

Features - Informix *iDataAgent*

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INTRODUCTION

The Informix iDataAgent is responsible for backing up and restoring Informix databases.

The Informix iDataAgent is just one of several iDataAgents that provide backup and restore support for different kinds of data in what is often a mixed network environment. Remember that this product secures only the Informix databases (e.g., system and user databases). To secure Informix application files that reside on a local hard drive or file system data that resides on an Informix computer, you must use the File System iDataAgent. (For information on the Informix entities mentioned, see Databases, Instances, and Subclients.)

The Informix database comprises several objects. These objects can be backed up by the Informix iDataAgent. For more information on the Informix objects, refer to your Informix documentation.

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CLIENT TERMINOLOGY

The following definitions are applicable to the Informix iDataAgent.

- A client is a computer whose data is backed up via an iDataAgent. This may include Informix, File System, etc.
- Informix clients are computers that contain the Informix database(s) that you want to back up. Each Informix client contains the Informix iDataAgent to back up the various objects in the Informix database and the File System iDataAgent (HP-UX or Solaris) to back up the Informix application files and operating system data.
- Within the Informix iDataAgent, each instance can contain one or more of the databases that you want to back up.
- The system creates a default subclient for each instance. At the time of creation, the default subclient contains all the objects in the database. You can modify the default subclient and create new subclients to suit the backup strategy you have devised.

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SUPPORTED DATA TYPES

Data Protection Operations for the following data types are supported by the Informix iDataAgent:

- Informix database files (dbspaces also known as storage spaces)
- Logical log files
- Emergency boot files (ixbar)
- ONCONFIG files

Data Protection Operations for all other data types not mentioned in the previous list are not supported by the Informix iDataAgent, including:

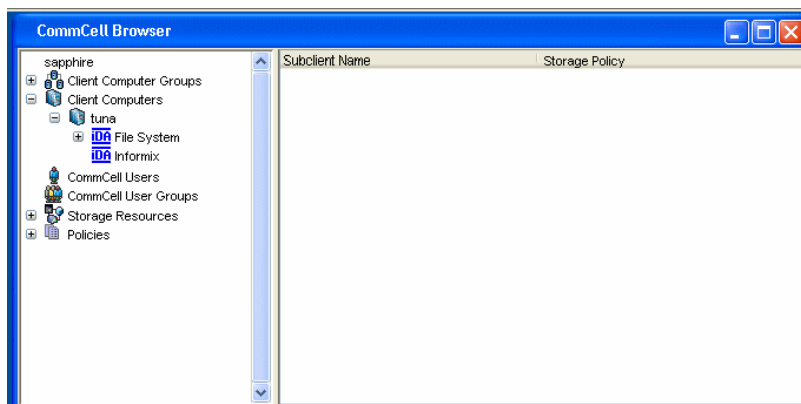
- Informix application files
- Operating system data

Both of these data types can be secured by the appropriate File System iDataAgent.

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TREE LEVELS IN THE INFORMIX iDATAAGENT

When the Informix iDataAgent is installed, the following levels are automatically created in the CommCell Browser.



tuna: Client

Informix: Agent

<user_defined_instance>: Instance



In order to run the first backup, instances must be added. Each instance creates a default subclient. Thereafter, you must populate the client with data for backup.

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LICENSE REQUIREMENT

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

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

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DATABASES, INSTANCES AND SUBCLIENTS

Within the Informix iDataAgent, each instance can contain one or more of the dbspaces that you want to back up.

Initially, the system creates a default subclient for each Informix instance that you create. At that time, the default subclient includes all the objects in the database. You can, however, modify the default subclient and create additional subclients to suit your backup strategy.

Each instance has various configuration options, which will affect the subclients within the instance. These and other configuration options accessed using the Properties dialog box associated with the level are discussed in detail in the online help.

ESTABLISHING PARALLEL BACKUPS VIA SUBCLIENTS

You can back up an entire instance more quickly by scheduling multiple subclients for simultaneous backup. This way, the backups proceed in parallel and take less time than if the instance were not divided into separate subclients. If you use this method, ensure that you don't include the same dbspace in both subclients.

Note, however, that in order for the subclient backups to run in parallel, they must be configured to use different storage policies or a storage policy that is configured to have at least as many data streams as the total required for all subclients you want to back up in parallel. If any of the subclients are configured to use the same storage policy, and if that storage policy is not configured for enough data streams, then a media group resource contention will arise, and the competing subclients will back up one after the other in a serial manner. (For information on storage policies, see Storage Policies. For details on media groups, see Media Groups.)

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SECURING INFORMIX APPLICATION DATA USING THE FILE SYSTEM iDATAAGENT

In addition to the Informix database, there may be Informix application files stored on the computer (that is, the Informix client). Such data is not backed up by the Informix iDataAgent. To secure such data from an Informix client, you must back it up using the appropriate iDataAgent for the computer's file system

(HP-UX File System iDataAgent or Solaris File System iDataAgent.)

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THIRD-PARTY COMMAND LINE

The Informix iDataAgent supports the ability to perform backups and restores from the third-party command line. For more information, see [Third-Party Command Line Operations](#).

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DISASTER RECOVERY CONSIDERATIONS

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

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System Requirements - Informix iDataAgent

System Requirements | Supported Features

The following requirements are for the Informix iDataAgent:

APPLICATION/OPERATING SYSTEM		PROCESSOR
INFORMIX 11.70 FCX ON:		
AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v2 (11.23)	Itanium
	HP-UX 11i v1 (11.11) with a minimum of OS patch level of December 2008 patch bundle or higher (contact Hewlett Packard to obtain the patch)	Itanium
LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 5.x with glibc 2.5.x *For INFORMIX IDS 11.5, the FC(4) or higher version is the prerequisite.	Intel Pentium, Itanium or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	Intel Pentium, Itanium or compatible processors
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.9.x and above *For INFORMIX IDS 11.5, the FC(4) or higher version is the prerequisite.	Intel Pentium, Itanium or compatible processors
	SuSE Linux 10.x with glibc 2.4.x	Intel Pentium, Itanium or compatible processors
SOLARIS	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended
INFORMIX 11.70 UCX ON:		
AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3 with technology level 6 (or higher) and runtime library xIc.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
	HP-UX 11i v2 (11.23)	PA-RISC
LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 5.x with glibc 2.5.x	Intel Pentium, x64 or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	Intel Pentium, x64 or compatible processors
	SUSE LINUX (SLES)	
	SuSE Linux 10.x with glibc 2.4.x	Intel Pentium, x64 or compatible processors
	SOLARIS	Solaris 9
INFORMIX 11.70 HCX ON:		
AIX	AIX 7.1	Power PC (Includes IBM System p)

HP-UX	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v1 (11.11) with a minimum of OS patch level of December 2008 patch bundle or higher (contact Hewlett Packard to obtain the patch)	PA-RISC

INFORMIX 11.50 FCX ON:

AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3 with technology level 6 (or higher) and runtime library xIC.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v2 (11.23) 64-bit	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
	HP-UX 11i v1 (11.11) with a minimum of OS patch level of December 2008 patch bundle or higher (contact Hewlett Packard to obtain the patch)	PA-RISC

LINUX RED HAT ENTERPRISE LINUX/CENTOS

	Red Hat Enterprise Linux/CentOS 5.x with glibc 2.5.x	Itanium, x64 or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	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.x with glibc 2.4.x	Itanium, x64 or compatible processors

SOLARIS

	Solaris 9	Sparc5 or higher recommended
	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended

INFORMIX 11.50 UCX ON:

AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3	Power PC (Includes IBM System p)

LINUX RED HAT ENTERPRISE LINUX/CENTOS

	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	Intel Pentium, x64 or compatible processors
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SUSE LINUX (SLES)

	SuSE Linux 10.x with glibc 2.4.x	Intel Pentium, x64 or compatible processors
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SOLARIS

	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended
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INFORMIX 11.50 HCX ON:

AIX	AIX 7.1	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v1 (11.11) with a minimum of OS patch level of December 2008 patch bundle or higher (contact Hewlett Packard to obtain the patch)	PA-RISC

INFORMIX XPS 8.51 FCX ON:

	AIX 7.1	Power PC (Includes IBM System p)
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AIX		
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3 64-bit with technology level 6 and runtime library xLC.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
LINUX RED HAT ENTERPRISE LINUX		
	Red Hat Enterprise Linux 5.x with glibc 2.5.x	x64
	Red Hat Enterprise Linux 4.x with glibc 2.3.x	x64
SOLARIS		
	Solaris 11.x	Sparc5 or higher recommended
	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended

CLUSTER - SUPPORT

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

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

HARD DRIVE

95 MB minimum of hard disk space for software

50 MB of additional hard disk space for log file growth

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

MEMORY

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

Swap space = 2*RAM size

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

The File System iDataAgent 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 iDataAgents, refer to:

- System Requirements - AIX File System iDataAgent
- System Requirements - HP-UX File System iDataAgent
- System Requirements - Linux File System iDataAgent
- System Requirements - Solaris File System iDataAgent

NETWORK

TCP/IP Services configured on the computer.

On Solaris computers, the operating system must have been installed with at least the `user_level software` option selected.

SUPPORTED LIBRARIES FOR CENTOS V5.7 (OR HIGHER)

You should use the latest library versions for CentOS 5.7 (or higher) as the library provided by Calypso may not be the latest. Informix programs may require

the latest library versions. If not used, the Informix instance configuration will fail with errors such as showing the server status as UNKNOWN.

To use the latest libraries, rename the `libgcc_s.so.1` library located in the `Software_Installation_Directory>/Base` folder to a different name. This will allow Informix programs to load libraries available from the system.

DISCLAIMER

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

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

Install the Informix iDataAgent - Unix

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Where to Install

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- Storage Policy Selection
- Configure Informix-Specific Information
- Setup Complete

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WHERE TO INSTALL

INSTALLING ON A GLOBAL ZONE OR UNIX SERVER

Install the software directly on the computer hosting the global zone or the Unix Server that you wish to protect. Make sure the computer satisfies the minimum requirements specified in the System Requirements.

INSTALLING ON A NON-GLOBAL ZONE

Install the software on each of the non-global zones where you have application data.

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

- System Requirements - Informix iDataAgent
- System Requirements - AIX File System iDataAgent
- System Requirements - HP-UX File System iDataAgent
- System Requirements - Linux File System iDataAgent
- System Requirements - Solaris File System iDataAgent

It is recommended to install the software on the global zone to protect non-changing or static data on non-global zones. If the data is dynamic or contains application data, install the software on the non-global zone.

INSTALL REQUIREMENTS

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

Review the following Install Requirements before installing the software:

GENERAL

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

HP-UX

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

BEFORE YOU BEGIN

- The Informix application has been installed on the client.
- You have the login name and password for an Informix account (this account is used by the Informix iDataAgent.)

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

INSTALL PROCEDURE

GETTING STARTED

1. If you are installing the software on a global zone or Unix Server, do the following: Place the software installation disc for the Unix platform into the disc drive.

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

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

If you are installing the software on a non-global zone, do the following:

- Mount the installation disc on the non-global zone.

```
mkdir <Non-Global Zone root location>/<Non-Global Zone local directory>

mount -F lofs <Global zone software Install Disc mount point> <Non-Global Zone root location>/<Non-Global Zone local directory>
```

Connect to Non-Global Zone terminal

- Run the following command from the Software Installation Disc:

```
./cvpkgadd
```

2. The product banner and other information is displayed.

Press **Enter** to continue.

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

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

NOTES

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

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

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

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

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

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

Press **Enter** to continue

NOTES

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

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

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

- 1) Install data protection agents on this computer
- 2) Advance options
- 3) Exit this menu

Your choice: [1]

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

- 1) All platforms (32 bit)
- 2) FS and MA only (64 bit)

Your choice: [1]

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

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

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

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

Your choice: [1]

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

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

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

NOTES

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

8. Specify the client name for the computer.

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

GUI.

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

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

Please specify the client name for this machine.

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

Physical Machine Client name: [angel]

SELECT COMPONENTS FOR INSTALLATION

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

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

NOTES

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

Install Calypso on physical machine client.company.com

Select the Calypso module that you would like to install

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

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

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

BASE SOFTWARE INSTALLATION

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

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

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

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

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

NOTES

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

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

```
1) Download from the software provider website.
2) Use the one in the installation media
3) Use the copy I already have by entering its unix path
Your choice: [1] 2
```

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

Keep Your Install Up to Date - Latest Service Pack

NOTES

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

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

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

Press **Enter** to continue.

Do you want to download the latest service pack now? [no]
Press <ENTER> to continue ...

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

Please specify where you want us to install Calypso binaries.

NOTES

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

It must be a local directory and there should be at least 177MB of free space available. All files will be installed in a "calypso" subdirectory, so if you enter "/opt", the files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

..

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

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

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

Please specify where you want to keep Calypso log files.

14. Specify the location for the log files.

NOTES

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

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".

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

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

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

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

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

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

Press **Enter** again to continue.

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

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

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

NOTES

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

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

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

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

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

NOTES

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

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

NOTES

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

Click **Enter** to continue.

Log Directory: [/var/log]

..

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

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

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

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

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

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

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

Group name: dba

REMINDER

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

Press <ENTER> to continue ...

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

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EvMgrC: [8602]

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

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:

Enter your CommCell user name and password:

User Name :

Password :

Press <ENTER> to continue ...

KERNEL PARAMETERS

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

NOTES

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

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

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

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

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

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

NOTES

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

Press **Enter** to continue.

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

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

Number of streams: [10]

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

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

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

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

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

Press <ENTER> to continue.

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

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

ENABLE GLOBAL FILTERS

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

NOTES

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

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

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

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

CLIENT GROUP SELECTION

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

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

NOTES

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

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

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

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

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

STORAGE POLICY SELECTION

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

NOTES

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

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

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

Storage Policy: [3]

CONFIGURE INFORMIX-SPECIFIC INFORMATION

27. You are advised that the system is preparing to relink Informix. Press **Enter**.

The control now passes to the Ifx_install.sh script to allow it to relink Informix.

Press ENTER to continue.

Installing Bull Calypso Onbar....

28. You are asked if you want to relink the Informix instance now. This is required before performing backups.

Do you wish to relink Informix instance now? (n/[y])

- If you want to do this now, type **y** and press **Enter**, and go to the next step.
- If you want to do this later, type **n** and press **Enter**.

Skip the next step.

29. The Informix instance is relinked. Once this is done, this message displays. Press **Enter**.

We are back from Ifx_install.sh

Press <ENTER> to continue.

Skip the next step.

30. You are warned that Informix must be relinked before performing backups and are provided with the appropriate post-install instructions. Press **Enter**.

WARNING: relink of Informix is required before performing backups. Please execute /opt/calypso/iDataAgent/Ifx_ioninstall.sh to relink Informix after the install

31. You are prompted to specify the Informix User ID. This is the user ID that is used by the system to log in to the Informix database.

Please enter INFORMIX_USER ID [informix]:

Enter the Informix User ID or accept the default value and press **Enter**.

See the Informix iDataAgent section in **User Accounts and Passwords** for more information.

32. You are prompted to specify the user group for Informix.

Please enter user group for informix [informix]:

Enter the user group name or accept the default value and press **Enter**.

33. You are prompted to enter the Informix home directory.

Please enter INFORMIXDIR directory:

Enter a path and press **Enter**.

34. You are prompted to enter the name of the appropriate ONCONFIG file. This file helps to administer the number of streams, among other capabilities.

