Features - ProxyHost *i*DataAgent

TABLE OF CONTENTS

Overview - ProxyHost *i*DataAgent

Choose from the following topics:

INTRODUCTION

The ProxyHost *i*DataAgent enables you to utilize third party vendors' split mirrors and snapshot technology to greatly reduce the effects of backup operations on the production server. This *i*DataAgent can use third party software to create a point-in-time copy of the production server data mounted on to the backup host and the backup is started from this secondary host. The ProxyHost software performs the following functions:

- Utilizes user defined batch files to perform necessary system operations (e.g., snapping the BCV) prior to backing up the data
- Coordinates the backup functions on the backup host
- Provides path translation

> Path translation allows you to browse data as it appears within the more familiar production server file system, rather than browsing it as it appears within the backup host file system. For example, assume that `D:\` on the production server is mirrored by `J:\` on the backup host. Although the `exchsrvr\MDBDATA` directory is actually backed up from the backup host as `J:\exchsrvr\MDBDATA`, it appears in the browse view as `D:\exchsrvr\MDBDATA`, just as it appears on the Exchange server.

The ProxyHost *i*DataAgent is installed on the production server only, but the same File System *i*DataAgent (i.e., Windows File System or Unix File System) must be installed on both the production server and backup host.

SUPPORTED DATA TYPES

The following file system types are supported for backup and restore operations:

- **ProxyHost on Windows**
  - File allocation table (FAT) file systems
  - New Technology file systems (NTFS)
- **ProxyHost on Unix**
  - The ProxyHost *i*DataAgent supports the file system types supported by the Unix File System *i*DataAgent. For more information, See:

Supported File Systems - AIX File System iDataAgent

Supported File Systems - HP-UX File System iDataAgent

Supported File Systems- FreeBSD File System iDataAgent

Supported File Systems - Linux File System iDataAgent

Supported File Systems- Solaris File System iDataAgent

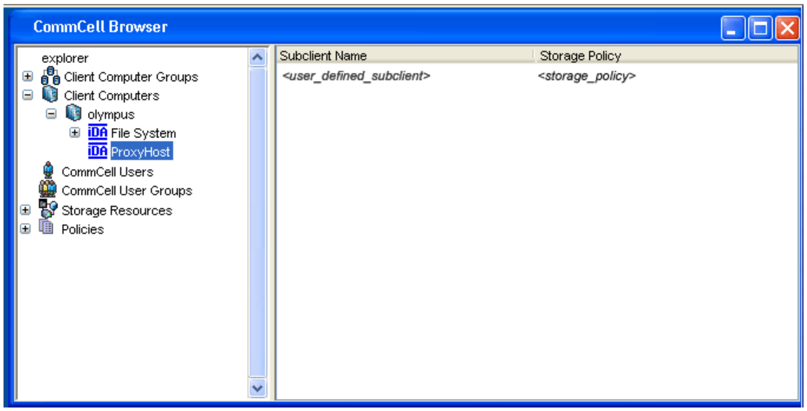
Supported File Systems - Tru64 File System iDataAgent

Data Protection operations for all other data types not mentioned in the above list are not supported by the ProxyHost *i*DataAgents.

For a complete listing of applications supported for each operating system, see ProxyHost - Application Support.

TREE LEVELS IN THE PROXYHOST *I*DATAAGENT

When the ProxyHost *i*DataAgent is installed, the following levels are automatically created in the CommCell Browser.



`olympus`: Client

`<user_defined_subclient>`: User-Defined Subclients

`ProxyHost`: Agent

Snapshot Support

The ProxyHost *i*DataAgent is designed to work with a conjunction with the following snapshot engines, which provide snapshot functionality for data protection operations:

- Compaq EVM
- EMC SnapView
- EMC Symmetrix/TimeFinder
- Hewlett Packard StorageWorks EVA 2.0
- Hitachi HDS QuickShadow, ShadowImage, TrueCopy
- VSS for the ProxyHost *i*DataAgent

For more detailed snapshot support information, refer to Support Information - Snapshot Engines.

Disaster Recovery Considerations

- Before you use your agent, be sure to review and understand the associated full system restore (or disaster recovery) procedure. The procedure for some agents may require that you plan specific actions or consider certain items before an emergency occurs. See Disaster Recovery for more information regarding your agent.

Use Cases

Following are some specific uses of ProxyHost:

- ProxyHost with CVSnaptool - Truncating Exchange Logs
- ProxyHost with VSS - Truncating Exchange Logs

License Requirement

To perform a data protection operation using this Agent a specific Product License must be available in the CommServe® Server.

Review general license requirements included in License Administration. Also, View All Licenses provides step-by-step instructions on how to view the license information.

Back to Top

System Requirements - ProxyHost *i*DataAgent

System Requirements | Snapshot Support | Supported Features

The following requirements are for the ProxyHost *i*DataAgent:

Operating System

Operating System		Processor
AIX	AIX 6.1 64-bit	Power PC (Includes IBM System p)
	AIX 5.3 32-bit with technology level 6 and runtime library xlC.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
	HP-UX 11i v1 (11.11) 64-bit with a minimum of OS patch level of December 2008 patch bundle or higher (contact Hewlett Packard to obtain the patch)	PA-RISC
LINUX	SuSE Linux 10.x with kernel 2.6.x	x64
	Red Hat Enterprise Linux/CentOS 5 with kernel 2.6.x	x64
	Red Hat Enterprise Linux/CentOS 4.x (all kernel and glibc versions supported)	Itanium, x64 or compatible processors
SOLARIS	Solaris 9 with a minimum of Service Packs 111711-02	Sparc5 or higher recommended
	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended
WINDOWS	**WINDOWS 7**	
	Microsoft Windows 7 32-bit and x64 Editions	All Windows-compatible processors supported
	WINDOWS 2008	
	Microsoft Windows Server 2008 32-bit and x64 Editions* *Core Editions not supported	All Windows-compatible processors supported
	WINDOWS 2003	
	Microsoft Windows Server 2003 32-bit and x64 Editions with a minimum of Service Pack 1	All Windows-compatible processors supported

Cluster - Support

The software can be installed on a Cluster if clustering is supported by the above-mentioned operating systems.

For information on supported cluster types, see Clustering - Support.

Hard Drive

UNIX

215 MB minimum of hard drive space for software

100 MB of additional hard disk space for log file growth

10 MB of temp space required for install or upgrade (where the temp directory resides)

WINDOWS

112 MB minimum of hard disk space for software/ 498 MB recommended

50 MB of additional hard disk space for log file growth

725 MB of temp space required for install or upgrade (where the temp folder resides)

Memory

UNIX

16 MB RAM minimum required beyond the requirements of the operating system and running applications

Swap space = 2*RAM size

WINDOWS

32 MB RAM minimum required beyond the requirements of the operating system and running applications

PERIPHERALS

DVD-ROM drive

Network Interface Card

Fiber Channel Card (HBA)

MISCELLANEOUS

The File System *i*DataAgent will be automatically installed during installation of this software, if it is not already installed. For System Requirements and install information specific to the File System *i*DataAgents, refer to:

- System Requirements - Microsoft Windows File System *i*DataAgent
- System Requirements - AIX File System *i*DataAgent
- System Requirements - HP-UX File System *i*DataAgent
- System Requirements - Linux File System *i*DataAgent
- System Requirements - Solaris File System *i*DataAgent

The operating system must have been installed with at least the `user level software` option selected.

NETWORK

TCP/IP Services configured on the computer.

.NET FRAMEWORK

.NET Framework 2.0 is automatically installed. Note that .NET Framework 2.0 can co-exist with other versions of this software.

MICROSOFT VISUAL C++

Microsoft Visual C++ 2008 Redistributable Package is automatically installed. Note that Visual C++ 2008 Redistributable Package can co-exist with other versions of this software.

SELINUX

If you have SELinux enabled on the client computer, create the SELinux policy module as a root user before performing a backup. The SELinux Development package must be installed on the client.

To create an SELinux policy module, perform the following steps as user "root":

1. Create the following files in the `/usr/share/selinux/devel` directory:

File Name	Content of the File

`<directory>/<file_name>.te`
where:
`<directory>` is `/usr/share/selinux/devel`
`<file_name>` is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file.
For example: When you are creating a policy module for backup_IDA application, you can use the following file name: `backup_IDA.te`
	The content of the file should be as follows:
	policy_module(<name>,<version>)
	##############################
	where:
	`<name>` is the name of the policy module. You can give any unique name to the policy module, such as a process or application name.
	`<version>` is the version of the policy module. It can be any number, such as 1.0.0.
	For Example: While creating a policy module for the backup_IDA application, you can use the following content.
	`policy_module(backup_IDA,1.0.0)`

`<directory>/<file_name>.fc`
where:
`<directory>` is `/usr/share/selinux/devel`
`<file_name>` is the name of the Unix file, created to save the
	The content of the file should be as follows:
	Note that the following list of files is not exhaustive. If the process fails to launch, check `/var/log/messages`. Also, if required, add it to the following list of files.
	`/opt/<software installation directory>/Base/libCTreeWrapper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)`

policy module statement. It is a good idea to use the same name for policy module and the file.
For example: When you are creating a policy module for backup_IDA application, you can use the following file name: `backup_IDA.fc`
	`/opt/<software installation directory>/Base/libCVMAGuiImplgso -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libdb2locale.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libdb2osse.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libDb2Sbt.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libdb2trcapi.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libDrDatabase.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libIndexing.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)`
	`/opt/<software installation directory>/Base/libSnooper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)`

2. Create the policy file from command line. Use the following command. Ensure that you give the following commands in the `/usr/share/selinux/devel` directory.

   ```
   [root]# make backup_IDA.pp
   Compiling targeted backup_IDA module
   /usr/bin/checkmodule: loading policy configuration from tmp/backup_IDA.tmp
   /usr/bin/checkmodule: policy configuration loaded
   /usr/bin/checkmodule: writing binary representation (version 6) to tmp/backup_IDA.mod
   Creating targeted backup_IDA.pp policy package
   rm tmp/backup_IDA.mod tmp/backup_IDA.mod.fc
   [root]# semodule -i backup_IDA.pp
   [root]#
   ```

3. Execute the policy module. Use the following command:

   ```
   [root]# restorecon -R /opt/<software installation directory>
   ```

SELinux is now configured to work with this application.

DISCLAIMER

Minor revisions and/or service packs that are released by application and operating system vendors are supported by our software but may not be individually listed in our System Requirements. We will provide information on any known caveat for the revisions and/or service packs. In some cases, these revisions and/or service packs affect the working of our software. Changes to the behavior of our software resulting from an application or operating system revision/service pack may be beyond our control. The older releases of our software may not support the platforms supported in the current release. However, we will make every effort to correct the behavior in the current or future releases when necessary. Please contact your Software Provider for any problem with a specific application or operating system.

Additional considerations regarding minimum requirements and End of Life policies from application and operating system vendors are also applicable

Install the ProxyHost *i*DataAgent - Windows

TABLE OF CONTENTS

INSTALL REQUIREMENTS

The following procedure describes the steps involved in installing the ProxyHost *i*DataAgents software on both cluster and non-cluster environment.

The ProxyHost *i*DataAgent is installed on the computer from which the *i*DataAgent secures data. (This computer is referred to as the *Client* computer in this install procedure.)

Verify that the computer in which you wish to install the software satisfies the minimum system requirements; refer to System Requirements - ProxyHost *i*DataAgent and System Requirements - Microsoft Windows File System *i*DataAgent.

Review the following Install Requirements before installing the software:

GENERAL

- Review Install Considerations before installing the software.
- Agents should be installed only after the CommServe and at least one MediaAgent have been installed in the CommCell. Also, keep in mind that the CommServe® software and MediaAgent must be installed and running (but not necessarily on the same computer), before you can install the Agent.
- Close all applications and disable any programs that run automatically, including anti-virus, screen savers and operating system utilities. Some of the programs, including many anti-virus programs, may be running as a service. Stop and disable such services before you begin. You can re-enable them after the installation.
- Ensure there is an available license on the CommServe software for the Agent.
- Verify that you have the Software Installation Disc that is appropriate to the destination computer's operating system.

CLUSTER SPECIFIC

- Check the following on the cluster computer in which you wish to install the software:
  - Cluster software is installed and running.
  - Active and passive nodes are available.
  - Disk array devices configured with access to the shared array.
  - Public Network Interface Card is bound first, before the private Network Interface Card. (Does not apply to NetWare Cluster.)

BEFORE YOU BEGIN

- Log on to the client as local Administrator or as a member of the Administrators group on that computer.
- On a clustered computer, ensure that you are logged on to the **active node** as the Domain User with administrative privileges to all nodes on the cluster.

INSTALL PROCEDURE

GETTING STARTED

1. Place the Software Installation Disc for the Windows platform into the disc drive.

   After a few seconds, the installation program is launched.

   If the installation program does not launch automatically:

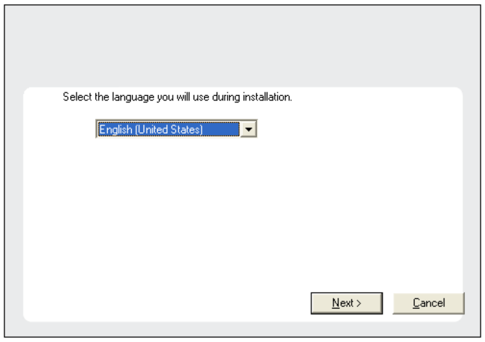
   - Click the **Start** button on the Windows task bar, and then click **Run**.

- Browse to the installation disc drive, select **Setup.exe**, click **Open**, then click **OK**.

NOTES

- If you are installing on Windows Server Core editions, mount to Software Installation Disc through command line, go to the **AMD64** folder and run **Setup.exe**.

2. Choose the language you want to use during installation. Click the down arrow and select the desired language from the drop-down list, and click **Next** to continue.



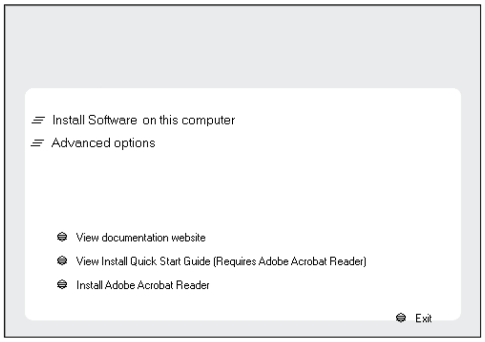
Select the language you will use during installation.

English (United States)

3. Select the option to install software on this computer.

NOTES

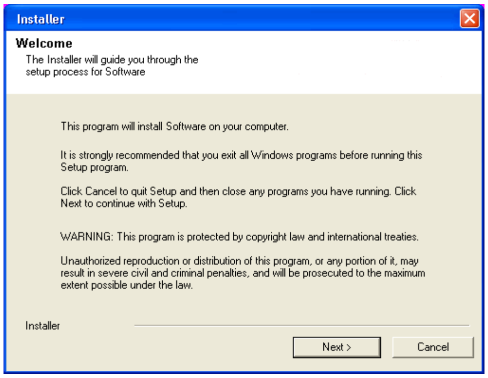
- The options that appear on this screen depend on the computer in which the software is being installed.



Install Software on this computer
Advanced options
View documentation website
View Install Quick Start Guide (Requires Adobe Acrobat Reader)
Install Adobe Acrobat Reader
Exit

4. Read the Welcome screen.

Click **Next** to continue, if no other applications are running.



Installer

Welcome

The Installer will guide you through the setup process for Software

This program will install Software on your computer.

It is strongly recommended that you exit all Windows programs before running this Setup program.

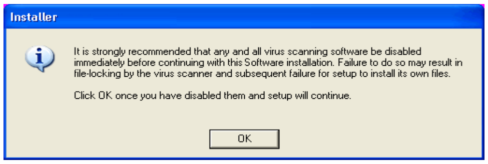
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with Setup.

WARNING: This program is protected by copyright law and international treaties.

Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.

5. Read the virus scanning software warning.

Click **OK** to continue, if virus scanning software is disabled.



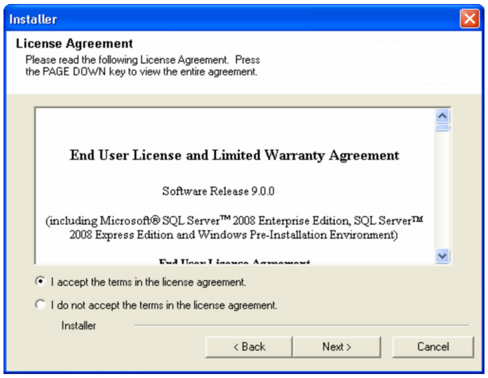
Installer

It is strongly recommended that any and all virus scanning software be disabled immediately before continuing with this Software installation. Failure to do so may result in file-locking by the virus scanner and subsequent failure for setup to install its own files.

Click OK once you have disabled them and setup will continue.

6. Read the license agreement, then select **I accept the terms in the license agreement**.

Click **Next** to continue.



Installer

License Agreement

Please read the following License Agreement. Press the PAGE DOWN key to view the entire agreement.

End User License and Limited Warranty Agreement

Software Release 9.0.0

(including Microsoft® SQL Server™ 2008 Enterprise Edition, SQL Server™ 2008 Express Edition and Windows Pre-Installation Environment)

● I accept the terms in the license agreement.

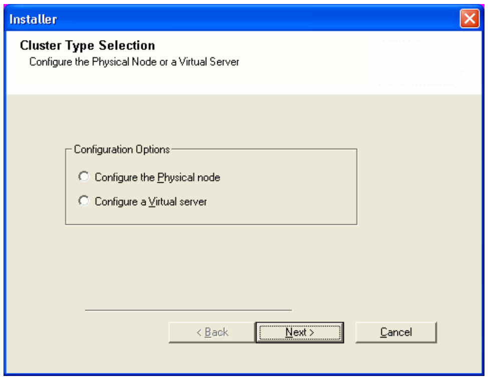
○ I do not accept the terms in the license agreement.

CLUSTER SELECTION

If you are installing in clustered environment, follow the steps below. For non-clustered environment, skip to Select Components for Installation.

7. Select **Configure a Virtual Server**.

Click **Next** to continue.



Installer

Cluster Type Selection

Configure the Physical Node or a Virtual Server

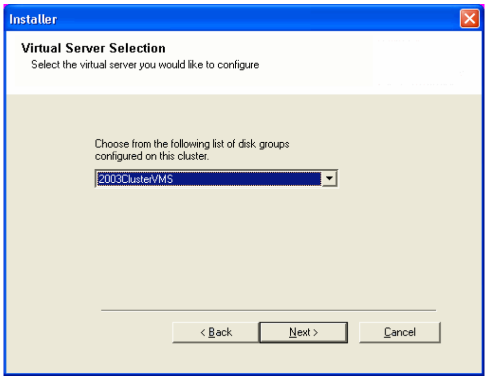
Configuration Options

○ Configure the Physical node

○ Configure a Virtual server

8. Select the disk group in which the cluster group resides.

Click **Next** to continue.



Installer

Virtual Server Selection

Select the virtual server you would like to configure

Choose from the following list of disk groups configured on this cluster.

2003ClusterVMS

SELECT COMPONENTS FOR INSTALLATION

9. Select the component(s) to install.

NOTES

- Your screen may look different from the example shown.
- Components that either have already been installed, or which cannot be installed, will be dimmed. Hover over the component for additional details.
- If you wish to install the agent software for restore only, select **Install Agents for Restore Only** checkbox. See Installing Restore Only Agents for more information.
- The **Special Registry Keys In Use** field will be highlighted when `GalaxyInstallerFlags` registry key is enabled. Move the mouse pointer over this field to see a list of registry keys that have been created in this computer.

Click **Next** to continue.

To install the ProxyHost *i*DataAgent, expand the following `Client Modules` folder, `Backup & Recovery` folder and `File System` folder. Then select the following:

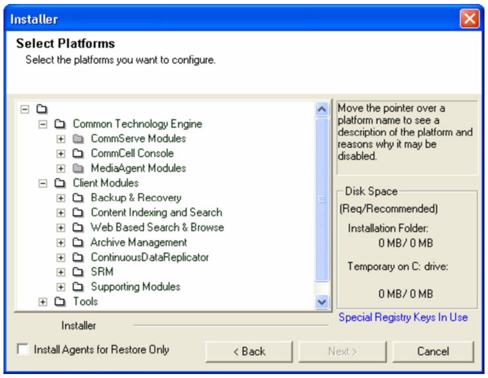
- `ProxyHost` *`i`*`DataAgent`

When you select the ProxyHost *i*DataAgent for install, the appropriate Windows File System *i*DataAgent is automatically selected for install.

To use the following component with the ProxyHost *i*DataAgent and Quick Recovery Agent, select it for installation:

- `VSS Enabler for Quick Recovery`

When you select the VSS Enabler for install, the Quick Recovery Agent is automatically selected for install as well.



Installer

Select Platforms

Select the platforms you want to configure.

Move the pointer over a platform name to see a description of the platform and reasons why it may be disabled.

Disk Space (Req/Recommended)

Installation Folder: 0 MB/ 0 MB

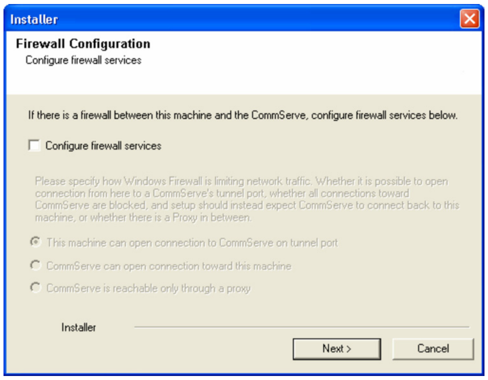
Temporary on C: drive: 0 MB/ 0 MB

CONFIGURATION OF OTHER INSTALLATION OPTIONS

10. If this computer and the CommServe is separated by a firewall, select the **Configure firewall services** option and then click **Next** to continue.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If firewall configuration is not required, click **Next** to continue.



Firewall Configuration
Configure firewall services

If there is a firewall between this machine and the CommServe, configure firewall services below.

□ Configure firewall services

Please specify how Windows Firewall is limiting network traffic. Whether it is possible to open connection from here to a CommServe's tunnel port, whether all connections toward CommServe are blocked, and setup should instead expect CommServe to connect back to this machine, or whether there is a Proxy in between.

● This machine can open connection to CommServe on tunnel port

○ CommServe can open connection toward this machine

○ CommServe is reachable only through a proxy

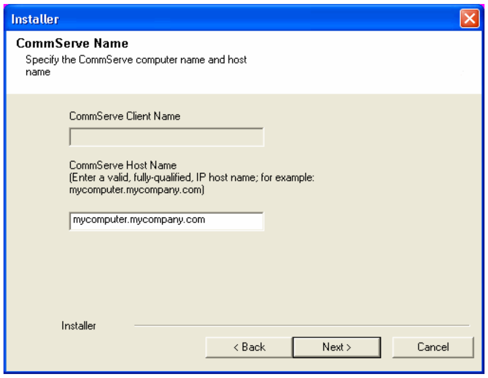
11. Enter the fully qualified domain name of the CommServe Host Name. This should be TCP/IP network name. e.g., computer.company.com.

NOTES

- The CommServe client name is the name of the computer. This field is automatically populated.
- Do not use space and the following characters when specifying a new name for the CommServe Host Name:

  \|`~!@#$%^&*()+=<>/?,[]{}:;'"
- If a computer has already been installed, this screen will not be displayed; instead the installer will use the same Server Name as previously specified.
- If you do not specify the CommServe Host Name, a window will be prompted to continue in decouple mode. Click **Yes** to continue to Decoupled Install. Click **No** to specify a CommServe Name and continue with the installation.

