

Quick Start Guide - NAS *i*DataAgent

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Terminology

INTRODUCTION

The NAS iDataAgent provides a simplified end-to-end backup and recovery solution for the data residing on a NAS File Server. In addition to complete protection of file system data for disaster recovery, the NAS iDataAgent also provides more granular backup and recovery options that operate seamlessly with your data protection.

KEY FEATURES

The NAS iDataAgent offers the following key features:

COMPREHENSIVE BACKUP AND RESTORE CAPABILITIES

The NAS iDataAgent provides the flexibility to backup and restore the data residing on various file servers. You can perform a full, incremental, or differential backup of the entire data at any point of time. The backup data can be restored to different environments such as file servers or client computers.

Backup and restore options include the following:

- NDMP 2-way: backup and restore using tape drives on the file server client.
- NDMP 3-way: backup and restore using tape drives on other file server clients.
- NDMP 3-way: backup and restore to media attached to a MediaAgent. This method is also sometimes referred to as NDMP Remote.

POINT-IN-TIME RECOVERY

In the event of a serious system failure, such as the breakdown of hardware, software, or operating systems, the NAS iDataAgent provides point-in-time recovery of files at any given time.

SNAPPROTECT BACKUP

SnapProtect™ backup enables you to create a point-in-time snapshot of the data to be used for various data protection operations. SnapProtect backup works in conjunction with software and hardware snapshot engines to provide snapshot functionality for data protection operations.

BACKUP AND RECOVERY FAILOVERS

In the event that a MediaAgent used for the backup or recovery operation fails, it is automatically resumed on alternate MediaAgents. In such cases, the backup or restore job will not restart from the beginning, but will resume from the point of failure. This is especially useful for backups and restores of large amount of file system data.

In the event, that a network goes down, the backup and recovery jobs are resumed on alternate data paths. Similarly, in the event of a device failure, the jobs are automatically switched to alternate disk and tape drives.

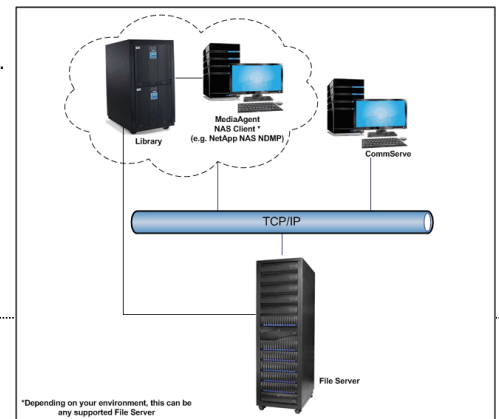
EFFICIENT JOB MANAGEMENT AND REPORTING

You can view and verify the status of the backup and recovery operations from the Job Controller and Event Viewer windows within the CommCell Console. You can also track the status of the jobs using reports, which can be saved and easily distributed. Reports can be generated for different aspects of data management. You also have the flexibility to customize the reports to display only the required data and save them to any specified location in different formats. For example, you can create a backup job summary report to view at-a-glance the completed backup jobs.

WHERE TO GO NEXT

Getting Started - NAS

Walks you through the process of installing and configuring the NAS iDataAgent.



In addition, you can also schedule these reports to be generated and send them on email without user intervention.

BLOCK LEVEL DEDUPLICATION

Deduplication provides a smarter way of storing data by identifying and eliminating the duplicate items in a data protection operation.

Deduplication at the data block level compares blocks of data against each other. If an object (file, database, etc.) contains blocks of data that are identical to each other, then block level deduplication eliminates storing the redundant data and reduces the size of the object in storage. This way dramatically reduces the backup data copies on both the disk and tapes.

ADD-ON COMPONENTS

SRM FOR NAS

SRM is integrated with NAS iDataAgent to provide several advanced reporting capabilities for your backups. When enabled, backup jobs collect details on the file systems currently being used or not used, the memory and hardware resources consumed, storage usage, and granular file-level analytics.

SRM Reports include detailed information on the state of your file system data, including free space, used space, file count, file sizes, directory structure, and many other useful statistics.

In addition, **SRM Summaries** provide a graphical, real-time representation of usage information such as memory and CPU utilization. Optional file-level analytics provides even more granular details at the file-level for optimizing your storage resources.

SRM integration with NAS iDataAgent can be easily enabled with your backups to take advantage of these features.

FILE SYSTEM RESTORE ENABLER

The File System Restore Enabler allows NAS NDMP data that was backed up from a NetApp or EMC Celerra file server to be restored to a Windows or Unix computer. A file system restore is a cross-platform restore, where the data is restored to a computer with a different operating system e.g., data from a NetApp file server running ONTAP can be restored to a Windows computer.

TERMINOLOGY

The NAS documentation uses the following terminology:

CLIENT	The computer in which the iDataAgent is installed and contains the data to be secured.
BACKUPSET	A group of subclients which includes all of the data backed up by the iDataAgent.
SUBCLIENT	The NAS file system data within the backupset used for backup and restore operations.
FILE SERVER	A device used for backup or archival purposes.

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System Requirements - NAS iDataAgent

System Requirements	Supported Features	Supported Vendors
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The following requirements are for the NAS iDataAgent:

MEMORY AND HARD DISK

See System Requirements - MediaAgent

It is recommended that the MediaAgent computer also have additional physical memory available equaling 0.1% of the total backup size for the largest amount of data being backup up at any given time. (As an example, for 1 terabyte of backup data, you should have an additional 1 gigabyte of physical memory available.)

PERIPHERALS

DVD-ROM drive

Network Interface Card

MISCELLANEOUS

NETWORK

TCP/IP Services configured on the computer.

FILE SERVER

If media changers and/or tape drives are attached to the file server, all hardware (including the SAN networking hardware) must be of a type supported by the file server.

NAS CLIENTS

There is no separate software to install for the NAS Clients; all required components are installed automatically with the MediaAgent software. See System Requirements - MediaAgent for information on install information specific to the MediaAgent.

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

Supported Features - NAS iDataAgent

System Requirements | Supported Features | Supported Vendors

The following table lists the features that are supported by this Agent.

FEATURE	SUB-FEATURE	SUPPORT	COMMENTS
ADVANCED BACKUP/ARCHIVE OPTIONS	Data tab - Catalog		
	Data tab - Create New Index	✓	
	Data tab - Verify Synthetic Full		
	Job Retry tab	✓	
	Media tab - Allow other Schedule to use Media Set	✓	
	Media tab - Mark Media Full on Success	✓	
	Media tab - Reserve Resources Before Scan		
	Media tab - Start New Media	✓	
	Startup tab	✓	
	VaultTracking tab	✓	
ADVANCED FILE SYSTEM IDATAAGENT OPTIONS	Comments	✓	Includes several additional options in the NAS Options tab.
	Automatic File System Multi-Streaming	✓	
	On Demand Data Protection Operation	✓	
	Restore by Jobs		
	Restore Data Using a Map File	✓	
ALERTS AND MONITORING	Comments		
	Global Alerts	✓	
	Job-Based Alerts*	✓	
AUTOMATIC UPDATES	Comments		
	Automatic Updates	✓	
BACKUP/ARCHIVE OPTIONS	Comments		
	Differential Backup	✓	
	Full Backup	✓	
	Incremental Backup	✓	
	Other Backup Types		
BACKWARD COMPATIBILITY	Synthetic Full Backup		
	Comments	✓	Getting Started - NAS iDataAgent Backup
	Version 7	✓	
	Version 8	✓	
	Version 9		
BROWSE	Comments	✓	Automatically upgraded with the MediaAgent software. See Getting Started - NAS iDataAgent Deployment for more information.
	Browse from Copy Precedence	✓	
	Browse the Latest Data	✓	
	Exclude Data Before	✓	
	Find	✓	
	Full Backup Transparent Browse	✓	
	Image Browse		
	No Image Browse		
	Page Size		
	Specify Browse Path		
	Specify Browse Time		
	Subclient Browse	✓	Subclient browse is not supported for NetApp C-mode clients.
	Use MediaAgent		
View All Versions	✓		

	Comments	✓	See Supported Vendors Restoring all versions of the backup data is not supported.
CLUSTERING	Netware cluster		
	Unix Cluster		
	Windows - Microsoft Cluster (MSCS)		
	Windows - Non-Microsoft Cluster		
	Comments		
COMMAND LINE INTERFACE	Command Line Interface	✓	
	Comments		
COMMAND LINE INTERFACE - SPECIFIC COMMANDS	Qcreate - Backup set/SubClient	✓	
	Qcreate - Instance		
	Qdelete - Backup set/Subclient	✓	
	Qdelete - Client/Agent		
	Qlist globalfilter		
	Qmodify - instance		
	Qoperation - Backup	✓	
	Qoperation - move		
	Qoperation - Restore	✓	
	Comments		
COMMCELL MIGRATION	CommCell Migration	✓	
	Comments		
CONTENT INDEXING	Offline Content Indexing	✓	
	Comments	✓	Content indexing jobs of NAS NDMP data do not support multi streams and End User Search. Offline Content Indexing is supported on NetApp and Celerra file servers. BlueArc is not supported.
DATA AGING	Basic Retention Rules	✓	
	Extended Retention Rules	✓	
	Unique Data Aging Rules		
	Comments		
DATA CLASSIFICATION ENABLER	Data Classification Enabler		
	Comments		
DATA COMPRESSION	Client Compression		
	Hardware Compression	✓	
	MediaAgent Compression	✓	
	Comments		
DATA ENCRYPTION	Data Encryption Support	✓	
	Third-party Command Line Encryption Support		
	Comments	✓	Data encryption is supported when backup operations are configured to utilize a MediaAgent with NDMP Remote Server.
DATA MULTIPLEXING	Multiplexing	✓	
	Comments	✓	Data Multiplexing is supported for non-NAS data when using file server or MediaAgent attached data paths. Data Multiplexing is supported for NAS iDataAgent when backup operations are configured to use a MediaAgent attached data path.
DEDUPLICATION	MediaAgent Deduplication	✓	
	Source Deduplication		
	Comments	✓	See FAQ - Deduplication to Disk for deduplication of NAS backups.
ERASE BACKUP/ARCHIVED DATA	Erase Data by Browsing		
	Erase Stubs		
	Comments		
GLOBAL FILTERS	Global Filters		
	Comments		
	Custom Package		