Please enter the ONCONFIG environment variable:

Enter the file name and press **Enter**.

35. You are prompted to enter the name of the Informix instance.

Please enter the INFORMIXSERVER environment variable:

Enter the name of the instance and press **Enter**.

36. You are prompted to enter the path to the Informix libraries.

Please enter the BAR_BSALIB_DIR [/usr/lib]:

Enter the path or select the default and press **Enter**.

37. If the Informix Dynamic Server version is the same or earlier than the identified version:

Is your Informix Dynamic Server version is 7.30/9.14 or earlier? ([y]/n):

- Accept or type **y** and press **Enter**.
- Go to the next step.

If the Informix Dynamic Server version is later than the identified version:

- Type **n** and press **Enter**.

Skip the next step.

38. For Informix 7.30/9.14 or earlier, the bar_version table is updated, and information similar to the example shown to the right is displayed. When prompted, press **Enter**

The database inf_730 must be On Line before installing, if not, please startup the database inf_730 in another window

to continue.
Skip the next step.

```

or exit and try /opt/calypso/iDataAgent/Ifx_install.sh
script again after the installation is complete!
Do you wish to continue? (y/[n]) y
CXDIR:/opt/calypso/Base64, IFXLIBPATH:/usr/lib/sparcv9
Updating Onbar Version Database
INFORMIXDIR=/backup_area/informix INFORMIXSERVER=inf_730
ONCONFIG=onconfig.inf_730
Check if the bar_version table existed in the database
Database selected.
bar_version  bsa_version  bar_sm  sm_version
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
1            1.1.1        cvsm    1
10 row(s) retrieved.
Database closed.
Updating bar_version table
Database selected.
1 row(s) selected.
Database closed.
Installation completed.
We are back from Ifx_install.sh
Press <ENTER> to continue...

```

- 39. For any Informix version higher than 7.30/9.14, you are eventually notified that there is no bar_version table, that the system will update the sm_version table instead, and that you should ignore the displayed error message. (As requested after the first message that appears, type **y** and press **Enter** to continue.)

```

The database inf_921 must be On Line before installing, if
not, please startup the database inf_921 in another window
or exit and try /opt/calypso/iDataAgent/Ifx_install.sh
script again after the installation is complete!
Do you wish to continue? (y/[n]) y
CXDIR:/opt/calypso/Base64, IFXLIBPATH:/usr/lib/sparcv9
Updating Onbar Version Database
INFORMIXDIR=/tigger/informix/informix921
INFORMIXSERVER=inf_921 ONCONFIG=onconfig.inf_921
Check if the bar_version table existed in the database
Database selected.
206: The specified table (bar_version) is not in the
database.
111: ISAM error: no record found.
Error in line 2
Near character position 26
Database closed.
-----
For the Informix Server version 7.30 or earlier than 7.30,
Calypso will update bar_version table; For the Informix
Server version later than 7.30, there is no bar_version
table, Calypso will update sm_versions instead, ignore
above error
-----
Installation complete.

```

- 40. Message similar to the following is displayed. As prompted, include the indicated parameter into the ONCONFIG file, then press **Enter** to continue.

NOTES

- The BAR_BSALIB_PATH parameter is supported only on some platforms. To determine if BAR_BSALIB_PATH is supported on your platform, consult the appropriate Informix application documentation.

```

Put "BAR_BSALIB_PATH /usr/lib/sparcv9/ibsad001.<xx>" into
configuration file onconfig.inf_921.
Replace <xx> with the shared library file extension, e.g.,
ibsad001.so is for SOLARIS, ibsad001.sl is for HP.
We are back from Ifx_install.sh
Press <ENTER> to continue...

```

41. If you do not want to relink another Informix instance now:

- Type **n** and press **Enter**. Go to the next step.

If you want to relink another Informix now:

- Type **y** and press **Enter**.

Refer Configure Informix-Specific Information.

42. You are advised that the installation is completed, and you are provided with instructions for installing other Informix instances. Press **Enter**.

43. If you have multiple instances of the database, ensure that the items listed are satisfied. Press **Enter**.

44. Messages similar to the following are displayed. Press **Enter**.

```
Do you wish to relink another informix instance now? (y/
[n])
```

```
Installation complete. If you wish to install other
Informix instances, please
execute /opt/calypso/iDataAgent/Ifx_install.sh after
installation
```

```
We are back from Ifx_install.sh
```

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

```
IMPORTANT
```

```
If you are planning to use Calypso <package> with several
instances of the database, each running on behalf of
different UNIX users, you must make sure that:
```

```
1) All database users have been added to each of the
database groups involved. For example, if there is a
"db2inst1" user from group "dba1" and "db2inst2" user from
group "dba2", then both "db2inst1" and "db2inst2" should
be included into "dba1" and "dba2" groups. On most UNIXes
this can be accomplished by editing the /etc/group file.
```

```
2) The .profile of each database user must contains a
"umask 002" command at the end, which will guarantee that
all files created by one database user can be open for
writing by other database users.
```

```
3) All database users should be added to the "dba" group
that you have chosen for Calypso at the time of CVGxBase
install.
```

```
If all of the above requirements are not fulfilled,
Calypso will run into various "Permission denied" errors,
and backups will not work.
```

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

```
Updating registry tree under /etc/Registry ... done.
```

```
Preconfiguring Informix DataAgent on the CommServe ...
done.
```

```
Successfully installed CVGxIfIDA.
```

```
Press ENTER to continue ...
```

SETUP COMPLETE

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

The installation is now complete.

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

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

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

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

```
Your choice: [1]
```

POST-INSTALL CONSIDERATIONS

GENERAL

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

Install the Informix *iDataAgent* - Unix - Clustered Environment

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Post-Install Considerations

INSTALL REQUIREMENTS

The following procedure provides step-by-step instructions for installing the Informix *iDataAgent* on a Unix cluster.

The software in a Unix cluster can be installed from the active node in the cluster group using the following procedure. Note that for a passive node in a Unix cluster, you need to install the software separately on the passive node in the cluster group.

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

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

GENERAL

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

CLUSTER

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

HP-UX

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

BEFORE YOU BEGIN

- Log on to the client as `root`.
- The install package requires `super-user` permissions to execute.
- For a database Agent, you may be required or be given the option to shut down the instances/databases for the agent before or during the following procedure. See Shut Down Instances for more information.

INSTALL PROCEDURE

GETTING STARTED

1. Place the software installation disc for the Unix platform into the disc drive.
You can also install the product using a disc drive mounted on another computer on the network.
 - On Solaris, double-click the **cvpkgadd** program from the File Manager window.

- On other Unix platforms, open the Terminal window, navigate to the software installation disc and then enter **./cvpkgadd**.
2. The product banner and other information is displayed.
Press **Enter** to continue.
 3. Read the license agreement. Type **y** and press **Enter** to continue.
 4. Enter the number corresponding to the setup task you want to perform.

NOTES

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

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

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

5. If your computer is 32-bit, press **Enter**.
If your computer is 64-bit, see Install Unix Agents on 64-bit Platform for step-by-step procedure.

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

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

- 1) Install data protection agents on this computer
- 2) Advance options
- 3) Exit this menu

Your choice: [1]

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

- 1) All platforms (32 bit)
- 2) FS and MA only (64 bit)

Your choice: [1]

CLUSTER SELECTION

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

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

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

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

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

Your choice: [1]

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

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

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

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

Virtual Machine Host Name:

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

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

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

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

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

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

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

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

NOTES

Is this correct? [yes]

- This prompt appears only when installing on a passive node.
10. Type the name of the virtual client and press **Enter**.
11. Specify the network interface that you want to associate with the physical machine and press **Enter**.
- NOTES**
- This prompt appears only when the Unix File System iDataAgent is not installed on the physical node.
12. Verify the name of the physical interface and make any required changes. Then press **Enter**.
13. Enter a node name for the physical machine and press **Enter**.

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

Virtual Machine Client Name: [hpuxmc1]

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

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

- 1) mackrel71
- 2) mackrel
- 3) mackrell

Interface number: [1] 2

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

Physical Hostname: [mackrel]

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

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

Physical Machine Node Name: [mackrel]

SELECT COMPONENTS FOR INSTALLATION

14. If you wish to install the agent software for restore only, enter **Yes** and press **Enter** to continue. See Installing Restore Only Agents for more information. Otherwise, accept **no**, press **Enter** to continue.
15. Enter the number corresponding to the **CVGxIfIDA** module.
- A confirmation screen will mark your choice with an "X". Type "d" for **Done**, and press **Enter** to continue.
- NOTES**
- To select multiple component, enter the number by adding a space.
 - Your screen may look different from the example shown.
 - Components that either have already been installed, or which cannot be installed, will not be shown.
 - In addition, the list of modules that appear depends on the specific Unix File System in which the package is installed. (e.g., **CVGxWA** will appear only when the installation package is run on a Solaris computer.)

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

Install Calypso on physical machine client.company.com
Select the Calypso module that you would like to install

- [] 1) Media Agent [1301] [CVGxMA]
- [] 2) FileSystem IDA [1101] [CVGxIDA]

> >>>> NEXT PAGE >>>>>

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

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

BASE SOFTWARE INSTALLATION

16. Type the appropriate number to install the latest software scripts and press **Enter** to continue.
- NOTES**
- Select **Download from the software provider website** to download the latest software scripts from your software provider website.
Make sure you have internet connectivity when you are using this option.
 - Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is performed.
 - Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.
17. Enter **Yes** to download and install the latest service packs and post packs from the software provider.
- NOTES**
- Internet connectivity is required to download updates.
 - This step is applicable for multi instancing.
- Press **Enter** to continue.

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

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

- 1) Download from the software provider website.
 - 2) Use the one in the installation media
 - 3) Use the copy I already have by entering its unix path
- Your choice: [1] 2

Keep Your Install Up to Date - Latest Service Pack

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

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

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

NOTES

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

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

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

19. Specify the location for the log files.

NOTES

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

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

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

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

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

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

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

Press **Enter** again to continue.

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

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

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

NOTES

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

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

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

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

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

Press <ENTER> to continue ...

Please specify where you want us to install Calypso binaries.

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

Installation Directory: [/opt]

..

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

Please specify where you want to keep Calypso log files.

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

Log Directory: [/var/log]

..

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

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-writable or we can grant write access only to processes belonging to a particular group, e.g. a "calypso" or a "dba" group.

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

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

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

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

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

Group name: dba

REMINDER

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

Every instance of Calypso should use a unique set of network ports to avoid interfering with other instances running on the same machine.

The port numbers selected must be from the reserved port number range and have not been registered by another application on this machine.

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EvMgrC: [8602]

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

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

NOTES

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

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

NOTES

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

Click **Enter** to continue.

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:

Enter your CommCell user name and password:

User Name :

Password :

Press <ENTER> to continue ...

KERNEL PARAMETERS

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

NOTES

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

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

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

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

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

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

Number of streams: [10]

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

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

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

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

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

Press <ENTER> to continue.

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

NOTES

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

Press **Enter** to continue.

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

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

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

ENABLE GLOBAL FILTERS

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

NOTES

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

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

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

then the global filters will not be applied to the default subclient.

- Select **Always use Global filters** to always apply the global filters policy to the default subclient regardless of the policy set for the CommCell.
- Select **Do not use Global filters** to disregard applying the global filters to the default subclient regardless of the policy set for the CommCell.

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

CLIENT GROUP SELECTION

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

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

NOTES

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

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

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

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

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

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

IMPORTANT:

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

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

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

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

31. Press **Enter** to continue.

NOTES

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

STORAGE POLICY SELECTION

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

NOTES

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

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

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

Storage Policy: [3]

CONFIGURE INFORMIX SPECIFIC INFORMATION

33. You are advised that the system is preparing to relink Informix. Press **Enter**.

The control now passes to the Ifx_install.sh script to allow it to relink Informix.

Press ENTER to continue.

Installing Bull Calypso Onbar.....

34. You are asked if you want to relink the Informix instance now. This is required before performing backups.

Do you wish to relink Informix instance now? (n/[y])

- If you want to do this now, type **y** and press **Enter**, and go to the next step.
- If you want to do this later, type **n** and press **Enter**.

Skip the next step.

35. The Informix instance is relinked. Once this is done, this message displays. Press **Enter**.

We are back from Ifx_install.sh

Press <ENTER> to continue.

Skip the next step.

36. You are warned that Informix must be relinked before performing backups and are provided with the appropriate post-install instructions. Press **Enter**.

WARNING: relink of Informix is required before performing backups. Please execute /opt/calypso/iDataAgent/Ifx_ionstall.sh to relink Informix after the install

37. You are prompted to specify the Informix User ID. This is the user ID that is used by the system to log in to the Informix database.

Please enter INFORMIX_USER ID [informix]:

- Enter the Informix User ID or accept the default value and press **Enter**.
38. You are prompted to specify the user group for Informix. Please enter user group for informix [informix]:
- Enter the user group name or accept the default value and press **Enter**.
39. You are prompted to enter the Informix home directory. Please enter INFORMIXDIR directory:
- Enter a path and press **Enter**.
40. You are prompted to enter the name of the appropriate ONCONFIG file. This file helps to administer the number of streams, among other capabilities. Please enter the ONCONFIG environment variable:
- Enter the file name and press **Enter**.
41. You are prompted to enter the name of the Informix instance. Please enter the INFORMIXSERVER environment variable:
- Enter the name of the instance and press **Enter**.
42. You are prompted to enter the path to the Informix libraries. Please enter the BAR_BSALIB_DIR [/usr/lib]:
- Enter the path or select the default and press **Enter**.
43. If the Informix Dynamic Server version is the same or earlier than the identified version: Is your Informix Dynamic Server version is 7.30/9.14 or earlier? (y/n):
- Accept or type **y** and press **Enter**.
 - Go to the next step.
- If the Informix Dynamic Server version is later than the identified version:
- Type **n** and press **Enter**.
- Skip the next step.
44. For Informix 7.30/9.14 or earlier, the bar_version table is updated, and information similar to the example shown to the right is displayed. When prompted, press **Enter** to continue.
- Skip the next step.
- The database inf_730 must be On Line before installing, if not, please startup the database inf_730 in another window or exit and try /opt/calypso/iDataAgent/Ifx_install.sh script again after the installation is complete!
- Do you wish to continue? (y/[n]) y
- CXDIR:/opt/calypso/Base64, IFXLIBPATH:/usr/lib/sparcv9
- Updating Onbar Version Database
- INFORMIXDIR=/backup_area/informix INFORMIXSERVER=inf_730
- ONCONFIG=onconfig.inf_730
- Check if the bar_version table existed in the database
- Database selected.
- | bar_version | bsa_version | bar_sm | sm_version |
|-------------|-------------|--------|------------|
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
| 1 | 1.1.1 | cvsm | 1 |
- 10 row(s) retrieved.
- Database closed.
- Updating bar_version table
- Database selected.
- 1 row(s) selected.
- Database closed.
- Installation completed.
- We are back from Ifx_install.sh
- Press <ENTER> to continue...
45. For any Informix version higher than 7.30/9.14, you are eventually notified that there is no bar_version table, that the system will update the sm_version table instead, and that you should ignore the displayed error message. (As requested after the first message that appears, type **y** and press **Enter** to continue.)
- The database inf_921 must be On Line before installing, if not, please startup the database inf_921 in another window or exit and try /opt/calypso/iDataAgent/Ifx_install.sh script again after the installation is complete!
- Do you wish to continue? (y/[n]) y
- CXDIR:/opt/calypso/Base64, IFXLIBPATH:/usr/lib/sparcv9
- Updating Onbar Version Database

46. Message similar to the following is displayed. As prompted, include the indicated parameter into the ONCONFIG file, then press **Enter** to continue.

