

# Administration Guide - External Data Connector (Tivoli Storage Manager)

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# Overview - External Data Connector (Tivoli Storage Manager)

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## INTRODUCTION

External Data Connector (EDC) provides the facility to collect and merge vital information from IBM Tivoli Storage Manager (TSM) to a CommCell. TSM's vital configurations, such as client nodes, schedules, and compression settings are automatically collected and merged to the CommCell.

After the merge has completed, CommCell Agents can be installed directly on the previous TSM clients using the CommCell Console. Client nodes, schedules, compression, and other settings will remain on the clients, which greatly reduces configuration time. CommCell reports can be run to view data protection schedules of TSM clients and other configuration information of External Data Connector (license, service packs, etc.).

## COMPLETE DISCOVERY OF TIVOLI STORAGE MANAGER INFORMATION

When External Data Connector is installed on a Tivoli Storage Manager Server, all TSM client information can be easily incorporated into a CommCell by performing a simple **discovery** process. Your first discovery merges all information about each TSM client into the CommServe database. All these details can be viewed using the CommCell Console graphical interface as soon as the first full discovery is performed.

Subsequent incremental discovery operations continue to update the CommServe with details on new or changed TSM client configurations. You can choose from a number of discovery options, such as assigning discovered client nodes into additional CommCell client groups.

## SEAMLESS MIGRATION OF TSM CLIENTS TO A COMMCELL

Existing TSM client computers can be seamlessly migrated to a CommCell for future data protection and recovery operations using the wide variety of CommCell products and features available. CommCell software can be simultaneously installed to any number of client computers directly through the CommCell Console graphical interface. You can choose to keep the original configuration of the migrated client computers or modify them to suit new needs and requirements.

## SUPPORTED TIVOLI STORAGE MANAGER VERSIONS

After the first full discovery process is complete, each Tivoli Storage Manager component, such as client nodes, schedules, etc. is mapped to the appropriate CommCell entity. The following versions of Tivoli Storage Manager are supported for these TSM components:

TIVOLI STORAGE MANAGER GROUPING	DESCRIPTION	SUPPORTED TIVOLI STORAGE MANAGER VERSIONS*
Configuration	Client nodes, Client node schedules, Schedule repetitions, Client Node Platforms, Schedule Actions (Backup), Schedule Expiration, Client node option sets (compression).	5.4, 5.5, 6.1, 6.2
Jobs	Job information is migrated for CommCell reporting purposes.	5.4, 5.5, 6.1, 6.2

\*Both Windows and Unix platforms are supported.

## TERMINOLOGY

The External Data Connector documentation utilizes the following terminology:

- **Tivoli Storage Manager Server** - The computer hosting the main data protection and recovery software engine. This computer is the equivalent of the CommServe computer.
- **Discovery** - The process in which External Data Connector collects information about the vendor's client computers and populates that information into the CommServe database.

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# System Requirements - External Data Connector

NetBackup	Tivoli Storage Manager	EMC Networker	Supported Features
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The following requirements are for External Data Connector:

## NETBACKUP

After the discovery process is complete, NetBackup components, such as client computers, backup schedules, and media are mapped to the appropriate CommCell entity. The following versions of NetBackup are supported for these NetBackup component groupings:

NETBACKUP GROUPING	DESCRIPTION	SUPPORTED NETBACKUP VERSIONS*
Configuration	Clients, Policy Types, Policies, Policy Attributes (compression, encryption), Policy Schedules (frequency, calendar), Backup Types, Media Server.	5.1, 6.0, 6.5, 7.0, 7.1
Jobs	Backup and Admin Policy Job information is migrated for CommCell reporting purposes.	6.0, 6.5, 7.0, 7.1
Media	Lifecycle Policies, Storage Units, Robots, and Media Status are migrated for CommCell reporting purposes.	6.0, 6.5, 7.0, 7.1

\*Both Windows and Unix platforms are supported.

## HARD DRIVE

1 GB of minimum disk space is required for installing the software.

256 MB of free disk space is required for job result directory.

256 MB of free disk space is required for log directory.

## PERIPHERALS

DVD-ROM drive

Network Interface Card

## MISCELLANEOUS

### 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.

### 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

# Deployment - Windows

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## SKIP THIS PAGE IF YOU ARE NOT INSTALLING THIS AGENT ON WINDOWS.

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

Follow the steps given below to install the External Data Connector software.

### INSTALLATION

The software can be installed using one of the following methods. Ensure you have the following before performing the install:

#### METHOD 1: INTERACTIVE INSTALL

Use this procedure to install the software and then customize your configuration.

#### METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

Use this procedure to remotely install the software on a client computer and then customize your configuration.

### METHOD 1: INTERACTIVE INSTALL

1. Run **Setup.exe** from the Software Installation Disc on the client computer where Tivoli Storage Manager Server resides.
2. Select the required language.  
Click **Next**.

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.

4. Click **Next**.

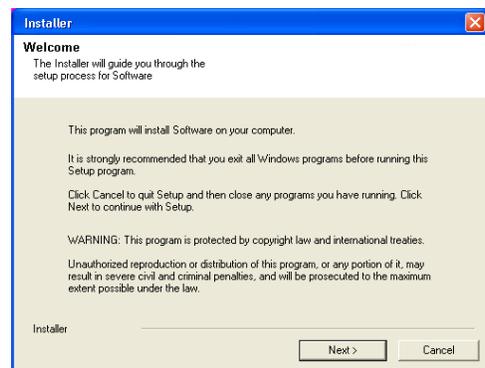
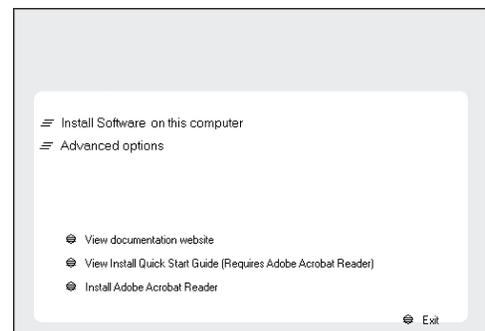
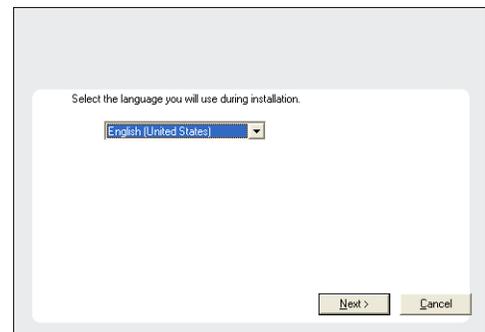
### BEFORE YOU BEGIN

#### Download Software Packages

Download the latest software package to perform the install.

#### System Requirements

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



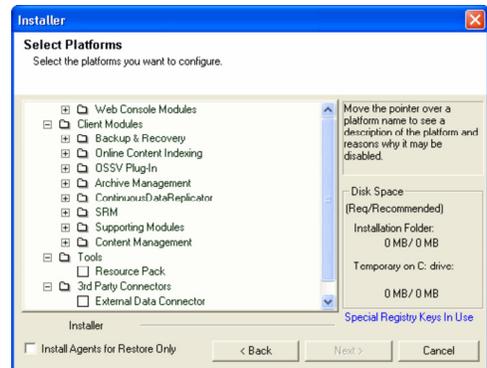
5. Click **OK**.



