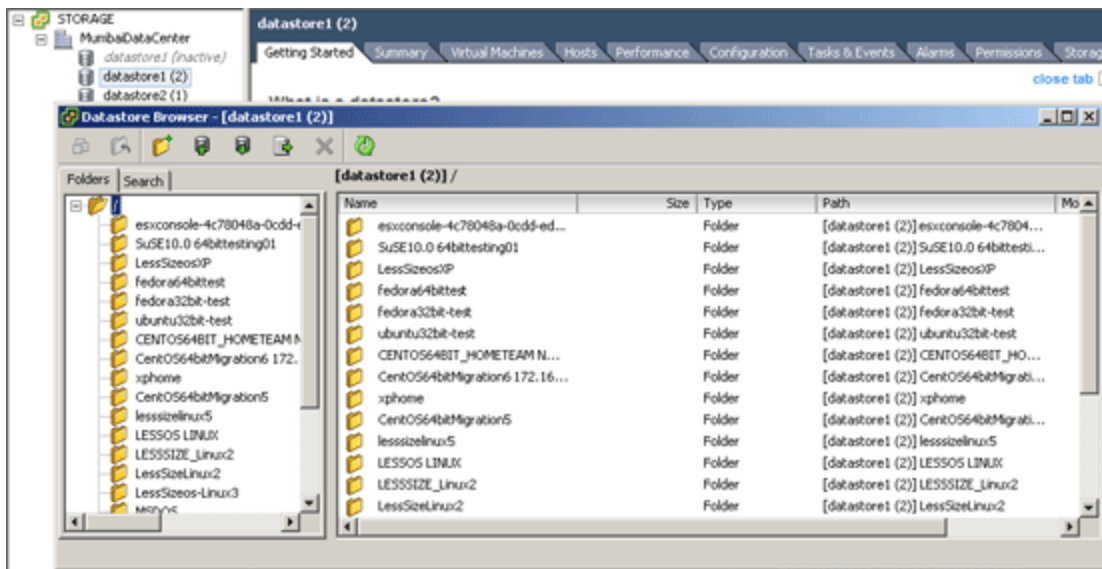
- i. Restore VMWare backup data on the client machine by running the restore process through StoreGrid client's web console. Since the data to be restore could be huge, you could alternatively restore the backup on the backup server side using StoreGrid's Server Side Restore feature and ship the restore data to the client site.
- ii. Once you restored the backed up data, upload files to the datastore using the **VSphere Client**.

Use the Datastore Browser to upload a file/folder from the VSphere Client machine to a datastore in the VSphere Client inventory.

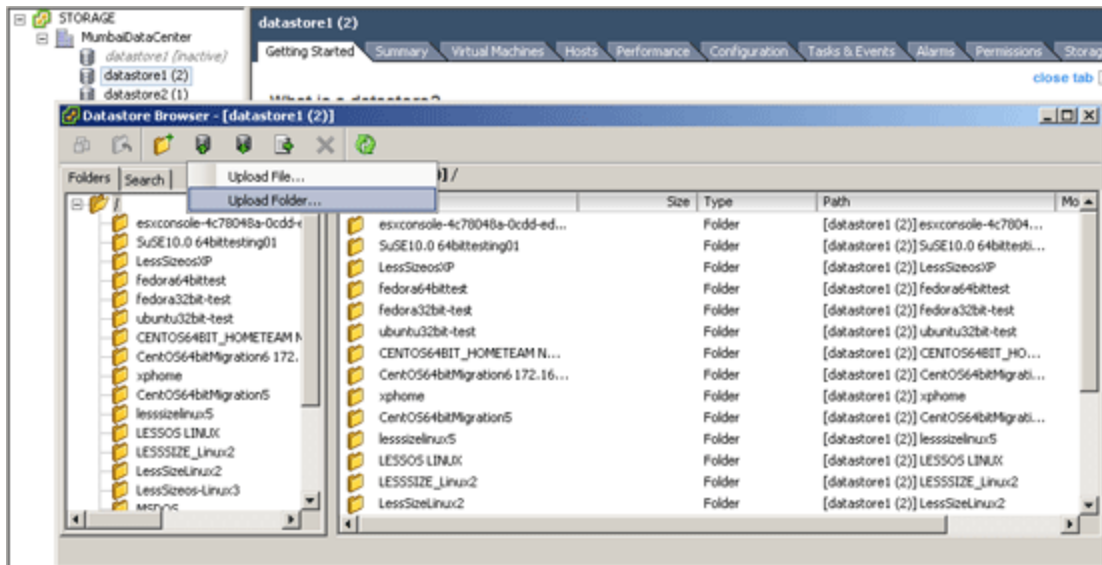
Note: If you upload a disk file, vCenter Server does not recognize it as a disk.

Follow the steps mentioned below to restore the Guest OS Image using VSphere Client

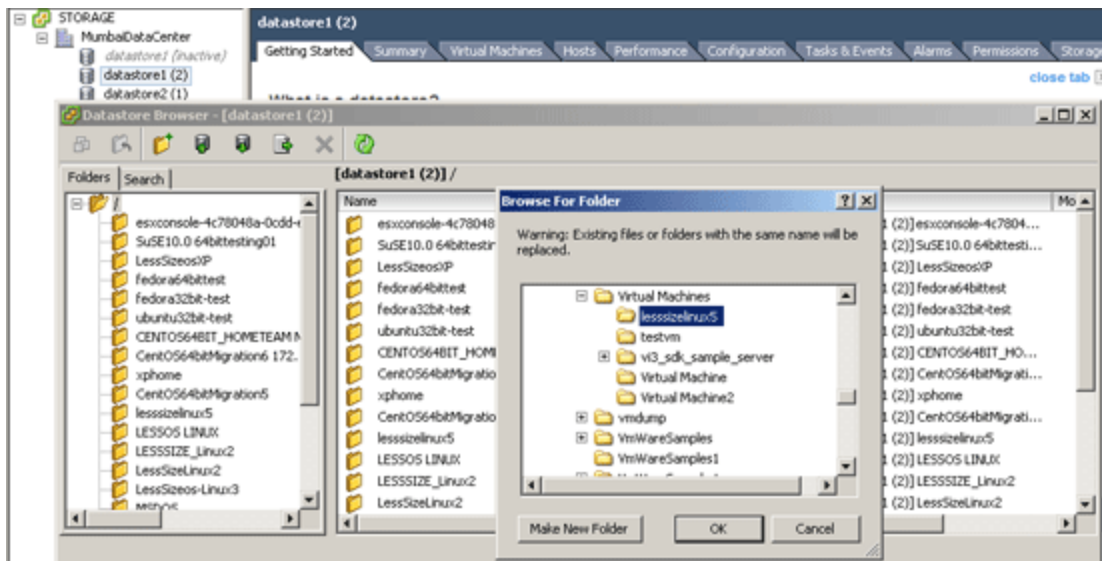
- a. open the Datastore Browser. It will display the datastore in the inventory. Right-click the datastore which you want to restore the Guest OS and select Browse Datastore.



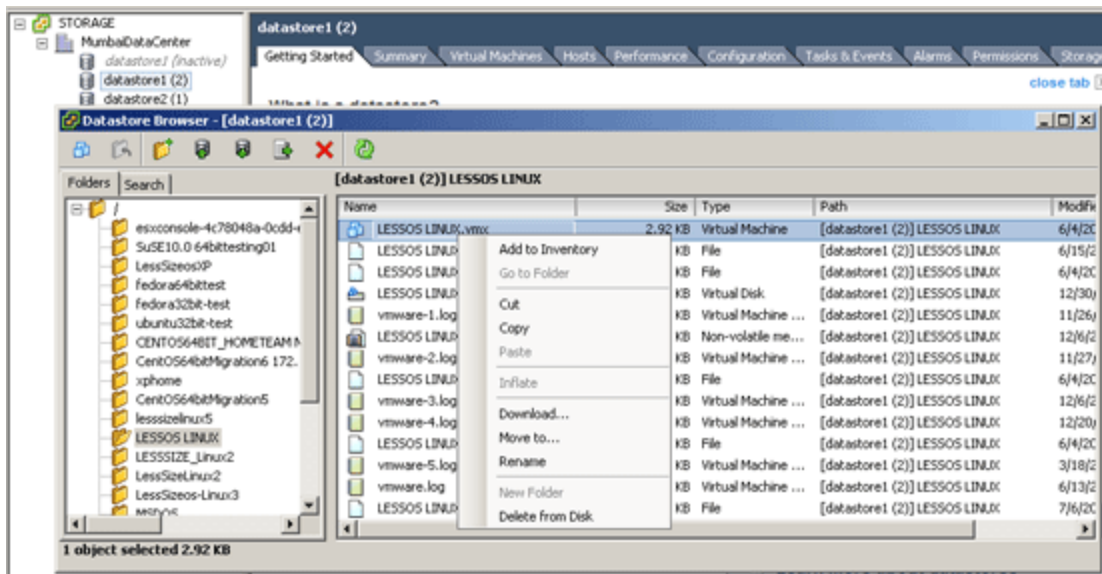
- b. Browse to the location to upload the file. Click the upload icon in the Datastore Browser toolbar and select Upload File or Upload Folder. The Upload Items dialog box opens.



- c. Navigate to and select the item to upload.



- d. Now the progress indicator shows the progress of the upload tasks.
 - e. After Uploading the image, you have to register the image to the inventory. You can use VSphere Client console to register the image.
- Note :** To retain the original name of the template, do not enter a name in the Add to Inventory wizard. vCenter Server uses the original name if the field in the wizard is left blank.
- f. open the uploaded image folder using Browse Datastore.
 - g. select the *.vmx file and right-click and select Add to Inventory.



- h. Follow the steps in the Add to Inventory wizard to finish adding the virtual machine or template. Now new virtual machine will be created under the datastore.

Limitations

1. Restore using VSphere client is not supported for the snapshots taken from VMWare Server 2.0 version

Restore Hyper-V Backup Data

Related Links

[Hyper-V - Restore to Recovery Guest OSES](#)

Overview

Restoring a guest OSES is sometimes necessary when a guest OS is corrupted or crashed. You can restore your Hyper-V guest OSES using your most recent full backup and incremental backups. This section will give you information on how to restore Hyper-V Guest OSES using StoreGrid.

Before you can attempt to restore a guest OS in Hyper-V Manager, please ensure that the following conditions are satisfied:

1. The Hyper-V Manager Service must be running.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore". It will display the "List Of Backup For Restore" page. In the Action Column of the (Hyper-V) Backup Schedule you want to restore, click on the Restore icon.

Requirements

Windows 2008 with Hyper-V role, Hyper-V Server 2008 R2

Restore Hyper-V Backup Data

In StoreGrid, restoring Hyper-V guest OSES is quite simple and can easily be done. The following are the steps to be followed while restoring an Exchange Server:

• Step 0: Decide how to restore

Decide between restoring the Hyper-V guest OS directly from the backup server or if use data which has been previously restored from the backup server (to a local folder).

This step has the following options :

- Restore data from backup server
- I have previously restored data from my backup server to a local folder. I now want to use this data to restore the guest OS.

1. If the second option is selected (to restore Hyper-V guest OS from the previously restored data), then ensure that :
 - i. Hyper-V backup data was restored from backup server locally through the menu "Reseller Management->Reseller Name->Customer Name->Client Name->List of Backups->Actions->Proceed to Restore Backup" and transferred to client machine.
or
 - ii. You had previously chosen the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the Hyper-V later)" in "STEP 4: Confirm Hyper-V Restore Settings" of the Restore Hyper-V Data page (during your previous restore).
2. Enter the local restore location and click "Submit Location" button to restore Hyper-V guest OSES from the local folder.

- **Step 1: Choose backup server (in case of multiple servers)**

This step allows you to choose the backup server (if the backup schedule was configured to multiple servers). This step has the following options:

- **Backup Name** - The backup name is a non editable field here.
- **Backup Server** - The backup server is non-editable if the backup schedule is backing up to only one server. But if the replication feature is enabled in the backup server for the client and replication server name is added/discovered in client machine, then choose the server from the choice box.

- **Step 2: Select backups for Hyper-V guest OS restore**

This step allows you to choose the full backup version based on timestamp. This step has the following options:

- **Show backups after** - From the drop-down list, select the most recent full backup version based on timestamp to restore from. Once recent full backup version is selected and if "Load" button is clicked, StoreGrid will list the guest OS and its files available in the backup server.
- **Load** - Once you have selected the required timestamp in the field "Show backups after", this button can be used to list the guest OS and its files backed up to the backup server for restore (satisfying the timestamp criterion).
- **Select guest OS for restore** - StoreGrid will list the files based on what timestamp/version you have chosen in the "Show backups after" fields. Now, you will have to select the guest OS to be restored from the server.

- **Step 3: Confirm Restore Settings**

- **Password** - If you had password protected the backup schedule, you will need to provide the password here.
- **Restore Location** - You can specify the location to which the backup data has to be restored. The restored files will be saved in this location, but with their full original path – that way you know exactly where these files were in the first place !

Important : You must always provide an empty directory for the local restore location. There must be sufficient space in the directory to store the files; also ensure that the local restore location does not exceeds the 256 character limit.

- **Step 4: Confirm Hyper-V Restore Settings**

This step helps you restore backed up data right into the Hyper-V Manager. By default the option "Restore data from backup server only (I will separately run StoreGrid through the 'locally restored files' to restore the Hyper-V later)" is selected. Alternatively you can also choose the option "After restoring data from my backup server, continue to restore the guest OS into the Hyper-V Server".

NOTE: The option "After restoring data from my backup server, continue to restore the guest OS into the Hyper-V Server" will replace the existing guest OS even if the guest OS is in running state. Restoring the guest OS will do the follow below procedure

- a. Turn OFF the guest OS if it is already available and in running state.
- b. Delete all the files available for the particular guest OS
- c. Copy the guest OS files to the original location from the restored location
- d. Register the guest OS with the Hyper-V Server.

Troubleshooting Tips



[BackupDocument xml / Writer Instance xml / BackupComponent text] file not found to proceed restoring the guest OS.



Cause : The above error comes if the following files are missing in the specified restore location

1. backup_name]_backupDocument.xml
2. [backup_name]_backupDocument.txt
3. [backup_name]_WRITERINSTANCE.xml

Solution : Please check you have restored the above said files and located in restored location.



Volume Shadow Copy Service is disabled. Unable to initiate VSS for guest OS restore.



Cause : Volume Shadow Copy or MS Software Shadow Copy Provider service is disabled.

Solution : Solution : Start the VSS services and try to restore the guest OS again.

Restore System State/Active Directory

StoreGrid uses the Windows NT backup utility to backup System State and Active Directories. So restoring System State/Active Directory is a two step process,

1. You should restore the NT backup generated bkf file first and
2. input the bkf file to the NT backup utility to restore the system state/active directory.

Step 1: Restore the system state bkf file from the StoreGrid server to the machine in which the system state has to be restored.

Follow the steps described in the "Restore Data" section to restore a version of the bkf file.

Step 2: Restoring System State/Active Directory from the bkf file using the NTBackup utility

Before you restore the system state using the NTBackup utility, if active directory is part of the system state, then you need to reboot the machine and select the advanced startup option (F8) "Directory Services Restore mode" before restoring the system state on this computer.

1. Let us say the system state bkf file is restored to the location C:\SSAD\ directory.
2. Open the NTBackup utility from the Windows "Startup->Programs->Accessories->System Tools->Backup" menu.
3. In the NTBackup UI, open the Restore Wizard from the "Tools->Restore Wizard" menu item.
4. In the "Restore Wizard", click on the "Import File" button and choose the system state bkf file from C:\SSAD\ directory (from step 1).
5. Once the bkf file is imported the left side tree will show a System State entry. Select the System State entry in that tree.
6. Now the registry and system files will be restored in this machine.

Restoring IE, Outlook Express & Registry

Overview

IE Settings, Outlook Express & Registry data are stored in multiple locations.

Restoring IE, Outlook Express and Registry

In order to completely restore your backed up configuration, you need to follow a few extra steps:

1. Follow the [steps for a regular restore operation](#) ensuring that
 - a. when prompted for 'Restore Location', you select the "Original" location.
 - b. you click on "Advanced Settings" and select the third option, viz. "Overwrite the existing file with the restored file". Note that any old data will be overwritten!
2. Restore! (if restoring Outlook, please ensure that Outlook is closed at the time of restore)
3. The required files are now in their designated locations. You only need to update the registry now – an easy task with StoreGrid!

For Win2000 Pro, Server, Win XP Pro, Home Edition, Win 2003 Server

- a. Simply double click the 'registry file' from the [appropriate location](#) (locations of the registry files are mentioned at the bottom of this page)
- b. Say Yes/OK when prompted

For Win 98, Win NT Server, WorkStation, Win ME (Not Tested)

- a. Use a text editor (like notepad) to open the 'registry file' from the [appropriate location](#) (locations of the registry files are mentioned at the bottom of this page)
- b. Manually replace the first line of this file with the following text: REGEDIT4
- c. Save the file and then double click it
- d. Say Yes/OK when prompted

Registry File Locations

1. **Internet Explorer Settings:** < Vembu_StoreGrid_Installed_Path>\data\IESettings\<Login_User_Name>\IEBackupFile.reg
2. **Outlook Express:** < Vembu_StoreGrid_Installed_Path>\data\OutlookExpress\<Login_User_Name>\OutlookExpressBackupFile.reg
3. **Registry:** < Vembu_StoreGrid_Installed_Path>\registry\regbackup.reg
(note that Windows will say that all files could not be updated for a registry restore – this is normal)

Windows Mail Restore

Overview

To restore the backed up Windows Mail settings, contacts (WAB), calendar, emails etc., Windows Mail application should be closed properly before proceeding with the restore. Ignoring this might cause problems in restoring the files/folders backed up by StoreGrid.

Restore Options

1. Restoring the entire Windows Mail

Follow the steps below to restore Windows Mail Completely.

Step 1: Ensure the following settings for a regular Windows Mail restore:

- i. Set restore location as "Original Location".
- ii. Set restore option as "Overwrite existing file with restored file".

Step 2: Registry file will be restored to the location

{INSTALLATION_HOME}\data\WindowsMail\{userName}. Right click the registry file and click "Merge". If it prompts for UAC (User Account Control), then Click "Continue". Click "Yes" in the message box prompt that follows next.

2. To Restore Mails Only

Follow the steps given below to restore your mails:

Step 1: Go to the restore tree of the particular backup that you want to restore and type *.eml in restore filter and Click "Go".

Step 2: Then select restore location as "Alternate Location" and provide the new restore location.

Step 3: After the restore has been successfully completed, open Windows Mail. Go to "File" menu and select import -> Message (file -> Import -> Message).

Step 4: The wizard that opens will ask you to select the format type of mail you would like to import. Select "Windows Mail 7" and Click "Next".

Step 5: It will ask for the location from which the mail is to be imported and select the location where you have restored the .eml file and click "Next". The mail folders will be listed and Click "Finish" to import the mails.

3. To Restore Windows Mail Accounts

Follow the steps given below to restore the Windows Mail account settings:

Step 1: Go to the restore tree of the particular backup that you want to restore and enter *.oeaccount in restore filter and Click "Go".

Step 2: Restore the whole tree that is listed to the "Original Location" with the option "Overwrite Existing File".

4. **To Restore Windows Contacts**

Follow any of the restore procedures given below to restore the Windows Contacts completely:

Restore Procedure #1:

Restore the "Contacts" folder listed in the restore tree with the option "Overwrite the existing file with the restored file".

OR

Restore Procedure #2:

Step 1: Go to the restore tree of the particular backup and type "*.contact" or "*.group" in the restore filter and click "Go".

Step 2: Restore the tree listed to the "Original Location" with option "Overwrite Existing File".

5. **To Restore Windows Calendar**

Follow any of the restore procedures given below to restore the Windows Calendar completely.

Restore Procedure #1:

Restore the "Calendar" folder listed in the restore tree with the option "Overwrite the existing file with the restored file".

Restore Procedure #2:

Step 1: Go to the restore tree of that particular backup and type "*.ics" in restore filter and click "Go".

Step 2: Restore the tree listed to the "Original Location" with the option "Overwrite Existing File".

6. **To Restore Windows Mail Settings**

Follow the steps below to restore the Windows Mail settings such as

- *.mail rules and mail views

- *.Junk mail settings[Safe Sender List and Block sender list]

- *Other Windows mail settings

Step 1: Go to the restore tree of the particular backup and type "*.reg" in restore filter and click "Go".

Step 2: Restore the tree listed to the "Original Location" with the option "Overwrite Existing File".

Step 3: If you restore the *.reg file to the original location, then it will be restored in the {INSTALLATION_HOME}\data\WindowsMail\{UserName}\WindowsMailBackupFile.reg.

Step 4: Right click registry file and click "Merge". If it prompts for UAC, click "Continue". Click "Yes" for message box prompt that follows next.

Trouble shooting Tips



Message Not Found

Cause 1: This Problem occurs when a particular email (.eml file) is deleted by the user and the status of deletion of that mail is not updated in the Windows Mail database. This Problem commonly occurs when backup is done while Windows Mail application remains open. Windows Mail logs each and every transaction in a log file and later updates it to the database file. Normally, windows Mail database file is updated from log files When Windows Mail is shutdown. When the backup is done at this time where transaction is still held in the log file and yet not updated to windows Mail database, then restoring this backup can lead to an error: 'Message not Found' when the user tries to open a mail that had already been deleted.

This may happen if any of the following operations was performed earlier:

1. Deleting Mail(s)
2. Moving Mail(s) to any other folder

Solution: To get rid of this error message "Message not found", you may follow any of the resolution strategies given below:

1. Solution #1[Recommended]: Restore Windows Mails (*.eml files) to an alternate location and follow the restore procedure given for "To Restore Mails Only".
2. Solution #2: Restore windows mail backup with option "Include Deleted Files". NOTE: All the deleted mails will be restored.



Windows mail shows the error "The message store has been corrupted by an application external to Windows Mail. Windows Mail has been able to successfully recover from the corruption."

Cause : Sometimes after restore when Windows mail is started, it might throw this error This happens in rare situations.

Solution : Go ahead and allow the Windows Mail to recover the corrupted database files.

Limitations

While restoring Windows Mail with option "Include Deleted Files", then it will restore the deleted mails and moved mails. Moved mails might be duplicated in the destination and source.

Restore MySQL database[For Windows]

Related Links

Restore MySQL database [For
Linux/FreeBSD]

Overview

Restoring a database is sometimes necessary when a database becomes corrupt. You can restore your MySQL Server databases using your most recent full backup. This section gives you information on how to restore MySQL Server database using StoreGrid in Windows.

Restore MySQL database[For Windows]

Restoring MySQL databases in Windows require a couple of extra steps. Please follow the instructions detailed below in sequential order.

1. Follow the [steps for a regular restore operation](#) and restore the required database backup files.
2. Once restored, the required files are now in their designated locations:
<Restore Path>\<Temp_Dump_Location>\<Backup_Name>\<Database_Name>\<Restore_File_Name>
The restored MySQL database files end with an extension ".sql". In order to use the restored database, please follow the steps given below:
 - i. If the restoring database is unavailable in MySQL Server, create the database using the command "CREATE DATABASE <DB_NAME>".
 - ii. Reload the database with the data using **mysql -u [username] -p[password] [<DB_NAME>] <[<Restore Path>\<Dump_Location>\<Backup_Name>\<Database_Name>\<Database_Name>.sql]**. This will dump the sql back to the database.

Restoring MySQL databases in Linux/FreeBSD/Solaris

Related Links

[MySQL Settings \[For Windows\]](#)
[Restore MySQL database \[For Windows\]](#)

Overview

Restoring a database is sometimes necessary when a database becomes corrupt. You can restore your MySQL Server databases using your most recent full backup. This section gives you information on how to restore MySQL Server database using StoreGrid in Linux/FreeBSD/Solaris.

Restore MySQL database[For Linux/FreeBSD/Solaris]

Restoring MySQL databases in Linux/FreeBSD/Solaris require a couple of extra steps. Please follow the instructions detailed below in sequential order.

1. Follow the [steps for a regular restore operation](#) and restore the required database backup files.
2. Restore!
3. Once restored, the required files are now in their designated locations:
<Restore Path>/<SG_Installed_Path>/mysqlbackup/<Backup_Name>/<Database_Name>/<Restore_File_Name>.sql
The restored MySQL database files end with an extension ".sql". In order to use the restored database, please follow the steps given below:
 - i. If the restoring database is unavailable in MySQL Server, create the database using the command "CREATE DATABASE <DB_NAME>".
 - ii. Reload the database with the data using **mysql -u [username] -p[password] [<DB_NAME>] < [<Restore Path>/<SG_Installed_Path>/mysqlbackup/<Backup_Name>/<Database_Name>/<Restore_File_Name>.sql]**. This will dump the sql back to the database.

Suspending a Client Side Restore (Restore initiated from the client)

Overview

Client Side Restore (Restore initiated from the client) process can be suspended either from the backup server or from the client, but can be resumed only from the client side. The suspended restore process will remain suspended till it is resumed from the client again.

How to get here in the StoreGrid Web Console?

→ In the top menu of Backup Client, select: "Restore -> List Backups For Restore". page.

Suspending a Client Side Restore (Restore initiated from the client)

To suspend Client Side Restore from the client, go to 'Restore -> List Backups For Restore' page in the client web console. If a restore is in progress, 'Suspend Restore' icon will be displayed under 'Actions' against that backup schedule.

To resume the restore operation which is suspended either from the client or server, click the 'Resume Restore' icon displayed under 'Actions' against that backup schedule.

Client side restore can be suspended from the server side web console as well. Go to the Server Admin -> Reseller Management > Reseller [reseller name] > Customer [customer name] > Client [client name] > List of Backup Schedules from client' page in the backup server's web console. When restore is in progress, 'Suspend Restore' icon will be displayed under 'Actions' against that backup schedule. Click on the 'Suspend Restore' icon to stop the restore.

Limitations

1. Client initiated restore can be suspended from the backup server only if the client is running StoreGrid version 2.3 or higher.

Restore Client Configurations (Disaster Recovery)

Overview

This feature is used to retrieve client backup configuration and back up data from the backup server. Using the same StoreGrid ID as before, the backup data can be recovered in the client webconsole.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Restore-> Disaster Recovery"

Why is this feature necessary ?

In StoreGrid, without the backup schedule configurations, backed up data cannot be restored. So this page helps you in restoring the backup schedule configurations first. The backed up data can be restored from the [List of Backup For Restore](#) page.

When is this feature relevant ?

Typically, if StoreGrid needs to be installed afresh in a machine because of a computer crash or other reasons (old computer stolen, etc).

Once the backup schedules are restored, the [List Backup Schedules](#) page will show the backup schedules in a suspended mode. Using the reinstalled configuration, any lost data can first be restored (from the [List of Backup for Restore](#) page). Thereafter, the backup schedules can be resumed manually, if required.

Restore Client Configurations (Disaster Recovery)

The following describes the user input for this page:

Client Name : This is a non-editable field displaying the current StoreGrid client for which the configurations have to be restored.

Backup Type : Select the **Same Machine** option, if you wish to recover the local backup configurations configured to store data to a local location OR to recover the exported backup configurations from a remote backup server. Select the **Remote Server** option, if you wish to recover all the backup configurations from a remote backup server.

With "Same Machine" backup type option is selected:

Local Backup Location : Enter the local backup storage or exported backup data location and click the **Add** button. You can add multiple backup locations and recover all those backup configurations at the same time.

NOTE: If you enter Local Backup Location as "*C:\File_Backup_Location*" while creating backup schedule, then you need to enter the same location [*"C:\File_Backup_Location*"] here. If you are going to recover an exported backup configuration [using the Export Backup option in backup server] located at "*C:\Exported_Backup*", then you need to enter the Local Backup Location as "*C:\Exported_Backup*" to recover the exported backup configurations.

Local backup locations added so far : This box lists all the backup locations added so far, for recovering the same machine backups' configurations. If you wish to remove any of the location from this box, click the **Remove** button. You can add any number of backup locations and recover all those backup configurations at the same time.

With "Remote Server" backup type option is selected:

Server : Select the option **Choose from the list** if the backup server name from where backup configurations to

be restored is available in the list of backup server names added in the StoreGrid client. Select the option ***Enter Name/IP*** if you wish to enter the backup server name directly in the text box.

Authentication : If the StoreGrid client was not authenticated with the backup server with a password, then select the option ***This client does not need to be authenticated with the selected server***. If the StoreGrid client was previously authenticated with a password with the backup server and you wish to enter that authentication password now for proceeding with the disaster recovery, select the option ***This client needs to be authenticated with the selected server***. If this option is selected, you need to enter the password in the textbox shown below and click ***Authenticate***.

Restore Button : Once the server names chosen are added to the list, click the "Restore" Button. This will initiate the process of getting the client backup configurations from all the servers chosen.

Clear Button : It will reset all the fields to their original values.

Disaster Recovery Report

The Disaster Recovery Report has the following details:

Server Name : Server from which the configurations have been restored.

Total Number of Backups: Total number of backups available in the backup server.

Number of backups retrieved: Total number of backups successfully retrieved.

Message: Result of the recovery process; Success or Failure.

Limitations

1. To restore the client configurations, you will necessarily need to know the servers on to which the backups were originally done. StoreGrid does not discover this information automatically.
2. The backup schedules recovered from exported backup data with backup name prefixed with an alias cannot be edited or scheduled to continue the backup. The imported backups are for restore purposes only. After restoring the backup data, the imported backup schedules can be deleted.

Client Dashboard

Overview

The client dashboard has two sections

1. Snapshot of last 10 backups
2. Current Client Activity

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports->Client Dashboard"

Snapshot of last 10 backups

This table provides summary of the last 10 backup schedules executed by the client. The table has the following details:

- **Backup Name** - The name of the backup schedule
- **Backup Server(s)** - Backup server on to which this backup schedule backs up. If a backup schedule backs up to more than one server, then it will be represented as a separate row in the table. That is, each row in this table represents a backup report for a backup operation to a single server.
- **Last Backup** - The time at which the Last backup was done on to the backup server for this backup schedule.
- **Total Files Listed** - The total number of files listed by StoreGrid for backup.
- **Unprocessed Files** - The number of files that were listed by StoreGrid but not backed up. StoreGrid makes a list of files to be backed up and simultaneously starts backing up the listed files one at a time. If the StoreGrid client abruptly stops backing up, then may not be few unprocessed files – the files that StoreGrid listed for backup but could not complete backing up the files. Some of the reasons why the StoreGrid client would stop backing up abruptly are listed below:
 1. Client exceeded the allotted backup space on server.
 2. No drive space available in the server.
 3. Active backup schedule was aborted at the Server side.
 4. Active backup schedule was suspended in the client.
 5. StoreGrid was stopped in the server or the client side.
- **Protected Files** - Total number of files that have successfully backed up.
- **Skipped Files** - The number of files that could not be backed up. Some of the reasons a file may not be backed up are:
 1. The file is being modified.
 2. The file did not have appropriate permissions and hence could not be read.
- **Skipped Folders** - The number of folders that could not be backed up. Some of the reasons why a folder may not be backed up are:
 1. The folder did not have appropriate permissions for StoreGrid to read.
 2. The folder may have been modified while StoreGrid is trying to backup it up.
 3. The folder may have been temporarily available when StoreGrid listed the folders to backup but was later not available when StoreGrid tried to backup.
- **Success Rate** - This gives the percentage of total files that were successfully backed up.
- **Remarks** - Final result of the backup operation; success, failure or incomplete etc.