NOTES

- The `BAR_BSALIB_PATH` parameter is supported only on some platforms. To determine if `BAR_BSALIB_PATH` is supported on your platform, consult the appropriate Informix application documentation.
47. If you do not want to relink another Informix instance now:
- Type **n** and press **Enter**. Go to the next step.
- If you want to relink another Informix now:
- Type **y** and press **Enter**.
- Go to Configure Informix Specific Information.
48. You are advised that the installation is completed, and you are provided with instructions for installing other Informix instances. Press **Enter**.
49. If you have multiple instances of the database, ensure that the items listed are satisfied. Press **Enter**.
50. Press **Enter** to continue.

```

INFORMIXDIR=/tigger/informix/informix921
INFORMIXSERVER=inf_921 ONCONFIG=onconfig.inf_921
Check if the bar_version table existed in the database
Database selected.
206: The specified table (bar_version) is not in the
database.
111: ISAM error: no record found.
Error in line 2
Near character position 26
Database closed.
-----
For the Informix Server version 7.30 or earlier than 7.30,
Calypso will update bar_version table; For the Informix
Server version later than 7.30, there is no bar_version
table, Calypso will update sm_versions instead, ignore
above error
-----
Installation complete.
Put "BAR_BSALIB_PATH /usr/lib/sparcv9/ibsad001.<xx>" into
configuration file onconfig.inf_921.
Replace <xx> with the shared library file extension, e.g.,
ibsad001.so is for SOLARIS, ibsad001.sl is for HP.
We are back from Ifx_install.sh
Press <ENTER> to continue...
Do you wish to relink another informix instance now? (y/
[n])
Installation complete. If you wish to install other
Informix instances, please
execute /opt/calypso/iDataAgent/Ifx_install.sh after
installation
We are back from Ifx_install.sh
Press <ENTER> to continue...
IMPORTANT
If you are planning to use Calypso <package> with several
instances of the database, each running on behalf of
different UNIX users, you must make sure that:
1) All database users have been added to each of the
database groups involved. For example, if there is a
"db2inst1" user from group "dba1" and "db2inst2" user from
group "dba2", then both "db2inst1" and "db2inst2" should
be included into "dba1" and "dba2" groups. On most UNIXes
this can be accomplished by editing the /etc/group file.
2) The .profile of each database user must contains a
"umask 002" command at the end, which will guarantee that
all files created by one database user can be open for
writing by other database users.
3) All database users should be added to the "dba" group
that you have chosen for Calypso at the time of CVGxBase
install.
If all of the above requirements are not fulfilled,
Calypso will run into various "Permission denied" errors,
and backups will not work.
Press <ENTER> to continue ...
Updating registry tree under /etc/Registry ... done.
Preconfiguring Informix DataAgent on the CommServe ...
done.
Successfully installed CVGxIfIDA.
Press ENTER to continue ...

```

SETUP COMPLETE

51. This menu may be displayed only when you are installing on HP-UX, Linux, or Solaris Select the Calypso module that you would like to install.

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

NOTES

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

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

NOTES

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

Press **Enter** to continue.

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

The installation is now complete.

```
1) FileSystem iDataAgent
2) Exit
```

```
Module number: [1]
```

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

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

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

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

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

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

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

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

```
Your choice: [1]
```

POST-INSTALL CONSIDERATIONS

GENERAL

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

Backup - Informix

Topics | How To | Related Topics

Overview

Supported Backup Types

Informix Backup Jobs

Backup Considerations

Advanced Backup Options

Third Party Command Line Backups

OVERVIEW

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

- For an overview of backup jobs, see Backup Data.
 - For a list of supported data types for this agent, see Supported Data Types.
 - For information on subclients, see Subclients
 - For information on configuring subclients for this agent, see Subclients - Informix.
-

SUPPORTED BACKUP TYPES

This agent supports the following backup types:

- Full Backups
 - Incremental Backups
-

INFORMIX BACKUP JOBS

This agent has the following unique functionality.

BACKUP ARGUMENTS

Some database *iDataAgents* run backups using a system-generated script that is run behind the scenes from a command line. The CommCell Console serves as a front-end user interface for specifying various backup arguments and parameters that are passed to the backup script that is run. Depending on your agent, you can specify, for example, the application-specific Backup Level, whether the backups will be online or offline, as well as buffer and bundle sizes, among other settings. Although the backup arguments/parameters vary among *iDataAgents*, they all function in a similar manner. These arguments are set at the subclient level from the respective *iDataAgent's* Subclient Properties dialog box tab.

For step-by-step instructions, see Configure Backup Arguments.

VERIFYING BACKUPS

ON-Bar utility writes informational, progress, warning, error, and debugging messages to the ON-Bar Activity Log. The information in the activity log helps in determining whether a backup or restore operation succeeded. ON-Bar Activity Log location can be found in the ONCONFIG file under the `BAR_ACT_LOG` parameter.

BACKUP CONSIDERATIONS

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

- If you perform a backup of the default subclient without changing its default properties, the backup would include all the objects in the database, including any new objects that may have been created.
 - If you have created subclients for a database, you can create a complete backup of the database by backing up these subclients.
 - If you have created a group of selected subclients for the database, you must back up all of these subclients to create a complete backup.
 - If you have created separate subclients for the logical log files, backup emergency boot file, and or backup ONCONFIG file, and if these subclients are not included with the subclients defined for databases or subsets, then the subclients for these files must also be backed up to create a complete backup.

- Informix recommends that you run an Incremental Level 0 backup (Full backup) after adding new dbspaces to the database. If this is not done, the next Incremental backup will fail because the system will not be able to find the parent files for the new dbspaces.
- Multiple streams are supported for data protection and recovery operations with this agent; however, before utilizing multiple streams, you should understand how their use affects operations. For more information, see Streams.
- A file system backup for the following files must be run from the CommCell immediately after a backup:
 - ONCONFIG file
 - Emergency boot files (ixbar)
 - sm_versions file
 - sqlhosts file (UNIX)
 - oncfg_servername.servernum.coserverid file from each co-server
 - xcfg_servername.servernum file in the etc subdirectory

ON-Bar utility stores information about the backup and logical logs in the **ixbar** file (as well as in the sysutils database). This file should not be modified by users. If this file becomes corrupted, modified, or removed, ON-Bar may not be able to find the backups needed to perform a restore resulting in data loss.

- Maximum backup streams under storage policy tab cannot be of value greater than 1 for an entire system [serial] backup i.e the BAR_MAX_BACKUP value in onconfig file should have a value of 1 for a successful a full system backups.

THIRD PARTY COMMAND LINE BACKUPS

In addition to backups from CommCell Console, you can also perform backups of Informix databases using the third party command line (ON-Bar) utility. However, in the case of Informix XPS databases, backups are performed from the third party command line (**ON-Bar**) utility.

CONFIGURING ENVIRONMENT VARIABLES FOR THIRD PARTY COMMAND LINE (ON-BAR) UTILITY:

You must configure and export the following environment variables to perform ON-Bar third-party command line backups for a specific instance on a client where multiple instances are installed:

- CvInstanceName
- CvClientName

For example:

```
export CvClientName=Client1
export CvInstanceName=Instance001
```

where Client1 is the name of the Informix client and Instance001 is the name of the instance.

CONFIGURING BACKUPS AND RESTORES FOR INFORMIX XPS DATABASES

Informix XPS databases are backed up and restored from third party command line (**ON-Bar**) utility. In a multi-coserver environment, you can configure the XPS database backups in one of the following ways:

- Install the iDataAgent on one of the coservers (Primary node) , and configure the instance for this coserver (Primary) from the CommCell. You can use this instance to perform backup and restore operations on all the coservers.
- Install the iDataAgent on all the coservers which have storage managers, and configure the instance in CommCell Console for one of the coservers. The coserver for which you have configured the instance in CommCell console should be specified in the **onbar-worker**.

CONFIGURING THE PRIMARY COSERVER (PRIMARY NODE):

If Informix iDataAgent is installed on one coserver (primary node), you must configure the storage manager on this primary node. Once you configure the storage manager, the system will automatically start a single onbar-worker process and perform backups and restores for all coservers from this primary node. While configuring the storage manager, if you exclude BAR_WORKER_MAX parameter, you must manually start the `start_worker.sh` file.

Use the following steps to set the ONCONFIG, onbar_worker and storage manager on a primary coserver:

1. From the command line, navigate to `$INFORMIXDIR/etc` folder.
2. Open **ONCONFIG** file set the global parameters for Log Backup.

For example, to set the `LOG_BACKUP_MODE` to `MANUAL`:

```
LOG_BACKUP_MODE MANUAL
```

You can provide one of the following values for this parameter:

```
# CONT - backup as soon as the file fills
# MANUAL - user must perform log backups
```

- Open the `start_worker.sh` file, and add these parameters before `$INFORMIXDIR/bin/onbar_w` and save the file to configure `onbar_worker`.

```
# NONE - don't backup logs and re-use them
# as soon as they fill. Use of
# NONE is not recommended as dataR_PROGRESS_FREQ
# will be lost if the IBM Informix-XPS server must
# be restored

CvInstanceName=Instance001 Calypso Instance Name
Like Instance00x

CvClientName=dbserver01 #Informix Client Name,
this name must be same with commcell gui client name

CvPrimaryClientName=dbserve01 #In Calypso, the
entire database server (with all its coservers) is
represented as a single #Informix database instance
running on one of the coservers. User can pick any
one of the #coservers when creating Informix
instance on the commcell gui. Environment
information like INFORMIXDIR etc for that coserver
will be entered into the GUI. This coserver is
#identified as CvPrimaryClient and all jobs in
Calypso will be associated with this client.
```

- Set the following parameters on primary coserver to configure a Single Storage manager in a multi coserver environment:

```
# Storage Manager for Coserver1 (ex:dbserver01)
BAR_SM <id>
BAR_SM_NAME <name>
BAR_WORKER_COSVR
BAR_DBS_COSVR
BAR_LOG_COSVR
BAR_WORKER_MAX
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so
END
```

```
export CvInstanceName CvClientName
CvPrimaryClientName
```

Example:

In a four coservers Environment:

```
# Storage Manager for dbserver01
BAR_SM 1 # Storage manager ID
BAR_SM_NAME CV1 # Storage manager name
BAR_WORKER_COSVR 1 # CV Storage mgr is installed on
coserver 1 (dbserver01)
BAR_DBS_COSVR 1-4 # Route dbspaces for Backup from
coserver1 to coserver4 to CV storage mgr
BAR_LOG_COSVR 1-4 # Route logs for Backup from
coserver1 to coserver4 to CV storage mgr
BAR_WORKER_MAX 2 # Number of streams for Backup to
be used which depends on available Tape
#Drive configuration on command line storage policy
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so #
full pathname of storage manager
# XBSA shared library ibsad001.so name can be #
different base upon OS
END # End coserver 1(dbserver01) Storage Manager
```

CONFIGURING ALL COSERVERS

If Informix iDataAgent is installed on all coservers which have storage managers, we need to configure the storage manager and onbar-worker on each coserver. When you configure the storage managers, do not switch the BAR_SM identification numbers between two Calypso storage managers. If you switch the identification numbers, the On-Bar utility will not be able to find the backup objects. For example, do not reassign BAR_SM 1 to storage-manager dbserver01 and BAR_SM 2 to storage-manager dbserver02.

Ensure that the Calypso library exists on each coserver node where you are performing onbar_worker processes.

Use the following steps to set the ONCONFIG, onbar_worker and storage manager on all coservers:

- From the command line, navigate to `$INFORMIXDIR/etc` folder on each coserver.
- Open `ONCONFIG` file set the global parameters for Log Backup.

For example, to set the `LOG_BACKUP_MODE` to `MANUAL`:

LOG_BACKUP_MODE MANUAL

You can provide one of the following values for this parameter:

```
# CONT - backup as soon as the file fills
# MANUAL - user must perform log backups
# NONE - don't backup logs and re-use them
# as soon as they fill. Use of
```

3. Open the `start_worker.sh` file, and add these parameters before `$INFORMIXDIR/bin/onbar_w` and save the file to configure `onbar_worker` on each coserver.

4. Set the following parameters to configure storage managers on all coservers:

```
# Storage Manager for Coserver1 (ex:dbserver01)
BAR_SM <id>
BAR_SM_NAME <name>
BAR_WORKER_COSVR
BAR_DBS_COSVR
BAR_LOG_COSVR
BAR_WORKER_MAX
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so
END

# Storage Manager for Coserver2 (ex:dbserver02)
BAR_SM <id>
BAR_SM_NAME <name>
BAR_WORKER_COSVR
BAR_DBS_COSVR
BAR_LOG_COSVR
BAR_WORKER_MAX
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so
END
```

```
# NONE is not recommended as dataR_PROGRESS_FREQ
# will be lost if the IBM Informix-XPS server must
be restored
```

```
CvInstanceName=Instance001 Calypso Instance Name
Like Instance00x

CvClientName=dbserver01 #Informix Client Name,
this name must be same with comcell gui client name

CvPrimaryClientName=dbserve01 #In Calypso, the
entire database server (with all its coservers) is
represented as a single #Informix database instance
running on one of the coservers. User can pick any
one of the #coservers when creating Informix
instance on the commcell gui. Environment
information like INFORMIXDIR etc for that coserver
will be entered into the GUI. This coserver is
#identified as CvPrimaryClient and all jobs in
Calypso will be associated with this client.
```

```
export CvInstanceName CvClientName
CvPrimaryClientName
```

Example:

In a two coservers environment (dbserver01 and dbserver02):

```
# Storage Manager for dbserver01
BAR_SM 1 # Storage manager ID
BAR_SM_NAME CV1 # Storage manager name
BAR_WORKER_COSVR 1 # CV Storage mgr is installed on
coserver 1 (dbserver01)
BAR_DBS_COSVR 1 # Backup dbspaces for coserver 1
(dbserver01) only using CV1 storage mgr
BAR_LOG_COSVR 1 # Backup logs for coserver 1
(dbserver01) only using CV1 storage mgr
BAR_WORKER_MAX 2 # Number of streams for Backup to
be used which depends on available Tape
#Drive configuration on command line storage policy
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so #
full pathname of storage manager
# XBSA shared library ibsad001.so name can be #
different base upon OS
END # End coserver 1(dbserver01) Storage Manager

# Storage Manager for dbserver02
BAR_SM 2 # Storage manager ID
BAR_SM_NAME CV2 # Storage manager name
BAR_WORKER_COSVR 2 # CV Storage mgr is installed on
coserver 2 (dbserver02)
BAR_DBS_COSVR 2 # Backup dbspaces for coserver 2
(dbserver02) only using CV2 storage mgr
BAR_LOG_COSVR 2 # Backup logs for coserver 2
(dbserver02) only using CV2 storage mgr
BAR_WORKER_MAX 2 # Number of streams for Backup to
be used which depends on available Tape
#Drive configuration on command line storage policy
BAR_BSALIB_PATH /Informix_HOME/lib/ibsad001.so #
full pathname of storage manager
# XBSA shared library ibsad001.so name can be #
different base upon OS
END # End coserver 2(dbserver02) Storage Manager
```

It is highly recommended to perform a file system backup for the following files from the CommCell console or manually backup a copy to save locations immediately after a backup:

- ONCONFIG file

- Emergency boot files (ixbar)
- sm_versions file
- sqlhosts file (UNIX)
- oncfg_servername.servernum.coserverid file from each co-server
- xcfg_servername.servernum file in the etc subdirectory

LEVEL 0 BACKUP

Full backups are level 0 backups.