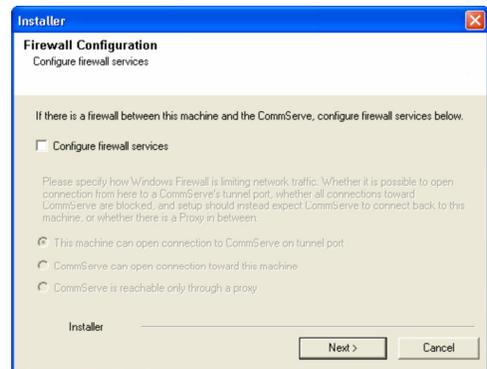
6. Select **I accept the terms in the license agreement**.  
Click **Next**.



7. Expand **3rd Party Connectors** and select **External Data Connector**.  
Click **Next**.



8. 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.

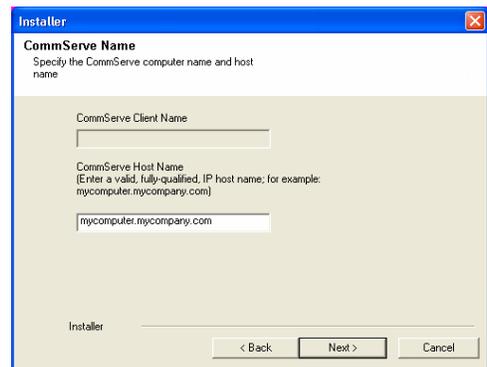


9. Enter the fully qualified domain name of the CommServe Host Name.  
Click **Next**.

**NOTES**

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

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



10. Click **Next**.  
**NOTES**

- The client computer name and host name must be the same for discovery operations to complete successfully.

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

Click **Next**.

**NOTES:**

- If Windows Firewall is disabled on this computer, select this option to add the Commcell programs and services to Windows firewall exclusion list.

This option enables CommCell operations across the firewall, if the firewall is enabled at a later time.

12. Click **Next**.

13. Verify the default location for software installation.

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

Click **Next**.

**NOTES**

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

/ : \* ? " < > | #

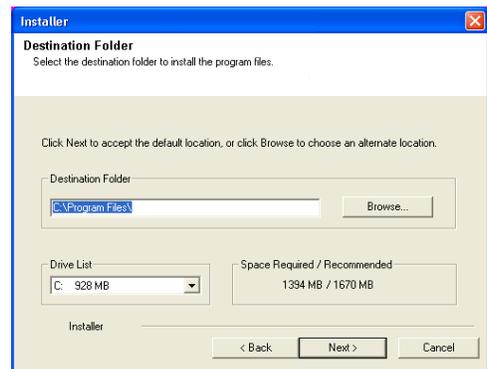
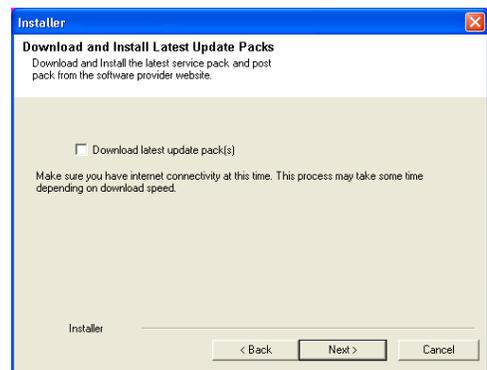
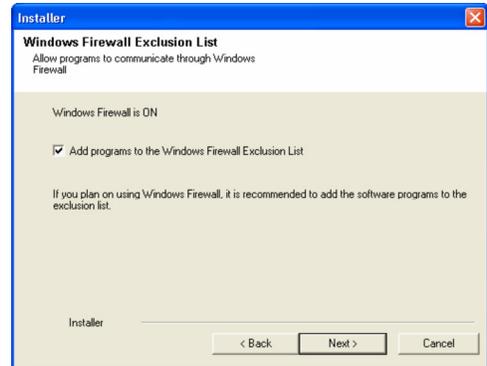
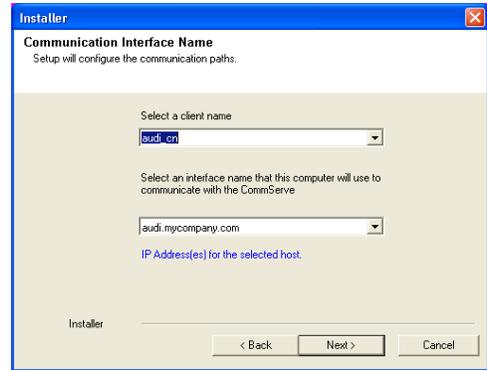
It is recommended that you use alphanumeric characters only.

14. Select a Client Group from the list.

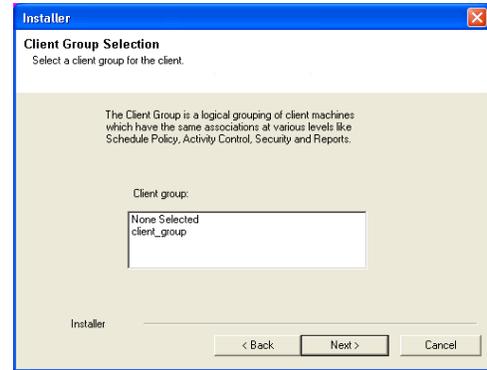
Click **Next**.

**NOTES**

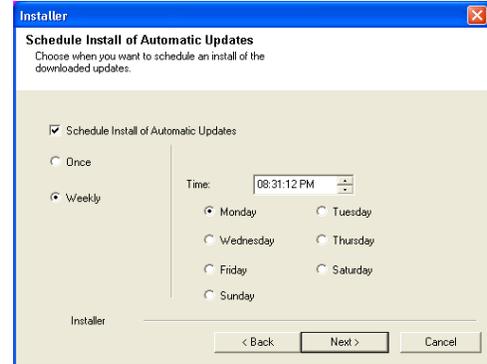
- This screen will be displayed if Client Groups are configured in the CommCell Console.



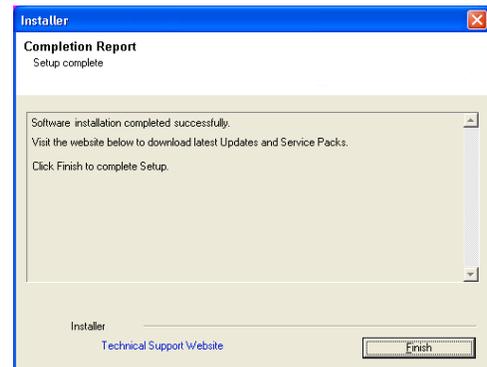
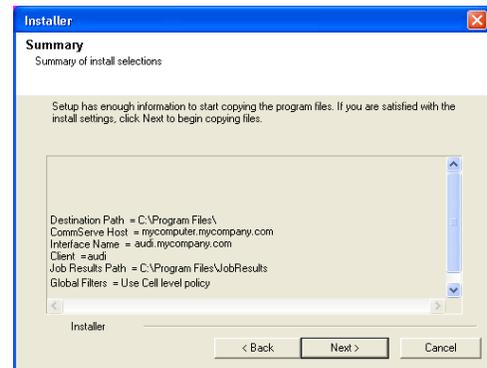
15. Click **Next**.