INSTALLATION			
	Decoupled Install		
	Remote Install	✓	
	Restore Only Agents		
	Silent Install		
	Comments	✓	Automatically installed with the MediaAgent software. See Getting Started - NAS iDataAgent Deployment for more information. The NDMP Remote Server software can be installed from the CommCell Console.
INSTALLING 32-BIT COMPONENTS ON A MICROSOFT WINDOWS X64 PLATFORM	Install 32-bit On x64		
	Comments		
JOB RESTART - DATA PROTECTION	Not Restartable		
	Restarts from the Beginning	✓	
	Restarts from the Beginning of the Database		
	Restarts from the Point-of-Failure	✓	
	Comments	✓	Support for job restart or resume from point-of-failure is vendor based. Currently, only NetApp supports resume from Point-of-Failure.
JOB RESTART - DATA RECOVERY	Not Restartable	✓	
	Restarts from the Beginning		
	Restarts from the Beginning of the Database		
	Restarts from the Point-of-Failure		
	Comments		
LIST MEDIA	List Media Associated with a Specific Backup Set or Instance	✓	
	List Media Associated with Index	✓	
	List Media Associated with Specific Files and/or Folders	✓	
	List Media Associated with Specific Jobs	✓	
	Comments	✓	Media for the files to restore are detected, but additional media that the file server may request during restore may not be detected. For example, the first media for a job will likely be needed.
MULTI INSTANCING	Multi Instance		
	Comments		
PRE/POST PROCESSES	Pre/Post Process with Data Protection and Recovery	✓	
	Comments		
RESTORE/RECOVER/RETRIEVE DESTINATIONS	Cross-Application Restores (Different Application version)		
	Cross-Platform Restores - Different Operating System	✓	
	Cross-Platform Restores - Same Operating System - Different Version	✓	
	In-place Restore - Same path/ destination - Same Client	✓	
	Out-of-place Restore - Different path/ destination	✓	
	Out-of-place Restore - Same path/ destination - Different Client	✓	
	Restore Data Using a Map File	✓	
	Restore to Network Drive /NFS-Mounted File System		
	Comments	✓	See Advanced - NAS iDataAgent Restore for this iDataAgent.
RESTORE/RECOVER/RETRIEVE OPTIONS	Automatic Detection of Regular Expressions		

	Filter Data From Recover Operations		
	Rename/ Redirect Files on Restore		
	Restore Data Using Wildcard Expressions		
	Restore Data with Pre/Post Processes	✓	
	Restore from Copies	✓	
	Skip Errors and Continue		
	Use Exact Index	✓	
	Use MediaAgent	✓	
	Comments		
RESTORE/RECOVER/RETRIEVE OVERWRITE OPTIONS	Overwrite Files		
	Overwrite if file on media is newer		
	Restore only if target exists		
	Unconditional Overwrite		
	Unconditionally overwrite only if target is a DataArchiver stub		
	Comments		
SCHEDULE POLICY	Agent Specific Data Protection Schedule Policy	✓	
	All Agent Types Schedule Policy	✓	
	Comments		
STORAGE POLICIES	Incremental Storage Policy*	✓	
	Standard Storage Policies	✓	
	Comments		
STORAGE POLICY COPIES	Data Verification	✓	
	Job Based Pruning	✓	
	Manual Retention	✓	
	Mark Job Disabled	✓	
	Selective Copy	✓	
	Comments	✓	Data Verification is supported for NetApp clients.
SUBCLIENT POLICIES	SubClient Policy		
	Comments		
UPGRADE	Netware - Local		
	Unix - Remote (Push)		
	Unix/Linux/Macintosh - Local	✓	
	Unix/Linux/Macintosh - Silent		
	Upgrade from CommCell Console		
	Windows - Local	✓	
	Windows - Remote (Push)		
	Windows - Silent		
	Comments	✓	The NAS iDataAgent is automatically upgraded with the MediaAgent software.
USER ADMINISTRATION AND SECURITY	Backup Set/Archive Set		
	Subclient	✓	
	Comments		

Additional features are listed below:

Activity Control	Auxiliary Copy
CommCell Console	Deconfiguring Agents
GridStor	Languages
Log Files	MediaAgent
Operation window	QR Volume Creation Options
Robust Network Layer	Scheduling
SnapProtect Backup	Snapshot Engines

VaultTracker Enterprise	VaultTracker
Report Output Options	Restore/Recover/Retrieve - Other Options
Cloud Storage	Job Restart - Data Collection

Supported Vendors - NAS iDataAgent

System Requirements | Supported Features | Supported Vendors

The following table lists NAS features and any exceptions per vendor.

FEATURE	BLUEARC	DELL	EMC CELERRA	EMC VNX/VNXE	HEWLETT PACKARD	HITACHI	IBM SONAS/ STORWIZE	ISILON	NETAPP	ONSTOR	PILLAR DATA SYSTEMS	SUN
LIBRARIES AND POOLS												
NAS-ATTACHED LIBRARIES	√		√	√	√	√*		√	√	√	√	√
NAS-ATTACHED DRIVE POOLS	√		√	√	√	√*		√	√	√	√	√
BACKUP												
BACK UP FROM SNAPSHOT	√		√	√		√		√				
BACK UP QUOTAS	√					√						
BACKUP UP OFFLINE DATA	√		√	√								
VOLUME BASED BACK UP			√	√								
EXCLUSIVE BACK UP						√						
BLOCK BACK UP						√					√	
READAHEAD PROCESSES	√											
SNAPSHOT TO BACK-UP							√		√			
SNAPSHOT EXPIRATION							√					
BROWSE												
BROWSE FROM COPIES	√	√	√	√	√	√	√	√	√	√	√	√
BROWSE THE LATEST DATA	√	√	√	√	√	√	√	√	√	√	√	√
EXCLUDE DATA BEFORE	√	√	√	√	√	√	√	√	√	√	√	√
IMAGE BROWSE						√			√	√		
NO IMAGE BROWSE	√	√	√	√	√	√	√	√		√	√	√
PAGE SIZE	√	√	√	√	√	√	√	√	√	√	√	√
SPECIFY BROWSE PATH	√	√	√	√	√	√	√	√	√	√	√	√
SPECIFY BROWSE TIME	√	√	√	√	√	√	√	√	√	√	√	√
USE MEDIAAGENT	√	√	√	√	√	√	√	√	√	√	√	√

RESTORE												
DIRECT ACCESS RESTORE	✓	✓	✓**	✓	✓	✓	✓	✓	✓	✓	✓	✓
OVERWRITE	✓	✓			✓		✓			✓		
TWO-WAY RESTORE	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
THREE-WAY RESTORE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
RECURSIVE RESTORE			✓	✓		✓				✓		
EXCLUSIVE RESTORE						✓						
FILE SYSTEM RESTORE			✓	✓					✓			
RESTORE USER AND GROUP QUOTAS										✓		
RESTORE ENABLE 8.3 NAMES										✓		
RESTORE SUBTREE QUOTAS										✓		
RESTORE QTREE CONFIGURATION AND USAGE										✓		
SUBCLIENT												
SUBCLIENT CONTENT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

*Supported for Hitachi 06-0x Operating Systems (or greater)

**EMC's Celerra enhanced Direct Access restore of a directory (DDAR) is supported on DARTOS 5.5 and later. Prior to DARTOS 5.5, direct access restore of a directory was supported but not the enhanced version.

Getting Started - NAS iDataAgent Deployment on Windows

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WHERE TO INSTALL

Install the software on a client computer that is connected to a NAS file server that you want to protect and satisfies the minimum requirements specified in the System Requirements.

To backup the NAS data, you need to install the MediaAgent software which includes the NAS iDataAgent. If the library is attached to the MediaAgent, you need to install the NDMP Remote Server software.

The following procedures describe the steps for installing both the MediaAgent and the NDMP Remote Server. You can skip this installation step if you have already installed the MediaAgent.

INSTALLATION

The software can be installed using one of the following methods:

METHOD 1: INTERACTIVE INSTALL

Use this procedure to directly install the software from the installation package or a network drive.

METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

Use this procedure to install remotely on a client computer.

METHOD 1: INTERACTIVE INSTALL

1. Log on to the client computer as Administrator or as a member of the Administrator group on that computer.
2. Run **Setup.exe** from the **Software Installation Package**.
3. Select the required language.
Click **Next**.

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

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

5. Select **I accept the terms in the license agreement**.
Click **Next**.

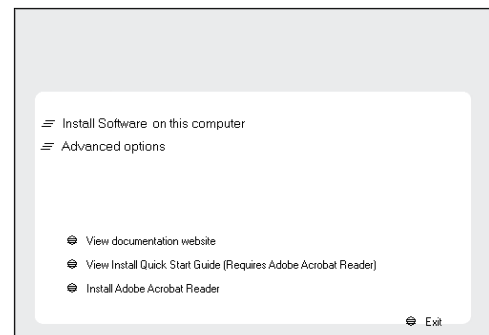
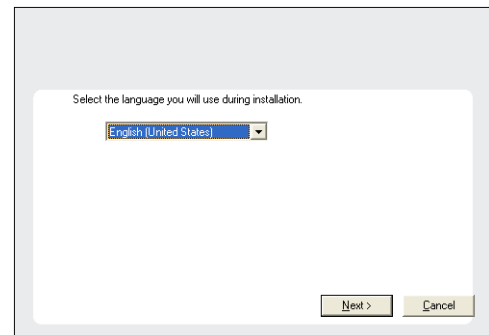
BEFORE YOU BEGIN

Download Software Packages

Download the latest software package to perform the install.

Verify System Requirements

Make sure that the computer in which you wish to install the software satisfies the System Requirements.



- Expand **MediaAgent Modules** and select **MediaAgent**.

If the library is attached to the MediaAgent, expand **MediaAgent Modules** and select **NDMP Remote Server**.

Expand **Client Modules | Backup & Recovery | File System** and select **Windows File System iDataAgent**.