At the command prompt, type the command to run a full backup. `onbar -b -L 0`

LEVEL 1 BACKUP

A level 1 backup is an incremental backup. It backs up records that have changed since the last level 0 backup.

At the command prompt, type the command to run an incremental backup. `onbar -b -L 1`

LEVEL 2 BACKUP

A level 2 backup backs up records that have changed since the last level 1 backup.

At the command prompt, type the command to run a level 2 backup. `onbar -b -L 2`

DATA ONLY BACKUP (PHYSICAL BACKUP)

Use the following steps to backup the data without the logs:

At the command prompt, type the command to backup the database without the logs. `onbar -b -p`

BACKUP INDIVIDUAL DBSPACES (PARTIAL BACKUP)

Use the following steps to run a partial backup of selected dbspaces.

At the command prompt, type the command to backup selected dbspaces. `onbar -b dbspace1 dbspace2`
 where `dbspace1` and `dbspace2` are the dbspace names.

BACKUP MULTIPLE STORAGE SPACES

Use the following steps to backup multiple storage spaces listed in a file. Each line in the file can list more than one storage space separated by a space or a tab space.

At the command prompt, type the command to backup a list of storage spaces specified in a file. `onbar -b -f /informix/backup_list/listfile3`
 where `listfile3` is the name of the file containing the storage spaces list to be backed up.

LOGICAL LOG BACKUP

A logical log backup backs up the filled logical logs.

At the command prompt, type the command to backup logical logs. `onbar -b -l`

BACKUPS FOR INFORMIX XPS DATABASES

In addition to the above mentioned backups, you can perform specific backups for Informix XPS databases.

CURRENT LOGICAL LOG BACKUP

A logical log backup does not include the current logical log file. However, we can backup the current logical log file separately using the following steps.

1. At the command prompt, type the command to move the database server to the next logical log. `xctl onmode -l`
2. Type the command to backup the current logical log file. `onbar -b -l`

LOG SALVAGE BACKUP

When the database is offline, you can run a log salvage backup which backs up the logical logs residing directly on the disk and which are not yet backed up. These backups are run during a restore operation, when you want to recover the database to the last completed transaction.

1. At the command prompt, type the command to shutdown the database server. `xctl onmode -yuk`
2. Type the command to start the co-server. `xctl -C oninit -m`
3. Type the command to backup the salvaging logical log file. `onbar -b -l -s`

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Backup - Informix - How To

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START A BACKUP

Before You Begin

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

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job:

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

In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see [When a Non-Full Backup is Automatically Converted to a Full Backup](#).

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

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

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

SCHEDULE BACKUPS

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

Before You Begin

- **All Agents**

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

Required Capability: See Capabilities and Permitted Actions

▶ To schedule a backup operation:

1. From the CommCell Browser, select one of the following:
 - To back up a subclient, right-click the subclient and click **Backup**.
 - To back up a backup set or instance, right-click the backup set or instance, click **All Tasks**, and click **Backup All Subclients**.
 - To back up the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
 - For the Lotus Notes Document iDataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup Default Backup Set**.
 - For the Lotus Notes Database iDataAgent, to back up a partition, right-click the partition you want to back up, click **All Tasks**, and click **Backup All Subclients**.
 - For Agents that do not have backup set or instance levels, to back up all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select the type of backup that you want to initiate. In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see [When a Non-Full Backup is Automatically Converted to a Full Backup](#).
4. Click **Schedule**. Click **OK** to continue.
5. From the Schedule Details (Schedule Details) dialog box, create a schedule for this operation. For step-by-step instructions, see [Create a Job Schedule](#). Click **OK** to continue.
6. Your backup operation will execute according to the specified schedule.

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

START A BACKUP IN THE SUSPENDED STATE

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

Before You Begin

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

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job with advanced backup options:

1. From the CommCell Browser, select one of the following:
 - To backup a subclient, right-click the subclient to want to backup and click **Backup**.
 - To backup a user-defined backup set or instance, right-click the backup set you want to backup, click **All Tasks**, and click **Backup All Subclients**.
 - To backup the default backup set, right-click the agent or instance node, click **All Tasks**, and click **Backup Default Backup Set**.
 - For Lotus Notes iDataAgent, to backup a partition, right-click the partition you want to backup, click **All Tasks**, and click **Backup Default Backup Set**.
 - For Agents that do not have backup set or instance levels, to backup all subclients, right-click the agent icon, click **All Tasks**, and click **Backup All Subclients**.
2. If you chose a level higher than subclient (i.e., backup set, etc.), you are prompted to confirm that you want to back up all the subclients below that level/node. Click **Yes**.
3. From the Backup Options dialog box, select **Run Immediately**.

4. Select the type of backup that you want to initiate.
In certain circumstances a non-full backup may automatically be converted to a full backup. For a listing of these circumstances, see [When a Non-Full Backup is Automatically Converted to a Full Backup](#).
5. Click the **Advanced** button to open the **Advanced Backup Options** dialog box.
6. Click on the Advanced Backup Options (Startup) tab, and select **Startup in suspended state** and click **OK**.
7. From the **Backup Options** dialog box, click **OK**. You can track the progress of the backup job from the Job Controller window.
8. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically.

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

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

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

START A BACKUP ON NEW MEDIA

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

Before You Begin

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

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job with advanced backup options:

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

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

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

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

START A BACKUP THAT MARKS MEDIA FULL ON COMPLETION

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

Before You Begin

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

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job with advanced backup options:

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

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

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

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

START A BACKUP WITH A SET JOB PRIORITY

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

Before You Begin

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

Required Capability: See Capabilities and Permitted Actions

▶ To start an immediate backup job with advanced backup options:

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

Subclients.

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

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

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

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

START A BACKUP WITH VAULT TRACKING ENABLED

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

For additional information, see the following:

- VaultTracker
- VaultTracker Enterprise

Before You Begin

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

Required Capability: See *Capabilities and Permitted Actions*

▶ To start an immediate backup job with advanced backup options:

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

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

if necessary.

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

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Restore Data - Informix

Topics | How To | Full System Restore | Related Topics

Overview

Restore Considerations for this Agent

- Suspend Restore Jobs
- Restore Sequence when INFORMIX HOME is not on the Shared Disk in a Clustered Environment

Restore Destinations

- In-Place Restore
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- Cross-Platform Restores

Renaming Database Spaces

Restoring from a Secondary Copy

Third Party Command Line Restores

- Performing a Cross Platform/Cross Server Restore
- Renaming Database Spaces

Restoring Informix XPS Databases

Verifying Restores

OVERVIEW

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

The Informix iDataAgent supports the following types of restores:

- Restoring entire Informix databases in multistream or single stream (serially)
- Restoring portions of Informix databases (i.e., dbspaces)
- Restoring logical log files
- Restoring emergency boot files (ixbar)
- Restoring ONCONFIG files

Additionally, the Informix iDataAgent supports:

- Restores from the latest full backup
- Point-in-time restores - you can restore dbspaces from the full backup created at or before the point in time based on the date and time that you specify
- Restores up to a specified logical log - you can restore all of the data for committed transactions up to and including the logical log that you specify
- Restores from a third-party command line

The Informix Restore Options dialog box that provides the first three options in the previous list also provides an option that allows you to view restore-related information in the time zone that you require.

Log Only option in Informix Restore Options Dialog box, allow you to apply the transaction logs that were backed up on a primary system after a full database backup, to the secondary machine. After a full backup on a primary system, you must perform a cross machine full instance database restore by selecting **Physical** option and unselecting the **Logical** option in Informix Restore Options Dialog box. This will recover all committed data and keep Informix database in **Fast Recovery** state. If you wish to switch over from primary to the secondary machine, perform the **Log Only** restore job to restore all the collected logs from primary machine to the secondary.

For the Informix iDataAgent, restore operations can be performed from the client and instance levels in the CommCell Browser.

When there is a problem with the Informix database or the client system (operating system, hardware, hard drives, etc.), full system restores may be required. See Restore Data - Informix iDataAgent - Full System Restore for more information.

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RESTORE CONSIDERATIONS FOR THIS AGENT

- If the database is upgraded, the next backup that is run detects the new version. The version is refreshed and displayed in the instance **Properties** dialog box and for the SQL Server iDataAgent, it is displayed during a browse operation. For more information, see Browse Databases.
- Before performing any restore procedures for this agent, review the following information.
 - Suspend Restore Jobs
 - Restore Sequence when INFORMIX HOME is not on the Shared Disk in a Clustered Environment

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SUSPEND RESTORE JOBS

Informix iDataAgent restore jobs cannot be suspended unless they are in a pending state.

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RESTORE SEQUENCE WHEN INFORMIX HOME IS NOT ON THE SHARED DISK IN A CLUSTERED ENVIRONMENT

If you set up INFORMIX HOME on the local disk for each node in a clustered environment instead of on the shared directory (disk), and if a failover occurs during a backup, an additional restore step is required when (and before) you restore the data to the node to which the failover occurred. For example, suppose that while you are backing up the Informix data from Node 1, a failover to Node 2 occurs. Thereafter, suppose you want to restore the Informix data to Node 2. In such a case, you must first restore the CONFIG files (i.e., `ixbar.1` and `onconfig`) originating from Node 1 to Node 2 before you restore the Informix data.

The additional restore is required under this scenario because the Informix application (including `$INFORMIX_DIR/etc`) is not shared when you run the backup on Node 1, and the `ixbar.1` file on NODE 2 is not updated as the backup completes. This means that the `ixbar.1` file on each node now has different contents. However, the contents of the `ixbar.1` file on Node 1 are required to complete the restore of the Informix data, therefore necessitating the additional restore discussed in this section.

For information on clustered environments, see Clustering Support.

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RESTORE DESTINATIONS

By default, the Informix iDataAgent restores data to the client computer from which it originated; this is referred to as an in-place restore. You can also restore the data to another Client computer in the CommCell. Keep in mind the following considerations when performing such restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.
- Note that when you perform restores other than in-place restores, the restored data assumes the rights (i.e., permissions) of the parent directory.

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

IN-PLACE RESTORE

- Same path/destination

OUT-OF-PLACE RESTORE

Keep in mind that out-of-place restore operations are also subject to the conditions described in Cross-Platform Restores.

- Same path/destination

You should restore Informix database data to a different host (or out of place) if the original (source) host is damaged. This is sometimes called a cross-machine restore.

Whenever you perform this type of restore, the source computer and destination computer must have the same operating system, Informix version, Informix User, Informix group, and database dbspace directory structure. In addition, the database server name, database server number, root path and all dbspace physical paths for the destination host must be the same as those for the source host. Also, the destination machine must have sufficient disk space to accommodate the restored database.

See Restore Out-of-Place or Cross-Platform (Informix) for step-by-step directives.

CROSS-PLATFORM RESTORES

- Same Operating System - Different Version
-

THIRD PARTY COMMAND LINE RESTORES

In addition to the restores from CommCell Console, you can also use a third party command line utility (On-Bar) to restore Informix databases.

PERFORMING A CROSS PLATFORM/CROSS SERVER RESTORE

You can perform a cross platform/ cross server restores using onbar. However, the source and destination Informix servers must have the same db spaces name and paths. Ensure that the source and destination Informix servers must have the same SERVENUM number in ONCONFIG file. Ensure that the source and destination Informix servers are configured within the same CommServe.

Use the following steps to perform a cross platform/cross server restore:

1. On the source computer, as an Informix user, type the command at the Command Prompt to note the Informix Dbspaces name and Dbspaces pathname.

```
onstat -d
```

2. On the destination computer, as an Informix user, type the command at the Command Prompt to note the Informix Dbspaces name and Dbspaces pathname.

```
onstat -d
```

3. Make sure to include the following information in the source Informix user profile:

```
CvInstanceName=<Calypso Instance Name>
CvClientName=< Source Computer Name as seen on Commcell GUI>
```

Example: As Informix user

```
export CvInstanceName= Instance001
export CvClientName= test01
```

4. Make sure to include the following information in the destination Informix user profile:

```
CvInstanceName=<Calypso Instance Name>
CvClientName=<Destination Computer Name as seen on Commcell GUI>
INFORMIXSERVER=< Destination Informix Server Name>
```

Example:

```
export CvInstanceName=Instance001
export CvClientName = test02
export INFORMIXSERVER = INFSERVER02
```

5. Perform a full backup of source Informix server including emergency boot file (ixbar) file and ONCONFIG file
6. In the destination Informix server, rename the emergency boot file (ixbar) with the destination database server number. You can check parameter (SERVENUM) in destination Informix server ONCONFIG file. Also rename the oncfg and ONCONFIG files in the destination client.

Example:

```
mv ixbar.0 ixbar.org
mv oncfg_$(servername).$(servenum) oncfg_$(servername).$(servenum).org
mv onconfig.$(servername) to onconfig.$(servername).org
```

7. Copy the emergency boot file (ixbar), oncfg and ONCONFIG file manually from source Informix server to destination Informix server in INFORMIXDIR/etc directory.
8. In the destination Informix server, update the DBSERVERNAME and SERVENUM parameters with the Destination Informix Server name and number in ONCONFIG file which has been copied from Source Informix server. The DBSERVERNAME name can be different. However, make sure that the SERVENUM number must be same in the source and destination servers.
9. Use the following command to stop the destination Informix server

```
onmode -yuk
```

10. Type the following command to restore the Informix server on the destination computer.

```
onbar -r
```

11. After a successful Cross Informix Server Restore, delete emergency boot file (ixbar) in Destination Informix server.
12. Perform a full backup of destination Informix server either using a CommCell Browser or onbar command line utility.

RENAMING DATABASE SPACES

Perform the following validations to rename the db spaces during a cold restore using ON-Bar command line utility:

- Verify to see that the old db space pathnames and offsets exist in archive reserved pages.
- Verify to see that the new db space pathnames and offsets do not overlap each other or existing db spaces.
- If you rename the primary root or mirror root spaces, ON-Bar updates the ONCONFIG file parameters ROOTPATH and ROOTOFFSET, or MIRRORPATH, and MIRROROFFSET. The old version of the ONCONFIG file is saved as \$ONCONFIG.localtime.
- ON-Bar restores the data from the old db spaces to the new db spaces.
- New db spaces must have the proper permissions.

