Quick Start - Documentum *i*DataAgent (Oracle)

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Overview - Documentum *i*DataAgent

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INTRODUCTION

The Documentum *i*DataAgent provides a data protection and recovery solution to protect and manage EMC Documentum® Repository data, such as databases, Storage Areas, and Full-Text Indexes (FTI). Documentum Repository with Oracle and DB2 databases are supported. The database components that are backed up include data files and logs, which hold the Repository's meta data.

Use the Documentum *i*DataAgent for the following reasons:

- Backup of databases, Storage Areas, and Full-Text index in a Single or Distributed Server environment.
- Restore of databases, Storage Areas, and Full-Text index in a Single or Distributed Server environment.
- Restore individual files or documents of a Repository to an in-place or out-of-place destination within the same Repository.

KEY FEATURES

The Documentum *i*DataAgent offers the following key features:

SUPPORTED ENVIRONMENTS

As the following sections discuss, both single-server and distributed-server environments are supported by the Documentum *i*DataAgent.

SINGLE-SERVER ENVIRONMENT

A single Repository is supported in a single-server, all-in-one configuration. When all Documentum components are installed on the same computer, the Documentum *i*DataAgent is sufficient to backup all components.

The illustration to the right depicts a possible example of how you could configure your environment. Keep in mind that configuration is entirely flexible and that you should set up your client computers and install your components according to your needs and available resources.

In the single-server configuration, the Documentum *i*DataAgent is installed on the same computer as the Primary Documentum Content Server to protect these components:

- Storage Areas
- Database (Oracle or DB2)
- Full-Text Indexes (optional)

Contrast a single-server environment with a Distributed-Server Environment.

DISTRIBUTED-SERVER ENVIRONMENT

In addition to a single-server environment, a single Repository is supported in a distributed-server configuration. When the components are installed in a distributed setup, the File System *i*DataAgent or Database *i*DataAgents (Oracle or DB2) need be installed according to the configuration.

The illustration to the right depicts a possible example of how you could configure your environment. Keep in mind that configuration is entirely flexible and that you should set up your client computers and install your components according to your needs and available resources.

In this configuration, these components are installed on three client computers as follows:

- **Client 1**

  This is the Primary Content Server where Documentum *i*DataAgent must be installed to protect the Storage Area residing on the server.

- **Client 2**
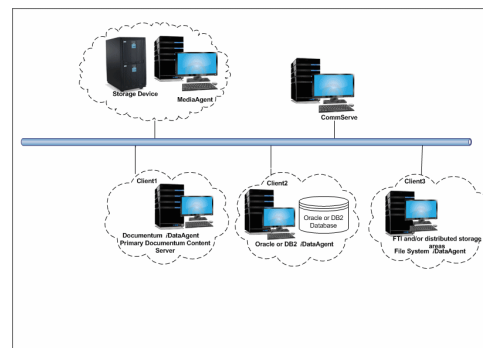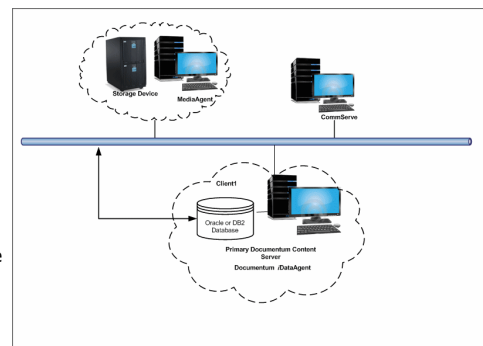
On this computer, a DB2 or Oracle *i*DataAgent is installed to protect the following the database components (Oracle or DB2).

● **Client 3**

On this computer, the File System *i*DataAgent is installed to protect the following components:

○ Distributed Storage Areas
○ Full-Text Index

Contrast this with a Single-Server Environment where all Documentum components are installed on the same computer and the Documentum *i*DataAgent is sufficient to backup all components.

FULL RANGE OF BACKUP AND RECOVERY OPTIONS

Documentum *i*DataAgent provides the flexibility to backup Storage Areas, files, and database (Oracle or DB2) components in an online, zero-downtime backup environment. This is very essential since database data is very dynamic and is subject to constant changes.

You can perform a full backup for Storage Areas, Full-Text Indexes, and database (Oracle or DB2) components. You can also perform an incremental backup of database and Storage Areas. The following section describes the backups that can be performed in different environments.

STORAGE AREA BACKUP

The Documentum *i*DataAgent enables you to back up both local and distributed Storage Areas that are distributed across different computers. With both distributed and local storage areas, the File System *i*DataAgent should be installed on the client computers that are hosting the Storage Areas. Both full and incremental backup types are supported for Storage Areas. The first backup of a Storage Area is performed as a Full backup. Storage Areas can be backed up in a full Repository backup or as a separate backup.

FULL-TEXT INDEX BACKUPS

The Documentum *i*DataAgent enables you to back up Full-text Indexes. The File System *i*DataAgent should be installed on the client computers that are hosting the Full-text Indexes. Full-text Indexes can be backed up only in full backups. Full-text Indexes can be backed up in a full Repository backup or as a separate backup.

When backing up a Full-Text Index, it necessary to quiesce the Index Server to ensure consistent backups. For this purpose, quiesce and unquiesce scripts are required. These will quiesce and unquiesce the Indexer process in the Index Server during the backup operation.

These two sample scripts are provided in the *<installation_folder*\Base folder on the computer where the Documentum *i*DataAgent has been installed:

● cvfti_startup.sh
● cvfti_shutdown.sh

These scripts have to be modified to suit the environment prior to back up.

DATABASE OFFLINE BACKUP

For both DB2 and Oracle databases, when the database is shutdown and not available for use, you can perform a full backup of the database without the logs. This is especially used when the data is consistent and there are no transactions in the database.

DATABASE ONLINE BACKUP

For both DB2 and Oracle databases, in cases, when you cannot bring down the database to perform an offline backup, you can use the online backup method. Here, you can perform full or incremental backups when the database is online. For Oracle databases, it must be in ARCHIVELOG mode, especially when you want to perform a point-in-time recovery of the Oracle Database.

You also have the facility the backup only the archive logs when the database is online. These logs can be applied to an online backup to recover the database to the current point-in-time.

You can also protect the non-database files and profiles using the File System *i*DataAgent.

SCHEDULING

Schedules can be set up to automate data protection and data recovery operations. Scheduling jobs helps to ensure that operations required to manage the CommCell are automatically performed on a regular basis without user intervention, which is extremely beneficial in managing a CommCell.

EFFICIENT JOB MANAGEMENT AND REPORTING

You can view and verify the status of 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.

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

RESTORE LEVELS

You can turn back the clock to a specific point-in-time and retrieve desired data. Restores can be run on-demand or can be scheduled to be run at a later point of time. When restoring data, the Documentum *i*DataAgent provides the facility to restore the data to the same path/destination on the client computer from which the data originated; this is referred to as an in-place restore. All restore levels provide the facility to restore data to a different directory on the client computer from which the data originated; this is referred to as an out-of-place restore to a different path/destination.

TERMINOLOGY

The Documentum *i*DataAgent documentation uses the following terminology:

FULL-TEXT INDEX	A Full-Text Index is an optional component. The Content Server maintains a Full-Text Index for all content stored in the repository. The Full-Text Index enables rapid search through a large collection of unstructured information. It searches for content and attributes in a given index and can be setup to run on multiple hosts.
OFFLINE BACKUP	A backup of database objects performed while the corresponding database instance is shutdown and unavailable to users.
ONLINE BACKUP	A backup of database objects performed while the corresponding database instance is running and available to users.
QUIESCE	Prior to a backup, a quiesce operation must occur for a Documentum Full-Text Index.
REPOSITORY	A Documentum term that is often synonymous with *Docbase*. It is made up of the following components: ● One or more Storage Areas for content files ● A third-party database for metadata ● An optional Full-Text Index These components may reside all on the same server, or on two or more servers.
STORAGE AREA	These hold one or more file stores under the operating system file system. These are the actual content files that are stored in the Storage Area. A Storage Area is typically a file system subdirectory hierarchy of possibly millions of files in all formats. The Documentum *i*DataAgent currently supports backing up and restoring the File Store Storage Area type. Other types of Storage Areas (e.g., BLOB stores, Linked stores) are not supported.
UNQUIESCE	After a backup, an unquiesce operation occurs for a Documentum Full-Text Index.

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System Requirements - Documentum *i*DataAgent

System Requirements | Supported Features

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

APPLICATION/OPERATING SYSTEM		PROCESSOR
DOCUMENTUM 6.5 SP1/HIGHER ON:		
AIX	AIX 6.1	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
LINUX	**RED HAT ENTERPRISE LINUX/CENTOS**	
	Red Hat Enterprise Linux/CentOS 5.2 with glibc 2.5.x	Itanium, x64 or compatible processors
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.9.x and above	Itanium, x64 or compatible processors
	SuSE Linux 10 SP2 Enterprise Server	Itanium, x64 or compatible processors
SOLARIS	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended
WINDOWS SERVER 2003	Microsoft Windows Server 2003 32-bit and x64 Editions with a minimum of Service Pack 2	All Windows-compatible processors supported
WINDOWS	**WINDOWS 2008**	
	Microsoft Windows Server 2008 32-bit and x64 Editions*	All Windows-compatible processors supported
	*Core Editions not supported	

HARD DRIVE

230 MB minimum of hard disk space for software

MEMORY

64 MB RAM per stream/drive minimum required beyond the requirements of the operating system and running applications

Swap space = 2*RAM size

SUPPORTED DATABASES

ORACLE

Oracle 10g R2 (10.2.x)

Oracle 11g R1

Oracle 11g R2 (supported since Documentum 6.7)

See System Requirements - Oracle *i*DataAgent for more information on the supported versions listed above.

DB2

DB2 9.5 Universal Database

See System Requirements - DB2 *i*DataAgent for more information on the supported version listed above.

SQL

MS SQL 2005 SP3

See System Requirements - Microsoft SQL Server *i*DataAgent for more information on the supported version listed above.

SOLARIS ZONES/CONTAINERS SUPPORT

Data Protection of data residing on global and non-global zones is supported.

For a comprehensive list of supported components, see Unix Virtualization.

AIX LPAR/WPAR SUPPORT

Data protection on Logical Partitioning (LPAR) and Workload Partitioning (WPAR) is supported.

PERIPHERALS

DVD-ROM drive

Network Interface Card

MISCELLANEOUS

NETWORK

TCP/IP Services configured on the computer.

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

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

SELINUX

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

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

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

File Name	Content of the File
`<directory>/<file_name>.te` where: `<directory>` is /usr/share/selinux/devel `<file_name>` is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file. For example: When you are creating a policy module for backup_IDA application, you can use the following file name: `backup_IDA.te`	The content of the file should be as follows: policy_module(<name>,<version>) ############################ where: `<name>` is the name of the policy module. You can give any unique name to the policy module, such as a process or application name. `<version>` is the version of the policy module. It can be any number, such as 1.0.0. For Example: While creating a policy module for the backup_IDA application, you can use the following content. `policy_module(backup_IDA,1.0.0)`
`<directory>/<file_name>.fc` where: `<directory>` is /usr/share/selinux/devel `<file_name>` is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file. For example: When you are creating a policy module for backup_IDA application, you can use the following file name: `backup_IDA.fc`	The content of the file should be as follows: Note that the following list of files is not exhaustive. If the process fails to launch, check `/var/log/messages`. Also, if required, add it to the following list of files. /opt/<software installation directory>/Base/libCTreeWrapper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libCVMAGuiImplgso -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2locale.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2osse.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libDb2Sbt.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2trcapi.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libDrDatabase.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libIndexing.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libSnooper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)

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

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

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

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

SELinux is now configured to work with this application.

DISCLAIMER

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

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

Install Software from the CommCell Console (Remote Install)

Basic | **Advanced**

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OVERVIEW

Agents and package distribution can now be installed - both scheduled and on-demand - from the CommCell Console. With the CommCell Console-based install capability, software can now be quickly and efficiently rolled out in large data centers and distributed WAN environments.

WHAT CAN BE INSTALLED

Computers inside a domain, outside a domain or in multiple domains that are not yet part of the CommCell, can be selected for installation.

To see which agents are supported for Install Software from the CommCell Console, see Installation - Support.

Note that following agents are supported along with the list of agents listed in the Installation - Support.

- MediaAgent

WHAT CANNOT BE INSTALLED

- Install Software from the CommCell Console does not support the installation of 64-bit binaries to UNIX clients.

  When you try to install software from the CommCell Console on 64-bit UNIX clients, only 32-bit binaries will be installed.