Click **Next**.

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

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

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

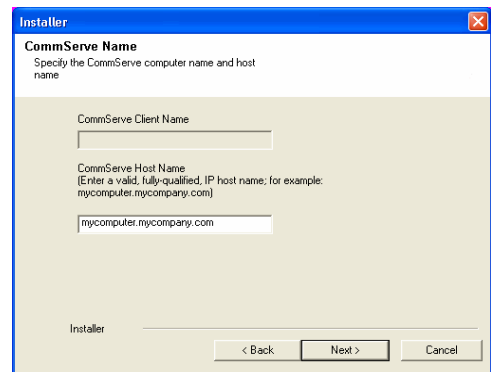
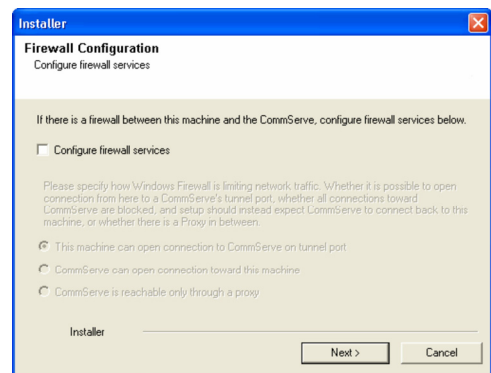
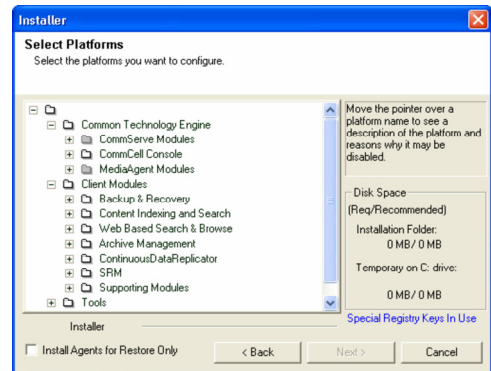
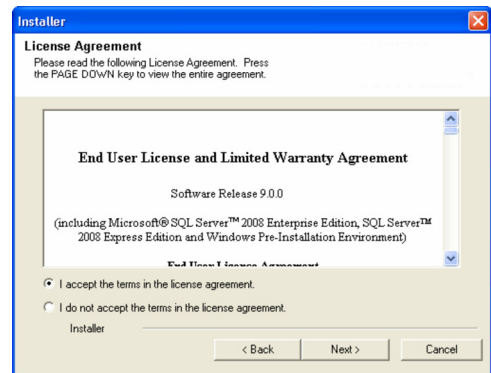
- Enter the fully qualified domain name of the **CommServe Host Name**.

Click **Next**.

Do not use space and the following characters when specifying a new name for the CommServe Host Name:

`\|`~!@#$%^&*()+=<>/?,[\]{};:'"`

- Click **Next**.



10. Select **Add programs to the Windows Firewall Exclusion List**, to add CommCell programs and services to the Windows Firewall Exclusion List.

Click **Next**.

This option enables CommCell operations across Windows firewall by adding CommCell programs and services to Windows firewall exclusion list.

It is recommended to select this option even if Windows firewall is disabled. This will allow the CommCell programs and services to function if the Windows firewall is enabled at a later time.

11. Verify the default location for software installation.

Click **Browse** to change the default location.

Click **Next**.

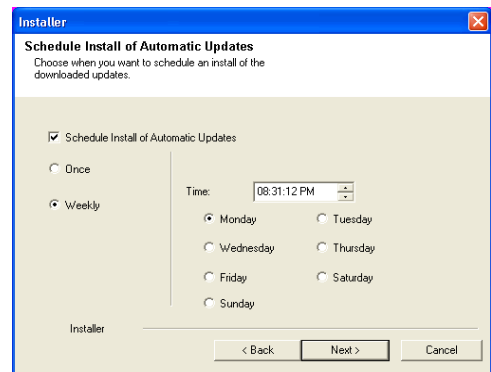
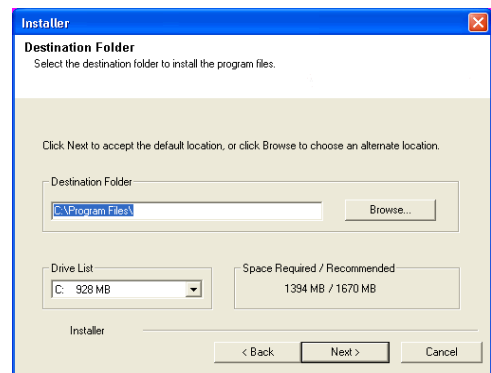
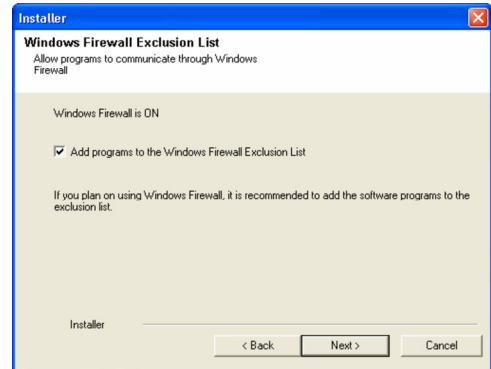
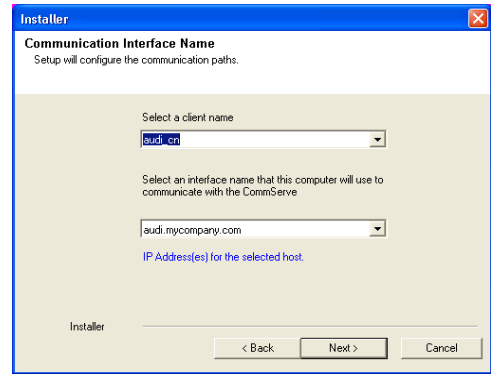
- Do not install the software to a mapped network drive.
- Do not use the following characters when specifying the destination path:

/ : * ? " < > | #

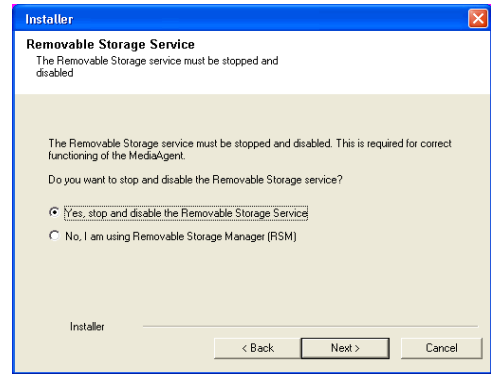
It is recommended that you use alphanumeric characters only.

12. Click **Next**.

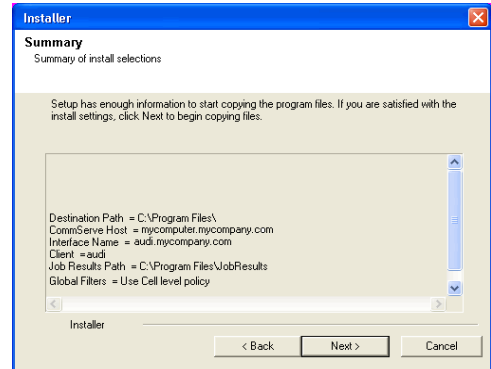
13. Click **Next**.



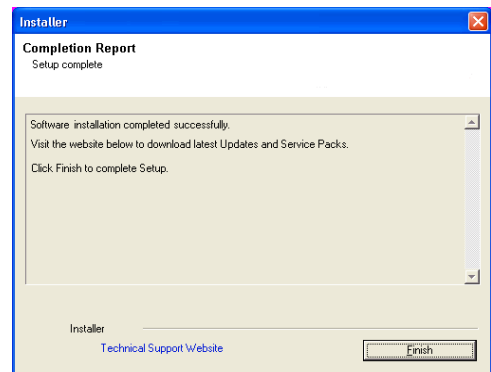
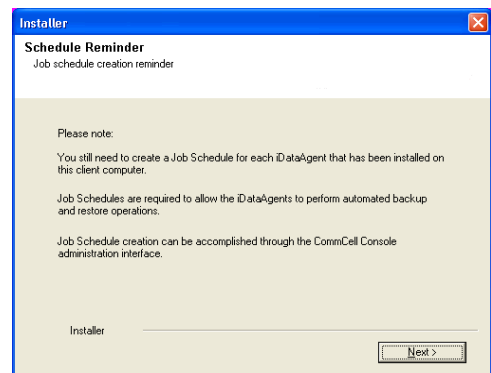
14. Click **Next**.



15. Click **Next**.



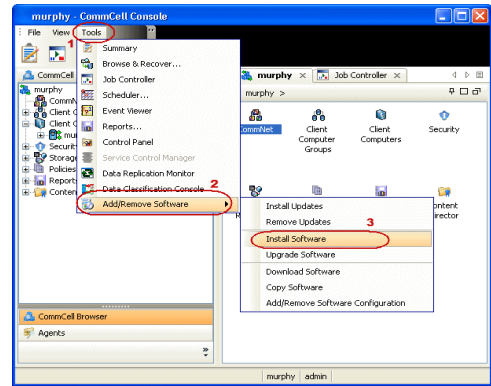
16. Click **Finish**.



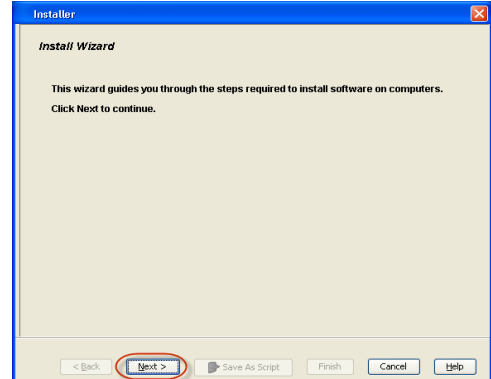
METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.