If either of the above steps fail, the renaming process stops and ON-Bar writes an error message to the ON-Bar activity log. Provide the old dbspace location and the new db space location either at the command line or in a file to rename a db space. The following table lists example values for two db spaces:

Element	Value for First db space	Value for second db space
Old Path	/dbspace1_Old	/dbspace2_Old
Old offset	0	10000
new path	/dbspace1_New	/dbspace2_New
new offset	20000	

RENAMING DATABASE SPACES WITH COMMAND LINE OPTIONS

- | | | |
|----|---|--|
| 1. | At the Command Prompt, type the following command to rename the chunks. | <pre>onbar -r -rename -p /dbspace1_Old -o 0 - n /dbspace1_New -o 20000 onbar -r -rename - p /dbspace2_Old -o 0 -n /dbspace2_New -o 20000</pre> |
| 2. | After a renaming and restoring operation, perform a level-0 backup. | |

RENAMING DATABASE SPACES WITH A FILE

- | | | |
|----|--|---|
| 1. | At the Command Prompt, type the following command to rename the db spaces by supplying a file named listfile. | <pre>onbar -r -rename -f listfile</pre> |
| | ListFile contains the following information: /dbspace1_Old 0 /dbspace1_New 20000 /dbspace2_Old 10000 /dbspace2_New 0 | |
| 2. | After a renaming and restoring operation, perform a level-0 backup. | |

RENAMING CHUNKS WHILE SPECIFYING OTHER OPTIONS

- | | | |
|----|---|---|
| 1. | At the Command Prompt, type the following command to rename the db spaces while performing a physical restore on dbspace1 and dbspace2, where rootdbs is the name of the rootdbs. | <pre>onbar -r -rename -p /chunk1 -o 0 -n /chunk1N -o 20000 -p rootdbs dbspace1 dbspace2</pre> |
| | Alternatively, type the following command to rename the db spaces using file while performing a physical restore on dbspace1 and dbspace2. | <pre>onbar -r -rename -f listfile -p rootdbs dbspace1 dbspace2</pre> |
| 2. | After a renaming and restoring operation, perform a level-0 backup. | |

PERFORMING A CROSS PLATFORM/CROSS SERVER RESTORE FROM COMMCELL CONSOLE

You can perform a cross platform/ cross server restores using CommCell Console. The source and destination Informix servers must have the same db spaces name and paths. Ensure that the source and destination Informix servers must have the same SERVENUM number in ONCONFIG file. Ensure that the source and destination Informix servers are configured within the same CommServe.

Make sure to perform the following while restoring from a source server to a destination server:

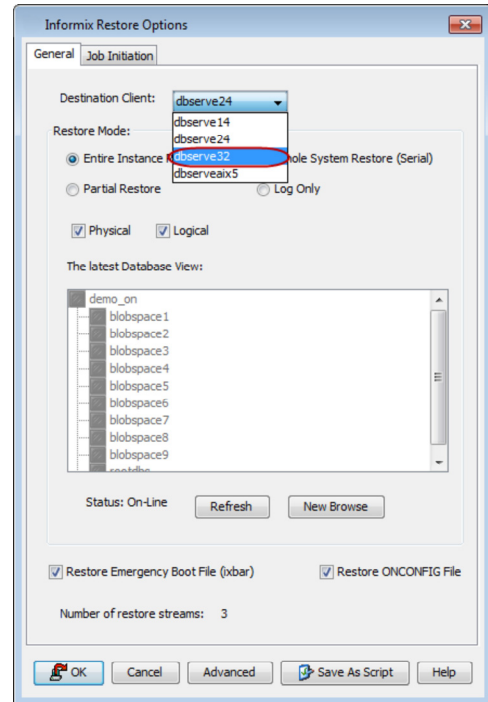
- Perform a full backup of source Informix server including emergency boot file (ixbar) file and ONCONFIG file
- In the destination Informix server, rename the emergency boot file (ixbar) with the destination database server number. You can check parameter (SERVENUM) in destination Informix server ONCONFIG file. Also rename the oncfg and ONCONFIG files in the destination client.
- Copy the emergency boot file (ixbar), oncfg and ONCONFIG file manually from source Informix server to destination Informix server in INFORMIXDIR/etc directory.
- In the destination Informix server, update the DBSERVERNAME and SERVENUM parameters with the Destination Informix Server name and number in ONCONFIG file which has been copied from Source Informix server.

Use the following steps to perform a Cross Platform/Cross Server Restore:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Informix iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse and Restore**.
3. Click **View Content**.
4. From the **Browse** window, navigate and select the database to be restored and click **Recover All Selected**.
5. From the **Informix Restore options** check box, select the destination Informix

server that you want to restore to from the **Destination Client** list.

6. Click **Entire Instance Restore**.
7. Select both **Physical** and **Logical** check boxes.
8. Select the **Restore Emergency Boot File (ixbar)** check box.
9. Select the **Restore ONCONFIG File** check box.
10. Click **OK**.



RESTORING FROM A SECONDARY COPY

When the Informix database to be restored has been pruned from the primary copy, the data and logs can be restored from a secondary copy that has a different copy precedence. The restores from the secondary copy can be performed in the following methods:

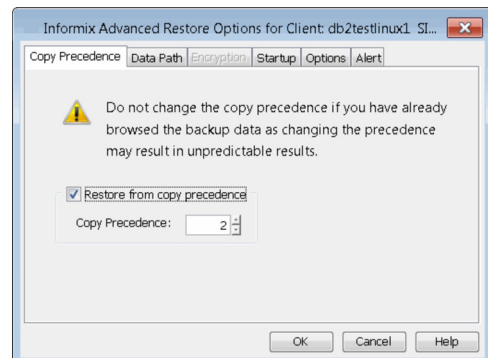
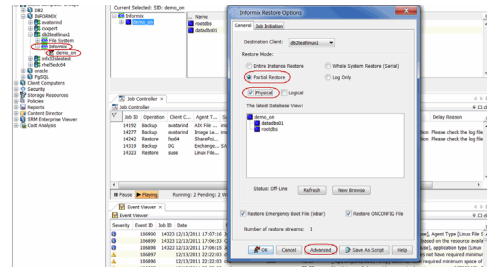
- Performing Partial Restore from Physical and Logical Data
- Performing Point-In-Time Restore for an Entire Instance
- Restoring the Latest Data from secondary copy using the Log Number

The Data and Log storage policies should be the same at the instance and subclient levels when you restore from a secondary copy.

PERFORMING PARTIAL RESTORE FROM PHYSICAL AND LOGICAL DATA

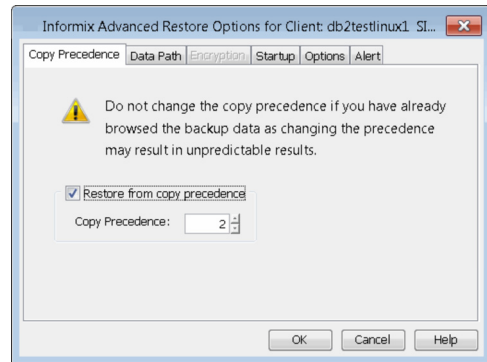
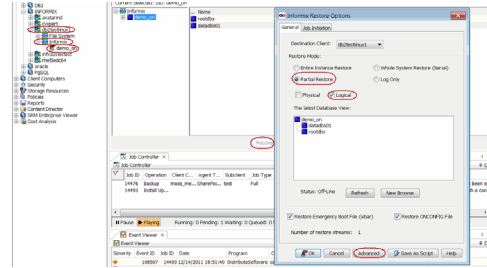
Use the following steps to perform the partial restore from the physical data:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Informix iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse Backup Data**.
3. From the **Browse** window, navigate and select the data to be restored and click **Recover All Selected**.
4. From the **Informix Restore options** check box, click **Partial Restore** option and select **Physical** check box.
5. Select the Database from the **Latest database view**, and click **Advanced**.
6. Click the **Copy Precedence** tab and select the **Restore from Copy Precedence** option.
7. Select the **Copy Precedence** from the list.
8. Click **OK**.



On completion of data only restore, perform a logical restore. Use the following steps to perform the partial restore from the logical data:

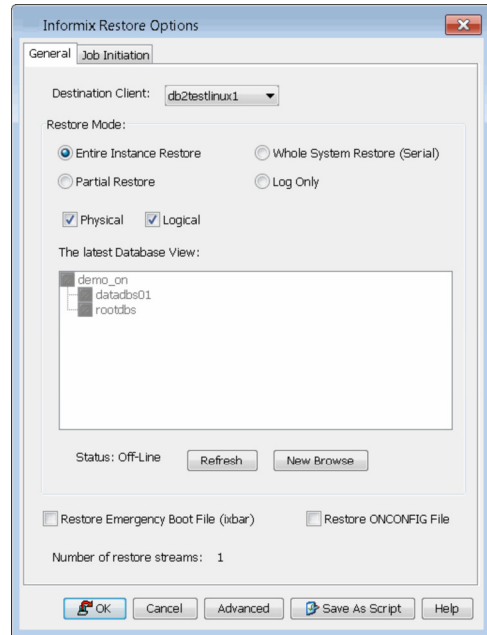
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Informix iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse Backup Data**.
3. From the **Browse** window, navigate and select the data to be restored and click **Recover All Selected**.
4. From the **Informix Restore options** check box, click **Partial Restore** option and select **Logical** check box.
5. Select the Database from the **Latest database view**, and click **Advanced**.
6. Click the **Copy Precedence** tab and select the **Restore from Copy Precedence** option.
7. Select the **Copy Precedence** from the list.
8. Click **OK**.



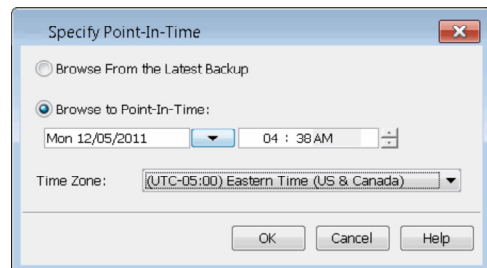
PERFORMING POINT-IN-TIME RESTORE FOR AN ENTIRE INSTANCE

Use the following steps to perform a point-in-time restore for an entire instance:

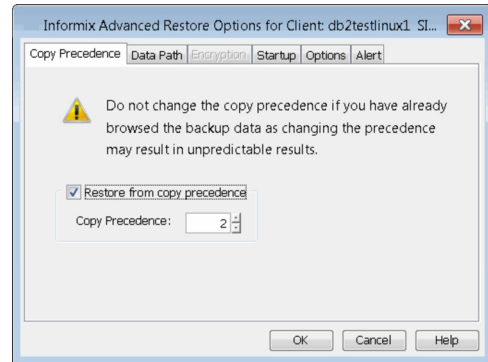
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Informix iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse Backup Data**.
3. From the **Browse** window, navigate and select the data to be restored and click **Recover All Selected**.
4. From the **Informix Restore options** check box, click **Entire Instance Restore**.
5. Select both **Physical** and **Logical** check boxes.
6. From the **Latest database view**, and click **New Browse**.



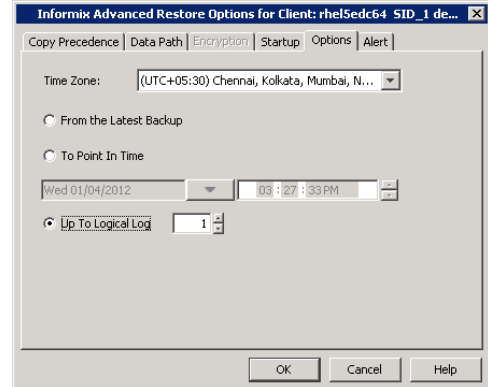
6. From **Specify Point-In-Time** window, select **browse to Point-In-Time** check box.
7. Specify the Date and time to which the backup data from secondary copy needs to be restored.
8. Select your **Time Zone** from the list.
9. Click **OK**.



10. From the **Informix Restore options** check box, click **Advanced**.
11. Click the **Copy Precedence** tab and select the **Restore from Copy Precedence** option.
12. Select the **Copy Precedence** from the list.
13. Click **OK**.



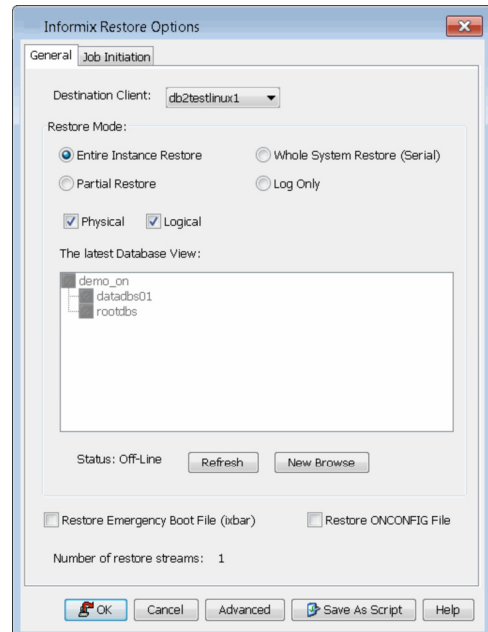
14. Click the **Options** tab.
15. Click **Up To Logical Log** and select the logical log number from the log that is backed up in the browse time from the list. You can view the last log number from ixbar or bar_act.log files.
16. Click **OK**.



RESTORING THE LATEST DATA FROM SECONDARY COPY USING THE LOG NUMBER

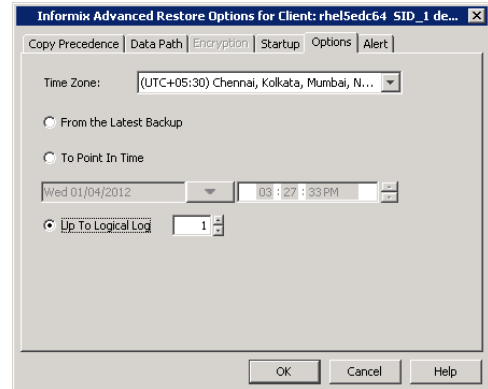
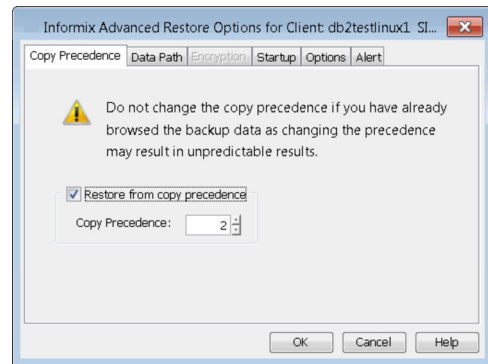
You can restore the latest data also from the secondary copy using the log number to avoid restoring the salvaged logs. Use the following steps to restore the latest data from a secondary copy using the log number:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Informix iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse Backup Data**.
3. From the **Browse** window, navigate and select the data to be restored and click **Recover All Selected**.
4. From the **Informix Restore options** check box, click **Entire Instance Restore**.
5. Select both **Physical** and **Logical** check boxes.
6. Click **Advanced**.



7. Click the **Copy Precedence** tab and select the **Restore from Copy Precedence** option.
8. Select the **Copy Precedence** from the list.
9. Click **OK**.

10. Click the **Options** tab.
11. Click **Up To Logical Log** and select the logical log number from the latest backup log.
12. Click **OK**.



RESTORING INFORMIX XPS DATABASES

Informix XPS databases can be restored using a third party command line utility (On-bar). Prior to running restores, you need to configure the Informix XPS database for restores. See *Configuring Backups and Restores of Informix XPS Databases* for step-by-step instructions.

OFFLINE (COLD) RESTORES

If a critical dbspace is damaged due to a disk failure or corrupted data, the database server automatically changes to offline mode. If a critical dbspace is damaged, then you must perform an offline (cold) restore for all critical dbspaces.

Use the following steps to perform an offline restore:

1. From the On-Bar command prompt, run the command to switch the Informix XPS instance to Micro Kernel mode
2. Run the restore command.
4. After a successful offline restore operation, the database server changes in to quiescent (inactive) mode.
Run the following command to change the database server online

```
xctl onmode -yuk
xctl -C oninit -m
onbar -r
xctl onmode -m
```

ONLINE (WARM) RESTORES

Unless your database server has failed, you can restore noncritical storage spaces in a warm restore in the following circumstances:

- The storage space is online, but one of its chunks is offline, recovering, or inconsistent.
- The storage space is offline or down.

If the database server goes offline but the critical dbspaces are all right, bring the database server online and perform a warm restore. Use the following steps to perform an online restore:

Run the command to restore the dbspaces

```
onbar -r dbspaceName1 dbspaceName2
```

PHYSICAL RESTORES

When you perform a physical restore, you can restore the database server without the logs to allow the database server go to fast recovery mode. Once the physical restore is completed, you can restore the logs.