More details >> links to "Summary of Backup Reports (consolidated)" page which contains all backup schedules with schedule status and other details.

Select Columns Icon - This will list the available columns and user can select the columns to be displayed in the table.

Client Activity [current]

This table provides a summary of current activity (up to 10 records). The table has the following details:

- **Backup Schedule** - The name of the backup schedule
- **Backup Server(s)** - Backup server on to which this backup schedule backs up.
- **Status** - This shows the backup/restore/deletion status - a green icon indicates an operation in progress.

Client Backup Report

Overview

This section will give you information about the client backup report for the configured backup schedule in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports->Backup Reports". This will list all the backup schedules in a table format. Click on the backup name link to see the detailed backup report.

Client Backup Report

The client backup report is organized into two sections as Summary Reports and Historical Backup Reports.

Summary Reports

- **Schedule Summary**

Below are other information shown in this section:

- **Backup Schedule Name** - The name of the backup schedule.
- **Backup Type** - Indicates if the backup type is local or remote.
- **Backup Server** - The name of the backup server to which the backup is being done.
- **Local Backup location** - Indicates the local backup location [displayed only for local backups]
- **Plugin Type** - This lists the plugins used by the Client, such as, MS Exchange, MS SQL Server, MS Exchange Mailbox Plugin, SharePoint Plugin etc.
- **Exchange Server Name** - Name of the Exchange Server [displayed only for Exchange Server backups]
- **No. of Full Backups** - This is the total number of full backups that have been taken.
- **No. Of Schedules Completed** - This is the total number of backup schedules completed successfully.
- **Automatic Directory Monitoring** - This shows whether Automatic Directory Monitoring is enabled or disabled for the backup.
- **Total Files Listed** - The total number of unique files that StoreGrid listed over the different schedules of this backup.
- **Total Files Protected** - The number of unique files that were successfully backed up to the backup server over the different schedules of this backup.
- **Transferred Size** - The total number of bytes transferred to the server as part of this backup.

- **Disk Space Utilization**

This section displays the information disk space used by this client [CLIENT_NAME] in Server [BACKUP_SERVER_NAME] as shown below:

- **Space Allotted for this Client** - The space allotted for the client in the backup server.
- **Space Used by this Client** - Field displaying the used backup space by this client in the backup server.
- **Space Used for this backup schedule** - Field displaying the used backup space for the selected backup schedule in backup server.

• **Other Relevant Reporting Information**

- **Files & Directories List** - Clicking the "Show" button here will list the files and folders configured for the backup with their Files/Folders filter settings.
- **Database List** - Clicking the "Show" button here will list the SQL Server database(s) configured for backup. This will be listed for SQL Server backup schedules.
- **Mailbox Details** - Clicking on the "Show" button here will list the users configured for Exchange Mailbox backup with their total number of mailbox folders, items(messages, calendar and etc.,) and size.
- **SharePoint Site List** - Clicking the "Show" button will list the SharePoint Sites configured for backup.

• **Last Backup Report**

Below are other information shown in this section:

- **Start Time** - The time at which the backup was last scheduled.
- **Finished Time** - The time at which the last backup schedule completed backing up the data.
- **Time Taken** - Total time taken for the last backup to complete.
- **Total Files Listed** - The total number of files backed up when the backup during the last backup.
- **Unprocessed Files** - The total number of files backed up when the backup during the last backup.
 - i. Client exceeded the allotted backup space on server.
 - ii. No drive space available in the server.
 - iii. Active backup schedule was aborted at the Server side.
 - iv. Active backup schedule was suspended in the client.
 - v. StoreGrid was stopped in the server or the client side.
- **Total Files Protected** - The number of files that were successfully backed up to the backup server.
- **Skipped Files** - The number of files that could not be backed up. Some of the reasons a file may not be backed up are:
 - i. The file is being modified.
 - ii. The file did not have appropriate permissions and hence could not be read.
If there are skipped files, then you will have a View link, which when clicked will list the skipped files and also the details on the reasons why the file is skipped.
- **Skipped Folders** - The number of folders that could not be backed up. Some of the reasons why a folder may not be backed up are :
 - i. The folder did not have appropriate permissions for StoreGrid to read.
 - ii. The folder may have been modified while StoreGrid is trying to backup it up.
 - iii. The folder may have been temporarily available when StoreGrid listed the folders to backup but was later not available when StoreGrid tried to backup.

Clicking on the 'View' link will take you to a page which lists the folders that were skipped and the reason StoreGrid skipped the folders.

- **Transferred Size** - The total number of bytes transferred to the server as part of this backup.

- **Success Rate** - This gives the percentage of total files that were successfully backed up.
- **Remarks** - Remarks from StoreGrid about last schedule backup.
- **Warning Messages** - Messages from StoreGrid about any problems during backup.

• **Historical Backup report**

The historical backup report gives a report for each of the completed schedules the backup. The full backups and their respective incremental are shown from latest to oldest in a table format. Each row of the table represents a report for a backup schedule. Clicking on the "arrow" link on the left side of a row will expand the row and show more details about the backup schedule. The following information is shown in each row of the table:

- **Backup Name** - The name of the backup schedule.
- **Backup Server** - The name of the backup server to which the backup is being done.
- **Start Time** - The time at which the backup schedule started backing up the data.
- **End Time** - The time at which the backup schedule completed backing up the data.
- **Schedule Type** - The type of the schedule. (Full Backup or Incremental or (Log or Differential for SQL/Exchange Server backups).
- **Time Taken** - The total time taken for the backup schedule to complete.
- **Total Files Listed** - The total number of files listed for backup in this backup schedule.
- **Protected Files** - The number of files that were successfully backed up to the backup server.
- **Skipped Files** - The number of files that could not be backed up.
- **Skipped Folders** - The number of folders that could not be backed up. Some of the reasons why a folder may not be backed up are:
 - i. The folder did not have appropriate permissions for StoreGrid to read.
 - ii. The folder may have been modified while StoreGrid is trying to backup it up.
 - iii. The folder may have been temporarily available when StoreGrid listed the folders to backup but was later not available when StoreGrid tried to backup.

Clicking on the 'View' link will take you to a page which lists the folders that were skipped and the reason StoreGrid skipped the folders.

- **Success Rate** - This gives the percentage of total files that were successfully backed up.
- **Original Size** - The original size of the backup data transferred so far.
- **Compressed Size** - Displays the compressed size of the original backup data.
- **Compression Ratio** - Displays the compression ratio of the original and compressed backup data.
- **Result Messages** - The final result of the backup operation; successful/ failure/ incomplete etc.
- **Added Files** - The number of new files backed up in this schedule. Note that this is the total number of files backed up whenever a full backup was done.
- **Unprocessed Files** - The number of files that were listed by StoreGrid but not backed up. StoreGrid makes a list of files to be backed up and simultaneously starts backing up the listed files one at a time. If the StoreGrid client abruptly stops backing up, then may not be few unprocessed files – the files that StoreGrid listed for backup but could not complete backing up the files. Some of the reasons why the StoreGrid client would stop backing up abruptly are listed below:
 - i. Client exceeded the allotted backup space on server.
 - ii. No drive space available in the server.
 - iii. Active backup schedule was aborted at the Server side.
 - iv. Active backup schedule was suspended in the client.

v. StoreGrid was stopped in the server or the client side.

- **Modified Files** - The number of modified files backed up. Note that this number is zero for all full backups.
- **Deleted Files** - The number of deleted files backed up. Note that this number is zero for all full backups. Only for incremental backup this can have a positive value.

• **SQL Server Backup Details**

The SQL Server Backup details gives a report for each database configured for the backup schedule. Below are the informations shown in this section:

- **SQL Server Instance Name** - Name of the SQL Server Instance in which database backup was performed.
- **Database Name** - Name of the database configured for backup.
- **Original Database Size** - Size of the database configured for backup.
- **Start Time** - The time at which the backup schedule started dumping the data to the local temporary location.
- **End Time** - The time at which the backup schedule completed the local dump process.
- **Total Time Taken** - The total time taken for the backup schedule to complete the local dump process.
- **Size of backup before compression** - The total size of the files locally dumped by the SQL Server dump utility in client which has to be transferred to backup server.
- **Size of backup after compression** - The compressed size of the files transferred to backup server.
- **Compression ratio with original database size** - The percentage compression achieved with the original size of the database.
- **Compression ratio with size of backup before compression** - The percentage compression achieved with the size of the dumped files.
- **Status** - Status will report the success or failure of local dump backup process.
- **Verify integrity status** - Displays status about verification of the backup once it completes.
- **Result Messages** - Messages from SQL Server dump utility about the local dump backup process.

• **Exchange Server Backup Details**

The Exchange Server Backup details gives a report for Storage Group(s)/MailStore(s) configured for the backup schedule. Below are the informations shown in this section:

- **Exchange Server Name** - Name of the Exchange Server in which Storage Group(s)/MailStore(s) backup was performed.
- **Start Time** - The time at which the backup schedule started dumping the data to the local temporary location.
- **End Time** - The time at which the backup schedule completed the local dump process.
- **Total Time Taken** - The total time taken for the backup schedule to complete the local dump process.
- **Size of backup before compression** - The total size of the files locally dumped by the Exchange Server dump utility in client which has to be transferred to backup server.
- **Size of backup after compression** - The percentage compression achieved with the original size of the database.
- **Compression ratio with size of backup before compression** - The percentage compression achieved with the size of the dumped files.
- **Status** - Status will report the success or failure of local dump backup process.

- **Result Messages** - Messages from Exchange Server dump utility about the local dump backup process.

• **Exchange Mailbox Backup Details**

The Exchange Mailbox Backup details gives a report for user's mailboxes configured for the backup schedule. Listed below is the information shown in this section:

- **Exchange Server Name** - Name of the Exchange Server in which Mailbox backup was performed.
- **Start Time** - The time at which the backup schedule started dumping the data to the local temporary location.
- **End Time** - The time at which the backup schedule completed the local dump process.
- **Total Time Taken** - The total time taken for the backup schedule to complete the local dump process.
- **Status** - Status will report the success or failure of local dump backup process.
- **Result Messages** - Messages from Exchange Server Mailbox dump utility about the local dump backup process.

Backed up Exchange User Mailbox Details

This tabular summary of each user's mailbox backup includes the following:

- **User Name** - The mailbox user for which backup report information is generated.
- **Folder Name** - Name of the user's mailbox folders such as Inbox, Contacts, Tasks and etc.,
- **Total Items** - Total No. of items (messages, contacts and etc.,) that were successfully backed up to the backup server.
- **Size** - The total size of the user's mailbox folder items locally dumped by the Exchange Mailbox dump utility in client before transferring to the backup server.
- **Skipped** - Number of items skipped during dump process.

• **SharePoint site(s) dump data details**

The SharePoint site(s) Backup details gives a report for dump of each SharePoint site collection configured in this backup schedule.

- **Site Collection** - URL of the SharePoint site collection which is dumped.
- **File Size** - The size of the dump file of the SharePoint site.
- **Time Taken** - Total time taken for dumping the SharePoint site.
- **Status** - Result of the dump operation of the SharePoint site; completed/incomplete etc.,
- **Result Messages** - Result message generated while dumping the SharePoint site.

• **Disk Image Backup Drive(s) dump data details**

The Disk Image Backup details gives a report for Drive(s) configured for the backup schedule. The following information is displayed in this section:

- **Start Time** - The time at which the backup schedule started dumping the data to the local temporary location.

- **End Time** - The time at which the backup schedule completed the local dump process.
- **Total Time Taken** - The total time taken for the backup schedule to complete the local dump process.
- **Status** - Reports success or failure of the local dump backup process.
- **Total Backup Size** - The total size of the backup before compression.

Backed up Disk Image Drives Details

This tabular summary of each Disk Image drive backup includes the following:

- **Drive Name** - Name of the drive for which image backup is performed.
- **Volume ID** - Volume ID of the configured Drive.
- **Is Critical** - Displays status of the configured drive, i.e whether the drive is critical Volume or not.
- **File System Type** - Displays the configured Drive's File System Type.
- **Dump Size** - Size of the Dump file.
- **Partition Size** - Total Size of the configured Drive.
- **Volume Label** - Label Name of the configured Drive.

Limitations

1. Exchange Backup Report will not have details about the Storage Group(s)/MailStore(s) configured for backup.
2. List of Protected/Skipped file(s) list will be available only for the last backup in the historical backup report.

Detailed Restore Report

Overview

This section will give you information about the detailed restore report for the restored backup data in StoreGrid.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports->Restore Reports". This will list all the backup schedules (in a tabular format) for which a restore operation has been performed. Click on the backup name link to see the detailed restore report.

Restore Report

This page gives a detailed report of all the restore operations done for this backup.

The restore reports are displayed in a table format with each row representing a restore operation. Click on the "Show Report" icon at the start of each row to show/hide a detailed restore report for that restore operation.

• Summary of Restore Report

The following summary is provided in each row of the restore report table:

- **Backup Server Name** - The backup server from which the restore was done.
- **Start Time** - The time at which the restore operation was started.
- **End Time** - The time at which the restore operation was completed.
- **Total Files** - Total number of files present in the backup server that need to be restored.
- **Number Of Files Restored** - The number of files successfully restored.
- **Number Of Files Skipped** - The number of files that could not be restored.
- Some of the reasons a file may not be restored are:
 1. Error in opening the original file in the server.
 2. Error in opening the version file in the server.
 3. Error in creating the file in the client.
 4. Error in writing to the file in the client.
 5. Error in decompressing the original file.
 6. Error in decompressing the version file.
 7. Error in loading the original file for applying the rsync delta patch.
 8. Error occurred while applying the rsync delta patch on the original file.

If there are skipped files, then you will have a View link, which, when clicked, will list the skipped files and also the details on the reasons as to why the file was skipped.

- **Success Rate** - The percentage of files that were successfully restored.

• Detailed Restore Report

The following additional details are given in the detailed restore report which is shown when you click on the left hand side icon "Show Report" in the respective restore report table row.

- **Restore Location** - The destination directory (in the client machine) where the backup data is restored to. Note that the data will be restored with the full original path under this destination directory – just so you know where the data was in the first place! If the restore was done to the original location, then it simply says so!
- **Total Time Taken** - The time taken for the full restore operation to complete.
- **Selected Version For Restore** - The timestamp based version selected for restore.
- **Restore Deleted Files** - Whether the deleted files were restored or not.
- **Restore Advanced Option Selected** - Which of the advanced options were selected for restore.
- **Total Remaining Files** - Number of files that could not be restored.
- **Transferred Size** - The total bytes transferred from the server to the client.
- **Original Size** - The original size of the data that was restored.
- **Warning Messages** - If there was a problem during restore, warning messages would be generated to identify the problem.
- **Remarks** - The final result of the restore operation. Whether successful, failure, or incomplete etc.

• View List of Skipped Files

This page lists all the files that could not be restored to client machine. The table is shown 100 files at a time.

- **SNo.** - The serial number column to keep track of the number of files.
- **File Name** - The name of the file backed up.
- **Location** - The directory in which the file is present.
- **Remarks** - This will give the reason why the file could not be restored to client machine.

• SQL Server Restore Details

The following details are given in the detailed restore report of SQL Server Restore Details section, which is shown when you click on the left hand side icon "Show Report" in the respective restore report table row.

- **SQL Server Instance Name** - Name of the SQL Server Instance in which database restore was performed.
- **Original Database Name** - Name of the database configured for backup.
- **Restored Database Name** - Name of the database selected in the "Restore as database" drop-down option will be displayed. For a new database, the database will be created and then the contents of the backup will be restored.
- **Database Restore Start Time** - The time at which the SQL Server restore operation was started.
- **Database Restore End Time** - The time at which the SQL Server restore operation was completed.
- **Total Time Taken** - The time taken for the SQL Server database restore operation to complete.
- **Original Database Size** - The size of the original database configured for restore. For an existing database, the size of the database before restore operation will be displayed.
- **Restored Database Size** - The size of the database after restore operation.
- **Force Restore** - The status of the option "Overwrite the existing database" selected while restoring database. This option will be selected, if the existing database name should be replaced with a different name.
- **Recovery State** - This displays the "Recovery State" option selected while restoring database as "Restore

with Recovery"/"Restore with Norecovery"/"Restore with Standby".

- **Database Physical Files** - This displays the name and location of the physical files used when database is restored. This field will be displayed in report, if you are restoring to a different server or to a different database name, or you have changed these options for both the data file and the transaction log file while configuring restore.
- **Standby file** - This displays the standby file and location used to undo uncommitted transactions when the database is brought fully online. This field will be displayed if the "Recovery State" option is selected as "Leave the database in read-only mode".
- **Database Restore Status** - Displays the database status{ONLINE/OFFLINE/RESTORING/RECOVERING/SUSPECT} after restore operation.
- **Result Messages** - Messages generated from SQL Server during restore operation will be displayed here.
- **Remarks** - Remarks from StoreGrid about the SQL Server during restore operation.

• Exchange Server Restore Details

The following details are given in the detailed restore report of Exchange Server Restore Details section, which is shown when you click on the left hand side icon "Show Report" in the respective restore report table row.

- **Original Exchange Server Name** - Name of the Exchange Server from which Storage Group(s)/MailStore(s) was configured for backup.
- **Restored Exchange Server Name** - Name of the Exchange Server in which Storage Group(s)/MailStore(s) restore operation was configured. by default both the original and restore Exchange Server name will be same.
- **Mount Database after restore** - Displays the status, whether the Mount Database After Restore check box was selected for restore operation.
- **Exchange restore start time** - The time at which the Exchange Server restore operation was started.
- **Exchange restore end time** - The time at which the Exchange Server restore operation was completed.
- **Total Time Taken** - The time taken for the Exchange Server restore operation to complete.
- **Temporary location for log and patch files** - The temporary directory (in the client machine) where the log and patch files are temporarily stored. During the restore process, Exchange Server will first apply the older transaction logs from the temporary directory and then apply the more recent logs from the original location. This directory will be different from the one where the original log files are stored.
- **Exchange restore status** - Status will report the success or failure of the Exchange Server restore operation.
- **Result Messages** - Messages generated from Exchange Server during restore operation will be displayed here.
- **Remarks** - Remarks from StoreGrid about the Exchange Server during restore operation.

Restored Exchange Server Mail Store Details

This tabular summary of each Exchange Server restore includes the following:

- **Mail Store Name** - Name of the MailStore.
- **Storage Group Name** - Name of the Storage Group Name.
- **Exchange Server Name** - Name of the Exchange Server in which Storage Group(s)/MailStore(s) restore was configured.
- **Status** - This field will display the status of the database is mounted or dismounted after restore process.

- **Exchange Mailbox Restore Details**

The following details are given in the detailed restore report of Exchange Mailbox Restore Details section, which is shown when you click on the left hand side icon "Show Report" in the respective restore report table row.

- **Exchange Server Name** - Name of the Exchange Server from which user's mailbox was configured for backup.
- **Exchange restore start time** - Time at which the Exchange Mailbox restore operation started.
- **Exchange restore end time** - Time at which the Exchange Mailbox restore operation completed.
- **Total Time Taken** - Time taken for the Exchange Mailbox restore operation to complete.
- **Exchange restore status** - Status reporting the success or failure of the Exchange Mailbox restore operation.
- **Remarks** - Remarks on the restore operation.

Restored Exchange User Mailbox Details

This tabular summary of each users mailbox restore includes the following:

- **User Name** - The mailbox users for which restore report information is generated.
- **Folder Name** - Name of the user's mailbox folders such as Inbox, Contacts, Tasks and etc.,
- **Total Items** - Number of items (messages, contacts, etc.) restored.
- **Size** - User's mailbox folder size after the restore operation.

Client Management Report

Overview

This report shows all the client settings that were first configured in the backup server for this client and then retrieved into this client machine. This report also indicates which of these settings have already been applied in the client machine and which are not yet applied. You can also disable or delete the changes that are not applied yet.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports -> Client Management Report" page.

Client Management Report

This report of client settings retrieved from the backup server includes the following:

- **Description** - Type of client settings listed below.
 - Add Backup Schedule
 - Edit Backup Schedule
 - Delete Backup Schedule
 - Schedule Backup
 - Suspend Backup
 - Resume Backup
 - Client Backup Window
 - Automatic Software Updates
 - Bandwidth Throttling
- **Server Name** - Backup server from which the client settings are retrieved.
- **Remarks** - The status of whether the client setting has been successfully applied or not [Success/Failure].
- **Actions**
 - Enable/disable the Client Setting Change (only if the setting is not yet applied)
 - Delete the Client Setting Change (only if the setting is not yet applied)

Software Updates Downloaded

Overview

This section gives details of the latest client updates and their installation.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Reports -> Updates Downloaded" page.

StoreGrid client checks the backup server for the new builds every one hour. If a new update is available, the StoreGrid client will automatically download and install it in the client system. If there is a backup/restore/delete operation in progress, the client waits for it to finish and then downloads and installs the new updates.

Software Updates Downloaded

This page contains the client's software update report. The report includes details of the available builds in the configured backup server, when they were identified, downloaded and installed.

Build Name	Version	Build No	Type	OS Type	File Size
 [Redacted]	3.0.0	3002009082820	SP Client Only	Windows	19.59 MB
Client Name	:	[Redacted]			
Downloaded Time	:	Fri 04 Sep 2009 17:27:14	Remarks	:	A new update is available for download.
Client Name	:	[Redacted]			
Downloaded Time	:	Fri 04 Sep 2009 17:27:20	Remarks	:	Updates downloaded successfully.
Client Name	:	[Redacted]			
Downloaded Time	:	Fri 04 Sep 2009 17:28:53	Remarks	:	Update was installed successfully.

The version and build details can be obtained from the **About Us** link on the right top corner of the page.

Product	-	My Product
Company	-	XYZ Technologies Pvt. Ltd.
Version	-	3.1 [3102010020516]
OS Type	-	Windows
Edition	-	Service Provider Edition
Support	-	MyProduct-support@xyz.com
Website	-	http://www.xyz.com

Raised Alarms

Overview

In this page, you can view the alarms which were recently raised due to the events in the StoreGrid. Events that are critical and are raised repeatedly are raised as alarms.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Alarms & Events -> Alarms" page.

Raised Alarms

The alarms are raised by events which are caused when an error occurs during backup/restore or any other process in the StoreGrid instance. The events which occur during an error are raised as alarms based on the criticality of the events.

The list of alarms indicate the client that was performing the backup/restore process for which the alarm was raised, the backup schedule that the client was processing.

The list of raised alarms shows the following details:

Severity: The severity of the alarm.

Reseller Name: The reseller name with which the alarm is linked. [shown only if available]

Customer Name: The Customer name with which the alarm is linked. [shown only if available]

Raised By: This value specifies the StoreGrid instance which raised this alarm.

Raised For: This value specifies for whom the StoreGrid instance raised this alarm.

While processing: This value specifies what was processed when this alarm was raised.

Caused by Events: This value specifies the number of events responsible for raising this alarm and updating the alarm with the latest values.

Module: The module in which the latest event updated this alarm.

Last Updated Time: The time in which the alarm was last updated.

Last Updated Message: The message updated from the last event which updated this alarm.

Actions

Acknowledge Alarm - Using this action a user can acknowledge an alarm and add relevant comments to it. You would typically acknowledge an alarm if you know what the alarm is for and you are in the process of fixing it.

Add Comment - To add a comment to the alarm.

View Comments - View the list of comments added for this alarm by various users.

Clear Alarm - After the issue related to the alarm is resolved, the alarm can be cleared using this action.

View Cleared Alarms

Overview

In this page, you can view the alarms which are recently cleared from the raised alarms. Normally, the alarms are cleared after the real cause of the alarm is resolved by the Administrator.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Alarms & Events -> Alarms -> Cleared Alarms" page.

View Cleared Alarms

The cleared alarms are the list of alarms which are cleared by the administrator after the real cause of the alarm are resolved. This view can be used to review the recently cleared alarms and check out if any alarm is getting repeated after its been cleared. The view can also be used to review how the alarm was cleared and the procedure can be used to clear similar alarms across other clients' backup/restore processes.

The cleared alarms list shows the following details:

Severity: The severity of the alarm.

Reseller Name: The reseller name with which the alarm is linked. [shown only if available]

Customer Name: The Customer name with which the alarm is linked. [shown only if available]

Raised By: This value specifies the StoreGrid instance which raised this alarm.

For: This value specifies for whom the StoreGrid instance raised this alarm.

While processing: This value specifies what was processed when this alarm was raised.

Caused by Events: This value specifies the number of events responsible for raising this alarm and updating the alarm with the latest values.

Module: The module in which the latest event updated this alarm.

Last Updated Time: The time in which the alarm was last updated.

Last Updated Message: The message updated from the last event which updated this alarm.

Actions

View Comments - View the list of comments added for this alarm by various users. Also the comment added when the alarm was cleared.

The cleared alarms and the relevant events will be cleaned up under the Event/Alarm cleanup schedule.

View Events which Raised the Alarm

Overview

In this page, you can view the list of events which raised the particular alarm and have updated the alarm.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Alarms & Events -> Alarms -> Click on the number under 'Caused by Events' column for the particular Alarm row" page.

View Events which Raised the Alarm

The events which occur during error are managed as alarms based on the effect they cause on the routine process of StoreGrid. In this page the list of events which raised a particular alarm is shown. This shows in detail the actual errors which have caused the alarm to be raised. Using these error messages the relevant resolution can be identified and performed. After the issue is resolved the alarm raised by these events can be cleared.

The events list shows the following details:

Severity: The severity of the event.

Reseller Name: The reseller name with which the event is linked. [shown only if available]

Customer Name: The customer name with which the event is linked. [shown only if available]

Raised By: This value specifies the StoreGrid instance which raised this event.

For: This value specifies for whom the StoreGrid instance raised this event.

While processing: This value specifies what was processed when this event was raised.

Module: The module in which the event occurred.

Last Updated Time: The time in which the event was last updated.

No. of Occurrences: The number of occurrences of the same event to cause this alarm.

Last Updated Message: The message updated from the last event which updated this alarm.

View Events

Overview

In this page, you can view the list of events which have occurred.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Alarms & Events -> Events" page.

View Events which Raised the Alarm

Events are messages which give details about a problem that needs to be addressed by an administrator. There could be a number of problem scenarios under which events can be generated. Some of them are listed below:.

1. When a backup is not taken because of a connection problem with the backup server.
2. When a file is skipped for backup because of inadequate permissions.
3. When a backup server refuses a backup request from a client because of exceeding allotted backup space.
4. And so on ...

Events are also classified based on severity in typical Sys Admin lingo:

Critical Events are relatively serious in nature and an administrator has to take some corrective action.

Major, Minor and Warning events are less severe and may be transient.

Information events are simply for information purposes.

The events list shows the following details:

Severity: The severity of the event.

Reseller Name: The reseller name with which the event is linked [shown only if available]

Customer Name: The Customer name with which the event is linked [shown only if available]

Caused By: This value specifies the StoreGrid instance which raised this event.

For: This value specifies for whom the StoreGrid instance raised this event.

While processing: This value specifies what was processed when this event was raised.

No: of Occurrences: The number of occurrences of the same event to cause this alarm.

Module: The module in which the event occurred.

Last Updated Time: The time in which the event was last updated.

Last Updated Message: The message updated from the last event which updated this alarm.

StoreGrid Alarms and Events Configuration

Overview

StoreGrid generates events to alert the user about potential problems that may require attention. The events in turn raise or update the necessary alarms using which the problem is analyzed and resolved. The events configuration UI is meant to configure parameters on how StoreGrid should handle its events and the resultant alarms.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Alarms & Events -> Configuration"

StoreGrid Alarms and Events Configuration

StoreGrid generates events to alert the user about potential problems that may require attention. The events in turn raise or update the necessary alarms using which the problem is analyzed and resolved. The events configuration UI is meant to configure parameters on how StoreGrid should handle its events and the resultant alarms. The following describes the configuration options:

Events & Alarms Configuration - Events that are generated locally by the StoreGrid installation. Each event generated raises or updates an alarm which can be used to analyze and resolve the issue which causes the event. Here you can configure the following:

- a. **Clean Up Frequency** - This field is used to specify how often should StoreGrid check and cleanup the cleared alarms. StoreGrid automatically cleans up the cleared alarms, the associated events as well as the Information events which never raise an alarm. It is not advisable to check and cleanup alarms & events frequently as this might cause performance issues. Hence, the maximum frequency you can specify is a "Day".
- b. **Generate Windows Event** - You can use this option to have StoreGrid also generate a Windows event when it is generates a StoreGrid event.

You can select the type of StoreGrid events for which the Windows events should be generated. You can select one or more of the following event types:

- 1. Critical and Major
- 2. Warning
- 3. Information

Automatic Client Registration

Overview

The backup server may be configured to accept only registered clients. Therefore, before you run the backup from this StoreGrid client machine to the backup server, you need to first register it with the backup server. From this page, you can register this client machine to the remote backup server that you are planning to backup to.

How to get here in the StoreGrid Web Console?

→ In the StoreGrid login page, click on the "Sign Up" link, below the user name and password fields. Once, the client successfully signed up with a backup server, then this "Sign Up" link will not be displayed.

Automatic Client Registration

Automatic Client Registration is a feature to let the StoreGrid clients register to the backup server automatically from the client's StoreGrid web console page itself.

In the "Register Client" web console page, you need to provide the following details:

- **Backup Server:** You can choose the backup server from the list of backup server's listed in this combo list. If the backup server is not listed or no backup servers are listed in the list, then you can manually add the backup server by clicking on the "Add Backup Server" link. If you are not sure about the backup server, contact your backup service provider/system administrator.

Note: The backup server should be accessible to the client system and StoreGrid application should be running in the backup server system, when the client is registering.