16. Click **Next**.



17. Click **Finish**.



## METHOD 2: INSTALL SOFTWARE FROM COMMCCELL CONSOLE

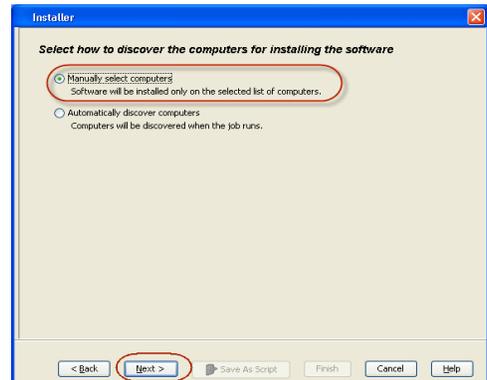
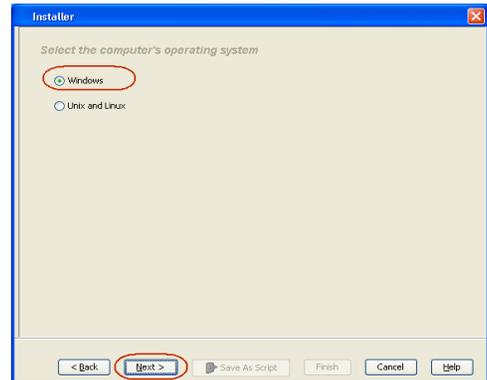
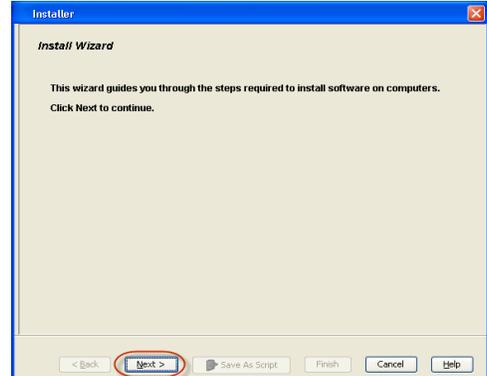
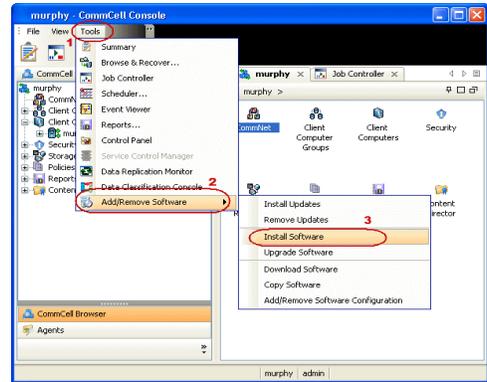
1. From the CommCell Browser, select **Tools -> Add/Remove Software -> Install Software**.

2. Click **Next**.

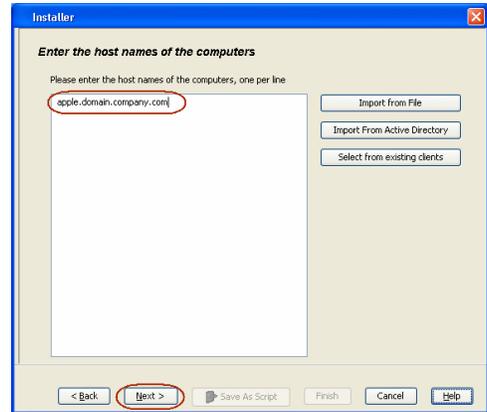
3. Select **Windows**.  
Click **Next**.

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

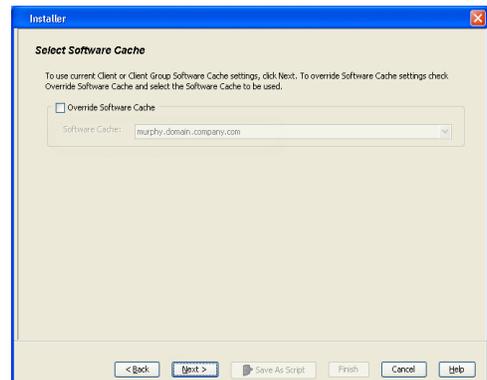
5. Enter the fully qualified domain name of the client computer where Tivoli Storage Manager Server resides.  
For example: `apple.domain.company.com`  
The External Data Connector software will be installed on this client computer.  
Click **Next**.



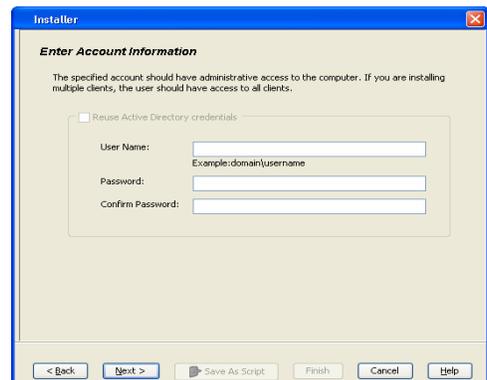
6. Click **Next**.



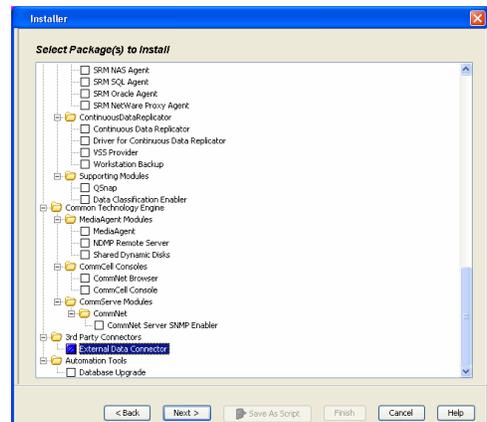
7. Specify **UserName** and **Password**.  
Click **Next**.



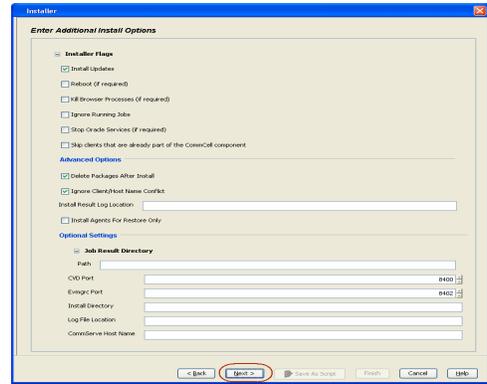
8. Select **External Data Connector**.  
Click **Next**.



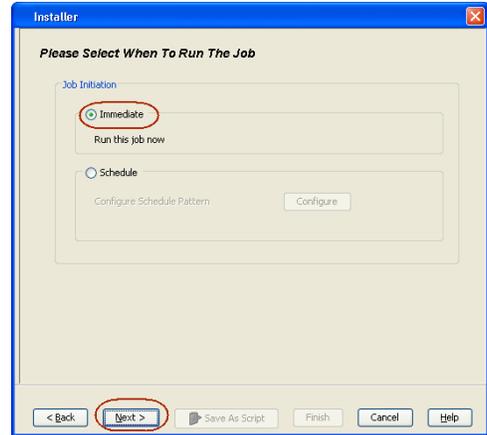
9. Click **Next**.



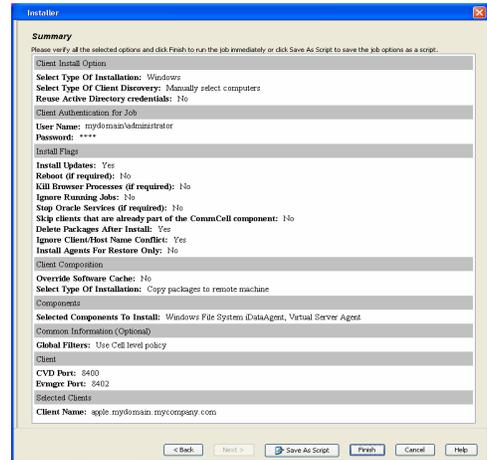
10. Select **Immediate**.  
Click **Next**.



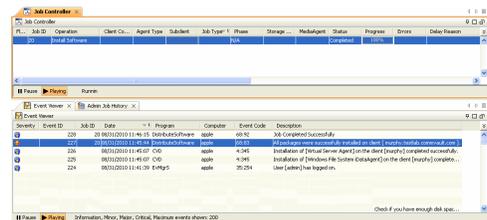
11. Click **Finish**.