Use the following steps to perform a physical restore and log restore separately:

1. Run the command to perform a physical restore.

```
onbar -r -p
```

2. Run the command to restore the logs.

```
onbar -l
```

RESTORING THE DATABASE TO A SPECIFIC POINT-IN-TIME

Use the following steps to restore the database to a specific point-in-time:

Run the command to restore the databases to a specific point-in-time

```
onbar -r -t "yyyy-mm-dd hh:mm:ss"
```

RESTORING INDIVIDUAL DBSPACES (PARTIAL RESTORE)

Use the following steps to restore individual dbspaces:

Run the command to perform a partial restore

```
onbar -r dbspaceName1 dbspaceName2
```

RESTORING LOGS

Use the following steps to restore the logs:

Run the command to perform logical restore i.e., using log files

```
onbar -r -l
```

RESTORING THE LOGS TO A SPECIFIC POINT-IN-TIME

Use the following steps to restore the logs to a specific point-in-time:

Run the command to restore the logs to a specific point-in-time

```
onbar -r -l -t "yyyy-mm-dd hh:mm:ss"
```

RESTORING INFORMIX XPS DATABASES TO A DIFFERENT INSTANCE/HOST

You can restore objects to a different database server instance other than the one from which you have performed a backup. This restore is also known as **Imported Restore**.

Ensure the following prior to performing a cross machine restore:

1. Perform a full (level-0) physical backup. Run the following command to perform a full physical backup:

```
onbar -b -p
```

Do not perform an incremental backup prior to performing a cross machine restore.

2. Perform a current log backup

```
xctl onmode -l
```

```
onbar -b -l
```

3. Make sure that every chunk (including mirrors) must match exactly in size, location, and offset on the source and target computers to successfully complete the imported restore operation.
4. Ensure that the source and destination Informix XPS servers must have the same SERVENUM number.

Use the following steps to restore XPS databases to a different instance/host:

- | | |
|----|---|
| 1. | On the target (destination) Informix server, run the following command to switch the Informix XPS instance to Micro Kernel mode. |
| 2. | Configure the target Informix server instance in CommCell browser. See Create an Instance for step-by-step instructions. |
| 3. | Copy the start_worker.sh file from the source computer to the target computer and update it with the target computer information. |
| 4. | Copy the emergency boot (Bixbar) file from the source computer to the target computer and rename it with the target Informix server name.
The emergency boot file needs only the entries from the full (level-0) backup on the source computer. |
| 5. | Copy the oncfg file from the source computer to the target computer and rename it with the target Informix server name. The file name should match the DBSERVERNAME and SERVENUM on the target computer.
ON-Bar needs the oncfg file to know what dbspaces to retrieve. |
| 6. | Copy the ONCONFIG file from source computer to the target computer and update DBSERVERNAME with the target database name. |
| 7. | Type and run the following command on the target computer to restore the Informix server. |

```
xctl onmode -yuk
xctl -C oninit -m
```

Example:

```
cp Bixbar.SourceServerName.CoserverNum to
Bixbar.TargetServerName.CoserverNum
```

Example:

```
cp oncfg_infserver01.0.1 to oncfg_dbserver01.0.1.
```

Example:

```
cp onconfig.$servername to onconfig.$servername.org
```

```
onbar -r -p
onbar -r -l
```

8.	After a successful Cross Informix Server Restore, delete the emergency boot file (Bixbar) in the target Informix server.	
9.	Perform a full backup of destination Informix server either using a CommCell Browser or on-bar command line utility.	
10.	Perform a full backup of source Informix server including emergency boot file (Bixbar) file and ONCONFIG file.	<code>xctl onmode -m</code>

VERIFYING RESTORES

You can verify whether the restore operation is successful or a failure from the **ON-bar activity log**. The ON-Bar utility writes informational, progress, warning, error, and debugging messages to the ON-Bar activity log. The activity log also records which dbspaces and logical logs were backed up or restored, the progress of the operation, and approximately how long it took for each operation. You can use this information in the activity log to determine whether a backup or restore operation succeeded or failed. ON-Bar Activity Log location can be found in **ONCONFIG** file and parameter name is **BAR_ACT_LOG**.

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Restore Data - Informix - How To

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[Restore up to a Point in Time](#)

[Restore up to a Specified Logical Log](#)

RESTORE FROM THE LATEST BACKUP, UP TO A POINT IN TIME, OR UP TO A SPECIFIED LOGICAL LOG

Before You Begin:

- Review the general and agent-specific restore requirements accessed from Restore Backup Data prior to performing any restore operation.

Required Capability: See Capabilities and Permitted Actions

▶ To restore as desired:

- Begin an Informix restore procedure.
- From the Informix Restore Options (General) dialog box, select the desired restore options.
- Click **New Browse** if you would like to specify a date and time for a point-in-time restore. Make your selections from the Specify Point-in-Time dialog box and then click **OK**.
- Click **Advanced**.
- From the Options tab of the Advanced Restore Options dialog box, do any of the following, as appropriate: select the latest backup to restore; specify a date and time for a point-in-time restore; specify the number of the logical log up to which the restore should proceed; and/or view restore-related information in the time zone that you require. Then click **OK**.
- Continue the restore.
- While the job is running, you can right-click the job in the Job Controller and select **Details** to view information on the job. After the data has been restored, you will see a job completion message in the Job Controller and Event Viewer.

Basic Restore

[Topics](#) | [How To](#) | [Related Topics](#)

[Overview](#)

[Time Range Options](#)

OVERVIEW

There are two functions that help you retrieve backed up data from the backup media: Browse and Restore. Browse operations allow you to view the data that has been backed up for a client computer without actually restoring the data. Restore operations retrieve the data from the backup media and restore it to the desired location.

In the CommCell Browser, the Browse and various Restore commands appear in the right-click menus at the agent, instance and/or backup set levels, depending on agent.

Using the Restore commands, i.e., restoring without browsing, is most appropriate when you want to restore the latest backup job for an agent, instance or backup set and want to retain the current file structure.

In certain situations and for supported agents, Restore operations can run without utilizing the Browse feature. For example, if you know the path/name of the volume of the data that you want to restore, you can restore it without browsing. In these agents, this procedure is most appropriate when the number of paths for the data that you want to restore is small or when the data that you want to restore is at a single volume. If you want to restore data from many different paths or volumes, you should probably select the data from the Browse window.

TIME RANGE OPTIONS

In a Basic Restore, point-in-time data can be restored by specifying time range options in the Advanced Restore Options (Time Range) dialog box. See Time Range Options for Basic Restore for step-by-step instructions. When a time range is specified for a Basic Restore, the latest version of the backup job within the given time range will be restored.

Basic Restore - How To

[Topics](#) | [How To](#) | [Related Topics](#)

Basic Restore

Time Range Options for Basic Restore

BASIC RESTORE

Before You Begin:

- Review the general and agent-specific restore requirements accessed from Restore Backup Data prior to performing any restore operation.

Required Capability: See Capabilities and Permitted Actions

▶ To restore data without using browse:

1. From the CommCell Browser, right-click the agent, instance or backup set that contains the data you want to restore, click **All Tasks** and then click the available **Restore** command (command names vary by agent).
2. In the **Restore** dialog box, type the starting path of the data you want to restore.
3. From the **Restore Options** and **Advanced Restore Options** dialog boxes, select the restore options that you want to use. When you accept all the default settings, you will be restoring the selected data to its original location. See Restore Backup Data for complete information on the agent-specific restore options.
4. After completing your selections, you can either start an immediate restore or schedule the restore.
 - If you want to schedule the job, click the Job Initiation tab from the Restore Options dialog box, click **Schedule**, and enter your selections in the Schedule Details (Schedule Details) dialog box. Clicking **OK** from this dialog box saves your schedule. See Scheduled Data Recovery Operations for an overview of this feature.
 - If you want to run the job now, accept or click **Run Immediately** in the same tab and then click **OK**.

You can monitor the progress of the restore job in the Job Controller. While the job is running, you can right-click the job in the Job Controller and select **Detail** to view information on the job.

After the data has been restored, you will see a job completion message in the Job Controller and Event Viewer.

TIME RANGE OPTIONS FOR BASIC RESTORE

Before You Begin:

- Review the general and agent-specific restore requirements accessed from Restore Backup Data prior to performing any restore operation.

Required Capability: See Capabilities and Permitted Actions

▶ To provide time range options for basic restore:

1. From the CommCell Browser, right-click the agent, instance or backup set that contains the data you want to restore, click **All Tasks** and then click the available **Restore** command (command names vary by agent).
2. In the **Restore** dialog box, type the starting path of the data you want to restore.
3. From the **Restore Options** and **Advanced Restore Options** dialog boxes, select the Time Range tab.
4. In the Advanced Restore Options (Time Range) dialog box, clear the **Show Deleted Items** option, if required.
In the Specify Restore Time area select the **Time Zone** for the time range options. Select the **Exclude Data Before** option and select the start date and time from which you wish to restore data, and select the **Browse Data Before** option and select the end date and time until which you wish to restore data.
5. Click **OK** in the Advanced Restore Options dialog box.
6. Click **OK** in the Restore Options dialog box to execute the restore.

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Browse and Restore

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OVERVIEW

There are two functions that help you retrieve backed up data from the backup media: browse and restore. In the CommCell Browser, the browse and variously-named restore commands appear, depending on agent, in the right-click menus at the agent, instance and/or backup set levels.

Browse operations allow you to view data that has been backed up by the agent on the client computer and select all or some of that data. Depending on the agent, there are several options available to customize your browse. See [Browse Data](#) for comprehensive information on Browse operations.

Restore operations allow you to retrieve data from backup media and restore it to the desired location. Restoring without browsing is most appropriate when you want to restore the latest backup job for an agent, instance or backup set and want to retain the current file structure. See [Basic Restore](#) for more information on restoring without using browse.

Browse and Restore

The Browse and Restore procedure is a sequential procedure that combines the two procedures. When you select a **Browse** command from the CommCell Browser, you can define and run one of many potential browse sequences. At the end of the browse, when you are looking at the resulting information presented in the Browse window, you can continue with a restore procedure simply by selecting data and clicking the **Recover All Data** button. As with the browse, depending on the agent, there are several options available to customize your restore.

Perform a **browse and restore** operation when you want to:

- restore from an earlier backup
- restore only select files/objects
- restore deleted files/objects
- when you don't want or don't need to retain the current file structure
- utilize browse options

Browse and Restore - How To

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BROWSE AND RESTORE

Before You Begin:

- Review the general and agent-specific restore requirements accessed from Restore Backup Data prior to performing any restore operation.

Required Capability: See Capabilities and Permitted Actions

▶ To browse and restore data:

1. From the CommCell Browser, right-click the agent, instance, backup set, or Legal hold set (for Legal Hold data) that contains the data you want to restore, click **All Tasks** and then click the available **Browse** command (command names vary by agent).
2. Run a browse operation. See Browse Data for a list of customized browse operations and their step-by-step instructions. If you accept all defaults, you will be browsing the latest backups for the selected data.
3. From the Browse window, Select Objects From the Browse Window for Restore.
4. From the agent's **Restore Options** and **Advanced Restore Options** dialog boxes, select the restore options that you want to use. For agents with multiple tabs, do not click **OK** until you have used all of the desired tabs. When you accept all the default settings, you will be restoring the selected data to its original location. See Restore Backup Data for access to complete information on the agent-specific Restore Destination options and procedures available.
5. When restoring encrypted data, refer to Data Encryption for comprehensive feature information and procedures for using the Encryption tab of the Advanced Restore Options dialog box.
6. After completing your selections, you can either start an immediate restore or schedule the restore.
 - o If you want to schedule the job, click the Job Initiation tab from the Restore Options dialog box, click **Schedule**, schedule the job, and then click **OK**.
 - o If you want to run the job now, accept or click **Run Immediately** in the same tab and then click **OK**.

While the job is running, you can right-click the job in the Job Controller and select **Detail** to view information on the job. After the data has been restored, you will see a job completion message in the Job Controller and Event Viewer.

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Instances - Informix

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OVERVIEW

As Informix instances reference a database, you must create an Informix instance for each of the databases that you want to back up.

See Instances for an overview of Instances. Given below is a list of what you need to provide before creating an Informix instance.

- Name of the instance
- HP-UX or Solaris User account that will be used for performing all system operations.
- Path to the Informix home directory
- Name of the ONCONFIG file, which helps to administer the number of streams, among other capabilities
- Storage Policy that will be used by the default subclient in the instance

You must define a storage policy for backing up the user commands and the logical log files for the Informix Instance; this allows you to view and track the status of jobs in the Job Controller and Event Viewer.

Software compression for Informix Command Line Backups can be enabled or disabled at the instance level. Software compression for Informix Archive Logs Backups and data are managed through the subclient level. When you change the compression scheme for Archive Logs you change it for data as well, and vice versa.

Each Informix iDataAgent consumes one license during installation. Note that each license can accommodate multiple instances and databases.

CONFIGURABLE PROPERTIES

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

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

See Change the Home Directory for step-by-step instructions.

CHANGE THE DESIGNATED HOME DIRECTORY

You can change the Informix (Home) directory for the Informix iDataAgent

CHANGE THE ONCONFIG FILE

You can change the ONCONFIG file, which is used to help administer the number of streams. See Change the ONCONFIG File for step-by-step instructions.

CONFIGURING DATA STREAMS

By default, the streams are not assigned in ONCONFIG file to perform backups. However, assigning the number of streams will result in faster backups. Ensure that the number of backup streams are equal or less than the available number of streams in CommServe at the Storage Policy level.

Keep in mind that the number of streams configured for backups must also be used when restoring data. For example, if you configure a subclient to use 4 streams, you must also use 4 streams to restore the data.

Use the following steps to configure the data streams for backups:

- | | |
|----|---|
| 1. | Open the following file :
\$INFORMIXDIR\etc\onconfig |
| 2. | Set the streams in the BAR_MAX_BACKUP parameter.
For Example, If you want to set the number of streams to 4 , the parameter would be: BAR_MAX_BACKUP 4 |
| 3. | |

Example:

```
# $INFORMIXDIR\etc\onconfig.demo_on
```

Example:

```
BAR_MAX_BACKUP 4
```

Start a backup (Full or Incremental). The backup will be performed using the number of streams specified.

CONFIGURING LOG BACKUPS

By default, you will not be able to perform log backups since the location to store the logs is not configured in ONCONFIG file. The directory of logs is configured as /dev/null on Unix computers and NUL on Windows computers in TAPEDEV and LTAPEDEV parameters. You can specify a proper directory to store the logs in TAPEDEV and LTAPEDEV parameters and perform log backups.

ON-Bar utility stores the logs in the directory specified in LTAPEDEV and do not use TAPEDEV. ontape utility stores the logs in the directory specified in TAPEDEV.

Use the following steps to specify the location to store the logs and perform backups:

1. Open the following file :
#`$INFORMIXDIR\etc\onconfig`
2. Change the location in TAPEDEV and LTAPEDEV parameters from /dev/null on Unix computers and NUL on Windows computers to a proper directory.
3. Start a full backup. The logs will be stored in a directory specified in TAPEDEV and LTAPEDEV parameters during a backup.