- **Customer Pass Key:** This key is provided by your backup service provider/system administrator, under which the client is registering in the backup server. If you don't have the one, contact your backup service provider/system administrator.
- **User Name:** This is the StoreGrid ID value, which you had entered when installing StoreGrid in this machine. User name is the unique name with which your machine (client) installation is identified.
- **Password & Confirm Password:** Specify the password to protect your backup account in the backup server. You can use this user name and password to login to the backup server's web console (if the backup server is configured to allow remote access for this client) and view your backup details in the backup server. You can also use this user name and password to login to the client's web console.

Troubleshooting



Error occurred while trying to register the client

Cause: Some internal error occurred, either at client or backup server side, when registering this client.

Solution: Contact your backup service provider/system administrator with error details.



The server you are trying to register this client is not a backup server

Cause: StoreGrid is not running in backup server mode at the selected backup server system.

Solution: Check whether StoreGrid is running in backup server mode or not. Or contact your backup service provider/system administrator with error details.



The Passkey key specified does not seem to be valid one.

Cause: The provided Customer pass key does not exist in the backup server or the entered Customer pass key is invalid.

Solution: Check the Customer pass key given by your backup service provider/system administrator. To avoid any typo errors, copy and paste the Customer pass key. If not, contact your backup service provider/system administrator with error details.



Client's group is currently deactivated

Cause: In the backup server, the Reseller/Customer is deactivated.

Solution: Contact your backup service provider/system administrator with error details.



Client limit reached for the group corresponding to the specified Passkey.

Cause: The Customer under which you are trying to register the client in the backup server has exceeded the maximum clients limit.

Solution: Contact your backup service provider/system administrator with error details.



No valid backup location was found to be set for the group corresponding to the specified Passkey.

Cause: The Customer's backup storage location is not accessible to the backup server.

Solution: Contact your backup service provider/system administrator with error details.



Not enough backup space available to add this client.

Cause: There is no sufficient backup space available in the backup server or allotted to the Reseller/Customer to accommodate this client.

Solution: Contact your backup service provider/system administrator with error details.

Authorization of Client with Server

Overview

This page is used to authenticate the client with the server with an authentication password. Client authorization, though an optional security feature, is recommended, to provide security for the backup content of the client available in the server. Client authorization will be mandatory, if the server you are backing up to has made it a strict requirement in the interest of providing security.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings->Authenticate Client".

Authorization of Client with Server

There are two scenarios described here to help you decide whether to configure your own password for client authorization.

1. If Auto Authorization is disabled (*Denied Auto Authorization*) in the server you are backing up to, then your client (StoreGrid ID) should have been added in the server by the server administrator before you can connect to the server. You should get your password from the server administrator and authorize yourself once. You can subsequently change the password from this page and authorize again.

Note: You have to authorize your client with the server only once. The StoreGrid client will internally maintain this password and authorize itself automatically whenever it connects to the server.

2. If Auto Authorization is enabled (*Enabled Auto Authorization*) in the server you are backing up to, then you don't need to configure your own password for authenticating this client with the backup server.

If you rely on the Auto Authorization feature, then another user (and license key) <--> and connect to the server unless he/she also knows the password you used.

NOTE: By default, since v3.0 the 'Default Reseller' and 'Default Customer' are created in 'Disable Auto Authorization' mode to make it a strict requirement to have authenticated clients.

In this page, you can authenticate the client with a backup server by providing the password that is set in the backup server for this client. If there is no password set in the backup server for this client and if Auto Authorization is enabled for this client in the backup server, then you can set a new password for this client in the backup server.

Server Name: Select the backup server that you want this client to authenticate against. Once selected, StoreGrid will check if this client has already authenticated with the selected backup server.

- If the client had earlier authenticated and if the password was then changed in the backup server, then you can re-authenticate this client with the changed password. Enter the password and click on re-authenticate button.
- If the client had never authenticated with the backup server before or the password was cleared in the client, then you will prompted to enter the new password. After entering the new password and confirming it, press the Authenticate button.
 - If the client is set with a password in the backup server, the new password will be verified against it to authenticate the client.
 - If there is no password set for the client in the backup server and if Auto Authorization is enabled for this client in the backup server, then the new password will be set for the client in the backup server.

The table at the bottom of this page lists the backup servers that this client has authenticated against along with the servers this client is backing up to. Clicking on the reset password button icon will clear the client's password for that server.

Add / Delete StoreGrid Peer(s)

Overview

In this page, you can add the details of the other machines (peers) that are running StoreGrid. Once added, you can use the 'Switch Peer' feature (available at the top right hand corner of the web console pages) to access the web console of the added peers from this web console.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings-> Add/Delete Peer" and select the "Add Peer(s)" table.

Add/Delete StoreGrid Peer(s)

In a client machine, you may need to add the backup server machine as a peer here (Machine Type as 'Server') to be able to configure backups to the backup server in the 'Add Backup Schedule' page.

In a backup server machine, if you want to replicate it to a Replication Server, then you need to add the Replication Server as a peer here to be able to configure replication against it in 'Replication Management' page.

NOTE: When you add a peer with its IP address, then this StoreGrid machine will access it only through the IP address. Therefore, if the peer is in a DHCP network, then make sure you add the peer with its DNS name and not its IP address.

Machine Name - This is the name of the peer (if known) which needs to be added. You can either give the IP or the DNS name.

StoreGrid ID - This is an optional field to enter the StoreGrid ID of the peer (if known) which needs to be added. If you do not give a StoreGrid ID, StoreGrid will automatically get it from the peer if it is able to connect to it.

Machine Type - Select the 'type' of the peer (server/client/replication server).

Add Peer Button - Once the machine name and the machine type are specified as described above, click on the Add Peer Button to add the peer.

Delete Peer - To delete a StoreGrid peer, simply click on the delete icon in the row corresponding to the peer.

Once added, the machines are listed in the table available below the Add Peer button with their corresponding details. The availability (if this machine is able to connect to the peer) of the added machine can be interpreted from the image displayed before the StoreGrid ID; a blue icon indicates that the machine is available, and a black icon denotes that this machine was not able to connect to that peer.

Seed Backup Migration

Overview

Seed Backup Migration is a useful feature to quickly move large backup data from the client machine to the backup server. Using this feature, the initial seed backup can be taken in a local external drive connected to the client machine and the external drive can then be physically moved to the remote backup server's environment to migrate the data into the backup server. After the data migration and after performing the server side and client side Seed Backup Migration steps, the incremental backups can run directly from the client to the remote backup Server.

How to get here in the StoreGrid Web Console?

For Server:

→ In the top menu, select: "Server Admin->Reseller Management" and click on the "Seed Backup Migration" icon on the left hand side.

For Client:

→ In the top menu, select: "Backup->Seed Backup Migration".

Seed Backup Migration

1. Configure a backup schedule in the StoreGrid client system. Log into client's StoreGrid web console page and select 'Backup -> Backup Schedule' from the top menu.

The screenshot shows the 'Add a new Backup Schedule' web console interface. It is divided into four main sections:

- 1 Schedule Name:** A text input field labeled 'Email'.
- 2 Select files and folders to Backup:** A tree view showing a file system structure. The root is 'abcl', which contains several folders: 'C:/', 'D:/', 'E:/', 'F:/', 'Z:/', 'My Documents', 'Mozilla', 'Thunderbird', 'Internet Explorer Settings', 'FireFox', 'Windows Mail', and 'Desktop'. A 'Files/Folders Filter' button is at the bottom.
- 3 Set Basic Configuration:**
 - Backup Type:** Radio buttons for 'Same Machine' (selected) and 'Remote Server'.
 - Local Backup location:** A text input field containing 'Z:/backup/' with a folder icon button.
 - Encryption:** A section with 'Enabled - Triple DES - 192 bit'. It includes 'Type Password' and 'Confirm Password' fields, both masked with asterisks.
 - Retention Policies:** A section with 'Backed up Files' (5 Version(s)) and 'Deleted Files' (Disabled), each with an 'Edit' button.
- 4 Scheduling [Decide when to Backup]:**
 - Radio buttons for 'Continuous', 'Run Every Few Hours', 'Run Daily' (selected), 'Run Weekly', and 'Run Once Only'.
 - Below 'Run Daily', there are dropdowns for 'Run Daily at : 09 : 00 PM'.
 - Below 'Run Weekly', there is a dropdown for 'Run Once Only'.
 - 5 Additional Full Backups:** A section with 'Disabled' and an 'Advanced Options' button.

At the bottom of the form are three buttons: 'Save Backup', 'Cancel', and 'Clear'.


2. Select the 'Backup Type' as 'Same Machine' in Step 3 and enter the external drive location for the 'Local Backup Location'. After entering all the other backup details, save the backup schedule.

3 Set Basic Configuration

Backup Type

☒ Same Machine
 ☐ Remote Server

Local Backup location

Z:/backup/ 

Encryption

Enabled - Triple DES - 192 bit

 Type Password

 [6 - 24 Chars]

 Confirm Password

Retention Policies

Backed up Files

5 Version(s)

Deleted Files


Disabled

Note : 'Same Machine' backup feature is available only from 2.3 release. It can be used only for 'Seed Backup Migration'.

- Run the backup, check the progress and make sure the backup runs to completion.

Overall Progress

Backup Name - Email
 Backup Server - (local)
 Warning -
 Reconnection Attempts - 0
 Bandwidth Throttling not applied in client

 **Backup is in progress** 00:04:28

Files Processed 27 of 57 [47%] Transfer Rate : 6.0 Mbps

Original Size : 501.07 MB Compressed Size : 194.64 MB

Added Files	Modified Files	Deleted Files	Skipped Files	Skipped Folders
27	0	0	0	0

Current Progress


Processed (so far) : 12.44 MB of 21.56 MB Transfer Rate : 4.2 Mbps


Time Left : 00:00:04 Uploaded Size : 3.15 MB









Current File : C:/...default/Mail/Local Folders/Support_reply

* To enhance backup performance, close this progress window and open it only occasionally to check backup progress.

- When the backup is complete, suspend the backup schedule.

 Backup Schedule has been suspended successfully.

1 - 1 of 1 View per page: 25 

Backup Name	Status	Backup Server(s)	Next Schedule Time	Actions						
				Abort Backup	Suspend/Resume	Schedule Now	View	Edit	Delete	Reports
Email	 Suspended	(local)	-							

- (You can skip this step if you are migrating the backup data from a Client installation using local backup) If you are

migrating the backup data from v3.0/later backup server using MySQL Server as the backend database, then the StoreGrid database 'sgbackup.db' file will not be available in the backup location since v3.0/later backup server uses MySQL as the backend database. You need to export the metadata from MySQL to SQLite database by following the below steps :

- Open a command prompt and go the < StoreGrid_HOME> folder.
- Execute the following command (the below commands are case sensitive):
'bin\StoreGrid.exe ExportToSQLiteDatabase' (for Windows)
'./bin/ StoreGrid ExportToSQLiteDatabase' (for Linux)

This will export all the clients and backups' to SQLite database (sgbackup.db) in the backup location. If you wish to migrate a particular client (or) backup, then you can execute the above command as follows :

bin\StoreGrid.exe ExportToSQLiteDatabase <Client_Name>
bin\StoreGrid.exe ExportToSQLiteDatabase <Client_Name> <Backup_Name>

6. Disconnect the external drive from the client machine and connect the external device to the remote backup server.



7. Copy the client's data (Z:\backup\1) from the external device to some temporary location in the drive where you are planning to store the backup data in the remote backup server. Like for example, if your storage device is the E: drive, then copy the data to say "E:\LTOR". You don't have to copy the data to the temporary location and you can migrate the data directly from the external drive itself. However, the migration might take a little longer to complete, based on the speed of the external drive.



8. Go to the remote backup server's web console "Server Admin-> Reseller Management -> Seed Backup Migration (Icon)" page. Enter the location of the client's data followed by the 1/ directory. For example, if you have copied the client's data from the external drive to the temporary E:\LTOR location in the backup server, enter location as E:/LTOR/1/ in this page. If you have not copied the data to a temporary location, enter the location of the external drive, like for example Z:/backup/1. After entering the path, click on the "Submit Location" button.

Seed Backup Migration

Enter the source data location for Seed Backup Migration

9. The client name will be displayed. Select the client. If you are doing the data migration from this client for the first time, enter the target customer under which the client is to be migrated and the location where the backup data is to be stored. Click the "Migrate" button.

Seed Backup Migration

<input checked="" type="checkbox"/>	Client Name	MCAL Used/Needed	Customer Name (For Existing clients only)	Migrate to Customer	New Location (For client's data)
<input checked="" type="checkbox"/>	abcl@micro...	2	-	NetWare Solutions	C:/Program Files/Ve
<input checked="" type="checkbox"/>	ibn@softpro...	2	-	SoftPro Solutions	C:/Program Files/Ve

Migrate

Seed Backup Migration Progress

[← Back to Seed Backup Migration module](#)

Summary of progress

Success Rate : 100%

Elapsed Time : 00:00:06



No of clients migrated : 2 of 2
 Messages : All clients migrated successfully.
 Warning :

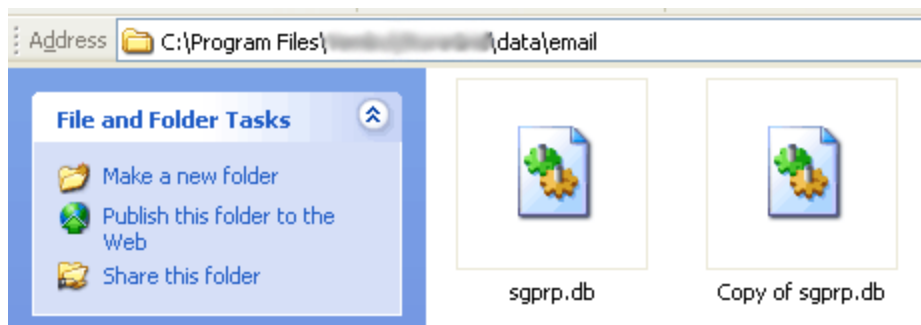
Clients scheduled for migration

Client Name	No of backup schedules for migration		Migrating to	Status
	Total	Completed		
abcl@micro...	1	1	NetWare Solutions	Migration completed successfully
ibn@softpro...	1	1	SoftPro Solutions	Migration completed successfully

Details of current migration activity

Client (currently migrating) : abcl@micronet
 Backup (currently migrating) : Email
 Elapsed Time (for this client) : 00:00:03
 Progress : 100%

- In the client system, take a backup of the < StoreGrid Installation Location>/data/<backup name>/sgprp.db file. This is just to ensure you can recover this DB file if you need to do the client side migration again, if required.



- Go to "Backup -> Seed Backup Migration" page in the client machine.

If the client machine is backing up locally, then select the backups that should continue with the incremental backups directly to the remote backup server. Provide the New Backup Server Name and confirm that the backup data of the selected schedules has already been moved to the new backup server and that you have run the Seed Backup Migration module in the remote backup server (confirm this from the check box).

Seed Backup Migration

Select the Backup Server that this client machine is currently backing up to: (local) ▼

Enter New Backup Server Name: backupserver3

<input checked="" type="checkbox"/> Available Backup(s)	Status	Plugin Type	Last Backup Time
<input checked="" type="checkbox"/> Email	Suspended	-	Tue 02 Feb 2010 16:29:13

NOTE: Please ensure that the backup data has been copied from the existing server to the new server and the server-side's Seed Backup Migration was completed at the Server's end.

☒ **YES, I have copied client backup data from current backup server to new server and completed running the Seed Backup Migration at the Server's end.**

Migrate

If the client machine is backing up to a remote Backup Server, then select the remote Backup Server from the list to where the client machine is currently backing up to and then:

- Choose the option '**Make this client machine backup to a different backup server from now on**' to continue with the incremental backups directly to the remote backup server and provide the **New Backup Server Name**.

In the table listing the backup schedules, select the backup schedule(s) whose data has been moved to the new backup server. You can select all the backup schedules by checking the checkbox against the "Available Backups" column name. Confirm that the backup data of the selected schedules has already been moved to the new backup server and that you have run the Seed Backup Migration module in the remote backup server (confirm this from the check box).

Seed Backup Migration

Select the Backup Server that this client machine is currently backing up to: backupserver1 ▼

☒ Make this client machine backup to a different backup server from now on.
☐ Make this client machine backup locally (same machine) from now on. ?

Enter New Backup Server Name: backupserver2

<input checked="" type="checkbox"/> Available Backup(s)	Status	Plugin Type	Last Backup Time
<input checked="" type="checkbox"/> Email	Suspended	-	Mon 25 Jan 2010 22:31:42

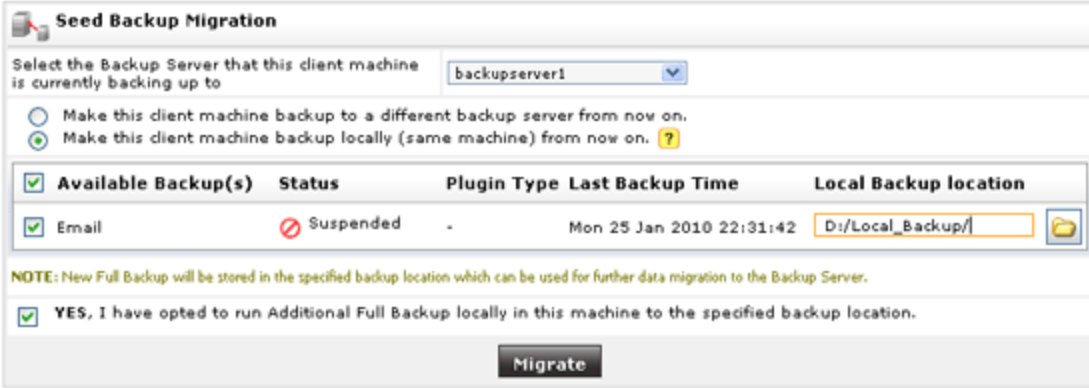
NOTE: Please ensure that the backup data has been copied from the existing server to the new server and the server-side's Seed Backup Migration was completed at the Server's end.

☒ **YES, I have copied client backup data from current backup server to new server and completed running the Seed Backup Migration at the Server's end.**

Migrate

- Choose the option '**Make this client machine backup locally (same machine) from now on**' to make the client machine start backing up locally to itself. You can use this option to do '*Seed Backup Migration of Additional Fullbackup data*'. After selecting this option, you need to provide the **Local Backup Location** for the selected backup schedule(s).

In the table listing the backup schedules, select the backup schedule(s) to start backing up locally to the same machine. You can select all the backup schedules by checking the checkbox against the "Available Backups" column name. Confirm that you have opted to run Additional Full Backup locally in this machine to the specified backup location. (confirm this from the check box).



Seed Backup Migration

Select the Backup Server that this client machine is currently backing up to: backupserver1

☐ Make this client machine backup to a different backup server from now on.
☒ Make this client machine backup locally (same machine) from now on. ?

Available Backup(s)	Status	Plugin Type	Last Backup Time	Local Backup location
<input checked="" type="checkbox"/> Email	Suspended	-	Mon 25 Jan 2010 22:31:42	D:/Local_Backup/

NOTE: New Full Backup will be stored in the specified backup location which can be used for further data migration to the Backup Server.

☒ **YES, I have opted to run Additional Full Backup locally in this machine to the specified backup location.**

Migrate

Click the **Migrate** button to complete migration.

- To confirm that the migration has been successful, try running an incremental backup. If the incremental backup runs fine, the migration is successful and you can delete the backup of the db file that you created in step 10 above. If the client starts taking a full backup, then suspend the backup, replace the sgprp.db file with its backup that you created in step 10 and check the server migration steps again.

Seed Backup Migration Progress

• Summary of progress

This gives the total summary of the Migration progress.

Success Rate : This gives the total success rate.

Elapsed Time : This gives the total time taken after the migration started.

No of clients migrated : This gives the total number of clients migrated out of the total clients for migration.

Messages : Messages regarding the Migration.

Warning : Warnings regarding the migration progress.

Overall migration progress.

• Clients scheduled for migration

This lists the client lists for migration, their total number of backups for migration, their total migrated backups, their target customer and their migration status.

• Details of current migration activity

This gives the information about the migration of the currently migrating client and its current backup, time taken after the current client migration started and its migration progress.

Troubleshooting Tips



No Clients for migration.

Cause 1: Backups are not present in the location "<LocalServerDataLocation>/<Client_Name>/" where 'LocalServerDataLocation' is the location entered in the remote backup server web console "Server Admin -> Reseller Management -> Seed Backup Migration(Icon)" page. 'Client_Name' is the client name of the backups which is to be migrated.

Solution : Delete the client data from the remote server 'LocalServerDataLocation' and recopy the data from the USB

device.

Cause 2 : Client's data are not copied from a StoreGrid 2.2.1 or later version of backup server.

Solution : "Seed Backup Migration" can be done only with StoreGrid 2.2.1 or later version of backup server clients alone.



Unable to list the Directory. Permission denied.

Cause : StoreGrid does not have the read permission for the location entered in the remote backup server web console "Server Admin -> Reseller Management -> Seed Backup Migration(Icon)" page.

Solution : Move the data to a location where StoreGrid can access the data without any permission problem or change the permission for that directory so that StoreGrid can read the data.



Migration failed. Please check local Server Data Location for the read access and the target location for Read/Write access.

Cause 1: StoreGrid does not have the read permission for the location entered in the remote backup server web console "Server Admin -> Reseller Management -> Seed Backup Migration(Icon)" page.

Solution : Move the data to a location where StoreGrid can access the data without any permission problem or change the permission for that directory so that StoreGrid can read the data.

Cause 2 : StoreGrid does not have the read and write permissions for the client location entered in the list of clients migration page that comes after clicking the "Submit Location" button in "Seed Backup Migration" page.

Solution : Provide enough permission for the location you have given for the client or choose any other location where StoreGrid has the read and write permissions.

Limitations

1. StoreGrid version of the client should be the same as the Backup Server while performing server side Seed Backup Migration.
2. When StoreGrid is stopped during Server side "Seed Backup Migration", it cannot be resumed later from where it has been left. It has to be run afresh again.
3. Server side "Seed Backup Migration" report cannot be seen once you leave the web console page.
4. When there isn't enough Space in the remote backup server, migration will still proceed to completion by automatically taking the necessary space.
5. File version migration is not supported. Only full backups and incremental backups can be migrated.

Test connectivity to Backup Server

Overview

With this feature you can check the connectivity from the client to the Backup Server. It also checks the various settings in the backup server to identify if the client can backup to the backup server.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Test Connectivity to Backup Server". This is also available in step 3 of the following pages:

- Backup -> Backup Schedule
- Backup -> Plugin Backups -> SharePoint
- Backup -> Plugin Backups -> Disk Image
- Backup -> Plugin Backups -> MySQL

Test connectivity to Backup Server

This feature checks for the following:

- **DNS lookup** - It checks if the client can resolve the backup server's hostname (FQDN). If this check fails, then check the DNS server in the client's network and make sure there is an entry for backup server's hostname. If the backup server has a static IP then try using that IP instead of the hostname.
- **Telnet & Ping** - It checks if the client is able to reach the server. If this check fails, make sure the backup server is online and StoreGrid is running on it. Also make sure that the firewall on both the client and the server side allows TCP/IP traffic from client to the server.
- **Server Type** - This checks if the server connected to is a backup server or a replication server. Clients can restore files from the replication server. Clients cannot backup to a replication server.
- **StoreGrid Edition and Version** - It checks the compatibility between StoreGrid editions/versions running in the client and the server. Client running SP edition cannot backup to a server running Pro Edition and vice versa. A client running a higher version of StoreGrid cannot backup to a backup server running a lower version of StoreGrid. For example, v2.2.5 client cannot backup to a backup server running StoreGrid v2.2.1.
- **Is this client available in the server** - This checks if the client is already added in the backup server. If the client is not in the backup server, it will be added when the client connects to the backup server for the first time. The client will be added under the customer name that was specified during the installation of StoreGrid in the client. If that customer is not available in the backup server, the client will be added under the 'Default Customer'.
- **MCAL License** - This checks if there are enough MCALs in the server for this client to backup. If this check fails, make sure enough MCALs are available in the server. If there are enough MCALs in the server, make sure the customer to which this client belongs to, has enough MCALs allocated or the MCAL allocation is set to AUTO.
- **Authentication** - This checks if the client is authorized to backup to the server. If the client is set to 'Disable Auto Authorization' in the backup server, then the client has to be first authenticated with the backup server before it can start backing up. If the customer that this client belongs is set to 'Disable Auto Authorization', then the client has to be first added in the backup server with a password and the client needs to authenticate itself with the backup server with that password.

If the client is added to the backup server with a password, then the client has to first authenticate with the server even if the customer and the client are set to 'Enable Auto Authorization'.

- **Activated** - Checks the activation status of Reseller/Customer/Client.

Troubleshooting Tips

Email Settings

Overview

StoreGrid has the capability to email all the client-side and server-side reports to interested recipients.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Email Settings".

Email Settings

The following describes the configuration options:

Enable - First you need to check this checkbox to enable email feature in StoreGrid and then provide inputs to the rest of the fields.

Outgoing (SMTP) Server - This is the SMTP server StoreGrid should use to send the email. This will most probably be the same server as the one you use in your email client (Outlook, Eudora etc.). If you are not sure, check with your Systems Administrator.

More Options Link - If you click on the "More Options" link you will be shown couple of more advanced options:

- a. **Outgoing (SMTP) Server Port Number** - By default SMTP servers use port number 25. If by any chance it is different in your case, you can provide the port number here.
- b. **This SMTP Server Requires Authentication** - If your outgoing server (SMTP server) requires authentication before it can accept an email for sending out, you need to check this checkbox. You will get the following three options to configure the username, password and the authentication type.
 - i. **User Name** - Enter the user name. This will most probably same as the user name you use in your email client to receive mails.
 - ii. **Password** - Enter the password for the above user name.
 - iii. **Authentication Type** - Provide the type of authentication required by the SMTP server. If you are not sure leave it with the default value "AUTO".
 - iv. **Use SSL** - Select this checkbox if you want emails to be communicated through SSL port. You need to enter email server's SSL port in the port number text box.

Sender Email ID - Provide the email ID of the sender from which the reports should be emailed. The email will be delivered to the recipients as if coming from the Sender Email ID you provide here.

Test Mail Server - Once you have entered the SMTP server details, **click on the link "Test Mail Server"** and check if it works by entering an Email ID in the 'To Email ID' field and then clicking on "Send Test Email". A test email will be sent to the 'To Email ID'. If you don't receive the test email, check the SMTP server settings again.

Email Reports - You can enable StoreGrid to set Email reports on completion of various jobs like Backup, Restore, Deleting a Backup or a Replication job. You can enter separate recipient Email IDs based of the status of the job - you could have the Emails sent to one Email address when the job completes successfully and another when the job fails. Also, you could have same Email address for all reports or different ones for each of the reports. If you would like to send the Emails to the same Email address for Backup, Restore, Replication and for Delete Backup, select the check box: *Use the same Email IDs for all the reports*. If you would like to specify different Email addresses for each report, you can select the check box *Use different Email IDs for each report*. When you select one of the two chck boxes, the fields to enter the recipient Email IDs will appear. In case you want to Email the reports to multiple recipients, specify the Emails IDs separated by commas. (for example: joe@gmail.com, smith@msn.com).

Edit Email Subject - You can customize the subject of the Emails by clicking on the Edit Subject link. It will take you to a separate pop up where you can specify the subject. For constructing the Email subject, you can use place holders that will be substituted when the Email is constructed. Like for example, if you want the subject to be: *StoreGrid Backup Report from the server: backupserver1.datamaniacs.com* where StoreGrid is the product name and backupserver1.datamaniacs.com is the backup server name, you can specify the Email subject as: 'PRODUCT_NAME Backup Report from the server: SERVER_NAME' - PRODUCT_NAME and SERVER_NAME are the place holders.

Edit Email Header/Footer - You can edit the Email header and footer for success and failure reports by using this link. The specified header and footer content will be added at the top and at the bottom of the Email content. You could specify the header and footer in HTML as well.

You can also configure the conditions in which the reports should be sent by accessing the 'Email Filters' page through the menu "Settings->Email Filters".

Send File list with the Backup Report - This is the option to send the protected, skipped and deleted files list as attachment with the client backup email reports. The files list will be compressed as a zip archive file and then attached with the email report.

Protected Files - If this option is selected, the protected files list will be attached with the client's backup email report.

Skipped Files - If this option is selected, the skipped files list will be attached with the client's backup email reports.

Deleted Files - If this option is selected, the deleted files list will be attached with the client's backup email reports.

Client Side Email Filtering

Overview

The Email Filtering feature allows you specify specific conditions for which reports need to be emailed for the modules selected in "Email Configuration". By default when Email Configuration is enabled, reports are sent for all "conditions" that are applicable to the "modules" (backup/restore/delete) selected.

NOTE: "Configure Email Filtering" link is activated only after you've enabled your basic Email configuration.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings->Advanced Options" and click on 'Email Filters' on the left hand side.

Client Side Filter Settings:

There are two filters that can be applied here.

With the first, reports will be emailed to specified recipients for each selected module (backup/restore/delete) depending on the conditions selected, as described below.

1. When Backup/Restore/Delete completes successfully.
2. When Backup/Restore/Delete fails.
3. When there are no New/Modified files for backup (when the backup is scheduled)
4. When backup is manually suspended
5. When Backup/Restore is partially completed

The second filter allows you to Email backup, restore and delete Reports only for specific backup schedules (those listed in the 'Enabled Backup Schedules' box).

By default, Email reports are sent for all backup schedules in the client. Manually moving some backup schedules to the "Disabled Backup Schedules" window will prevent reports associated with those schedules from being emailed.

User Management

Overview

This page lists all the users, checks privileges and create new users for accessing the StoreGrid WebConsole.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings ->User Management".

User Management

Create User - This section is to create a new user for accessing the StoreGrid Web Console. Provide the following details and click the **Create User** button.

- **Role** : By default, set to 'Admin', as only Admin users are created from this page. Users for Reseller/Customer/Client are created when Add Reseller/Customer/Client operation is performed. You can also Edit a Reseller/Customer/Client to enable Web Portal access.
- **User Name** : Logon name of the new user.
- **Access Privilege** : To select the access privilege of the new user, Full access or Read-Only access. This field is applicable on the Client-Only installation, as the Read-Only access user is available only in client.
- **Password** : Password for the new user.
- **Confirm Password** : This field is used to confirm that the password for the new user is entered correctly.

List of Users- This section lists all the users and their access privileges.