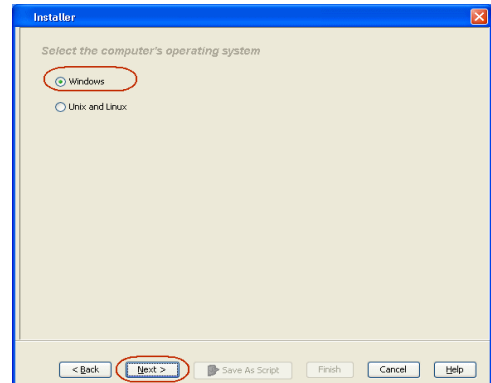
2. Click **Next**.



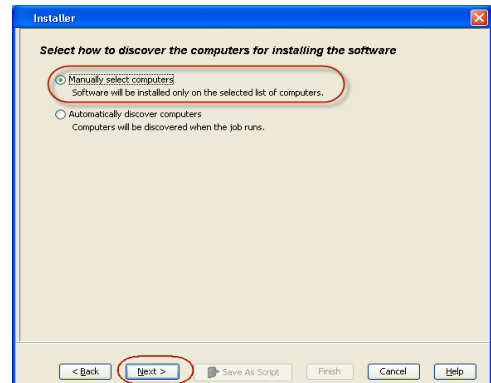
3. Select **Windows**.
Click **Next**.



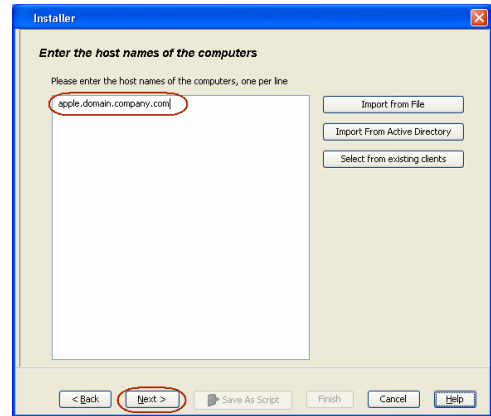
4. Select **Manually Select Computers**.
Click **Next**.



5. Enter the fully qualified domain name of the computer.
For example: apple.domain.company.com
Click **Next**.

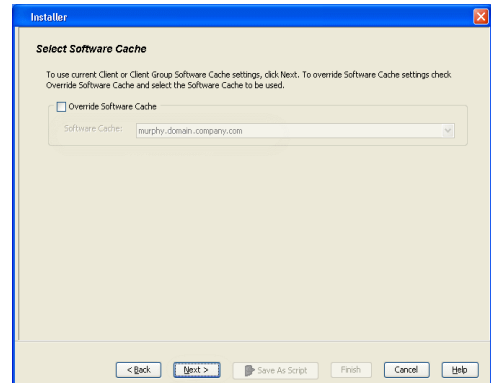


6. Click **Next**.



7. Specify **User Name** and **Password** that must be used to access the client computer.
Click **Next**.

The user must be an Administrator or a member of the Administrator group on that computer.

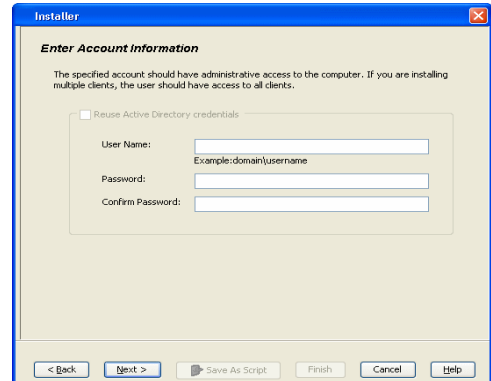


8. Expand **Client Modules | Backup & Recovery | File System** and select **Windows File System iDataAgent**.

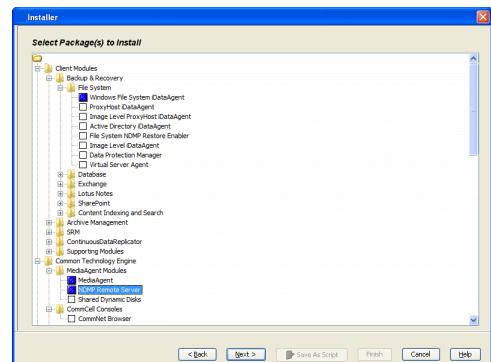
Expand **MediaAgent Modules** and select **MediaAgent**.

If library is attached to the MediaAgent, expand **MediaAgent Modules** and select **NDMP Remote Server**.

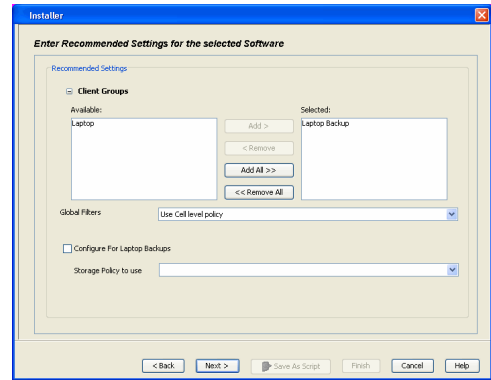
Click **Next**.



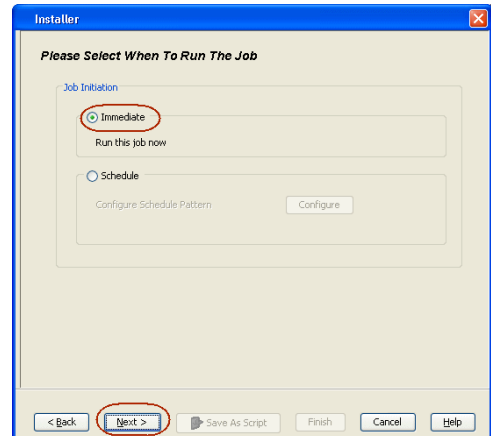
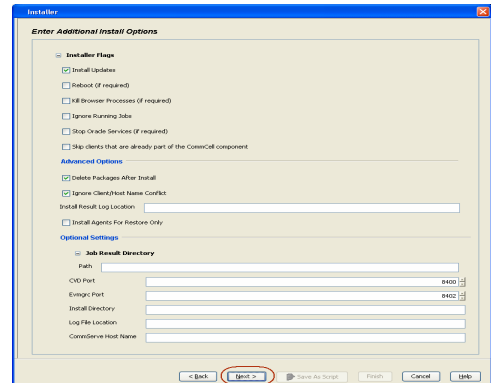
- 9.
- Select **Client Group** from **Available** and click **Add**.
 - From **Storage Policy to use** list, click storage policy.
 - Click **Next**.



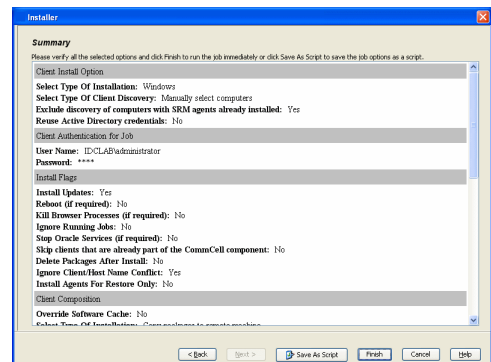
10. Click **Next**.



11. Click **Immediate**.
Click **Next**.



12. Click **Finish**.



13. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.

Job Controller

Job Controller	Client Co.	Agent Type	Subject	Job Type	Phase	Storage	MetaAgent	Status	Progress	Errors	Delay Reason
01	Local Customer			N/A				Completed	100%		

Event History

Severity	Event ID	Job ID	Date	Program	Computer	Event Code	Description
0	228	0671201011-11-14-15	2010/11/14 11:14:15	com.backupsoftware	apple	40762	Job Completed Successfully
0	227	0671201011-11-14-15	2010/11/14 11:14:15	com.backupsoftware	apple	40762	Job meta-agent successfully installed on client. Ready to start download.
0	226	0671201011-11-14-15	2010/11/14 11:14:15	CDP	apple	4344	Installation of DataGuard Server Agent on the client (Server) completed successfully.
0	225	0671201011-11-14-15	2010/11/14 11:14:15	CDP	apple	4341	Installation of DataGuard Server Agent on the client (Server) completed.
0	224	0671201011-11-14-15	2010/11/14 11:14:15	EMPS	apple	35294	User [admin] has logged on.

◀ Previous Next ▶

Getting Started - NAS iDataAgent Deployment on UNIX

◀ Previous Next ▶

SKIP THIS PAGE IF YOU ARE NOT INSTALLING THIS AGENT ON UNIX.

Click **Next** ▶ to continue with the deployment.

WHERE TO INSTALL

Install the software on a client computer that is connected to a NAS file server that you want to protect and satisfies the minimum requirements specified in the System Requirements.

To backup the NAS data, you need to install the MediaAgent software which includes the NAS iDataAgent. If the library is attached to the MediaAgent, you need to install the NDMP Remote Server software.

The following procedures describe the steps for installing both the MediaAgent and the NDMP Remote Server. You can skip this installation step if you have already installed the MediaAgent.

INSTALLATION

The software can be installed using one of the following methods:

METHOD 1: INTERACTIVE INSTALL

Use this procedure to directly install the software from the installation package or a network drive.

METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

Use this procedure to install remotely on a client computer.

METHOD 1: INTERACTIVE INSTALL

- Logon to the client computer as **root** or as a sudo user.
If you are installing the software using a sudo user account, make sure that sudo user account is configured on this computer. For more information, see FAQ - Install.
- If you are installing the software from CD, run the following command to mount the CD:

```
mount -t iso9660,udf /dev/cdrom /mnt/cdrom
```


Run the following command from the Software Installation Package or mount point:

```
./cvpkgadd
```
- The product banner and other information is displayed.
Press **Enter**.
- Read the license agreement. Type **y** and press **Enter**.
- Press **Enter**.
- Press **Enter**.

BEFORE YOU BEGIN

Download Software Packages

Download the latest software package to perform the install.

Verify System Requirements

Make sure that the computer in which you wish to install the software satisfies the System Requirements.

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]

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.

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 interface name that you wish to use as default, and then press **Enter**.

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

8. Press **Enter**.

9. Type the number associated with the **Unix File System iDataAgent, MediaAgent** and press **Enter**.

If the library is attached to the MediaAgent, type number associated with the **NDMP Remote Server**.