- Install Software from the CommCell Console is not supported for the following:
  - CommServe
  - CommNet Server
  - SRM Server
  - Web Search Server
  - Cluster Environment

PREREQUISITES

SPACE REQUIREMENT

- On the CommServe you must have adequate space in the CommServe cache directory to host the following:
  - Software Installation Discs
  - Latest Service Pack

  The total amount of space can be estimated by adding the size of each of the Software Installation Discs and the latest Service Pack that you plan to host.

- On client computers you will need the temporary disk space to install the software. See System Requirement for more information on temporary space requirement.

FIREWALL AND NETWORK PORT REQUIREMENT

Prior to installing software from CommCell Console, make sure to configure your Calypso firewall environment. For information on all available firewall scenarios, see Firewall.

To install software from CommCell Console, the following ports need to be opened:

● If you have firewall enabled on the CommServe, ensure that the client computer is able to reach the CommServe using port **8400**. This port must be open towards the CommServe to receive incoming connections from the client.

When Calypso proxy is in use, you can use Save As Script (.xml) file generated during the push install to configure firewall settings while performing remote installation on a new client. For more information, see Install Software on Client Using Save As Script.

● For Unix client computers, you must enable SSH (Secure Shell) and open port **22**.

In addition, if you have Solaris 11 client computers, make sure to do the following:

1. Run the following command to stop SSH on the Solaris 11 client:

   `svcadm disable ssh`

2. Open the `/etc/ssh/sshd_config` file and add the following line at the end of the file:

   `Ciphers 3des-cbc`

   If you already have other ciphers declared, add `3des-cbc` at the end of the list after a comma (',').

3. Run the following command to start SSH.

   `svcadm enable ssh`

● For Windows client computers, you must open the following ports:
   ○ **445** port (SMB)
   ○ Windows Management Instrumentation (WMI) port
   ○ **135** port for Distributed Component Object Model (DCOM)

If you are using legacy Windows computers (Windows NT and below), you may also need to open port **139**.

● The following sections describe the steps to set up a fixed port for WMI. These steps are applicable for Windows Vista and above.

SET UP A FIXED PORT FOR WMI THROUGH COMMAND LINE
   ○ At the command prompt, type `winmgmt -standalonehost`
   ○ Stop the WMI service by typing the command `net stop "Windows Management Instrumentation"`
   ○ Restart the WMI service again in a new service host by typing `net start "Windows Management Instrumentation"`
   ○ Establish a new port number for the WMI service by typing `netsh firewall add portopening TCP 24158 WMIFixedPort`

SET UP A FIXED PORT FOR WMI THROUGH CONTROL PANEL
   ○ On the taskbar, click **Start** and then click **Control Panel**.
   ○ Click **Windows Firewall**.
   ○ Click **Allow a program or feature through Windows Firewall**.
   ○ Click **Change setting** button.
   ○ In the **Allowed programs and features** list, select **Windows Management Instrumentation (WMI)**.

If you chose not to open port 22, 445, 135, 139 and WMI port on your network, you can setup and use a remote cache that is located in the same network in which the client computer resides. Port 8400 must be opened temporarily in order to allow the client computer to communicate with the CommServe and download Calypso firewall configuration.

USER PERMISSIONS

● For the CommServe and Client computers, specific permissions must be granted to the user group(s) whose user members will be administering this feature. For more information, see Capabilities and Permitted Actions.

For the CommCell, if Authentication for Agent Installs is enabled, users must belong to a user group with Installation capabilities for the CommCell. The users can also belong to a user group with Administrative Management capabilities for the CommCell or an existing client computer. However, it is not recommended to add non-administrators to this user group.

● For install software on clients running Unix operating systems, the client computer must have SSH (secure shell) enabled, and the `PermitRootLogins` must be set to yes in the `sshd_config` file.

GENERAL

● Verify that the computers in which you wish to install the software satisfies the minimum requirements specified in System Requirements.
● Install Software from the CommCell Console does not support downloading packages from HTTP Proxy.

CONFIGURATION

Install from CommCell Console is configured in the following sequences:

1. Configure the CommServe Cache Directory to copy or download the required software packages in the CommServe Cache directory. The directory is configured to serve as a holding area for software and update packages.

2. Configure Download Software to download the software packages to the CommServe Cache directory using an FTP source site.

The following sections provide step-by-step instructions for configuring Install from CommCell Console.

CONFIGURE THE COMMSERVE CACHE DIRECTORY

1. Verify that you have adequate space in the CommServe cache directory for the latest service pack.

2. From the CommCell Browser, click **Control Panel** and then click the **Add/Remove Software Configuration**.
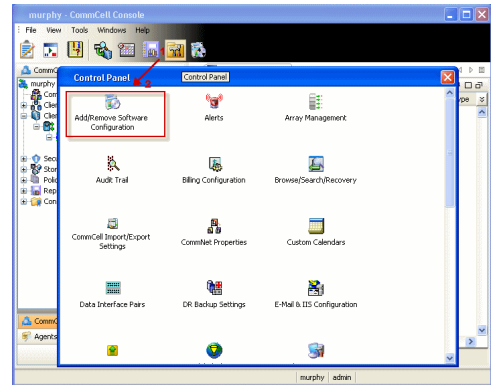
3. Select the **CommServe Software Cache** tab and select **Use Local Drive** to specify the local drive to use as a cache directory to store software packages in the **Cache Directory** field.
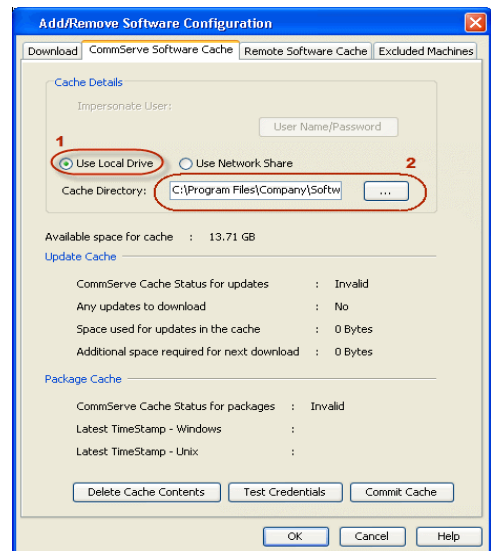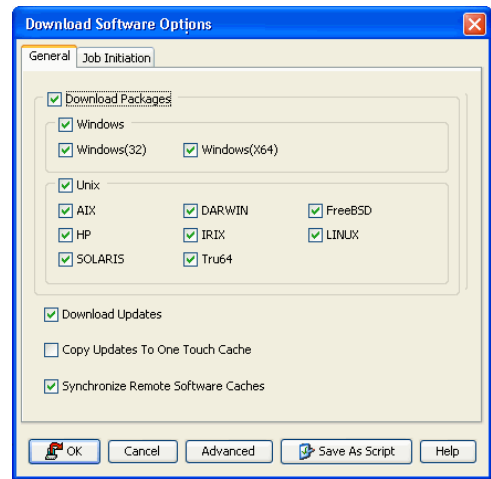
4. Click **OK**.

CONFIGURE DOWNLOAD SOFTWARE

1. Verify that you have adequate space for the packages.

2. From the CommCell Browser, right-click on the CommServe computer node, and click **All Tasks -> Add/Remove Software -> Download Software**.
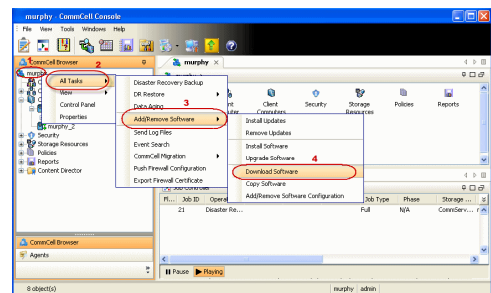
3. ● From the **General** tab, select the **Download Packages** option which automatically selects both **Windows** and **Unix** options.
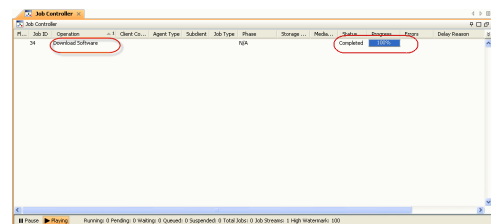
- Select **Windows** to download Windows packages for clients running Windows based operating systems.
- Select **Unix** to download Unix packages for clients running Unix based operating systems.

4.
- Click **Job Initiation** tab.
- Select **Immediate** to run the job now.
- Click **OK**.
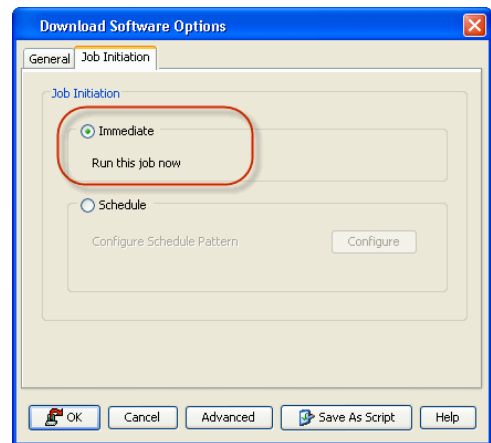
5. Once initiated, you can track the progress of the job from the **Job Controller** window.
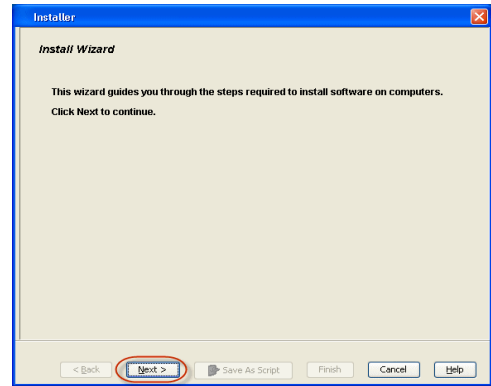

INSTALL SOFTWARE

Use the following steps to install software on Windows Clients:

1. Verify that your client computer cache directories have adequate space for the software packages.

2. From the CommCell Browser, click **Tools**, point to **Add/Remove Software** and then click **Install Software.**
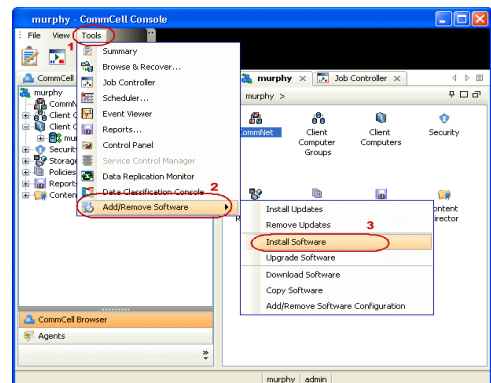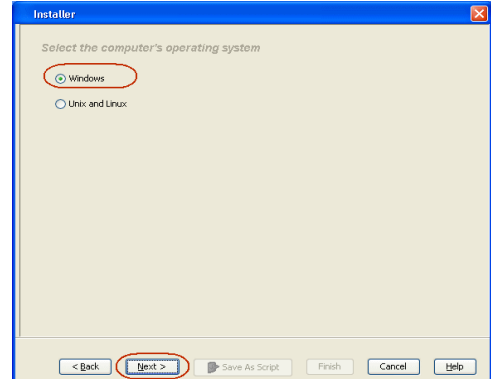
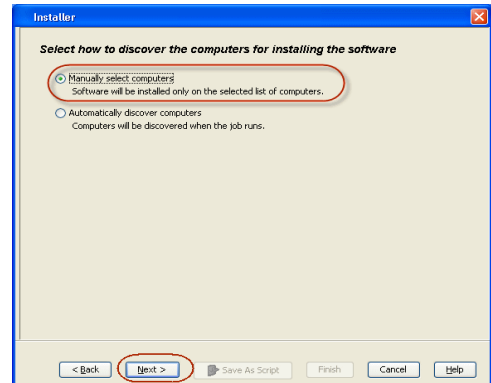3. **Install Wizard Welcome** screen is launched. Click **Next**.

4.   Select **Windows** and then click **Next**.

5.   Select **Manually Select Computers** and then click **Next**.

6.   Type the host names of the computers in the window pane manually to which you want to install the software. Computer names must be entered in the following format:

<computer.domain.company.com>

Click **Next**.

7.   In the **Select Software Cache** dialog box, **Software Cache** field displays the default software cache directory in which the software packages are downloaded.

This Software Cache is the cache directory from which the software packages will be obtained for the client computers selected for install. If you wish to use the default, then do not select any options, and click **Next**.
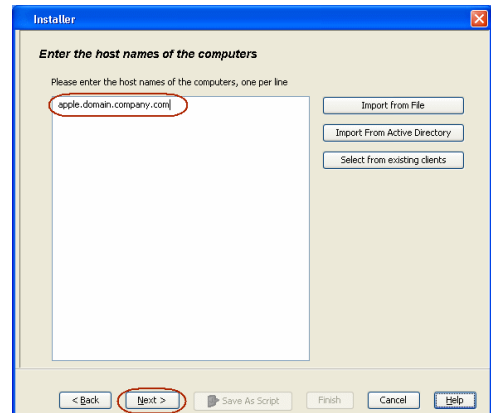
8. In the **User Name** and **Password** box, specify the user account information and then click **Next**.