- **User Name** : Name of the user.
- **Role** : Role of the user [Admin/Reseller/Customer/Client].
- **Accessed By** : The Admin/Reseller/Customer/Client name who uses this logon to the Web Portal.
- **Access Privilege** : Access Privilege provided for the logon user. For example, Web Portal/Web Service and all Full Access, Web Portal only Access, Web Service only Access, only access to Server Lookup Web Service, Read-Only Access to Web Portal or Denied Access to any Service etc.,)
- **Actions** : The following actions are available for each User.
 - **Change Password** : This action can be used to change the password for the currently logged in and other login users. The current user should know the old password in order to update. For other users, the old password is not required. Also, the current user should have enough permission to change the other user's password.
 - **Delete User** : This action will remove the User Access credentials for the logon user.

NOTE : For the Client users, this action simply updates the User Privileges to ServerLookup WebService only. This is to facilitate the client's to connect for ServerLookup WebService to identify the Server Cluster Node to backup to.

Limitations

You cannot delete the logon user using which you are currently logged in.

MySQL Settings[For Windows]

Overview

StoreGrid can be configured to backup the MySQL Database(s) available in the local machine. StoreGrid uses the internal MySQLDump utility (mysqldump.exe) to backup MySQL Database(s) and it uses the MySQL Exe (mysql.exe) to list the database names in "Backup -> Plugin Backups -> MySQL" page.

In Windows, before a MySQL backup can be configured in StoreGrid, you should configure the MySQL settings. Without correct values for these settings, StoreGrid will not be able to list the databases to be configured for backups.

This section explains how to configure the MySQL settings so that StoreGrid can list the MySQL database(s) in "Backup -> Plugin Backups -> MySQL" page(For Windows).

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings->MySQL Settings".

MySQL Settings

In Windows, before a MySQL backup can be configured in StoreGrid, you should configure the MySQL settings from "Settings->MySQL Settings" menu. With the values entered in the MySQL settings, StoreGrid will create a backup dump of the MySQL database.

- **MySQL Server Name**

This is a non-editable field. "localhost" will be used as the value.

- **MySQL Server Instance Port**

By default MySQL server uses port 3306. But MySQL supports running multiple instances and in that case each instance will be using its own port. If you have just one instance of MySQL running, simply enter the port number here or leave the default as it is and save it. But if you have multiple MySQL instances running, then you can provide the ports for all the instances in the following manner:

Once you have configured one port for one of the instances and saved it, this field will have two options "**1. Choose a port from the list**" and "**2. Add an additional port**".

By selecting "Add an additional port" you can add additional ports for other MySQL instances running.

By selecting "Choose from the list", you can select any one of the ports already configured. This step is required before you configure MySQL backup from the "Backup -> Plugin Backups -> MySQL" page. Depending upon the MySQL instance for which you want to configure the backup, you should first select the appropriate port, save it and then go backup to "Backup -> Plugin Backups -> MySQL" page to configure MySQL backup for that instance. The MySQL databases listed in the "Backup->Create MySQL Database Backup" page (For Windows) will be for the MySQL Server instance whose port was last selected and saved from this MySQL settings page.

- **MySQL EXE Path**

Enter the location of the **mysql.exe** file for the mysql server instance in the local machine. For example, if **mysql.exe** file is present in the "C:/Program Files/MySQL/MySQL Server5.0/bin/" folder, then enter "C:/Program Files/MySQL/MySQL Server5.0/bin/" as this field value. Please note that exe file name "mysql.exe" should not be appended to the path value.

- **MySQL Dump EXE Path**

Enter the location of the **mysqldump.exe** file for the mysql server instance in the local machine. For Example, if **mysql.exe** file is present in the "C:/Program Files/MySQL/MySQL Server5.0/bin/" folder, then enter "C:/Program Files/MySQL/MySQL Server5.0/bin/" as this field value. Please note that exe file name "mysqldump.exe" should not be appended to the path value.

- **MySQL User Name**

Provide the MySQL server instance authentication user name here. Note that each instance can have its own authentication user name and password. Make sure you give the correct user name matching the MySQL server

instance you have chosen in the "MySQL Server Instance Port" field.

- **MySQL Password**

Provide the MySQL server instance authentication password here. Note that each instance can have its own authentication user name and password. Make sure you give the correct user name matching the MySQL server instance you have chosen in the "MySQL Server Instance Port" field.

The option "**Continue with previous authentication for this MySQL Server Instance**" is provided if a user name and password have already been configured for the MySQL server instance. By default "Yes" option is selected and the "No" option could be used to change the previously saved "User Name" and "Password" values.

- **Temporary location to store the backup dumps**

Enter the location/directory path to which the mysql database dumps has to be stored temporarily before uploading to the backup server. Please ensure that you have enough disk space in the configured temporary location (where the backup dump has to be saved). Please note that, backup dumps stored in the temporary location will be deleted once backup dumps are transferred successfully to the remote backup server.

Once these MySQL settings are correctly configured and saved, the tree in the "Backup -> Plugin Backups -> MySQL" page will display the option to configure a mysql database backup.

Troubleshooting Tips



Database names is not listed in "Backup -> Plugin Backups -> MySQL" page(for windows).

Cause 1: If MySQL Settings for StoreGrid is not configured.

Solution : Configure MySQL settings from "Settings" menu "MySQL Settings" icon in the left hand side and then check if MySQL database(s) are listed in the "Backup -> Plugin Backups -> MySQL" page (for windows).

Cause 2 : If MySQL service is not started in the machine.

Solution : Start the MySQL service and then check if MySQL database(s) are listed in the "Backup -> Plugin Backups -> MySQL" page (for windows).

Cause 3 : When the last time MySQL Settings was saved for mysql server instance port, MySQL Exe path field value was not modified/edited, or may be an older version (MySQL 4) exe path value was entered for the newer version (MySQL 5) port.

Solution : Enter the correct MySQL(version) Exe path value for the mysql server instance port selected.

Cause 4 : mysqldatabase.lst file present in the "<INSTALLATION_HOME>/plugins/MySQLServer/" folder does not have the database list.

Solution : Check the MySQL version running in the machine (4.x or 5.x). StoreGrid only supports listing MySQL 4.x and 5.x database(s) for backup.



Database names are listed in "Backup -> Plugin Backups -> MySQL" page(for windows), but dump is not created.

Cause : Entered username and password in the MySQL settings page may not have access to the database(s) configured for the backup schedule.

Solution : Check if the user name and password entered in the MySQL settings have appropriate permissions to take a backup dump of the database(s).

Limitations

1. Databases listed in the "Backup -> Plugin Backups -> MySQL" page(For Windows) will be for the the last saved MySQL Server instance port in the MySQL Settings.
2. MySQL Settings edited/modified will not affect the mysql database backup schedules configured previously and

changes will take effect only for the new mysql database backup schedules created.

3. Backup Report/View Backup/Edit Backup UI pages does not provide the details like MySQL Server name, port etc.

SharePoint Settings

Overview

StoreGrid can be configured to backup the SharePoint site-collections available in the local machine. StoreGrid uses the internal backup utility (STSADM.EXE) to list the SharePoint site-collections present under a portal site and back them up.

Before configuring a SharePoint backup in StoreGrid, configure SharePoint settings with the correct values. StoreGrid will then list the portal sites and the site collections under them.

This section explains as how to configure the SharePoint settings for StoreGrid to list the Portal sites and the site collections under them in "Backup -> Plugin Backups -> SharePoint" page.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings->Advanced Options" and click on the tab "SharePoint Settings" icon in the left hand side.

SharePoint Settings

In Windows, before a SharePoint backup is configured in StoreGrid, configure the SharePoint settings from "Settings -> Advanced Options" menu, "SharePoint Settings" icon in the left hand side. With the values entered in the SharePoint settings, StoreGrid will list the site collections and create a backup dump of the SharePoint site collections.

Path Settings(Tab)

- **STSADM Tool Path [STSADM.exe]**

Enter the location of the **STSADM.exe** file in the local machine. StoreGrid uses only this tool to list and backup the site collections under a portal site.

For **WSS2.0/SPS2003**, **STSADM.exe** file is normally present in the "*C:/Program Files/Common Files/Microsoft Shared/web server extensions/60/BIN/*" folder.

For **WSS3.0/MOSS2007**, **STSADM.exe** file is normally present in the "*C:/Program Files/Common Files/Microsoft Shared/web server extensions/12/BIN/*" folder.

For **MS SharePoint 2010**, **STSADM.exe** file is normally present in the "*C:/Program Files/Common Files/Microsoft Shared/Web Server Extensions/14/BIN/*" folder.

Note: The exe file name "STSADM.exe" should not be appended to the path value.

- **Temporary location to store the backup dumps**

Enter the location/directory path where the SharePoint site collection dumps should be stored temporarily before being uploaded to the backup server. Ensure to have enough disk space in the configured temporary location (where the backup dump has to be saved). Note that the backup dumps stored in the temporary location will be deleted once these dumps are transferred successfully to the remote backup server.

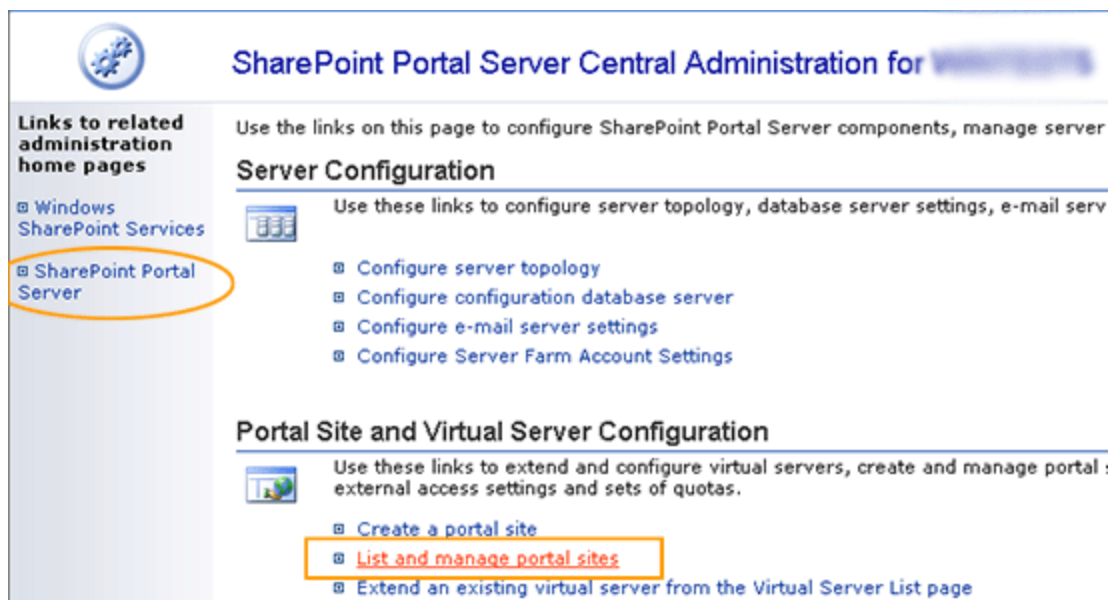
Portal Site Settings(Tab)

- **Portal Site URL**

Enter the portal site URL that should be listed in the "Backup -> Plugin Backups -> SharePoint" page. Once a portal site is added, the same will be listed in the table present below this 'Portal Site Settings' tab. Only the portal sites shown in the table below the 'Portal Site Settings' tab will be listed in the "Backup -> Plugin Backup -> Add SharePoint Site Backup" page. You can add any number of portal URLs that should be listed for a backup. In case, you wish to restrict a portal site URL from being listed, delete the portal site URL from the table below the 'Portal Site Settings' tab.

NOTE: The list of portal sites in WSS2.0/SPS2003 can be obtained from **SharePoint Central Settings** ->

SharePoint Portal Server [link in left column] -> Portal Site and Virtual Server Configuration [title] -> List and manage portal sites [link] page



SharePoint Portal Server Central Administration for Windows SharePoint Services

Use the links on this page to configure SharePoint Portal Server components, manage server

Server Configuration

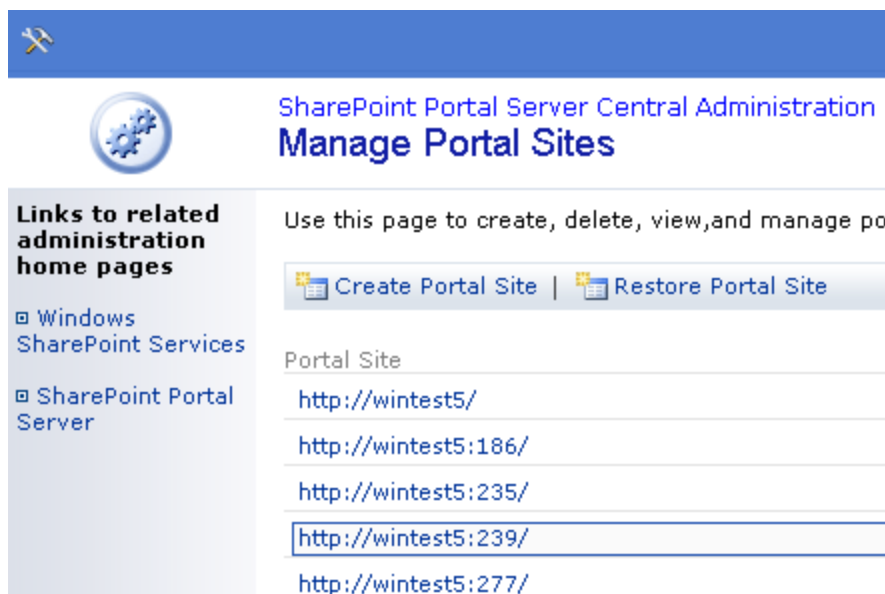
Use these links to configure server topology, database server settings, e-mail serv

- Configure server topology
- Configure configuration database server
- Configure e-mail server settings
- Configure Server Farm Account Settings

Portal Site and Virtual Server Configuration

Use these links to extend and configure virtual servers, create and manage portal : external access settings and sets of quotas.

- Create a portal site
- List and manage portal sites
- Extend an existing virtual server from the Virtual Server List page



SharePoint Portal Server Central Administration

Manage Portal Sites

Use this page to create, delete, view, and manage po

Create Portal Site | Restore Portal Site

Portal Site
http://wintest5/
http://wintest5:186/
http://wintest5:235/
http://wintest5:239/
http://wintest5:277/

Once these SharePoint settings are correctly configured and saved, the tree in the "Add SharePoint Site Backup" page will display the option to configure a SharePoint site-collection level backup. The Portal sites added through the tab **Portal Site Settings** will be listed in "Add SharePoint Site Backup" page. On clicking the "+" icon, the site-collections under that portal site will be listed. Select the sites you wish to backup.

Troubleshooting Tips



SharePoint Sites not listed in the site selection tree in "Backup -> Plugin Backups -> SharePoint" page.

Cause 1: This error is thrown if there is no portal site available to list [This normally occurs for WSS2.0/SPS2003 only and there will not be any issues for WSS3.0/MOSS2007 and MS SharePoint 2010]

Solution 1: Enter a valid portal site URL and add to the list through the menu "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Portal Site Settings(tab)". See whether the successfully added portal site is listed in the table below. Only the portal sites listed in this table will be listed in the "backup -> Plugin Backups -> SharePoint" page. Refer the [SharePoint Settings](#) section for more details

Cause 2: If the path of the STSADM.EXE provided in the "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Path Settings (tab)" is incorrect or empty.

Solution 2: Enter the exact path of the STSADM.EXE through the menu "Settings -> Advanced Options -> SharePoint Settings(Left Tab) -> Path Settings(tab)".

For **WSS2.0/SPS2003**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/web server extensions/60/BIN* folder.

For **WSS3.0/MOSS2007**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/web server extensions/12/BIN* folder.

For **MS SharePoint 2010**, normally found inside *C:/Program Files/Common Files/Microsoft Shared/Web Server Extensions/14/BIN* folder. Refer the [SharePoint Settings](#) section for more details

Cause 3 : SQL Server service is not running.

Solution 3: Check if the SQL Server instance associated with the SharePoint farm is running. If the SQL Server service is stopped StoreGrid will not be able to list the site collections under a portal site.



SharePoint portal sites are listed in "Add SharePoint Site Backup" page, but unable to list the site collections under a portal site when expanding the node of a portal site.

Cause 1 : No such portal site is existing (might have been deleted from SharePoint central admin)

Solution 1: Check if the portal site that you are trying to list exists, valid and accessible via browser.

Cause 2 : No valid site collection accessible via browser is available to list using STSADM.exe tool.

Solution 2: Check if the portal site that you are trying to list has at least one valid, error free site collection under it which is accessible via web browser.

Cause 3 : SQL Server service is not running.

Solution 3: Check if the SQL Server instance associated with the SharePoint farm is running. If the SQL Server service is stopped StoreGrid will not be able to list the site collections under a portal site.

Cause 4 : STSADM.EXE tool location invalid or not provided

Solution 4: Check if the STSADM.EXE tool exists in the location that is given in "Settings -> Advanced Options -> SharePoint Settings(Left Tab)" page.

Limitations

1. For WSS2.0/SPS2003, only the sites added from 'SharePoint Settings' page will be listed in 'Add SharePoint Site Backup' Page.
2. Though the whole SharePoint Server or a whole portal site is selected for backup, only a site-collection level of backup will be done. Hence, to restore all the site-collections under a portal site, you need to restore the site-collections under that portal site one by one using STSADM.EXE.
3. StoreGrid should be run with Administrator privileges to list and backup SharePoint sites as STSADM.EXE can be run only with Administrator permissions.
4. If the dump path of the SharePoint backup exceeds 255 characters, dump process will fail. Hence, make sure, you have entered a shorter dump path to enable the dump to complete successfully.

Mapped Drive Settings (For Windows Only)

Overview

If StoreGrid is running as a Service in Windows XP/2003/Vista OS machines, mapped drives may not be recognized by StoreGrid and therefore that may not be listed. To resolve this, you can map the drives in this page and then use the mapped drives to configure backups from them.

How to get here in the StoreGrid Web Console?

→ In the top menu of Backup Server, select: "Settings -> Mapped Drive Settings".

Mapped Drive Settings

1. Install StoreGrid as a Service with the administrative privileges.
2. Go to the 'Settings -> Mapped Drive Settings' page. Give the Drive Name and drive path, i.e. the UNC Path (\\server\sharename) for the mapped drive.

Note: The 'User Name' and 'Password' details are not mandatory. They are needed only if Windows OS requires the 'User Name' and 'Password' to access the mapped drive.

3. Add mapped drives by clicking on 'Add Mapped Drive' button.

The mapped drives will get listed in the 'Add Backup Schedule' page and you can configure backup schedule to include files and folders in them. The mapped drives will be listed in other pages as well, e.g. 'Server Settings' page, 'Seed Backup Migration' page, 'Edit Client Configuration Page', etc

Troubleshooting Tips



Mapping the drive letter to the UNC path failed with the error: <Error>

This error is generated from the Windows OS. Please check the Microsoft web site for this Windows OS generated error.

Limitations

1. If you map an entire drive using StoreGrid, then you cannot map any particular folder present in that drive. For example, if you have mapped '<Machine_Name>\<Drive_Name>', then you cannot map '<Machine_Name>\<Drive_Name>\<Folder_Name>' separately
2. Similarly, if you have mapped a particular folder using StoreGrid, then it is not possible to map the entire drive of that folder.
3. Mapped drives cannot be added or listed when StoreGrid is installed as a service in a Local system account. StoreGrid Service should be run with the administrative privileges.

Backup Window Settings

Overview

Backup Window is the hours during which the StoreGrid client can run its backups. You can configure StoreGrid client to not backup during certain hours of the day. This is useful when the user doesn't want StoreGrid to backup, say, during the peak hours when the client machine is running several other applications and the hardware resources in the client machine are limited

How to get here in the StoreGrid Web Console ?

→ On the top menu, select: Settings -> Backup Window Settings

To set a backup window, go to the *Backup Window Settings* page, click on the *Enable* checkbox and select the *From Time* and the *To Time* between which you don't want StoreGrid to backup. You can also select if this time period should be applied on all days or only on week days (Monday to Friday).

If you configure StoreGrid to not backup, say, between 8am and 6pm, then the backup window will be in between 6pm and 8am. If you have scheduled a backup to start at 2pm, then StoreGrid will start the backup only at 6pm. This is applicable to Additional Full Backup schedules as well.

If you configure StoreGrid to not backup, say, between 8am and 6pm and if a backup is in progress, then at 8am StoreGrid will end the backup job. StoreGrid will add an entry in the client side backup report as shown below.

Client Side

Backup Aborted

Overall Progress
Backup Name - backup-1gb
Backup Server - perform2.india.in
Warning - SG0300 : Backup time window reached.
Reconnection Attempts - 0
Bandwidth Throttling not applied in client

Backup time window ended - backup scheduled to the...

00:01:31

Files Processed 1422 of 4214 [33%]
Transfer Rate : 3.0 Mbps
Original Size : 250.08 MB
Compressed Size : 29.35 MB

Added Files	Modified Files	Deleted Files	Skipped Files	Skipped Folders
1422	0	0	1	0

Current Progress
Processed (so far) : 1.41 KB of 576.06 KB
Transfer Rate : -
Time Left : 00:00:00
Uploaded Size : 0 Bytes
Current File : E:/...m/555/11/123/plus.bmp

Total Files Listed	Protected Files	Skipped Files	Skipped Folders	Success Rate	Remarks
4214	1422 [View]	1 [View]	0	33.00%	Backup time window ended - backup scheduled to the next window.
				Added Files	: 1422
				Unprocessed Files	: 2791
				Warning Messages	: SG0300 : Backup time window reached.

Also, it will add an entry in the backup server side report as shown below.

Backup Server Side

	Start Time	End Time	Files				Skipped Folders	Used Space ?		Change in Used Space
			Added	Deleted	Modified	Skipped		Added	Removed	
<input type="checkbox"/>	Tue 26 Aug 2008 07:58:31	Tue 26 Aug 2008 08:00:00	1423	-	-	1 [View]	0	-	-	29.54 MB
Remarks :			SG0300 : Backup time window reached.				Backup Aborted			

StoreGrid will then reschedule the backup to start at 6pm. When the backup starts at 6pm, it will then check for all new/modified files again and then start backing them up. It will not start from where it left off when it was last stopped (at 8am). For example, say the backup started at 6pm and continued to run till 8am. During this time, say 100,000 files were backed up and still 20,000 files are left to be backed up. When backup restarts the next day at 6 pm, StoreGrid will also try to backup the modified files among the 100,000 files that were backed up earlier along with the 20,000 files that were not backed up.

Limitations

1. If a backup is stopped because the backup window ended, then when StoreGrid resumes the backup at the beginning of the next backup window, it cannot continue the backup from where it left off. StoreGrid will check all the files for changes including those that were earlier backed up.

Configure Automatic Software Updates

Overview

From StoreGrid v2.3, clients can automatically download updates from the backup server and upgrade themselves. The updates have to be first uploaded into the backup server and the uploaded files have to be selected from the backup server web console. Client machines will check the backup server for available updates every one hour (when the client is not backing up). If an update is available in the backup server, it will automatically download and install it. The client will download only compatible updates.

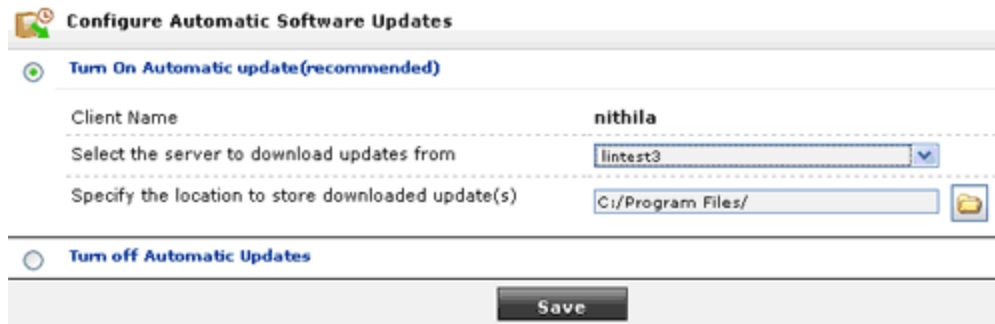
How to get here in the StoreGrid Web Console?

→ In the top menu, select: " Settings -> Advanced Options -> Software Update Configuration" page.

Configure Automatic Software Updates

Software update is enabled by default from StoreGrid 2.3.5. If no backup schedule (not including same machine backup or remote server backup to the same machine) is configured in the client machine, the backup server for detecting new updates is not selected by default. If a backup schedule is created in this machine, that schedule's backup server will be automatically selected for detecting updates and it will show up in this page. If no backup schedule is configured in the client machine, the backup server value will be empty and the client will not check for the new updates. Only when a backup schedule is created in this client machine, the backup schedule's backup server value will be automatically selected for detecting updates and will be displayed in this page.

If the user has manually disabled software update in the client machine, then it remains disabled when the client machine is upgraded to a higher version. The user will have to manually enable it.



- **Turn on Automatic Software Update:** Select this option to enable Automatic Software Update. Once enabled, the client machine, when not backing up, will check with the backup server once every hour for the availability of new updates. If updates are available in the backup server (selected below), it will automatically download it to the location (specified below) and then install the updates and restart StoreGrid automatically.
 - **Select the server to download update(s) from:** The backup server from which the client will download the updates.
 - **Specify the location to store downloaded update(s):** The location in the client system where the downloaded updates will be stored. Make sure StoreGrid can write to that location. By default, StoreGrid will store the downloaded updates in the "< StoreGrid Home>/downloadedUpdates/" folder.
- **Turn off Automatic Updates:** This option is to disable the automatic software update feature.

Troubleshooting Tips



Unable to save the automatic software update configuration.

Solution : Check if the update download location specified is a valid location and StoreGrid has write access to it.

Client Side Bandwidth Throttling

Overview

StoreGrid's Bandwidth Throttling feature enables the user to limit the bandwidth used by the backup process from the client machine. The client Bandwidth Throttling settings will be applied to each backup schedule configured in that client machine. If Bandwidth Throttling is configured in the backup server, the backup server settings will preside over the client's Bandwidth Throttling settings.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Bandwidth Throttling Settings".

Client Side Bandwidth Throttling

To enable Client Side Bandwidth Throttling, enter the following fields:

- **Enable bandwidth throttling:** Choose to enable or disable bandwidth throttling. If enabled, there are again two options:
 - **Throttle bandwidth always:** Choose this option to enable bandwidth throttling throughout the day.
 - **Throttle bandwidth from:** Choose this option to enable bandwidth throttling only during the specified hours of the day.
 - **Disable Bandwidth Throttling during Weekend** - Choose this option to disable bandwidth throttling during weekend (Saturdays and Sundays). However, bandwidth throttling will be active on all the other days.
- **Throttle each backup to maximum of:** Rate to which bandwidth usage is to be limited.

Configure Server for Client Management

Overview

From StoreGrid v3.5 SP3 onwards, client's backup settings and its backup schedules can be changed from the backup server. Once the client is added and available in the backup server, the backup server administrator or the client can login to the backup server web console and modify client's backup settings and backup schedule details. These changes are saved in the backup server. The client frequently checks with the backup server for any settings changes in the backup server and if available, the client will fetch them and apply. The reports for these activities are recorded in the client in the 'Reports -> Client Management Report' page in the client web console.

In this page, you can specify the backup server from which this client can fetch settings changes. If you have already configured a backup schedule in this client, this client will automatically use the backup server mentioned in that backup schedule for fetching the client settings changes and you therefore don't have to specify the backup server in this page. If you have not configured any backup schedules in this client so far, then you need to specify the backup server in this page to get Centralized Client Management working in this client.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Advanced Options -> Client Management Configuration" page.

Configure Server for Client Management

- **Enable this client for Remote Management from backup server:** Choose this option to enable Centralized Client Management feature for this client from the specified backup server. Once a backup server is specified, the client machine will regularly check with the backup server for any new settingchanges available in the backup server that the client can fetch and apply in itself.
 - **Server name:** The backup server from which the client will fetch setting changes.
- **Disable Remote Management for this client:** This option is to disable the Centralized Client Management (CCM) feature. If it is disabled, if any setting changes are specified in the backup server for this client, they will not appear in this client unless CCM is enabled.

Using this feature you can push the following client settings from the specified backup server:

- Add new backups
- Backup Window Settings
- Configure Automatic Software Updates
- Client Side Bandwidth Throttling
- Edit backups
- Run a backup
- Suspend a backup
- Resume a backup
- Delete Backup Data/Schedule

You can fetch the client settings from the backup server manually using the link 'Fetch client settings changes from the backup server now' available at the top of this page.

Default Encryption Password

Overview

In this page, you can enable or disable the default encryption password for the backup schedules. Once you configure default encryption password, you can choose this encryption type while creating new backup schedules. By this way, you need not to remember the encryption password for all the backup schedules.

How to get here in the StoreGrid Web Console?

→ In the top menu, select: "Settings -> Advanced Options" menu and select "Default Encryption Password" tab.

Default Encryption Password

In a client machine, you may need to create multiple backup schedules to categorize your backup data. For this, it may be difficult to configure the same encryption details for all the backup schedules and it will be also difficult to remember all the backup schedules encryption password. In this case, you can enable Default Encryption Password option and choose the desired encryption algorithm and the encryption key size. Once configured, when configuring a new backup schedule (for both file/folder or plugin backup schedules), Default Encryption Password option also be listed in Edit option of "Encryption" section. By choosing this option, the configured default encryption algorithm and encryption bit size will be shown.

Also, if the Default Encryption Password option was not yet configured, you can also configure it by choosing that option when creating a new backup schedule. The configured Default Encryption Password setting will come effective immediately.

If you want to control client's backup schedules from backup server itself using Centralized Client Management feature, then this Default Encryption Password option should be enabled at the client side. Adding new backup schedule for a client through Centralized Client Management feature, the client should have been enabled with Default Encryption Password feature. The password encryption value for the backup schedules created from backup server (through Centralized Client Management feature) will be taken from the client's Default Encryption Password setting. Otherwise, those backup configurations won't be applied to the client system. Because, the client may be concerned about his data, which can be pulled from the client system by configuring a backup schedule for him in the backup server. By encrypting the backup data using the client configured backup password, the backed up data cannot be restored at the backup server side.

NOTE: We recommend to configure the Default Encryption Password setting only once. It is not advisable to change this Default Encryption Password option frequently. The reason is, by changing the Default Encryption Password value, it will be effective only for the backup schedules created there after. The backup schedules created with the previous Default Encryption Password details, still has the older encryption password for the configured backup data.