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

11. Press **Enter**.

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

- Select **Download from the software provider website** to download the latest software scripts. Make sure you have internet access.
- Select **Use the one in the installation media** to install the software scripts from the package or share from which the installation is currently being 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.

13. Press **Enter**.

- 1) Install on a physical machine
- 2) Install on a virtual machine
- 3) Exit

Your choice: [1]

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]

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]

Install Calypso on physical machine angel

Please select the Calypso module(s) that you would like to install.

- ```
[] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[] 2) MediaAgent [1301] [CVGxMA]
[] 3) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[] 4) Documentum iDataAgent [1126] [CVGxDctmIDA]
[] 5) Oracle iDataAgent [1204] [CVGxOrIDA]
[] 6) SAP for Oracle [1205] [CVGxOrSAP]
[] 7) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[] 8) Informix iDataAgent [1201] [CVGxIfIDA]
[] 9) Sybase iDataAgent [1202] [CVGxSybIDA]
[] 10) DB2 iDataAgent [1207] [CVGxDB2]
[] 11) MySQL iDataAgent [1208] [CVGxMySQL]
[] 12) PostGres iDataAgent [1209] [CVGxPostGres]
[] 13) Lotus Notes Database iDataAgent [1051]
[CVGxLndbIDA]
>) >>>>>>>>>> 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: 1 20

Install Calypso on physical machine angel

Please select the Calypso module(s) that you would like to install.

- ```
[X] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[X] 2) MediaAgent [1301] [CVGxMA]
[ ] 3) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[ ] 4) Documentum iDataAgent [1126] [CVGxDctmIDA]
[ ] 5) Oracle iDataAgent [1204] [CVGxOrIDA]
[ ] 6) SAP for Oracle [1205] [CVGxOrSAP]
[ ] 7) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[ ] 8) Informix iDataAgent [1201] [CVGxIfIDA]
[ ] 9) Sybase iDataAgent [1202] [CVGxSybIDA]
[ ] 10) DB2 iDataAgent [1207] [CVGxDB2]
[ ] 11) MySQL iDataAgent [1208] [CVGxMySQL]
[ ] 12) PostGres iDataAgent [1209] [CVGxPostGres]
[ ] 13) Lotus Notes Database iDataAgent [1051]
[CVGxLndbIDA]
>) >>>>>>>>>> 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: d

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

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

Keep Your Install Up to Date - Latest Service Pack

It is recommended to download the latest Service pack(s). Type **Yes** and press **Enter** to automatically install the available updates during installation.

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]

Please specify where you want us to install Calypso binaries.

It must be a local directory and there should be at least 176MB 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]

14. Press **Enter** to accept the default path.

- If you want to specify a different path, type the path and then press **Enter**.
- If you want to install the software binaries to an NFS shared drive, specify the directory on which you have mounted the NFS file system and then press **Enter**.

In order to make sure that the client computer has `read/write` access to NFS shared drive, review the steps described in Installing Software Binaries to an NFS Shared Drive.

Do not use the following characters when specifying the path:

!@#\$\$%^&*():/?\

15. Press **Enter** to accept the default location.

- Enter a path to modify the default location and press **Enter**.
- All the modules installed on the computer will store the log files in this directory.

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]

16. Press **Enter**.

Most of Software 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 Software processes, you will need to specify the access permissions later.

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

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

Please enter the name of the group which will be assigned to all Software files and on behalf of which all Software 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: skyl

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 "skyl".

Press <ENTER> to continue ...

17. Type the **Group name** and press **Enter**.

Press **Enter** again.

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 : [8400]

Port Number for EvMgrC: [8402]

18. 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**.

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

19. If you do not wish to configure the firewall services, press **Enter**.

If this computer is separated from the CommServe by firewall(s), type **Yes** and then press **Enter**.

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

20. Type the fully qualified CommServe host name and press **Enter**.
 Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.
21. Type **3** and press **Enter**.

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: mycommserve.company.com

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 angel.company.com.

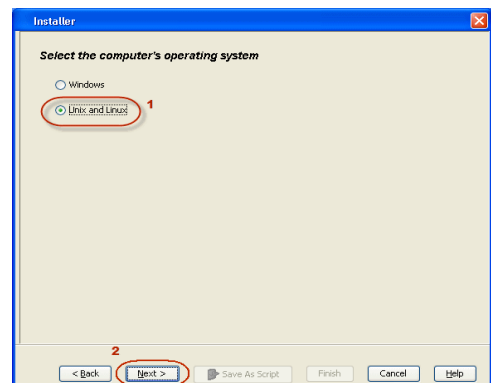
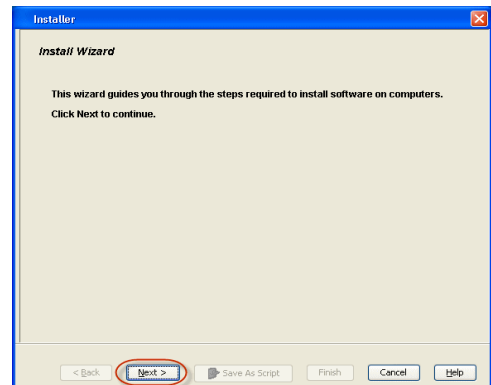
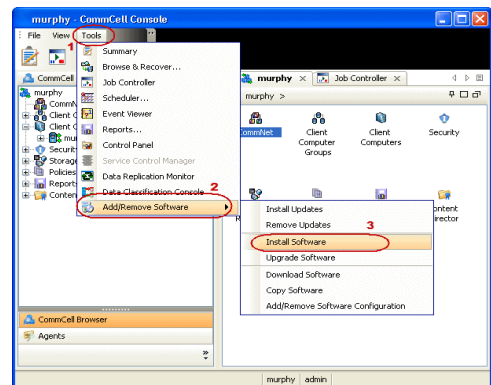
Now you have a choice of either adding another package to the existing installation or configure Calypso on a virtual machine for use in a cluster.

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

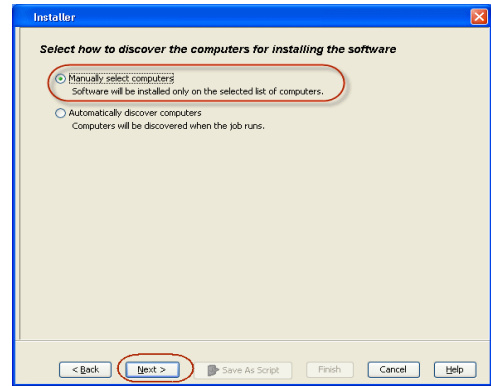
Your choice: [3]

METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

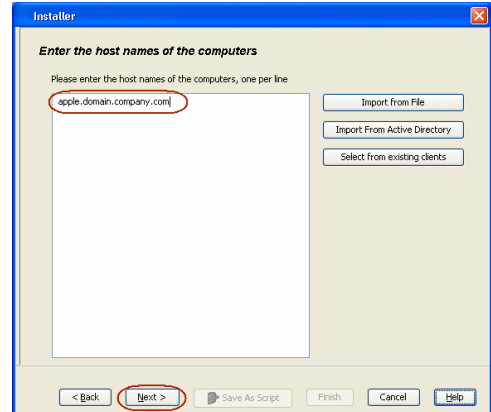
1. From the CommCell Browser, select **Tools** menu, point to **Add/Remove Software**, and then click **Install Software**.
2. Click **Next**.
3. Select **Unix and Linux**, and then click **Next**.



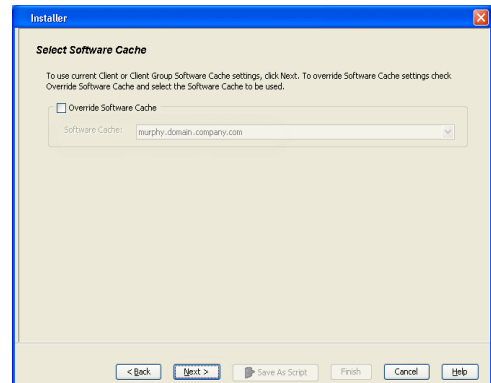
4. Select **Manually Select Computers** ,and then click **Next**.



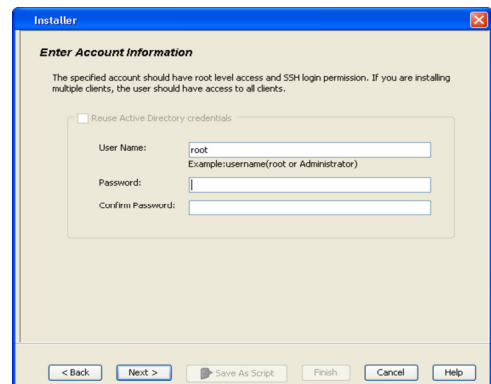
5. Enter the fully qualified domain name of the computer in which you wish to install.
For example: apple.domain.company.com
Click **Next**.



6. Click **Next**.



7. Type **User Name** and **Password** that must be used to access the client computer.
Click **Next**.

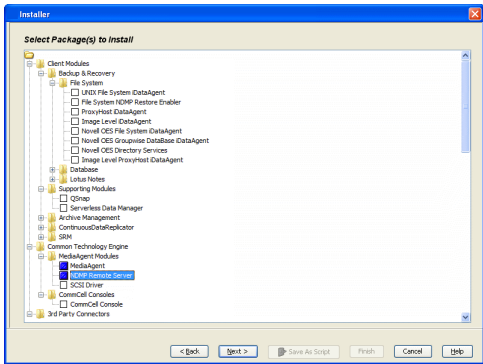


8. Expand **Client Modules | Backup & Recovery | File System** and select **Unix File System iDataAgent**.

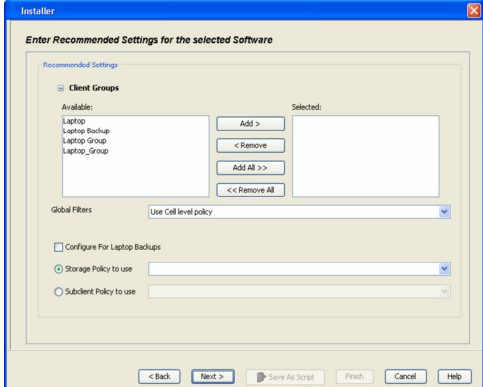
Expand **MediaAgent Modules** and select **MediaAgent**.