Click **Next** to continue.



CommServe Name
Specify the CommServe computer name and host name

CommServe Client Name

CommServe Host Name
(Enter a valid, fully-qualified, IP host name; for example: mycomputer.mycompany.com)

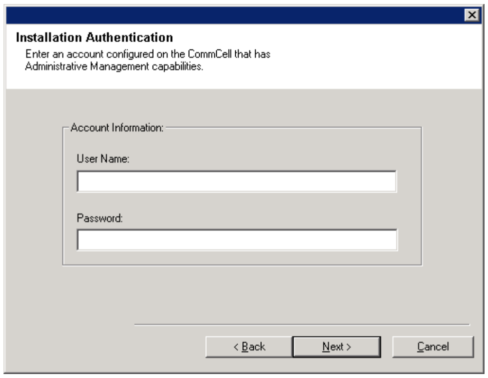
mycomputer.mycompany.com

12. Enter the **username** and **password** associated with an external domain user account or a CommCell user account to authorize the installation of this agent.

NOTES

- This window will be displayed when the **Require Authentication for Agent Installation** option is selected in the **CommCell Properties**. For more information, see Authentication for Agent Installs.

Click **Next** to continue.



Installation Authentication
Enter an account configured on the CommCell that has Administrative Management capabilities.

Account Information:

User Name:

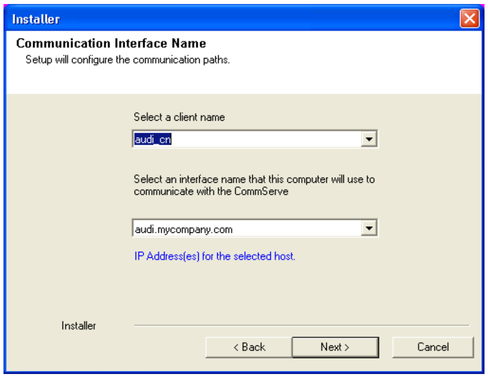
Password:

13. Enter the following:
- The local (NetBIOS) name of the client computer.
- The TCP/IP IP host name of the NIC that the client computer must use to communicate with the CommServe Server.

NOTES

- Do not use spaces when specifying a new name for the Client.
- The default network interface name of the client computer is displayed if the computer has only one network interface. If the computer has multiple network interfaces, enter the interface name that is preferred for communication with the CommServe Server.
- If a component has already been installed, this screen will not be displayed; instead, the install program will use the same name as previously specified.

Click **Next** to continue.



Communication Interface Name
Setup will configure the communication paths.

Select a client name
audi_cn

Select an interface name that this computer will use to communicate with the CommServe

audi.mycompany.com

IP Address(es) for the selected host.

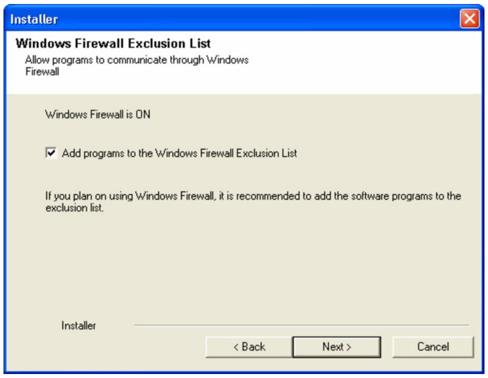
14. Select **Add programs to the Windows Firewall Exclusion List**, if you wish to add CommCell programs and services to the Windows Firewall Exclusion List.

NOTES:

- If Windows Firewall is enabled on the computer, this option is selected by default and must be enabled to proceed with the installation.
- If Windows Firewall is disabled on the computer, you can select this option to add the programs and services to enabled CommCell operations across the firewall, if the firewall is enabled at a later time.

You can either select this option during install or add the programs and services after installation. For adding the programs and services after installation, see Configure Windows Firewall to Allow CommCell Communication.

Click **Next** to continue.



Installer

Windows Firewall Exclusion List

Allow programs to communicate through Windows Firewall

Windows Firewall is ON

☑ Add programs to the Windows Firewall Exclusion List

If you plan on using Windows Firewall, it is recommended to add the software programs to the exclusion list.

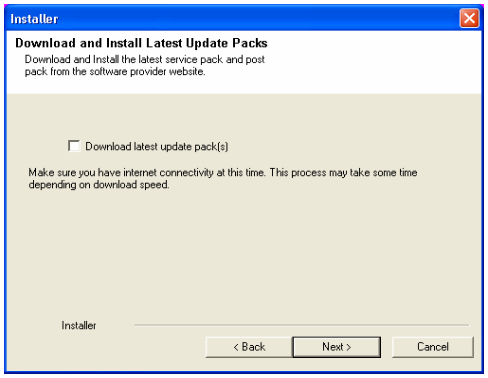
DOWNLOAD AND INSTALL LATEST PACKS

15. Select **Download latest update pack(s)** to automatically download and install the latest service packs and/or post packs if applicable at the end of this agent install.

NOTES

- Internet connectivity is required to download updates.
- Updates are downloaded to the following directory: `<software installation>/Base/Temp/DownloadedPacks`. They are launched silently and installed automatically for the first instance.

Click **Next** to continue.



Installer

Download and Install Latest Update Packs

Download and Install the latest service pack and post pack from the software provider website.

☐ Download latest update pack(s)

Make sure you have internet connectivity at this time. This process may take some time depending on download speed.

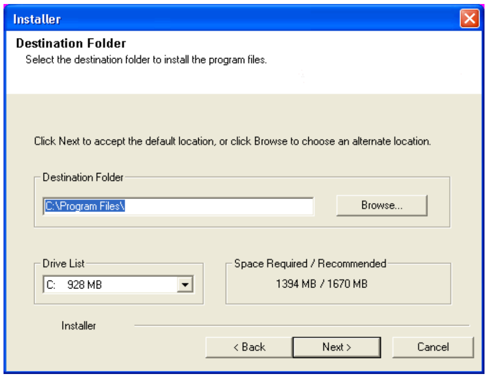
16. Specify the location where you want to install the software.

NOTES

- Do not install the software to a mapped network drive.
- Do not use the following characters when specifying the destination path: / : * ? " < > | # It is recommended that you use alphanumeric characters only.
- If you intend to install other components on this computer, the selected installation directory will be automatically used for that software as well.
- If a component is already installed in this computer, this screen may not be displayed. The software will be automatically installed in the same location that was previously specified.

Click **Browse** to change directories.

Click **Next** to continue.



Installer

Destination Folder

Select the destination folder to install the program files.

Click Next to accept the default location, or click Browse to choose an alternate location.

Destination Folder: C:\Program Files\

Drive List: C: 928 MB

Space Required / Recommended: 1394 MB / 1670 MB

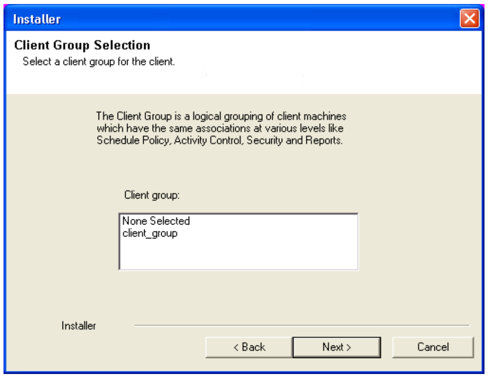
CLIENT GROUP SELECTION

17. Select a Client Group from the list.

Click **Next** to continue.

NOTES

- This screen will be displayed if Client Groups are configured in the CommCell Console. For more information, see Client Computer Groups.



Installer

Client Group Selection

Select a client group for the client.

The Client Group is a logical grouping of client machines which have the same associations at various levels like Schedule Policy, Activity Control, Security and Reports.

Client group:

None Selected
client_group

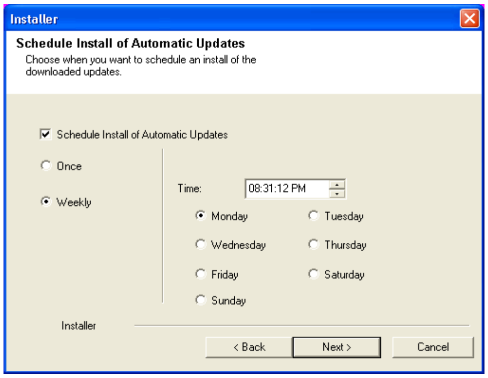
SCHEDULE AUTOMATIC UPDATE

18. If necessary, select this option to schedule an automatic installation of software updates.

NOTES

- Schedule Install of Automatic Updates allows automatic installation of the necessary software updates on the computer on a single or weekly basis. If you do not select this option, you can schedule these updates later from the CommCell Console.
- To avoid conflict, do not schedule the automatic installation of software updates to occur at the same time as the automatic FTP downloading of software updates.
- If a component has already been installed, this screen will not be displayed; instead, the installer will use the same option as previously specified.

Click **Next** to continue.



Installer

Schedule Install of Automatic Updates

Choose when you want to schedule an install of the downloaded updates.

☑ Schedule Install of Automatic Updates

○ Once

● Weekly

Time: 08:31:12 PM

● Monday ○ Tuesday

○ Wednesday ○ Thursday

○ Friday ○ Saturday

○ Sunday

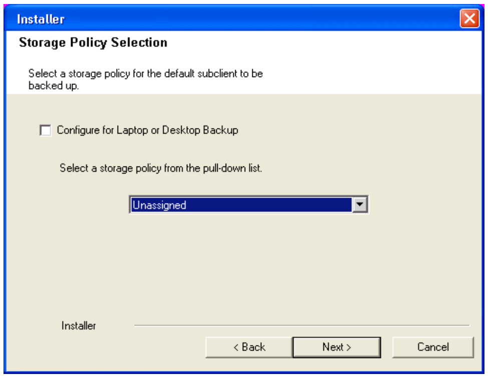
STORAGE POLICY SELECTION

19. Select the storage policy through which you want to back up/archive the agent.

NOTES

- A storage policy directs backup data to a media library.
- If desired, you can change your storage policy selection at any time after you have installed the client software.
- This screen may appear more than once, if you have selected multiple agents for installation. You will be prompted to configure the storage policy association for each of the selected agents.

Click **Next** to continue.



Installer

Storage Policy Selection

Select a storage policy for the default subclient to be backed up.

□ Configure for Laptop or Desktop Backup

Select a storage policy from the pull-down list.

Unassigned

VERIFY SUMMARY OF INSTALL OPTIONS

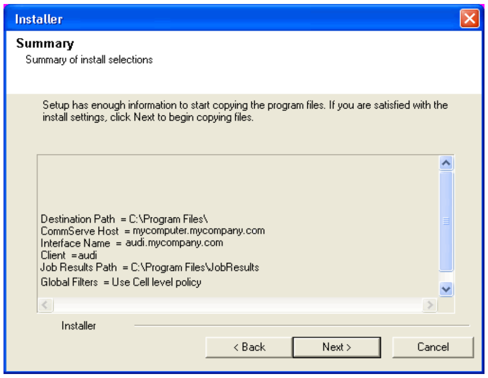
20. Verify the summary of selected options.

NOTES

- The **Summary** on your screen should reflect the components you selected for install, and may look different from the example shown.

Click **Next** to continue or **Back** to change any of the options.

The install program now starts copying the software to the computer. This step may take several minutes to complete.



Installer

Summary

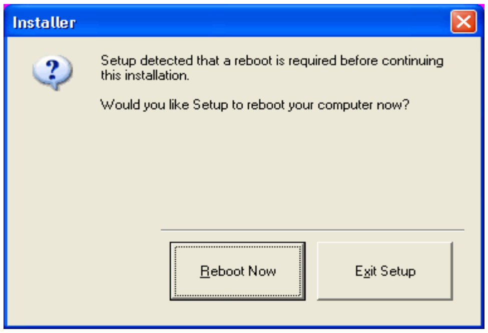
Summary of install selections

Setup has enough information to start copying the program files. If you are satisfied with the install settings, click Next to begin copying files.

```
Destination Path  = C:\Program Files\
CommServe Host  = mycomputer.mycompany.com
Interface Name  = audi.mycompany.com
Client  =audi
Job Results Path  = C:\Program Files\JobResults
Global Filters  = Use Cell level policy
```

21. The System Reboot message may be displayed. If so, select one of the following:

- **Reboot Now**
  If this option is displayed without the **Skip Reboot** option, the install program has found files required by the software that are in use and need to be replaced. If **Reboot Now** is displayed without the **Skip Reboot** option, reboot the computer at this point. The install program will automatically continue after the reboot.
- **Exit Setup**
  If you want to exit the install program, click **Exit Setup**.



Installer

Setup detected that a reboot is required before continuing this installation.

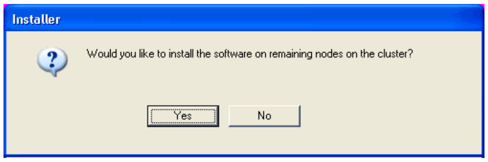
Would you like Setup to reboot your computer now?

INSTALL REMAINING CLUSTER NODES

If you are installing in clustered environment, follow the steps below to install on remaining nodes of the cluster. For non-clustered environment, skip to Setup Complete.

22. To install/upgrade the software on the remaining nodes of the cluster, click **Yes**.

To complete the install for this node only, click **No**.



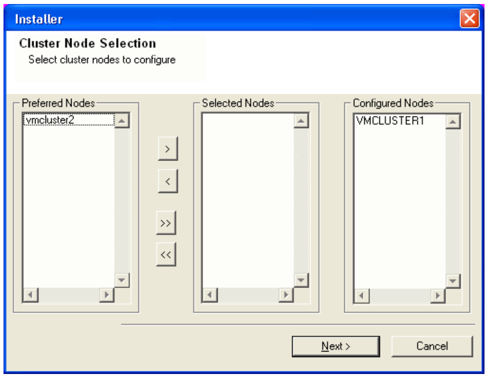
Would you like to install the software on remaining nodes on the cluster?

23. Select cluster nodes from the **Preferred Nodes** list and click the arrow button to move them to the **Selected Nodes** list.

NOTES

- The list of **Preferred Nodes** displays all the nodes found in the cluster; from this list you should only select cluster nodes configured to host this cluster group server.
- Do not select nodes that already have multiple instances installed. For more information, see Multi Instancing.

When you have completed your selections, click **Next** to continue.



Cluster Node Selection

Select cluster nodes to configure

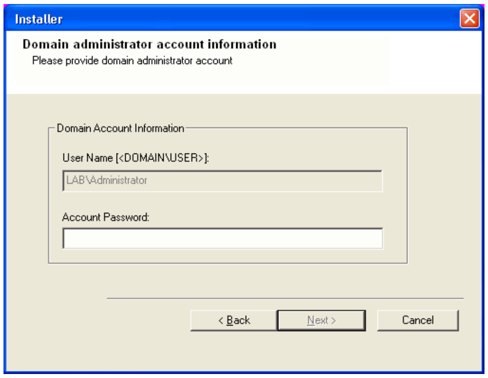
Preferred Nodes: vmcluster2

Selected Nodes

Configured Nodes: VMCLUSTER1

24. Type the **User Name** and **Password** for the Domain Administrator account, so that the installer can perform the remote install/upgrade of the cluster nodes you selected in the previous step.

Click **Next** to continue.



Domain administrator account information

Please provide domain administrator account

Domain Account Information

User Name [<DOMAIN\USER>]: LAB\Administrator

Account Password:

25. The progress of the remote install for the cluster nodes is displayed; the install can be interrupted if necessary.

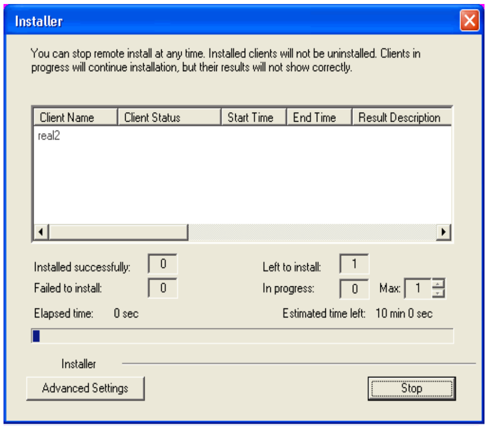
Click **Stop** to prevent installation to any nodes after the current ones complete.

Click **Advanced Settings** to specify any of the following:

- Maximum number of nodes on which Setup can run simultaneously.
- Time allocated for Setup to begin executing on each node, after which the install attempt will fail.
- Time allocated for Setup to complete on each node, after which the install attempt will fail.

NOTES

- If, during the remote install of a cluster node, setup fails to complete or is interrupted, you must perform a local install on that node. When you do, the install begins from where it left off, or from the beginning if necessary. For procedures, see Manually Installing the Software on a Passive Node.



You can stop remote install at any time. Installed clients will not be uninstalled. Clients in progress will continue installation, but their results will not show correctly.

Client Name	Client Status	Start Time	End Time	Result Description
real2				

Installed successfully: 0

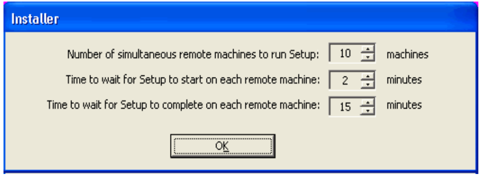
Failed to install: 0

Elapsed time: 0 sec

Left to install: 1

In progress: 0 Max: 1

Estimated time left: 10 min 0 sec



Number of simultaneous remote machines to run Setup: 10 machines

Time to wait for Setup to start on each remote machine: 2 minutes

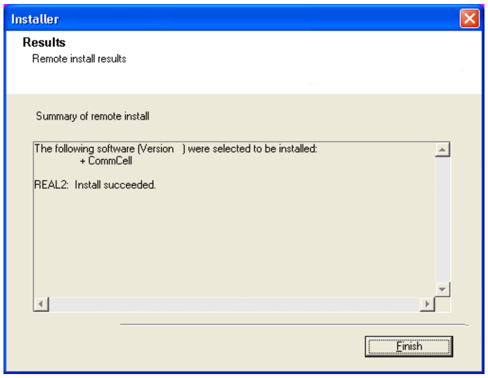
Time to wait for Setup to complete on each remote machine: 15 minutes

26. Read the summary for remote installation to verify that all selected nodes were installed successfully.

NOTES

- If any node installation fails, you must manually install the software on that node once the current installation is complete. (See Manually Installing the Software on a Passive Node for step-by-step instructions.)
- The message displayed on your screen will reflect the status of the selected nodes, and may look different from the example.

Click **Next** to continue.



Results

Remote install results

Summary of remote install

The following software (Version) were selected to be installed:
+ CommCell

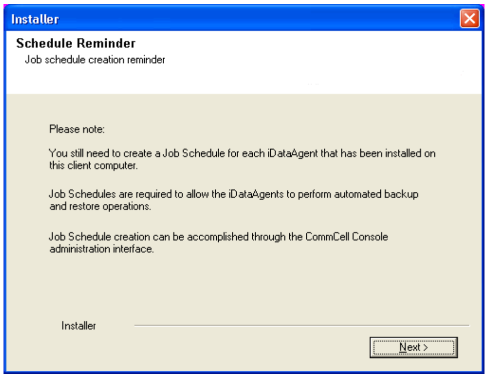
REAL2: Install succeeded.

SETUP COMPLETE

27. Click **Next** to continue.

NOTES

- Schedules help ensure that the data protection operations for the Agent are automatically performed on a regular basis without user intervention. For more information, see Scheduling.



Schedule Reminder

Job schedule creation reminder

Please note:

You still need to create a Job Schedule for each iDataAgent that has been installed on this client computer.

Job Schedules are required to allow the iDataAgents to perform automated backup and restore operations.

Job Schedule creation can be accomplished through the CommCell Console administration interface.

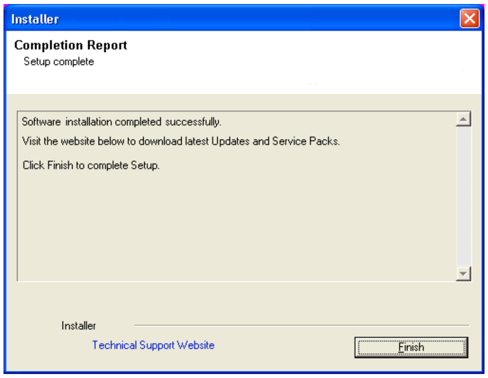
28. Setup displays the successfully installed components.

NOTES

- The **Setup Complete** message displayed on your screen will reflect the components you installed, and may look different from the example shown.
- If you install an Agent with the CommCell Console open, you need to refresh the CommCell Console (F5) to see the new Agents.
- If **Reboot Now** button is displayed make sure to reboot the computer before performing any other operations from the computer.

Click **Finish** to close the install program.

The installation is now complete.



Completion Report

Setup complete

Software installation completed successfully.

Visit the website below to download latest Updates and Service Packs.

Click Finish to complete Setup.

POST-INSTALL CONSIDERATIONS

GENERAL

- Review Install Considerations after installing the software.
- Install post-release updates or Service Packs that may have been released after the release of the software. When you are installing a Service Pack, ensure that it is the same version as the one installed in the CommServe Server. Alternatively, you can enable Automatic Updates for quick and easy installation of updates in the CommCell component.

Install the ProxyHost *i*DataAgent - Unix

TABLE OF CONTENTS

INSTALL REQUIREMENTS

The following procedure describes the steps involved in installing the Unix File System and ProxyHost *i*DataAgents. The ProxyHost *i*DataAgent is installed on the computer from which the *i*DataAgent secures data. (This computer is referred to as the *Client* computer in this install procedure.)

Verify that the computer in which you wish to install the software satisfies the minimum requirements specified in the following:

- System Requirements - ProxyHost *i*DataAgent
- System Requirements - AIX File System *i*DataAgent
- System Requirements - HP-UX File System *i*DataAgent
- System Requirements - Linux File System *i*DataAgent
- System Requirements - Solaris File System *i*DataAgent

Review the following Install Requirements before installing the software:

GENERAL

- Review Install Considerations before installing the software.
- Agents should be installed only after the CommServe and at least one MediaAgent have been installed in the CommCell. Also, keep in mind that the CommServe and MediaAgent must be installed and running (but not necessarily on the same computer), before you can install the Agent.
- Ensure there is an available license on the CommServe for the Agent.
- Verify that you have the Software Installation Disc that is appropriate to the destination computer's operating system.

AGENT SPECIFIC

- For a hardware Snapshots system verify the Snapshot environment has been configured and tested.

MULTI INSTANCING

- By utilizing the Multi Instancing feature, the same Agent and MediaAgent software can be installed on a computer multiple times, but not all components support Multi Instancing. This limitation can apply to the component you are installing, or to one already installed on the computer. Prior to installing multiple instances of a software component on the same computer, carefully review the information contained in Multi Instancing, and follow the instructions in the How to Use Multi Instancing section for the additional screens that will appear during the installation process.

BEFORE YOU BEGIN

- Log on to the client as `root`.
- The install package requires `super-user` permissions to execute.

INSTALL PROCEDURE

GETTING STARTED

1. Place the software installation disc for the Unix platform into the disc drive.

   You can also install the product using a disc drive mounted on another computer on the network.

   - On Solaris, double-click the **cvpkgadd** program from the File Manager window.
   - On other Unix platforms, open the Terminal window, navigate to the software installation disc and then enter **./cvpkgadd**.

2. The product banner and other information is displayed.

   Press **Enter** to continue.