This user account must have administrative rights to the computer to which the software will be installed, and read-access to the computer from which the software will be retrieved.

Click **Next**.

9. Select the software **Package(s)** to Install on the selected computers and then click **Next**.

- If the computer meets the requirements for the agent software, the agent software will be installed, it if does not meet the requirements, the software will not be installed on the computer, but skipped. For example, if you selected Exchange Database iDataAgent as a component for installation, this will only be installed on systems where the Exchange database is present.

  For an explanation of the options and their possible values, refer to each component's interactive installation procedure in Deployment.

10.
- Select **Client Group** from **Available** and click **Add**.
- Select **Configure For Laptop Backups** option to install **Backup Monitor** utility. This utility allows you to view the backup job summary of your client computer. See Monitor - Laptop User for more information.
- Select Storage Policy from **Storage Policy to use** drop-down list.
- Click **Next**.

11. Select and configure the **Additional Install Options** associated with the software packages that will be installed or leave the Additional Install Options at their default values and click **Next**.
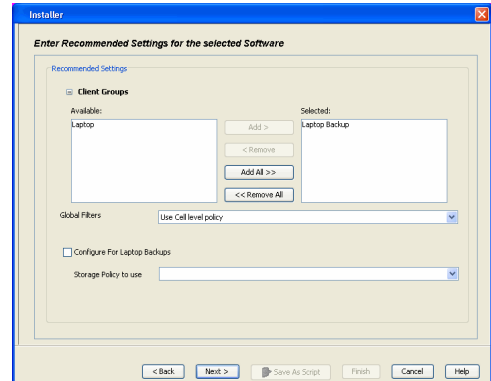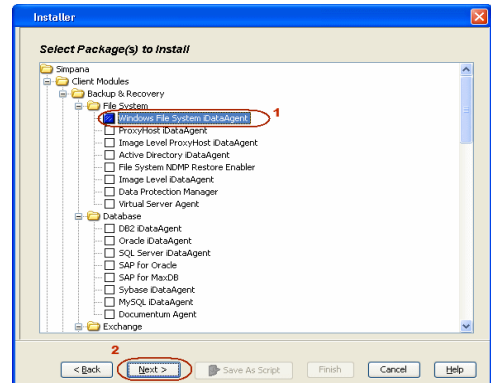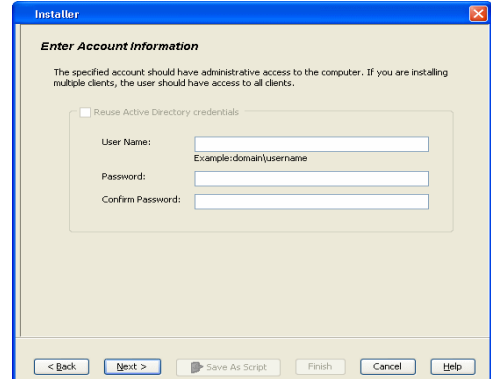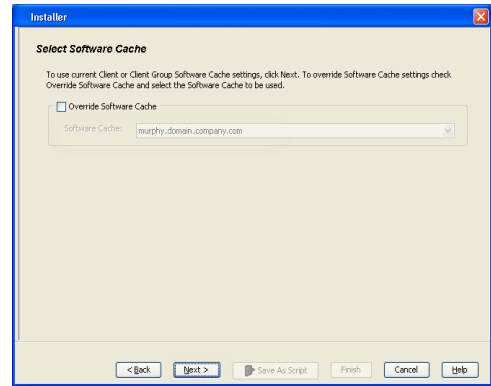
12. Select **Immediate** to run the job now and then click **OK**.
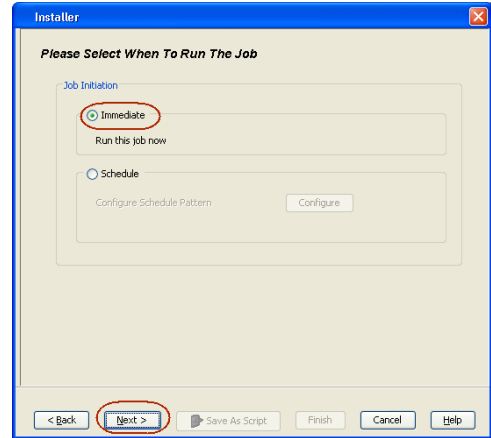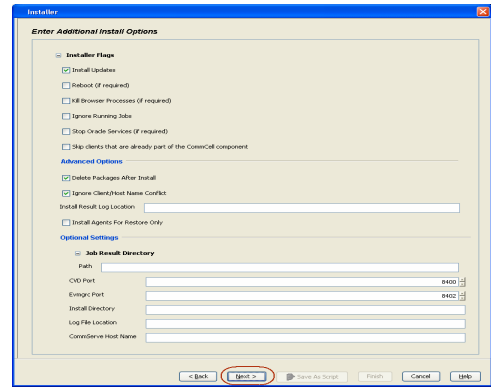
13. The summary of install operation will be displayed.

   Click **Finish**.

   - Review the Post-Install Considerations specific to the components that were installed using this procedure.
   - The software packages that are pushed to the selected client computer(s) to run the install operations are automatically deleted from the client computer(s) after the install operations have completed.
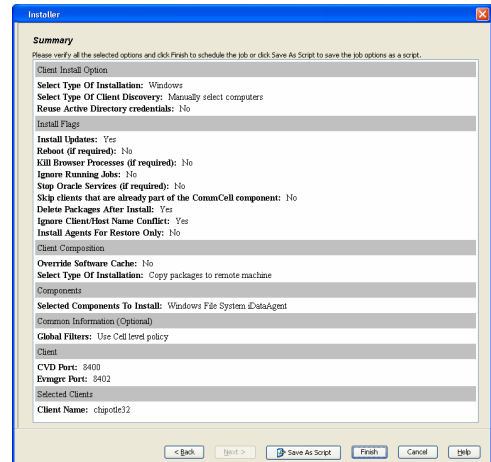
VIEW JOB DETAILS

To view the job details:

1. From the **CommCell Console**, from the **Tools** menu select the **Job Controller** icon. The **Job Controller** window appears.
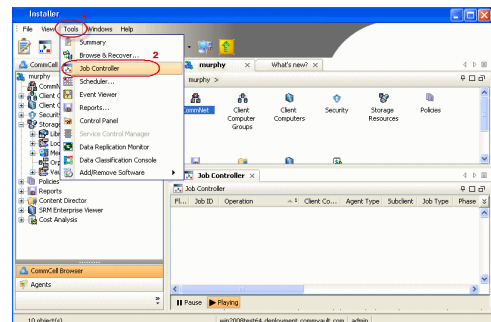
2.   Right-click the job and then click **Detail** from the shortcut menu. The details of the job you selected are displayed in the **Install Software Job Details For Job ID** dialog.
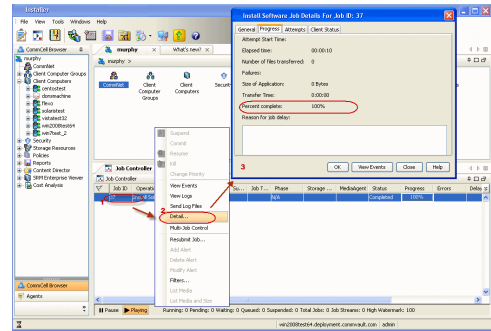
3.   Click **OK**.

- If viewing the details of a job with a pending or failed status, the **Reason for Job Delay** field will contain an Error Code, which, if clicked, will launch the customer support website displaying troubleshooting article(s) related to the specific issue. Additionally, if cache corruption has been found, the field will also contain the information pertaining to the missing updates or service packs.

- Multiple installation jobs (or uninstall jobs) can be scheduled to occur in parallel as long as the selected client computers are not scheduled for both jobs, i.e., the same client computer can not be selected for both scheduled jobs. The ability to schedule jobs in parallel can drastically reduce installation periods for your environment.

VERIFY INSTALLATION ON CLIENTS

1.   From the CommCell Browser, right-click the icon of a client computer, and click **View --> Installed Software**.
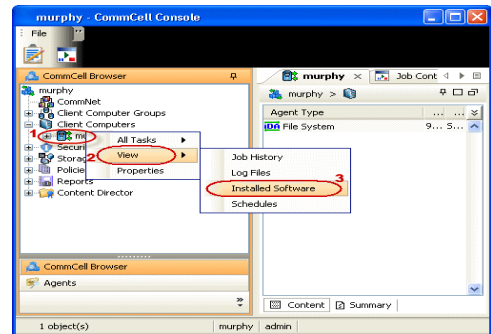
2.   View the installed software packages from the **Installed Software** window.

Click **OK**.
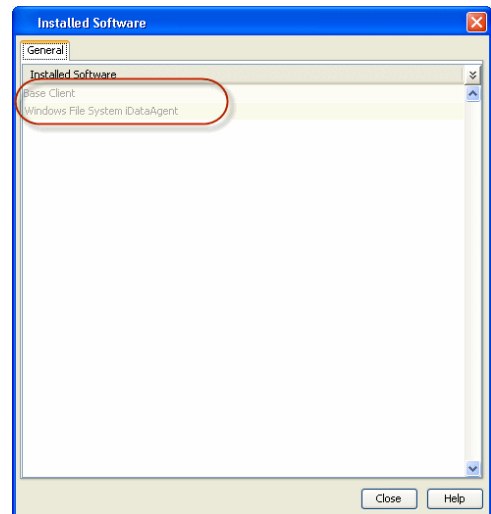
Silent Install - Unix Agents

| Windows | Unix |

Use the following sections to install Unix Agents silently.

INSTALLATION

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

METHOD 1: INTERACTIVE INSTALL

Use this procedure to install the software from the installation package or a network drive on a client computer.

METHOD 2: INSTALL USING XML FILE

Use this procedure to install the software on client computer using XML file which allows you to enter installation parameters into a file that is read in by the installation program instead of typing them in response to each installation prompt.

METHOD 1: INTERACTIVE INSTALL

1. Run the following command from the Software Installation Package.

    ./cvpkgadd

2. The product banner and other information is displayed.

    Press **Enter** to continue.

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

4. Type **2** and press **Enter**.

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

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

    1) Install data protection agents on this computer

    2) Advance options

    3) Exit this menu

    Your choice: [1]
    ```

5. Press **Enter**.

    ```
    Unix Setup Advanced Options

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

    [ Custom Package Creator ]
    1) Create a custom install package
    [ De-coupled Installer ]
    2) Pre-install software Components (De-coupled Mode)
    [ Integrated File Archiver ]
    3) File System iDataAgent with Archiving Enabler
    [ Customized Cluster Agents ]
    4) Veritas Cluster Agents
    [ Third Party Connector ]
    5) Symantec NetBackup Agent
    6) NetApp Snap Manager for Oracle
    7) NetApp Snap Manager for SAP/Oracle
    8) IBM Tivoli Storage Manager
    [ Done ]
    9) Exit this menu

    Your choice: [1]
    ```

6. Press **Enter**.

    ```
    Besides general package, you may choose to create one
    additional native package from the list below.

    1) General package only

    2) Please also create RPM

    3) Please also create solaris native package

    4) Please also create hpux native package

    5) Please also create Mac package using PackageMaker

    6) Please also create APT

    7) Exit

    Package Type Number [1]
    ```

7. Enter the number to choose a platform.

    To select multiple component, enter the number by adding a space.

    ```
    Please choose one or more platforms to package from the list
    below.