If the library is attached to the MediaAgent, expand **MediaAgent Modules** and select **NDMP Remote Server**.

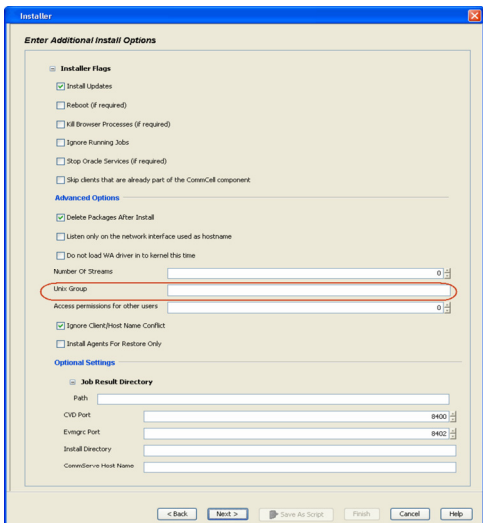
Click **Next**.



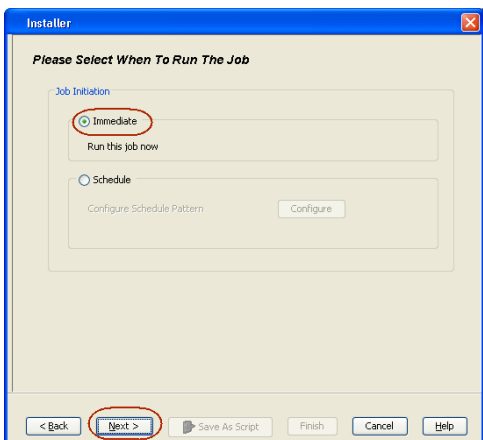
9.
 - Select **Client Group** from **Available** and click **Add**.
Do not add more than one Client Group.
 - Select a **Storage Policy** from the drop-down list. Click **Next**.



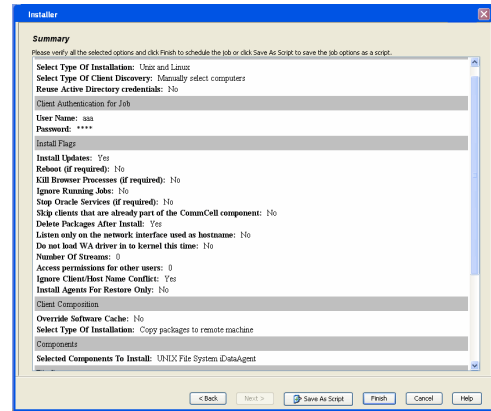
10. Click **Next**.



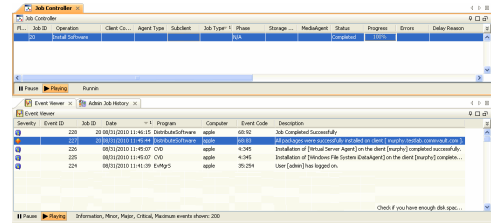
11. Select **Immediate**.
Click **Next**.



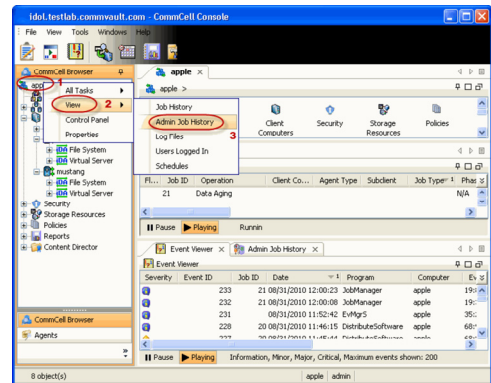
12. Click **Finish**.



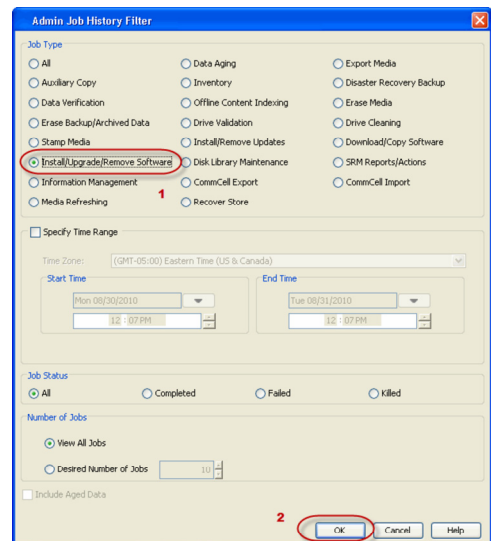
13. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



14. Once the job is complete, right-click the **<CommServe>**, point to **View**, and then click **Admin Job History**.

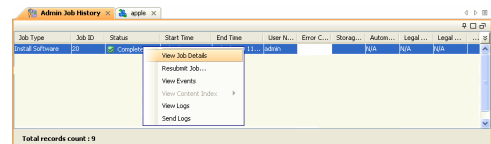


15. Select **Install/Upgrade/Remove Software**. Click **OK**.



16. You can view the following details about the job by right-clicking the job:

- Items that succeeded during the job
- Items that failed during the job
- Details of the job
- Events of the job
- Log files of the job



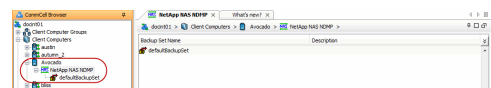
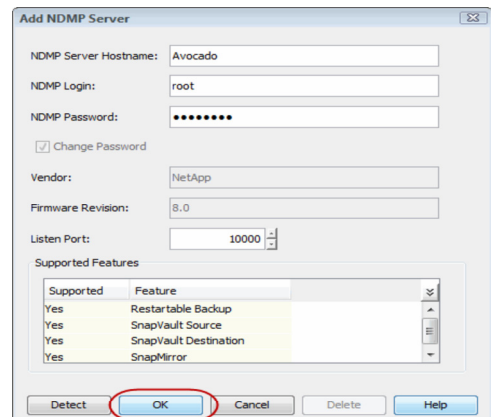
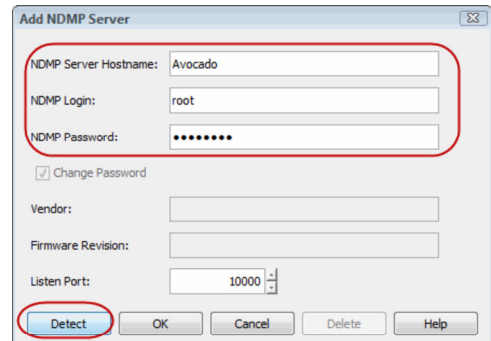
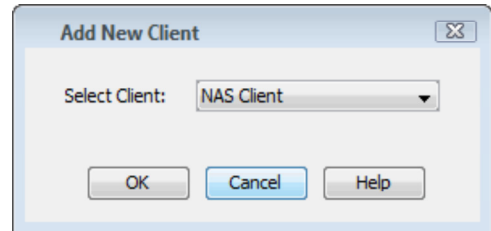
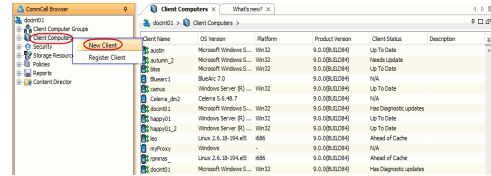
Getting Started - NAS iDataAgent Configuration

◀ Previous Next ▶

ADD A NAS CLIENT

- From the CommCell Browser, right-click **Client Computers**.
 - Select **New Client**.
- Select **NAS Client** from the list.
 - Click **OK**.
- Enter the NAS file server in the **NDMP Server Hostname** field.
 - Enter the user account used to access the storage device in the **NDMP Login** field.
 - For NetApp, type **root**.
 - For EMC Celerra, type **ndmp**.
 - For all other file servers, use any valid login.
 - In the **NDMP Password** field, enter the password for the login account.
 - Click **Detect**. The system automatically populates the **Vendor**, **Hardware OS Revision**, and **Listen Port** information.
- Click **OK**.

Depending on the File Server you are using, your screen may look different from the example shown.
- In the CommCell Browser, confirm that the NAS client was added under **Client Computers**.

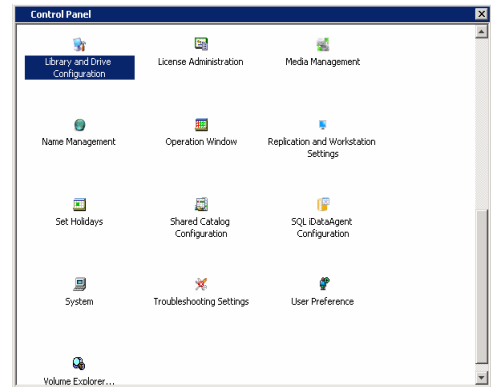
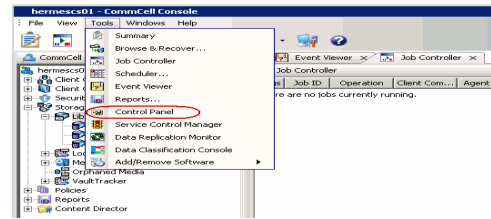


CONFIGURE LIBRARIES AND DRIVES ATTACHED TO NAS FILE SERVER USING AUTOMATIC DETECTION

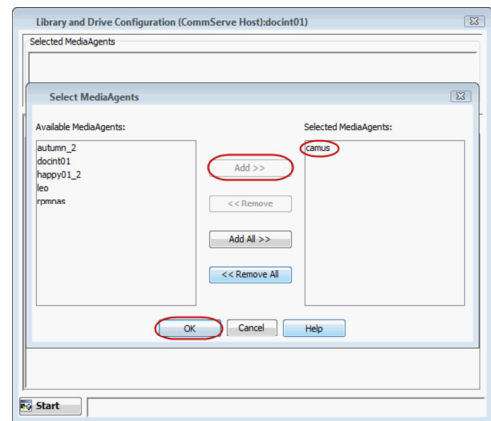
These steps are required only if the file server has tape drives attached to it. Backups can be performed to tape drives on other file servers or to data paths on the MediaAgent.