3. Read the license agreement. Type **y** and press **Enter** to continue.

4. Enter the number corresponding to the setup task you want to perform.

   NOTES

   - For Install data protection agents on this computer option, follow the steps described in this procedure.
   - Advance options provide additional setup features such as record and play setup, creating a custom package and External Data Connector Agent software.

     To create a custom package and for record and play setup, follow the steps described in Custom Package - Unix.

     To install the External Data Connector Agent, follow the steps described in External Data Connector - Unix.

```
Please select a setup task you want to perform from the
list below:

Advance options provide extra setup features such as
creating custom package, recording/replaying user
selections and installing External Data Connector
software.

1) Install data protection agents on this computer

2) Advance options

3) Exit this menu

Your choice: [1]
```

5. If your computer is 32-bit, press **Enter**.

   If your computer is 64-bit, see Install Unix Agents on 64-bit Platform for step-by-step procedure.

```
This machine supports both 32 bit and 64 bit binaries. By
default, we will install 32 bit binary set that has full
support for all the modules included in this package.
Please note that 64 bit binary set currently only support
limited modules.

1) All platforms (32 bit)

2) FS and MA only (64 bit)

Your choice: [1]
```

6. This prompt is displayed only when you are installing on AIX, HP-UX, Linux, or Solaris computers.

   Press **Enter** to continue

   NOTES

   - When you install on non-clustered computer, you must select the number associated with the option **Install on a physical machine**.

```
Certain Calypso packages can be associated with a virtual
IP, or in other words, installed on a "virtual machine"
belonging to some cluster. At any given time the virtual
machine's services and IP address are active on only one
of the cluster's servers. The virtual machine can "fail-
over" from one server to another, which includes stopping
services and deactivating IP address on the first server
and activating the IP address/services on the other
server.

You now have a choice of performing a regular Calypso
install on the physical host or installing Calypso on a
virtual machine for operation within a cluster.

Most users should select "Install on a physical machine"
here.

1) Install on a physical machine

2) Install on a virtual machine

3) Exit

Your choice: [1]
```

7. If you have only one network interface, press **Enter** to accept the default network interface name and continue.

   If you have multiple network interfaces, enter the number corresponding to the network interface that you wish to use as default, and then press **Enter** to continue.

   NOTES

   - The interface name and IP addresses depend on the computer in which the software is installed and may be different from the example shown.

```
We found one network interface available on your machine.
We will associate it with the physical machine being
installed, and it will also be used by the CommServe to
connect to the physical machine. Note that you will be
able to additionally customize Datapipe Interface Pairs
used for the backup data traffic later in the Calypso Java
GUI.

Please check the interface name below, and make
connections if necessary:

Physical Machine Host Name: [angel.company.com]
```

8. Specify the client name for the computer.

   Press **Enter** to accept the default name and continue, or
   Enter a new client name for the computer and then press **Enter** to continue.

```
Please specify the client name for this machine.

It does not have to be the network host name: you can
enter any word here without spaces. The only requirement
is that it must be unique on the CommServe.

Physical Machine Client name: [angel]
```

SELECT COMPONENTS FOR INSTALLATION

9. Enter the number corresponding to the **CVGxProxyIDA** module.

   A confirmation screen will mark your choice with an "X". Type "d" for **Done**, and press **Enter** to continue.

   NOTES

   - To select multiple component, enter the number by adding a space.
   - Your screen may look different from the example shown.
   - Components that either have already been installed, or which cannot be installed, will not be shown.
   - In addition, the list of modules that appear depends on the specific Unix File System in which the package is installed. (e.g., **CVGxWA** will appear only when the installation package is run on a Solaris computer.)

```
Install Calypso on physical machine client.company.com

Select the Calypso module that you would like to install

[ ] 1) Media Agent        [1301] [CVGxMA]
[ ] 2) FileSystem IDA     [1101] [CVGxIDA]
    >) >>>>> NEXT PAGE  >>>>>>

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,?" here: 2
```

BASE SOFTWARE INSTALLATION

10. If you wish to install the agent software for restore only, enter **Yes** and press **Enter** to continue. See Installing Restore Only Agents for more information.

    Otherwise, accept **no**, press **Enter** to continue.

```
Do you want to use the agents for restore only without
consuming licenses? [no]
```

11. Type the appropriate number to install the latest software scripts and press **Enter** to continue.

    NOTES

    - Select **Download from the software provider website** to download the latest software scripts from your software provider website.

      Make sure you have internet connectivity when you are using this option.
    - Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is performed.
    - Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

```
Installation Scripts Pack provides extra functions and
latest support and fix performed during setup time. Please
specify how you want to get this pack.

If you choose to download it from the website now, please
make sure you have internet connectivity at this time.
This process may take some time depending on the internet
connectivity.

1) Download from the software provider website.

2) Use the one in the installation media

3) Use the copy I already have by entering its unix path

Your choice: [1] 2
```

12. Enter **Yes** to download and install the latest service packs and post packs from the software provider.

    NOTES

    - Internet connectivity is required to download updates.
    - This step is applicable for multi instancing.

    Press **Enter** to continue.

```
Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest
support and fix for the packages you are going to install.
You can download the latest service pack from software
provider website.

If you decide to download it from the website now, please
make sure you have internet connectivity at this time.
This process may take some time depending on the internet
connectivity.

Do you want to download the latest service pack now? [no]

Press <ENTER> to continue ...
```

13. Specify the location where you want to install the software.

    NOTES

    - The amount of free space required depends on the components selected for install, and may look different from the example shown.

    Press **Enter** to accept the default path and continue, or
    Enter a path and then press **Enter** to continue.

    Press **Enter** again to confirm the path.

```
Please specify where you want us to install Calypso
binaries.

It must be a local directory and there should be at least
98MB of free space available. All files will be installed
in a "calypso" subdirectory, so if you enter "/opt", the
files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

..

Calypso will be installed in /opt/calypso.
Press ENTER to continue ...
```

14. Specify the location for the log files.

    NOTES

    - All the modules installed on the computer will store the log files in this directory.
    - The amount of free space required depends on the components selected for install, and may look different from the example shown.

    Press **Enter** to accept the default path and continue, or
    Enter a path and then press **Enter** to continue.

    Press **Enter** again to confirm the path.

```
Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least
100MB of free space available. All log files will be
created in a "calypso/Log_Files" subdirectory, so if you
enter "/var/log", the logs will actually be placed into
"/var/log/calypso/Log_Files".

Log Directory: [/var/log]

..

Calypso log files will be created
in /var/log/calypso/Log_Files.
Press ENTER to continue ...
```

15. Indicate whether you would like to launch processes with inherent database access rights.

    Press **Enter** to assign a new group, or
    Type **No** and then press **Enter** to continue.

```
Most of Calypso processes run with root privileges, but
some are launched by databases and inherit database access
rights. To make sure that registry and log files can be
written to by both kinds of processes we can either make
such files world-writeable or we can grant write access
only to processes belonging to a particular group, e.g. a
"calypso" or a "dba" group.

We highly recommend now that you create a new user group
and enter its name in the next setup screen. If you choose
not to assign a dedicated group to Calypso processes, all
temporary and configuration files will be created with -
rw-rw-rw permissions.

If you're planning to backup Oracle DB you should use
"dba" group.

Would you like to assign a specific group to Calypso?
[yes]
```

16. If you indicated **Yes** in the previous step, you will be prompted for the group name that must be used to launch processes.

    Enter the group name and then press **Enter** to continue.

    Press **Enter** again to continue.

    For installs on a Solaris computer, proceed to the next step. Otherwise, skip to Storage Policy Selection.

```
Please enter the name of the group which will be assigned
to all Calypso files and on behalf of which all Calypso
processes will run.

In most of the cases it's a good idea to create a
dedicated "calypso" group. However, if you're planning to
use Oracle iDataAgent or SAP Agent, you should enter
Oracle's "dba" group here.
```

```
Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2,
PostgreSQL, Sybase or Lotus Notes iDataAgent, please make
sure to include Informix, DB2, etc. users into group
"dba".
Press <ENTER> to continue ...
```

17. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.

Type a network TCP port number for the Client Event Manager Service (EvMgrC) and press **Enter**.

NOTES

- For more information about Network TCP Ports, see Network TCP Port Requirements.
- For more information about these services, see Services.
- If the port number you entered already exists, a message will be displayed `Port #### is already reserved in /etc/services`. To work around this issue, enter different port number.

```
Every instance of Calypso should use a unique set of
network ports to avoid interfering with other instances
running on the same machine.
The port numbers selected must be from the reserved port
number range and have not been registered by another
application on this machine.

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EvMgrC: [8602]
```

18. If this computer and the CommServe is separated by a firewall, type **Yes** and then press **Enter** to continue.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If you do not wish to configure the firewall services, type **No** and then press **Enter** to continue.

```
Is there a firewall between this client and the CommServe?
[no]
```

19. Type the name of the CommServe computer and press **Enter** to continue.

NOTES

- Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.
- If you enter a short name which resolves to the same IP address as the fully qualified CommServe name, you will be asked if you would prefer to use the fully qualified name.

```
Please specify hostname of the CommServe below. Make sure
the hostname is fully qualified, resolvable by the name
services configured on this machine.

CommServe Host Name:
```

20. Enter the **username** and **password** information for an external domain user account or a CommCell user account. This authorizes the installation of an agent on the CommCell.

NOTES

- This is only displayed when the **Authentication for Agent** feature is enabled in the CommCell Properties. Users must belong to a User Group with Agent Management capabilities to enable this feature. For more information, see Authentication for Agent Installs.

Click **Enter** to continue.

```
Enter your CommCell user name and password:

User Name :

Password :

Press <ENTER> to continue ...
```

KERNEL PARAMETERS

21. Enter the appropriate number of streams, and then press **Enter** to continue, or Press **Enter** to accept the default number of streams and continue.

NOTES

- The number of streams specified ensures that concurrent backup/restore streams would have sufficient system resources. For more information on the subject, see Configuring Kernel Parameters for Macintosh and Configuring Kernel Parameters for Solaris.

This prompt is relevant only when you install/upgrade on a Macintosh or Solaris computer as appropriate.

```
Please enter the total number of streams that you plan to
run at the same time. We need to make sure that you have
enough semaphores and shared memory segments configured
in /etc/system.

Number of streams: [10]
```

22. Indicate whether you would like modifications to be made to the `/etc/system` configuration file.

Type **Yes**, and then press **Enter** to automatically update the file and continue, or Press **Enter** to accept the default **No** and continue (if you do not want to automatically update the file).

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) or Macintosh computer.

```
We now need to modify the /etc/system configuration file
on this computer. It is done to make sure that there will
be enough shared memory and semaphores available for
Calypso programs.

Please review the changes below and answer "yes" if you
want us to apply them to the /etc/system file. Otherwise,
the installation will proceed, the changes will be saved
to some other file, and you will have to apply them
manually.

set shmsys:shminfo_shmmni=8570 (was 7930)
set shmsys:shminfo_shmseg=8420 (was 7780)
set semsys:seminfo_semmns=10320 (was 9680)
set semsys:seminfo_semmni=8570 (was 7930)
set semsys:seminfo_semmsl=8570(was 7930)

Do you want us to apply these changes now? [no]
```

23. If you indicated **No** in the previous step, the file to which the changes have been saved is displayed.
Make sure that these values are established later to ensure that all the requirements for this setup is satisfied.

NOTES

- The settings that are displayed are the maximum or minimum required settings. Value ’640’, which is provided for various shared memory segment or semaphore requirements, is a maximum value based on 10 streams.

Press **Enter** to continue.

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) computer, in cases where the install detects that the computer does not have the maximum or minimum required shared memory settings.

```
Changes saved into /etc/system.gal.1744

Press <ENTER> to continue.

Although a ’no’ answer can be selected to this question
during install, the user should make sure the min
requirements (below) for shared memory are met, otherwise
the backups may fail (the message in logs is ’could not
start the pipeline’).

set shmsys:shminfo_shmmax=4199304
set shmsys:shminfo_shmmin=1
set semsys:shminfo_shmmni=640
set semsys:shminfo_shmseg=640
set semsys:seminfo_semmns=640
set semsys:seminfo_semmni=640
set semsys:seminfo_semmsl=640
set maxusers=256
```

ENABLE GLOBAL FILTERS

24. Type the appropriate number for configuring Global Filters for the default subclient and press Enter to continue.

NOTES

- Select **Use Cell level Policy** to inherit the global filter policy configuration set for the CommCell, i.e., if the **Use Global Filters on All Subclients** option is selected in the **Global Filters** dialog box (from the CommCell Console’s Control Panel), then this policy will be applied to the default subclient as well. If is not selected, then the global filters will not be applied to the default subclient.
- Select **Always use Global filters** to always apply the global filters policy to the default subclient regardless of the policy set for the CommCell.
- Select **Do not use Global filters** to disregard applying the global filters to the default subclient regardless of the policy set for the CommCell.

```
Commcell Level Global Filters are set through Calypso
GUI's Control Panel in order to filter out certain
directories or files from backup Commcell-widely. If you
turn on the Global filters, they will be effective to the
default subclient. There are three options you can choose
to set the filters.

1) Use Cell level policy
2) Always use Global filters
3) Do not use Global filters

Please select how to set the Global Filters for the
default subclient? [1]
```

CLIENT GROUP SELECTION

25. Type the number of a Client Group and press **Enter**.

A confirmation screen will mark your choice with an "X". Type **d** for done with the selection, and press **Enter** to continue.

NOTES

- This screen will be displayed only if Client Groups are configured for the CommCell. For more information, see Client Computer Groups.

```
Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want
to add this client client.company.com to. The selected
group(s) will be marked (X) and can be deselected if you
enter the same number again. After you are finished with
the selection, select "Done with the Selection".

[ ] 1) Unix
[ ] 2) DR
[ ] 3) DKS

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,?" here: 2
```

26. Press **Enter** to continue.

NOTES

- Schedules help ensure that the data protection operations for the Agent are automatically performed on a regular basis without user intervention. For more information, see Scheduling.

```
+---------------------+

IMPORTANT:

In addition to installing Calypso on this computer, you
will also need to create a Job Schedule for each
iDataAgent that has been installed on this client
computer.

Job Schedules are required to allow the Calypso
iDataAgents to perform automated backup and restore
operations.

Job Schedule creation can be accomplished through the
Calypso CommCell Console administration interface.

+---------------------+
```

STORAGE POLICY SELECTION

27. Enter the number corresponding to the storage policy through which you want to back up the File System *i*DataAgent and then press **Enter** to continue.

NOTES

- A storage policy directs backup data to a media library. Each library has a default storage policy.
- When you install an Agent, the install program creates a default subclient for most Agents.
- If desired, you can change your storage policy selection at any time after you have installed the client software.

```
Please select one storage policy for this IDA from the
list below:

1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4
4) fornax_fornax_HWCmp
5) ranger_ranger_HWCmp
6) fornax_fornax_ClntCmp
7) fornax_fornax_MACmp
8) fornax_fornax_NoCmp

Storage Policy: [3]
```

- If this screen appears more than once, it is because you have selected multiple agents for installation and are configuring storage policy association for each of the installed agents.

SETUP COMPLETE

28. If this is the last package that you wish to install/upgrade, enter the number corresponding to the **Exit** option and then press **Enter** to continue.

NOTES

- Only modules that are not installed/upgraded appear in the list.
- Your screen may appear different from the example shown.
- If you are installing on AIX, FreeBSD, IRIX or Tru64 computers, if this module was the last possible module to install, you are automatically exited from the program. Otherwise, type the number for the **Exit** option and then press **Enter.** The installation is completed.

```
Select the Calypso module that you would like to install.

1) FileSystem iDataAgent
2) Exit

Module number: [1]
```

29. This prompt is displayed only when you are installing on HP-UX, Linux, or Solaris computers. Enter the number corresponding to the **Exit** option and then press **Enter** to continue.

The installation is now complete.

```
Certain Calypso packages can be associated with a virtual
IP, or in other words, installed on a "virtual machine"
belonging to some cluster. At any given time the virtual
machine's services and IP address are active on only one
of the cluster's servers. The virtual machine can "fail-
over" from one server to another, which includes stopping
services and deactivating IP address on the first server
and activating the IP address/services on the other
server.

Currently you have Calypso installed on physical node
stone.company.com.

Now you have a choice of either adding another package to
the existing installation or configure Calypso on a
virtual machine for use in a cluster.

1) Add another package to stone.company.com
2) Install Calypso on a virtual machine
3) Exit

Your choice: [1]
```

POST-INSTALL CONSIDERATIONS

GENERAL

- Install post-release updates or Service Packs that may have been released after the release of the software. When you are installing a Service Pack, ensure that it is the same version as the one installed in the CommServe Server. Alternatively, you can enable Automatic Updates for quick and easy installation of updates in the CommCell component.
- The following items include some of the most common features that can be also be configured:
  - Schedule your data protection operations - see Scheduling for more information.
  - Configure Alerts - See Alerts and Monitoring for more information.
  - Schedule Reports - See Reports for more information.

The software provides many more features that you will find useful. See the Index for a complete list of supported features.

AGENT SPECIFIC

- The following configuration tasks are required before you can begin using the software for data protection operations:
  1. Configure a supported Snapshot Environment for this agent.
  2. Create a New Subclient.
- For the AIX, FreeBSD, HP-UX, IRIX, Linux, Solaris, and Tru64 File System *i*DataAgents, a registry key is available to allow you to define where core files will be generated in the unlikely event of an application process crash. Generating core files in filesystems other than `root` will help maintain system integrity. Refer to `dCOREDIR` for information about implementing this registry key.

DISASTER RECOVERY CONSIDERATIONS

- Before you use your agent, be sure to review and understand the associated full system restore (or disaster recovery) procedure. The procedure for some agents may require that you plan specific actions or consider certain items before an emergency occurs. See Disaster Recovery for more information regarding your agent.

Install the ProxyHost *i*DataAgent - Unix - Clustered Environment

TABLE OF CONTENTS

INSTALL REQUIREMENTS

The following procedure provides step-by-step instructions for installing the ProxyHost *i*DataAgent on a Unix cluster. The software in a Unix cluster can be installed from the active node in the cluster group using the following procedure. Note that for a passive node in a Unix cluster, you need to install the software separately on the passive node in the cluster group.

For an overview of deploying the software components in a clustered environment, see Clustering Support.

Review the following Install Requirements before installing software on a Unix cluster:

GENERAL

- Review Install Considerations before installing the software.
- Agents should be installed only after the CommServe and at least one MediaAgent have been installed in the CommCell. Also, keep in mind that the CommServe and MediaAgent must be installed and running (but not necessarily on the same computer), before you can install the Agent.
- Ensure there is an available license on the CommServe for the Agent.
- Verify that you have the Software Installation Disc that is appropriate to the destination computer’s operating system.

CLUSTER

- Refer to Installing the Software on the Cluster for important overview information about installing MediaAgent or Agent software in a Unix clustered environment.
- Check the following on the cluster computer in which you wish to install the software:
  - Cluster software is installed and running.
  - Active and passive nodes are available.

AGENT SPECIFIC

Complete the following steps:

1. Install the Base software and the required agents on all the nodes that are included in the cluster service. See Installation for more information.
2. Be sure to install your software to the appropriate directories per the directives in UNIX Clusters.
3. Verify that all of the computers to which software will be installed satisfy the minimum requirements specified in the appropriate System Requirements.
4. Ensure that services are up and running on the remote hosts.

HP-UX

- If you are installing on a HP-UX computer, you must manually mount the installation disc as described in Mount the Software Installation Disc.

BEFORE YOU BEGIN

- Log on to the client as `root`.
- The install package requires `super-user` permissions to execute.

INSTALL PROCEDURE

GETTING STARTED

1. Place the software installation disc for the Unix platform into the disc drive.

   You can also install the product using a disc drive mounted on another computer on the network.

   - On Solaris, double-click the **cvpkgadd** program from the File Manager window.
   - On other Unix platforms, open the Terminal window, navigate to the software installation disc and then enter **./cvpkgadd**.

2. Enter the number corresponding to the setup task you want to perform.

   NOTES

   - For Install data protection agents on this computer option, follow the steps described in this procedure.
   - Advance options provide additional setup features such as record and play setup, creating a custom package and External Data Connector Agent software.

     To create a custom package and for record and play setup, follow the steps described in Custom Package - Unix.

     To install the External Data Connector Agent, follow the steps described in External Data Connector - Unix.

```
Please select a setup task you want to perform from the
list below:

Advance options provide extra setup features such as
creating custom package, recording/replaying user
selections and installing External Data Connector
software.

1) Install data protection agents on this computer

2) Advance options

3) Exit this menu

Your choice: [1]
```

3. The product banner and other information is displayed.

   Press **Enter** to continue.

4. Read the license agreement. Type **y** and press **Enter** to continue.

5. If your computer is 32-bit, press **Enter**.

   If your computer is 64-bit, see Install Unix Agents on 64-bit Platform for step-by-step procedure.

```
This machine supports both 32 bit and 64 bit binaries. By
default, we will install 32 bit binary set that has full
support for all the modules included in this package.
Please note that 64 bit binary set currently only support
limited modules.

1) All platforms (32 bit)

2) FS and MA only (64 bit)

Your choice: [1]
```

CLUSTER SELECTION

6. Type **2** and press **Enter** to install on a virtual machine.

```
Certain Calypso packages can be associated with a virtual
IP, or in other words, installed on a "virtual machine"
belonging to some cluster. At any given time the virtual
machine's services and IP address are active on only one
of the cluster's servers. The virtual machine can "fail-
over" from one server to another, which includes stopping
services and deactivating IP address on the first server
and activating the IP address/services on the other
server.

You now have a choice of performing a regular Calypso
install on the physical host or installing Calypso on a
virtual machine for operation within a cluster.

Most users should select "Install on a physical machine"
here.

1) Install on a physical machine

2) Install on a virtual machine

3) Exit

Your choice: [1]
```

7. Type the name of the virtual machine that you want to configure or its corresponding IP address and press **Enter**.

```
Please enter the hostname or IP address of the virtual
machine being installed. It can be either short or long;
the only requirement is that it must be resolvable by the
name services configured on this machine

WARNING: You should follow this path ONLY if this host
participates in a cluster and you really want to install
Calypso on the virtual machine. This is NOT how most
people will use Calypso.

If you got into this screen by mistake, hit ^C and restart
cvpkgadd.

Virtual Machine Host Name:
```

8. This prompt appears if you entered the short form of the virtual machine host name in the previous step. If you want to use the long form of the host name, accept the **yes** default; if not, type **no**. Then press **Enter**.

```
It looks like name "example.company.com" resolves to the
same IP as "example". Generally, it's better to use longer
name to address a host: less chances for name-to-IP
resolution problems on CommServe or other IDA/MA.

Would you like to use fully qualified
"example.company.com" instead of "example"?
```

```
Use longer "example.company.com" name? [yes]
```

9. If you have already installed the software on the virtual machine for the active node, accept the **yes** default to install for the passive node, press **Enter**, and go to the next step.

If you still must install for the active node, type **no**, press **Enter**, and perform the install for the virtual machine for the active node.