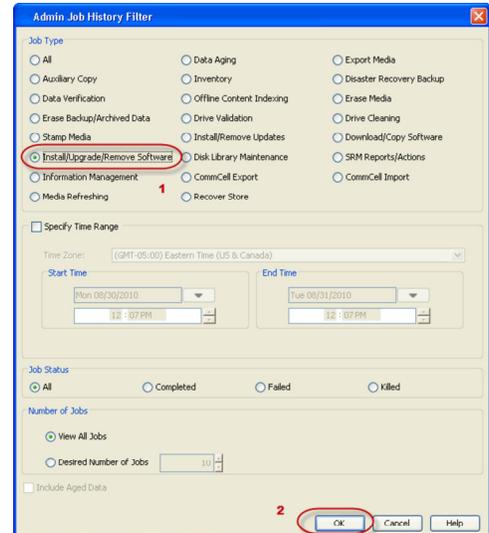
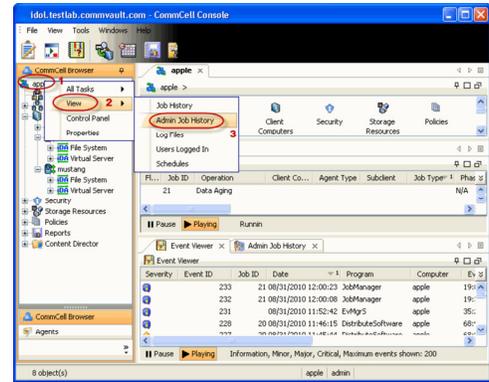
12. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



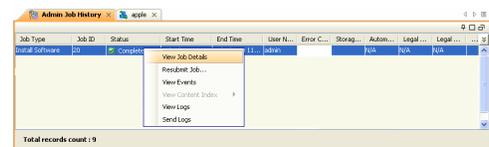
13. Once the job is complete, view the details of job from the **Job History**.  
Right-click the **CommServe** computer, click **View** and then click **Admin Job History**.



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



15. 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



# Deployment - Unix

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

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

Follow the steps given below to install the External Data Connector software.

### INSTALLATION

The software can be installed using one of the following methods. Ensure you have the following before performing the install:

#### METHOD 1: INTERACTIVE INSTALL

Use this procedure to install the software directly on client computer.

#### METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

Use this procedure to remotely install the software on a client computer.

### METHOD 1: INTERACTIVE INSTALL

1. Place the **Software Installation Disc** on a client computer that satisfies the minimum requirements specified in the System Requirements.
2. Run the following command from the Software Installation Disc:  
**./cvpkgadd**
3. The product banner and other information is displayed.  
Press **Enter**.
4. Read the license agreement. Type **y** and press **Enter**.
5. Press **Enter**.

6. Enter the number corresponding to the binaries that you wish to install.

#### NOTES

- Select 32 bit when installing on a 32-bit computer.
- When installing on a 64-bit computer, if this is the first package, determine whether you want to install 32-bit binaries or 64 bit binaries.

You can determine this by verifying whether all the components that you wish to install in this computer are supported in 64-bit in System Requirements.

Note that when the first component is installed using 64-bit binaries, you cannot subsequently install another component using 32-bit. (Or vice-versa.)

7. Press **Enter**.

### BEFORE YOU BEGIN

#### Download Software Packages

Download the latest software package to perform the install.

#### 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]

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 platform (32 bit)
- 2) FS and MA only (64 bit)

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.

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

8. 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**.

#### 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.

9. Press **Enter**.

10. Type the appropriate number to install **External Data Connector**.

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** 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.

13. Press **Enter**.

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

#### NOTES

- Do not use the following characters when specifying the path:  
!@#\$\$%^&\*():/?\

15. Press **Enter** to accept the default location for the log files and continue, or  
Enter a path to modify the default location and press **Enter**.

#### NOTES

- All the modules installed on the computer will store the log files in this directory.

16. Type **no**.

#### NOTES

- If entering **Yes**, go to Step 18.

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 172.19.99.62

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

[ ] 1) MediaAgent [1301] [CVGxMA]>

[ ] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

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

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

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

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]

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]

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

17. Type **d** for done.

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]

Access Permissions for Other Users

Installer will assign full access rights to root user and its belonging group for all installed Software files and its processes.

For any other users, you can specify the access permissions now.

However, since you chose not to assign a dedicated group in previous step, make sure you specify sufficient access rights for other users if you are also planning to install Software agents involving third party software protection.

[X] 1) Allow read permission to other users

[X] 2) Allow write permission to other users

[X] 3) Allow execute permission to other users

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

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

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

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

#### NOTES

- See your Unix systems administrator for assistance in creating a user group.

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: 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".

19. 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**.

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]

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

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**.

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

21. Type the fully qualified domain name for **CommServe Host Name** and press **Enter**.

#### NOTES

- Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.

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:

22. Press **Enter**.

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]

23. 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

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".

- This screen will be displayed only if Client Groups are configured for the CommCell.

24. Enter the number corresponding to the storage policy through which you want to back up the External Data Connector and press **Enter**.

25. Type **3** to the **Exit** option and press **Enter**.  
The installation is now complete.

```
[ ] 1) Unix
[ ] 2) DR
[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

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

1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4

Storage Policy: [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.

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

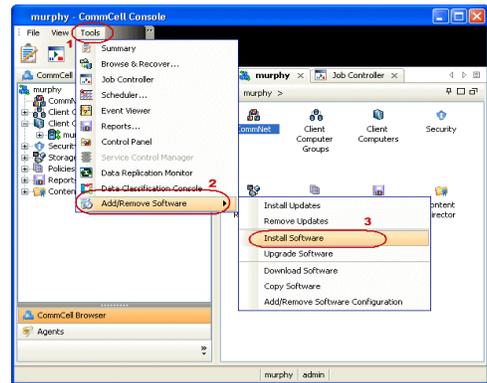
Now you have a choice of either adding another package to
the existing installation or configure Calypso on a
virtual machine for use in a cluster.

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

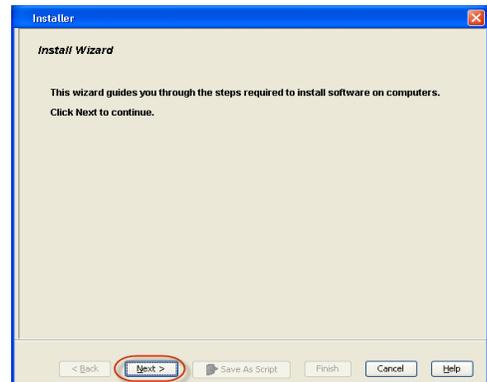
Your choice: [1]
```

## METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

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



2. Click **Next**.



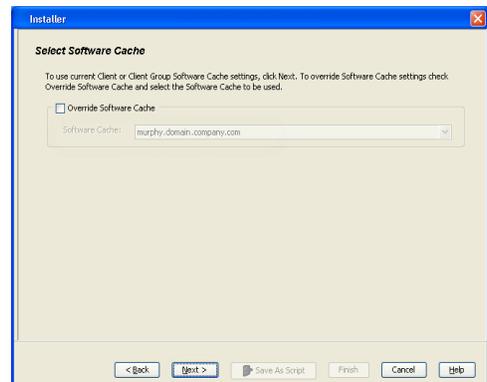
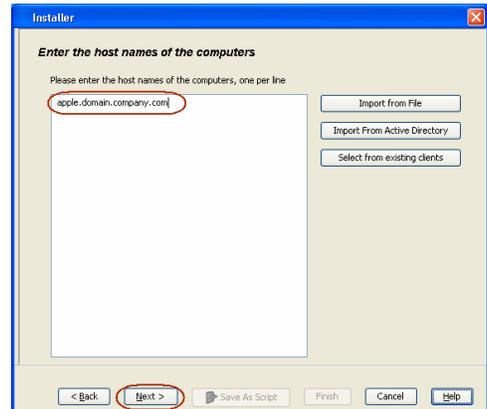
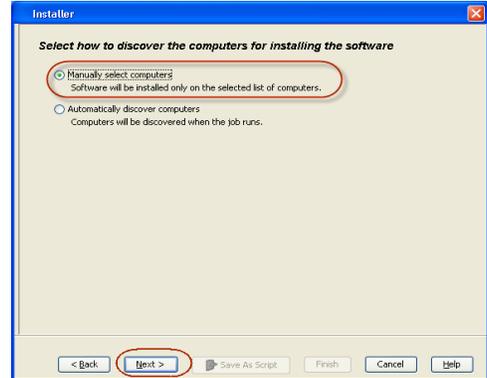
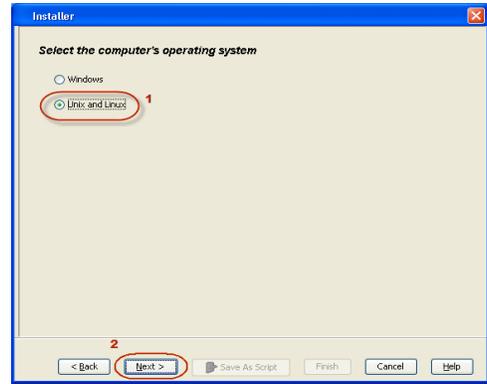
3. Select **Unix and Linux**.  
Click **Next**.

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

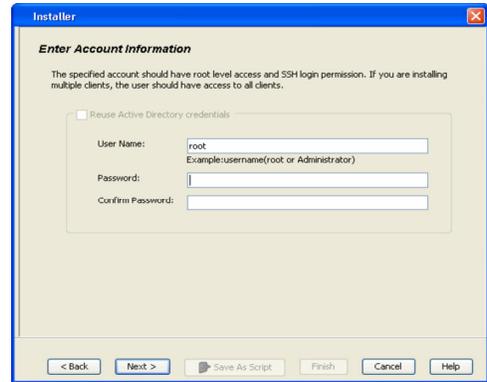
5. Enter the fully qualified domain name of the computer in which you wish to install.  
For example: `apple.domain.company.com`  
The External Data Connector software will be installed on this client computer.  
Click **Next**.

6. Click **Next**.

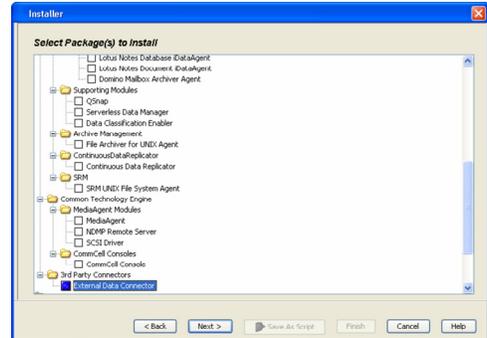
7. Specify **UserName** and **Password** of client computer.  
Click **Next**.



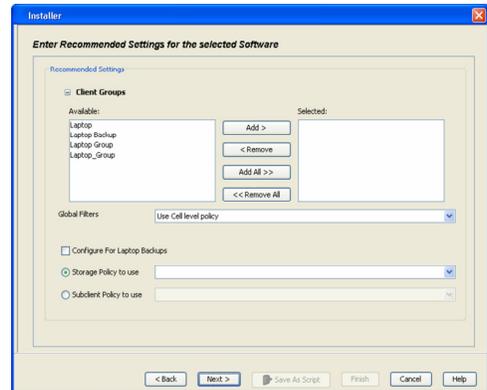
8. Select **External Data Connector**.  
Click **Next**.



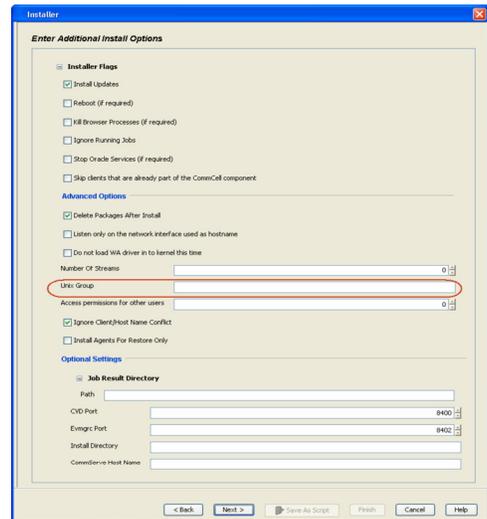
9. Click **Next**.



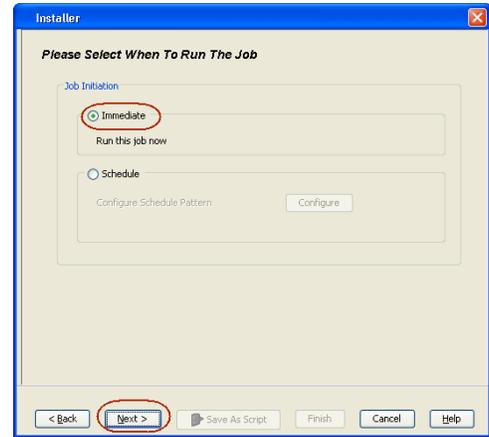
10. Click **Next**.



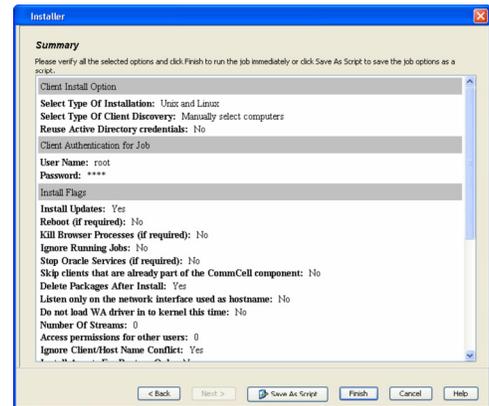
11. Select **Immediate**.  
Click **Next**.



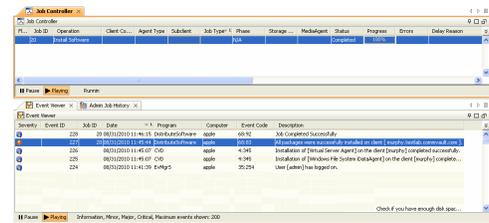
12. Click **Finish**.



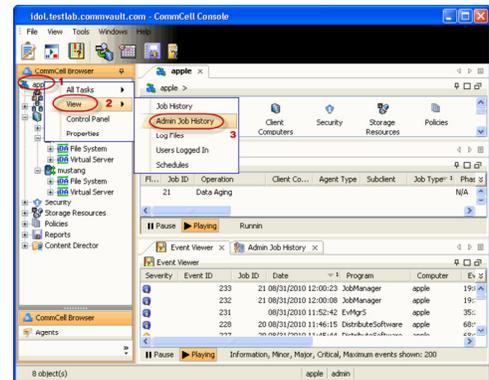
13. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



14. Once the job is complete, right-click the **CommServe** computer, click **View** and then click **Admin Job History**.