- From the **Tools** menu in the CommCell Console, click **Control Panel**.

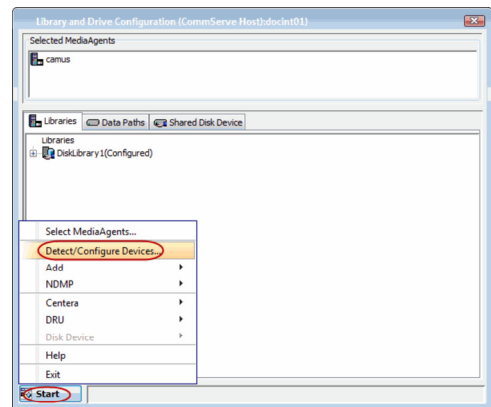
7. Double click **Library & Drive Configuration**.



- 8.
- Under **Available MediaAgents**, select the MediaAgent and click **Add**.
 - Click **OK**.

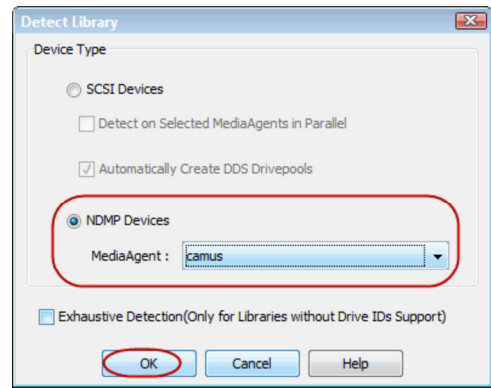


- 9.
- Click **Start**.
 - Select **Detect/Configure Devices...**

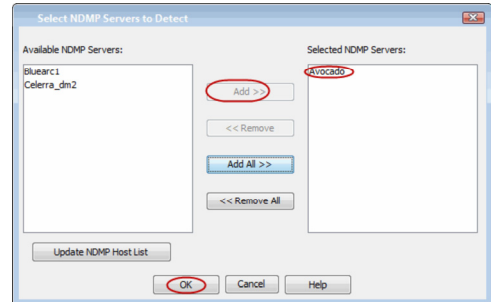


- 10.
- Click **NDMP Devices**. The **MediaAgent** that controls the library is displayed.
 - Click **OK**.

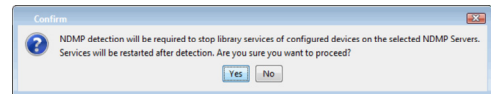
11.
 - Under **Available NDMP Servers**, select the name of the file server added in step 3 and click **Add**.
 - Click **OK**.



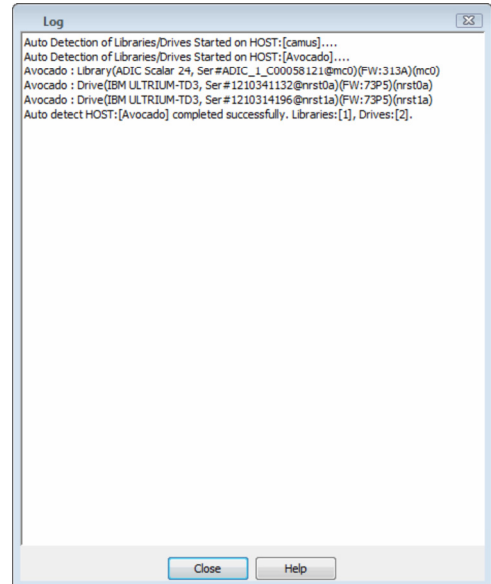
12. Click **Yes**. The system will detect the devices and mount the media in the drives to verify the correct drive-to-library mapping.



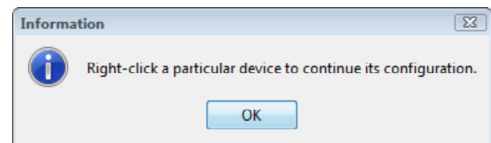
13. Click **Close**.



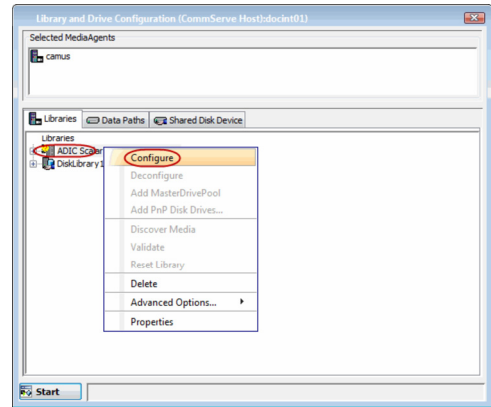
14. Click **OK**.



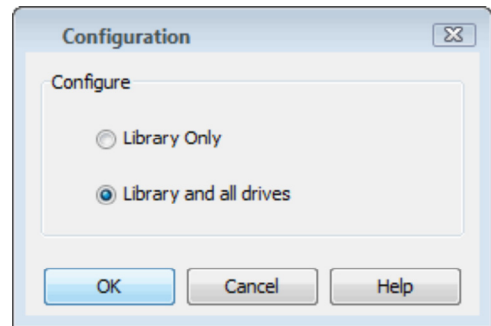
15. Right-click the library and select **Configure**.



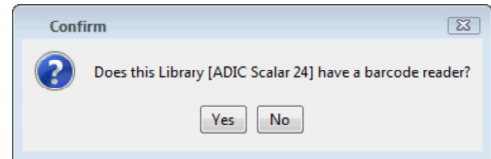
16.
 - Click **Library and all drives** to configure all the drives within the library.
 - Click **OK**.



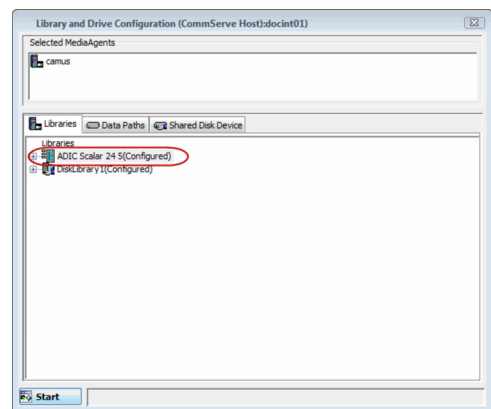
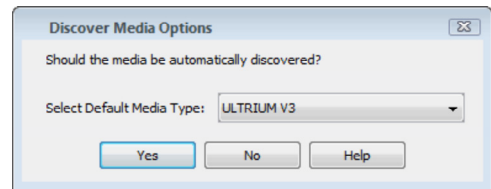
17. Click **Yes**.



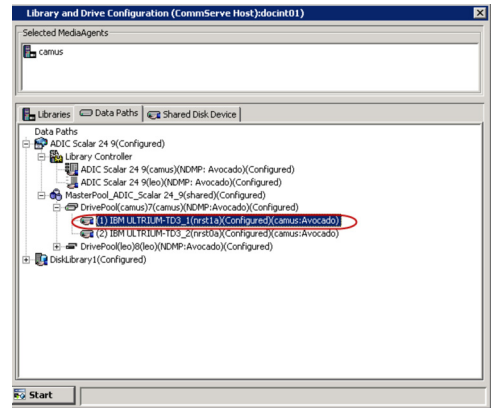
18. Select **Default Media Type** from the list and click **Yes**.



19. The status of the library changes to **Configured**.
 If you chose to configure all associated drives, the status of the drives also changes to **Configured**.
 The **Libraries** tab provides the physical view of the devices (library and drives).



The **Data Paths** tab provides a logical view of the data path used to access the devices - library, master drive pool, drive pool, drive.



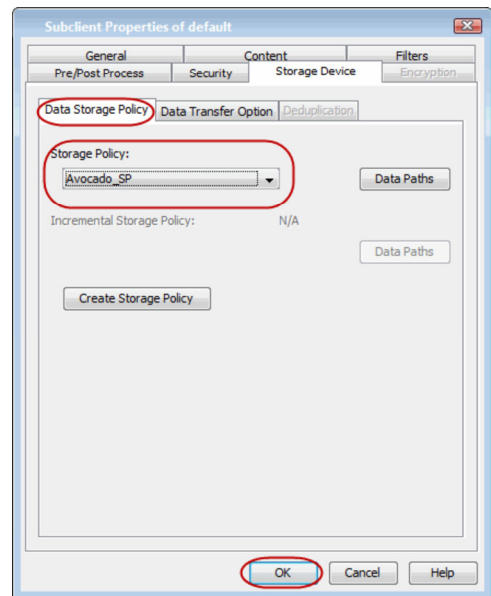
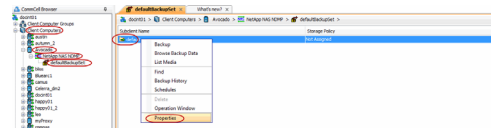
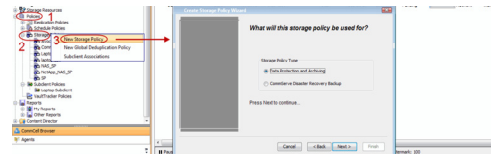
CREATE STORAGE POLICY AND ASSIGN TO SUBCLIENT

You can either use an existing storage policy or create a new one. If you create a new storage policy, you can select the library where you want the data to be written, including libraries for tapes that are attached to file servers, or libraries for media that are attached to MediaAgents.

20.
 - If you want to use an existing storage policy, skip to step 21.
 - From the CommCell Browser, select **Policies**.
 - Right-click **Storage Policies** and select **New Storage Policy**.
 - Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
 - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
 - Enter the name in the **Storage Policy Name** box and click **Next**.
 - From the **Library** list, select the name of a library and click **Next**.
 - From the **Drive Pool**, select the drive pool that for the MediaAgent as shown in step 19 and click **Next**.
 - Click **Next**.
 - Click **Next**.
 - Click **Next**.
 - Review the details and click **Finish** to create the Storage Policy.