Encryption Technique - StoreGrid supports encryption using Blow fish or Triple DES. The Blow fish is a commonly used open source encryption technique which provides encryption based on the size of the encryption key length (from 64 bits to 448 bits). Higher the number of bits stronger is the encryption. Triple DES is a block cipher formed from the Data Encryption Standard (DES) cipher by using it three times, this technique is also supported by StoreGrid for encrypting the backup data. By default, Triple DES encryption technique is chosen.

Encryption Key Size - StoreGrid supports encryption using variable length (64 to 448 bits for Blow fish and 192 bits for Triple DES) keys. The key is generated using the password you provide. Basically the longer the key size you give the more difficult it is for someone to decrypt the encrypted files. For normal backup purposes the default 64 bit encryption should be good enough.

Type Password - Provide a password here to generate the encryption key. If the password is forgotten the data can never be recovered as the data cannot be decrypted without this password. So, please ensure that you keep your password in a safe place.

Once a backup schedule is configured with "Default Encryption Password" encryption type, that backup schedule's encryption password details won't be changed by changing the Default Encryption Password settings or disabling the Default Encryption Password option in the client. Similar to custom encryption option, you need to configure Default Encryption Password prior to schedule/restore the backup data, after recovering the backup schedule using Client Disaster

Recovery feature.

StoreGrid Configuration

You can change some of the basic configuration of StoreGrid by editing the SGConfiguration.conf file located under the conf/ directory.

If the entries in SGConfiguration.conf file is changed, you should restart StoreGrid.

A sample SGConfiguration.conf file is as follows

```
< StoreGrid ID="lewis" IPAddress="">

  <Configuration>
    <Module StartModule="601" ThreadCount="1" KeepAliveEnabled="1" KeepAliveTime="60"
      EncodeOption="1" ReconnectionEnabled="1" ReconnectionAttemptCount="-1"
      ReconnectFileUploadAttemptCount="5" FlushSend="1" IdleSocketTimeOutInterval="1800"
      ClientReconnectTimeOut="120" ServerReconnectTimeOut="180" SGTempLocation="" />
    <Restore KeepAliveEnabled="1" KeepAliveTime="60" ThreadCount="1"
      RestoreLocation="restoreData" CompressLocation="restoreData" DocumentRootEnabled="0"
      DocumentRootPath="" />
    <BackupDBStorageLocation Option="0" Path="" />
    <DBStorageLocation Path="C:\Program Files\ Vembu\StoreGrid"/>
    <Process Priority="32"/>
    <Debug DebugPrint="0"/>
    <DiskUtil ProcessBytesFactor="1" DisableDiskUtil="0" ReadBuffer="10000"
      WriteBuffer="10000"/>
    <Ports Server="32004" GUI="32005" SSLServer="32007" MAPI32Bit="32008" />
    <Replication Enabled="1" ThreadCount="-1" KeepAliveEnabled="1" KeepAliveTime="60"/>
    <RepPRPDBStorageLocation Option="0" Path="" />
    <BackupMetaData Enabled="0" TimePeriod="0"/>
    <ListFile ElementCount="500" FilesPerPRPCheckSleep="20"/>
    <MMAPRead Enable="0" MaxFileSize="524288"/>
    <MMAPWrite Enable="0" MaxFileSize="524288"/>
    <DeleteSchedule Count="5"/>
    <Retention ThreadCount="2"/>
    <SSL Enabled="0" SSLCertFile="conf/ssl.crt.pem" SSLKeyFile="conf/ssl.key.pem"/>
    <SGEmailLogo Enabled="1"/> <MissedScheduleConfig GraceTime="3600"
      UpdateNextScheduleTime="1"/>
    <SGTimeOutConfig BackupAck="120" Authorization="120" FileAck="120" ResetPrevBackup="30"/>
    <Database UseODBC="1" DSName=" StoreGridDB" UserName="storegrid" Password="storegrid"
      ConnectionPooling="1" DatabaseName=" StoreGridDB" HostName="localhost" SplitDatabase="1"
      SplitLevel="2" />
    <S3Backup Enabled="1" AccessKey="" SecretKey="" BucketName="backup-server-bucket" UseSSL="1"
      UploadCache="D:\ StoreGridCache" DownloadCache="" DebugTrace="0" UploadThreadCount="5"
      MaxFileSize="524288000" StorageClass="1" />
    <Migration ThreadCount="5" />
    <Cluster ClusterName="cluster@backup.com" NodeLookupNameIP="" Enabled="1" AlgorithmType="1"
      NodeAllocatin="1" NodeHealthStatusTimeout="600" />
    <ServerLookup Enabled="1" SSLEnabled="1" HTTPPort="6060" HTTPSPort="6061" />
    <BackupServerMetaData Enabled="1" Path="C:\Program Files\ Vembu\StoreGrid"
      BackupDBEnabled="1" >

      <Schedule Type="Daily" Day="0" Hour="0" Mins="0" />

    </BackupServerMetaData>
    <SGTrash Enabled="1" />
    <ConsolidatedReport Hours="" Mins="" />
  </Configuration>
</ StoreGrid>
```

Changes made in 4.2.0

1. Added 'StorageClass' attribute in the 'S3Backup' tag for storing S3 Storage Class infrastructure where the attribute value set to 1 means STANDARD and the value set into 2 stands for REDUCED_REDUNDANCY S3 Storage class. Currently this attribute will be populated at the time of Replication UI configuration.

Changes made in 4.0

1. Added 'ConsolidatedReport' tag with an attribute 'Hours' and 'Mins' to configure required time to send Consolidated Customer report. By default the Consolidated Customer report will be sent at 11:57 pm daily/weekly/monthly.

Changes made in 3.2

1. Added 'SGTrash' tag with an attribute 'Enabled' to enable or disable the StoreGrid trash. When it is enabled, the backup files removed due to retention cleanup, full-backup cleanup and delete-backup cleanup are moved to the SGTrash (by default, the SGTrash location is the backup location). When it is disabled, the files are deleted permanently from the system. By default, the SGTrash is enabled.

Changes made in 3.1

1. Added 'TimeDelay' attribute in 'Module' tag to start StoreGrid process after a delay when the machine is rebooted (if StoreGrid is run as a service) or when the user has logged in (if StoreGrid is run as an application under that user). The value of 'TimeDelay' attribute is in seconds and StoreGrid will wait for that many seconds before starting.

Changes made in 3.0

Changes done in StoreGrid Backup/Replication Server

1. Database tag introduced to configure ODBC datasources for storing StoreGrid's metadata. This tag is an alternative to the embedded RDBMS engine (SQLite, www.sqlite.org) used by StoreGrid. StoreGrid only supports mysql databases as ODBC datasources initially. This will be expanded to other databases (PostgreSQL, Oracle, MS SQL, etc.) in future.
2. Cluster tag added for configuring Cluster of StoreGrid Server and Replication Server.
3. ServerLookup tag added for configuring servers to lookup for the relevant StoreGrid Replication Server in the cluster.
4. BackupServerMetaData tag introduced to dump backup server database data as sql files for redundant backup.
5. Restore tag is added with two attributes, "RestoreLocation" & "CompressLocation" where
"RestoreLocation" mentions the Path where server side restore from various web-access roles (Reseller/Customer/Client) are performed.
"CompressLocation" mentions the Path where server side restored zip files are stored.

Changes done in StoreGrid Clients

1. ServerLookup tag added for configuring clients to lookup for the relevant StoreGrid Backup Server in the cluster.
2. ProcessBytesFactor attribute added in the DiskUtil tag to increase the total number of bytes processed in one-pass in the client.

Changes made in 2.5.5

StoreGrid MySQL sharding related changes under <Database> tag.

Changes done in StoreGrid Backup/Replication Server.

- a. 'SplitDatabase' attribute is to specify enabling/disabling sharding in MySQL database (Sharding is nothing but splitting up of large number of database entries/rows in to multiple database(s) based on the 'SplitLevel'). It takes value of 0/1. By default, it is 1.
- b. 'SplitLevel' attribute is to specify the level of sharding to be used in MySQL Server ie., Server/Client/Backup level. It takes value of 0/1/2.
 - o If SplitLevel=0 (Server level sharding), single MySQL database is used for the whole backup/replication server.
 - o If SplitLevel=1 (Client level sharding), separate MySQL database for each clients in the backup/replication server.
 - o If SplitLevel=2 (Backup level sharding), separate MySQL database for each backups in the backup/replication server.

server.

By default, it takes value '2' ie., backup level.

Added number of simultaneous migration thread counts under <Migration> tag.

- a. 'ThreadCount' is the number of simultaneous backups to be migrated during v2.5.5 migration. By default, it is 5.

Changes made in 2.5

Changes done in StoreGrid Backup/Replication Server.

StoreGrid ODBC related configurations to connect to MySQL Server under <Database> tag.

- a. 'UseODBC' attribute to enable/disable external database support. By default it is set to 1. In StoreGrid v2.5, only MySQL is supported as the external database.
- b. 'DSName' attribute is the system DSN Name to connect to the MySQL Server.
- c. 'DatabaseName' attribute is database name in the MySQL Server which StoreGrid uses to store its metadata.
- d. 'UserName' is the MySQL user name which StoreGrid uses to connect MySQL Server.
- e. 'Password' is the MySQL password which StoreGrid uses to connect MySQL Server.
- f. 'ConnectionPooling' is to enable/disable pooling of connection to MySQL Server. By default, it is set to 1. It is recommended to be set as 1 for smooth functioning of StoreGrid with ODBC.

StoreGrid Amazon S3 related attributes are added under <S3Backup> tag.

- a. 'Enabled' attribute to enable/disable storing the backup files to Amazon S3 using the local hard drive as a temporary local cache. It takes the value of 0/1.
- b. 'AccessKey' attribute is the access key of your AWS (Amazon Web Services) account which StoreGrid uses to upload/download the files from Amazon S3.
- c. 'SecretKey' attribute is the secret key of your AWS account which StoreGrid uses to upload/download the files from Amazon S3.
- d. 'BucketName' attribute is the name of the Amazon S3 bucket where the backup data are stored.
- e. 'UseSSL' attribute is the option to enable/disable SSL transfer for communication with Amazon. By default, this is set to 1.
- f. 'UploadCache' attribute is the temporary local location in your hard disk (or) external drive where the backup data are temporarily stored before uploading the files to Amazon S3.
- g. 'DownloadCache' attribute is not currently used. The upload cache location itself is used as the download cache.
- h. 'DebugTrace' attribute is to enable/disable debug prints for Amazon S3 upload progress.
- i. 'UploadThreadCount' attribute is the number of threads StoreGrid should use to progress the backup files in the local cache location to upload to Amazon S3. By default, it is set to 5.
- j. 'MaxFileSize' is the maximum file size (in bytes) that StoreGrid should not exceed while storing the files in Amazon S3. By default, it is set to 500 MB.

Changes made in 2.4

1. Added 'SGTempLocation' attribute to specify the location for creating StoreGrid temporary files. The default value of 'SGTempLocation' attribute is < StoreGrid Home> path.
2. Added 'MAPI32Bit' attribute in the Ports tag.
3. Added 'Retention' tag to control the number of simultaneous retention threads to cleanup the old files in the backup server.

Changes made in 2.3.5

1. ServerReconnectTimeout changed from 1500 to 180 seconds
2. ReadBuffer changed from 100000 to 10000
3. WriteBuffer changed from 100000 to 10000
4. StoreGrid Timeout Settings <SGTimeOutConfig> tag added. It has the following attributes
 - a. BackupAck : Timeout period in seconds for which StoreGrid client will wait to receive the backup initialization acknowledgments from the backup server. By default this value is 120 seconds
 - b. Authorization: Timeout period in seconds for which StoreGrid client will wait for backup server acknowledgments during the authorization process. The default value is 120 seconds.

- c. FileAck: Timeout period in secs for which client will wait for acknowledgments sent from the backup server after completing backup of a file. The default value is 120 seconds.
 - d. ResetPrevBackup: If the previous backup schedule of a particular backup job is in active state in the backup server when the next incremental backup is scheduled, StoreGrid will try to reset the previous backup schedule and continue the current backup schedule. By default, StoreGrid will take 30 secs to reset the previous backup schedule. If it fails, then the current backup schedule will be aborted with the error "Backup in progress".
5. Missed Schedule Configurations <MissedScheduleConfig> tag added. It has the following attribute:
- GraceTime: From the 2.3.5, backup server will monitor all the clients' backup schedule and alert the user if any of the backup job misses the backup schedule. The backup server will report the backup schedule as missed only if the client doesn't connect to the backup server within the Grace Time. By default, the Grace time value is 3600 secs (1 hr).

StoreGrid ID

While installing StoreGrid, you can specify the StoreGrid ID. By default, it takes your machine name as the StoreGrid ID. You can change the StoreGrid ID by editing the attribute "StoreGrid ID=". (StoreGrid ID="<New StoreGrid ID>").

IP Address

By default "IPAddress" tag is "0" and StoreGrid uses the primary IP of the machine in which StoreGrid is installed.

In case of using virtual IP Address, you can change the IP Address in which StoreGrid should run. This can be done by Editing the attribute "IPAddress=". (IPAddress="<New IPAddress>").

Start Module

The StoreGrid mode (i.e. Client-Server, Client, Server, Replication Server) specified during installation can be changed by editing the attribute "<Module StartModule= >". (StartModule="<New Mode>") Various modes are:

- Client = 602
- Server = 601
- Replication Server = 609

Multi-threaded backup scheduling:

From StoreGrid 2.1.1 version, StoreGrid supports multi threaded backups. i.e., if there are more than one backup to be scheduled at the same time, then all these backup schedules can be scheduled simultaneously from multiple threads.

You can control the maximum number of backup schedules that can run at the same time by modify the maximum number of backup threads. Follow the steps below to change this settings:

1. Stop the StoreGrid application.
2. Open the "[StoreGrid Home]/conf/SGConfiguration.conf" xml file in a text editor.
3. Edit the "<StoreGrid< StoreGrid>gt; <Configuration><Module>" tag "ThreadCount" attribute value to maximum ThreadCount value.
4. Save and close the configuration file.
5. Restart the StoreGrid application.

ThreadCount

It is related to running multiple backup schedules at the same time. By default StoreGrid will run only one backup schedule at a time. You can edit the attribute "<Module ThreadCount="(ThreadCount="<New ThreadCount>").

For example if the "ThreadCount" is 3, StoreGrid will have the capability to run three backup schedules simultaneously. If you want StoreGrid to run infinite number of backup schedules at the same time, give the ThreadCount as -1.

Priority

StoreGrid tries to use the available system resources to run the backups.

You can configure the StoreGrid Process Priority as required. By default priority is set to normal. (<Process Priority="32">)

- Priority = 64 ; Low
- Priority = 32 ; Normal
- Priority = 128 ; High

Debug Print

It is used to print the debug prints. Set it to 1 if you want StoreGrid to print the debug messages in the console.

Disk Util

This tag configures the StoreGrid interactions with Disk I/O and also helps in listing out disks available for StoreGrid.

- The <DisableDiskUtil> attribute helps configuring the OS based Disk Util which lists out the mount points available in the StoreGrid Server. The various values available for DisableDiskUtil attribute are:
 - 0 - The Disk Util follows Operating System based APIs to list the mount points
 - 1 - The Disk Util uses the configuration file "< StoreGrid_Home>/conf/diskinfo/<host name>/diskinfo.sdif" to parse the available mount points. This file has to be populated manually.
 - 2 - The Disk Util follows Linux/MAC based command-line tools to list down the available mount points. This value should only be used on Linux/MAC operating systems.
- The <ProcessBytesFactor> attribute sets the number of blocks to be processed at the same time for backup in client.
- The <ReadBuffer> attribute provide the number of bytes to be cached before processing the backups in client. The <WriteBuffer> specifies the number of bytes to be cached before a Disk I/O operation to be performed per backup file entering the StoreGrid server.

Ports

By default StoreGrid uses 32004 port for backup and TCP Discovery. If you want to change this port edit the attribute "Ports Server=". (Ports Server="<New Port Number>").

Similarly StoreGrid uses 32005 port for UI and you can change this by editing the attribute "Ports GUI=". (Ports GUI="<New GUI port Number>").

The default SSL port on which client will communicate with the backup server is 32007. You can change the SSL port number by editing the attribute SSLServer="<New SSL Port Number>". Please note that SSL is by default disabled. To enable it, set the 'Enabled' attribute in the SSL tag to 1 in this configuration file.

In Windows 64 bit operating systems, StoreGrid uses it's 32 bit executable for backing up Exchange Server 2007 MailBox data. StoreGrid communicates it's 32 bit executable through the MAPI32BIT TCP port. The default MAPI32BIT port value is 32008. In Windows 64 bit OS installed with Exchange Server 2007, you need to enable this MAPI32BIT port to backup the Exchange Server MailBox data backup in the local firewall settings.

Replication

By default Replication feature is enabled "<Replication Enabled=1>" in the StoreGrid server. If the attribute "<Replication Enabled=0>" is changed to zero, the Replication feature will be disabled. After disabling the Replication feature in the SGConfiguration.conf file, Replication does not take place even when replication is enabled either in "Server Admin->Server Settings" or in "Server Admin -> Reseller Management -> Reseller [reseller name] -> List Of Customers" UI page.

ThreadCount is related to running multiple replication schedules at the same time. By default StoreGrid can run infinite replication schedules(ThreadCount="-1") simultaneously. You can edit the attribute "<Replication ThreadCount="(ThreadCount="<New ThreadCount>") to limit the number of replication schedules StoreGrid can run simultaneously.

For example if the "ThreadCount" is 3, StoreGrid can run three replication schedules simultaneously.

For fresh installation of StoreGrid (since version 2.2.1) Thread count will be 5 in Linux machines and -1 in Windows machines.

ODBC Datasource Configuration

This option enables you to store the client's backup metadata to an ODBC Datasource. This can be configured using the new <Database> tag available in StoreGrid. This tag has the following attributes :

1. **UseODBC:** This attribute is used to enable the ODBC storage of StoreGrid metadata
2. **DSName:** This attribute specifies the datasource name as configured in the ODBC Data Sources configuration in the system
3. **UserName:** This attribute specifies the username for authenticating the ODBC database connection for this datasource.
4. **Password:** This attribute specifies the password of the user for authenticating the ODBC database connection for this datasource.
5. **ConnectionPooling:** This attribute specifies the configuration to use connection pooling in the ODBC. This configuration should always be enabled as '1' for optimal performance of the StoreGrid Server
6. **DatabaseName:** The database name of the datasource is specified in this attribute.
7. **SplitDatabase:** This attribute is to specify enabling/disabling sharding in MySQL database (Sharding is nothing but splitting up of large number of database entries/rows in to multiple database(s) based on the 'SplitLevel'). It takes value of 0/1. By default, it is 1.
8. **SplitLevel:** This attribute is to specify the level of sharding to be used in MySQL Server ie., Server/Client/Backup level. It takes value of 0/1/2.
 - a. If SplitLevel=0 (Server level sharding), single MySQL database is used for the whole backup/replication server.
 - b. If SplitLevel=1 (Client level sharding), separate MySQL database for each clients in the backup/replication server.
 - c. If SplitLevel=2 (Backup level sharding), separate MySQL database for each backups in the backup/replication server.

Backup Meta Data

If BackupMetaData is enabled(i.e. Enabled="1") all the metadata of the StoreGrid client will be backed up to the server. By default StoreGrid client will backup the metadata once in a day(< TimePeriod="86400"). You can configure the time interval (days/hours/minutes/seconds) for the metadata backup as required. Note that the interval should be given in seconds.

Backup Server Meta Data

If BackupServerMetaData is enabled(i.e. Enabled="1") all the metadata of the StoreGrid Server will be redundantly dumped in the StoreGrid Server. The <Schedule> tag specifies the schedule at which the metadata is dumped in StoreGrid Server. The <Type> attribute specifies the type of schedule, Daily/Weekly/Monthly. By default the Server metadata dump is enabled and configured for Daily dump. The <Day>, <Hour> & <Mins> attribute specifies the day, hour and minute when the dump should be initiated

In the <BackupServerMetaData> tag, the <BackupDBEnabled> attribute specifies the dump status for the sharded backup databases. These databases are dumped as soon as a backup process completes.

Retention

StoreGrid supports time based retention feature to cleanup the old files in the backup server. In the backup server, you can control the number of simultaneous retention threads to cleanup the old files by setting the "ThreadCount" attribute value. The default ThreadCount attribute value is 2.

List File Element Count

The List file element count value (ElementCount="500") configures the Backup Server to prepare the list file upto a file count of 500 before creating the relevant work files for the same. This groups the list files into separate file groups and lets the backup- database-update thread process a work file of a limited size and file count for each database transaction.

Application Level Keep Alive Time

If you are getting "SG0083: Unable to send backup details to server <Server Name>....." error message in client Backup Report, then you can solve this problem by configuring the application level keep alive time in the 'SGConfiguration.conf' file (instead of changing the registry keep alive time). Please note that this error message will occurs when the connection between client and server is closed prematurely by an external force, while StoreGrid Client is actively sending backup data

to the Backup Server. The external forces may be Anti virus software, Intrusion detection software, NAT/Firewall timeout settings, Internet link Error.

You can configure the application level keep alive time in StoreGrid by changing the following attributes value in the '<StoreGrid_HOME>\conf\SGConfiguration.conf' file.

1. By default, application level Keep alive will be disabled. If you want to enable application level keep alive to prevent connection closure between StoreGrid Client and Backup Server, then you need to set the 'KeepAliveEnabled' attribute value under the <Module> tag to '1'.

In short manner,

If 'KeepAliveEnabled' = 0, then application level keep alive is disabled.

If 'KeepAliveEnabled' = 1, then it is enabled.

2. After enabling the application level keep alive, You need to set 'KeepAliveTime' attribute value under the <Module> tag.

The 'KeepAliveTime' is the time interval at which the StoreGrid will send the keep alive protocol, if no data is transferred to the Backup Server within the interval. The 'KeepAliveTime' value is based on seconds. We suggest you to edit the 'KeepAliveTime' value as less than 180 seconds(ie 3 minutes).

Similarly, if the socket problem occurs for restore/replication, you can configure the keep alive time for restore/replication by changing the 'KeepAliveEnabled' & 'KeepAliveTime' attribute under the respective <Restore> , <Replication> tag in the '<StoreGrid_HOME>\conf\SGConfiguration.conf' file.

Communication over SSL between Client, Backup Server and Replication Server

From v2.3, StoreGrid supports SSL communication between Client, Backup Server and Replication server. SSL provides additional data security on top of data encryption when the data is in transition between one machine to another. By default SSL is disabled. You can enable it by editing the Enabled attribute in the SSL tag as <SSL Enabled="1" SSLCertFile="conf/ssl.crt.pem" SSLKeyFile="conf/ssl.key.pem"/>.

Reestablishing the connectivity after interruption

From v2.3, StoreGrid can reestablish the connection once it has been interrupted due to a network error. The StoreGrid client will try to reestablish the connect by creating another socket connection while maintaining the same session with the backup server. The client will try to reconnect for the time as defined by the 'ClientReconnectTimeOut' attribute in the 'Module' tag, after which the client will abort the connection. The number of times the client should retry to establish the connection is defined by the 'ReconnectionAttemptCount' attribute, default been -1 (no limit). The number of seconds that the Backup Server will wait for the client to reestablish the connection is defined by the 'ServerReconnectTimeOut' attribute, default been 180 seconds. This feature can be disabled by setting the 'ReconnectionEnabled' attribute in the 'Module' tag to 0. By default it is enabled.

Idle session cleanup in the Backup Server

From v2.3, StoreGrid Backup Server can cleanup the client connections if the connections are idle for a certain amount of time. This timeout period is by default 1800 seconds (30 minutes) and is defined by the 'IdleSocketTimeoutInterval' attribute in the 'Module' tag. When the client is not sending any data (like for example, when it is checking the changed bytes of a modified file), it will send the KeepAlive messages (if enabled) to keep the connection active. When an interruption in the connection occurs, the Backup Server will wait for the timeout period to check if it receives any messages, after which it will cleanup the session. Till the time the Backup Server cleans up the session, the backup schedule from the client will show up as 'Active' in the backup server.

Embedding a logo in the Email Reports

From v2.3, the logo that is sent in the Email Reports can be disabled by changing the 'Enabled' attribute in the 'SGEmailLogo' tag to 0. By default it is enabled.

Configuring Server to run in Cluster

From v3.0, you can configure the Server to run in a cluster by enabling Cluster using the 'Enabled' attribute in the 'Cluster' tag to 1. During installation the Cluster configuration option automatically configures this attribute. You have to mention the Cluster Name with attribute 'ClusterName' to enable registering this Server instance to the StoreGrid Server Cluster. The detailed list of the attributes and their purpose are:

1. **ClusterName:** This attribute specifies the name of the cluster to register the cluster nodes to.
2. **Enabled:** This enables the clustering of the StoreGrid Server deployment
3. **ClusterAlgorithm:** The algorithm to be used to assign clients for the specific Server in the cluster. StoreGrid now supports only the Node Locked algorithm, for which the value is 1.
4. **NodeAllocation:** This attribute determines whether to hold a specific domain for a particular StoreGrid Server. If the attribute is configured as '0' then, the StoreGrid cluster holds the domain for the particular Server in the cluster. Hence, if the Server goes down and comes back up, the domain remains intact for the server. If the configuration is dynamic, i.e., '1', then the domain allocation is removed when the server goes down.
5. **NodeHealthStatusTimeout:** This is the timeout value after which the other Cluster Nodes will reset the health status of the affected Cluster Node as 'Down'. Normally, the Cluster Node will update the Health status with the uptime and general health parameters within this timeout period.

Configuring Client/Backup Server to Lookup Backup/Replication Server in a Backup/Replication Server Cluster

From v3.0, you can configure the Client/Backup Server to lookup a particular StoreGrid Backup/Replication Server instance to connect for Backup/Restore/Replication. Using the new tag named 'ServerLookup', you can enable the lookup for the exact server instance to whom StoreGrid should connect for Backup/Restore/Replication.

The Server returns the DNS Lookup name of the Server, ip address of the Server as well as the port to connect for Backup/Restore/Replication. The Server Lookup is a webservice on the Backup/Replication Server cluster, hence you have to configure whether to use HTTP/HTTPS with the attribute SSLEnabled (0 - HTTP, 1 - HTTPS) and the WebServer's ports to connect for the WebService with the attributes HTTPPort and HTTPSPort.

Frequently Asked Questions

1. StoreGrid reports an error "Unable to list the Exchange mailbox users. Make sure sufficient permissions are available for the user account under which StoreGrid service is running. Exchange Mail Level Backup requires the user account to have 'Full Control' access to the Exchange Server to list the mailbox users." while trying to configure mailbox level backup.
2. StoreGrid reports an error "Unable to list the Exchange mailbox users..." when trying to configure mailbox level backup in 2007 Exchange server (64 bit) machines.
3. How is StoreGrid different from other desktop backup and laptop backup products?
4. Can StoreGrid be used to backup desktops and laptops to a dedicated backup server inside the intranet?
5. Can StoreGrid be used for Remote Backups?
6. I have given a daily backup schedule to run at 5.00 PM. But at times, StoreGrid seems to be running this backup schedule at other times as well. Why?
7. Why does my StoreGrid peer not discover other StoreGrid peers in my network automatically?
8. How does StoreGrid do Open File Backups?
9. Can the StoreGrid Client be installed on a NAS file server to back it up to user desktop machines or other dedicated backup servers?
10. What type of encryption does StoreGrid use to secure the data being backed up? How secure is my data?
11. What happens if I forget my backup encryption password?
12. Why does StoreGrid restart automatically even after I shut it down?
13. Does StoreGrid support backing up to peers over the internet?
14. When I click on StoreGrid Web Console, I am redirected to a search/directory page. Why does this happen and how do I get around it?
15. If I shut down and restart StoreGrid after a period of time, will StoreGrid automatically detect modified files and newly created files and back them up?
16. I need to backup a large amount of data over the internet and its taking too much time. Is there a better way?
17. I had backed up my data from my laptop to a server. But now I don't have my laptop (original machine) anymore. How do I restore my old data to my new machine?
18. My server was set up to backup data to a certain location. I now wish to change that location. How do I do this?
19. I'm currently using the Free Edition. I wish to move to StoreGrid Professional. How do I do this?
20. Sometimes when I try deleting an existing backup schedule, it takes a lot of time. Why is this?
21. I have backups scheduled in my laptop for a certain day and time. If the backup server is not powered on at the scheduled backup time, how do I ensure that StoreGrid in my laptop runs the backup as soon as the backup server comes on?
22. What are 'additional full backups' and why do I need them?
23. How do I delete files & folders that I've backed up but no longer need. I've deleted them on my machine - but they're still taking up space on my StoreGrid server?
24. I tried the Internet Explorer Settings preconfigured backup. While I expected it to just backup my bookmarks, it seems to be backing up a whole lot more?
25. Can StoreGrid work in any Linux distribution?
26. I know StoreGrid works across Windows, Linux, Mac, FreeBSD operating Systems. Does that mean the backups and restore can also be done across different operating systems?

27. I see that StoreGrid uses the MySQL database. Can I replace the MySQL database in my backup server with PostgreSQL or MS-SQL Server etc?
28. When I try to login to the StoreGrid Web Console, I receive the following error message "The requested address is not valid in its context"?
29. The menu bar is missing from the StoreGrid Web Console?
30. I am getting "Unable to send backup details to server <server name>. An operation was attempted on something that is not a socket." error when running large number of files/Exchange Server/MS SQL Server/other plugin backup jobs. What to do now?
31. StoreGrid doesn't seem to run properly after upgrading Windows to Vista.
32. Error while dumping the Exchange Mail Boxes. Unable to create the PST file [or] "No new/modified files for backup"
33. Dump location does not have enough space to export the PST file
34. Error while creating the dump location <Dump_Location>
35. Users Mailbox/folder are not listed in the "Add Exchange Mailbox Backup" page.
36. I get the error "Windows Server Backup is not installed in your System. Please install and try again." When trying to backup system state in Windows 2008.