    [ ] 1) Linux X86
    [ ] 2) Linux X86_64
    ```

```
[ ] 3) Linux IA64
[ ] 4) Linux PPC64
[ ] 5) Linux S390
[ ] 6) Solaris8/9 SPARC
[ ] 7) Solaris10 SPARC
[ ] 8) Solaris10 X86_64
[ ] 9) Aix PPC
[ ] 10) HP-UX PA-RISC
[ ] 11) HP-UX IA64
[ ] 12) Darwin X86
[ ] 13) FreeBSD4 X86
>) >>>>>>>>>>>>> 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
```

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

```
Please choose one or more platforms to package from the list
below.

[X] 1) Linux X86
[ ] 2) Linux X86_64
[ ] 3) Linux IA64
[ ] 4) Linux PPC64
[ ] 5) Linux S390
[ ] 6) Solaris8/9 SPARC
[ ] 7) Solaris10 SPARC
[ ] 8) Solaris10 X86_64
[ ] 9) Aix PPC
[ ] 10) HP-UX PA-RISC
[ ] 11) HP-UX IA64
[ ] 12) Darwin X86
[ ] 13) FreeBSD4 X86
>) >>>>>>>>>>>>> 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:
```

9. Enter the number corresponding to the IDA module.

   To select multiple component, enter the number by adding a space.

```
Please choose one or more subsystems to package from the list
below.

[ ] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[ ] 2) MediaAgent [1301] [CVGxMA]
[ ] 3) SCSI Driver [1105] [CVGxWA]
[ ] 4) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[ ] 5) Documentum iDataAgent [1126] [CVGxDctmIDA]
[ ] 6) Oracle iDataAgent [1204] [CVGxOrIDA]
[ ] 7) SAP for Oracle [1205] [CVGxOrSAP]
[ ] 8) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[ ] 9) Informix iDataAgent [1201] [CVGxIfIDA]
[ ] 10) Sybase iDataAgent [1202] [CVGxSybIDA]
[ ] 11) DB2 iDataAgent [1207] [CVGxDB2]
[ ] 12) MySQL iDataAgent [1208] [CVGxMySQL]
[ ] 13) PostGres iDataAgent [1209] [CVGxPostGres]
>) >>>>>>>>>>>>> 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
```

10. A confirmation screen will mark your choice with an "**X**".

    Type "**d**" for **Done**, and press **Enter**.

```
Please choose one or more subsystems to package from the list
below.

[X] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[ ] 2) MediaAgent [1301] [CVGxMA]
[ ] 3) SCSI Driver [1105] [CVGxWA]
[ ] 4) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[ ] 5) Documentum iDataAgent [1126] [CVGxDctmIDA]
[ ] 6) Oracle iDataAgent [1204] [CVGxOrIDA]
[ ] 7) SAP for Oracle [1205] [CVGxOrSAP]
[ ] 8) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[ ] 9) Informix iDataAgent [1201] [CVGxIfIDA]
[ ] 10) Sybase iDataAgent [1202] [CVGxSybIDA]
[ ] 11) DB2 iDataAgent [1207] [CVGxDB2]
[ ] 12) MySQL iDataAgent [1208] [CVGxMySQL]
[ ] 13) PostGres iDataAgent [1209] [CVGxPostGres]
>) >>>>>>>>>>>>> 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:
```

11. Press **Enter**.

    The native custom package will be created in the following location:

    `/opt/UnixCustomPackage/`.

```
Save custom package to: [/opt]
```

12. Type **Yes** and press **Enter** to record the install and continue.

```
Optionally, you may choose to record install to an xml
parameter file now so that you can play it later. The recorded
xml will be encapsulated into the custom package and can be
used as an answer file in two ways:

(1) from the custom package run "silent_install -p default";

(2) from the native package run native installer
(rpm/pkgadd/swinstall...)

You can still perform the above two tasks without custom
recording if you choose to use all default parameters.

Do you want to record the install now? [no]
```

13. Enter the number corresponding to the IDA module.

To select multiple component, enter the number by adding a space.

```
Please choose one or more subsystems to package from the list
below.

[ ] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[ ] 2) MediaAgent [1301] [CVGxMA]
[ ] 3) SCSI Driver [1105] [CVGxWA]
[ ] 4) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[ ] 5) Documentum iDataAgent [1126] [CVGxDctmIDA]
[ ] 6) Oracle iDataAgent [1204] [CVGxOrIDA]
[ ] 7) SAP for Oracle [1205] [CVGxOrSAP]
[ ] 8) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[ ] 9) Informix iDataAgent [1201] [CVGxIfIDA]
[ ] 10) Sybase iDataAgent [1202] [CVGxSybIDA]
[ ] 11) DB2 iDataAgent [1207] [CVGxDB2]
[ ] 12) MySQL iDataAgent [1208] [CVGxMySQL]
[ ] 13) PostGres iDataAgent [1209] [CVGxPostGres]
>) >>>>>>>>>>>> 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:
```

14. A confirmation screen will mark your choice with an "**X**".

Type "**d**" for **Done**, and press **Enter**.

```
Please choose one or more subsystems to package from the list
below.

[X] 1) UNIX File System iDataAgent [1101] [CVGxIDA]
[ ] 2) MediaAgent [1301] [CVGxMA]
[ ] 3) SCSI Driver [1105] [CVGxWA]
[ ] 4) ProxyHost iDataAgent [1102] [CVGxProxyIDA]
[ ] 5) Documentum iDataAgent [1126] [CVGxDctmIDA]
[ ] 6) Oracle iDataAgent [1204] [CVGxOrIDA]
[ ] 7) SAP for Oracle [1205] [CVGxOrSAP]
[ ] 8) SAP for MaxDB [1206] [CVGxSAPMAXDB]
[ ] 9) Informix iDataAgent [1201] [CVGxIfIDA]
[ ] 10) Sybase iDataAgent [1202] [CVGxSybIDA]
[ ] 11) DB2 iDataAgent [1207] [CVGxDB2]
[ ] 12) MySQL iDataAgent [1208] [CVGxMySQL]
[ ] 13) PostGres iDataAgent [1209] [CVGxPostGres]
>) >>>>>>>>>>>> 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:
```

15. Press **Enter** to accept default value as **No**.

Type **Yes** to install Backup Monitor utility. This utility allows you to view the backup job summary from the client computer without opening the CommCell Console. See Monitor - Laptop User for more information.

```
Do you want to configure the iDataAgent for laptop or desktop
backups? [no]
```

16. Press **Enter**.

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

17. Enter the path for installation directory and press **Enter**.

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

It must be a local directory and there should be at least 142MB
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:
```

18. Enter the path for log directory and press **Enter**.

```
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:
```

19. Press **Enter** to assign user group.

It is recommended that you create a new user group to specify access permission to Calypso processes.

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

We highly recommend now that you create a new user group and
enter its name in the next setup screen. If you choose not to
assign a dedicated group to Calypso processes, 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 Calypso? [yes]
```

20. Type the **Group name** and then press **Enter**.

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

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

Group name:
```

REMINDER

If you are planning to install Calypso Informix, DB2, Sybase or LotusNotes iDataAgent, please make sure to include informix, db2, etc. users into group "galaxy".

Press <ENTER> to continue ...

21. 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:

Port Number for EvMgrC:

22. If firewall configuration is not required, press **Enter**.

If the client computer and the CommServe is separated by a firewall, type **Yes** and press **Enter**. For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

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

23. Type **CommServe Host Name** 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:

24. Type the **Client Computer Group Name** and press **Enter**.

Please enter one Client Computer Group name for this client to join.

Client Computer Group Name:

25. Press **Enter**.

Do you want to configure subclient policy? [no]

26. Type **Storage Policy Name** and press **Enter**.

Please enter a storage policy name for this IDA.

Storage Policy Name:

27. Type **no** and press **Enter**.

This step is applicable only for the installation of DB2 *i*DataAgent.

In order to complete integration of Calypso with DB2, we need to create links to some Calypso binaries in each of the DB2 instance directories. We can either do it now, or if you prefer, you can
run /space/opt/Calypso/iDataAgent/Db2_install.sh script later yourself.

Would you like us to integrate Simpana with DB2 now? [yes] no

28. Press **Enter**.

Please select which instance you want to install/replay for this recording:

1) Always install to Instance001
2) Always install to Instance002
3) Always install to Instance003
4) Always install to Instance004
5) Always install to Instance005
6) Always install to Instance006
7) Always install to Instance007
8) Always install to Instance008
9) Always install to Instance009
10) Always install to Instance010
11) Always install to a new instance
12) I want to specify another instance

Your choice: [11]

29. Enter **Yes** to create the tar file of Custom Package.

Enter **No** to continue.

Archiving the custom package in a tar file (Optional)

Optionally, you may choose to tar the package now.

Do you want to create the tar file now? [no] yes

30. If you entered **Yes** in the above step, you are advised that the UnixCustomPackage.tar file is created.

Creating /opt/UnixCustomPackage.tar ...Done.

31. Navigate to the location specified during Custom Package creation.

For example:

/opt/UnixCustomPackage/pkg

32. Run **./silent_install -p default**

Example:

<client_computer>/opt/UnixCustomPackage# ./silent_install -p default

The installation is now complete.

Performing non-interactive Install of the following modules...

* Base Client [1002] [CVGxBase]

* Base0 Client [1003] [CVGxBase0]

* UNIX File System iDataAgent [1101] [CVGxIDA]

Install of the above modules completed successfully.

33. When you install DB2 *i*DataAgent on the client computer, once the installation is

For example:

complete, run the following command from `<Calypso>/iDataAgent` on the client computer:

`Db2_install.sh`

root@orasolaris #`./Db2_install.sh`

METHOD 2: INSTALL USING XML FILE

The silent install feature using XML file allows you to enter installation parameters into a file that is read in by the installation program instead of typing them in response to each installation prompt.

Use the following procedure to install Unix File System iDataAgent on multiple client computers with one command line execution.

1. 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.

2. If your are installing the software from CD, run the following command to mount the CD:

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

   Navigate to Software Install Package or mount point

3. From the Software Install Package (DVD 3) or mount point, copy the **silent_answer_example.xml** file to user-name directory and file of your choice (e.g., /dir01/user_choice)

   Run the following command to copy the sample xml file:

   `[root@kapow DVD3]# cp silent_answer_example.xml /dir01/silentinstallxml`

4. Open this user-defined file and modify the parameters for installation.

   For sample XML file and parameters description, see XML Input File for Silent Install - Unix.

   Run the following command to edit the file:

   `[root@kapow DVD3]# vi /dir01/silentinstallxml`

5. From the Software Installation Package or mount point, run the following command.

   `./silent_install -param <param_file>`

   WHERE:

   <param_file> - specifies the name of the file with installation parameters. Make sure to enter the entire path for the file (e.g., /dir01/user_choice).

   This installation will use the parameters that you entered in your parameter XML file.

   Example:

   `[root@kapow DVD3]# ./silent_install -param /dir01/silentinstallxml`

6. The installation has completed when a message appears, similar to the example.

   `Restarting in pdksh-v5.2.14...`

   `Assigning setup GUID... 9-84-kapow.mydomain.company.com-123.23.23.232-8508`

   `Preparing for the setup... READY.`

   `Performing non-interactive Install of the following modules...`

   `* UNIX File System iDataAgent [1101] [CVGxIDA]`

   `Install of the above modules completed successfully.`

7. When you install DB2 iDataAgent on the client computer, once the installation is complete, run the following command from `<Calypso>/iDataAgent` on the client computer:

   `Db2_install.sh`

   For example:

   root@orasolaris #`./Db2_install.sh`

XML INPUT FILE FOR SILENT INSTALL

EXAMPLE XML FILE CONTENTS

The following is a sample XML file available in the Software Package. For a detailed description on required or optional fields of the XML file, see XML File Parameters.

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<CVInstallManager_ClientSetup Focus="Instance001">
<clientComposition>
<clientInfo>
<client cvdPort="" evmgrcPort="" installDirectory="/opt">
<clientEntity clientName="xyz" hostName="xyz.domain.company.com" physClientName="" physHostName=""
vcsServiceGroup="">
</clientEntity>
<jobResulsDir path="/opt">
</jobResulsDir>
</client>
<clientGroups clientGroupName="">
</clientGroups>
<clientProps logFilesLocation="/var/log">
</clientProps>
```

FIREWALL CONFIGURATION FILE

Use the following steps to set up firewall configuration during silent install.

1. Using the text editor, edit the firewall attributes given below in the .XML file depending on your firewall environment.

   For detail information on type of firewall connections and firewall parameters, see FirewallInstall.

```
<firewallInstall disableFirewall="1" firewallConnectionType="0" firewallConfigFile=""
proxyClientName="" proxyHostName="" portNumber="">
</firewallInstall>
```

2. Additionally, if user needs to add additional parameters during run time, copy the below firewall configuration values using a text editor, and save as .txt file e.g., FwConfig.txt file.

   Specify the .txt file path for **firewallConfigFile** attribute (e.g., firewallConfigFile = "/tmp/FwConfig.txt") in silent_answer_example.xml file.

   This will be used to generate the $BaseDIR/FwConfigInstall.txt and used during the installation. After installation the firewall rules will be automatically fetched or updated from the CommServe and saved in the FwConfig.txt by the client.

   ○ If this client connects to the CommServe through a port forwarding gateway, specify value **0** for **firewallConnectionType** attribute in .XML file, copy the below values in firewall configuration .txt file e.g., in FwConfig.txt.

   [incoming]

   tunnel_port=0

   [outgoing]

   client_short_name commserve_client_name proto=https cvfwd=*commserve_hostname*:*port* type=persistent

   If there is HTTP proxy between the client and the CommServe then copy below parameters along with the above parameters.