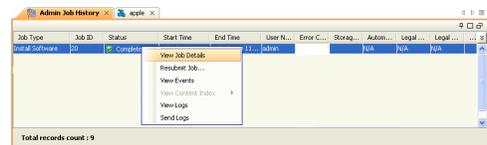
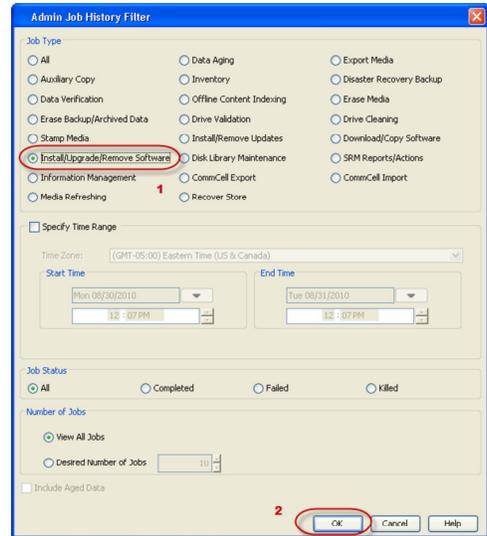


15. Select **Install/Upgrade/Remove Software**.  
Click **OK**.



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



# Discover and Migrate



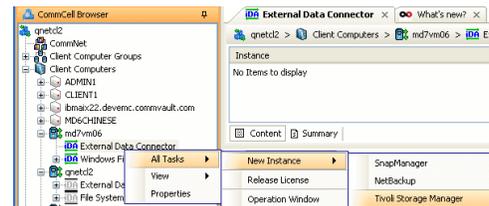
## PERFORM A DISCOVERY

Run a discovery job from CommCell Console to collect Tivoli Storage Manager configuration information and merge it into the CommServe.

- Prior to running your first discovery operation, you should perform a disaster recovery backup of all data.
- An incremental discovery operation is the same as a full discovery so that all TSM information will be collected.

### RUN A DISCOVERY IMMEDIATELY

1. Install the Tivoli Storage Manager **Administrative Client Command Line Files** component on the computer where Tivoli Storage Manager Server resides. Refer to *IBM Tivoli Storage Manager* documentation for complete instructions.
2. From the CommCell Console, right-click on the **External Data Connector** node, select **New Instance**, and select the desired instance type.



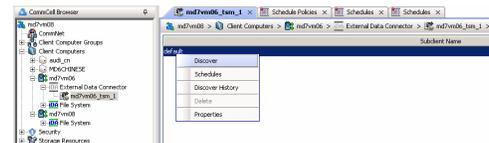
3. Enter the following information:
  - The instance name.
  - The **username** with **admin** privileges for accessing Tivoli Storage Manager Server.
  - The **password** of Tivoli Storage Manager Server.
 Click **OK**.

An instance, default backup set, and subclient are now created and ready for the discovery process.

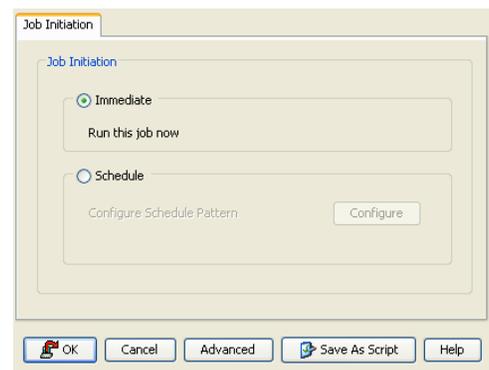


4. Right-click the subclient for which you want to discover Tivoli Storage Manager data and click **Discover**.
 

Ensure that **Enable Discovery** is selected in Subclient Properties (Activity Control).



5. From the **Job Initiation** tab of the **Discovery Options** dialog box, select **Immediate**.



6. Click **OK**.
 

You can track the progress of the backup job from the **Job Controller** window. When the backup has completed, the Job Controller displays **Completed**.

## PERFORM A MIGRATION

After discovery is complete, you can migrate client nodes to the CommCell by installing the desired CommCell software components, such as the File System iDataAgent, on the previous TSM clients.

These installations can occur in two ways:

- using the Install Software from the CommCell Console feature, which allows you to directly install software on any number of client computers. This is the recommended method and can be done from a client computer group as well.
- using the software installation disk for the components you want to install.

Refer to the Installation documentation for complete details on installing CommCell components.

You can choose to keep the original configuration of the migrated client computers or modify them to suit new needs and requirements. Once you are satisfied with the configuration, you can perform data protection and recovery operations for the client computer. Refer to the documentation for your components for detailed information on protecting and recovering data.

- Prior to running backups, ensure that the subclients created do not contain any duplicate content.
- By default, all discovered TSM client computers migrate in a disabled state. This means that no CommCell licenses are consumed during the discovery process. When installing CommCell components onto the discovered client computers, the appropriate component license will be consumed during the installation process.
- Legacy data that was previously backed up by Tivoli Storage Manager Server is not discovered nor migrated by the External Data Connector. However, post-migration backup jobs using CommCell Console will protect and recover data that is specified and included in a subclient.

## **YOU HAVE NOW FINISHED YOUR FIRST DISCOVERY AND MIGRATION**



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# Advanced Options



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### What Gets Discovered

Configuration Entities  
Job Entities

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### Capture Metadata using Decoupled Install

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Collect and Save TSM Data into an XML File  
Merge TSM Data from XML File into CommServe Database

### Troubleshooting

### Scheduling Discovery Jobs

### Related Reports

Job Schedule Reports

## WHAT GETS DISCOVERED

After the first full discovery process is complete, each Tivoli Storage Manager component, such as client nodes, schedules, etc. is mapped to the appropriate CommCell entity. The following versions of Tivoli Storage Manager are supported for these TSM components:

TIVOLI STORAGE MANAGER GROUPING	DESCRIPTION	SUPPORTED TIVOLI STORAGE MANAGER VERSIONS*
Configuration	Client nodes, Client node schedules, Schedule repetitions, Client Node Platforms, Schedule Actions (Backup), Schedule Expiration, Client node option sets (compression).	5.4, 5.5, 6.1, 6.2
Jobs	Job information is migrated for CommCell reporting purposes.	5.4, 5.5, 6.1, 6.2

\*Both Windows and Unix platforms are supported.

## CONFIGURATION ENTITIES

The following table lists the TSM configuration entities that are discovered and how they are mapped to CommCell entities.

TIVOLI STORAGE MANAGER COMPONENT	NOTES	
<b>Clients</b> Policy Domain→Client Nodes	Client nodes are brought in initially as deconfigured clients and are shown under <b>Client Computer Group</b> in CommCell Console.  To display the discovered clients, deselect the <b>Hide deconfigured clients</b> option in the User Preferences dialog box.  All TSM client computers discovered will, however, be initially grouped into a single Client Computer Group based on the instance from which the discovery operation was run. Additional client computer groups can be specified in the Discover Properties dialog box.	
<b>Schedule Policies</b> (Policy Domain→Client Node Schedules)	Schedules are migrated to CommCell Schedule Policies.  After discovery, Tivoli Storage Manager on-demand jobs in Client Node Schedules are mapped under CommServe subclients as <i>OnDemand</i> .	
<b>Agents</b> (Policy Domain→Client Node→Platform)	<b>TSM PLATFORM</b> <ul style="list-style-type: none"> <li>• Unix</li> <li>• Windows</li> </ul>	<b>COMMCELL AGENT</b> <ul style="list-style-type: none"> <li>• File System*</li> <li>• File System*</li> </ul> *The File System <i>i&gt;DataAgent</i> used will correspond to the operating system (Windows or Unix) associated with the original TSM client.
<b>Backup Type</b> (Policy Domain→Client Node Schedules→Schedule Action→Action→Backup)	The Backup Actions of a Client Node Schedule are mapped to these backup types in CommServe:	
	<b>TIVOLI STORAGE MANAGER</b> <ul style="list-style-type: none"> <li>• Selective Backup</li> </ul>	<b>COMMCELL</b> <ul style="list-style-type: none"> <li>• Full</li> </ul>