1. **StoreGrid reports an error "Unable to list the Exchange mailbox users. Make sure sufficient permissions are available for the user account under which StoreGrid service is running. Exchange Mail Level Backup requires the user account to have 'Full Control' access to the Exchange Server to list the mailbox users." while trying to configure mailbox level backup.**

If you encounter an error while accessing "*Add Exchange Mailbox Backup*" page in the StoreGrid webconsole, then follow the steps given below to resolve the issue:

1. Create a new user with sufficient rights through Active Directory Users and Computers.
2. Assign "*Full Mailbox Access*" permission to that new user.
3. Add that new user in the '*PluginConfiguration.conf*' file located in "<INSTALLATION_HOME>/plugins" folder.
4. Add the '**MSPST MS**' service by modifying the **MAPISVC.INF** file.
(**NOTE:** above 3 steps should resolve the issue in listing the Mailbox users in the "*Add Exchange Mailbox Backup*" page. However '**MSPST MS**' service should be added in the **MAPISVC.INF** file to successfully backup the Exchange users mailbox).

Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.

2. **StoreGrid reports an error "Unable to list the Exchange mailbox users..." when trying to configure mailbox level backup in 2007 Exchange server (64 bit) machines.**

StoreGrid uses Microsoft's MAPI client component installed in the Exchange Server to backup the Exchange Mailboxes. For 64-bit environment the MAPI client component is yet to be released by Microsoft. Currently, StoreGrid uses its 32-bit exe to list, backup and restore the Exchange Mailboxes in 64-bit machines. To accomplish this, StoreGrid 32-bit exe requires Microsoft's 32-bit MAPI client component.

Please refer [Granting Mailbox Rights](#) document to get more details.

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3. **How is StoreGrid different from other desktop backup and laptop backup products?**

StoreGrid is a flexible backup solution that works with your existing hardware. This flexibility allows it to be deployed in multiple modes - Service Provider Hosted Online Backup, Trusted Peer To Peer Backup and Typical Client-Server deployments.

Service Provider Hosted Online Backup - Online Backup service providers including MSPs, VARs, SIs etc. can use this deployment to offer an online backup service to their customers.

Trusted Peer To Peer Backup - StoreGrid provides an easy and intuitive mechanism to use the free space in user desktops in a network for backup purposes. StoreGrid's P2P deployment capability is based on the concept of trusted peers in an intranet whose desktop space can be utilized in a peer-to-peer fashion.

Typical Client-Server deployments - This is a more traditional deployment - ideal for leveraging existing backup infrastructure by allowing customers to include desktop and laptop data. All the desktops and laptops run the StoreGrid in Client mode only, and they all back up their data to a central backup storage server.

Another important feature of StoreGrid is the ease with which end users can configure backups and restore them, when required, without the help of system administrators. StoreGrid also allows centralized administration from a Web Console (Browser based), to make it easy for system administrators to manage and monitor StoreGrid deployments.

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4. **Can StoreGrid be used to backup desktops and laptops to a dedicated backup server inside the intranet?**

Yes, StoreGrid can be used to backup desktops and laptops to a dedicated backup server inside the intranet. In this deployment, the dedicated backup server(s) should run StoreGrid in server mode and desktops and laptops should run StoreGrid in client mode.

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5. **Can StoreGrid be used for Remote Backups?**

Yes, StoreGrid can be used to backup a computer to a Remote location provided the computer has direct connectivity to the Remote Backup server running StoreGrid. This facility is however not available in the Free Edition!

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6. **I have given a daily backup schedule to run at 5.00 PM. But at times, StoreGrid seems to be running this backup schedule at other times as well. Why?**

There are two reasons why StoreGrid will run a backup schedule at a time different from the configured schedule time.

- i. When StoreGrid is shutdown and restarted, it will run all backup schedules once before scheduling them at the configured time. This is to ensure that any files created/modified when StoreGrid was shutdown are backed up as soon as possible.
- ii. If you selected "Attempt to run this backup every five minutes..." in Advanced options, and a backup schedule is incomplete because of various reasons (like network connection problem etc.), StoreGrid will schedule the backup every 5 minutes to ensure the backup schedule is completed as soon as possible. In this case, only after the backup schedule is completed will StoreGrid schedule it at the configured time.

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7. **Why does my StoreGrid peer not discover other StoreGrid peers in my network automatically?**

StoreGrid relies on multi-casting, UDP and TCP port scan to discover at least one StoreGrid Client/Server(peer) in the network. But if multi-casting is disabled in the network, then discovery may be delayed because UDP or TCP port scans can be time consuming. Also, StoreGrid is configured to discover StoreGrid peers only in a subnet. You can manually discover a StoreGrid peer (both within and outside the subnet) using the "Add Peer" feature from the StoreGrid Web Console.

If you are using Windows XP with Service Pack 2 installed, please [click here](#).

8. How does StoreGrid do Open File Backups?

StoreGrid can comfortably backup up files that are exclusively locked up or are being used by other applications at the time of backup in Microsoft Windows OSes. StoreGrid supports Volume Shadow Service to backup the open files. If the operating system in use is supported by VSS (e.g., Windows XP and above OS versions), then simply enable the VSS option when configuring a backup schedule. And if your operating system does not support VSS (e.g., Windows 2000), then you can backup Open Files with the help of StoreGrid's Open File Backup Plugin. This plugin is pre-configured to allow StoreGrid process to access the open files.

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9. Can the StoreGrid Client be installed on a NAS file server to back it up to user desktop machines or other dedicated backup servers?

StoreGrid can be installed on Linux or Windows based NAS servers. It is possible to backup a NAS file server over the network to other user desktops or a dedicated backup server. If StoreGrid cannot be installed on a NAS filer, it will be possible to install StoreGrid on a PC, mount the NAS server and then back it up. In the case of NAS file servers, open file backup may not happen if a file is being continuously modified by an application. In Windows Storage Server, it is possible to use the Volume Shadow Copy feature to support Open File backups. In NAS filers where files are not modified continuously StoreGrid's open file backup should suffice.

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10. What type of encryption does StoreGrid use to secure the data being backed up? How secure is my data?

StoreGrid uses the Blowfish encryption algorithm. You can get more information about blowfish algorithm at <http://www.schneier.com/blowfish.html>

Excerpts from the blowfish website:

"Blowfish was designed in 1993 by Bruce Schneier as a fast, free alternative to existing encryption algorithms. Since then it has been analyzed considerably, and it is slowly gaining acceptance as a strong encryption algorithm".

StoreGrid will support other encryption algorithms as options in the future. As such your data is very secure as blowfish based encryption has never been broken before.

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11. What happens if I forget my backup encryption password?

Whoops! If you forget the backup encryption password, then there is no known way to decrypt your backed up data. So it is recommended that you write down the backup encryption password in a safe and secure place.

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12. Why does StoreGrid restart automatically even after I shut it down?

During installation, StoreGrid also installs a separate application called StoreGrid Tray. This application appears as an icon in your Windows Tray. If you want to stop the StoreGrid application, you need to stop it through the menu that pops up while right clicking the StoreGrid Tray. If you stop the StoreGrid application in any other way, StoreGrid Tray will automatically restart the StoreGrid application. This feature is to ensure that StoreGrid application is always running to protect your data even if it exits unexpectedly because of any bugs or other reasons.

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13. **Does StoreGrid support backing up to peers over the internet?**

StoreGrid (Professional Edition) peers can communicate with each other and backup data over the internet if there is direct connectivity between the peers. If the two peers are behind NAT, then you need to configure port forwarding in your NAT device to enable StoreGrid peers to connect to each other. If the two peers are just backing up to each other then you need to configure TCP port 32004 for port forwarding in your NAT device. Please check the "[NAT/Firewall](#)" configuration in the StoreGrid help documentation for more details.

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14. **When I click on StoreGrid Web Console, I am redirected to a search/directory page. Why does this happen and how do I get around it?**

Some toolbars and related software can take over your browser window even if you don't want them to! Uninstalling them usually solves the problem. Alternatively, you could manually type in the URL in your browser's address bar: `http://machine-name:6060` where "machine-name" is the name of your machine, eg. `http://joe:6060`

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15. **If I shut down and restart StoreGrid after a period of time, will StoreGrid automatically detect modified files and newly created files and back them up?**

It depends on the settings you've selected when creating the backup schedule. StoreGrid will automatically detect all the modified and newly created files and back them up after a restart if:

- i. You selected the continuous backup option
- ii. You selected the 'run every __ hours __minutes' option. In this case, StoreGrid will run this schedule whenever it restarts, and thereafter schedule the next backup after the period you've selected.
- iii. You've selected the "Run this Backup each time StoreGrid restarts" option in Advanced Options

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16. **I need to backup a large amount of data over the internet and its taking too much time. Is there a better way?**

Yes there is! Typically, your first backup takes the longest time/bandwidth. Thereafter, if you've enabled incremental backups (which you should be doing if you're backing up online), only changes in files/folders are backed up. These incremental backups consume lot less time & bandwidth! StoreGrid has a feature that allows you to take the first 'heavy' backup locally to say, a USB Disk, physically move the data to a remote server, and thereafter seamlessly continue with incremental backups directly to the remote server. Details on using this feature are covered under the section 'Seed Backup Migration' in the Help Documentation. Please refer the following URL:

PageHelp/server-side-seed-backup-migration.html

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17. **I had backed up my data from my laptop to a server. But now I don't have my laptop (original machine) anymore. How do I restore my old data to my new machine?**

If you want to restore your data from a new machine (new laptop), you can install StoreGrid on the new machine with the same StoreGrid ID you used before. And you will first need to restore your **Client configurations** from the backup server before you restore your data from them (the backup servers). You can do this from the **Restore -> Disaster Recovery** page in the StoreGrid client webconsole. Once your configurations are restored, you can restore your data from the Restore menu. Note that you will have to authenticate your new StoreGrid with the server before the server will allow you to connect.

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18. My server was set up to backup data to a certain location. I now wish to change that location. How do I do this?

By default, StoreGrid server uses the installation location or Server Backup Storage Location value configured during installation as the backup location to store the client's backup data. You can change the backup location of the server from the "Server Admin->Server Management-> Server Settings" page in the backup server's StoreGrid webconsole. But if you already have clients backing up to the server, then those existing clients will not use the new backup location for further backups. The new location will only take effect for the new clients backing up to the server.

You can also change the backup storage location for individual clients. The client's backup storage location can be changed by going to 'Server Admin -> Reseller Management -> <Reseller Name> -> <Customer Name> -> Edit Client Configuration (action for the particular client)' page in the backup server webconsole. For more details, please refer the URL: <PageHelp/client-backup-configuration.html>

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19. I'm currently using the Free Edition. I wish to move to StoreGrid Professional. How do I do this?

From StoreGrid v2.4 onwards, upgrading from Free edition to Professional edition is not directly supported. For upgrading StoreGrid free edition to professional edition, you can save the Free edition backup data and configurations to another location. Then, uninstall free edition installation and install the professional edition build afresh. After that, you can migrate free edition backup data to professional edition by using Seed Backup Migration feature.

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20. Sometimes when I try deleting an existing backup schedule, it takes a lot of time. Why is this?

While deleting a backup, StoreGrid tries to connect to the server machine to delete the backed up data. So, please verify that the server machine is accessible from the client machine and that StoreGrid is running on the Server machine in "Server/ Server-Client" mode. The delete operation will be scheduled every 5 minutes. If a backup could not be deleted because of some reason (the backup server being down permanently, etc.) then the delete operation will be rescheduled every 5 minutes. There is no way to cancel the delete operation. It will be scheduled again even when StoreGrid is stopped and restarted. Hence, ideally, StoreGrid must be running on the server machine for completing the backup delete schedule. In a 'not so ideal' situation, you could use the "Delete Backup Schedule even if the server is down" option from the "Delete Backup Data/Schedule" page. The backup configuration will be deleted from the client side in the next delete schedule, ie about 5 minutes. Please note that the backed up data in server might not be deleted by selecting this option.

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21. I have backups scheduled in my laptop for a certain day and time. If the backup server is not powered on at the scheduled backup time, how do I ensure that StoreGrid in my laptop runs the backup as soon as the backup server comes on?

Simply ensure that the " Attempt to run this backup every 5 minutes in case of non completion because of a problem (Network error etc.) " box is ticked when you configure the backup schedule. This option is part of the 'Advanced Options' that can be configured by clicking the 'Advanced Options' button under Step 5 (Scheduling) in the 'Backup-->Add Backup Schedule' menu.

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22. What are 'additional full backups' and why do I need them?

Typically, you would take a first full backup and incremental backups thereafter. This way, only changes in files/folders are backed up during future backups. However, in some cases, you may prefer to take a full backup every once in a while for various reasons. StoreGrid supports this as well. Once you've decided your incremental

backup schedule, select the "Configure additional full backups" option and configure your full backups as required. This option is a part of the 'Advanced Options' that can be configured by clicking the 'Advanced Options' button under Step 5 (Scheduling) in the 'Backup-->Backup Schedule' menu.

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23. How do I delete files & folders that I've backed up but no longer need. I've deleted them on my machine - but they're still taking up space on my StoreGrid server?

StoreGrid does not delete backed up files automatically when they are deleted in the client machine. Instead StoreGrid will backup the fact that the files are deleted and the backup server will tag the files with that information. But StoreGrid WebConsole UI provides a way to delete files permanently from the server. Please check the "[Backup->Permanently Delete Files From Server](#)" section in the StoreGrid help documentation to learn more about how to delete backed up files permanently from the server. Future releases of StoreGrid will have a feature to automatically delete files permanently from the server after a configurable time period.

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24. I tried the Internet Explorer Settings preconfigured backup. While I expected it to just backup my bookmarks, it seems to be backing up a whole lot more?

The IE Settings backup is configured to backup all related to IE - history, temp files, security settings, etc - so if you need to restore, you get your IE exactly as it was earlier. If you wish to only backup the bookmarks file, you simply need to configure this as any other file backup after manually selecting the file.

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25. Can StoreGrid work in any Linux distribution?

StoreGrid is well tested on Redhat 8.0, Redhat 9.0, Fedora Core 3, Fedora Core 4, Mandrake 10.x, SuSE 9.x, Debian 4.x, Ubuntu 7.x. We expect StoreGrid to work in most flavors of Linux if the installation of StoreGrid goes through fine. During installation StoreGrid compiles its own bundled Apache and PHP. So StoreGrid installation will require the following packages to be installed in the Linux system: make, gcc, g++, libc6-dev, libxml2, libxml2-dev and libstdc++5, bison, flex. If you want to try a linux distribution, we suggest that you try the StoreGrid build (Redhat, Debain etc.) which is closer to your target system. If your installation is not successful, please contact us at storegrid-support@vembu.com for help.

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26. I know StoreGrid works across Windows, Linux, Mac, FreeBSD operating Systems. Does that mean the backups and restore can also be done across different operating systems?

Yes, StoreGrid not only works across different operating systems, it is also interoperable across the supported operating systems. That is, you can backup your Mac OS X to a Windows or Linux OR backup your Windows to a Linux or Mac OS X and so on. The only limitation is that when you restore your data to any client machine (other than the originator machine), the new client machine has to support the same matching endian byte order. For example, a Mac OS X can backup to a Windows. But the backed up data has to be restored by only another Mac OS X system. This is because the blowfish encryption algorithm StoreGrid uses is based on the endianness of the machine. If all the different machines are based on Intel processor, then there should not be any problems with the restore across operating systems.

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27. I see that StoreGrid uses the MySQL database. Can I replace the MySQL database in my backup server with PostgreSQL or MS-SQL Server etc?

Technically it is possible to replace the MySQL database with any other SQL-92 compliant database. We are currently working on supporting other databases (such as, PostgreSQL, Microsoft SQL Server) for StoreGrid internal databases and will be available in future versions of StoreGrid.

28. **When I try to login to the StoreGrid Web Console, I receive the following error message "The requested address is not valid in its context"?**

Usually the error "The requested address ..." occurs when the StoreGrid webconsole fails to communicate the StoreGrid application.

1. If your system is configured with any firewall settings, please add the following to your firewall exception list.
 - a. < StoreGrid_Home>\apache\Apache.exe
 - b. < StoreGrid_Home>\bin\SGTray.exe
 - c. < StoreGrid_Home>\bin\StoreGrid.exe
 - d. TCP Port 32005
2. If the previous step did not help, disable your firewall and try logging in to StoreGrid webconsole.
3. Also try logging in to StoreGrid webconsole with some other browsers.
4. In IE browser this error also occurs due to the following reasons.
 - a. When "Include all local(intranet) sites not listed in other zones" option in "Tools -> Internet Options -> Security -> Local intranet -> Sites" is disabled.
 - b. And if the privacy settings is set to "High" in "Tools -> Internet Options -> Privacy" tab.

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29. **The menu bar is missing from the StoreGrid Web Console?**

This problem comes when javascript is disabled in the browser. To solve this enable javascript in your browser and try using the StoreGrid webconsole.

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30. **I am getting "Unable to send backup details to server <server name>. An operation was attempted on something that is not a socket." error when running large number of files/Exchange Server/MS SQL Server/other plugin backup jobs. What to do now?**

This problem occurs when the socket connection to the backup server from the client is disconnected for reason. When the connection between the client and the backup server is lost, the StoreGrid client will automatically try to reestablish the connection and proceed with the backup from where it left off. However, if the client is not able to reestablish the connection after several attempts, then this error message is thrown. In such a scenario, check the elements (NAT/firewall/Router) in the network and see if they are closing the connection for some reason.

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31. **StoreGrid doesn't seem to run properly after upgrading Windows to Vista.**

If StoreGrid was installed in an older version of Windows and then if the OS was upgraded to Vista, StoreGrid may fail to run. If this is the case, then install the same version of StoreGrid again on top of the existing installation.

Another reason for this could be that if StoreGrid is installed under C:/Program Files in Vista, then make sure you run StoreGrid with the option "Run as Administrator". The reason being, Vista allows an application to access the 'Program Files' folder only when run as an administrator user. You can enable the 'Run as Administrator' option for the < StoreGrid Home>\bin\StoreGrid.exe application through its file properties dialog through 'Compatibility' tab -> 'Privilege Level' -> 'Run this application as administrator' option. If you don't have administrator access or if you don't want to run StoreGrid under the administrator account, make sure you install StoreGrid under your user account folder or other than the 'Program Files' folder.

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32. **Error while dumping the Exchange Mail Boxes. Unable to create the PST file [or] "No new/modified files for backup"**

This error might show up when 'MSPST MS' service is not configured in the Exchange Server.

Add the 'MSPST MS' service by modifying the MAPISVC.INF file.

The **MAPISVC.INF** file should have the information of the Microsoft Personal Folder store service. If this file does not have this information, then the Exchange Mailbox dump will fail with an error indicating that it was "Unable to create the PST file" [or] "No new/modified files for backup".

The **MAPISVC.INF** file is usually located in the Windows system directory (e.g.C:\Winnt\System32\ or C:\Windows\System32\).

Verify the file has an entry for the Microsoft Personal Folder store service. You can determine this by looking for the following information. If this information is not in the file then you need to add it in the proper sections:

```
=====
[Services]
MSPST MS=Personal Folders File (.pst)

[MSPST MS]
Providers=MSPST MSP
PR_SERVICE_DLL_NAME=mspst.dll
PR_SERVICE_INSTALL_ID={6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
PR_SERVICE_SUPPORT_FILES=mspst.dll
PR_SERVICE_ENTRY_NAME=PSTServiceEntry
PR_RESOURCE_FLAGS=SERVICE_NO_PRIMARY_IDENTITY

[MSPST MSP]
34140102=4e495441f9bfb80100aa0037d96e0000
PR_PROVIDER_DLL_NAME=mspst.dll
PR_SERVICE_INSTALL_ID={6485D262-C2AC-11D1-AD3E-10A0C911C9C0}
PR_RESOURCE_TYPE=MAPI_STORE_PROVIDER
PR_RESOURCE_FLAGS=STATUS_DEFAULT_STORE
PR_DISPLAY_NAME=Personal Folders
PR_PROVIDER_DISPLAY=Personal Folders File (.pst)
=====
```

For more information about the format of the MAPISVC.INF file see the following Microsoft article:

<http://support.microsoft.com/kb/294470>

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33. **Dump location does not have enough space to export the PST file**

This error will occur when the dump location configured for this backup schedule doesn't have enough free space to store the *.PST files. To resolve this, increase the free space or cleanup the used space for the drive which is configured as dump location for this backup schedule. Location configured for dump process can be viewed from 'view backup configuration' of that backup schedule in the Backup->List Backup Schedule page in the client web console.

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34. **Error while creating the dump location <Dump_Location>**

When the configured dump location for that particular backup schedule is not accessible or StoreGrid does not have enough permission to access the directory, then this error might occur. Make sure that the dump location drive exist in your StoreGrid client. If that drive exist, provide enough permissions to the user under which StoreGrid is installed to be able to write to the location.

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35. **Users Mailbox/folder are not listed in the "Add Exchange Mailbox Backup" page.**

StoreGrid would fail to list the Exchange Users Mailbox folders for the following reasons.

1. Mailbox which was accessed does not exist in the Exchange Server or invalid logon information being used to list the users Mailbox.

2. Insufficient rights on the Exchange user mailbox.

Exchange Mail Level Backup requires "Full Control" access on the Exchange Server for the user account under which StoreGrid service is running. Please refer [Granting Mailbox Rights](#) document on creating a new user and granting the sufficient rights to access the mailboxes.

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36. **I get the error "Windows Server Backup is not installed in your System. Please install and try again." When trying to backup system state in Windows 2008.**

StoreGrid uses Windows server backup utility to backup the system state in Windows 2008. If this utility is not installed then you will get this error. Please refer the [System State backup trouble shooting](#) page to get more details.

Limitations

Limitations in StoreGrid

1. In advanced disk image plugin backup schedule, additional disk drives cannot be added or removed from the schedule, once configured.
2. Keep the advanced disk image plugin backup data to local location (along with to remote backup server) option is not supported.
3. Backing up dynamic disk drives using advanced disk image plugin is not supported.
4. Only NTFS formatted disk drives are supported by advanced disk image backup plugin.
5. Restore advanced disk image backup data to physical disk/drive is not supported in Linux OS.
6. Aborting/suspending the active export backup data process is not supported.
7. Export backup data feature is not supported in Amazon machine instances.
8. In clustered backup server environment, export backup data feature is supported only at client's 'node locked' backup server.
9. The backup schedules recovered from exported backup data cannot be edited or scheduled to continue the backup. The imported backups are for restore purposes only. After restoring the backup data, the imported backup schedules can be deleted.
10. Bandwidth throttling is not supported for the local backups (backup to another location in the same machine).
11. Bandwidth throttling is applicable only for backup processes from clients to the backup server and replication process from the backup server to the replication server. Bandwidth throttling is not supported for restore processes.
12. If an Exchange Mailbox name(user name) contains forward slash(/) or reverse slash(\), that mailbox might not be backed up. You will need to change the full name of that mailbox without the slash characters to get them backed up.
13. If any special character is present in any folder name (present under a user), that character will be replaced with other set of valid characters while creating the dump file.
14. The feature to resume a restore from where it left off is not supported for restoring backups to a different client other than the client from which backup was done.
15. The feature to resume a restore from where it left off is supported only at a file level and not at a block level. That is, if a restore failed/aborted while transferring a large file, the restore job, when it resumes, will restore that file again from the beginning.
16. In MCAL usage history page, the MCAL balance value for the Backup Server and the Customers may not be available after migrating StoreGrid from a older version. These details will be available only after the clients connect to the backup server.
17. After doing server side disaster recovery, the MCAL usage history page will not contain all the MCAL usage details.
18. StoreGrid sends Email alerts for low available disk space and shortage of MCALs once every 24 hours and not immediately when the alert condition occurs.
19. If the user forgets the encryption key/password, then there is no way to restore the data. The data cannot be decrypted and hence the backup is as good as lost.
20. Encryption key for a backup cannot and should not be changed across backup schedules.
21. StoreGrid does not support automatic directory and file monitoring in Mac OS X, FreeBSD, Solaris and Linux machines. So, when a continuous backup is configured, the backup will check for modified files continuously by listing all the files and checking with StoreGrid backup meta data. This process will affect the performance of other applications. Hence configuring a continuous backup is not recommended in Mac OS X, FreeBSD, Solaris and Linux OS machines.

22. The tree display in the StoreGrid Web Console will take a long time to load if a directory contains 1000s of files/directories under it.
23. Cross platform restore is not possible for encrypted Mac OS X backups. But cross-platform encrypted backups are possible. The reason is that the encryption algorithm StoreGrid uses is dependent on the processor architecture. This limitation is only applicable for Power PC Macs.
24. If a backup schedule is configured to two backup servers (StoreGrid peers), then the backup data in both the servers need not be the same. As the backup is done to the servers one by one, the data, files etc. can differ between the backups.
25. Aborting a continuous backup from the server side will only make the client begin the next schedule, making the backup start again.
26. When a client's backup fails due to insufficient MCALs in the backup server, reports or events are not shown for the error in the backup server.
27. StoreGrid does not allow restoring the selected mailbox to an alternate Exchange Server. If needed, .PST files can be restored to alternate Exchange Server manually after restoring the files to local disk from backup server.
28. While restoring the complete contents of the selected folder to the original mailbox folder, the existing folder contents will not be deleted prior to performing the restore and restore process will append all emails to the folders. It may result in duplicate email items within the original folder.
29. Search and restoring individual mails is not supported, however restoring up to mailbox folders is supported using StoreGrid Exchange Mailbox plugin.
30. When sharding is enabled, before shipping data from backup server to another backup server, you need to manually export the StoreGrid meta-data. After exporting, data can be shipped to destination backup/replication server. To export meta-data, execute the following commands from < StoreGrid_HOME> directory,

bin\StoreGrid.exe ExportToSQLiteDatabase

bin\StoreGrid.exe ExportToSQLiteDatabase <Client_Name>

bin\StoreGrid.exe ExportToSQLiteDatabase <Client_Name> <Backup_Name>

These steps need to performed before migrating data to replication server.
31. In 'Add backup schedule' page, files/folders with Unicode name will not be listed.
32. Advanced filter option will not work for Unicode name files/folders and the normal files inside folders with Unicode names.
33. Include/exclude file/folders with search pattern for restore/delete will not work for Unicode files/folders.
34. Delete notification will not be processed for Unicode files/folders and also for the normal files/folders inside the Unicode folders.
35. Storage Location configured in Server Settings or Reseller or Customer should be available & accessible in all cluster nodes. If not, the backups might fail when client chose to backup to the specific cluster node where the Storage Location is inaccessible.
36. For basic disk image plugin backup and system state backups in Windows Vista & above operating systems, StoreGrid uses Windows operating system's built-in "wbadmin" utility. Hence, all the following limitations of "wbadmin" utility is applicable to StoreGrid basic disk image plugin & system state backup in Windows Vista & above operating systems.
 - The FAT32 file system drives will not be listed in the drives list.
 - You cannot dump Disk Image data to Critical volume (system drive).
 - You cannot dump Disk Image data to the drive where StoreGrid is installed.
 - You cannot configure the dump location as a network shared folder or mapped drive or a tape drive.
 - If the given dump location is CD/DVD, confirm that there is a media which is writable during backup.
 - VSS services should be enabled for image backups.
37. For WSS2.0/SPS2003, only the sites added from 'SharePoint Settings' page will be listed in 'Add SharePoint Site Backup' page.
38. Though the whole SharePoint Server or a whole portal site is selected for backup, only a site-collection level of backup will be done. Hence, to restore all the site-collections under a portal site, you need to restore the site-

collections under that portal site one by one using STSADM.EXE.

39. A site-collection whose total size exceeds 15 GB cannot be backed up as this is being a limitation with STSADM.EXE [which StoreGrid uses] itself. However, in such cases, you can use StoreGrid's SQL Server backup feature for backing up the SQL databases being used by the SharePoint Server.
40. StoreGrid should be run with Administrator privileges to list and backup SharePoint sites as STSADM.EXE can be run only with Administrator permissions.
41. If the dump path of the SharePoint backup exceeds 255 characters, dump process will fail. Hence, make sure, you have entered a shorter dump path to enable the dump to complete successfully.
42. The invoice details based on transferred data size are not available after recovering the backup server using Server Disaster Recovery feature.
43. In StoreGrid cluster setup, all the cluster nodes should be installed with same type of reseller management option.
44. If clustering is enabled in the backup server, then you will not be able to migrate a client if it is (or the client's parent customer or its parent reseller) node locked to one cluster node and the customer to which the client is to be migrated is node locked to a different cluster node.
45. If you have configured Clustered Exchange Server backups, then Exchange Server name cannot be edited from the Exchange Server configuration page. If you would like to backup a different Exchange Server, then you need to delete the Exchange Server backups that have already been created.
46. Invoice plan cannot be created with name that was already deleted/in use.
47. In cluster enabled replication server, restored data/compressed restored data file is available only in the cluster not it is backing up. i.e., if the client is backing up to backup_node2, then the client's restored data will be available only in the backup_node2 system. But the restore report will be available in all the backup server cluster nodes.

Issues

Known Issues in StoreGrid

1. In "Cluster Enabled" backup server setup, the backup data can be exported only in the backup server where the client is "Node locked". It cannot be exported from the other backup servers available in that Cluster.
2. Export of backup data is not available for servers installed as an "Amazon machine instance(AMI)"
3. In sending backed up, skipped, deleted files list as attachment with email backup report feature, if the compressed list file size exceeds maximum allowed attachment size limit of the email server, the backup report may not be sent to the recipients and it is not notified to the user.
4. The client's, who are migrated from another customer, may show wrong bandwidth usage value for the immediate month's invoice calculation.
5. In the 'Backup Location Details' feature in 'Settings > Server Settings' page, if the client's backup location was configured with different cases [example, E:\backupdata\, E:\BackupData\], then they will be shown as separate entries in the list of backup locations.
6. While restoring the deleted MS SQL Server database(s), the same cannot be restored directly to the MS SQL Server using StoreGrid's complete restore feature. You should first restore the deleted database(s) locally in the client machine using StoreGrid. And then you should use StoreGrid's 'Plugin local restore' feature to restore the deleted MS SQL Server database(s).
7. When a backup schedule is configured with very low bandwidth throttling rate and the actual theoretical transfer rate of the network is very high, then the backup progress would appear to be frozen periodically as if the backup is not happening. But the backup would be running without any issue.
8. Changing replication server's backup storage location will be applicable only for the new resellers/customers replicating to that replication server. The existing resellers/customers & their clients would still replicate to the old backup storage location. Also, the feature to edit a reseller's/customer's backup location in the replication server is not yet supported. If you wish to change the reseller's/customer's backup storage location in the replication server contact our technical support team.
9. Sometimes while doing restore, the skipped files from backups are also listed for restore. The restore reports may therefore show that the restore was partially completed as it could not find the skipped files in the backup server.
10. Skipped folders may sometimes be listed in the skipped file list in the backup reports.
11. Replication progress window may not sometimes show the exact count of the total number of files to be replicated.
12. When Directory Monitoring is enabled, sometimes the Directory Monitoring service may give the short names of the files/folders backed up, in which case StoreGrid will assume them to be new files/folders and will backup them afresh.
13. StoreGrid will report error when trying to edit backups in Linux client machines where file/folder having " (double quotes) in their names are selected for backup.
14. If the global (server) level replication settings are changed in the backup server, the new global settings may not be applied to the individual customers.
15. Delete notification may not be sent from the backup server to the replication server when a customer to which a client was migrated to (from another customer), is deleted in the backup server.
16. Cross platform restore is not possible for encrypted Mac OS X backups. But cross-platform encrypted backups are possible. The reason is that the encryption algorithm StoreGrid uses is dependent on the processor architecture. This limitation is only applicable for Power PC Macs.
17. Events mechanism may not report all the important error conditions. Duplicate events may be generated for the same problem.
18. Default backup space allocated by StoreGrid can be greater than the free space available in the partition of the backup location because StoreGrid uses the total free space in all the partitions while computing the default backup space.