   [http-proxy]

   host=*http_proxy_hostname*

   port=*http_proxy_port*

   EXAMPLE XML PARAMETER

   <firewallInstall disableFirewall="0" firewallConnectionType="0" firewallConfigFile="/tmp/FwConfig.txt" proxyClientName="" proxyHostName="" portNumber=""></firewallInstall>

   ○ If CommServe can reach the Client, specify value **1** for **firewallConnectionType** attribute in .XML file, copy the below values in firewall configuration .txt file

   [incoming]

   tunnel_port=*local_port*

   [outgoing]

   client_short_name commserve_client_name type=passive

   EXAMPLE XML PARAMETER

   <firewallInstall disableFirewall="0" firewallConnectionType="1" firewallConfigFile="/tmp/FwConfig.txt" proxyClientName="" proxyHostName="" portNumber=""></firewallInstall>

    ○ If CommServe can reach the client through proxy, specify value **2** for **firewallConnectionType** attribute in .XML file, copy the below values in firewall configuration .txt file.

```
[incoming]
```

```
tunnel_port=0
```

```
[outgoing]
```

```
client_short_name short_name_of_proxy_client proto=https cvfwd=host_name_of_proxy_client
```

```
client_short_name commserve_client_short_name proxy=short_name_of_proxy_client
```

If there is HTTP proxy between the client and the CommServe then copy below parameters along with the above parameters.

```
[http-proxy]
```

```
host=http_proxy_hostname
```

```
port=http_proxy_port
```

EXAMPLE XML PARAMETER

<firewallInstall disableFirewall="0" firewallConnectionType="2" firewallConfigFile="/tmp/FwConfig.txt" proxyClientName="" proxyHostName="" portNumber=""> </firewallInstall>

XML FILE PARAMETERS

Listed below are the required and optional fields in the XML file that the silent install process requires:

ATTRIBUTE NAME	VALUES	DESCRIPTION
Focus	New	This is the Instance number to which the software will be installed in a multi-instance environment. By default the attribute uses New as a values which automatically defines the existing instance number during install. For example, for first instance the value is defined as instance001, for multiple instance it is defined by the other instance numbers.
CLIENTINFO		
cvdPort	8400	Optional. This is the TCP port number for the Communications Service (CVD).
evmgrcPort	8402	Optional. This is the TCP port number for the Client Event Manager Service (EvMgrC).
installDirectory	/opt	Required. This is the directory where you want the Base software and/or *i*DataAgent installed (e.g., /opt)
clientName	xyz	This is the client name (Name of the Active node in a cluster). (e.g., xyz).
hostName	xyz.domain.company.com	This is the fully qualified domain name of the active node in a cluster. (e.g., xyz.domain.company.com).
physClientName	xyz	Required. This is the name for the physical machine (e.g., xyz)
physHostName	xyz.domain.company.com	Required. This is the name of the physical interface (e.g., xyz.domain.company.com).
vcsServiceGroup		Optional. This is the name of the Veritas Cluster Service Group. Specify the service group name if you are installing in Veritas Cluster environment.
jobResulsDir	/opt	Required. This is the directory where you want the job results to reside (e.g.,/opt)
globalFilters	0	Optional. This is used to filter out specific directories or files from the backups within the CommCell. The filters are set using the Control Panel in the CommCell Console and, if enabled, they will be effective for the default subclient. Valid values include 2 (use the CommCell-level policy), 1 (on), and 0 (off).
clientGroupName		Optional. This is the name of the client group to which this client will be associated (e.g., client_group1)
logFilesLocation	/var/log	Required. This is the directory where you want the log files to reside (e.g., /var/log).
1TOUCH		
The following parameter pertains only to 1-Touch		
jumpStartDir	/opt/jsdir	This is the path of the Jumpstart 'Boot' directory.
CONTINUOUSDATAREPLICATOR		
The following parameters pertain only to ContinuousDataReplicator		
cdrDriver		
logFileLocation	/opt/flrcache	This is the path where you want the replication logs files to reside (e.g., /opt/flrcache)
RolCacheMaxDiskSize	3072	This is the amount of log file space required for the caching purpose.
STORAGEPOLICYTOUSE		

storagePolicyName		Optional. This is the name of the storage policy you want assigned to the default subclient in the default backup set. Storage policy names are listed on the CommCell Console.
storagePolicyID		Optional. This is the id of the storage policy you want to assigned to the default subclient in the default backup set.

COMPONENTINFO

ComponentId	1101	Required. These are the package Id(s) of the components (agents) to be installed, and these parameters are required if they are not specified in the command line. See **List of Package Ids** for valid values `(e.g., 1101)`. One or more parameters can be specified (e.g., `1101`, `1301`)

DATACLASSIFICATION

dcCacheLocation	/opt/dccache	This is the path of the Data Classification cache directory where it will maintain the cache of file system changes.

DB2

The following parameters pertain only to DB2 *i*DataAgent		
db2ArchivePath	/opt/ibm/db2/archive	This is the path of the DB2 Archive directory where it stores DB2 archive files.
db2RetrievePath	/opt/ibm/db2/retrieve	This is the path of the DB2 Audit Error directory.
db2AuditErrorPath	/opt/ibm/db2/auditerror	This is the path of the DB2 Retrieve directory where it stores DB2 retrieve files.

FILESYSTEM

The following parameters pertain only to 1-Touch		
configureForLaptopBackups	0	Type 1 to configure iDataAgent for laptop or desktop backups. Once configured, it installs Backup Monitor utility which allows you to view the backup job summary of your client computer. See Monitor -Laptop User for more information.
subclientPolicyName		Optional. This is the name of the subclient policy you want default content to be assigned to the default subclient in the default backup set.
subclientPolicyID		Optional. This is the id of the subclient policy you want default content to be assigned to the default subclient in the default backup set.

LOTUSNOTESDATAARCHIVER

The following parameters pertain only to Lotus Notes Data Archiver		
binaryPath	/opt/ibm/lotus	This is the home directory for the partition in which the Lotus Notes software is installed.
instanceName	Partition1	This is the partition name of the computer on which the software is installed.
path	/opt/ibm/lotus	This is the data directory for the partition in which all databases resides.

LOTUSNOTESDB

The following parameters pertain only to Lotus Notes Database		
binaryPath	/opt/ibm/lotus	This is the home directory for the partition in which the Lotus Notes software is installed.
instanceName	Partition1	This is the partition name of the computer on which the software is installed.
path	/opt/domino/datapath1	This is the data directory for the partition in which all databases resides.

LOTUSNOTESDOC

The following parameters pertain only to 1-Touch		
binaryPath	/opt/ibm/lotus	This is the home directory for the partition in which the Lotus Notes software is installed.
instanceName	Partition1	This is the partition name of the computer on which the software is installed.
path	/opt/domino/datapath1	This is the data directory for the partition in which all databases resides.

MEDIAAGENT

The following parameter pertains only to 1-Touch		
indexCacheDirectory path	/opt	This is the location for the MediaAgent's Index Cache.

ORACLESAP

The following parameter pertains only to 1-Touch		
sapExeDirectory	/opt/sap	This is the path of the SAPEXE directory (e.g., /usr/sap/SYS/exe)

COMMSERVEHOSTINFO

clientName		Required. The client Name is the short name of the CommServe computer. (e.g., mycomputer) Do not specify a value for this attribute if you are running a Decoupled Install of the software.
hostName		Required. The host name is the fully qualified domain name of the CommServe computer. `Example: mycomputer.mydomain.mycompany.com.` Do not specify a value for this attribute if you are running a Decoupled Install of the software.

INSTALLFLAGS

install32Base	0	Use value 1 to install 32-bit software on 64-bit operating system.
install64Base	0	Use value 1 to install 64-bit software on 64-bit operating system.
decoupledInstall	0	This is used to run a Decoupled Install of the software. Use value 1 to run the decouple install.
allowNewerCommserve	0	This allows you to install an 8.0 client to an 9.0 CommServe. Use value 1 to install Deprecated Packages to an 9.0 CommServe.
numberOfStreams	10	This is the number of streams you want allocated (e.g., 10) This field is only for Solaris clients. If you enter 0 for this field, the /etc/system configuration file is not updated. If you enter a value greater than 0, the /etc/system configuration file is updated, and the original version of the file is copied to an /etc/system.gal.PID file (where PID is the installer process ID on the server).
unixGroup		This is the name of the group that will be assigned to all files and on behalf of which all processes will run.
unixOtherAccess	7	Installer assigns full access rights to root users and its belonging group for all installed Calypso files and its processes. For other users, you can specify the access permission by using this attribute. This attribute allows you to assign access rights for other users if you are planning to install Calypso agents involving third party software protection. Use value 0 to 7 which represents the binary numbers e.g., 000(0).... 111(7) to allow read, write or execute permission to other users.
restoreOnlyAgents	0	Optional. By default the value is set to 0. Use value 1 to install the software without consuming any license.
singleInterfaceBinding	0	Optional. This is used if you want to bind all services to the specified interface name or IP address. Use value 1 to enforce this capability, 0 to disable it.
installLatestServicePack	0	Required. This is used to download and install the latest service pack. Use value 1 to download and install the service pack, value 0 to disable the download and install.
loadWAToKernel	0	Use value 1 to load the WA driver into the kernel and create the device nodes without rebooting the system. By default value is set to 0.
forceReboot	0	Optional. This is used to reboot the computer if required. Use value 2 to reboot, value 0 to disable.
ignoreJobsRunning	0	Optional. This is used to ignore the jobs running on the client computer. Use value 1 to ignore the jobs running, value 0 to disable.
FIREWALLINSTALL		
disableFirewall	1	This is used to specify whether you want to configure firewall settings. Use value 0 to configure firewall settings. Value 1 for no firewall settings.
firewallConnectionType	0	This is to specify the different type of firewall configuration. The following types of firewall can be configured: • By default, the value is set to 0 where this client connects to the CommServe through a port forwarding gateway. • Use value 1 where CommServe can reach the Client. • Use value 2 where CommServe can be reached through a Proxy.
firewallConfigFile		This is the path of firewall configuration file 9e.g., `MyFwConfig.txt`)
proxyClientName		This is the short name of the proxy through which the CommServe can be reached. If you have specified the value 2 in the `firewallConnectionType` attribute, specify the short name of the proxy client computer.
proxyHostName		This is the hostname of the proxy through which the CommServe can be reached. If you have specified the value 2 in the `firewallConnectionType` attribute, specify the host name or the IP address of the proxy computer. This is the hostname of the proxy through which the CommServe can be reached. If the proxy is behind a port-forwarding gateway, then provide the host name or the IP address of the *port-forwarding gateway*.
portNumber		This is the port number through which the CommServe can be reached. This number varies depending upon the firewallConnectionType. If you have specified value 0 for the firewallConnectionType, specify the CommServe HTTP/HTTPs tunnel port number. If the value is 1, specify local HTTP/HTTPS tunnel port number. If the value is 2, specify the proxy HTTP/HTTPS tunnel port number. See Firewall for more information.

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OVERVIEW

The Documentum *i*DataAgent uses two components to facilitate backups:

- An **Instance**, which defines the Documentum Repository to be backed up. As soon as you install the agent, you need to manually create an instance using the procedure outlined in Create an Instance before you run the first backup operation.

- A **Default Subclient**, which is automatically created after configuring an Instance and contains all the objects of the instance, such as:

  ○ Oracle database files, which include data files (*.dbf), control files (*.ctl), archived logs, parameter files (SP Files)

  ○ Storage Areas

  ○ Full-text Indexes (optional)

  Before running backups, ensure that the Storage Policy is configured on the subclient and for Full-Text Indexes, if available, Quiesce/UnQuiesce scripts are provided. Use the procedure outlined in Configure a Subclient to edit the contents of the default subclient or create a new one. See the Advanced configuration for a list of possible reasons to create subclients.

  > Prior to configuring the Documentum *i*DataAgent, these must be installed and configured:
  > - If the Oracle database is installed on a separate client from that of the Documentum *i*DataAgent, the Oracle *i*DataAgent must be installed on that client computer.

CREATE AN INSTANCE

This section describes how to create an instance for the Documentum *i*DataAgent in order to perform backup and recovery operations.

1. From the CommCell Browser, locate the correct client computer node.

Right-click the agent node for which you want the new instance created, click **All Tasks**, and then click **Create New Instance**.

2. Add the following information in the **General** tab:
- Enter the name (up to 32 characters) for the instance in **Docbase Name**.
- Click **Configure Password** and specify the Documentum Install Owner User Name and Password in **User Account**. Confirm the Password and click **OK**.
- Type the Repository installation path in the **DOCUMENTUM Path** box or use **Browse** to locate the path.
- Type the Repository shared path in the **DOCUMENTUM_SHARED Path** box or use **Browse** to locate the path.
- Click **Discover**. The Docbase name and User Name and Password will be validated. If successful, the instance is created and the Docbase Version and Docbase Id are automatically populated.