NOTES

- This prompt appears only when installing on a passive node.

```
When installing new Calypso packages on a virtual machine,
you should start with the active node, that is the host
where the virtual machine is currently running.

This node appears to be passive, so we will assume that
you have already installed Calypso for example.company.com
on the active node.

Is this correct? [yes]
```

10. Type the name of the virtual client and press **Enter**.

```
Please specify the client name for this machine.It does
not have to be the network host name: you can enter any
word here without spaces. The only requirement is that it
must be unique on the CommServe.

Virtual Machine Client Name: [hpuxmc1]
```

11. Specify the network interface that you want to associate with the physical machine and press **Enter**.

NOTES

- This prompt appears only when the Unix File System *i*DataAgent is not installed on the physical node.

```
Even though it is a virtual machine that you are
installing now, we still have to ask you to provide
hostname and client name for the physical node.

Network interfaces with the following IPs are available on
your system. Please select the one that you want to be
associated with Calypso physical machine. The interface
should be static, and should not get disabled in case of
cluster failover.

1) mackrel71
2) mackrel
3) mackrel1

Interface number: [1] 2
```

12. Verify the name of the physical interface and make any required changes. Then press **Enter**.

```
Please verify the physical interface name below. Make it
as complete (with fully qualified domain name) as
possible.

Physical Hostname: [mackrel]
```

13. Enter a node name for the physical machine and press **Enter**.

```
Even though you are installing Calypso on a machine, we
still need to ask you to provide a node name for the
physical machine.

It does not have to be the network host name: you can
enter any word here without spaces. The only requirement
is that it must be unique on the CommServe.

Physical Machine Node Name: [mackrel]
```

SELECT COMPONENTS FOR INSTALLATION

14. Enter the number corresponding to the **CVGxProxyIDA** module.

A confirmation screen will mark your choice with an "X". Type "d" for **Done**, and press **Enter** to continue.

NOTES

- To select multiple component, enter the number by adding a space.
- Your screen may look different from the example shown.
- Components that either have already been installed, or which cannot be installed, will not be shown.
- In addition, the list of modules that appear depends on the specific Unix File System in which the package is installed. (e.g., **CVGxWA** will appear only when the installation package is run on a Solaris computer.)

```
Install Calypso on physical machine client.company.com

Select the Calypso module that you would like to install

[ ] 1) Media Agent        [1301] [CVGxMA]
[ ] 2) FileSystem IDA     [1101] [CVGxIDA]
    >) >>>>> NEXT PAGE  >>>>>>

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,?" here: 2
```

BASE SOFTWARE INSTALLATION

15. If you wish to install the agent software for restore only, enter **Yes** and press **Enter** to continue. See Installing Restore Only Agents for more information.

Otherwise, accept **no**, press **Enter** to continue.

```
Do you want to use the agents for restore only without
consuming licenses? [no]
```

16. Type the appropriate number to install the latest software scripts and press **Enter** to continue.

NOTES

- Select **Download from the software provider website** to download the latest software scripts from your software provider website.

  Make sure you have internet connectivity when you are using this option.
- Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is performed.
- Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

```
Installation Scripts Pack provides extra functions and
latest support and fix performed during setup time. Please
specify how you want to get this pack.

If you choose to download it from the website now, please
make sure you have internet connectivity at this time.
This process may take some time depending on the internet
connectivity.

1) Download from the software provider website.

2) Use the one in the installation media

3) Use the copy I already have by entering its unix path

Your choice: [1] 2
```

17. Enter **Yes** to download and install the latest service packs and post packs from the software provider.

NOTES

- Internet connectivity is required to download updates.
- This step is applicable for multi instancing.

Press **Enter** to continue.

```
Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest
support and fix for the packages you are going to install.
You can download the latest service pack from software
provider website.

If you decide to download it from the website now, please
make sure you have internet connectivity at this time.
This process may take some time depending on the internet
connectivity.

Do you want to download the latest service pack now? [no]

Press <ENTER> to continue ...
```

18. Specify the location where you want to install the software.

NOTES

- The amount of free space required depends on the components selected for install, and may look different from the example shown.

Press **Enter** to accept the default path and continue, or
Enter a path and then press **Enter** to continue.

Press **Enter** again to confirm the path.

```
Please specify where you want us to install Calypso
binaries.

It must be a local directory and there should be at least
170MB of free space available. All files will be installed
in a "calypso" subdirectory, so if you enter "/opt", the
files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

..

Calypso will be installed in /opt/calypso.
Press ENTER to continue ...
```

19. Specify the location for the log files.

NOTES

- All the modules installed on the computer will store the log files in this directory.
- The amount of free space required depends on the components selected for install, and may look different from the example shown.

Press **Enter** to accept the default path and continue, or
Enter a path and then press **Enter** to continue.

Press **Enter** again to confirm the path.

```
Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least
100MB of free space available. All log files will be
created in a "calypso/Log_Files" subdirectory, so if you
enter "/var/log", the logs will actually be placed into
"/var/log/calypso/Log_Files".

Log Directory: [/var/log]

..

Calypso log files will be created
in /var/log/calypso/Log_Files.
Press ENTER to continue ...
```

20. Indicate whether you would like to launch processes with inherent database access rights.

Press **Enter** to assign a new group, or
Type **No** and then press **Enter** to continue.

```
Most of Calypso processes run with root privileges, but
some are launched by databases and inherit database access
rights. To make sure that registry and log files can be
written to by both kinds of processes we can either make
such files world-writeable or we can grant write access
only to processes belonging to a particular group, e.g. a
"calypso" or a "dba" group.

We highly recommend now that you create a new user group
and enter its name in the next setup screen. If you choose
not to assign a dedicated group to Calypso processes, all
temporary and configuration files will be created with -
rw-rw-rw permissions.

If you're planning to backup Oracle DB you should use
"dba" group.

Would you like to assign a specific group to Calypso?
[yes]
```

21. If you indicated **Yes** in the previous step, you will be prompted for the group name that must be used to launch processes.

Enter the group name and then press **Enter** to continue.

Press **Enter** again to continue.

For installs on a Solaris computer, proceed to the next step. Otherwise, skip to Storage Policy Selection.

```
Please enter the name of the group which will be assigned
to all Calypso files and on behalf of which all Calypso
processes will run.

In most of the cases it's a good idea to create a
dedicated "calypso" group. However, if you're planning to
use Oracle iDataAgent or SAP Agent, you should enter
Oracle's "dba" group here.

Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2,
PostgreSQL, Sybase or Lotus Notes iDataAgent, please make
sure to include Informix, DB2, etc. users into group
"dba".
Press <ENTER> to continue ...
```

22. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.

Type a network TCP port number for the Client Event Manager Service (EvMgrC) and press **Enter**.

NOTES

- For more information about Network TCP Ports, see Network TCP Port Requirements.
- For more information about these services, see Services.
- If the port number you entered already exists, a message will be displayed `Port #### is already reserved in /etc/services`. To work around this issue, enter different port number.

```
Every instance of Calypso should use a unique set of
network ports to avoid interfering with other instances
running on the same machine.
The port numbers selected must be from the reserved port
number range and have not been registered by another
application on this machine.

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EvMgrC: [8602]
```

23. If this computer and the CommServe is separated by a firewall, type **Yes** and then press **Enter** to continue.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If you do not wish to configure the firewall services, type **No** and then press **Enter** to continue.

```
Is there a firewall between this client and the CommServe?
[no]
```

24. Type the name of the CommServe computer and press **Enter** to continue.

NOTES

- Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.
- If you enter a short name which resolves to the same IP address as the fully qualified CommServe name, you will be asked if you would prefer to use the fully qualified name.

```
Please specify hostname of the CommServe below. Make sure
the hostname is fully qualified, resolvable by the name
services configured on this machine.

CommServe Host Name:
```

25. Enter the **username** and **password** information for an external domain user account or a CommCell user account. This authorizes the installation of an agent on the CommCell.

NOTES

- This is only displayed when the **Authentication for Agent** feature is enabled in the CommCell Properties. Users must belong to a User Group with Agent Management capabilities to enable this feature. For more information, see Authentication for Agent Installs.

Click **Enter** to continue.

```
Enter your CommCell user name and password:

User Name :

Password :

Press <ENTER> to continue ...
```

KERNEL PARAMETERS

26. Enter the appropriate number of streams, and then press **Enter** to continue, or Press **Enter** to accept the default number of streams and continue.

NOTES

- The number of streams specified ensures that concurrent backup/restore streams would have sufficient system resources. For more information on the subject, see Configuring Kernel Parameters for Macintosh and Configuring Kernel Parameters for Solaris.

This prompt is relevant only when you install/upgrade on a Macintosh or Solaris computer as appropriate.

```
Please enter the total number of streams that you plan to
run at the same time. We need to make sure that you have
enough semaphores and shared memory segments configured
in /etc/system.

Number of streams: [10]
```

27. Indicate whether you would like modifications to be made to the `/etc/system` configuration file.

Type **Yes**, and then press **Enter** to automatically update the file and continue, or Press **Enter** to accept the default **No** and continue (if you do not want to automatically update the file).

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) or Macintosh computer.

```
We now need to modify the /etc/system configuration file
on this computer. It is done to make sure that there will
be enough shared memory and semaphores available for
Calypso programs.

Please review the changes below and answer "yes" if you
want us to apply them to the /etc/system file. Otherwise,
the installation will proceed, the changes will be saved
to some other file, and you will have to apply them
manually.

set shmsys:shminfo_shmmni=8570 (was 7930)
set shmsys:shminfo_shmseg=8420 (was 7780)
set semsys:seminfo_semmns=10320 (was 9680)
set semsys:seminfo_semmni=8570 (was 7930)
set semsys:seminfo_semmsl=8570(was 7930)

Do you want us to apply these changes now? [no]

Changes saved into /etc/system.gal.1744

Press <ENTER> to continue.
```

28. If you indicated **No** in the previous step, the file to which the changes have been saved is displayed.
Make sure that these values are established later to ensure that all the requirements for this setup is satisfied.

NOTES

- The settings that are displayed are the maximum or minimum required settings. Value ’640’, which is provided for various shared memory segment or semaphore requirements, is a maximum value based on 10 streams.

Press **Enter** to continue.

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) computer, in cases where the install detects that the computer does not have the maximum or minimum required shared memory settings.

```
Although a ’no’ answer can be selected to this question
during install, the user should make sure the min
requirements (below) for shared memory are met, otherwise
the backups may fail (the message in logs is ’could not
start the pipeline’).

set shmsys:shminfo_shmmax=4199304
set shmsys:shminfo_shmmin=1
set semsys:shminfo_shmmni=640
set semsys:shminfo_shmseg=640
set semsys:seminfo_semmns=640
set semsys:seminfo_semmni=640
set semsys:seminfo_semmsl=640
set maxusers=256
```

ENABLE GLOBAL FILTERS

29. Type the appropriate number for configuring Global Filters for the default subclient

```
Commcell Level Global Filters are set through Calypso
```

and press Enter to continue.

NOTES

- Select **Use Cell level Policy** to inherit the global filter policy configuration set for the CommCell, i.e., if the **Use Global Filters on All Subclients** option is selected in the **Global Filters** dialog box (from the CommCell Console’s Control Panel), then this policy will be applied to the default subclient as well. If is not selected, then the global filters will not be applied to the default subclient.
- Select **Always use Global filters** to always apply the global filters policy to the default subclient regardless of the policy set for the CommCell.
- Select **Do not use Global filters** to disregard applying the global filters to the default subclient regardless of the policy set for the CommCell.

```
GUI's Control Panel in order to filter out certain
directories or files from backup Commcell-widely. If you
turn on the Global filters, they will be effective to the
default subclient. There are three options you can choose
to set the filters.

1) Use Cell level policy
2) Always use Global filters
3) Do not use Global filters

Please select how to set the Global Filters for the
default subclient? [1]
```

CLIENT GROUP SELECTION

30. Type the number of a Client Group and press **Enter**.

A confirmation screen will mark your choice with an "X". Type **d** for done with the selection, and press **Enter** to continue.

NOTES

- This screen will be displayed only if Client Groups are configured for the CommCell. For more information, see Client Computer Groups.

```
Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want
to add this client client.company.com to. The selected
group(s) will be marked (X) and can be deselected if you
enter the same number again. After you are finished with
the selection, select "Done with the Selection".

[ ] 1) Unix
[ ] 2) DR
[ ] 3) DKS

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,?" here: 2
```

STORAGE POLICY SELECTION

31. Enter the number corresponding to the storage policy through which you want to back up the File System *i*DataAgent and then press **Enter** to continue.

NOTES

- A storage policy directs backup data to a media library. Each library has a default storage policy.
- When you install an Agent, the install program creates a default subclient for most Agents.
- If desired, you can change your storage policy selection at any time after you have installed the client software.
- If this screen appears more than once, it is because you have selected multiple agents for installation and are configuring storage policy association for each of the installed agents.

```
Please select one storage policy for this IDA from the
list below:

1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4
4) fornax_fornax_HWCmp
5) ranger_ranger_HWCmp
6) fornax_fornax_ClntCmp
7) fornax_fornax_MACmp
8) fornax_fornax_NoCmp

Storage Policy: [3]
```

PROXYHOST INSTALLATION

32. The install program now starts copying the software to the computer. The progress of the operation is displayed.

Press **Enter** to continue.

```
.....
.....
.....
.....

Successfully copied xx files

.....
.....

Successfully installed CVGxProxyIDA.

Press ENTER to continue ...
```

SETUP COMPLETE

33. Press **Enter** to continue.

NOTES

- Schedules help ensure that the data protection operations for the Agent are automatically performed on a regular basis without user intervention. For more information, see Scheduling.

```
+---------------------+

IMPORTANT:

In addition to installing Calypso on this computer, you
will also need to create a Job Schedule for each
iDataAgent that has been installed on this client
computer.

Job Schedules are required to allow the Calypso
iDataAgents to perform automated backup and restore
operations.

Job Schedule creation can be accomplished through the
Calypso CommCell Console administration interface.

+---------------------+
```

34. This menu may be displayed only when you are installing on HP-UX, Linux, or Solaris

```
Select the Calypso module that you would like to install.
```

computers. If this is the last package that you wish to install/upgrade, enter the number corresponding to the **Exit** option and then press **Enter** to continue.

NOTES

- Only modules that are not installed/upgraded appear in the list.
- Your screen may appear different from the example shown.
- If you are installing on AIX, FreeBSD, IRIX or Tru64 computers, if this module was the last possible module to install, you are automatically exited from the program. Otherwise, type the number for the **Exit** option and then press **Enter.** The installation is completed.

```
1) FileSystem iDataAgent
2) Exit

Module number: [1]
```

35. Enter **Yes** to download and install the latest service packs and post packs from the software provider.

NOTES

- Internet connectivity is required to download updates.
- This step is applicable for multi instancing.

Press **Enter** to continue.

```
Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest
support and fix for the packages you are going to install.
You can download the latest service pack from software
provider website.

If you decide to download it from the website now, please
make sure you have internet connectivity at this time.
This process may take some time depending on the internet
connectivity.

Do you want to download the latest service pack now? [no]

Press <ENTER> to continue ...
```

36. This prompt is displayed only when you are installing on HP-UX, Linux, or Solaris computers. Enter the number corresponding to the **Exit** option and then press **Enter** to continue.

The installation is now complete.

```
Calypso is currently configured on virtual machine
hpuxmc1.company.com.

Now you have an option of installing Calypso on physical
machine, another virtual machine or you can add a new
package to hpuxmc1.company.com.

1) Add a new package to hpuxmc1.company.com
2) Install Calypso on the physical machine
3) Install Calypso on another virtual machine
4) Exit

Your choice: [1]
```

POST-INSTALL CONSIDERATIONS

GENERAL

- Install post-release updates or Service Packs that may have been released after the release of the software. When you are installing a Service Pack, ensure that it is the same version as the one installed in the CommServe Server. Alternatively, you can enable Automatic Updates for quick and easy installation of updates in the CommCell component.
- After installing the Agent, you may want to configure the Agent before running a data protection operation. The following list includes some of the most common features that can be configured:
  - Configure your subclients - see Subclients for more information.
  - Schedule your data protection operations - see Scheduling for more information.
  - Configure Alerts - See Alerts and Monitoring for more information.
  - Schedule Reports - See Reports for more information.

The software provides many more features that you will find useful. See the Index for a complete list of supported features.

CLUSTER

- The cvclusternotify script should be added as part of the normal cluster startup/shutdown procedure. The script is provided as a generic template, and it must be run at the beginning of node shutdown and at the end of new active node startup. In both cases, data protection services must be up and running.

  Run the following command to notify Calypso that the specified "virtual node" is going up or down because of a cluster failover:

  Usage:

  ```
  cvclusternotify -inst <Instance> -cn <Client Name> -start|-shutdown
  ```

  Where:

  `cvclusternotify` - Program to notify Calypso of cluster failovers

  Example:

  For two-node cluster, if the virtual client name is "virtual" and the application instance is "Instance001", run the following command:

  - To shutdown:

    ```
    cvclusternotify -inst Instance001 -cn "virtual" -shutdown
    ```

  - To start up:

    ```
    cvclusternotify -inst Instance001 -cn "virtual" -start
    ```

- On failover of a Linux cluster, Services may be killed by cluster services during a virtual machine failover. To insure that the Services are re-started on the passive node, add commands in failover scripts to start Services.

DISASTER RECOVERY CONSIDERATIONS

- Before you use your agent, be sure to review and understand the associated full system restore (or disaster recovery) procedure. The procedure for some agents may require that you plan specific actions or consider certain items before an emergency occurs. See Disaster Recovery for more information regarding your agent.

Backup - ProxyHost

Topics | How To | Use Cases | Related Topics

Overview

Plan your backup jobs for this agent by reviewing the following information:

- For an overview of backup jobs, see Backup Data.
- For a list of supported data types for this agent, see Supported Data Types.
- For information on subclients, see Subclients
  - For information on configuring subclients for this agent, see Subclients - SAN *i*DataAgents.
  - Excluding Data from Data Protection Operations for information on excluding data via subclients.

Supported Backup Types

This agent supports the following backup types:

- Full Backups
- Differential Backups
- Incremental Backups
- Synthetic Full Backups

Backup Considerations

Before performing any backup procedures for this agent, review the following information:

- Synthetic Full backups are not supported for TimeFinder Exchange Database or SQL Database data.
- For file system data you can initiate an immediate full, incremental, or differential backup for the selected subclient. An incremental backup backs up all data that is new or has changed since the last backup of any type, whereas a differential backup backs up all data that is new or has changed since the last full backup.

  For Exchange data you can only initiate full backups for the selected subclient. Because ProxyHost *i*DataAgent software does not use API to backup Exchange Database data, incremental or differential backups can possibly miss the partially filled transaction log, which was backed up by the previous full backup.
- When backing up Exchange Databases, circular logging must be manually disabled for Exchange 2000 and Exchange 2003.
- When using the ProxyHost *i*DataAgent to backup databases, a backup might not be considered successful unless every single file is backed up successfully. To cause such a backup job to be reported as "Failed", create the `nFAILFORPROXY` registry key, and set its value greater than or equal to "1".
- Filters can be used in conjunction with the "Items That Failed" list on the data protection Job History Report to eliminate backup or archive failures by excluding items which consistently fail that are not integral to the operation of the system or applications. Some items fail because they are locked by the operating system or application and cannot be opened at the time of the data protection operation. This often occurs with certain system-related files and database application files.

  Also, keep in mind that you will need to run a full backup after adding failed files to the filter in order to remove them.

Back to Top

Backup - ProxyHost - How To

Topics | How To | Use Cases | Related Topics

START A BACKUP

Before You Begin

- Depending on your agent, you can perform the following types of backup operations: **Full**, **Incremental**, **Differential** or **Synthetic Full.**
  - Read Full Backups before performing a Full Backup.
  - Read Incremental Backups before performing a Incremental Backup.
  - Read Differential Backups before performing a Differential Backup.
  - Read Synthetic Full Backups before performing a Synthetic Full Backup.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job:

1. From the CommCell Browser, expand **Client Computers** by double-clicking **Client Computers** | ***i*DA File System** | **defaultBackupSet**. The default and other subclients (if available) are displayed on the right-hand windowpane.
2. To back up the default subclient, right-click the subclient, and click **Backup**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select **Full**, **Incremental**, **Differential** or **Synthetic Full** backup.

   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click **OK**. You can track the progress of the backup job from the **Job Controller** window. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.
6. When the backup has completed, the Job Controller displays `Completed`.

   After running a backup, you may want to verify the backup data. You can do this by viewing the Backup History. For more information, see Backup Job History.

   - You can also run backups of the following:
     - For a user-defined backup set or instance, right-click the backup set you want to back up, click **All Tasks**, and click **Backup All Subclients**.
     - For the Lotus Notes Document *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup Default Backup Set**.
       For the Lotus Notes Database *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup All Subclients**.
     - For Agents that do not have backup set or instance levels, to back up all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
       - If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
       - Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A SYNTHETIC FULL BACKUP

Before You Begin

- Read Synthetic Full Backups before performing a Synthetic Full Backup.

- For SharePoint Document, for a versioned document that has multiple versions, all of the backed up versions can be viewed in the **View All Versions** window and restored, until a Synthetic Full backup is run. After running the Synthetic Full backup you can only view and restore the latest backed up version for the document.

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job:

1. From the CommCell Browser, expand **Client Computers** by double-clicking **Client Computers** | ***i*****DA File System** | **defaultBackupSet**. The default and other subclients (if available) are displayed on the right-hand windowpane.
2. To back up the default subclient, right-click the subclient, and click **Backup**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select **Synthetic Full** backup.

   Running an incremental backup immediately before the synthetic full ensures that any new or recently changed data is included in the synthetic full. Running an incremental backup immediately after the synthetic full ensures that any new or recently changed data since the backup that occurred prior to the synthetic full, but was not included in the synthetic full, is backed up by the incremental. Remember, a synthetic full consolidates data; it does not actually back up data from the client computer.
5. Click **OK**. You can track the progress of the backup job from the **Job Controller** window. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.
6. When the backup has completed, the **Job Controller** displays `Completed`.

   After running a backup, you may want to verify the backup data. You can do this by viewing the Backup History. For more information, see Backup Job History.

   You can also run synthetic full backups of the following:

   - For a user-defined backup set or instance, right-click the backup set you want to back up, click **All Tasks**, and click **Backup All Subclients**.
   - For the Lotus Notes Document *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup Default Backup Set**.
For the Lotus Notes Database *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup All Subclients**.
   - For Agents that do not have backup set or instance levels, to back up all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
     - If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
     - Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

SCHEDULE BACKUPS

You can schedule backups to occur with the following procedure. You will be prompted to create a schedule for the data protection operation after selecting your data protection options.

Before You Begin

- **All Agents**
  - Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent. Note this does not apply to archive operations.

Required Capability: See Capabilities and Permitted Actions

▶ To schedule a backup operation:

1. From the CommCell Browser, select one of the following:
   - To back up a subclient, right-click the subclient and click **Backup**.
   - To back up a backup set or instance, right-click the backup set or instance, click **All Tasks**, and click **Backup All Subclients**.
   - To back up the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For the Lotus Notes Document *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup Default Backup Set**.
For the Lotus Notes Database *i*DataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup All Subclients**.
   - For Agents that do not have backup set or instance levels, to back up all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.

2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select the type of backup that you want to initiate. In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
4. Click **Schedule**. Click **OK** to continue.
5. From the Schedule Details (Schedule Details) dialog box, create a schedule for this operation. For step-by-step instructions, see Create a Job Schedule. Click **OK** to continue.
6. Your backup operation will execute according to the specified schedule.

> Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP IN THE SUSPENDED STATE

Use the following procedure to start a backup in the suspended state.

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent. Note this does not apply to archive operations.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. From the CommCell Browser, select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Startup) tab, and select **Startup in suspended state** and click **OK**.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   > Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

> Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP ON NEW MEDIA

Use the following procedure to start a backup on new media.