Example:

```
# $INFORMIXDIR\etc\onconfig.demo_on
```

Example:

```
TAPEDEV /dev/null
LTAPEDEV /dev/null
```

Change to:

```
TAPEDEV /dev/tmp
LTAPEDEV /dev/tmp
```

USE ENCRYPTION FOR THIRD-PARTY COMMAND LINE OPERATIONS

When accessing the Encryption tab from the instance level, you are selecting either Network and/or Media-side encryption for third-party Command Line operations. When accessing this same tab from the subclient level, the settings selected apply only to the selected subclient content for operations run from the CommCell Console. (See Data Encryption for an overview.) See the configuration section for your agent for more information on this feature.

VIEW AND CHANGE INSTANCE-LEVEL STORAGE POLICIES

From the Storage Device tab, you can view or change the storage policy used to back up data via the command line for the selected instance, select a storage policy for backing up logs on the selected instance, or view or select a default storage policy for the selected instance. By defining a storage policy for command line backups, you can view and track the status of those same jobs in the Job Controller. If you redefine (i.e., select a new) storage policy for command line backups at the instance level, the storage policy will apply only to any new command line backup jobs (i.e., those backup jobs that you subsequently start). (See Storage Policies for an overview.) See the configuration section for your agent for more information on this feature.

USER ACCOUNTS

You can change the Windows or Unix user accounts that are used by the system to access the application and in effect perform all data protection and recovery operations for the iDataAgent.

See the Informix iDataAgent section in **User Accounts and Passwords** for more information.

USER SECURITY

You can perform the following functions:

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

For more information, see User Administration and Security.

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[Create an Instance](#)

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 Delete an Instance
 Select a Storage Policy for Third Party User Commands
 Configure Third-party Command Line Operations for Encryption
 Change the Home Directory
 Change the ONCONFIG File
 Change Account for Accessing Databases

CREATE/MODIFY AN INSTANCE

Before you Begin

- For the Oracle, Oracle RAC or SAP for Oracle iDataAgent, if you have custom SQL settings, you must turn off these settings to ensure that the instance browse works correctly and that the instance status is correctly fetched. To do this, create and edit the `cvlogin.sql` file with the appropriate contents at `ORACLE_HOME/sqlplus/admin`. For example, run the following command:

```
edit file $ORACLE_HOME/sqlplus/admin/cvlogin.sql
```

Then include the following contents in the `cvlogin.sql` file:

```
set heading on;
set pause off;
```

Required Capability: See Capabilities and Required Actions

▶ To create/modify an Instance

- To create an instance, from the CommCell Browser, locate the correct client computer node, and right-click the agent node for which you want the new instance created, click **All Tasks**, and then click **New Instance** from the shortcut menu.
 To modify an existing instance, from the CommCell Browser, right-click the instance you want to modify, and then click **Properties** from the shortcut menu.
- From the General tab, enter the name (up to 32 characters) for the instance. In addition, provide the required access information for this instance.
 For various iDataAgents, you can add/modify an application/database user account. See the appropriate section as follows in **User Accounts and Passwords** for more information:
 - DB2 iDataAgent
 - Documentum iDataAgent
 - Informix iDataAgent
 - Microsoft SQL Server iDataAgent
 - Oracle iDataAgents (Oracle, Oracle RAC, SAP for Oracle)
 - Sybase iDataAgent
 - MySQL iDataAgent
 - PostgreSQL iDataAgent
- If your agent uses the Details tab, enter the required database connect string and other optional parameters.
 - For the Oracle, Oracle RAC and SAP for Oracle iDataAgents, see the Oracle iDataAgents section in **User Accounts and Passwords** for more information.
- From the Storage Device tab, select storage policy copies to be used for, as applicable, data backups, command line data backups and log backups. Within these tabs you can click Data Paths to display the details of the data paths associated with the primary storage policy copy of the selected storage policy.
- If your agent uses the Software Compression tab, and you want to enable software compression for the selected backups, click the tab and select the option appropriate to your environment.
- If you want to enable data encryption, from the Encryption tab select encryption settings for third-party or RMAN command line backups.
- Click **OK** to save the instance.
- A message advises you to schedule backups for your new instance. It is recommended you elect to set a schedule now. You can also associate this instance with an All Agent Types schedule policy (which is automatically created by the system, or can be a user defined Data Protection schedule policy). If you have already associated a schedule policy at a previous level (Agent, Client, or Client Computer Group) the schedules defined in the Schedule Policy will be automatically applied to the new instance. See Schedule Policy for more information.
 - For agents that offer an **OK** option, click **OK** to acknowledge the message. This procedure is now complete.

- For agents that offer **Yes** and **No** options to this message, click **No** if you don't want to create a backup schedule at this time, and this procedure is complete. If you click **Yes**, a dialog box prompts you to back up all subclients of this instance.
- 9. Click **Yes**. The **Backup Options** dialog box appears, which allows you to create the necessary schedules.
- 10. From the Backup Options dialog box, select the type of backup that you want to schedule.
- 11. If you want to access **Advanced Backup Options**, click **Advanced**.
- 12. After selecting the backup type and any advanced options, click **OK**. The **Schedule Details** dialog box appears.
- 13. From the Schedule Details tab of the **Schedule Details** dialog box, select the scheduling options that you want to apply, then click **OK**.

NOTES

- A default subclient is created for the Oracle instance, which includes all the objects in the instance. When you are done with this procedure, open the `Subclient Properties` dialog box for the default subclient and verify that the `Resync Catalog` option available in the `Backup Arguments` tab is selected. This would help you to successfully perform a full system restore in the event of destroyed or damaged client.
- After creating the instance for DB2, you can now create one or more Backup Sets for this instance.

MODIFY AN INSTANCE

Required Capability: See Capabilities and Required Actions

▶ To modify an Instance

1. From the CommCell Browser, right-click the instance you want to modify, and then click **Properties** from the shortcut menu.
2. Click the General tab of the Instance properties box to change the required access information for this instance.
3. If your agent uses the Accounts tab, use this tab to specify the Windows account used by the system. For MySQL iDataAgent, use this tab to specify the MySQL Server user account.
4. If your agent uses the Restore View Names tab, use this tab to enter or modify a list of text patterns for the view through which the system displays a database's data documents when you browse.
5. If your agent has the Security tab, you can view CommCell resource associations to enable or disable user groups that can perform system operations on associated resources.
6. For an Oracle instance, click the Details tab to change the database connect string and other optional parameters.
7. For an Oracle RAC instance, go to the next step. Otherwise, go to Step 12.
8. Click the Details tab, and type or select values for the fields at the bottom of the dialog box as appropriate. For the DB2 DPF instance, to associate a database partition with a different client, click the affected partition in the `DB2 Partition Clients` field, click **Modify**, and click from the list in the Edit Directory Share Name Pair dialog box the name of the new client for the partition. Then click **OK**.
9. Click the Oracle instance (Client/Instance/Status) that you want to modify. Then click **Modify**.
10. In the Update Instance dialog box, update the desired field values by typing or browsing as appropriate. Then click **OK**.
11. Repeat the previous two steps for each Oracle instance that you want to modify.
12. From the Storage Device tab(s), select storage policy copies to be used for, as applicable, data backups, command line data backups and log backups. Within these tabs you can click Data Paths to display the details of the data paths associated with the primary storage policy copy of the selected storage policy.
For the MySQL iDataAgent, select the storage policy for the log backups from the Log Backups tab.
13. If your agent uses the Software Compression tab, and you want to enable software compression for the selected backups, click the tab and select the appropriate option.
14. If you want to enable data encryption, from the Encryption tab select encryption settings for third-party or RMAN command line backups.
15. Click **OK** to save the configuration changes.
16. A message advises you to schedule backups for your new instance. It is recommended you elect to set a schedule now. If you click **No**, this procedure is now complete. If you click **Yes**, a dialog box prompts you to back up all subclients of this instance.
17. Click **Yes**. The **Backup Options** dialog box appears, which allows you to create the necessary schedules.
18. From the Backup Options dialog box, select the type of backup that you want to schedule.
19. If you want to access **Advanced Backup Options**, click **Advanced**.
20. After selecting the backup type and any advanced options, click **OK**. The **Schedule Details** dialog box appears.
21. From the Schedule Details tab of the **Schedule Details** dialog box, select the scheduling options that you want to apply, then click **OK**.

DELETE AN INSTANCE

Before You Begin

- For most agents except Oracle and SQL Server, you cannot delete an instance if there is only one instance present for an agent. To delete the final instance for most agents except the ones identified, you must first remove the agent software from the client computer. For Oracle RAC, which does not involve agent software, you can delete the instance under the RAC pseudo-client.
- When you delete a specific instance positioned in the level below the corresponding agent or pseudo-client in the CommCell Console, the following actions occur:
 - The corresponding backup data for that instance becomes immediately unavailable, thus making it inaccessible for restore purposes. In effect, the backup data is deleted.
 - All child levels contained within the level are deleted in the CommCell Browser.
 - All job schedules and job histories that pertain to any of the levels within the deleted instance are deleted.
- If you delete an Oracle iDataAgent instance included within an Oracle RAC instance (node), the backup data is not deleted, and it is available for restore by another eligible client.
- You cannot delete an instance if it is being backed up. Attempts to delete an instance under such conditions cause the deletion to fail. If a backup is in progress, either wait for the backup to complete or kill the backup job using the Job Manager. Once the backup is no longer in progress, you can delete the instance level.

Required Capability: See Capabilities and Required Actions

▶ To delete an instance positioned in the level below the corresponding agent or pseudo-client

1. From the CommCell Browser, right-click the instance that you want to delete, click **All Tasks** and then click **Delete**.
2. Click **Yes** to confirm the deletion. (Clicking **No** cancels the deletion and retains the node.)
3. Type the requested phrase in the Enter Confirmation Text dialog box and click **OK**. This should delete the instance.

▶ To delete an Oracle iDataAgent instance included within an Oracle RAC instance (node)

1. Right-click the Oracle RAC instance, click **Properties**, and click **Details**.
2. Click the instance that you want to delete within **Client/Instance/Status** and click **Delete**.
3. Repeat the previous step for each Oracle iDataAgent instance (except the last one remaining) within the Oracle RAC instance that you want to delete.
4. Click **OK**. This should delete the Oracle iDataAgent instance(s).

With the exceptions noted above, you can no longer access the corresponding backup data for restore purposes.

SELECT A STORAGE POLICY FOR THIRD-PARTY USER COMMANDS

Required Capability: See Capabilities and Required Actions

When backing up data through third-party command line functions rather than the CommCell Console, the specific storage policy for the backups of the affected non-Oracle RAC agents is established and maintained through the **Creating New Instance** screen for the appropriate iDataAgent. For the Oracle RAC iDataAgent, the storage policy is established when you create the associated pseudo-client or when you modify the pseudo-client instance.

▶ To select a storage policy for third-party user commands for non-Oracle RAC agents:

1. From the CommCell Browser, right-click the supported server/instance icon, click **All Tasks**, and then click **New Instance**.
2. Within the **Creating New Instance** dialog box, click the Storage Device tab on server/instance properties.
3. From the Command Line Backup tab, select from the list of existing storage policies
4. Click **OK** to save your settings.

▶ To select a storage policy for third-party user commands for the Oracle RAC iDataAgent:

1. From the CommCell Browser, if you are creating a RAC pseudo-client, right-click Client Computers, click **New Client**, click **RAC Client** in the Add New Client dialog box, and then click **OK**. If you are modifying the pseudo-client instance, right-click the instance and then click **Properties**.
2. Click Storage Device.
3. From the Command Line Backup tab, select from the list of existing storage policies.
4. Use the other tabs as appropriate to configure the subclient and then click **OK** to save your settings.

CONFIGURE THIRD-PARTY COMMAND LINE OPERATIONS FOR ENCRYPTION

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

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

Before You Begin

Encryption must be enabled at the client level prior to configuring any instances residing on that client. See Configure the Client for Data Encryption.

Required Capability: Capabilities and Permitted Actions

▶ To configure the instance for encryption of third-party command line operations:

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

For third-party Command Line data recovery operations to succeed when using pass-phrase security, you must export the pass-phrase to the destination client.

CHANGE THE HOME DIRECTORY

Required Capability: See Capabilities and Required Actions

▶ To change the Home Directory:

1. From the CommCell Browser, right-click the icon for any supported instance and then click **Properties**.
2. For agents other than Oracle RAC, from the General tab of the Properties dialog box, type the path in the **Home** or **Dir** (Directory) box or use **Browse** to locate the path. Then go to Step 6.
3. For the MySQL iDataAgent, from the General tab of the Properties dialog box, type the path in the **Binary Directory** box or use **Browse** to locate the path. Also, type the path to the MySQL data directory in the **Data Directory** box or use **Browse** to locate the path. Then go to Step 6.
4. For Oracle RAC, from the Details tab of the Properties dialog box, click the appropriate client/instance/status and then click **Modify**.
5. In the Update Instance dialog box, enter the path in the **Home** box or use **Browse** to locate the path.
6. Click **OK** to save your settings.
7. Continue to make additional settings as desired.

CHANGE THE ONCONFIG FILE

Required Capability: See Capabilities and Required Actions

▶ To change the ONCONFIG file:

1. From the CommCell Browser, right-click the icon for any supported instance and then click **Properties**.
2. From the General tab of the Properties dialog box, type the path for the configuration file in the **ONCONFIG File** field or use **Browse** to locate the path.
3. Click **OK** to save your settings.

CHANGE ACCOUNT FOR ACCESSING DATABASES/APPLICATIONS

Required Capability: See Capabilities and Permitted Actions

▶ To change a user account for accessing DB2 databases:

1. From the CommCell Browser, expand the tree if necessary to view the desired level icon.
 - From the agent level, right-click the agent icon, click **All Tasks** from the short-cut menu, click **New Instance**, and go to the next step.
 - From the instance level, right-click the instance icon, click **Properties** from the short-cut menu, and go to Step 3.
 - From the backup set level, right-click the backup set icon, click **Properties** from the short-cut menu, and go to Step 4.
2. Use the **Creating New Instance** dialog box to create and configure the instance. Thereafter, from the **General** tab, click the **Change** button associated

with the User Account information. Then go to Step 5.

3. From the **General** tab of the **Instance Properties** dialog box, click the **Change** button associated with the User Account information. Then go to Step 5.
4. From the **General** tab of the **Backup Set Properties** dialog box, ensure that the **Connect as a Different User** option is selected. Then click the **Change** button associated with the User Account information.
5. Enter the required information in the Set DB2 User Account dialog box.
6. Click **OK** to save the settings.

▶ To change a user account for accessing Oracle or SAP for Oracle applications on Windows not associated with QR Agent:

1. From the CommCell Browser, expand the tree if necessary to view the desired level icon.
 - From the agent level, right-click the agent icon, click **All Tasks** from the short-cut menu, and click **New Instance (Oracle SID)**.
 - From the instance level, right-click the instance icon and click **Properties** from the short-cut menu.
2. From the General tab, click the **Change** button associated with the User Account information.
3. Enter the required information in the Impersonate NT User dialog box.
4. Click **OK** to save the settings.

▶ To change a user account for accessing Oracle applications for QR Agent:

1. From the CommCell Browser, expand the tree if necessary to view the QR agent icon. Then right-click the icon and click **Properties**.
2. From the Authentication tab, click the **Oracle** sub-tab.
3. From the Oracle sub-tab, either click **Add Instance** or select an Oracle instance to edit and then click **Edit Instance**.
4. From the **Add Oracle Instance to QR Agent** dialog box, click **Change**.
5. Enter the required information in the Impersonate NT User dialog box.
6. Click **OK** to save the settings.