DOCBASE USER ACCOUNT

To perform data protection and recovery operations, the Documentum *i*DataAgent requires a user account to log on to the related Documentum docbase to access the data. The user account is the Documentum *Install owner* account that was used to install the Documentum software.

The account must already be set up on the client.

3. Click the **Database** tab and add the following information:
- From the **Client** pulldown menu, select the client computer on which the Oracle database resides.
- Type the Oracle instance name in **Instance ORACLE(SID)** box.
- Click **Configure Password** to specify the the Oracle User account used by the system to perform all Data Protection and Recovery operations for this instance. Click **OK**.

You can use a database user account to verify the rights to access Oracle databases. You can use an account for the standard database, and you can use an account for the Recovery Catalog database. The account information is included within one or more of the following database connect strings:

○ Database user ID

○ Password for the user ID

○ Oracle service name.

The standard database user account must have the following privileges:

○ Administrator privileges (default) or Oracle database administrator privileges

○ SYSDBA and ALTER SYSTEM system privileges

Alternatively, instead of the SELECT ANY TABLE privilege, you can create less powerful user IDs with the following object privileges:

○ SELECT ON "SYS"."V_$DATABASE"

○ SELECT ON "SYS"."V_$DATAFILE"

○ SELECT ON "SYS"."DBA_TABLESPACES"

○ GRANT SELECT ON "SYS"."V_$ARCHIVE_DEST" TO "USER_NAME"

The Recovery Catalog database user account must have recovery catalog owner privileges.

The above mentioned accounts must already be set up on the client. Additional accounts (except Impersonate User) should be established by Oracle database administrator. To establish additional accounts on your own, consult the appropriate Oracle application documentation.

● Type the installation home path in the **Oracle Home** box or use **Browse** to locate the path.

● Type the target database connect string in the **Connect String** box.

● Click **Use Catalog Connect** if you want to establish a connection between the target database and the Recovery Catalog database using the specified connect string.

● From the **Ctrl File Autobackup** pulldown menu, specify if you want to disable or enable the autobackup of the control file.

● Type the **Block Size** or use the spin buttons to specify the block size for backup and restore operations.

4. Click the **Storage Area and FTI** tab and add the following information:

● In **Storage Area Details**, select a file store that was discovered and click **Edit**. In the Edit Operation dialog box, select the **Client** name from the pulldown menu.

● If a Full-text Index component is present, in **FTI Details**, select the full-text index name that was discovered and click **Edit**. In the Edit Operation dialog box, select the **Client** name from the pulldown menu and type the **FTI Path**.

5. Click **OK** to save the instance.

CONFIGURE A SUBCLIENT

The following procedure describes the steps involved in configuring a subclient. This procedure may be used to configure the default subclient, as well as to create any additional subclients. Refer to Create User-Defined Subclients for more information.

1. From the CommCell Browser, right-click the subclient and then click **Properties**.
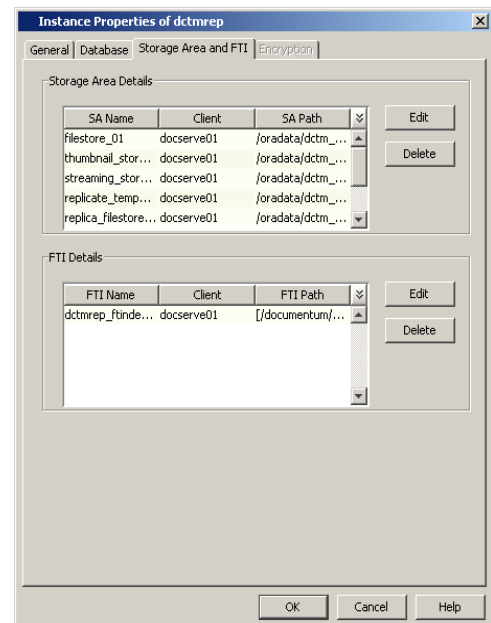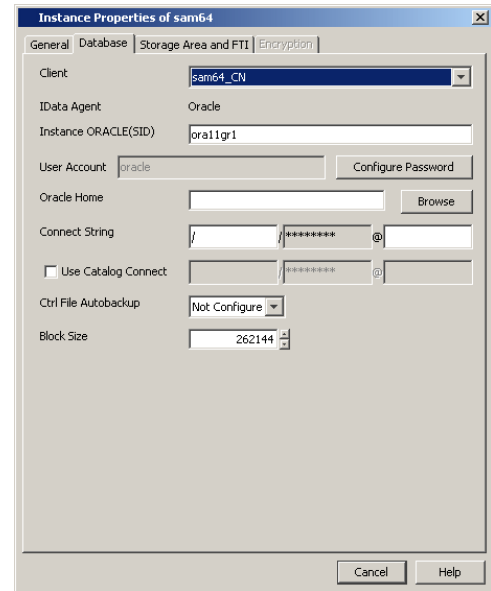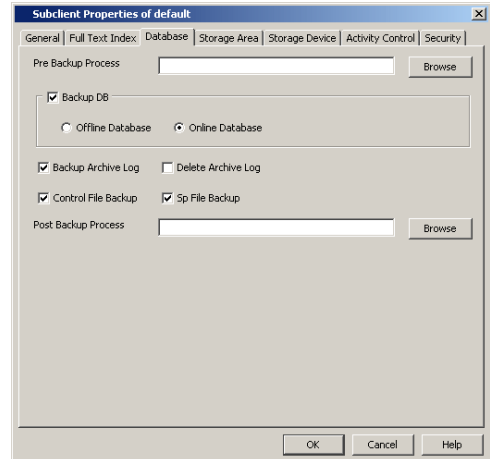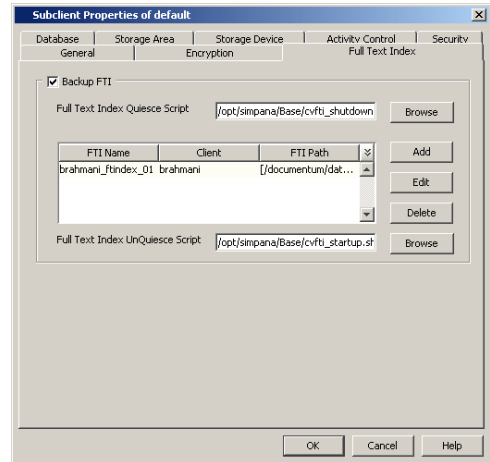
2.   From the **Full Text Index** tab, you can:

- Exclude backing up the FTI for this subclient by deselecting **Backup FTI**.
- Select a **FTI** and click **Edit** to change the client computer or the path in which it resides.
- If applicable, click **Add** to add a new **FTI**.
- Change the name or path of the **Quiesce** or **Unquiesce** script.
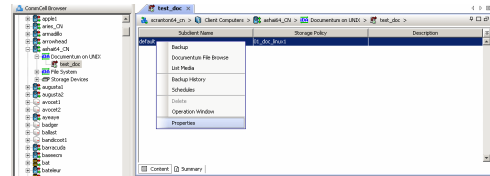
3.   From the **Database** tab, you can:

- Exclude backing up the database for this subclient by deselecting **Backup DB**.
- Change the state in which the database will be backed up (**Offline** or **Online**).
- Include or exclude backing up **Archive Logs** or **Deleted Logs**.
- Include or exclude backing up **Control Files** or **Server Parameter** (SP) files.
- Specify **Pre** or **Post Backup Process** (if applicable).

4.   From the **Storage Area** tab, you can:

- Exclude backing up the Storage Area for this subclient by deselecting **Backup SA**.
- Select a **SA** and click **Edit** to change the client computer in which it resides.
- If applicable, click **Add** to add a new **SA**.
- Specify a **Pre** or **Post Backup Process** (if applicable).
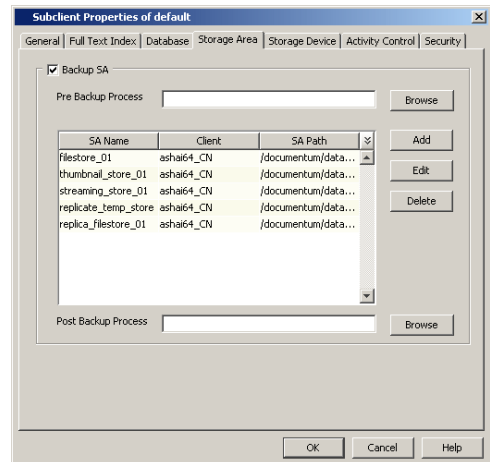
5.   From the **Storage Device** tab, click the **Data Storage Policy** tab and specify a storage policy for the subclient.

6. From the **Storage Device** tab, click the **Streams** tab and specify streams for Database, Logs, and Storage Area.
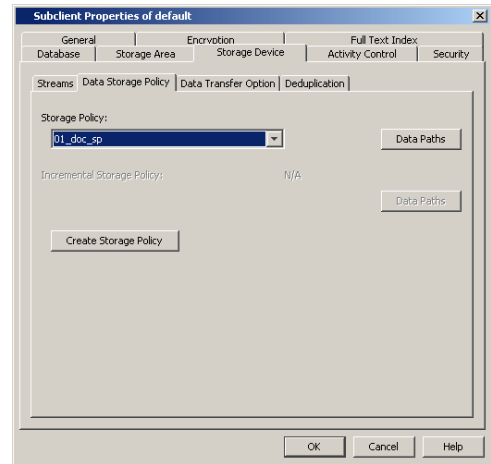
7. Click **OK** to save the subclient.
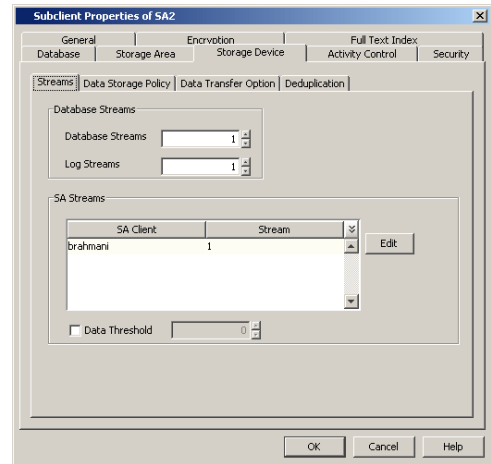
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OVERVIEW

Once you have created an instance, you can run your first backup operation on the default subclient. The first backup on the default subclient will be a full backup and will include the entire Documentum Repository including the Oracle database (data and archive logs) when the database is online and in ARCHIVELOG mode.

Backups can be run on demand or can be scheduled to be run at a later point of time. The following section explains in detail the procedure to run your first backup operation.

WHAT GETS BACKED UP

The Documentum *i*DataAgent backs up the following types of data:

- Oracle database files, which include data files (*.dbf), control files (*.ctl), archived logs, parameter files (SP Files)
- Storage Areas
- Full-text Indexes (optional)

However, to backup Oracle application files associated with the Oracle installation, you will need to use the appropriate File System *i*DataAgent.

YOUR FIRST FULL BACKUP

Backups for any client start with a full backup. The full backup becomes a baseline to which subsequent backup types are applied.

A full backup contains all the data that comprises a subclient's contents. If a client computer has multiple agents installed, then the subclients of each agent require a full backup in order to secure all of the data on that client.

> Before running the first backup, ensure to configure the Storage Policy and the streams that are required for backing up the Storage Areas and Database.

The following sections provide step-by-step instructions for running your first backup, either immediately or at a scheduled time.

### RUNNING A FULL BACKUP IMMEDIATELY:

1. From the CommCell Browser, right-click the default subclient, and click **Backup**.

    > If a backup is run with the default subclient, all data types (database, storage areas, full-text indexes) are automatically selected and will be backed up.

2. From the **Backup Options** dialog box, select **Full** backup type.
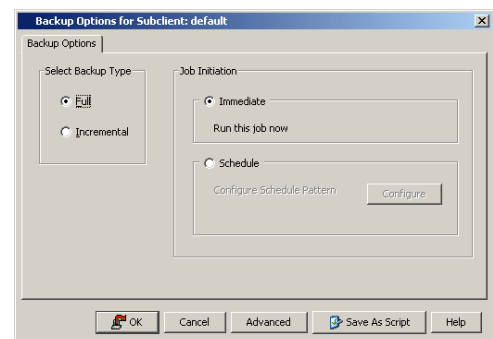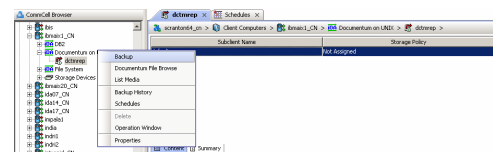
3.   Select **Immediate** to run the backup operation immediately.
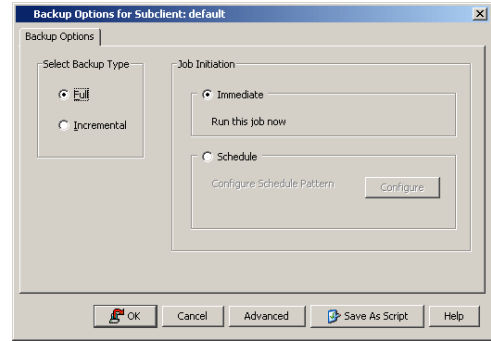
4.   Click **OK**.