21.
 - From the CommCell Console, navigate to **Client Computers** | **<Client>** | **<File Server>** | **NAS NDMP** | **defaultBackupSet**.
 - Right-click the **default** subclient and then click **Properties**.

22.
 - Click the **Storage Device** tab.
 - In the **Storage Policy** box, select the Storage Policy created in step 20.
 - Click **OK**.

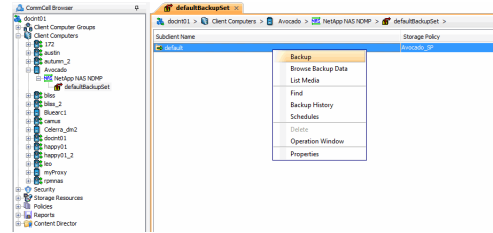


Getting Started - NAS iDataAgent Backup

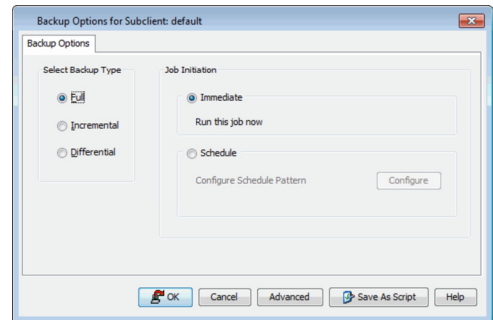
◀ Previous Next ▶

WHAT GETS BACKED UP	WHAT DOES NOT GET BACKED UP
All contents on a file server	

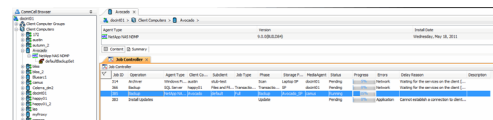
- From the CommCell Console, navigate to **<Client> | <File Server> NAS NDMP | defaultBackupSet**.
 - Right-click the **Subclient** and click **Backup**.



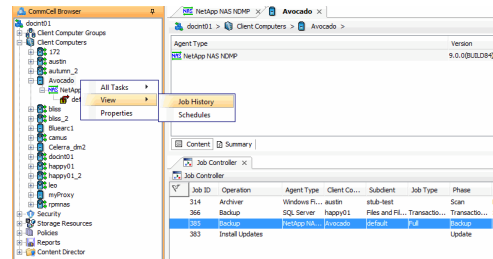
- Select **Full** as backup type.
 - Click **OK**.



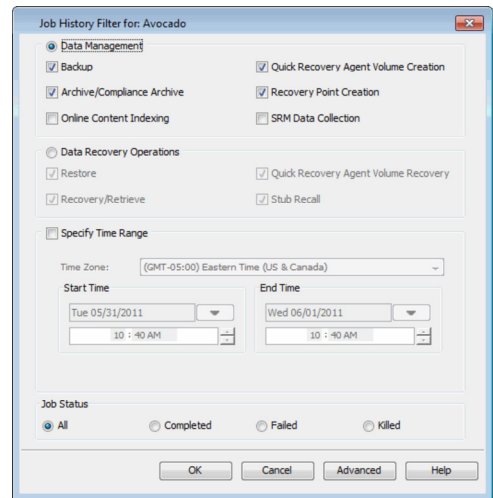
- You can track the progress of the job from the **Job Controller** window.



- Once job is complete, view the details of job from the **Job History**. Right-click the client computer, click **View | Job History**.

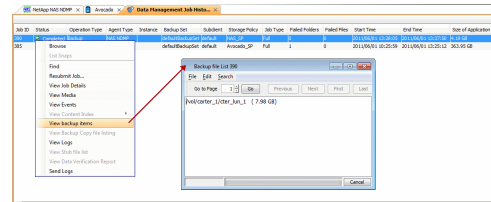


- Click **OK**.



- Right-click the job to:
 - Browse the NAS data that was backed up.
 - Resubmit the job.

- View the job details.
- View media associated with the job.
- View events associated with the job.
- View backup items (displays the NAS data that was backed up).
- View or send the log file associated with the job.



◀ Previous Next ▶

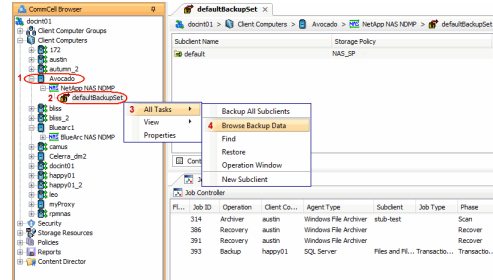
Getting Started - NAS iDataAgent Restore

PERFORM A RESTORE

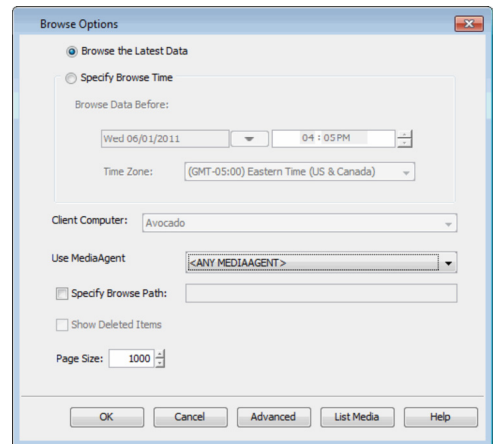
As restoring your backup data is very crucial, it is recommended that you perform a restore operation immediately after your first full backup to understand the process.

The following sections describe the steps for restoring the data of a volume to a different location in the file server.

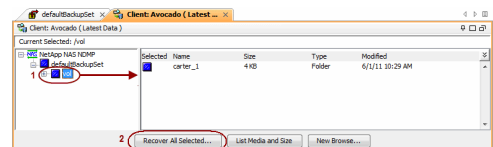
- From the CommCell Console, navigate to **<Client> | <File Server> NAS NDMP**.
 - Right-click the default backup set and click **All Tasks | Browse Backup Data**.



- Click **OK**.

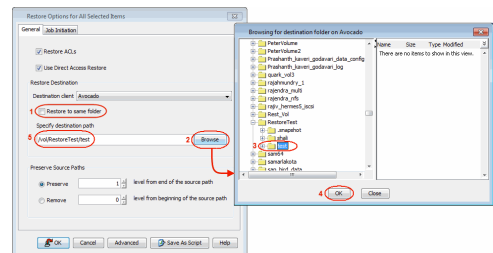


- Expand the default backup set node in the left pane. Select the volume containing the data you want to restore.
 - Click **Recover All Selected**.

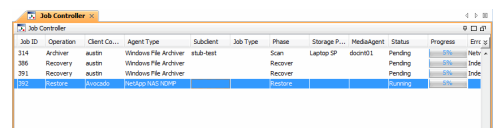


- Clear the **Restore to same folder** checkbox.
 - Specify the destination path by clicking **Browse**.
 - Click **OK**.

Depending on the File Server you are using, your screen may look different from the example shown.

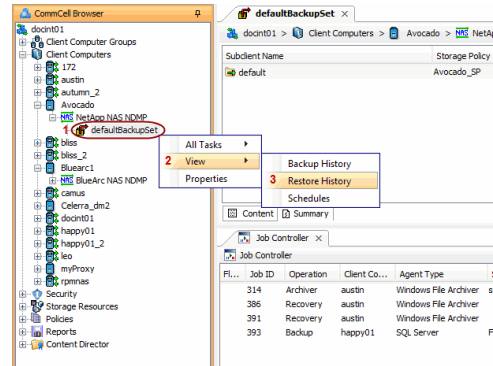


- You can track the progress of the job from the **Job Controller** window.



- Once the restore job has completed, right-click the backup set and click **View | Restore History**.

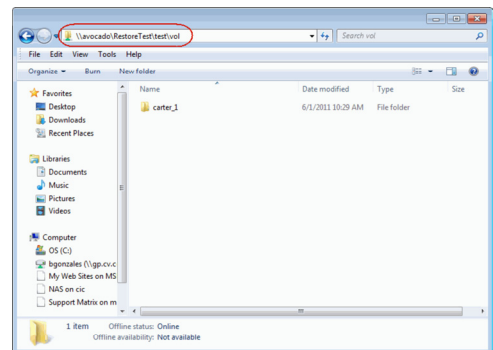
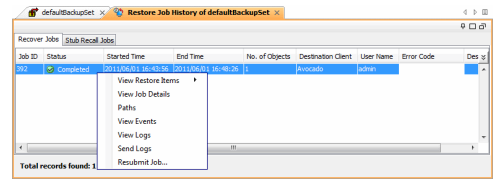
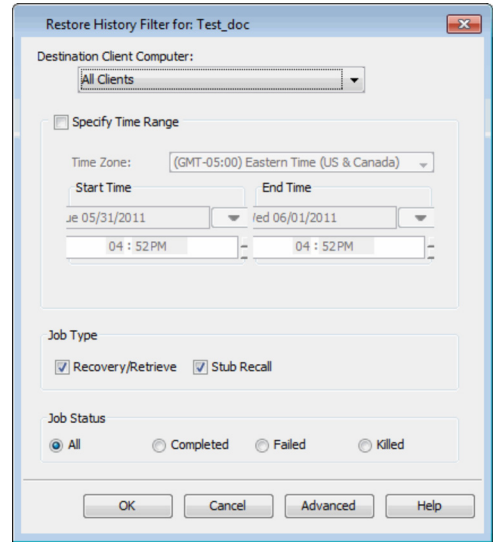
7. Click **OK**.



8. You can view the following details about the job by right-clicking the job:

- View Restore Items
You can view them as **Successful, Failed, Skipped** or **All**.
- View Job Details
- View Events of the restore job.
- View Log files of the restore job
- View Job Path
- Send Logs
- Resubmit Job

9. Verify that the restored files/folders of the volume are available in the restore destination specified during step 4.



CONGRATULATIONS - YOU HAVE SUCCESSFULLY COMPLETED YOUR FIRST BACKUP AND RESTORE.

If you want to further explore this Agent's features read the **Advanced** sections of this documentation.