	<ul style="list-style-type: none"> <li>• Incremental Backup</li> <li>• Incremental</li> </ul>
<b>Schedule Patterns</b> (Policy Domain→Client Node Schedules→Schedule Repetition)	These schedule repetitions are migrated to a Schedule Pattern of a CommCell Schedule Policy: <ul style="list-style-type: none"> <li>• Run once. The schedule only runs at the specified date and time.</li> <li>• Repeat Hourly (every one or more days)</li> <li>• Repeat Daily (every one or more days)</li> <li>• Repeat on one or more days of the week</li> <li>• Repeat on one or more days of the month</li> <li>• Repeat weekly (every one or more weeks)</li> <li>• Repeat monthly (every one or more months)</li> <li>• Repeat yearly (every one or more years)</li> </ul>
<b>Schedule Expiration</b> (Policy Domain→Client Node Schedules→Advanced Options→Schedule Expiration)	Schedule expiration is migrated to the <b>Advanced Schedule Options</b> Range of recurrence selections of a Schedule Policy (e.g., Never End, End By, End After).
<b>Compression</b> (Policy Domain→Option Sets→Compression)	Compression becomes a subclient property. The properties for subclients created by External Data Connector are read-only and cannot be changed
<b>Backup Content</b> (Policy Domain→Client Node Schedules→Schedule Action→Action→Backup)	Files to backup up of a Backup Action in a Client Node Schedule are mapped to subclient content in the CommServe. <ul style="list-style-type: none"> <li>• The Properties for subclients created by External Data Connector are read-only and cannot be changed.</li> <li>• When previously merged policies are deleted from the Tivoli Storage Manager server, the corresponding subclients are not automatically deleted from the CommServe during the next merge operation. Thus, any subclients associated with deleted policies must be manually removed from the CommServe.</li> </ul>

## JOB ENTITIES

The following table lists the TSM job entities that are discovered and how they are mapped to CommCell entities.

TSM COMPONENT	NOTES
Jobs	Job information from the last two years is migrated for CommCell reporting purposes.

## VERIFY DISCOVERY

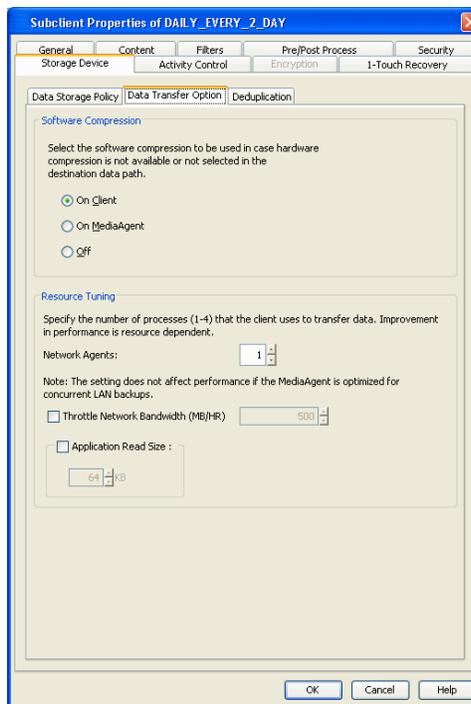
After discovery is complete, you can verify the mappings of the TSM data in the CommCell Browser. The following provides some examples.

### COMMCELL BROWSER

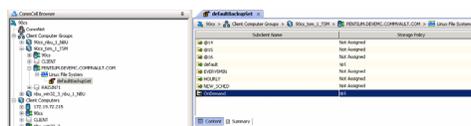
#### SCHEDULE REPETITIONS AND EXPIRATION

#### CLIENTS AND SUBCLIENTS

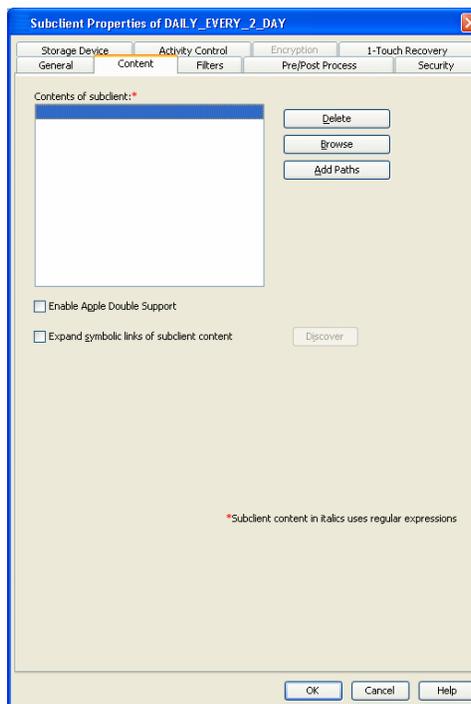
#### COMPRESSION



### ON DEMAND JOBS IN CLIENT NODE SCHEDULES



### BACKUP CONTENT



### ADVANCED DISCOVERY OPTIONS

Several additional options are available if you require more comprehensive information about the discovered clients. The following sections describe the options

available.

To configure these settings, perform the following steps:

1. In the CommCell Browser, right-click the default subclient for which you want to discover Tivoli Storage Manager data and click **Discover**.
2. From the **General** tab of the **Discovery Options** dialog box, click **Advanced**.
3. From the **Advanced Discovery Options** dialog box, select the desired options and click **OK**.

The following table describes the advanced operations available.

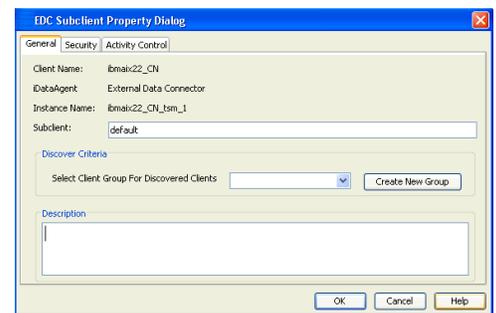
OPTION	DESCRIPTION
<b>FORCE A FULL SYNC</b>	This option forces a full discovery of all Tivoli Storage Manager clients. This option should be used if you want to ensure that all the latest client information from the Tivoli Storage Manager is in sync with the CommServe database, especially in cases where significant change (such as the addition or removal of a large number of clients) has occurred.
<b>MERGE INFORMATION FROM A SPECIFIC FILE</b>	This option populates the CommServe database with Tivoli Storage Manager information using a specified XML file. Use this option if you want to perform a full or incremental discovery of a Tivoli Storage Manager without the need to communicate with the Tivoli Storage Manager itself.

## ASSIGNING DISCOVERED CLIENT NODES TO ADDITIONAL CLIENT COMPUTER GROUPS

All TSM client nodes discovered are initially grouped into a single Client Computer Group based on the instance from which the discovery operation was run.

Prior to a discovery operation, you can assign discovered client nodes to additional client computer groups as follows:

1. From the CommCell Console, right-click on the **External Data Connector** node, select an instance.
2. Right-click the subclient for which you want to discover TSM data and click **Properties**.
3. From the **General** tab, specify a client computer group by:
  - o In **Select a Client Group for Discovered Clients**, choose a client group from the pulldown menu.
  - o Click **Create New Group**. Enter a name for the group, add clients to the group, and click **OK**.
4. Click **OK**.