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent. Note this does not apply to archive operations.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. From the CommCell Browser, select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Media) tab, and select **Start new media** and click **OK**.
   If you would like jobs with other Job IDs to use this new media, also select the **Allow other schedule to use media set** option.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

   Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP THAT CREATES A NEW INDEX

Use the following procedure to start a backup that creates a new Index.

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. Select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For the Microsoft SQL Server *i*DataAgent, to backup a database, right-click the database you want to backup, click **All Tasks**, and click **Backup Database**.
   - For the Microsoft SQL Server *i*DataAgent, to backup up an instance, right-click the instance you want to backup, click **All Tasks**, and click **Backup SQL Server**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.

2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Data) tab, and select **Create new index** and click **OK**.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   > Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

   > Starting a backup on a backup set, instance or agent level causes the system to start individual backup jobs for each subclient contained therein. If the subclients are associated with the same storage policy, then their jobs will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP THAT MARKS MEDIA FULL ON COMPLETION

Use the following procedure to start a backup that marks media full on completion.

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent. Note this does not apply to archive operations.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. From the CommCell Browser, select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Media) tab, and select **Mark media full after successful operation** and click **OK**.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   > Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

   > Starting a data protection operation on a backup set, instance or agent level causes the system to start individual

data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP WITH A SET JOB PRIORITY

This option allows you to manually set a job priority. This is useful if you have jobs that are very important and must complete, and/or jobs that can be moved to a lower priority. For more information, see Job Priorities and Priority Precedence.

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent. Note this does not apply to archive operations.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. From the CommCell Browser, select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Startup) tab, and select **Change Priority** and then enter a value. Click **OK** to continue.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

   Starting a data protection operation on a backup set, instance or agent level causes the system to start individual data protection operations for each subclient contained therein. If the subclients are associated with the same storage policy, then their operations will run sequentially unless that storage policy is configured to accommodate multiple data streams.

START A BACKUP WITH VAULT TRACKING ENABLED

Use the following procedure to start a backup with Vault Tracking enabled.

For additional information, see the following:

- VaultTracker
- VaultTracker Enterprise

Before You Begin

- Be sure all of the subclients are backed up, or scheduled to be backed up as needed, in order to secure all of the data for the agent.

Required Capability: See Capabilities and Permitted Actions

To start an immediate backup job with advanced backup options:

1. select one of the following:
   - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
   - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
   - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Lotus Notes *i*DataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
   - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.
4. Select the type of backup that you want to initiate.
   In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see When a Non-Full Backup is Automatically Converted to a Full Backup.
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the **Vault Tracking** tab, and select the vault tracking options you want to use and click **OK**.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

   Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

9. When the backup has completed, Job Controller displays `Completed`.

Back To Top

Restore Data - ProxyHost

Topics | How To | Related Topics

OVERVIEW

The following page describes the agent-specific restore options. Additional restore options are accessible from the Related Topics menu.

The ProxyHost *i*DataAgent can restore:

- File allocation table (FAT) file systems
- New Technology file systems (NTFS)
- Unix File System (UFS)
- Journal File System (JFS) for AIX

When restoring ProxyHost data, you can, if desired, restore the data to a file system type that differs from the type in which it originated. For example, you can restore NTFS data to a FAT file system and restore FAT data to an NTFS file system. FAT file systems do not support Discretionary Access Control Lists (DACL); therefore, any NTFS data that you restore to a FAT partition loses its original access privileges. Conversely, when FAT file system data is restored to an NTFS file system, the restored data inherits the DACL of the destination directory.

Back to Top

RESTORE CONSIDERATIONS FOR THIS AGENT

Before performing any restore procedures for this agent, review and verify the following information.

- Review the general restore requirements described in What You Need to Know Before Performing a Restore.
- It is recommended that you restore data to the same type of operating system from which it was backed up.
- The production server and backup host computers are powered on.
- The snapshot system configuration is complete. All software required by the snapshot systems has been installed on the production server and backup host.
- All batch files have been created and tested.
- You have installed the ProxyHost client software on the production server.
- You have installed the File System client software on the backup host.
- It is important to note that when performing a restore, the Job Controller will show the source machine even though the destination machine may be different.
- When restoring data that was backed up from Exchange using the Log truncation feature in combination with a VSS hardware provider snapshot, and the `*.chk` file was located on a different volume, it must be manually deleted before attempting to mount Exchange Stores after a restore procedure. This will ensure that you will not have a `*.chk` file which does not match the logs and database being restored, and thus be unable to bring up the Exchange Stores after the restore. Exchange will create a new `*.chk` file based on the log you restore.
  Example:
  The System path location of the storage group is: `C:\Program Files\Exchsrvr\mdbdata`, and not on the volume where the snapshot was taken.

Back to Top

RESTORE DESTINATIONS

By default, the ProxyHost *i*DataAgent restores data to the client from which it originated; this is referred to as an in-place restore. If desired, you can also restore the data to a different ProxyHost client. Keep in mind the following considerations when performing such restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.

The following section enumerates the types of restore destinations that are supported by the ProxyHost *i*DataAgent. See Restore/Recover/Retrieve Destinations - Support for a list of Agents supporting each restore destination type.

IN-PLACE RESTORE

- Same path/destination

OUT-OF-PLACE RESTORE

- Same path/destination
- Different path/destination

CROSS-PLATFORM RESTORES

- Same Operating System - Different Version

  Refer to Cross-Platform Restores for Windows for considerations when performing these types of restores with Windows file system data.

  For Unix File System data, Cross-Platform restores can only be performed between different versions of the same Unix (e.g., Solaris 8 data can be restored to Solaris 9, but cannot be restored to AIX).

RESTORE TO NETWORK DRIVE/NFS-MOUNTED FILE SYSTEM

Besides restoring data to a client computer's local drive, you can also restore data to a UNC path (Windows) or NFS-mounted file system (Unix). (See Restore to Network Drive/NFS-Mounted File System for comprehensive information.)

Back to Top

Restore Data - ProxyHost - How To

Topics | How To | Related Topics

RESTORE EXCHANGE DATA USING PROXYHOST

Before You Begin

- Review the general and agent-specific restore requirements accessed from Restore Backup Data prior to performing any restore operation.
- For ProxyHost clients to which you are restoring Exchange data, the Exchange log files must be deleted before beginning the restore operation. When an Exchange database and transaction log are restored, only that portion of the transaction log that existed at the time of the backup is overwritten. Log files that were created after the backup still exist, but they are not associated with the restored transaction log. The presence of these unrelated files within the transaction log causes the backup to fail in the truncating log phase. To prevent this from occurring, you must manually delete Exchange log files before using the ProxyHost *i*DataAgent to restore Exchange data.

Select the desired procedure:

Restore Exchange 2000 data to the production server

Restore Exchange 2000 data by Synchronizing the BCV group

Restore Exchange 2003 data to the production server

RESTORE EXCHANGE 2000 DATA TO THE PRODUCTION SERVER

Supported Snapshot Environments:

- EMC TimeFinder (TEIM)
- Compaq EVM
- EMC SnapView 1.0 or 2.0
- QSnap for Windows

Required Capability: See Capabilities and Permitted Actions

➧ To restore Exchange 2000 data to the production server:

1. Dismount Exchange stores and manually truncate all the log files.
2. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select the **Unconditional Overwrite** option.
3. When the restore has successfully completed:
   - If you restored the KMS database, make sure that you stop and then re-start the Microsoft Exchange Key Management Service.
   - If you restored the SRS database, make sure that you stop and then re-start the Microsoft Exchange Site Replication Service.
4. Mount the Exchange stores.

RESTORE EXCHANGE 2000 DATA BY SYNCHRONIZING THE BCV GROUP

Supported Snapshot Environments:

- EMC TimeFinder (TEIM)
- Compaq EVM
- EMC SnapView 2.0

Required Capability: See Capabilities and Permitted Actions

➧ To restore Exchange 2000 data by Synchronizing the BCV group:

1. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select:
     a. the backup host as the destination machine
     b. the **Unconditional Overwrite** option
2. When the restore has successfully completed on the backup host, dismount all Exchange Services that will be restored.
3. On the backup host, run the BCV restore command to synchronize the data from the backup host to the primary devices. The restore command will differ depending on which snapshot engine you are using; refer to the manufacturer’s documentation for instructions on synchronizing a BCV/clone with the primary volume.
4. When the synchronization has successfully completed, mount the Exchange stores.

RESTORE EXCHANGE 2003 DATA TO THE PRODUCTION SERVER

Supported Snapshot Environment:

- QSnap for Windows

Required Capability: See Capabilities and Permitted Actions

➧ To restore Exchange 2003 data to the production server:

1. Dismount Exchange stores and manually truncate all the log files.
2. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select the **Unconditional Overwrite** option.
3. When the restore has successfully completed:
   - If you restored the KMS database, make sure that you stop and then re-start the Microsoft Exchange Key Management Service.
   - If you restored the SRS database, make sure that you stop and then re-start the Microsoft Exchange Site Replication Service.
4. Mount the Exchange stores.

RESTORE SQL DATA USING PROXYHOST

Select the desired procedure:

Restore single/multiple SQL databases to the production server in one TSIM restore command

Restore SQL databases to the production server

Restore SQL databases by Synchronizing the BCV group

RESTORE SINGLE/MULTIPLE SQL DATABASES TO THE PRODUCTION SERVER IN ONE TSIM RESTORE COMMAND

Supported Snapshot Environments:

- EMC TimeFinder (TSIM)

Before You Begin:

- EMC TimeFinder for SQL Integration Module (TSIM) has two restore types, automatic and manual. The automatic restore can be completed in one step, unless it is a standby restore, and can be covered by one script. This script can also be used for Post Restore. The manual restore is broken into multiple steps which can be found in the EMC ResourcePak documentation.
- Backed up data should be restored to the BCVs. In order to synchronize with the primary volumes of the production server, the user will have to manually run specific TSIM restore commands. These commands are included in the EMC ResourcePak for Windows.

Required Capability: See Capabilities and Permitted Actions

To restore single/multiple SQL databases to the production server in one TSIM restore command:

1. Restore data/log file system to backup host.
2. Run the TSIM restore command to restore database.
3. Split the BCV pair.

Since each `tsimsnap_restore` command can only specify one database, Steps 2 and 3 have to be repeated again in the same script file to restore multiple databases. Follow the steps below to perform this operation:

1. Run TSIM restore command to restore database1.
2. Split the BCV pair1.
3. Run TSIM restore command to restore database2.
4. Split the BCV pair2.

It will take a moment for the BCV group to update the status flag to "RESTORED". The "RESTORED" flag is required for the splitting to run.

To improve performance, a flag query command can be inserted between Step 1 and Step 2 (also Step 3 and Step 4). In that way Step 2 or Step 4 will not start until the "RESTORED" flag is received by query command.

The final `tsim_restore` script structure will contain the following sections:

1. Run TSIM restore command to restore database1.
2. Wait for the BCV group1 to update the status flag to "RESTORED".
3. Split the BCV pair1.
4. Run TSIM restore command to restore database2.
5. Wait for the BCV group2 to update the status flag to "RESTORED".
6. Split the BCV pair2.

RESTORE SQL DATABASES TO THE PRODUCTION SERVER

Supported Snapshot Environments:

- Compaq EVM
- EMC SnapView 1.0 or 2.0
- QSnap for Windows

Before You Begin:

- For both EMC SnapView and Compaq EVM snapshot systems, the SQL database which was selected for restore must be manually detached prior to the restore. The restore does not use SQL APIs, it instead is just a file system restore. If the database is not detached before the restore, a reboot will be enforced after the restore has completed.

- The database freeze/thaw utility does not support file group level, therefore restores cannot be executed on individual file groups.
- Only data that was frozen and backed up should be restored.

Required Capability: See Capabilities and Permitted Actions

To restore SQL databases to the production server:

1. Detach all SQL databases being restored.
2. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select the **Unconditional Overwrite** option.
3. When the restore has successfully completed, re-attach all restored SQL databases.

RESTORE SQL DATABASES BY SYNCHRONIZING THE BCV GROUP

Supported Snapshot Environments:

- Compaq EVM
- EMC SnapView 2.0

Required Capability: See Capabilities and Permitted Actions

To restore SQL databases by Synchronizing the BCV group:

1. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select:
     a. the backup host as the destination machine
     b. the **Unconditional Overwrite** option
2. When the restore has successfully completed on the backup host, detach the SQL databases that will be restored.
3. On the backup host, run the BCV restore command to synchronize the data from the backup host to the primary devices.
4. When the synchronization has successfully completed, re-attach the SQL databases.

RESTORE ORACLE DATABASES USING PROXYHOST

Select the desired procedure:

Restore an Oracle Database to the Production Server

Restore an Oracle Database by Synchronizing the BCV group

RESTORE AN ORACLE DATABASE TO THE PRODUCTION SERVER

Supported Snapshot Environments:

- EMC Symmetrix for Unix
- Compaq EVM for Unix

Required Capability: See Capabilities and Permitted Actions

To restore an Oracle database to the production server:

1. Shut down the Oracle Database.
2. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select the **Unconditional Overwrite** option.
3. When the restore has successfully completed, start the Oracle Database. You may need to recover the database by applying the Logs. For more information on this procedure please refer to your Oracle documentation.

RESTORE AN ORACLE DATABASE BY SYNCHRONIZING THE BCV GROUP

Supported Snapshot Environments:

- EMC Symmetrix for Unix

Required Capability: See Capabilities and Permitted Actions

To restore an Oracle database by Synchronizing the BCV group:

1. Shut down the Oracle Database.
2. Perform any ProxyHost restore procedure.

   NOTES

   - From the **Restore Options (General)** dialog box, you must select:
     a. the backup host as the destination machine
     b. the **Unconditional Overwrite** option
3. When the restore has successfully completed on the backup host, execute the EMC SYMCLI utilities to synchronize the BCV volumes with the Primary volumes.
4. When the synchronization has successfully completed, start the Oracle Database. You may need to recover the database by applying the Logs. For more information on this procedure please refer to your Oracle documentation.

Back To Top

Subclients - SAN *i*DataAgents

Topics | How To | Related Topics

OVERVIEW

The following table shows subclient creation and configuration details specific to SAN *i*DataAgents.

AGENT	Type of Data	Default Subclient created during install of the Agent	Supports Default Subclient	Supports User Defined Subclient	Contents of the default subclient when user-defined subclient is present	Other Types of subclients supported by the Agent	Notes
Image Level	volumes or mount points	No	No	Yes	N/A	CXBF (Unix), checksum (Unix)	None
Image Level ProxyHost	volumes or mount points	No	No	Yes	N/A	CXBF (Unix), checksum (Unix)	None
ProxyHost	volumes, folders, or mount points	No	No	Yes	N/A	None	None

For Image Level on Unix and Image Level ProxyHost on Unix, you can configure CXBF subclients or non-CXBF (checksum) subclients to enable snapshot and backup capabilities. For more information, see Snapshot Options.

CONFIGURABLE PROPERTIES

Once installed, the agent is configured and is therefore able to manage the data or volumes on the client computer. However, you can change certain aspects of the subclient configuration to manage the data in the manner that best suits your needs.

You can view or change the subclient configuration from the Subclient Properties dialog box. The following information can be configured.

ACTIVITY CONTROL

You can enable or disable all operations for this CommCell object and all objects below it. For more information, see Activity Control.

CONTENT/DATABASES

You can define the content of the subclient. Most agents include a configure button that displays a dialog where you can add or modify the data included as subclient content. For step-by-step instructions, see Configure Subclient Content.

DATA TRANSFER OPTIONS

Several configurable options to efficiently use available resources for transferring data secured by data protection operations are provided in the subclient. This includes the following:

- Enable or disable Data Compression either on the client or the MediaAgent.
- Configure the transfer of data in the network using the options for Network Bandwidth Throttling and Network Agents.

DATA ENCRYPTION

You can enable or disable the encryption of data for transmission over unsecure networks and for storage on media. For more information, see Data Encryption.

DATA PATHS

You can view the data paths associated with the primary storage policy copy of the selected storage policy or incremental storage policy. You can also modify the data paths for the subclient including their priority. For additional information, see Configuring Alternate Data Paths for Subclients.

DATA PROTECTION FILTERS

You can perform the following functions:

- Define data protection filters to exclude specified subclient data from being backed up or archived. For more information, see Filters.
- Use regular expressions (or wildcards) in subclient data protection exclusion filters. See Inclusions, Exclusions, and Exceptions to Exclusions for more information.
- Perform in-place editing of subclient data protection filter exclusions and exceptions. See Editing Filters for more information.

The Filters tab is only available for the ProxyHost *i*DataAgent.

PRE/POST PROCESSES

You can add, modify or view Pre/Post processes for the subclient. These are batch files or shell scripts that you can run before or after certain job phases. For more information, see Pre/Post Processes.

For Image Level or Image Level ProxyHost on Unix, if you configure a checksum subclient, you must provide the appropriate PreScan and PostBackup scripts to enable snap and mount capabilities. For more information on checksum subclients, see Snapshot Options. For more information on configuring the scripts, see Pre/Post Processes for Data Protection Operations: Image Level and Image Level ProxyHost *i*DataAgents.

SNAPSHOT OPTIONS

If installed on the client, QSnap can be enabled to back up locked files or to provide volume-level snapshot functionality and utilize the integrated block-filter driver. On Unix clients, for some supported agents, any volume that you add to a subclient is automatically configured as a CXBF Device, which is required to back up the volume. Other agents will require using Volume Explorer to create CXBF devices. Depending on the agent, and for specific scenarios, Volume Explorer can or should also be used to configure these devices. If QSnap is enabled, the CommCell Configuration Report displays a superscript Q in the subclient column. For step-by-step instructions for the supported file system *i*DataAgents, see Enable QSnap on a Subclient. Also, see Configure a CXBF Device in Volume Explorer as appropriate.

For Image Level and Image Level ProxyHost on Unix, you can configure subclients to enable a specified snapshot for backup. Specifically, you can configure a CXBF subclient to use QSnap, or you can configure a non-CXBF (checksum) subclient to use a supported snapshot that you desire. To this purpose, you can use the **Incremental Support Using** field in Subclient Properties (General). CXBF subclient configuration requires that QSnap be installed on the client; however, a QSnap install does not require you to configure the subclient as a CXBF subclient. If you use a snapshot other than QSnap (i.e., if you are configuring a checksum subclient), you must provide the appropriate PreScan and PostBackup scripts. For more information on configuring these scripts, see Pre/Post Processes for Data Protection Operations: Image Level and Image Level ProxyHost *i*DataAgents.

STORAGE POLICIES

You can associate the subclient to a storage policy. For more information, see Storage Policies.

SUBCLIENT NAME

You can rename a subclient. For step-by-step instructions, see Rename a Subclient.

USER ACCOUNTS

The following pertains to the ProxyHost, Image Level on Windows, Image Level ProxyHost *i*DataAgents:

- You can define an account with permissions to execute Pre/Post commands for the agent's archive, backup, or volume creation jobs.

See the section for your agent in User Accounts and Passwords for more information.

USER SECURITY

You can perform the following functions:

- Identify the user groups to which this CommCell object is associated.
- Associate this object with a user group.
- Disassociate this object from a user group.

For more information, see User Administration and Security.

VOLUME SHADOW SERVICE (VSS) BACKUPS

When using the Image Level *i*DataAgent in conjunction with a Windows *i*DataAgent that supports VSS, you can specify whether Volume Shadow Service (VSS) will be used to back up data for this subclient. If VSS is enabled, the CommCell Summary Report displays a superscript Q in the subclient column. For more information, see VSS for the Image Level *i*DataAgent.

THINGS TO CONSIDER WHEN CREATING AND CONFIGURING SAN SUBCLIENTS

When creating and configuring subclients for SAN *i*DataAgents, keep in mind the following considerations:

IMAGE LEVEL AND IMAGE LEVEL PROXYHOST *I*DATAAGENTS

- Subclient content can only be either a volume or a mount point.
- The Windows 2000 and higher operating systems allow you to add new volumes to the existing file system name space without using new drive letters. For each volume that you add in this manner, Windows establishes a mount point, a pointer from the directory to the target data. Mount points are supported subclient content.
- For the Windows Image Level *i*DataAgent, you can add volumes to existing subclient content or remove them. However, whenever volumes are added or removed, the next backup job will be converted to a full backup.
- For Oracle BLI backups using the Image Level *i*DataAgent, each subclient is expected to quiesce one instance at a time. Do not configure an Image Level subclient's content with more than one Oracle instance; create separate subclients for each Oracle instance.
- For Solaris, if the slice 0 partition is empty and the disk is allocated space from slice 1 onwards, then slice 1 will be considered as slice 0 by the agent. So, from whatever slice partition you start to allocate space on the disk, that particular slice will be considered as slice 0.
- Do not specify the same volume as subclient content for both an Image Level and Image Level ProxyHost subclient.
- The size of a volume defined as subclient content will not be displayed until after the first backup and a refresh the CommCell Browser view.

PROXYHOST *I*DATAAGENT

- For the ProxyHost *i*DataAgent, subclients are used to back up different portions of the file system on a client computer. Each subclient is a designated subset of a production server to back up host data path mappings. You can create multiple subclients with each subclient containing a unique set of the production server data paths.
- There are certain situations in ProxyHost where running multiple simultaneous backups is not advisable. The snapshot utility can only be used by one subclient at a time, and any other subclient trying to access that utility while it is already in use will fail. Therefore, we advise that you stagger your multiple subclient backups so that the PreScan phase of each backup will not overlap.
- When you back up Exchange 2000 data with the ProxyHost *i*DataAgent, one storage group should not span multiple subclients.

Back to Top

Subclients - SAN *i*DataAgents - How To

Topics | How To | Related Topics

Add/Edit a Data Protection Filter for a Subclient (ProxyHost)

Associate a Subclient to a Storage Policy

Change Account for Executing Pre/Post Commands (Data Protection) (all agents running on Windows platforms)

Configure a Subclient for Pre/Post Processing of Data Protection Operations

Configure Subclient Content

Configure the Subclient for Data Encryption (Image Level, ProxyHost, Image Level ProxyHost)

Create a New Subclient

Delete a Data Protection Filter from a Subclient (ProxyHost)

Delete a User-Defined Subclient

Enable or Disable Operations

Enable Software Compression for a Subclient (Image Level, ProxyHost, Image Level ProxyHost)

Remove a Process from Pre/Post Processing of Data Protection Operations

Rename a Subclient

Set the Network Bandwidth and Network Agents for a Data Protection Operation (Image Level, ProxyHost, Image Level ProxyHost)

View Data Paths Associated with a Subclient

View Subclient Content

ADD/EDIT A DATA PROTECTION FILTER FOR A SUBCLIENT

Before You Begin

- Review Filters.
- Do not change the data protection or discovery filter of a subclient that has a data protection operation in progress.
- The system does not allow you to add entries that are not content of a particular subclient to that subclient's filter.
- For BlueArc and EMC Celerra (running at least DART OS 5.6.x) subclients, the filter string with or without wildcards must match the name or path of the file or directory being filtered.
- For NetApp subclients only name type filters (with wildcards) are supported:
  - You cannot enter paths as a filter (e.g. `/vol/vol0/data1`). Since NetApp does not support the use of paths in filters, if there are multiple files with the same name, even though they may be in different directories, all of them will be excluded from backups.
  - Name of the file or directory must exactly match the filter string.
  - You can specify a maximum of 32 strings in the exclude list.