19. In SQL Server database backup schedule, multiple databases can be configured for backup. But during restore, only a single database can be restored at a time.
20. In MySQL backups, databases listed in the "Backup -> Plugin Backups -> MySQL" page (For Windows) will only be for the the last saved MySQL Server instance port in the MySQL Settings.
21. Local temporary dump location configured for a plugin(MySQL Server/System State) backup schedule cannot be changed to another location for the same backup schedule.
22. If a plugin(SQL Server/Exchange Server/MySQL Server/System State/Image Backup) backup schedule is suspended while local dump is in progress, then StoreGrid will not be able to suspend the creation of local backup dump. Instead, the dump will proceed to completion and after that the backup scheduled will be marked as suspended. On resuming the same backup schedule, a new dump process will not occur, instead, the previously dumped files will be transferred to the server and an error message will be reported in the backup report.
23. In server side restore report page, the restored compressed file's download link will be displayed, even if that zip file is not present in the backup server (if for example the admin deletes the file) for download.
24. StoreGrid web console menu might flicker while navigating to the sub-menus in Internet Explorer 6.
25. If some files are deleted from the replication server using filter delete option, then some files will be skipped for replication in the next replication schedule.
26. In a backup server, client's seed backup may get successfully migrated, even when no MCALs are available for that client.
27. Backup server may show some bytes as bandwidth usage for clients' backup schedules, even when no files/folders are backed up to it.
28. Invoice amount may be little high, when creating invoice report for customer for their deleted period.
29. Invoice report may show incorrect per client charge value for the clients which are migrated to another customer.
30. In StoreGrid cluster setup, the PHPMailer email configuration is applicable to the local cluster node only. It will not be shared to other cluster nodes.

Release Notes for StoreGrid 4.2 [Incremental VHD based Disk Image Backup]

Build Number: 4202012013120

Date: 06 February 2012

What's new in StoreGrid v4.2

1. **Incremental VHD based Disk Image Backup:** StoreGrid's Block Tracker continuously keeps track of all the block level changes that are taking place in the disks that are configured for image backup. Each StoreGrid Recovery point-in-time incremental backup is a fraction of the original volume size, because it only keeps track of the changes that are made to a volume. Also the image full or incremental backups are saved as VHD files which can be individually directly booted up as a virtual instance of the machine, very quickly. In earlier versions of StoreGrid, the disk image backup has to be restored and converted to a VHD format before booting up as a virtual machine.
2. **Oracle Backup:** StoreGrid v4.2 supports backing up of Oracle Server. StoreGrid uses RMAN (Oracle Recovery Manager), a command-line and Oracle Enterprise Manager-based tool to perform hot backup of the Oracle databases. RMAN is the Oracle-preferred method for efficiently backing up and recovering an Oracle database. Oracle database has to be in "Archive Log" mode for performing hot backup using StoreGrid.
3. **Outlook Backup using MAPI:** StoreGrid v4.2 supports the option to incrementally backup Outlook. Only the emails, Outlook items changed since last backup is backed up during the incremental backup. Each incremental backup of Outlook is backed up as a separate PST giving complete control during restore. In the earlier versions of StoreGrid, the entire Outlook data is dumped and the difference between the earlier full backup is sent during the incremental backup.
4. **cPanel Server Backup:** StoreGrid v4.2 supports backing up of accounts and domains in a cPanel Server. StoreGrid can backup the entire home directory, MySQL databases, Email Forwarder settings and Email Filter settings. Entire cPanel Server, specific accounts or specific data within an account can be restored. It also offers an interface in the cPanel Management Console for domain users to self manage their restores.
5. **PostgreSQL Backup:** StoreGrid v4.2 supports backup of PostgreSQL database(s). StoreGrid supports Full and Incremental PostgreSQL database backups even when the database server is online and accessible.
6. **CRC Integrity check for backup data:** StoreGrid v4.2 supports data integrity check where the data sent from the client machine is verified for integrity at the backup server. When a file's integrity check fails, StoreGrid flags that file as skipped and the file is backed up again during the next backup schedule.

Enhancements in StoreGrid v4.2

1. Support for Reduced Redundancy Storage for S3 replication.
2. Option to enable or disable SGTrash from the web console.
3. Option to enable client backup status e-mail report for individual resellers and customers.
4. Sending just one backup failure email report from the backup server when the client runs several reattempts to resume an interrupted or failed backup. The email will be sent only after the client has exhausted all its reattempts. Similarly only one failure service ticket will be created in Connectwise/Autotask. Before v4.2, every attempt from the client will create an error report in the backup server.
5. Email reports made compatible for iOS devices.
6. Notes can be added about the client during the client's registration with the backup server.
7. API enhancements:
 1. Export Backup API is added
 2. Allowed to add maximum client limit for customer when add/edit using 'SignupCustomer' and 'UpdateCustomerConfiguration' API
 3. Client Backup Status Report can be enabled/disabled for reseller/customer using 'SignupReseller', 'SignupCustomer', 'UpdateResellerConfiguration' and 'UpdateCustomerConfiguration' API.

Minor Enhancements and Bug Fixes in StoreGrid v4.2

1. MySQL Pconnect issue fixed in MySQL online installer in Linux
2. Ability to add/edit/delete client/customer/reseller through server side search page.

3. Disabled recipient e-mail in add/edit customer page, if Global Configuration is selected in Consolidated Customer Report page.
4. Total disk utilization details removed from reseller/customer access of the web console.
5. Summary Report link added in list of backup schedules page.
6. Fixed an issue where files/folders are not deleted from s3 even though it is deleted in backup server.
7. NTFS folder permissions restore for Windows 2003 and 2008 servers fixed.
8. Fixed the issue generating On-Demand invoice using Web Services API.
9. Online client registration fixed for failure cases when the customer name contains the symbol "&"(ampersand).
10. Fixed an issue in authenticating backup server after performing the seed backup migration in client side when the backup server name is specifid in upper case.

Release Notes for StoreGrid 4.1 [Hyper-V Backup]

Build Number: 4102011110720

Date: 9 November 2011

New Features in StoreGrid v4.1

1. Support for [backing up Hyper-V Virtual Machines](#) - Hyper-V Virtual Machines can now be backed up using StoreGrid. StoreGrid needs to be installed in the Hyper-V Server and it can then centrally backup all the VMs running in that Hyper-V server.
2. [WHMCS Provisioning Integration With StoreGrid](#) - With the integration of WHMCS provisioning APIs with StoreGrid, an action in WHMCS (like subscribing a customer for a service) in WHMCS can trigger an event in the StoreGrid backup server (like creating that customer account in the backup server).

Enhancements in StoreGrid v4.1

1. Bandwidth Throttling can now be disabled during weekends
2. For Exchange Mailbox backup, backup can be configured to upload the previous Mailbox and delete its dump while the next Mailbox is being dumped in the Exchange Server. This will save dump space required for Exchange Mailbox backup. Currently all the Mailboxes have to be first dumped before upload to the backup server can start.
3. SGTrash Management enabled for Amazon AMI builds - StoreGrid will move version files that have exceeded retention policy to a SGTrash folder in the storage location in the backup server.
4. Server side MySQL DB and query optimizations to improve performance and resource utilization.
5. Added skipped file report during server side restore.
6. Option to include MCAL usage cost into customer invoicing
7. Group notes can be added/edited via API for Reseller/Customer/Client.
8. Mutliple Email addresses can be added for Consolidated Email report via API.
9. Option to not ask encryption password when deleting a backup job in the client machine through StoreGrid's Centralized Client Management feature in the backup server.
10. Recovering data from SGTrash through StoreGrid utility.
11. Sending Email reports from backup server (on backup/restore success/failure etc.) to Customer and Reseller as well. Currently only the Server Admin gets the emails.
12. Uncompressed size of files included in Backup Reports
13. Adding MCALs to remote backup server and backup server health through remote server management.
14. Excluding reports of deleted client from backup status report
15. Filter delete performance improvement and removing empty directories after filter delete

Minor Enhancements and Bug Fixes in StoreGrid v4.1

1. Adding an event when MCAL balance is low for the Server and Customer.
2. Issue in updation of backup used space after filter delete operation is fixed.
3. Reseller level branding themes for the backup server web console cannot be now enabled by a reseller when its disabled by the server admin.
4. Issue where reports of two day prior backups sent in daily consolidated customer report has been fixed.
5. The backup will be reported as 'Failed' when the root folder configured for backup is missing from the client machine.
6. Fixed the issue where continuous backup causes high CPU usage in backup server during retention cleanup.
7. Hiding Export data option at reseller/customer/client level login.
8. Fixed an issue where unicode files where getting skipped when the files were open even with VSS enabled
9. Fixed the issue where StoreGrid client would abort backup if another application had run Copy Only Full Backup on the SQL Server that is been backed up by StoreGrid.
10. Fixed the issue where the file/folder tree listing hangs when the number of files is several millions

11. Fixed the issue where backups run outside the backup window when two backups are configured in a client machine with the same start time.
12. Fixed issue in generating On-Demand invoicing when the time zone specified in the web console is different from that of the backup server machine OS
13. Issue in SharePoint backup where dumping site-collections with "https" extension fails if already an identical site-collection with "http" enabled is fixed

Release Notes for StoreGrid 4.0 [BMR, P2V, P2P supported]

Build Number: 4002011071521

Date: 18 July 2011

New Features in StoreGrid v4.0

1. Support for [Disk Image Backup and Bare Metal Restore \(BMR\)](#) on all versions of Windows. The image backup can be restored even to a machine with a dissimilar hardware (P2P).
2. Support for [conversion of Physical Disk Image to Hyper-V or VMWare Virtual Machine image \(P2V\)](#).
3. [Reseller Level Branding](#) of backup server for rebranded server installations - customers accessing the backup server can now see the reseller specific branded user interface
4. Integration of StoreGrid Invoicing with [WHMCS](#)
5. [Backup data can now be exported](#) from the backup server in encrypted format itself and imported into the client for restore.
6. Centralized Management Console to [monitor multiple backup servers](#) - can centrally view the backup reports and invoices from the different backup servers.
7. [User activity log](#) report to log user activities in the backup servers.

Enhancements in StoreGrid v4.0

1. List of files backed up in a backup job can now be optionally included in the backup completion notification email.
2. Ability to abort a restore job from both client and backup server
3. Newly designed menu for easier navigation in web console UI.
4. Add Backup from backup server with a System Generated Password is now supported through CCM.
5. The time at which the automated consolidated customer email report is sent can now be configured in SGConfiguration.conf file.
6. StoreGrid client now checks if other third party backup software is also running in the client machine for SQL and Exchange Server Backups. Backups will be aborted if both applications run backups out of sequence.

Minor Enhancements and Bug Fixes in StoreGrid v4.0

1. Fixed the issue where invoice was getting calculated on average usage instead of total bandwidth usage.
2. Issue where custom SSL certificates would get over written during upgrade with default certificates is now fixed.
3. Fixed the issue where backup status would be wrongly reported as failed when deleted DBs were present in the SQL Backup. Now the deleted backups would be skipped and the backup would be reported as success with the message that deleted DBs were skipped.
4. Fixed the issue where usage would be wrongly updated in MCAL utilization history report for new clients with one or more plugin based backups.
5. Restore failure due to 0 KB ori file is now handled. If the ori file is a 0 KB file, a full backup of the file will be run.
6. Fixed the issue where multiple emails were mistakenly sent from the backup server for missed backups.
7. Fixed the issue in authenticating backup server with replication server.

Release Notes for StoreGrid 3.5 SP3 [with Centralized Client Management feature]

Build Number: 3502011041520

Date: 15 April 2011

New Features in StoreGrid 3.5 SP3

1. Supports [Centralized Client Management](#) feature to manage client settings and backup schedules from the backup server.
2. Support for maintaining a local copy of the backup for plugin based backups.

Enhancements in StoreGrid 3.5 SP3

1. Ability to do Client Disaster Recover directly from local drive backups (without the backup server).
2. Option for the clients to reset their backup server web access password.
3. Support for configuring the Email SSL settings from the web console itself.
4. Support for backing up Microsoft SQL Server databases with Unicode names.
5. Performance improvement in filter based deletion of backed up files.
6. Performance improvements in backup, restore and replication processes.

Minor Enhancements and Bug Fixes in StoreGrid 3.5 SP3

1. Incorrect MCALs count issue in server dashboard page is fixed.
2. Backup failure issue under certain cases while backing up over SSL is fixed.
3. Listing Exchange Server log files in Exchange Server restore tree is made optional.
4. The *.edb files dumped for Exchange Server Information Stores with same names in Exchange 2000/2003/2007 are not uploaded to the backup server issue is fixed.
5. Dump process failure issue for Exchange 2010 databases if the DB name contains more than one continuous white spaces is fixed.
6. StoreGrid will be by default installed as a Windows service on local system account in Microsoft Windows Vista and above OSes.
7. While restoring the whole Mailbox store data, public folder will also be restored now.
8. Memory leak issue under certain failures is fixed.
9. Issue of scrambled content in Email reports is fixed.
10. Issue where old events and alarms are sometimes not properly cleaned up is fixed.
11. Issue when sometimes processing deleted files in replication server is fixed.

Release Notes for StoreGrid 3.5 SP2 [with VMWare Guest OSes backup feature]

Build Number: 3502010122919

Date: 07 January 2011

Applicable to: Windows & Linux OS, Client and Server installations

New Features in StoreGrid 3.5 SP2

1. Supports backup of [VMWare](#) Guest OSes.

Enhancements in StoreGrid 3.5 SP2

1. For backup server, following report pages are directly retrieved from MySQL database to reduce load on StoreGrid process and faster report rendering.
 - i. Client backup status report.
 - ii. Consolidated client backup status report.
 - iii. Client information report.
 - iv. Server dashboard.
 - v. MCAL utilization history report.
 - vi. Added MCAL details report.
2. Supports adding and removing databases by editing that backup schedule for MySQL Server database backup.
3. Allowing to provide for minimum fixed price slab in sliding scale invoice plan.
4. Events and alarms web console page is modified for faster rendering.

Bug Fixes in StoreGrid 3.5 SP2

1. Issue where Synthetic Backup is not scheduled if the backup schedule is aborted is fixed.
2. The issue where other re-seller's alarm and event details are listed for a re-seller's login session is fixed.
3. Issue where Exchange Server Mailboxes are not listed in Exchange 2010 DAG member Exchange Servers issue is fixed.
4. Fixed the issue where mails are not restored if the folder name contains Unicode characters.
5. Fixed the issue where StoreGrid crashes when backing up an empty mailbox folder.
6. Issue where Client backups sometime hang when backing up through SSL based socket.

Release Notes for StoreGrid 3.5 SP1 [with Exchange Mail Level Restore feature]

Build Number: 3502010111115

Date: 15 November 2010

Applicable to: Windows Client only installations

New Features in StoreGrid 3.5 SP1

1. Supports [Mail Level Restore](#) from restored Exchange Server mailbox (.pst files) data.

Enhancements in StoreGrid 3.5 SP1

1. Client Disaster Recovery page is re-designed to support recovering backup configurations for both authenticated as well as auto-authenticated clients.

Bug Fixes in StoreGrid 3.5 SP1

1. Fixed Exchange Server restore issue when locally restored Exchange Server backup data is separately loaded and restored to the Exchange Server.
2. Fixed MSSQL Server restore issue due to incorrect order of restoring log files, in some cases.
3. Fixed issue in editing and continuing plugin backup schedules after recovering plugin backup schedules through Client Disaster Recovery.

Release Notes for StoreGrid 3.5

Build Number: 3502010102621

New Features in StoreGrid 3.5

1. **Synthetic Full Backup of Files:** During incremental backup schedules, StoreGrid client automatically runs a Synthetic Full Backup of a file if its backed up version file is larger than a certain percentage of its initial full backup. During Synthetic Full Backup, changed data with respect to the earlier Full Backup or Synthetic Full Backup alone is uploaded. Version files uploaded after a Synthetic Full Backup contain modified data with respect to the last Synthetic Full Backup and are therefore much smaller.
2. **Synthetic Full Backup of Exchange Server:** Instead of running Additional Full Backup of the Exchange Server to limit the number of incremental backups in the backup server, StoreGrid can now optionally run Synthetic Full Backups. During Synthetic Full Backups, only the data that is changed after the previous Full Backup or Synthetic Full Backup alone is uploaded and not the entire the Exchange Server data.

Enhancements in StoreGrid 3.5:

1. Further performance enhancements for backing up Unicode files.
2. Support for cleaning up multiple alarms at a time.
3. Ability to choose the parent folder and exclude sub folders or files while configuring file backups.
4. Adding client name and backup name in Windows Events.
5. Improved the performance in files tree listing during client side restore when large number of files exist in a folder.
6. StoreGrid client can now backup the site collections of Microsoft SharePoint Server 2010.

Bug Fixes in StoreGrid 3.5:

1. Issue when backing up large files in Nexenta Open Solaris OS fixed.
2. Made changes to automatically include the missed libraries while installing StoreGrid in Linux.
3. Fixed the issue where sometimes tickets were not created in ConnectWise PSA when Email reports were also

enabled in the backup server.

Release Notes for StoreGrid 3.2

Build Number: 3202010041915

New Features in StoreGrid 3.2

1. **Migration of v2.5.5 Server and 2.5.1 Client installations to v3.2:** StoreGrid v3.2 supports all the features included in v3.0 and v3.1 (listed below) along with migration of v2.5.5 Server and v2.5.1 client installations to v3.2. StoreGrid backup server and replication server running v2.5.5 can now be upgraded to v3.2 and clients running v2.5.1 to StoreGrid v3.2.

Release notes for StoreGrid v3.1 SP2 release:

Build Number: 3102010083121

Date: 04 September 2010

New Features in StoreGrid 3.1 SP2:

Supporting integration with ConnectWise and Autotask: StoreGrid can integrate with ConnectWise and Autotask PSA (Professional Services Automation) applications. Currently StoreGrid can push major events like backup/restore/replication process status and alerts (such as disk space shortage, trial client expiry) to the PSA services. More features integration with PSA is coming. To get more details StoreGrid's integration with these PSA , refer the following online documentation:

[ConnectWise](#)

[Autotask](#)

Enhancements in StoreGrid 3.1 SP2:

1. Supporting backup of My Pictures, My Music and My Videos folders as one-click backup schedule in Windows Vista and above OSes. In prior StoreGrid versions, these folders will be backed up along with My Documents folder backup schedule.
2. Fixed database connection related issues in StoreGrid backup server.(MySQL Server gone away, crash issues)
3. Enhanced the built-in CheckAndUpdate utility for recovering StoreGrid Backup Server's MySQL database from backup data alone. This utility now recovers Reseller and Customer account details as well automatically.

Minor enhancements and bug fixes in StoreGrid 3.1 SP2:

1. The issue where StoreGrid backup server crashes when the internal client configuration file (sgclient.txt) is corrupted is now fixed.
2. Fixed the issue where StoreGrid crashes sometimes when trial client cleanup process runs.
3. Outlook archive folders not backing up if configured to non-default location is fixed.
4. Fixed issues with backing up files with Unicode file name.
5. The issue in running retention cleanup of replicated deleted files is fixed.
6. Fixed the issue where Microsoft Exchange Server 2010 mailboxes were not listed when the Exchange server was migrated from lower version.
7. Issue in backing up Microsoft Exchange Server 2010 data if the Exchange server is upgraded from Microsoft Exchange Server 2007 is fixed.
8. Restored "All Public Folders" items was not accessible to all users in the Exchange Server, instead it was accessible only to profile user and this issue was fixed.
9. Issue in listing & backing up Microsoft Exchange Server mailboxes if Microsoft Exchange Server contains more than one default store, is fixed.
10. Showing different email report time due to DST changes issue is fixed.

11. Issue in restoring all Microsoft Exchange Server databases from locally restored data to Exchange Server is fixed.
12. Consolidated customer report shows 100% success rate for failed backups issue is fixed.
13. Several other minor fixes

Enhancements in StoreGrid 3.1 SP1:

1. Support for Exchange Server 2010 database level backup and restore.
2. Option for Enabling/Disabling SGTrash Management through StoreGrid configuration file – by default StoreGrid moves version files that have exceeded retention policy to a SGTrash folder in the storage location in the backup server. This can now be disabled (so that the files are just deleted and not moved to SGTrash) in the backup server by changing the appropriate tag in the SGConfiguration.conf file of StoreGrid.
3. Configure email Settings with NTLM SMTP authentication supported email servers - StoreGrid can now be configured to send email reports via Exchange Server 2003 and above versions, which support only NTLM authentication type by default.
4. Uniform Discount Invoice Plan can now be created with a fixed rate for the initial x GB for the first slab and then the regular per GB slabs. Fixed rate can be specified by entering 0 in the per GB field for that slab.
5. In the backup server web console, added links for Reseller, Customer, Client and Backup names under "Client Activity [Current]" section in Server Dashboard page.

Bug Fixes in StoreGrid 3.1 SP1:

1. Exchange Server 2010 mailboxes not listed in some cases.
2. After Client Disaster Recovery, Exchange Server backup schedule shows "No new or modified files found for backup" message.
3. Large latency between the completion of Exchange Server backup data dump and uploading of the dumped files to the backup server when large number of files are dumped in Exchange Server.
4. Outlook Express is not backed up in Windows XP SP3 when StoreGrid is installed as a service.
5. Outlook (pst) files in non-default location doesn't get backed up.
6. Issues in backing up Unicode file/folders.
7. The number of established socket connections on SSL backup port 32007 increases in the backup server over a period of time.
8. Hidden files and folders are not displayed in the "Add Backup Schedule" page tree list in linux clients.
9. Reports of all the clients available in the 'Consolidated client backup status' report for customer level login in the backup server, instead of for just that customer.
10. Replication to S3 storage failed with errors "The specified bucket is not empty, hence cannot be removed."
11. Replication Server sometimes crashes when time based retention cleanup process runs.
12. Backup performance affected when processing deleted files/folders notification.

Release Notes for StoreGrid 3.1

Build Number: 3102010021517

New Features in StoreGrid 3.1

1. **Bare Metal Restore of Windows 2008, Windows 7 and Windows Vista:** StoreGrid can backup the entire image of the client machines running Windows 7, Windows 2008 & Windows Vista Business, Enterprise, and Ultimate editions. The backed up image can be restored to the same machine or to a machine with very similar hardware as the original client machine.
2. **Backup and Restore from local drives:** StoreGrid client can now backup to a local drive and also restore from it, without having to connect to a backup server.

3. **SharePoint Server Backup:** StoreGrid client can now backup the site collections of SharePoint Portal Server 2003 and Microsoft Office SharePoint Server 2007.
4. **Publishing StoreGrid Events as Windows Events:** You can now configure StoreGrid to also generate Windows Events when StoreGrid Events are created. This will help Service Providers to monitor StoreGrid events through third party applications that can monitor Windows Events.
5. **Customization of StoreGrid's Email notifications:** The Emails generated by StoreGrid can be now customized. Service Providers can now send their own customized messages embedded in StoreGrid's Email notifications to their customers.
6. **Reseller Level Invoicing:** Invoicing is now possible at Reseller level also.
7. **Customer Invoicing based on Uncompressed File Size and Transferred Data Size** - The backup server can now be configured to invoice customers based on the uncompressed size of the data and the size of the data transferred (uploaded during backup and downloaded during restore). Prior to v3.1, customer invoicing was based only on the size of the backup data used in the backup server.
8. **Bandwidth Throttling during Replication:** The maximum bandwidth that a backup server can use while replicating to a replication server can now be throttled. The bandwidth throttling settings can be set at the replication server.
9. **Enabling/Disabling Reseller Management:** Reseller Management in Backup and Replication servers can now be enabled or disabled during StoreGrid fresh installation in the server. For existing StoreGrid v3.0 server installations, Reseller Management can be disabled by changing the StoreGrid configuration file after migrating to v3.1.
10. **Client Registration from Client Web Console:** Users/Customers can now register their client machines under the appropriate customer account in the backup server from the client web console itself. The StoreGrid backup server now sends a unique Customer 'Passkey' to the Customer through email when the customer's account is created in the backup server. Using this unique passkey, users (customer) can register the client machines under that Customer account in the backup.

Enhancements in StoreGrid 3.1

1. Support for backing up Exchange Server cluster.
2. New mailboxes can now be added to an existing Exchange Server Mailbox Backup through client web console.
3. Connectivity check can now be run from the backup server to replication server in the backup server web console.
4. Additional full seed backups can now be run from the client to a locally attached drive before importing them into the backup server.
5. Ability to abort a live backup from the client web console.
6. Ability to limit the number of clients backing up under a customer account in the backup server.
7. Added a search capability in the backup server to search by backup/client/customer/reseller name.
8. Monthly Charges and Taxes can now be added to the invoice plans.
9. Exchange Server Backup data can now be optionally restored in the uncompressed state on the server side. This data can then be applied into the Exchange Server manually through third party application. Prior to v3.1, the restored data will be in compressed state and therefore required StoreGrid Client to apply it into the Exchange Server.
10. Ability to suspend, abort MSSQL Server and Exchange Mailbox backups while its dump is in progress.
11. The speed of the replication process performance is improved in the backup server.

Minor enhancements and bug fixes in StoreGrid 3.1

1. No MCALs will be used for the clients' automatic software update connection to the backup server.
2. Adding Microsoft SQL Server instance name from client's web console, if StoreGrid couldn't detect the MSDE/SQL Server Express Instances.
3. Displaying client's NAT & local IP address details in the backup server's client information web console page.
4. Ability to edit the invoice plans currently in use.

5. Issue in backing up Outlook Express filter settings issue is fixed.
6. Additional full backup data with file versions is supported for seed backup at backup server.
7. StoreGrid client exits, if the restore data location doesn't have space for restore data issue is fixed.

Release Notes for StoreGrid 3.0

Build Number: 3002009102219

New Features In StoreGrid 3.0

StoreGrid Server

1. **Comprehensive Reseller based management in StoreGrid server** - Master Service Providers (MSPs) who take their backup service to the customers through resellers can group the client machines and the customers under their respective Reseller accounts in the backup server. Just like a Customer account, a Reseller account can be configured and managed for backup location and space, client license units, bandwidth throttling, authentication etc.
2. **Clustering and Load Balancing of StoreGrid Servers** - StoreGrid Backup Server installations can now be configured into a cluster. New client machines connecting to the cluster will be automatically assigned a backup server instance to which the client will then run its backups to. As the clients machines grow, new backup server instances can be dynamically added to the cluster to handle the increased load without any changes on the client side.
3. **Reseller/Customer/Client access to backup server** - Resellers, Customers and Clients present in the backup server can now be provided access to the backup server. A Reseller logging into the backup server's web console can access all Reseller related details and all the Customers and Clients under that Reseller. Similarly a Customer can access the details of that Customer and all the Clients listed under that Customer. End user (Client) can access their backups, run restore and download the restored files, if needed through their web access to the backup server.
4. **Replication of StoreGrid Backup Server to Amazon S3** - StoreGrid backup server can now be replicated to Amazon's S3 Cloud storage for backup data redundancy.
5. **Alarm based Management of StoreGrid Events** - StoreGrid can now generate Alarms based on the Events it generates, for better monitoring.
6. **Automatic Disk Allocation for Clients** - Clients under a Customer can now share the disk space allocated to the Customer in the backup server; each client doesn't need to be allocated disk space individually.
7. **StoreGrid Server Side Restore & Download for Clients** - Users with Reseller, Customer or Client access to the backup server can now log into the backup server web console from any machine, run a server side restore and download the restored files from backup server.
8. **WebServices APIs to access StoreGrid modules** - StoreGrid's internal data and functionalities can now be accessed via Web Service based APIs. These APIs can be used to integrate third party applications, like billing software or monitoring systems with StoreGrid.
9. **Database Sharding to enhance scalability of backup server** - With the v3.0, each backup is stored in a separate database in the external database of the backup server, providing higher scalability and performance of the backup server.

StoreGrid Client

1. **Support for 3DES Encryption** - Users can now choose between BlowFish and 3DES encryption algorithms while creating a backup schedule.
2. **'Read-Only' user accounts supported** - Read-Only user accounts can now be created to access the client web console. 'Read Only' users logging into the client machine can force an existing backup schedule to run or do restores. They will not be able to add new backup schedules or change existing schedules.
3. **System Generated Password for backups** - Users can now optionally choose StoreGrid to generate its own encryption password while creating a backup schedule instead of the user specifying an encryption password. A backup created with System Generated password for encryption will not require the user to enter the password for restore or for deleting the backup schedule.

Release Notes for StoreGrid 2.5.5

Build Number: 2552009080521

New Features In StoreGrid 2.5.5

1. Support for MySQL database (instead of SQLite) for Backup Server and Replication Server backend.

Enhancements in StoreGrid 2.5.5

1. Restore process optimized for bulk restore with large number of directories and files.
2. StoreGrid monitor script added for Linux installations to monitor the StoreGrid process.

Release Notes for StoreGrid 2.5.1 SP2

Enhancements In StoreGrid 2.5.1 SP2

1. Supporting incremental backups for system state backup in Windows 2008.
2. Added an option where the client backup status report in the backup server will show only the latest status of each backup.
3. Added the feature where Exchange Server user details can be specified through the client web console for Mailbox backup.
4. Added the feature where Microsoft SQL Server instance name can be specified through the client web console when StoreGrid is unable to automatically detect the Microsoft SQL Server instance.
5. Resume from where it left off after an interruption during the replication is now made more efficient.
6. Performance improvements when backing up files in large number for folders.