## CAPTURE METADATA USING DECOUPLED INSTALL

This method uses External Data Connector to save TSM information into an XML file, which is then applied to an existing CommServe. This method does not require any direct connectivity between the TSM and the CommServe, which is useful if deploying a new CommServe is not desirable in a particular environment.

This method consists of three phases:

1. Install External Data Connector on the TSM
2. Collect and Save TSM Data into an XML File
3. Merge TSM Data from XML File into CommServe Database

The following sections describe these phases in detail.

### INSTALL EXTERNAL DATA CONNECTOR ON THE TSM

External Data Connector must first be installed on the TSM Server. To perform this installation in the absence of a CommServe, use the Decoupled Install feature.

### COLLECT AND SAVE TSM DATA INTO AN XML FILE

Run the `CVForeignHandler` command to collect TSM data and save it into a bundle file. This can be accomplished from the command line as follows:

1. From the command line, navigate to the `base` folder for the External Data Connector software.
2. On Windows, execute the following command:

```
CVForeignHandler -collectdata -vendor 8 -user "<External_Database_Admin_User_Name>" -password
"<External_Database_Admin_User_Password>" -vm "<Instance_Name>" -cn "<Client_Name>"
```

For example:

```
CVForeignHandler -collectdata -vendor 8 -user "<External_Database_Admin_User_Name>" -password
"<External_Database_Admin_User_Password>" -vm "Instance001" -cn "client1"
```

By default, this command will save all contents of the TSM server into a .zip file in the `JobResults` folder.

- On Linux and Unix, execute the following command:

```
../iDataAgent/CVForeignHandler -collectdata -vendor 8 -user "<External_Database_Admin_User_Name>" -password
"<External_Database_Admin_User_Password>" -vm "<Instance_Name>" -cn "<Client_Name>"
```

For example:

```
../iDataAgent/CVForeignHandler -collectdata -vendor 8 -user "<External_Database_Admin_User_Name>" -password
"<External_Database_Admin_User_Password>" -vm "Instance001" -cn "client2"
```

By default, this command will save all contents of the TSM server into a .gz file in the `JobResults` folder.

## MERGE TSM DATA FROM XML FILE INTO COMMSERVE DATABASE

Once the TSM data is collected and saved in an XML file, copy the XML file to the CommServe computer and merge the TSM data into the CommServe database. To do so:

- Copy the XML file into the desired location on the CommServe computer.
- From the CommCell Console, initiate a **Discovery** operation.
- From the **General** tab of the **Advanced Discovery Options** dialog box, select the following options:
  - Full Sync** to populate all information in the XML file.
  - Merge from folder** to identify the XML file that contains the TSM information. You can use the **Browse** option to navigate to the location of the XML file.
- Click **OK**.

The TSM information will be merged into the CommServe database.

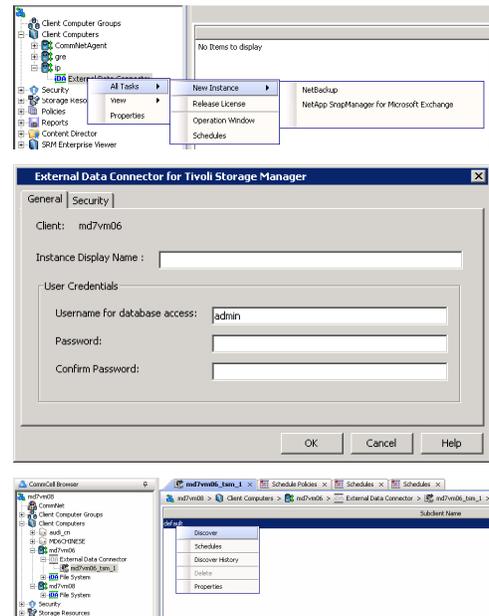
## TROUBLESHOOTING

Discovery operations may fail if the TSM password is entered incorrectly or TSM services are not running. To determine which failure occurred, right-click the failed discovery job in the Job Controller window and select **Job Details**. The **Description** field will display the job failure reason.

## SCHEDULING DISCOVERY JOBS

If External Data Connector was installed on a client computer using the advanced install option, a Tivoli Storage Manager instance was created automatically for you and Steps 1 and 2 can be skipped below. Otherwise, you will need to create an instance before running a Discovery operation.

- From the CommCell Console, right-click on the **External Data Connector** node, select **New Instance**, and select the desired instance type.
- Enter the following information:
  - The instance name.
  - The **username** with **admin** privileges for accessing Tivoli Storage Manager.
  - The **password** of TSM.
Click **OK**.  
An instance, default backup set, and subclient are now created and ready for the discovery process.
- Right-click the subclient for which you want to discover TSM data and click **Discover**.
- From the **Job Initiation** tab of the **Discovery Options** dialog box, select **Schedule**.



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

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

Specify the following options:

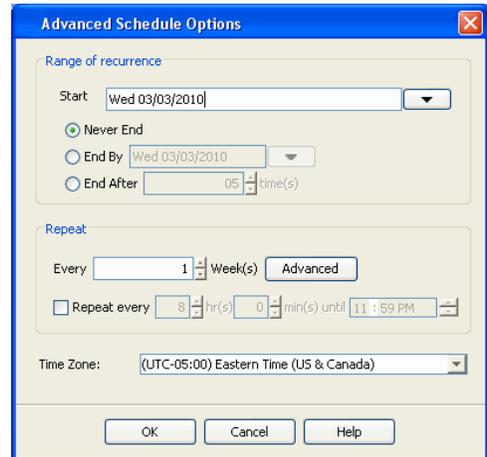
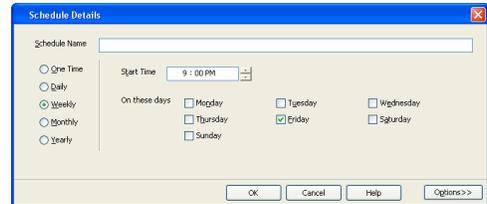
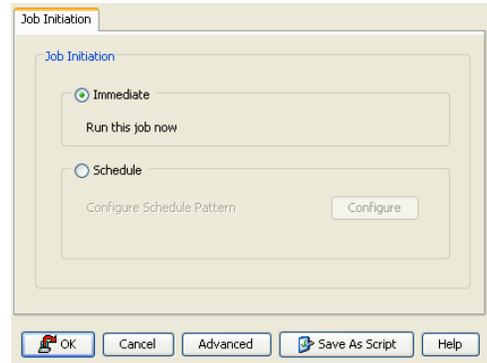
- **Range of recurrence:** Specify the date on which you want this schedule to take effect.
- **Repeat:** Select the value for which you want to run the job repeatedly on the day in which the job is scheduled to run.
- **Time Zone:** Select a specific time zone from which the job schedule time will be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

You can also confirm and/or edit (where applicable) your choices from the **Job Summary** tab. For a monthly or yearly schedule, you can select either a standard calendar or a custom calendar.

Click **OK** once all the desired options have been configured.

7. Click **OK**.

Your discovery operation will execute according to the specified schedule. You can track the progress of the backup job from the **Job Controller** window. When the backup has completed, the Job Controller displays **Completed**.



## RELATED REPORTS

Reports are available that provide detailed information on previously run TSM jobs, as well as jobs run using the CommCell software after migration, as described below:

### COMMCELL REPORTS

After your first discovery, you can run these CommCell Reports to obtain information on all past TSM data protection and recovery jobs.

- CommCell Configuration
- Scheduling

By default, the reports display information according to CommCell entities; that is, a TSM schedule will appear as a subclient, and so on. However, several reports can be customized to display information according to the original TSM entity. While the details of the report remain the same in either case, this option is useful as a tool for new CommCell users who may not be familiar with CommCell components.

Refer to the Reports - Overview topic for complete details.



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