Select the desired procedure:

- To add a data protection or discovery filter for a subclient
- To edit a data protection filter for a subclient

Required Capability: Capabilities and Permitted Actions

To add a data protection or discovery filter entry for a subclient:

1. From the CommCell Browser, right-click the subclient whose data protection or discovery filter you want to add, and then click **Properties** from the shortcut menu.
2. Click the Filters tab of the Subclient Properties dialog box.
3. For Exchange Mailbox, Exchange Mailbox/Public Folder Archiver Agents and Exchange Compliance Archiver, to specify a mailbox or folder that you want to exclude from data protection operations:
   - Click the upper **Add** button.
   - From the Browse window, expand the mailbox tree of the client computer.
   - Click the mailbox or folder that you want to exclude from the backup/archive operations on the selected subclient, and then click **Add**. (Repeat this step for each additional entry.)
   - From the Browse window, click **OK**.

     The mailboxes or folders that you selected appear as entries in the upper pane. Repeat this step if you want to add more mailboxes and/or folders to the filter.
4. For NAS NDMP *i*DataAgents, click the **Add** button and, in the input window, type the name of the file, directory, (or path for BlueArc) that you want to exclude from the backups and click **OK**. The name displays as an entry in the **Exclude these files/folders/patterns** pane. Repeat this step if you want to add more files, directories, or paths to the filter.
5. For SharePoint Server *i*DataAgents, to specify a URL/file/folder/pattern that you want to exclude from data protection operations or to specify an exception filter for database backup sets, do one of the following:
   - Click the **Add** button next to **Exclude these files/folder/patterns**: input window and type the URLs of site collections that you want to exclude from the backups and click **OK**. The site collection displays as an entry in the **Exclude these files/folders/patterns** pane. Wildcards are supported. See Wildcards for more information. Repeat this step if you want to add more URLs, files, directories, or paths to the filter.
   - Click the **Add** button next to **Except for these files/folders**: input window and type the URLs/folders of site collections that you want to be exceptions for the exclusion filter and click **OK**. These exceptions will be included in the data protection operations. Wildcards are not supported for exception filters.
6. For Exchange Public Folder *i*DataAgents and SharePoint Server *i*DataAgent, to specify a workspace/folder that you want to exclude from the backups, click the upper **Browse** button and expand the *i*DataAgent of the client computer. Click the workspace/folder that you want to exclude from the backups and then click **Add**. Repeat this step for each additional entry.
7. For Windows/Unix/Macintosh File System *i*DataAgents, File Archiver for Windows/Unix Agents, and ProxyHost *i*DataAgent, to specify a file/folder/directory that you want to exclude from data protection operations, do one of the following:
   - Click the upper **Add** button and, in the **Enter Path** window, type the complete path (including drive letter) of the file/folder/directory that you want to exclude from the backups/archive operations. Repeat this step if you want to add more files/folders/directories to the filter.
   - Click the upper **Browse** button and expand the file system of the client computer. Click the file/folder/directory that you want to exclude from backups/archive operations and then click **Add**. Repeat this step for each additional entry.
8. For NetWare File System/NDS *i*DataAgents, to specify data that you want excluded from the backups, do one of the following:
   - To manually enter the path:

        - Click the **Add** button.
        - In the Input window, type the complete path (e.g., VOL1:\demo\disk2) of the data that you want to exclude.
        - Click **OK**. (The path that you typed displays as an entry in the upper pane.) Repeat this step if you want to exclude more data.
    - To browse and select a path:
        - Click the **Browse** button.
        - From the Backup Data window, expand the file system or NDS tree of the NetWare server.
        - Select the data that you want to exclude, and then click **Add**. Repeat this step for each additional entry.
        - From the Backup Data window, click **OK.** The data that you selected displays as entries in the upper pane.

9. For Lotus Notes Database and Lotus Notes Document *i*DataAgents, to specify a file or folder that you want to exclude from discovery, do one of the following:
    - Select the **Pattern/path to be excluded** field. Then type in a file or folder that you want to exclude. The format of the entry should start with a slash (\). The path entered is always relative to the data path of the partition. Then click **Add**. Repeat this step for each additional entry.
    - Click the upper **Browse** button and expand the file system of the client computer. Click the file or folder that you want to exclude from the backups and then click **Add**. Repeat this step for each additional entry.
10. For Exchange Mailbox, Exchange Mailbox/Public Folder Archiver Agents and Exchange Compliance Archiver, to specify a wildcard pattern of the folders that you want to exclude across all mailboxes within the subclient:
    - Click the lower **Add** button.
    - In the Input window, type the wildcard pattern of the folders that you want to exclude from backup/archive operations on the selected subclient.
    - Click **OK**. The path that you typed appears as an entry in the lower pane. Repeat this step if you want to add more entries to the filter.
11. For Exchange Public Folder *i*DataAgents and SharePoint Server *i*DataAgent, to specify an exception to an excluded workspace/folder (i.e., a folder/document that you want included in the backups, but whose parent directory has been excluded), click the lower **Browse** button and expand the *i*DataAgent of the client computer. Click the workspace/folder that you want to include in the backups and then click **Add**. Repeat this step for each additional entry.
12. For Windows/Unix/Macintosh File System *i*DataAgents, File Archiver for Windows/Unix Agents, and ProxyHost *i*DataAgent, to specify an exception to an excluded folder/directory (i.e., a file or folder/directory that you want included in the data protection operations, but whose parent folder/directory has been excluded), do one of the following:
    - Click the lower **Add** button and, in the **Enter Path** window, type the complete path (including drive letter) of the file/folder/directory that you want to include in the backups/archive operations. Repeat this step if you want to add more exceptions to the filter.
    - Click the lower **Browse** button and expand the file system of the client computer. Click the file/folder/directory that you want to include in the backups/archive operations and then click **Add**. Repeat this step for each additional entry.
13. For NetWare File System/NDS *i*DataAgents, to specify an exception to an excluded directory or NDS container (i.e., data that you want included in the backups, but whose parent directory or NDS container has been excluded), do one of the following:
    - To manually enter the path:
        - Click the **Add** button.
        - In the Input window, type the complete path (e.g., VOL1:\demo\disk2\readme) of the data that you want to include.
        - Click **OK**.
    - To browse and select a path:
        - Click the **Browse** button.
        - From the Backup Data window, expand the file system or NDS tree of the NetWare server.
        - Click the file or folder that you want to include in the backups and then click **Add**. Repeat this step for each additional entry.
        - Click **OK.** The selected data displays as entries in the lower pane.
14. Click **OK** to save your changes.

Required Capability: Capabilities and Permitted Actions

To edit a data protection filter entry for a subclient:

1. From the CommCell Browser, right-click the subclient whose data protection filter you want to edit, and then click **Properties** from the shortcut menu.
2. Click the Filters tab of the Subclient Properties dialog box.
3. Click the filter entry that you want to edit, and then click the **Edit** button associated with that pane.
4. Type the changes into the **Enter Path** dialog box, then click **OK**.
5. Click **OK** to save your changes.

NOTES

- When you change a data protection or discovery filter, the change is effective the next time a data protection operation is run on the applicable subclient.
- Performing a full backup after changing filters or exceptions is recommended.

ASSOCIATE A SUBCLIENT TO A STORAGE POLICY

Required Capability: See Capabilities and Permitted Actions

To associate a subclient to a storage policy:

1. From the CommCell Browser, right-click the subclient whose associated storage policy you want to change, then click **Properties** from the shortcut menu.
2. Click the Storage Device tab of the Subclient Properties dialog box.
3. From the **Storage Policy** list of the **Data Storage Policy** tab, select a data storage policy to associate with this subclient. If necessary, click the **Create Storage Policy** button to create a new storage policy to which the subclient can then be associated.
4. From the Changing a Storage Policy window select the next type of backup operation. Click **OK**.
5. If applicable for your agent, you can change the number of data streams from the **Number of Data/Database Backup Streams** field.
6. If applicable for your agent, click the **Log Storage Policy** tab and select a storage policy to associate with this transaction log subclient from the **Transaction Log Storage Policy** list. Also, you can set the **Number of Transaction Log Backup Streams** from this tab.
7. Click **OK** to save your changes and close the Subclient Properties Storage Device tab.

CHANGE ACCOUNT FOR EXECUTING PRE/POST COMMANDS (DATA PROTECTION)

Required Capability: See Capabilities and Permitted Actions

To change a user account for executing pre/post commands for Data Protection jobs:

1. From the CommCell Browser, expand the tree to view the appropriate level icon for the affected agent.
   - From the agent, instance/partition, or backup set/archive set level, right-click the appropriate icon, click **All Tasks**, and click **New Subclient** from the short-cut menu.
   - From the subclient level, right-click the subclient icon and click **Properties** from the short-cut menu.
2. From the Subclient Properties dialog box, create and/or configure the subclient as appropriate. Then click the **Pre/Post Process** tab.
3. From the **Pre/Post Process** tab, click **Change**.
4. From the User Account dialog box, select one of the account options. If you select **Impersonate User**, type the appropriate user name and password.
5. Click **OK** to save the settings.

CONFIGURE A SUBCLIENT FOR PRE/POST PROCESSING OF DATA PROTECTION/ARCHIVE OPERATIONS

Before You Begin

- We recommend not configuring a pre/post process for a subclient that is currently running a data protection or archive operation.
- Verify that there are no pre/post processes already assigned for the subclient.
- Review the Overview and Agent-Specific Guidelines for your agent before configuring pre/post processes for data protection/archive operations.
- Pre-process commands for the *i*DataAgents will be executed only when the necessary resources (e.g., media, library, drive, etc.) are available.

Required Capability: Capabilities and Permitted Actions

To configure a subclient for Pre/Post processing of data protection/archive operations:

1. From the CommCell Browser, right-click the subclient for which you want to configure a pre/post process, and then click **Properties** from the shortcut menu.
2. Click the Pre/Post Process tab of the Properties dialog box.
3. For an agent other than the Oracle RAC *i*DataAgent, click inside the space that corresponds to one of the following phases and type the full path of the process that you want executed during that phase. Alternatively, click **Browse** to locate the process (applicable only for paths that do not contain any spaces). For the Oracle RAC *i*DataAgent, click **Browse** for the corresponding process, click the name of the control node client in the Select Client for Browse dialog box, and click **OK**. Then browse for and click the process.
   - PreBackup
   - PreScan
   - PreArchive

  - PreCopy
  - PreSnap
  - PostBackup
  - PostScan
  - PostArchive
  - PostCopy
  - PostSnap

   Click **OK**.

4. If you want to run a Post Process for all attempts to run that job phase, then select the corresponding checkbox.
5. For subclients on Windows platforms, if **Run As** displays **Not Selected**, or if you want to change the account that has permission to run these commands, click **Change**.
   a. In the User Account dialog box, select **Use Local System Account,** or select **Impersonate User** and enter a user name and password. Click **OK**.
   b. If you selected Local System Account, click **OK** to the message advising you that commands using this account have rights to access all data on the client computer.
6. Click **OK** to save your changes and close the Pre/Post Process tab of the Properties dialog box.

CONFIGURE SUBCLIENT CONTENT

Before You Begin

- Review Subclients.
- Do not configure the content of a subclient while the parent node or any sibling subclient has a data protection or archive operation currently running on it.
- Exchange Mailbox *i*DataAgents and Exchange Mailbox/Public Folder Archiver Agents: If you change the contents of the default backup set or archive set then the auto-discover feature will be disabled. If you disable the auto-discovery feature, newly created mailboxes will not be backed up/archived unless they are manually discovered and assigned to a subclient.
- NAS NDMP *i*DataAgents: You must ensure there is no overlap in content between all subclients. Overlap in subclient content will result in loss of data. An existing subclient's contents are not automatically changed when another subclient is added with overlapping contents.
- SharePoint Server *i*DataAgent: The Site Content Database, the Site Collection Database, the Site Database, and the Site Index for the virtual server must all be assigned to the same subclient.
- Lotus Notes Document *i*DataAgent: Review Assigning Restore View Names to Newly-discovered Databases
- QR Agent: Follow these guidelines when adding a volume to a QR Agent subclient:
  - The volume must correspond to a physical disk or RAID array.
  - A volume created by volume management software other than VxVM is not valid subclient content.
  - Subclients may have overlapping content; however, if two or more subclients overlap, they all must use the same snapshot engine. If the QR policies associated with the subclients are configured to use different snap engines, they must be reconfigured to use the same snap engine in this scenario.
- **Caution Against Re-configuring Default Subclient Content**

  We recommend that you do not re-configure the content of a default subclient because this would disable its capability to serve as "catch-all" entity for client data. As a result, the likelihood that some data will not get backed up or scanned for archiving would increase.

Required Capability: See Capabilities and Permitted Actions

To configure subclient content:

1. From the CommCell Browser, right-click the subclient for which you want to configure content, click **All Tasks** (if applicable) and then click **Properties**.
2. Follow the procedure below that is applicable for your agent:
   - For File System, Active Directory, File Archiver, Exchange Public Folder *i*DataAgents, NDS, and SharePoint Server *i*DataAgents click the Subclient Properties (Content) tab and configure content for the subclient as described below for your agent:
     - For File System, Active Directory, File Archiver, NDS, and SharePoint Server *i*DataAgents: Type the full path of the data that you want to include as subclient content in the **Enter New Content** field, then click **Add**. Optionally, click **Browse** to enter the content. When browsing content while configuring SharePoint subclients, you can add content via multiple selections with the CTRL or SHIFT keys. For Windows, when specifying a UNC Path, click **As User**, and enter the user account information for the domain user with permissions for that path. For NetWare/DNS, see the Notes section below for content path examples. For Unix File Systems, you can enter the mount point of an NFS-mounted file system, see the Notes section below for examples.
     - For Exchange Public Folder *i*DataAgents: Click **Browse**, select folders to include as content, then click **Add**.
     - For the Unix File System *i*DataAgents, to facilitate the management of resource fork data in Apple double-encoded Macintosh files, click **Enable Apple Double Support**.

        - For the Unix File System *i*DataAgents, to view the actual data path for any symbolic link in the subclient content, click **Expand symbolic links of subclient content** and then click **Discover**.
    - For NAS NDMP *i*DataAgents, configure the **Backup Content Path** field(s) as described below, then click **Add**:
        - Click the drop-down list arrow to display the root volumes on the file server. To change the root volume, click one in the list. If you want to refine the content path further, use the space to the right of (or below) the root volume list to enter additional path information. Note the following:
            - For NetApp, the root volume is the mount path of each volume.
              Example: for volume `FS1` the root volume will be `/vol/FS1`.
            - For EMC Celerra, the root volume is the mount point created for a volume.
              Example: for volume `FS1` with mount point `/FS1` the root volume will be `/FS1`.
            - For Hitachi, no root volumes are shown in the drop down list. Type the full path of the root volume.
              Example: for volume `FS1` with mount point `/mnt/FS1` the root volume will be `/mnt/FS1`.
            - For BlueArc, the root volume is a combination of a descriptor of the path and the volume name.
              Example: for volume `FS1` with a mount point of `/` the root volume will be `/__VOLUME__/FS1`.
        - Optionally, for NetApp NAS NDMP, click **Browse** to enter the content.
    - For Exchange Mailbox and Exchange Mailbox/Public Folder Archiver Agents follow the procedure to Discover and Assign New Mailboxes or Assign Mailboxes to Another Subclient.
    - For Lotus Notes Database and Document *i*DataAgents follow the procedure to Discover and Assign New Databases or Assign Databases to a Subclient.
    - For DB2, DB2 DPF, Exchange Database, Novell GroupWise, SharePoint Server, SQL Server Database, Sybase, and MySQL *i*DataAgents, click the Subclient Properties (Content) tab and configure content for the subclient as described below for your agent:
        - For the DB2 *i*DataAgent, specify whether you want to include the entire database or a subset of this data as content for the subclient. For the DB2 DPF *i*DataAgent, specify whether you want to include all the affected database partitions or a subset of this data as content for the subclient.
        - For Exchange and GroupWise *i*DataAgents: Click **Configure**. From the Add/Modify Subclients dialog box click the subclient entry for the database element/Storage Group that you want to add to the new subclient and select the name of the destination subclient from the list that appears. Alternatively, you can select and assign a range of databases/storage groups using the **Change all selected databases/storage groups to** list. Note that you must have at least one database element/Storage Group assigned to this subclient in order to save the configuration.

          A database/Storage Group that is not configured for a subclient does not appear in the list. This can be the case if the subclient containing the database/Storage Group was deleted. If this happens, click **Discover** to display all databases/Storage Groups.
        - For the SharePoint Server *i*DataAgent, follow the procedure to Discover and Assign New Data Types.
        - For the Sybase *i*DataAgent, follow the procedure to Manually Discover Databases.
        - For the MySQL *i*DataAgent, follow the procedure to Configure MySQL Databases.
    - For the Informix *i*DataAgent, click the Subclient Properties (Content) tab and define the contents of the subclient. Specifically, establish the backup mode for the data to be backed up, set the backup level, and decide whether to back up the emergency boot file and/or the ONCONFIG file.
    - For the Oracle, SAP for Oracle, or Oracle RAC *i*DataAgent, click the Subclient Properties (Content) tab and define the contents of the subclient. To configure this subclient for specialized types of backups, follow the appropriate procedure below:
        - Create Subclient for Backing Up Archived Redo Log Files
        - Create Subclient for Backing Up Offline Databases
        - Create Subclient for Backing Up Online Databases
        - Create Subclient for Performing Selective Online Full Backups
    - For SAN *i*DataAgents, click the Subclient Properties (Content) tab and configure content for the subclient as described below for your agent:
        - Image Level on Unix *i*DataAgent: Click **Add**. From the Add Content Path dialog box, select the volume(s) that you want to back up (use CTRL + click to select multiple volumes). Click **OK**. The selected volumes are added to the **Contents of subclient** list. These volumes are automatically configured to be CXBF devices. Alternatively, use Volume Explorer per specific scenarios to configure CXBF devices.

          To configure an unmounted block device or raw device as content, first use Volume Explorer to configure the device as a CXBF device. Then select the configured CXBF device as subclient content. You can ignore the warning that is displayed.

          For more information, see When to Use Volume Explorer. For a step-by-step procedure, see Configure a CXBF Device in Volume Explorer.
        - Image Level and Image Level ProxyHost on Windows *i*DataAgents: Click **Add**. Then in the **Add Content** dialog box, type the full path of the volume or mount point that you want to include as subclient content, then click **Add**. Optionally, click **Browse** to select the content. Click **OK**. The volume or mount point is added to the **Contents of subclient** list. Add additional content by repeating this step.
        - ProxyHost *i*DataAgent: Select a backup host from the **Backup Host** list. This is the computer to which the BCV is connected. Click **Add**. In the **Content** field of the Add/Edit Content for Subclient dialog box, type the primary host path of the content that you want to back up, or click **Browse** to find and select this data. In the **Backup Host BCV Path** field of the Add/Edit Content for Subclient dialog box, type the path through which the backup host accesses this data on the BCV, or click **Browse** to find and select this path. Click **OK**. The primary host data path and corresponding backup host BCV path are added as a single entry in the **Contents of subclient** list. To add additional entries, repeat these steps. Refer to Notes below for more information.
    - For Quick Recovery Agents, click the Subclient Properties (Content) tab and configure the following options:

- Click **Add Volume**. From the Adding Volume dialog box, select volume(s) that you want to add to the subclient content (use CTRL + click to select multiple volumes). You can add/edit additional advanced options for the selected volume by select **Advanced** on the Adding Volume dialog box. Click **OK**.
- Click Add App to select an application and associated volumes. Click **OK**.

  Any instances you intend to protect and recover with the QR Agent must be configured in the QR Agent properties Authentication tab. They will not appear in the Add App dialog box if they are not configured. Only volumes containing datafiles and archive log files will be detected by Add App. Volumes containing control files and redo log files will not be detected.

  For a clustered Exchange Server, if you are *not* using VSS to perform an online quiesce, sufficient permissions are required in order to be able to perform an offline quiesce; in such cases, ensure that the **User Name** specified has Exchange Administrator rights.

  See also Configure Subclients for Overlapping Content.

3. Click **OK** to save your content configuration.

NOTES

- Content examples for NetWare are **OU=prospects**.**O=engineering.[Root]**, (for NDS content), and **SYS:\public** (for File System content).
- Content examples for adding an NFS-mounted file system to subclient content of a Unix File System *i*DataAgent:
  - */mountpointA* to include the entire file system at mountpointA
  - */mountpointA/projects* for only the *projects* directory within the file system at mountpointA.
- Informix subclients include one or more dbspaces. As databases are added to the dbspaces, the subclients are updated automatically.
- Exchange Mailbox *i*DataAgents and Exchange Mailbox/Public Folder Archiver Agents: Initially, all unconfigured mailboxes are assigned to the default subclient. You can create a new subclient and reassign mailboxes to this new subclient (within the same backup set/archive set). Once assigned, the mailboxes become part of the content of the new subclient.
- SharePoint Server *i*DataAgent: Initially, all unconfigured data types are assigned to the default subclient. You can create a new subclient and reassign data types to this new subclient. Once assigned, they become part of the content of the new subclient.
- ProxyHost *i*DataAgent: The primary host data path is backed up by the subclient and is the path through which the backup host accesses this data on the BCV. A primary host path and its corresponding backup host path are listed in the following format:

  <primary_host_path> --> <backup_host_path>

  For example, assume that you want to back up the **D:\data** directory from your primary host and **D:\** is mirrored by a BCV, which is mapped to the backup host as **F:\**. Consequently, the path to this data on the backup host is **F:\data.** When you add this directory to a subclient, it is listed in the **Contents of subclient** pane as **D:\data --> F:\data**.

  > The primary host path in the **Content** field is used for browse and restore purposes. However, it is the data in the **Backup Host BCV Path** which is actually backed up. If these two paths do not accurately correspond, the path that appears when data is browsed for restore does not accurately reflect the data that will be restored. In the example given above, assume that **D:\data** is entered in the **Content** field, while **F:\data1** is accidentally entered in the **Backup Host BCV Path**. If you browse and select **D:\data** to be restored, it is actually **D:\data1** that is restored. (Remember, **F:\Data1** is the path on the backup host that corresponds to **D:\data1** on the primary host.)

CONFIGURE THE SUBCLIENT FOR DATA ENCRYPTION

Encryption settings made at the subclient level are for data protection and recovery operations run from the CommCell Console and are not related in any way to settings made at the instance level which is for third-party Command Line operations only.

See Data Encryption - Support for a list of supported products.

Before You Begin

- Encryption must be enabled at the client level prior to configuring any subclients residing on that client. See Configure the Client for Data Encryption.
- If you are attempting to configure for third-party Command Line operations, do not use this procedure. See Configure Third-party Command Line Operations for Encryption.

Required Capability: Capabilities and Permitted Actions

To configure the subclient for data encryption:

1. From the CommCell Console, right-click the subclient and click **Properties**.
2. From the Subclient Properties (Encryption) tab, select an option based on the criteria described in the Encryption tab help.
3. Click **OK** to save your settings and close subclient properties.

CREATE A NEW SUBCLIENT

Before You Begin

- Review Subclients.
- Do not create a subclient while the parent node or any sibling subclient has a data protection or archive operation currently running on it.
- In cases where a new subclient is created with the same name as a deleted subclient, the system will append a Unix time stamp to the deleted subclient's name in data protection job history reports and views to distinguish the two subclients. For example, `subclientname_1104257351`.
- Informix *i*DataAgents: If you will be using the Informix ONBAR utility to create backup and restore scripts, you need not create subclients. Otherwise, if you will be using the CommCell Console to back up and restore Informix database objects (subsets/dbspaces), then you will need to create a subclient.
- ProxyHost *i*DataAgents: If you are using a BCV, you must prepare a batch file or a shell script file on the backup host containing commands to synchronize and split the BCV. The Resource Pack includes information on configurations for these batch files or shell scripts, as well as examples that apply to specific applications and hardware (e.g., Exchange databases in an EMC Symmetrix environment). See Resource Pack for more information on the Resource Pack.