Major Bug Fixes In StoreGrid 2.5.1 SP2

1. High CPU utilization issue fix during retention cleanup process.
2. Fixed the issue where client sometimes runs a full backup to the backup server after local to remote server migration.
3. Fixed the issue where sometimes StoreGrid crashes when restoring files with Unicode names.
4. Fixed the issue in backing up Exchange Mailbox folders with display name ending with a dot(.).
5. Fixed the issue in displaying erroneous restore status and restore report for Exchange Server, Exchange Mailbox and SQL Server backups.
6. StoreGrid reports success message when it is unable to start the Exchange Server 2007 Mailbox dump process issue is fixed.
7. In incremental Exchange Server Mailbox backup schedules, the issue of dumping large amount of data for a selected folder, if the folder contains large number of sub-folders, is fixed.
8. Fixed issue in backing up a sub-folder under Exchange Server public folders when a sub-folder is chosen individually for that backup.

Minor Bug Fixes In StoreGrid 2.5.1 SP2

1. Invalid backup space usage issue fixed in the replication server.
2. Sometimes older versions not cleaned up for system state backup issue is fixed.
3. Directory monitoring and retention of deleted files option is now disabled for run once backup types.

4. Fixed issue in displaying the exact mount status [Mounted/Dismounted status] of the exchange database(s) in restore report after the completion of the exchange restore process.

Release Notes for StoreGrid 2.5.1 SP1

Enhancements In StoreGrid 2.5.1 SP1

1. Performance improvement in the retention cleanup process in the backup server.
2. Performance improvement in incremental backup schedule when the backup set contains very large number of files.
3. Performance improvement in backing up empty folders during incremental backup schedules.

Major Bug Fixes In StoreGrid 2.5.1 SP1

1. Backup server fails to replicate backup data to the replication server due to the socket connection timed out issue fixed.
2. StoreGrid client takes full backup, if the client's day light saving time (DST) changes issue is fixed.
3. StoreGrid client crashes when backing up Exchange Server Mailbox public sub-folders.
4. StoreGrid gives error message when listing Exchange Server Mailbox folders, if Exchange Server runs with IPv6 option.
5. Re-attaching archived backup data back to the backup server through service side Local to Remote Server Migration issue is fixed.
6. Exchange Mailbox sub-folder items getting dumped again in incremental backup issue is fixed.
7. Restoring Exchange Server backup schedule from where it left off issue is fixed.
8. Problem in listing MySQL databases in Linux, FreeBSD OSes, if database files stored in non-default location, issue is fixed.
9. In the client side consolidated backup report dashboard page, success rate for latest schedule will be shown.
10. The alert settings web console page hanging in StoreGrid Professional Edition issue is fixed.
11. Fixed the issue in updating the SQL Server backup schedule status from active to idle state, if the backup server connection was timed out.

Minor Bug Fixes In StoreGrid 2.5.1 SP1

1. The client's backup schedule with VSS option fails as the StoreGrid VSS writer is not listed when taking backup. This issue is fixed.
2. StoreGrid backup server skips files during replication process issue is fixed.
3. Showing higher transfer rate for file transfer with bandwidth throttling option is enabled issue is fixed.
4. Listing Exchange Server MailBox folders fails with MAPI_E_INVALID_PARAMETER error in some Exchange Server system issue is fixed.
5. Plugin backup schedule success email report's subject line is incorrect, in some cases, issue is fixed.
6. In some cases, not inserting the renamed/deleted files details in the backup server database issue is fixed.
7. StoreGrid intermediate files not cleaned up for backup schedules configured with Directory Monitoring option enabled, issue is fixed.
8. StoreGrid Windows installation hangs in Windows 2008 OS, if system contains more number of disk drives issue is fixed.
9. Software update issue fix for 2.3.5 clients for non-English builds.
10. Opening web console with systems default web browser application in StoreGrid system tray.

Release Notes for StoreGrid 2.5.1

Build Number: 2512009032420

New Features In StoreGrid 2.5.1

1. Backing up and restoring files or folders with Unicode names is now supported.

Enhancements in StoreGrid 2.5.1

1. Backing up multiple mailboxes with the same (display) name is now supported.
2. High CPU utilization and occasional internal sgserver.db database file corruption issue in backup server is fixed.

Minor changes and bug fixes in StoreGrid 2.5.1

1. Issue in restoring files with filenames containing specific set of characters when backup is encrypted is fixed.
2. Fixed the issue where sometimes replication seems to be in progress in the backup server but actually gets stuck without replicating the files.
3. If additional full backup is configured with monthly schedule option, the backup may be additionally scheduled on that day of the week in the next month, for example, schedule configured to run additional full backup on 4th Sunday may be scheduled on 3rd Sunday of the next month. Also, if the additional full backup was configured to schedule on particular days, around end of the month, the full backup mistakenly occurs on that day of the week in the next month's first week. Both of these issues were fixed in this build.
4. Client side filter delete of files doesn't work for the backups stored in client's old backup storage location [and the client's backup storage location is changed] issue is fixed.
5. Issue where files were not listed for restore when additional full backup is migrated into backup server through Local to Remote Migration is fixed.
6. Issue in showing the schedule details in client side backup schedule view page & edit backup schedule page, if monthly full backup is configured, is fixed.
7. Advanced filter options configuration in Internet Explorer web browser issue is fixed.

Release Notes for StoreGrid 2.5

New Features In StoreGrid 2.5

1. Using MySQL RDBMS backend as StoreGrid backend database (replacing the current embedded RDBMS engine SQLite).
2. Backend data storage on [Amazon Simple Storage Service \(S3\)](#).
3. Out-of-the-box support for StoreGrid in [Amazon Elastic Compute Cloud \(EC2\)](#).

Bug fixes in StoreGrid 2.5

1. Resuming Restore from where it left off when the restore process is suspended/killed during Restore of an encrypted backup is fixed.
2. No response from server while doing Client Disaster Recovery fixed.
3. Disk space usage updation while doing retention cleanup fixed.

Release Notes for StoreGrid 2.4

New Features In StoreGrid 2.4

1. [Bandwidth Throttling](#) Limiting the maximum bandwidth a StoreGrid client can use.

2. [Advanced Retention](#) Retention based on age of the version files and retention of deleted files both based on the version count as well as age of the deleted files.
3. [Exchange Server 2007 Mailbox backup](#) Backing up Exchange mailbox in 64 bit Exchange server.
4. [Windows 2008 System State Backup](#) Support for backing up System State in Windows 2008 machines.

Enhancements in StoreGrid 2.4

1. Resume Restore from where it left off Resume restore from where it left off after an interruption.
2. Automatic software update of backup server from replication server.
3. Backup location settings at Customer level currently the backup location can be specified at server and client levels only.
4. Email notifications for missed backup.
5. Restore performance improvements.
6. MCALs added and usage history in backup server.
7. Option to edit local dump location for the plugin based backups (MS SQL Server/ Exchange Server/ Exchange Mailbox).
8. Support for manually moving of backup data location in the backup server; user can then update the settings through the web console.
9. Consolidated list of all backup locations with the used space has been added in the Server Settings page in the backup server web console.
10. Added new email filter option to not send Emails when there is no files to replicate.
11. Option to allow unlimited number of attempts when a backup fails due to space, license etc for non-plugin based backups.
12. Option to configure time interval to reschedule a backup every 5/10/15/20/25/30 minutes, whenever an attempted backup is incomplete because of a network error, server crash etc.

Minor changes and bug fixes in StoreGrid 2.4

1. Keep all previous installation settings during upgrade installation.
2. Enhanced Advanced port configuration in a Windows installation setup to display separate dialog window.
3. The local dump location can now be configured while creating system state backup schedule in the client web console.
4. Moved MySQL Server database(s) backup configuration to separate screen "Backup -> Create MySQL Database Backup".
5. Fixed the issue in taking incremental backup of Exchange Mailbox user subfolders.
6. Removed backup space validation when editing client settings in replication server.
7. Filter delete of folder should also delete the references to the folder from the DB so that the empty folder doesn't get listed in restore tree.
8. Option to select the months of the year when you configure the full backup of plugin backups(MS SQL Server/Exchange Server/Exchange Mailbox).
9. Option to select days of the week when you configure the additional full backup for file and folders backup.
10. Upgraded Apache to v2.0.63 in the Windows Installation setup. This has fixed 'StoreGrid webserver start issue in non English OS' issue.
11. Upgraded PHP to 5.2.6 in the Windows, Linux and FreeBSD installation setup.
12. Skipped file count displayed in the server side backup progress window.
13. Fixed in the issue in sending the false Email report while successfully deleting the backup data using 'Backup Data only' option.

14. Fixed the issue in displaying the backed up files with double quotes in the 'List of backed up files' in the client side backup report.
15. Fixed the issue in navigating the files/folders with double quotes in the restore tree.
16. Enabled auto refresh of 'List Backups for Restore' page.
17. Fixed the logic issue in displaying the pie chart of used/available space on the Server Dashboard page.
18. Fixed the issue in editing the File/Folders Filter settings, if the number of filters configured for backup is large.
19. Fixed the issue in backing up Exchange Mailbox user folder/subfolder name with special characters like double quote("), forward slash(/), backward slash(\), question(?), colon(:), asterisk(*), lesser than(<), greater than(>), pipe(|) and empty space() at the end of the folder name.
20. Supporting Microsoft SQL Server 2008 database backup.
21. StoreGrid can now run with backup operator privilege to avoid access denied issue while reading files for backup.
22. In Windows, default filters have been added to remove System Volume Information, Windows, RECYCLER folders and pagefile.sys file for the full drive backup schedules.

Release Notes for StoreGrid 2.3.5

New Features In StoreGrid 2.3.5

1. [Single page all backup status report](#): Status report of all backup schedules will now be available in a single page in the backup server web console. The report indicates backups that have completed successfully, failed, partially completed and missed. The report can be customized through user defined filters and can be scheduled to be sent in an Email on a daily or weekly basis.
2. [Backup Window](#): StoreGrid client can now be configured not to backup during certain hours of the day.
3. [Consolidated Customer Report](#): A consolidated report of all backup schedules of all clients under a customer along with disk space usage details can now be automatically generated on a daily, weekly or monthly basis and sent to the customer's Email ID.
4. [On Demand Invoicing](#): Invoices can now be generated on demand for a specified billing period.
5. [Email alerts for license expiry and disk space shortage](#): StoreGrid backup server can now be configured to send Email alerts for license expiry and disk space shortage. Replication server can be configured to send Email alerts for license expiry.
6. [Windows Mail backup](#).

Enhancements in StoreGrid 2.3.5

1. The number of versions to be kept for a file can now be set to zero when Intelli-Delta backup option is disabled. The backup server will then just store the latest version of the full file. When the file changes, StoreGrid will backup the entire file and replace the existing file with this latest version.
2. Added a filter option to include or exclude files/folders by providing the complete name or by giving the complete path in Advanced file/folder backup filters.
3. Email notifications can now be sent to different Email addresses based on the status. For example, backup notification Emails can be configured to be sent to one Email address when the backups fails and to another when the backup completes successfully..
4. Reports of the delete notifications (when backups, clients or customers are deleted) sent from the backup server to the replication server will now be available in the backup server.
5. Specific calendar months can be selected while configuring additional monthly full backups.
6. Included details of skipped folders in the backup reports in the client as well as in the backup server.
7. Restoring folders/files by specifying the complete path instead of selecting from file/folder tree listing.
8. Displaying all client details (like client's OS type, client's plug-in type, client build/version number, license type etc.)

in the backup server.

9. Incremental backup is now supported for MySQL backup in Linux. In earlier StoreGrid versions, it was supported only in Windows.
10. New options added in Silent Installation for:
 - i. Whether given Windows login credentials (for running StoreGrid as a service) should be verified or not
 - ii. Enabling/disabling SSL port
 - iii. Specifying the SSL backup port

Minor changes and bug fixes in StoreGrid 2.3.5

1. Replication progress window will now show activity as the backup server is gathering files for replication or when it is replication directories. As the backup server is gathering the files, the total file/folder count will increase. As the directories are replicated, the number of directories replicated so far will be displayed in the progress window.
2. Updated the restore progress window to show the number of files listed for restore when StoreGrid is initiating the restore process.
3. Fixed the issue where editing a backup with files/folders containing special characters (like &, ', " etc) failed.
4. Fixed the issue where the backup report would show status as partially completed but 100% backed up when a few files were skipped in a large backup set.
5. Software update will now be enabled by default. In 2.3, it was disabled by default and had to be enabled manually after installation.
6. Fixed client side software update reports.
7. If a peer is added using the IP address in the Add/Delete peer page, the IP will be added as entered. In earlier versions, StoreGrid does a DNS lookup on the IP and adds the peer with the lookup name and not the IP address.
8. StoreGrid sometimes exiting or hanging when mailbox is corrupted are fixed.
9. Cleaning up the dump location when StoreGrid is aborted during mailbox backup.
10. Limiting the number of attempts to reschedule the backup when mailbox backup fails.
11. Fixed the backup progress window to correctly update the status during mailbox backup.
12. Fixed the issues with installing StoreGrid builds in 64 bit Ubuntu machines.
13. Removed the MCALs shortage alert from the server dashboard in the replication server since MCALs are not relevant to replication server.
14. Enabled auto refresh of 'List of Backup Schedules' page.
15. Fixed the issue where 'Keep Alive' packets were not sent over SSL connection.
16. Enabled auto refresh in server dash board page.
17. Fixed automatic reconnection failure issue when the client is sending keep-alive messages to the backup server.
18. Fixed the issue where the data location path goes in a loop when configuring backup of 'Document settings' in Windows Vista.
19. Fixed the issue where replication sometimes doesn't start.
20. StoreGrid will now automatically recover the backup configuration (.sbc) file in the backup server if the file is corrupted.
21. Listing files and folders in ascending order in Restore Page.

Release Notes for StoreGrid 2.3

Issues fixed in StoreGrid v2.3 SP1 (Build No. - 2302008040515)

1. Backup server license gets disabled when StoreGrid gets bound under multiple IP addresses when the backup

server has multiple NIC cards.

2. StoreGrid skipping open files even when Volume Shadow Copy is enabled.
3. StoreGrid skips Outlook .pst files even when VSS is enabled.
4. StoreGrid stopping while backing up NTFS permissions of folders/files for which StoreGrid doesn't have read permission.
5. StoreGrid skipping files with long file names.
6. High CPU usage in the backup server while starting a replication schedule.
7. Files shown as skipped in the replication reports while replicating "Deleted File" notifications, though the notifications are actually replicated.
8. Backup server not showing the added MCALs though it reports that the license was applied successfully for partners who had their backup server migrated from 2.1 to 2.2
9. Server side backup email report shows "Failure" in subject while the email content shows "Success".
10. Error while creating a new Fixed Slab invoice plan.
11. Web console not displaying the build details in "About Us" link in server-only installations.

New Features In StoreGrid 2.3

1. Mailbox/Folder Level Exchange Backup and Restore in 32 bit environment.
PLEASE NOTE: StoreGrid can backup only up to Group level in 2007 Exchange Server (64 bit) machines. StoreGrid doesn't support backing up Mailboxes in 2007 Exchange Server (64 bit). [Click here](#) for more details
2. All Databases Backup of MS SQL Server.
3. Automatic StoreGrid update from backup server.
4. SSL connectivity between client, backup server and replication server.
5. NTFS File Permissions Backup.
6. Importing backup data from backup server to replication server.
7. Authentication of Backup Server with Replication Server.
8. Customer level disk space allocation in the backup server.
9. Advanced filters for selecting files/folders to backup.
10. Same Machine Backup: Backing up to local/external drives in Client Only installation. This feature is only for Local to Remote Server Migration purposes. You cannot restore from Same Machine Backup data.
11. Testing SMTP server settings and connectivity.
12. Testing backup server connectivity from client.
13. Deletion of Primary Server data in replication server.
14. Moving backup data when changing the client backup location in the backup server.
15. Skipped file(s) report in backup server.

Enhancements in StoreGrid 2.3

1. Significant backup performance enhancement especially for large number of small files.
2. Significant Replication performance optimizations.
3. Reestablishing client connection automatically after network interruption.
4. Optimized Event Sharing protocol.
5. Upgraded the SQLite version to 3.5.4 to reduce chances of database corruption.

6. Web console user interface enhancements.
7. Prorating invoices for partial billing periods.
8. In-built Mapped Network Drive Support for client backups.
9. Aborting backup and restore processes from client and backup server.
10. Versioning of backup data with Intelli-Delta disabled.
11. Limiting the number of client rescheduling attempts to connect to backup server in case of backup failure.
12. Multiple simultaneous restores at the client.
13. Limiting the number of client attempts to delete backup data in backup server.
14. Propagating backup delete operations from backup server to replication server.
15. Cleaning up idle sessions in the backup server.
16. Precompiled installation binaries for Linux and Mac.
17. Resuming replication from where it left off, even within a file.
18. Rebuilding sgbackup.db file from backup data.

Release Notes for StoreGrid 2.2.5

Bugs Fixed In StoreGrid 2.2.5

1. Have made enhancements to significantly improve the performance of the backup process. Performance improvement could be up to 60%, especially when backing up large number of small files.
2. Made enhancements to reduce backup server CPU usage during simultaneous replication of multiple backups.
3. Added a Vembu logo in the email reports. For branded builds, the partner logo will appear.
4. Application level Keep Alive is now enabled by default to prevent early closure of the network connection between the StoreGrid client and the backup server.
5. Fixed the client authorization issues in the client and the server. If the client is not present in the backup server and 'Auto Authorization' is not enabled, then the Authorization page will now show the right error messages. Also, once authorized, the user will be automatically redirected to the login page.
6. Fixed an issue related to not sending email reports when a few files are skipped during backup.
7. In the SP edition, the feature that automatically applies the StoreGrid server licenses to other StoreGrid servers in the same network has been disabled.
8. Fixed the issue where a client connecting with a new IP address would get rejected if its previous connection from a different IP could not be cleaned up in the backup server. With this release, the previous connection will be cleanup forcefully and the new connection would be established.
9. Now you can update the encryption key to the old value after Client Disaster Recovery
10. Fixed the issue with updating the used space in the client side backup report when there are large number of backups scheduled. Also fixed an issue in updating the disk space usage in the server side reports after deletion of a full backup.
11. Improved error recovery in Volume Shadow Copy enabled backups
12. Disabled the harmless 'Error:0' message from the tray.
13. Added an alert in the *Edit Backup Server List* of *Edit Backup Schedule* page to indicate that changing the backup server will create fresh backups on the new server and that user should rather do a Local to Remote migration.
14. Fixed the reports for backup schedules in partially completed status.
15. Added an UI alert indicating that changing backup location on the server will change only for subsequent backups.

16. Added an UI alert indicating that space allocation may have to be done both at the server and the client levels.
17. Added an alert message for Suspend/Resume backup action.
18. Fixed the issue in the UI related to editing a customer with 'Auto MCAL' allocation setting.

Release Notes for StoreGrid 2.2.1

Bugs Fixed In StoreGrid 2.2.1

1. Fixed the issue of StoreGrid client exiting while listing files with wide characters.
2. Fixed the issue of StoreGrid displaying invalid file size while backing up files greater than 4 GB when Volume Shadow Copy is enabled.
3. Fixed the bug in StoreGrid client reset password when the backup server system name and the backup server name in the client are different.
4. Fixed the issue of Replication failure if the Trial Customer's auto-authorization is configured as "Denied".
5. Email SMTP server configurations related to SMTP authorization are now properly rendered in the StoreGrid Web Console. The user name and password fields are still not rendered for security purposes.
6. Fixed the issue in receiving email reports when SMTP server adds more headers to the email sent by StoreGrid.
7. Fixed the security issue with the way StoreGrid was handling the backup encryption password.
8. New configuration option to allow backup database in the StoreGrid server to be stored in a separate hard disk other than the client backup location. This is useful to improve StoreGrid server performance including the StoreGrid server web console performance.
9. More customization of server dashboard features and dashboard refresh times added.

Release Notes for StoreGrid 2.2

New Features In StoreGrid 2.2

StoreGrid Server

1. Improved organization of the clients backing up to the server.
2. Server Side management of all licenses (MCAL based licensing).
3. Revamped 'Local To Remote Server Migration'; now additional full backups can also be done locally and migrated to the remote backup server.
4. Revamped replication management, flexible replication scheduling, CPU usage control and lots more.
5. Replication progress support in both the Backup Server and the Replication Server
6. Primary Server Disaster Recovery from Replication Server using StoreGrid web console.
7. Invoice Generation based on Invoice Plans. You can assign the same plan across Customers.
8. Server Activities Dashboard (Current Active Clients Monitoring, Last 5 Successful/Failed Backups, Disk Space Monitoring, License Monitoring, etc.,)
9. Trial Client Settings (Evaluation Period/De-Activation Period/Automatic Cleanup of De-Activated Client, etc.,).
10. Individual Client/Backup De-activation.

StoreGrid Client

1. Advanced Plugins for Exchange using ESE APIs.
2. Advanced Plugins for MS SQL Server using VDI APIs.

3. Volume Shadow Copy support for Windows XP, Windows 2003 Servers systems.
4. In StoreGrid Service Provider Edition, there is no need to apply license keys in the client.
5. MySQL Plugin for windows
6. Restore progress window enhanced to show file based restore progress
7. Revamped Client Dashboard.

General

1. Secure(https) Web Console.
2. Support for 64-bit Windows Operating Systems.

Bugs Fixed In StoreGrid 2.2

1. Unicode File listing and backup (supporting long file path > 256 characters) in windows.
2. Local Dump location for Exchange/SQL plugins can be specified from the backup configuration page itself.
3. Application level Keep Alive protocol supported for working around the 'Unable to send backup details ...' issue.
4. Outlook Mail box PST File is backed up even if it is specified in a location other than the default location.
5. Fixed the error 'File Modified during backup' when Open File Plugin is installed and available.
6. "Replication In Progress" issue in the Replication Server fixed.
7. Disk Space Allocation issue in replication server fixed.
8. Client Backup Location can now be modified even if a client is already backing up to the server. Note that, only the new backup schedules will be backed up to the new location and the older backup schedules will continue backing up to the older backup location
9. Service Installation of Apache in Vista is now supported
10. Duplicate peers issue in the discovered peer list fixed.
11. Fixed the bug on Skipped file count when a file is listed for backup and is unavailable during the backup process.
12. Fixed restore tree listing issue when one of the drive is available in the backup database but no files are available for the drive in the current full backup.

Release Notes for StoreGrid 2.1.1

New Features In StoreGrid 2.1.1

StoreGrid Server

1. Server Side Restore --> Restoring client's backed up files from Server Web Console itself.
2. Server Side Email Reporting - Backup/Restore/Delete/Replication
3. Performance Improvements in Replication
4. Email Filtering based on Backup Status and Customer/Client/Backup Jobs.
5. Customer Invoice Configuration from the StoreGrid Web Console.

StoreGrid Client

1. Run a list of commands before & after a Backup Schedule.
2. MSSQL - Maximum number of DIFFERENTIAL backups to be had in server.
3. MSSQL - Support for multiple databases in single backup job.

4. Suspend & Resume on Large file backups. Start from where it left.
5. Client side Historical Backup Report.
6. Client Backup Progress updated with a particular File's backup progress.
7. Multi-threaded backup scheduling.
8. Skipped files list on Restore Report.
9. Email Filtering based on Backup Status and Backup Names.

General

1. Performance improvements for backups.
2. Internationalization related enhancements.
3. Configurable StoreGrid Ports [GUI/SERVER].
4. Configurable IP Address to which the sockets are bound.

Bugs Fixed In StoreGrid 2.1.1

1. Immediate Scheduling/Suspension of Replication Schedules after Replication Configuration.
2. Multiple Replication Report entries for the same error fixed
3. Suspend/Resume/ScheduleNow of SQL Server backup jobs
4. Password is not mandatory in Add Client, when auto authorization is enabled
5. Listing Empty folders in Restore Tree
6. When Invoice generation frequency updated, Next Invoice Update time is also updated
7. Unique invoice recipients for different customers
8. Updation of Used space in Replication server's Backup report
9. Exchange Server 2000 supported.
10. Error message reporting on Exchange Server & SQL Server backup failure
11. MSSQL Server & Exchange Server backup failure when installed under directory with special characters
12. Client License is not updated in server when the new license is applied
13. Added backup progress message for all plugins.

Release Notes for StoreGrid 2.1

New Features In StoreGrid 2.1

StoreGrid Server

1. Support for generating rules based Customer Invoice.
2. Support for Replication of data in StoreGrid Server.
3. All server databases moved to Server Backup location to support easily creating redundancy for a StoreGrid Server's data.
4. Support for monitoring Backup activity from the server side.
5. Local to Remote Migration now supports migrating clients to Trial Customer too.

StoreGrid Client

1. Support for automatic MS Exchange Server backups.

2. Support for automatic MS SQL Server backups.
3. Support for automatic Active Directory/System State backups.
4. Support for editing files and folders of a backup schedule.
5. On Demand scheduling of backup schedules using a "Schedule Now" feature.
6. Option to disable Automatic Directory Monitoring in Windows to support backing up mapped drives and application generated files, which could delete and create the same files, create lots of temp files which need not be backed up.
7. Support for backing up empty folders.
8. Supporting of listing Mapped Drives in the backup schedule configuration tree.
9. Added keep alive feature in connections to server to fix NAT timeout issues.

Bugs Fixed In StoreGrid 2.1

1. Fixed bugs in calculation of used and free disk space for customers and clients.
2. Fixed bugs and usability issues in Auto Authorization between StoreGrid client and server.
3. Fixed the limitation while deleting a file and creating a new file with the same name.
4. Fixed RSync bug while restoring versioned large files greater than 4 GB.
5. Fixed the bug related to not emailing backup reports when there is a connection failure with the StoreGrid server fixed.
6. Fixed a few memory leak issues.
7. Fixed bugs in updating reports and disk space usage during Local to Remote Migration.
8. Fixed the bug related to server showing "backup in Progress" after the client has completed the backup.
9. Fixed the bug related to server not sending a negative file acknowledgement when the server could not rename the temp file name to the original file name for a successfully backed up file.
10. Fixed the bug related to client getting added to the server even if authorization fails.
11. Updated MySQL backup in Linux to use mysqldump utility to support InnoDB tables.
12. Fixed issue related to Trial Customer Migration overwriting an existing client data if the same client is migrated from trial to a customer. Only fresh clients can be migrated from trial to a customer.

Release Notes for StoreGrid 2.0

New Features In StoreGrid 2.0

Infrastructure

1. Major Design and Architecture changes for better scalability and performance.
2. All modules in both server and client use embedded RDBMS.
3. All metadata of a client and client book keeping for management use the RDBMS. Provides better capability for reporting, easier management functionality and better scalability.
4. Designed to easily support other RDBMSs like MySQL, PostgreSQL, MS-SQLServer, Oracle etc. for enterprise scalability, in future releases of StoreGrid.

StoreGrid Server

General

1. Configure authentication requirements for a client.
2. Server side drill down reports for each backup schedule of a client.

3. Reporting on disk space based on both original size of files and the disk space used in the server after compression.
4. Server side historical reports for each backup schedule for each client.
5. Ability to consolidate client events in the server and filtering based on client name and other event parameters.

Service Provider Edition

1. Comprehensive Customer based management in StoreGrid server.
2. Ability to add customers.
3. Apply license for a customer with restrictions on number of clients.
4. Disk quota management at the customer level and client level.
5. Ability to activate/deactivate a customer or a specific client within a customer.
6. Local to Remote Server Migration of Backups.
7. Trial Customer to New Customer migration of backups.

StoreGrid Client

1. Support for multiple full backups and incremental backups in between.
2. Support for the first full backup to a local server and then incremental backup to a remote server.
3. Configurable encryption key length (from 64 to 448 bits).
4. Support for time based restores.
5. Files and Folders filtering support in restore UI.
6. Permanent deletion of backed up Files and Folders with filtering support.
7. Support for sharing client events to StoreGrid servers.
8. Support for event filtering based on various event parameters.
9. Support for configuring clients with password protected access to the server.
10. Support for emailing backup and restore reports to the user.
11. Local to Remote Server Migration of Backups.

Bugs Fixed In StoreGrid 2.0

1. The 256 character problem in Windows backups & restore is resolved.
2. StoreGrid 2.0 can now accept varying length password for encryption. In StoreGrid 1.6, the encryption password had to be exactly 8 characters.
3. For Outlook and Outlook Express, StoreGrid 2.0 has the option of closing it automatically and backing it up or you can install the StoreGrid Open File Backup Plugin to backup Outlook and Outlook Express without closing the applications during backup.
4. In StoreGrid 1.6, a full backup of StoreGrid Metadata database was done for every schedule. This was taking time even when the incremental backup schedules were very small. In StoreGrid 2.0, you can configure the metadata backups to run infrequently or even disable it.
5. Suppose a backup is scheduled to run daily at 8:00AM. However, if the StoreGrid machine is started only at 9:00 AM then this backup schedule will be rescheduled for next day 8:00AM without actually running the backup. This issue is fixed in StoreGrid 2.0 Release.
6. FQDN (Fully Qualified Domain Name) problem fixed in Discovery Module.
7. In StoreGrid 1.6, special characters was not allowed in License User name. This is fixed in StoreGrid 2.0 Release.
8. When a backup is restored to another machine instead of the original client, then its restore report cannot be viewed. This issue is fixed in StoreGrid 2.0. And now restore report can be viewed(Reports->Restore Reports) in the machine in which the restore was done.
9. Directory Statistics are now correctly backed up and restored.

Click here for a list of [Known Issues In StoreGrid](#)

Click here for a list of [Limitations In StoreGrid](#)

Support

Vembu's support plans include:

1. For StoreGrid Free Edition, support is provided through the [StoreGrid User Forum](#)
2. For StoreGrid Professional and Service Provider Edition users, free email support is provided during the 30-day evaluation period. StoreGrid support is offered through email, forum and the StoreGrid KnowledgeBase.
 - a. StoreGrid Technical Support Request Form : <http://storegrid.vembu.com/technical-support.php>
 - b. StoreGrid Discussion Forum : <http://storegrid.vembu.com/forum/viewforum.php?f=1>
 - c. StoreGrid KnowledgeBase : https://support.vembu.com/index.php?_m=knowledgebase&_a=view

Premium Support Plans:

1. For StoreGrid Professional and Service Provider Editions, we offer three Premium Support Plans (Bronze, Silver and Gold) that include instant messenger, phone support and other support options tailor-made to suit the technical support requirements of StoreGrid partners.
2. You can learn more about StoreGrid support plans at <http://storegrid.vembu.com/online-backup/support-plans-sp.php>

Support Email Id

Please send all your support questions to storegrid-support@vembu.com

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