You can track the progress of the backup job from the **Job Controller** window. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.When the backup has completed, the Job Controller displays **Completed**.

Once completed, the details of the job can be viewed in the **Job History** window.
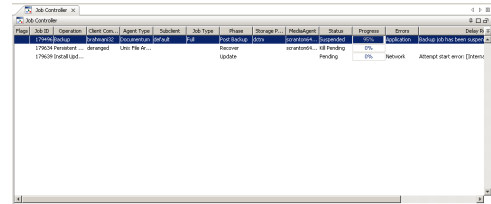
SCHEDULING A FULL BACKUP:

If the database and storage areas are backed up with separate subclients, ensure to schedule the backups so that the database backup is performed first followed by the storage area and full-text index backups.

1.   From the CommCell Browser, right-click the subclient, and click **Backup**.

2.   From the **Backup Options** dialog box, select **Full** backup type
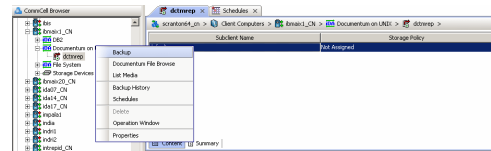
3.   Select **Schedule** to schedule the backup for a specific time.
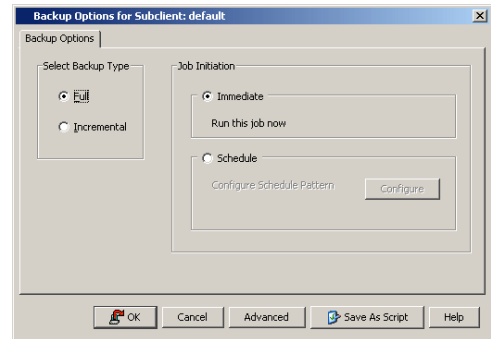
4.   From the **Schedule Details** dialog box that appears, select the appropriate scheduling options.
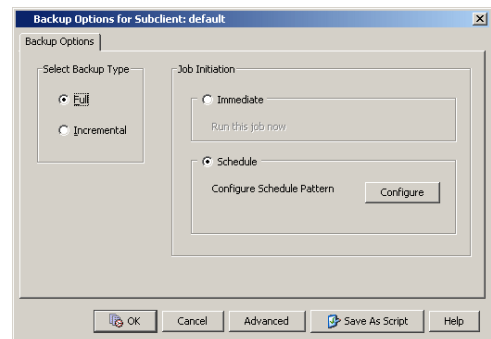
5. Click **Options** to view the **Advanced Schedule Options** dialog box.

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.
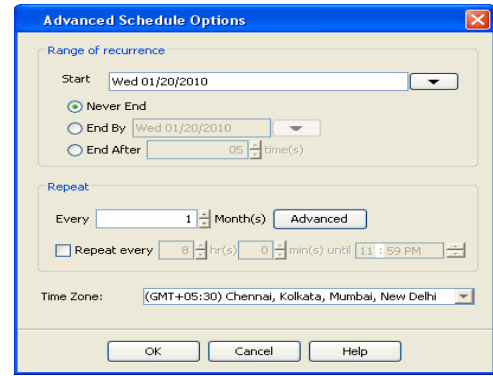
6. Click **OK**.

Your backup operation will execute according to the specified schedule. Once initiated, you can track the progress of the backup job from the **Job Controller** window.

Once completed, the details of the job can be viewed in the **Job History** window.
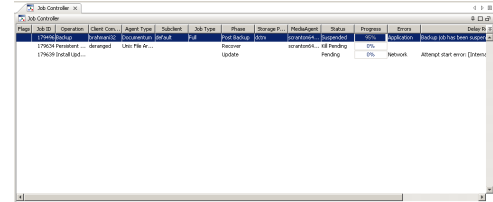
VIEWING BACKUP JOB HISTORY

Once a backup job has completed, it may be useful to view specific historical information about the job, such as the following:

- Items that failed during the job
- Items that succeeded during the job
- Details of the job
- Media associated with the job
- Events of the job
- Log files of the job.

This information can be viewed in the Job History window, which is accessible at the client computer, *i*DataAgent, instance, or subclient level in the CommCell Console.

The history provided depends on the entity from which the job history is viewed. For example, viewing job history from the subclient level will yield information for the jobs performed for that subclient. Conversely, viewing job history from the instance level will yield information for jobs run from all subclients within that instance.

To view the backup job history:

1. From the CommCell Browser, right-click the entity (client computer, *i*DataAgent, instance, or subclient) whose backup history you want to view, click **View**, and then click **View Backup History.**

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

3. Once you have chosen your filter options, they are displayed in the **Backup Job History** window.

   To view the additional options discussed above, right-click the desired job choose the appropriate option.

4. Click **OK**.

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OVERVIEW

As restoring your backup data is very crucial, it is recommended that you perform a simple restore operation immediately after your first full backup to understand the process. The following sections explains the steps for performing simple browse and restore operations.

Prior to running your first restore operation, ensure the following:

● Verify that the CommServe, MediaAgent and media library are powered on.

● You have successfully done a backup of the data to be restored.

● Verify that the media from which you wish to perform the restore is available in the CommCell. Use the List Media feature to identify the media required by the restore operation.

● Always ensure that sufficient space has been allocated for the restore.

Restores can be run on-demand or can be scheduled to be run at a later point of time. The following sections explain the procedure to perform your first restore operation.

YOUR FIRST RESTORE

The restore operation can be done using one of the following methods:

● File-level Browse and Restore, which is useful when you want to restore documents.

● Component-level Browse and Restore, when you want to restore components of a Documentum Repository (database, storage area, or full-text indexes).

For this first simple restore, let us perform an in-place restore of documents and components of a Documentum Repository.
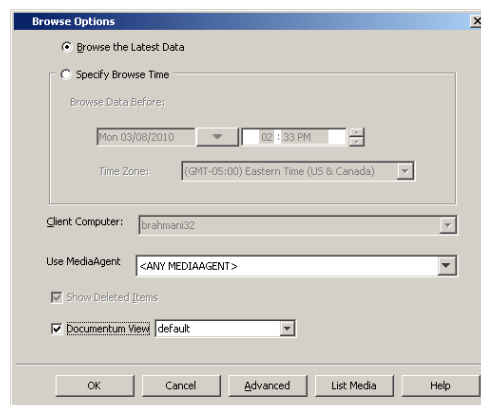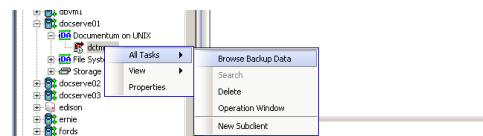
DOCUMENTUM FILE BROWSE AND RESTORE

This type of Browse and Restore is geared towards end-users and illustrates performing a basic browse and restore of documents:

1. From the CommCell Browser, to browse and restore documents, select one of the following methods:

   Instance Level:
   ● Right-click a Documentum instance, select **All Tasks** then click **Browse Backup Data**.
   ● From the **Browse Options** dialog box, accept the default **Browse the Latest Data**.
   ● Then click **Documentum View** option and specify a subclient (e.g., default) that contains documents.
   ● Click **OK**.

   Subclient Level:

- Right-click a Documentum subclient that contains documents and select **Documentum File Browse**.
- From the **Browse Options** dialog box, accept the default **Browse the Latest Data**.
- Click **OK**.
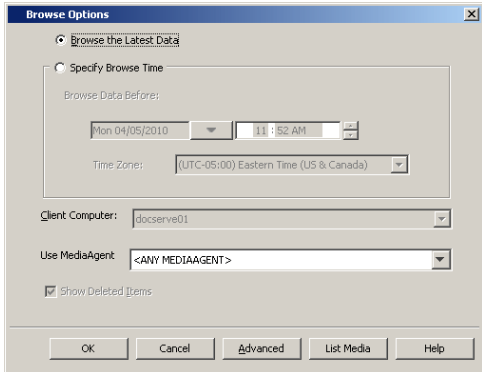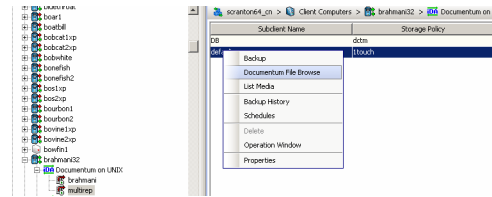
2. The **Browse** window is displayed, containing data objects such as files, folders, etc. and consists of two parts:

- The left pane displays the object tree at the selected level.
- The right pane displays the contents of the selected object tree.

Note that the window displays only the data that was obtained by a data protection operation. Data that is excluded by a filter, or data which did not exist as of the specified browse time does not appear in the window.
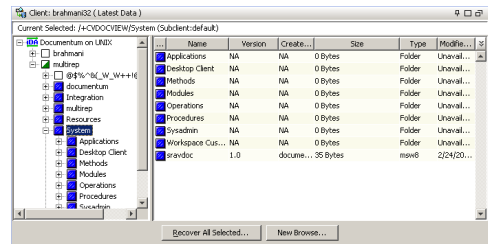
3. Select the instance node in the left pane. The files will be selected in the right pane. Select one or more files and click the **Recover All Selected** button at the bottom of the window.

4. From the **Restore Options (General)** tab:

- Select the name of the source client computer in the **Destination Client** from the list.
- If performing an in-place restore, click **Restore to same folder**. Otherwise, specify a path in **Specify Documentum Destination Folder Path**.
- To check the documents into the Documentum Repository, click **Create Entities in Repository** and:
  - In **Specify Destination Path for Storage Area Files**, enter the file system path on the destination computer to which the files will be restored. Typically, this would be a system path on the Primary Content Server. Click one of the following:
  - **Current Active Version** to check the file in with the same version number that is currently active in Documentum.
  - **Next Minor Version** to check the restored file to the next Minor Version. For example, if the restored document was a Minor version (e.g., 1.2), it will be check it into the next Minor version (e.g., 1.3). If the restored document is a Major version (e.g., 2.0), it will be checked into the next Minor version (e.g., 2.1).
  - **Next Major Version** to check-in the file to the next major version. For example, if the restored document was a Major version (e.g., 2.0), it will check it into the next Major version (e.g., 3.0). If the restored document was a Minor version (e.g., 1.2), it will check it into the next Major version (e.g., 2.0).
- Select the following option to restore and recover the documents**.**
  - **Skip**
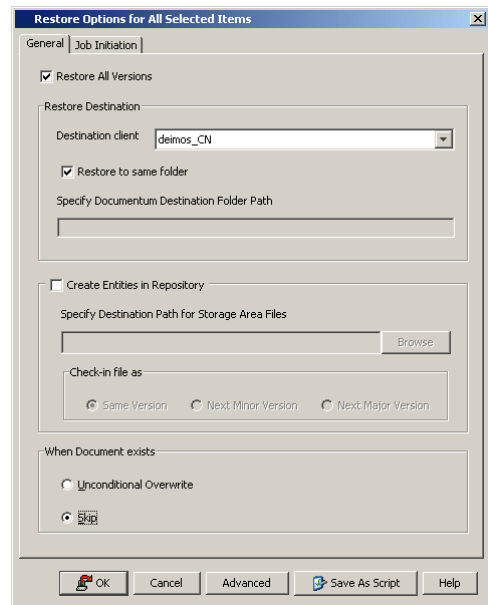
5. If you need to run the backup operation immediately, select **Immediate** from the **Job Initiation** tab.

Go to step 11.
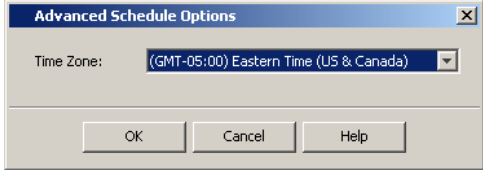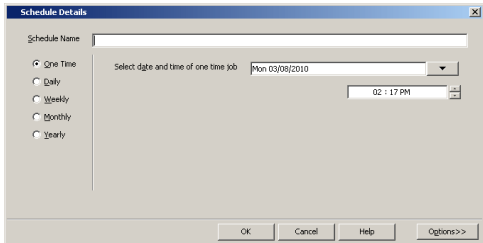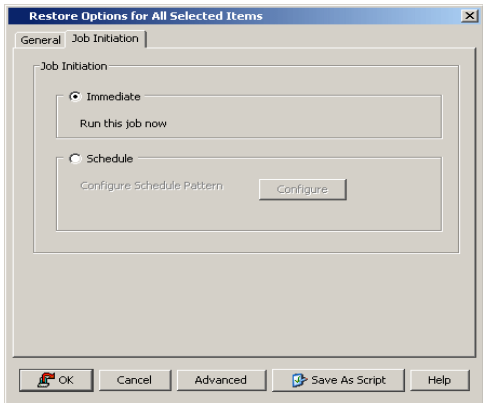
6. If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.