  The ProxyHost *i*DataAgent also requires that you set permissions for the batch/shell script file on the backup host.
- SQL Server Database *i*DataAgents: When running on Windows Server 2003 and VSS is enabled, the **New Subclient** command is not available.
- PostgreSQL *i*DataAgents: Once you configure the PostgreSQL instance, the system automatically generates the default backup sets and default subclients. However, you can use the CommCell Console to create user-defined subclients for dump backup sets to distribute some of the database content. You cannot create user-defined subclients for FS backup sets.

Required Capability: See Capabilities and Permitted Actions

To create a new subclient:

1. From the CommCell Browser, right-click the node (agent/backup set/archive set/instance) for which you want to create a new subclient, click **All Tasks** (if applicable), and then simply click **New Subclient** for most agents.
   - For the SQL Server *i*DataAgent, expand **New Subclient** and click either **Database** to include individual databases or **File/File Group** to include database elements**.**
2. Click the General tab or General (Quick Recovery Agent) tab of the Subclient Properties dialog box and type the name (up to 32 characters) of the subclient that you want to create.
   - For supported agents identified in Support Information - Snapshot Engines, you can select a QSnap option to snap data and then perform a data protection operation on the data.
   - For Image Level on Unix and Image Level ProxyHost on Unix, use the **Incremental Support Using** field to configure either a CXBF subclient or a checksum subclient and to enable incremental support for either subclient type.
   - For QR Agents, you must also select a QR Policy from the **QR Policy** list.
   - For the Windows *i*DataAgents that support VSS, you can optionally Enable VSS on a Subclient.
3. Select other options from the General tab as appropriate for the agent.
4. Click the **Content** or **Databases** tab of the Subclient Properties dialog box and Configure Subclient Content as appropriate for your agent.
5. For all agents (except QR), click the Storage Device (Data Storage Policy) tab of the Subclient Properties dialog box, then select a data storage policy to associate with this subclient from the storage policy list.
   - For the DB2 and DB2 DPF *i*DataAgents, you can also change the number of data backup streams. For the DB2 DPF *i*DataAgent, the default stream threshold should be equal to the total number of database partitions for the subclient.
   - For SQL Server *i*DataAgents, you can also click the Storage Device (Log Storage Policy) tab of the Subclient Properties dialog box, then select a log storage policy to associate with this subclient from the storage policy list and select the number of backup streams for transaction log backup jobs.
   - For 1-Touch for Unix, it is strongly recommended that the storage policy that you select for the subclient configured for 1-Touch use a MediaAgent on a different computer. If you do this, and if the system crashes, the media will not have to be exported to another MediaAgent in order to recover the system.
6. For Oracle and DB2 *i*DataAgents, click the Backup Arguments (Oracle) or Backup Arguments (DB2, DB2 DPF) tab of the Subclient Properties dialog box and Configure Backup Arguments as appropriate for your agent. Note that the backup arguments for Informix are located on the Content tab.
7. For Migration Archiver Agents, click the **Archiving Rules** or **Rules** tab of the Subclient Properties dialog box and configure archiving rules as appropriate for your agent. In order to perform rules-based migration archiving operations, the **Disable All Rules** checkbox must be cleared.

   If the File Archiver for Windows supports Data Classification, several filter-like configuration fields are defined as archiving rules and are available from the Subclient Properties (Rules) tab. If you want to define content and archiving rules based on file attributes other than volumes, size, and modified time (i.e., if you want to customize your rules), click the Advanced tab and configure as appropriate. Also, stub management options can be configured from the Stub Rule tab. See Configure Archiving Rules - File Archiver Agents for step-by-step instructions.
8. For ProxyHost and Image Level ProxyHost *i*DataAgents, click the Pre/Post Process tab of the Subclient Properties dialog box. In the **PreScan** field, type the path to the batch file/shell script file that contains those commands that are to run before each backup of the subclient, or click **Browse** to locate and select this file. For ProxyHost and Image Level ProxyHost, the file must reside on the backup host or primary host.
9. Optionally (if supported for your agent) you can:
   - Add a Data Protection or Discovery Filter for a Subclient on the Filters tab.

- Configure a Subclient for Pre/Post Processing of Data Protection/Archive Operations on the Pre/Post Process tab.
- Enable Software Compression for a Subclient on the Software Compression tab of the **Storage Device** tab.
- Configure the Subclient for Data Encryption on the Encryption tab.
- Enable or Disable Operations for this subclient on the Activity Control tab.
- Configure Mailbox Stores for Auto-Discovery on the Auto-discovery tab.
- Configure the Subclient for 1-Touch on the 1-Touch Recovery tab.
- View or change the user group security associations for this subclient from the Security tab.
- Determine location from where archive logs will be backed up or deleted from the Log Destinations tab.

10. Click **OK** to save the subclient configuration. For QR Agents, this procedure is now complete. For all other agents, continue on to the next step.
11. The Backup Schedule dialog box advises you to schedule data protection operations for your new subclient. It is recommended you elect to set a schedule now. You can also associate this subclient with an All Agent Types schedule policy (which is automatically created by the system, or can be a user defined Data Protection schedule policy). If you have already associated a schedule policy at a previous level (Backup Set/Instance, Agent, Client, or Client Computer Group) the schedules defined in the Schedule Policy will be automatically applied to the new subclient. See Schedule Policy for more information.
    - If you want to associate this subclient with an All Agent Types schedule policy, click **Associate with Generic Schedule Policy**, and then select that schedule policy from the drop-down list box. Click **OK**.
    - If you want to associate this subclient with a specific schedule policy, click **Associate to schedule policy**, and then select the schedule policy from the drop-down list box. Click **OK**.
    - If you have selected to define a schedule for this subclient:
        - Click **Schedule**.
        - From the Backup/Archive Options dialog box, select the type of data protection operation that you want to schedule.
        - If you want to set Advanced Backup/Archive Options, click **Advanced**.
        - After selecting the data protection type and any advanced options, click **OK**. The **Schedule Details** dialog box appears.
        - From the Schedule Details tab, select the scheduling options that you want to apply, then click **OK**.
    - If you don't want to create a data protection schedule at this time, click **Do Not Schedule,** and then click **OK**.

This task is now complete.

DELETE A DATA PROTECTION FILTER FROM A SUBCLIENT

Before You Begin

- Review Filters.
- Do not change the data protection or discovery filter of a subclient that has a data protection operation in progress.
- File Archiver for Windows/Unix Agents: We recommend that you don't delete the following entries from the exclusion filter, as it could cause your file system to be inoperable. For Windows, these include: *.dll, *.bat, *.exe, *.cur, *.ico, *.lnk. For Unix, these include *.a, *.ksh, *.csh, *.sh, *.lib, *.so.

Required Capability: Capabilities and Permitted Actions

To delete a data protection or discovery filter entry from a subclient:

1. From the CommCell Browser, right-click the subclient whose data protection or discovery filter you want to delete, and then click **Properties** from the shortcut menu.
2. Click the Filters tab of the Subclient Properties dialog box.
3. To delete an entry from the Exclusions list, click the entry in the upper pane then click the upper **Delete** button. (Repeat this step for each entry that you want to delete.)
4. To delete an entry from the Exceptions list (if applicable for your agent), click the entry in the lower pane then click the lower **Delete** button. (Repeat this step for each entry that you want to delete.)
5. Click **OK** to save your changes.

NOTES

- Whenever you delete an entry from the exclusion filter, check if the exceptions list (i.e., lower pane) contains any entries that are children of the deleted data (if applicable for your agent). If so, you should delete them as described in Step 4 since they no longer need to be listed. The system automatically deletes any exceptions that are children of a deleted exclusion unless you used wildcard expressions in the exclusion path.
- When you change a data protection or discovery filter, the change is effective the next time the subclient is backed up/archived.
- Data will not be backed up in a differential backup for a subclient after a filter was removed.
- Since Incremental backups only back up data that has been modified since the last backup, previously filtered files whose filters are now removed, will not

be backed up unless they have been modified since that last backup. To back up previously filtered files that have not been modified but whose filters have been removed since the last backup, you need to run a Full backup.

- Performing a full backup after changing filters or exceptions is recommended.

Delete a User-Defined Subclient

Related Topics:

- Command Line Interface - qdelete subclient
- Subclients

Required Capability: See Capabilities and Permitted Actions

To delete a user-defined subclient:

1. From the CommCell Browser, right-click the user-defined subclient that you want to delete, and then click **Delete** from the shortcut menu.
2. A confirmation message is displayed, asking if you want to delete the subclient.
   Click **No** to cancel the deletion and retain the subclient, or click **Yes** to continue the deletion. If you click **Yes**:
   - the subclient, and any data that may have been protected/archived by the subclient are logically deleted, and you can no longer access the corresponding data for recovery/retrieve purposes. However, the data remains valid for the length of time specified by the associated retention period. Some agents allow you to browse data from a deleted subclient provided that the Browse Data Before date and time precedes the time that the user-defined subclient was deleted.
   - for agents that support a default subclient, once the user-defined subclient is deleted its contents are automatically reallocated to the default subclient the next time a data protection/archive/discovery operation is run on the default subclient to ensure data protection coverage.
   - the system deletes the selected subclient node and removes it from the CommCell Browser.
   - the system deletes any data protection/archive and recovery/retrieve job schedules that are associated with the subclient.

Enable or Disable Operations

Required Capability: See Capabilities and Permitted Actions

Level	Capability
CommCell	Administrative Management with CommCell level association
Client Computer Group	Administrative Management with Client Computer Group level association
Client	Agent Management with Client level association
Agent	Agent Management with Agent level association
Subclient	Agent Management with Subclient level association

To enable or disable activity control at the CommCell, client computer group, client, agent, or subclient levels:

1. From the CommCell Browser, right-click the CommServe, client computer group, client computer, agent, or subclient, and then click **Properties** from the short-cut menu.
2. From the Activity Control tab of the associated Properties dialog box, select or clear option(s), as desired.
3. Click **OK**.

Disabled data management and/or data recovery operations are displayed with client and/or agent icon changes in the CommCell Browser. For a comprehensive list of all icons in the CommCell Console, see CommCell Console Icons.

Enable or Disable Software Compression for a Subclient

Before you Begin

- Do not enable/disable software compression for a subclient that is being backed up/archived.

Required Capability: Capabilities and Permitted Actions

To enable software compression for a subclient:

1. From the CommCell Browser, right-click the subclient for which you wish to enable software compression and then click **Properties**.
2. Click the **Storage Device** tab and from the Data Storage Policy tab, select the storage policy from the **Storage Policy** list.

   If applicable for the selected agent, click the Log Storage Policy tab and select a storage policy from the **Transaction Log Storage Policy** list.
3. Then click the Storage Device (Data Transfer Option) tab and choose the appropriate compression option for this subclient.

4. Click **OK** to save your changes.

This task is now complete.

REMOVE A PROCESS FROM PRE/POST PROCESSING OF DATA PROTECTION/ARCHIVE OPERATIONS

Before You Begin

- We recommend not removing a pre/post process for a subclient that is currently running a data protection or archive operation.
- Review the Overview and Agent-Specific Guidelines for your agent before removing pre/post processes for data protection/archive operations.

Required Capability: Capabilities and Permitted Actions

To remove a process from Pre/Post processing of data protection/archive operations:

1. From the CommCell Browser, right-click the subclient for which you want to remove a pre/post process, and then click **Properties** from the shortcut menu.
2. Click the Pre/Post Process tab of the Subclient Properties dialog box.
3. Click the text inside the space that corresponds to one of the following phases for which you want a pre/post process removed, then press the **Delete** key:
   - PreScan
   - PreArchive
   - PreCopy
   - PreSnap
   - PostBackup
   - PostScan
   - PostArchive
   - PostCopy
   - PostSnap
4. Repeat Step 3 for any additional processes that you want to remove.
5. Click **OK**.

RENAME A SUBCLIENT

Before You Begin

- You can rename a subclient at any time. However, we recommend that you don't rename a subclient while a data protection or archive operation is running on that subclient.
- In cases where a subclient is renamed using the same name as a deleted subclient, the system will append a Unix time stamp to the deleted subclient's name in data protection job history reports and views to distinguish the two subclients. For example, `*subclientname*_1104257351`.

Required Capability: See Capabilities and Permitted Actions

To rename a subclient:

1. From the CommCell Browser, right-click the subclient that you want to rename, and then click **Properties** from the shortcut menu.
2. From the Subclient Properties (General) tab, or the QR Agent Subclient Properties (General) tab, type the new name in the **Subclient Name** field, and then click **OK**.

The CommCell Browser updates the subclient with its new name. The new name will also be reflected in any associated schedules and reports.

SET THE NETWORK BANDWIDTH AND NETWORK AGENTS FOR A DATA PROTECTION OPERATION

Before you Begin

- Do not modify the network bandwidth and network agents for a subclient or instance that is being backed up.

Required Capability: Capabilities and Permitted Actions

To Set the Network Bandwidth and Network Agents for a Data Protection Operation:

1. From the CommCell Browser, right-click a subclient and then click **Properties.**

   For the DB2, DB2 DPF, Informix, Oracle, Oracle RAC, SAP, or Sybase *i*DataAgent, right-click an instance and then click **Properties.**

2. Click the **Storage Device** Data Transfer Option tab.

   For the QR Agent:

   - To control network bandwidth settings, use the Throttle Network Bandwidth section in the General tab of the Subclient Properties dialog box.
   - To control the number of network agents, you must create a `nQRNetworkAgents` registry key.
3. Enter a number of **Network Agents** that must be used to perform data protection operations on the subclient/instance.
4. Click the **Throttle Network Bandwidth (MB/HR)** option and then enter the throughput as needed. Note that throttling is done on a per Network Agent basis.
5. Click **OK** to save the changes.

This task is now complete.

VIEW DATA PATHS ASSOCIATED WITH A SUBCLIENT

Required Capability: See Capabilities and Permitted Actions

To view data paths:

1. From the CommCell Browser, right-click the subclient whose data paths you want to view, then click **Properties** from the shortcut menu.
2. Click the Storage Device tab of the Subclient Properties dialog box.
3. From the **Data [or Logs] Storage Policy** tab, click **Show Data Paths** to view the data paths used by the subclient to access the storage media for data protection operations. Click **Close** to exit the Data Paths dialog box.
4. Click **OK** to exit the Subclient Properties Storage Device tab.

VIEW SUBCLIENT CONTENT

Required Capability: See Capabilities and Permitted Actions

To view content of a subclient:

1. From the CommCell Browser, right-click the subclient whose content you want to view, then click **Properties**.
2. From the Subclient Properties dialog box, click the **Content** tab (or **Databases** tab for Lotus Notes) to view the contents of the subclient.
3. Click **OK** to close the dialog box.

Back To Top

Backup Job History

Topics | How To | Related Topics

OVERVIEW

You can view the backup and restore history of *i*DataAgents, BackupSets/Instances, and subclients.

The **Backup Job History Filter** dialog box allows you view detailed, historical information about backup jobs. Once you have chosen your filter options, they are displayed in the **Backup Job History** window.

For information on Job Details displayed in the Job History, see Viewing Job Information.

From this window, you can right-click a backup job to:

- Browse the data backed up by the backup set or instance from the **Backup Job History** window. This is provided as right-click option for each job. (This menu option, when selected, initiates the **Browse Options** dialog box preset with the values needed to browse the data.)
- Browse the snapshots created during SnapProtect backup
- View items that failed during the backup job
- View details of the backup job
- View files that were not indexed during a backup job that performed content indexing
- View associated media
- View events of the backup job
- View a list of items that were backed up
- View a list of items that were moved to media for a SnapProtect backup job
- View the log files of the backup job.
- View the RMAN log of an Oracle backup job.
- View the BRTools log of a SAP for Oracle job. You can view the BRTools log for only those jobs that were initiated from the CommCell Console.

ITEMS THAT WERE BACKED UP

The **View backup file list** option allows you to view a list of the files that were backed up during a backup job, along with the data sizes of each backed up file. The **View backed up messages** option allows you to view a list of messages that were backed up by using, along with the alias name, display name, email address, sender name, and recipient of each message.

From these windows you can conduct searches based on a particular string, allowing to find particular files quickly and easily.

It is not recommended that this option is used to view a very large list of items that were backed up (such as lists that total over 100,000 items). It is suggested that the Browse option is used to find a list of backed up items in such cases.

See View the Items That Were Protected During a Data Protection Operation for step-by-step instructions.

ITEMS THAT FAILED

The items that failed for a data protection operation include individual files that may fail the job even though a particular job completed successfully. You can determine the degree of success for these jobs using this window.

Filters can be used in conjunction with the "Items That Failed" list on the data protection Job History Report to eliminate backup or archive failures by excluding items which consistently fail that are not integral to the operation of the system or applications. Some items fail because they are locked by the operating system or application and cannot be opened at the time of the data protection operation. This often occurs with certain system-related files and database application files.

Also, keep in mind that you will need to run a full backup after adding failed files to the filter in order to remove them.

A listing of files and folders that failed is not available for the Quick Recovery Agent, or the Image Level and Image Level ProxyHost *i*DataAgents. These agents do not perform a file level backup/copy.

Certain application related files can never be backed up by the File System *i*DataAgent due to the nature of the data. For example, Microsoft SQL Server database files cannot be backed up by the File System *i*DataAgent. In this and other similar circumstances, consider entering files such as these as exclusions in the corresponding subclient filter.

See View the Items That Failed For a Data Protection Operation for step-by-step instructions.

PRUNING BACKUP HISTORY INFORMATION

You can prune backup history information based on the number of days established in the **Days to keep the backup job histories** option from the **Media Management Configuration (Service Configuration)** dialog box available in the **Control Panel**.

If you have installed the SQL Server *i*DataAgent, do not use the stored procedure **sp_delete_backuphistory, sp_delete_database_backuphistory** and **sp_delete_backup_and_restore_history** provided by Microsoft clean up backup history. By default backup history is automatically pruned from the CommServe database and the Microsoft SQL Server, as necessary.

SUPPORTED FEATURES

- NAS *i*DataAgents do not support the ability to view items that failed.
- The Image Level and Image Level ProxyHost *i*DataAgents do not support the ability to Browse the data of a selected backup job in Backup Job History.

CONTENT INDEXING HISTORY INFORMATION

Content Indexing history can also be viewed of *i*DataAgents, BackupSets/Instances, and subclients. The following information is displayed:

ITEMS THAT WERE SUCCESSFULLY CONTENT INDEXED

You can view the list of items that were successfully content indexed during a Content Indexing operation for a particular job. for step-by-step instructions, see View the Items that Were Successfully Content Indexed.

CONTENT INDEXING FAILURES

Content Indexing failures allows you to look at the messages, files and documents that could not be indexed during a content indexing operation. Content Indexing looks at each file (of the supported data types) and indexes its contents allowing advanced searches of backed up/archived/migrated data.

Files that were not indexed, (perhaps because the file's content could not be read) are added to the Content Indexing Failures list, and are viewable from the View Content Index (Failed Items) option in the Job History window. For step-by-step instruction, see View the Items that Failed to Content Index.

Back to Top

Backup Job History - How To

Topics | How To | Related Topics

View Backup Job History

View the Items That Were Protected During a Data Protection Operation

View the Items That Failed For a Data Protection Operation

View Job History Details

View the Media or Mount Paths of a Job History

View the Events of a Job History

View the Items that were Moved to Media during SnapProtect Backup

View the Log Files of a Job History

View the Items that Were Not Indexed During Content Indexing

View the Items that Were Successfully Content Indexed

Resubmit a Backup Job

VIEW BACKUP JOB HISTORY

To view backup history:

1. From the CommCell Browser, right-click the entity (client computer, *i*DataAgent, backup set or subclient) whose backup history you want to view, click **View**, and then click **View Backup History.**
2. From the Backup History filter window select the filter options, if any, that you want to apply, and then click OK. The system displays the Backup Job History window.
3. Click **OK**.

VIEW THE ITEMS THAT WERE PROTECTED DURING A DATA PROTECTION OPERATION

This option is available for File System-like agents.

Required Capability: none required

To view the list of items that were protected during a data protection operation.

1. From the CommCell Browser, right-click the entity whose history of data protection operations you want to view, click **View**, and then click the necessary options to view a job history.
2. From the Job History Filter dialog box, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the operation whose list of protected items you want to view, and then select **View backup file list/View Backed Up Messages.** The **Backup file List** window displays a list of the backed up files/messages that were included in the backup job. You can use the **Search** option to find items in the window.
4. Click **File** -> **Exit**.
5. Click **Close** from the **Job History** window.

VIEW THE ITEMS THAT FAILED FOR A DATA PROTECTION OPERATION

A listing of files and folders that failed is not available for the Quick Recovery Agent, nor the Image Level and Image Level ProxyHost *i*DataAgents. These agents do not perform a file level backup/copy.

To view the list of items that failed for a data protection operation:

1. From the CommCell Browser, right-click the entity whose history of data protection operations you want to view, click **View**, and then click to view a job history.
2. From the Job History Filter dialog box, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the operation whose list of failed items you want to view, and then select **View Failed Items**. The **Unsuccessful Backup Files** window (for DataArchiver Agents, **Items On Which Archive Failed**) displays those items that failed. If no items failed, a message to that effect is displayed.
4. Click **Close**.

VIEW JOB HISTORY DETAILS

Required Capability: See Capabilities and Permitted Actions

To view the details of a job history:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job history you want to view, click **View**, and then click job history.
2. From the Job History Filter dialog box, select the filter options that you want to apply and click **OK**.

3. From the Data Management Job History window, right-click the job whose job details you want to view, and then click **View Job Details**.
4. The Job Details dialog box appears, displaying detailed job history in General, Details, Phase Details and Attempts tabs for the selected job.
5. Click **OK**.

If viewing the details of a job with a pending or failed status, the **Reason for Job Delay** field will contain an Error Code, which, if clicked, will launch the customer support website displaying troubleshooting article(s) related to the specific issue.

VIEW THE MEDIA OR MOUNT PATHS OF A JOB HISTORY

To view media or mount paths associated with a job history:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job history you want to view, click **View**, and then select the appropriate history.
2. From the Job History window select the filter options, if any, that you want to apply, and then click **OK**.
3. From the job history widow, right-click the backup whose media or mount paths you want to view, and then click **View Media**.
4. The Media Used By Job ID window displays a list of media or mount paths used by the operation.
5. Click **OK**.

VIEW THE EVENTS OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

To view the events associated with a job:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job history you want to view, click **View**, and then click **Job History**.
2. From the Job History Filter dialog box, select the filter options that you want to apply and click **OK**.
3. From the Data Management Job History window, right-click the job whose job details you want to view, and then click **View Events**.
4. The All Found Events window gets displayed. If no events where found for the back up, a message is displayed to that effect.
5. Click **Close**.

VIEW THE ITEMS THAT WERE MOVED TO MEDIA DURING SNAPPROTECT BACKUP

This option is available for the SnapProtect Backup.

To view the list of items that were moved to tape during SnapProtect Backup.

1. From the CommCell Browser, right-click the entity whose history of data protection operations you want to view, click **View**, and then click the necessary options to view a job history.
2. From the Job History Filter dialog box, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the operation whose list of items moved to media you want to view, and then select **View Backup Copy file listing.** The **Backup file List** window displays a list of the backed up files that were included in the backup copy job. You can use the **Search** option to find items in the window.

   - To view the files moved to media for a backup copy job, right-click the SnapProtect backup job corresponding to the Backup Copy job and select **View Backup Copy file listing**.
   - View backup items will not display anything for a Backup Copy job.
4. Click **File** -> **Exit**.
5. Click **Close** from the **Job History** window.

VIEW THE LOG FILES OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

To view the log files of a Job History:

1. From the CommCell Browser, right-click the entity whose job history you want to view, and then click to view a job history.
2. From the job history filter window select the filter options, if any, that you want to apply, and then click **OK**.
3. From the job history window, right-click the job whose log files you want to view, and then click **View Logs**.
4. The contents of the log file related to the selected job history are displayed in the **Log File for Job *n*** window.

VIEW THE ITEMS THAT WERE SUCCESSFULLY CONTENT INDEXED

This option is available for operations that performed content indexing.

To view the list items that were not indexed during content indexing:

1. From the CommCell Browser, right-click the entity whose operations you want to view, click **View**, and then click the necessary options to view a job history.
2. From the Job History Filter dialog box, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the job for which you want to view the successfully content indexed items, select **View Content Index**, and click **Successful Items**.
4. Click **Close**.
5. Click **Close** from the **Job History** window.

VIEW THE ITEMS THAT FAILED TO CONTENT INDEX

This option is available for operations that performed content indexing.

To view the list of items that failed to content index:

1. From the CommCell Browser, right-click the entity whose operations you want to view, click **View**, and then click the necessary options to view a job history.
2. From the Job History Filter dialog box, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the job for which you want to view the list of items failed to content index, select **View Content Index**, and click **Failed Items**.
4. Click **Close**.
5. Click **Close** from the **Job History** window.

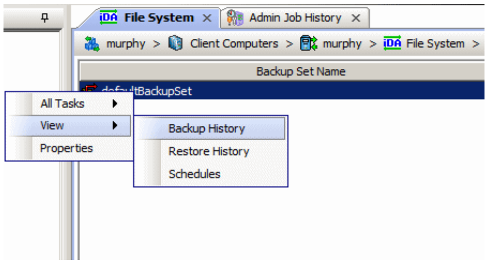
RESUBMIT A BACKUP JOB

To resubmit a backup job:

1. From the CommCell Browser, right-click the subclient whose backup history you want to view, click **View**, and then click **View Backup History.**

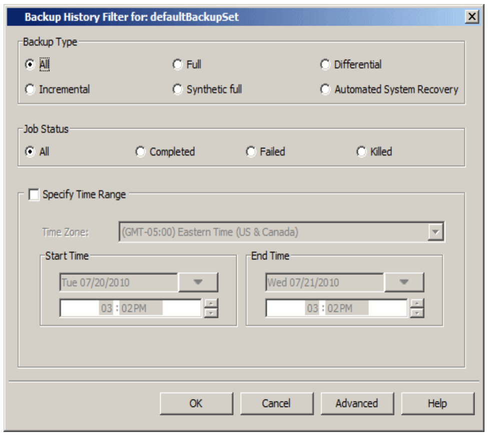
Additionally, you can view the backup history for a client computer, *i*DataAgent, or backup set . However, the dialogs displayed may be different.

Note, if viewing the backup history for a client computer, right-click the comptuer name and select **Job History.**



2. From the Backup History filter window select the filter options, if any, that you want to apply, and then click OK. The system displays the Backup Job History window.

Note: If viewing the job history for a client computer, ensure that the **Backup** radio button is selected.



Backup Type
● All ○ Full ○ Differential
○ Incremental ○ Synthetic full ○ Automated System Recovery

Job Status
● All ○ Completed ○ Failed ○ Killed

□ Specify Time Range

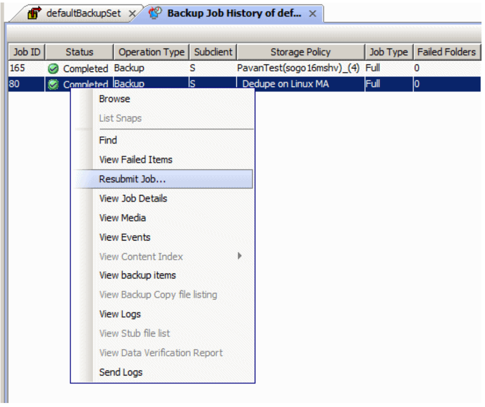
Time Zone: (GMT-05:00) Eastern Time (US & Canada)

Start Time: Tue 07/20/2010 03 : 02PM

End Time: Wed 07/21/2010 03 : 02PM

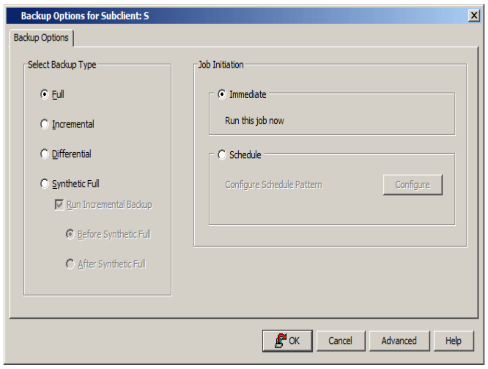
3. The Backup Job History window displays with the specified filter options.

4. Right-click on any job, and select **Resubmit Job**.



Job ID	Status	Operation Type	Subclient	Storage Policy	Job Type	Failed Folders
165	Completed	Backup	S	PavanTest(sogo16mshv)_(4)	Full	0
80	Completed	Backup	S	Dedupe on Linux MA	Full	0

5. From the Backup Options dialog box, select the job options appropriate for the job you want to restart.



Select Backup Type
● Full
○ Incremental
○ Differential
○ Synthetic Full
☑ Run Incremental Backup
● Before Synthetic Full
○ After Synthetic Full

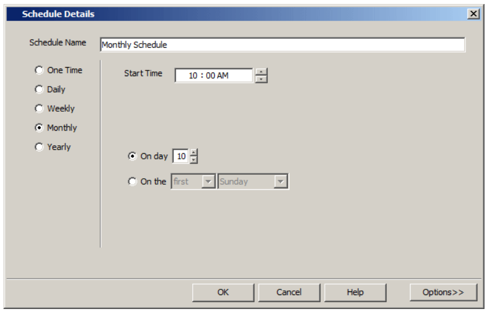
Job Initiation
● Immediate
Run this job now
○ Schedule
Configure Schedule Pattern

6. If you need to run the backup operation immediately, select **Immediate** from the **Job Initiation** tab. Go to step 11.

7. If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.

8. From the **Schedule Details** dialog box that appears, select the appropriate scheduling options.

   Click **Options** to view the Advanced Schedule Options dialog box.



Schedule Name: Monthly Schedule

○ One Time
○ Daily
○ Weekly
● Monthly
○ Yearly

Start Time: 10 : 00 AM

● On day 10

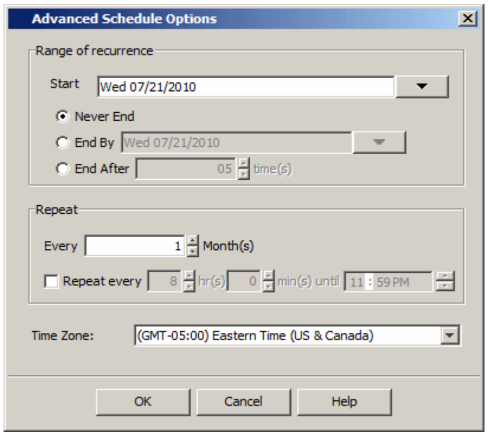
○ On the first Sunday

9. From the **Advanced Schedule Options** dialog box:

   - **Range of recurrence**: Specify the date on which you want this schedule to take effect.

- **Repeat**: Select the value for which you want to run the job repeatedly on the day in which the job is scheduled to run.
- **Time Zone**: Select a specific time zone from which the job schedule time will be based.

Click **OK** to close the **Advanced Schedule Options** dialog box**.**



Advanced Schedule Options

Range of recurrence

Start Wed 07/21/2010

● Never End

○ End By Wed 07/21/2010

○ End After 05 time(s)

Repeat

Every 1 Month(s)

□ Repeat every 8 hr(s) 0 min(s) until 11 : 59 PM

Time Zone: (GMT-05:00) Eastern Time (US & Canada)

10. Click **OK** to close the **Schedule Details** window.

11. Click **OK** to close the job restart window.

Back to Top

Restore Job History

Topics | How To | Related Topics

OVERVIEW

The **Restore History Filter** dialog box allows you to view detailed, historical information about restore jobs.

For information on Job Details displayed in the Job History, see Viewing Job Information.

Once you have chosen your filter options, they are displayed in the **Restore Job History** window. From this window you can right-click a restore job to:

- View Restore Items; items in the job that were **Successful**, **Failed**, **Skipped** or **All**. These items, if any, will be listed in the **Restored Files** window.
- View Job Details of the restore job. The job details will be listed in the **Job Details** window.
- View Events of the restore job. The job events will be listed in the **All Found Events** window.
- View Log files of the restore job. The job log files will be listed in the **Log File** window.
- View the RMAN Log of an Oracle restore job. The RMAN Log will be listed in the **Oracle Restore Log** window.
- View the BRTools log of a SAP for Oracle restore job. You can view the BRTools log for only those jobs that were initiated from the CommCell Console.

ITEMS THAT ARE RESTORED

When viewing files that are restored in the **Restored Files** window, each of the files is listed with the restore status level appended at the end of the file path. The possible status levels are: `RESTORED`, `FAILED` and `OLDER`.

Successfully restored files will be listed with `RESTORED` appended to the file path. If files are not restored/recovered due to errors, the file paths will be appended with `FAILED`. Under some circumstances, the system may not restore/recover certain files because they are older versions of the same files already present in the files system; these files are appended with the word `OLDER`.

SUPPORTED FEATURES

Consider the following.

- NAS *i*DataAgents do not support the ability to view failed/successful item lists.
- Restore Job History will not display Oracle `rman_util` jobs at the instance level.

Back to Top

Restore History - How To

Topics | How To | Related Topics

VIEW RESTORE JOB HISTORY

To view the restored items associated with a job:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job restore history you want to view, click **View**, and then click **Restore History**.

2. From the Job History filter window, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the Job History window, right-click the job whose restored items you want to view; click **View Restore Items**, and select from the type of items to view: **Successful**, **Failed**, **Skipped** or **All**.
4. The **Restored Files** window will display the selected type of restored items for the job.
5. Click **OK**.

VIEW THE EVENTS OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

To view the events associated with a job:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job history you want to view, click **View**, and then click **Job History**.
2. From the Job History Filter dialog box, select the filter options that you want to apply and click **OK**.
3. From the Data Management Job History window, right-click the job whose job details you want to view, and then click **View Events**.
4. The All Found Events window gets displayed. If no events where found for the back up, a message is displayed to that effect.
5. Click **Close**.

VIEW THE MEDIA OR MOUNT PATHS OF A JOB HISTORY

To view media or mount paths associated with a job history:

1. From the CommCell Browser, right-click the entity (e.g., subclient, client computer, etc.) whose job history you want to view, click **View**, and then select the appropriate history.
2. From the Job History window select the filter options, if any, that you want to apply, and then click **OK**.
3. From the job history widow, right-click the backup whose media or mount paths you want to view, and then click **View Media**.
4. The Media Used By Job ID window displays a list of media or mount paths used by the operation.
5. Click **OK**.

VIEW THE LOG FILES OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

To view the log files of a Job History:

1. From the CommCell Browser, right-click the entity whose job history you want to view, and then click to view a job history.
2. From the job history filter window select the filter options, if any, that you want to apply, and then click **OK**.
3. From the job history window, right-click the job whose log files you want to view, and then click **View Logs**.
4. The contents of the log file related to the selected job history are displayed in the **Log File for Job *n*** window.

Back to Top

ProxyHost with CVSnaptool - Truncating Exchange Logs

OVERVIEW

The following section provides instructions for using CVSnaptool with a hardware snap engine and the ProxyHost *i*DataAgent to quiesce, unquiesce, and to eventually truncate the Exchange transaction logs. This is effected by first marking the last consistent log during the quiesce and saving that information to an `ini` file, which is referenced later to truncate the committed Exchange transaction logs from the quiesce time.

BATCH FILES FOR EXCHANGE LOG TRUNCATION

A standard ProxyHost backup typically uses two batch files that perform the following functions:

- **PreScan batch file**
  - CVSnaptool quiesce
  - HW snap creation
  - CVSnaptool unquiesce
  - HW snap import
- **PostBackup batch file**
  - HW snap cleanup

With Exchange log truncation added, the batch file adds the Exchange Log truncation functionality:

- **PreScan batch file**
  - CVSnaptool quiesce and mark last consistent log in `ini` file
  - HW snap creation
  - CVSnaptool unquiesce
  - HW snap import
- **PostBackup batch file**
  - HW snap cleanup
  - CVSnaptool Exchange log truncation based on `ini` file

EXAMPLE PRESCAN BATCH FILE

```
@REM Vars (var for ini file is mandatory, call it whatever you want)

SET CV_INI_FILE_NAME=%windir%\temp\Truncate.ini

SET GalaxyBaseDir=<install_direcory>\Base

@REM Cleanup preexisting ini file first (NEW - a safety measure to guarantee no leftover exchange info).

DEL %CV_INI_FILE_NAME%

@REM Quiesce section (Changes).

"%GalaxyBaseDir%"\Cvsnaptool.exe -x <client_name> -a ex2003 -g SG2 -o quiesce -markexchlogs -ini %CV_INI_FILE_NAME% -vm
<InstanceName*> -cn <ClientName>

@REM Snap section (no change)

<HW snap creation cmd>

@REM Unquiesce section (no change)
```

```
"%GalaxyBaseDir%"\Cvsnaptool.exe -x <client_name> -a ex2003 -g SG2 -o unquiesce -vm <InstanceName*> -cn <ClientName>

@REM Import section (no change)

<HW snap import cmd>
```

EXAMPLE POSTBACKUP BATCH FILE

```
@REM Vars (changes)

IF '%6'=='1' GOTO BACKUP_SUCCESSFUL

net send <client_name> backup phase did not complete successfully, so I won't execute the log truncation

exit 1

:BACKUP_SUCCESSFUL

SET CV_INI_FILE_NAME=%windir%\temp\Truncate.ini SET GalaxyBaseDir=<install_direcory>\Base

@REM Destroy snap

net send <client_name> snap destroyed

@REM Truncate section (NEW).

"%GalaxyBaseDir%"\Cvsnaptool.exe -o truncateexchlogs -ini %CV_INI_FILE_NAME% -vm <InstanceName*> -cn <ClientName>
```

* InstanceName is the name used for a Proxy Host instance (by default it is Instance001). If multiple instances of Proxy Host are installed use the corresponding instance name, see Multi Instancing for more information.

CONFIGURING PROXYHOST FOR EXCHANGE LOG TRUNCATION

Required Capability: Capabilities and Permitted Actions

To configure ProxyHost to truncate Exchange Logs:

1. Create the PreScan and PostBackup batch files, using the example scripts above. These files must reside on the backup host or primary host.
2. Install the ProxyHost *i*DataAgent on the production server, and the Windows File System *i*DataAgent on both the production server and backup host. Refer to Deployment - ProxyHost *i*DataAgent and Deployment - Windows File System *i*DataAgent.
3. Configure a supported Snapshots Environment.
4. Create a New Subclient, and configure subclient content. Click the Pre/Post Process tab of the Subclient Properties dialog box. In the **PreScan** field, type the path to the batch file file that contains those commands that are to run before each backup of the subclient, or click **Browse** to locate and select the batch file. Do the same for the **PostBackup** field.
5. Perform a backup. For more information, see Backup - ProxyHost.

Additional Suggestions:

- View the CVSnaptool log file during the `quiesce –markexchlogs` command to see what is marked as the 'last consistent log'. Everything up to, but not including, that log will be truncated on that Exchange storage group.
- Open the `ini` file after the quiesce command has run to verify it contains accurate information on the Exchange storage group you are quiescing, including the log prefix and last consistent log.
- View the CVSnaptool log file again during the `truncateexchlogs` command to see which logs will be deleted, and on which Exchange storage groups.

CONSIDERATIONS

- The `ini` file must have same path and name in all scripts that reference it, although the variable name can be different.
- On a cluster, the `ini` file must be on a shared disk resource, so that in the event of a failover, the file can still be accessed by the script.
- The `cvsnaptool –truncate` command is sensitive; certain normal cvsnaptool arguments are not necessary and may cause the Exchange log truncation to fail. A server name (`–x`) is not required, as it is stored in the `ini` file, nor is app name (`–a`) since Exchange is assumed.
- If you omit the `–g` switch from the CVSnaptool `quiesce` command, it will quiesce all of the storage groups on your server. If you omit the `–g` switch from the cvsnaptool `truncate` command, it will truncate all of the storage groups on your server. You can use `–g` to truncate a specific storage group, but if you originally used `–g` in the quiesce/mark, then only that storage group will actually be listed in the `ini` file so it is not necessary. However, if you quiesced all storage groups originally, you can use `–g` in the `truncate` command to only truncate one of them.
- For a storage group with spaces in the name, e.g., `FIRST STORAGE GROUP`, use double quotes around the name when using the `–g` switch.
- When using multiple ProxyHost subclients for your Exchange storage groups, the `ini` files for each group must have unique names; using the same `ini` file name for multiple subclients creates a risk of them getting overwritten or populated with the wrong info.

- While a single storage group can be quiesced with the `-g` switch, and all storage groups can be quiesced by omitting the `-g` switch, there is no way to specify only some storage groups, for instance only two out of three. To accomplish this, repeat the quiesce command with the `-g` switch for each storage group, but remember to use a different `ini` file for each of these commands; otherwise, the latter storage group data will overwrite the data from the previous storage group.
- PostBackup scripts are executed without regard to the success or failure of the backup attempt itself. However, the PostBackup script contains the log truncation step and it is very important that log truncation be executed only after a successful backup. This is ensured by utilizing a status variable, passed by the Job Manager to the PostBackup phase, in the 'if' statement in the example script to determine whether log truncation should run or not.

ProxyHost with VSS - Truncating Exchange Logs

Overview

The following section provides instructions for using VSS with a hardware snap engine and the ProxyHost *i*DataAgent to quiesce, unquiesce, and to eventually truncate the Exchange transaction logs. This is effected by first marking the last consistent log during the quiesce and saving that information to an `ini` file, which is referenced later to truncate the committed Exchange transaction logs from the quiesce time.

Batch Files for Exchange Log Truncation

A standard ProxyHost backup typically uses two batch files that perform the following functions:

- **PreScan batch file**
  - VssSnapshot multisnap (performs quiesce, snap, unquiesce)
  - VssSnapshot import (imports and mounts hardware snap to destination client)
- **PostBackup batch file**
  - Hardware snap cleanup

With Exchange log truncation added, the batch file adds the Exchange Log truncation functionality:

- **PreScan batch file**
  - VssSnapshot multisnap (performs quiesce, marks last consistent log in `ini` file, snap, unquiesce)
  - VssSnapshot import (imports and mounts hardware snap to destination client)
- **PostBackup batch file**
  - CVSnaptool –o truncateexchlogs
  - HW snap cleanup

Example PreScan Batch File

```
@REM Vars

SET VSS_INI_FILE_NAME=%windir%\temp\VSSsnap.ini

SET GalaxyBaseDir=<install_direcory>\Base

@REM snap

"%GalaxyBaseDir%"\vsssnapshot.exe multisnap %VSS_INI_FILE_NAME% -transportable -markexchlogs -esn <client_name> -vm <InstanceName*> -cn <ClientName>

@REM import "%GalaxyBaseDir%"\vssSnapShot.exe vss import -verifyexchbackup -esn <client_name> -i %VSS_INI_FILE_NAME% -S <FQDM_of_source_computer> -vm <InstanceName*> -cn <ClientName>
```

Example PostBackup Batch File

```
Example POSTBACKUP (changes in blue)

@REM Vars (changes)

IF '%6'=='1' GOTO BACKUP_SUCCESSFUL

net send <client_name> backup phase did not complete successfully, so I won't execute the log truncation

exit 1

:BACKUP_SUCCESSFUL
```

```
SET VSS_INI_FILE_NAME=%windir%\temp\VSSsnap.ini SET GalaxyBaseDir=<install_direcory>\Base

@REM Destroy snap "%GalaxyBaseDir%"\vsssnapshot.exe unsnap -i %VSS_INI_FILE_NAME% -S <FQDM_of_source_computer> -vm <InstanceName*> -cn <ClientName>

@REM Truncate section

"%GalaxyBaseDir%"\CvSnaptool.exe -o truncateexchlogs –g <storage group name> -ini %VSS_INI_FILE_NAME% -vm <InstanceName*> -cn <ClientName>
```

* InstanceName is the name used for a Proxy Host instance (by default it is Instance001*). If multiple instances of Proxy Host are installed use the corresponding instance name, see Multi Instancing for more information.*

CONFIGURING PROXYHOST FOR EXCHANGE LOG TRUNCATION

Required Capability: Capabilities and Permitted Actions

▶ To configure ProxyHost to truncate Exchange Logs:

1. Create the PreScan and PostBackup batch files, using the example scripts above. These files must reside on the backup host or primary host.
2. Install the ProxyHost *i*DataAgent on the production server, and the Windows File System *i*DataAgent on both the production server and backup host. Refer to Deployment - ProxyHost *i*DataAgent and Deployment - Windows File System *i*DataAgent.
3. Configure your environment; see VSS for the ProxyHost *i*DataAgent - Configuration.
4. Create a New Subclient, and configure subclient content. Click the Pre/Post Process tab of the Subclient Properties dialog box. In the **PreScan** field, type the path to the batch file file that contains those commands that are to run before each backup of the subclient, or click **Browse** to locate and select the batch file. Do the same for the **PostBackup** field.
5. Perform a backup. For more information, see Backup - ProxyHost.

Additional Suggestions:

- The `vsssnapshot.log` file will contain information about Exchange storage groups, creating and importing the snap (import information is mostly on the destination machine's `vsssnapshot.log` file.)
- The `app eventvwr` log will contain information on quiescing the correct Exchange storage groups.
- After the multi-snap operation, your `ini` file will contain information regarding the last consistent Exchange log file, etc., which will be used during the `truncateexchlogs` command.

CONSIDERATIONS

- The `ini` file must have same path and name in all scripts that reference it, although the variable name can be different.
- The `cvsnaptool –truncate` command is sensitive; certain normal cvsnaptool arguments are not necessary and may cause the Exchange log truncation to fail. A server name (`-x`) is not required, as it is stored in the `ini` file, nor is app name (`-a`) since Exchange is assumed.
- With VssSnapshot, storage groups are quiesced based on the volumes you specify when initially creating your `ini` file. Since it is a volume-based quiesce, it is recommended that you configure Exchange so that multiple storage groups do not share the same volume, and thus you can quiesce them individually.
- To selectively truncate storage groups when using VssSnapshot to quiesce them, you must use the `–g` switch with the `cvsnaptool truncateexchlogs` command. If you do not, the logs for all Exchange storage groups on that client will be truncated, regardless of which ones you actually quiesced.
- When using multiple ProxyHost subclients for your Exchange storage groups, the `ini` files for each group must have unique names; using the same `ini` file name for multiple subclients creates a risk of them getting overwritten or populated with the wrong info.
- PostBackup scripts are executed without regard to the success or failure of the backup attempt itself. However, the PostBackup script contains the log truncation step and it is very important that log truncation be executed only after a successful backup. This is ensured by utilizing a status variable, passed by the Job Manager to the PostBackup phase, in the 'if' statement in the example script to determine whether log truncation should run or not.