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

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

8. From the **Advanced Schedule Options** dialog box, select a specific time zone from which the job schedule time will be based.

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

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

10. Click **OK** to close the **Restore Options** window.

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

    Once completed, the details of the job can be viewed in the **Job History** window.

COMPONENT-LEVEL BROWSE AND RESTORE

This type of Browse and Restore is geared towards administrators and illustrates performing a basic browse and restore of all components of a Documentum Repository (database, storage area, or full-text indexes):

> To ensure consistent restores, it is recommended to shutdown the Documentum Repository and the database in an appropriate mode before restoring.

1. From the CommCell Browser, to browse and restore components of a Documentum Repository, select one of the following methods
   - Right-click the Documentum agent, select **All Tasks** then click **Browse Documentum**.
   - Right-click a Documentum instance, select **All Tasks** then click **Browse Backup Data**.

2. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.
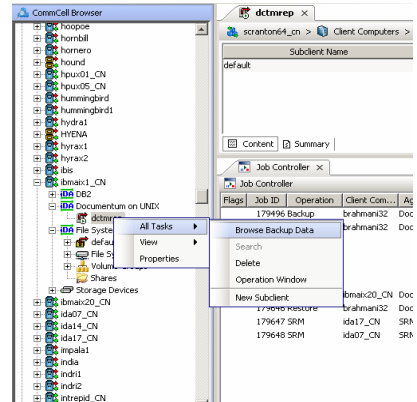
3. The **Browse** window is displayed, containing data objects such as database, storage area, full-text index and consists of two parts:

    ● The left pane displays the object tree at the selected level.

    ● The right pane displays the contents of the selected object tree.

    Note that the window displays only the data that was obtained by a data protection operation. Data that is excluded by a filter, or data which did not exist as of the specified browse time does not appear in the window.

4. Select the components in the right pane that are required to restore.

    Click the **Recover All Selected** button at the bottom of the window.

5. To restore the storage areas and full-text indexes to the same folder, from the **Documentum Restore Options (Storage Area and FTI)** tab:

    ● Select **Overwrite Files** to overwrite all backed up storage areas.

   ● Select **Restore to same folder** to restore the storage area to the same folder.
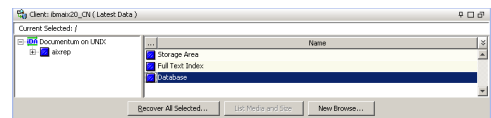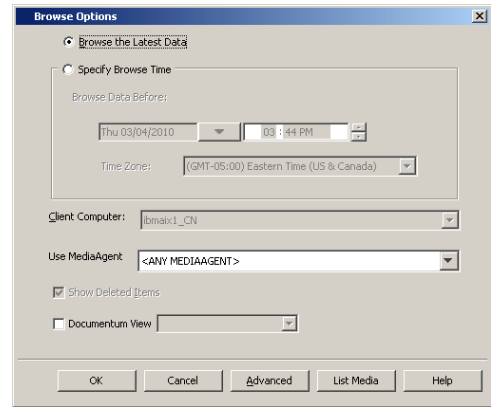
6. To restore the database, from the **Documentum Restore Options (Database)** tab:

    ● Select the name of the client computer in the **Destination Client** from the list.

    ● Specify a **Catalog Connect** string.

      You can use the three fields (spaces) to enter the connect string for the catalog database. Use the first field to type the recovery catalog database user ID. Use the second field to type the password for the user ID, and use the third field to type the recovery catalog service name.

    ● Select **Restore Data** to restore the database.
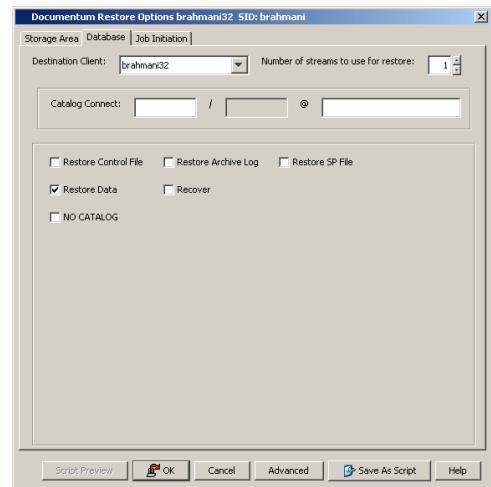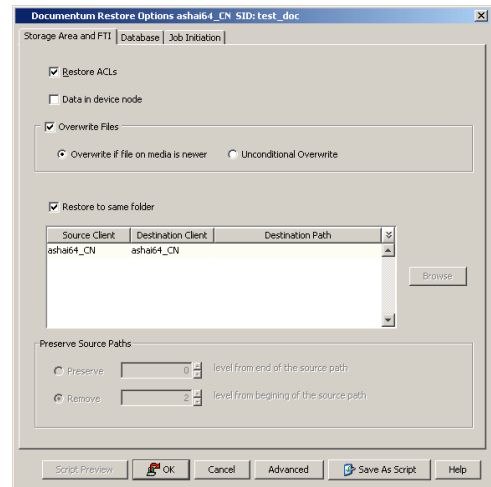
7. If you need to run the restore operation immediately, select **Immediate** from the **Job Initiation** tab.

    Go to step 12.
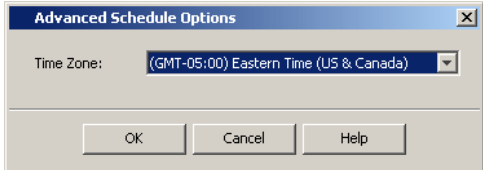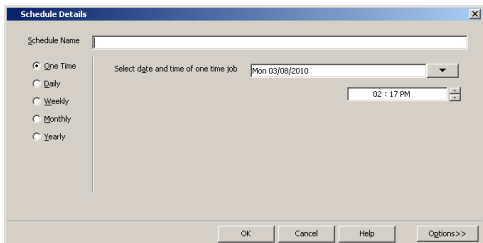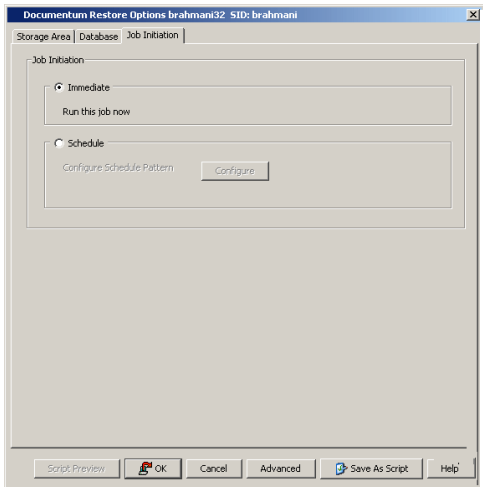
8. If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.

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

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

10. From the **Advanced Schedule Options** dialog box, select a specific time zone from which the job schedule time will be based.

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

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

12. Click **OK** to close the **Restore Options** window.

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

    Once completed, the details of the job can be viewed in the **Job History** window.

VIEWING RESTORE JOB HISTORY

Once a restore job has completed, it may be useful to view specific historical information about the job, such as the following:

- View Restore Items; items in the job that were **Successful**, **Failed**, **Skipped** or **All**.
- View Job Details
- View Events of the restore job.
- View Log files of the restore job.

This information can be viewed in the Job History window, which is accessible at the client computer, *i*DataAgent, instance, or subclient level in the CommCell Console.

The history provided depends on the entity from which the job history is viewed. For example, viewing job history from the instance level will yield information for the jobs performed for that instance. Conversely, viewing job history from the agent level will yield information for jobs run from all subclients within that instance.

VIEWING RESTORED ITEMS ASSOCIATED WITH A RESTORE JOB

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

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

3. From the **Job History** window, right-click the job whose restored items you want to view; click **View Restore Items**, and select from the type of items to

view: **Successful**, **Failed**, **Skipped** or **All**.

4. The **Restored Files** window will display the selected type of restored items for the job.

5. Click **OK**.

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Changes to Full-Text Index Path in Instance Properties is not Reflected in Subclient

CHANGES TO FULL-TEXT INDEX PATH IN INSTANCE PROPERTIES IS NOT REFLECTED IN SUBCLIENT

When updating the details of a Full-Text Index in Instance Properties, the change will not be propagated properly to the Subclient. For Full-text Index modifications, the change needs to made in both the Instance and Subclient Properties.

For example:

1. While configuring a Documentum instance, you click on the **Storage Area and FTI** tab and change the path from `/documentum/dba/full` to `documentum/dba/fulltext.`

2. Open the Subclient Properties and in the **Full Text Index** tab, observe that the path for the Full-text Index still remains as `documentum/dba/full`. Running a backup job for this subclient will fail because of the invalid Full-text Index path.

3. Correct the path in the in the **Full Text Index** tab of the subclient to `documentum/dba/fulltext.`

4. Run a backup job on the subclient again, and it will now succeed since the paths match at both the Instance and Subclient levels.

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Recovering Data Associated with Deleted Clients and Storage Policies

RECOVERING DATA ASSOCIATED WITH DELETED CLIENTS AND STORAGE POLICIES

The following procedure describes the steps involved in recovering data associated with the following entities:

- Deleted Storage Policy
- Deleted Client, Agent, Backup Set or Instance

BEFORE YOU BEGIN

This procedure can be performed when the following are available:

- You have a Disaster Recovery Backup which contains information on the entity that you are trying to restore. For example, if you wish to recover a storage policy (and the data associated with the storage policy) that was accidentally deleted, you must have a copy of the disaster recovery backup which was performed before deleting the storage policy.
- Media containing the data you wish to recover is available and not overwritten.
- If a CommCell Migration license was available in the CommServe when the disaster recovery backup was performed, no additional licenses are required. If not, obtain the following licenses:
  - IP Address Change license
  - CommCell Migration license

  See License Administration for more details.
- A standby computer, which will be used temporarily to build a CommServe.

RECOVERING DELETED DATA

1. Locate the latest Disaster Recovery Backup which contains the information on the entity (Storage Policy, Client, Agent, Backup Set or Instance) that you are trying to restore.
   - You can check the Phase 1 destination for the DR Set or use Restore by Jobs for CommServe DR Data to restore the data.
   - If the job was pruned and you know the media containing the Disaster Recovery Backup, you can move the media in the **Overwrite Protect Media** Pool. See Accessing Aged Data for more information. You can then restore the appropriate DR Set associated with the job as described in Restore by Jobs for CommServe DR Data.
   - If the job is pruned and you do not know the media containing the Disaster Recovery Backup, you can do one of the following:

     If you regularly run and have copies of the Data on Media and Aging Forecast report you can check them to see if the appropriate media is available.

2. On a standby computer, install the CommServe software. For more information on installing the CommServe, see CommServe Deployment.

3. Restore the CommServe database using the CommServe Disaster Recovery Tool from the Disaster Recovery Backup described in Step 1. (See Restore a Disaster Recovery Backup for step-by-step instructions.)

4. Verify and ensure that the **Bull Calypso Client Event Manager Bull Calypso Communications Service (EvMgrS)** is running.

5. If you did not have a CommCell Migration license available in the CommServe when the disaster recovery backup was performed, apply the IP Address Change license and the CommCell Migration license on the standby CommServe. See Activate Licenses for step-by-step instructions.

6. Export the data associated with the affected clients from the standby CommServe as described in Export Data from the Source CommCell.

   > When you start the Command Line Interface to capture data, use the name of the standby CommServe in the –
   > `commcell` argument.

7. Import the exported data to the main CommServe as described in Import Data on the Destination CommCell.

   This will bring back the entity in the CommServe database and the entity will now be visible in the CommCell Browser. (Press F5 to refresh the CommCell Browser if the entity is not displayed after a successful merge.)

8. If you have additional data that was backed up after the disaster recovery backup and before the deletion of the entity, use the procedure described in Import Metadata from a Tape or Optical Media to obtain the necessary information.

9. You can now browse and restore the data from the appropriate entity.

As a precaution, mark media (tape and optical media) associated with the source CommCell as READ ONLY before performing a data recovery operation in the destination CommCell.

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