▶ To change a user account for accessing Informix, Oracle, or SAP for Oracle applications on Unix:

1. From the CommCell Browser, expand the tree if necessary to view the desired level icon. From the agent level, right-click the agent icon, click **All Tasks** from the short-cut menu, click **New Instance**, and go to the next step. From the instance level, right-click the instance icon, click **Properties** from the short-cut menu, and go to Step 3.
2. Use the New Instance dialog box to create and configure the instance.
3. From the General tab of the Instance Properties dialog box, do one of the following, as appropriate.
 - For Informix, type the name of the user account in the INFORMIX USER field.
 - For Oracle or SAP for Oracle, type the name of the user account in the ORACLE USER field.
4. Click **OK** to save the settings.

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Subclients - Informix

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Configuring User Defined Subclients

Things to Consider when Creating and Configuring Informix Subclients

OVERVIEW

The following table shows subclient creation and configuration details specific to the Informix agent.

AGENT	Type of Data	Default Subclient created during install of the Agent	Supports Default Subclient	Supports User Defined Subclient	Contents of the default subclient when user-defined subclient is present	Other Types of subclients supported by the Agent	Notes
Informix iDataAgent	database, subsets, log files	No	Yes	Yes	database objects not assigned to other subclients, unless otherwise configured*	None	<ul style="list-style-type: none"> After installing the agent, manually create the instance, then the default subclient will be automatically generated. *See Caution Against Re-configuring Default Subclient Content.

Before you back up data, you must define the data that you want to back up and how this data should be backed up. This is done by creating one or more subclients for the database that you are backing up. For the Informix iDataAgent, a subclient defines:

- Whether the entire database will be backed up as a whole or only as a subset of objects within the database
- Whether the data intended for backup will be backed up serially or in parallel
- Whether the logical log files should be included in the database backup

Depending on your needs, you can create multiple subclients for one or all of the following:

- Entire database(s)
- Database subsets
- Whole system backups in parallel
- Whole system backups in serial
- Selective backups in parallel
- Full logical logs backups
- Full and current logical logs backups

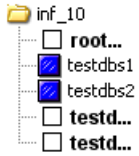
SUBCLIENT CONTENT

The Informix iDataAgent is designed to back up and restore Informix databases, which include Informix database files along with the associated logical log files, emergency boot files (ixbar), and ONCONFIG files. After you install an Informix iDataAgent, a default subclient is created by the system only after you first configure an Informix instance from the CommCell Console. Since each Informix instance is designed to include one or more Informix databases, the default subclient that is created for an instance will include all the Informix databases for that instance. However, you can use the CommCell Console to create user-defined subclients to distribute some of the database content by configuring the **Subclient Properties (Content)** tab. Any content that you do not distribute to the user-defined subclients will remain in the default subclient.

When you configure subclient content, you click the **Subclient Properties (Content)** tab for the subclient to view the eligible data for inclusion in the subclient content. You then select an option to include one of the following in the subclient content: entire database, one or more dbspaces (subsets) in the database, logical logs that are filled up as well as the logical logs to which the system is still writing, or only logical logs that are filled up. If you opt to include the entire database in the subclient content, you can select an option to set up the data to be backed up either in parallel mode or serial mode.

If you opt to include just one or more dbspaces (subsets) in the subclient content, you click the appropriate option and then the desired dbspaces to configure

the content for the subclient. Once you do this, the subclient content may be displayed as follows:



In this example, `inf_10` is the name of the instance, and this instance includes a single database. The database includes five dbspaces, and two of the five table spaces in the database (`testdbs1` and `testdbs2`) have been included in the subclient content.

Also, it is recommended that you create a separate user-defined subclient for Informix log files, and you can select options to include the Emergency Boot File (`ixbar`) and the `ONCONFIG` file in the subclient client.

A useful way to distribute subclient content for this *iDataAgent* is to create separate user-defined subclients for frequently used dbspaces and also for log files. For example, if the `testdbs1` and `testdbs2` dbspaces shown above undergo frequent changes, you can create a separate subclient for each dspace. For example:

- User-defined subclient: Test1

Content:

`testdbs1`

- User-defined subclient: Test2

Content:

`testdbs2`

It is recommended that you create a separate user-defined subclient for the Informix log files on the client. For example:

- User-defined subclient: Logs

Content:

(all the Informix log files)

Distributing the client data using subclients in this way can help improve backup performance by distributing the workload on the client into logical groupings.

FILTERING

Data protection filtering is not applicable for this agent.

WILDCARDS AND REGULAR EXPRESSIONS

Wildcards and regular expressions are not supported for this agent when defining subclient content.

CONSIDERATIONS

For more information, see [Things to Consider when Creating and Configuring Informix Subclients](#).

CONFIGURABLE PROPERTIES

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

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

ACTIVITY CONTROL

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

BACKUP ARGUMENTS

Some database *iDataAgents* run backups using a system-generated script that is run behind the scenes from a command line. The CommCell Console serves as a front-end user interface for specifying various backup arguments and parameters that are passed to the backup script that is run. Depending on your agent, you can specify, for example, the application-specific Backup Level, whether the backups will be online or offline, as well as buffer and bundle sizes, among other settings. Although the backup arguments/parameters vary among *iDataAgents*, they all function in a similar manner. These arguments are set at the subclient level from the respective *iDataAgent*'s Subclient Properties dialog box tab.

For step-by-step instructions, see [Configure Backup Arguments](#).

BACKUP STREAMS

You can set the number of backup streams. For more information, see Streams.

CONTENT/DATABASES

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

DATA TRANSFER OPTIONS

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

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

DATA ENCRYPTION

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

DATA PATHS

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

PRE/POST PROCESSES

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

STORAGE POLICIES

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

SUBCLIENT NAME

You can rename a user-defined subclient.

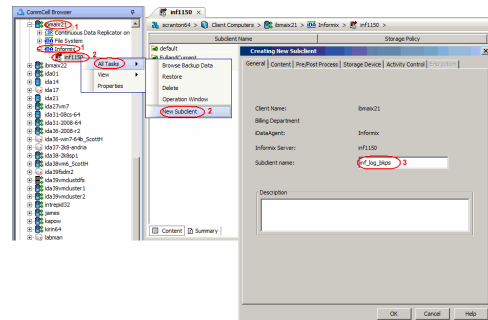
CONFIGURING USER DEFINED SUBCLIENTS

You can create user-defined subclients to perform backup and restore operations under specific circumstances. For example, if you use the CommCell Console to back up and restore Informix database objects (subsets/dbspaces), then you will need to create a subclient.

CREATING A SUBCLIENT TO BACKUP LOGICAL LOGS

You can recover database transactions that have been lost due to an operating system or disk failure by applying the backed up logical logs to an online backup. Informix archives logical log files once they become full. Due to their importance in recovering the data, you must create separate subclients to backup the log files.

1. From the CommCell Browser, navigate to **<Client> | iDataAgent**.
2. Right click the **<Instance>**, point to **All Tasks** and then click **New Subclient**.
3. In the Subclient Name box, type a name.
4. Click the **Content** tab.
5. Click **Full and Current Logical Logs** or **Full Logical Logs Only** as backup mode.
6. Click the **Storage Device** tab.
7. In the **Storage Policy** list, click a storage policy name.
8. Click the **Activity Control** tab.
9. Select **Enable Backup** check box, if it is not already selected from the Agent level.
10. Click **OK**.



THINGS TO CONSIDER WHEN CREATING AND CONFIGURING INFORMIX SUBCLIENTS

When creating and configuring subclients for Informix agents, keep in mind the following considerations:

- Informix subclients include one or more dbspaces. As databases are added to the dbspaces, the subclients are updated automatically. This process is referred to as an Automatic Subclient Update.
- Informix has configuration requirements to define the backup mode, backup level and decide whether to back up the emergency boot file and/or the ONCONFIG file, in addition to specifying the subclient name, content and storage policy association.
- If you will be using the Informix ONBAR utility to back up and restore data, you need not create subclients.
- Logical logs are used to recover database transactions that have been lost due to an operating system or disk failure. This recovery is done by applying the logs to an online backup. Informix archives logical log files once they become full. Because of their importance in recovering data, it is suggested that you create separate subclients for backing up logical log files.
- It is recommended that you include the control files with the appropriate database backups.
- **Caution Against Re-configuring Default Subclient Content**

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

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ASSOCIATE A SUBCLIENT TO A STORAGE POLICY

Required Capability: See Capabilities and Permitted Actions

▶ To associate a subclient to a storage policy:

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

6. If applicable for your agent, click the **Log Storage Policy** tab and select a storage policy to associate with this transaction log subclient from the **Transaction Log Storage Policy** list. Also, you can set the **Number of Transaction Log Backup Streams** from this tab.
 7. Click **OK** to save your changes and close the Subclient Properties Storage Device tab.
-

ASSOCIATE OR DISASSOCIATE A USER GROUP TO A COMMCELL OBJECT

Required Capability: See Capabilities and Permitted Actions

▶ To associate or disassociate a user group to a CommCell entity:

1. From the CommCell Browser, click the CommServe, client computer group, client computer, agent, MediaAgent, Library, Storage Policy, backup set, subclient, or Shelf media, and then select **Properties**.
 2. From the **Security** tab, select the appropriate user groups to which you want to associate to the CommCell object from the **Available Groups** pane, and then move the user group to the **Associated Groups** pane.
 3. Click **OK**.
-

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

Before You Begin

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

Required Capability: Capabilities and Permitted Actions

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

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

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

CONFIGURE BACKUP ARGUMENTS

Related Topics

- Subclients - DB2
- Subclients - DB2 DPF
- Subclients - Informix
- Subclients - Oracle
- Subclients - Oracle RAC

Before You Begin

- Do not change the backup arguments of a subclient that is being backed up.
- For the DB2 and DB2 DPF iDataAgents, you will need to indicate whether the database should be online or offline during backups.
- Review Performance Tuning - Oracle or Performance Tuning - Oracle RAC for details on setting configuration parameters to optimize backup and restore operations for your site.

Required Capability: See Capabilities and Permitted Actions

▶ To configure backup arguments for a subclient:

1. From the CommCell Browser, right-click the subclient whose backup arguments you want to configure, then click **Properties** from the shortcut menu.
2. Click the appropriate tab of the Subclient Properties dialog box for your iDataAgent:
 - DB2, DB2 DPF - (Backup Arguments)
 - Oracle, Oracle RAC - (Backup Arguments)
 - Informix (Content)
3. Select the desired backup argument settings that you want configured for this subclient.
4. Click **OK** to save your changes.

CONFIGURE SUBCLIENT CONTENT

Before You Begin

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

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

Required Capability: See Capabilities and Permitted Actions

▶ To configure subclient content:

1. From the CommCell Browser, right-click the subclient for which you want to configure content, click **All Tasks** (if applicable) and then click **Properties**.
2. Follow the procedure below that is applicable for your agent:
 - For File System, Active Directory, File Archiver, Exchange Public Folder iDataAgents, NDS, and SharePoint Server iDataAgents click the Subclient Properties (Content) tab and configure content for the subclient as described below for your agent:

- For File System, Active Directory, File Archiver, NDS, and SharePoint Server iDataAgents: Type the full path of the data that you want to include as subclient content in the **Enter New Content** field, then click **Add**. Optionally, click **Browse** to enter the content. When browsing content while configuring SharePoint subclients, you can add content via multiple selections with the CTRL or SHIFT keys. For Windows, when specifying a UNC Path, click **As User**, and enter the user account information for the domain user with permissions for that path. For NetWare/DNS, see the Notes section below for content path examples. For Unix File Systems, you can enter the mount point of an NFS-mounted file system, see the Notes section below for examples.
- For Exchange Public Folder iDataAgents: Click **Browse**, select folders to include as content, then click **Add**.
- For the Unix File System iDataAgents, to facilitate the management of resource fork data in Apple double-encoded Macintosh files, click **Enable Apple Double Support**.
- For the Unix File System iDataAgents, to view the actual data path for any symbolic link in the subclient content, click **Expand symbolic links of subclient content** and then click **Discover**.
- For NAS NDMP iDataAgents, configure the **Backup Content Path** field(s) as described below, then click **Add**:
 - Click the drop-down list arrow to display the root volumes on the file server. To change the root volume, click one in the list. If you want to refine the content path further, use the space to the right of (or below) the root volume list to enter additional path information. Note the following:
 - For NetApp, the root volume is the mount path of each volume.
Example: for volume FS1 the root volume will be /vol/FS1.
 - For EMC Celerra, the root volume is the mount point created for a volume.
Example: for volume FS1 with mount point /FS1 the root volume will be /FS1.
 - For Hitachi, no root volumes are shown in the drop down list. Type the full path of the root volume.
Example: for volume FS1 with mount point /mnt/FS1 the root volume will be /mnt/FS1.
 - For BlueArc, the root volume is a combination of a descriptor of the path and the volume name.
Example: for volume FS1 with a mount point of / the root volume will be /__VOLUME__/FS1.
 - Optionally, for NetApp NAS NDMP, click **Browse** to enter the content.
- For Exchange Mailbox and Exchange Mailbox/Public Folder Archiver Agents follow the procedure to Discover and Assign New Mailboxes or Assign Mailboxes to Another Subclient.
- For Lotus Notes Database and Document iDataAgents follow the procedure to Discover and Assign New Databases or Assign Databases to a Subclient.
- For DB2, DB2 DPF, Exchange Database, Novell GroupWise, SharePoint Server, SQL Server Database, Sybase, and MySQL iDataAgents, click the Subclient Properties (Content) tab and configure content for the subclient as described below for your agent:
 - For the DB2 iDataAgent, specify whether you want to include the entire database or a subset of this data as content for the subclient. For the DB2 DPF iDataAgent, specify whether you want to include all the affected database partitions or a subset of this data as content for the subclient.
 - For Exchange and GroupWise iDataAgents: Click **Configure**. From the Add/Modify Subclients dialog box click the subclient entry for the database element/Storage Group that you want to add to the new subclient and select the name of the destination subclient from the list that appears. Alternatively, you can select and assign a range of databases/storage groups using the **Change all selected databases/storage groups to list**. Note that you must have at least one database element/Storage Group assigned to this subclient in order to save the configuration.

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

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

For more information, see When to Use Volume Explorer. For a step-by-step procedure, see Configure a CXBF Device in Volume Explorer.
 - Image Level and Image Level ProxyHost on Windows iDataAgents: Click **Add**. Then in the **Add Content** dialog box, type the full path of the volume

or mount point that you want to include as subclient content, then click **Add**. Optionally, click **Browse** to select the content. Click **OK**. The volume or mount point is added to the **Contents of subclient** list. Add additional content by repeating this step.

- ProxyHost iDataAgent: Select a backup host from the **Backup Host** list. This is the computer to which the BCV is connected. Click **Add**. In the **Content** field of the Add/Edit Content for Subclient dialog box, type the primary host path of the content that you want to back up, or click **Browse** to find and select this data. In the **Backup Host BCV Path** field of the Add/Edit Content for Subclient dialog box, type the path through which the backup host accesses this data on the BCV, or click **Browse** to find and select this path. Click **OK**. The primary host data path and corresponding backup host BCV path are added as a single entry in the **Contents of subclient** list. To add additional entries, repeat these steps. Refer to Notes below for more information.
- For Quick Recovery Agents, click the Subclient Properties (Content) tab and configure the following options:
 - Click **Add Volume**. From the Adding Volume dialog box, select volume(s) that you want to add to the subclient content (use CTRL + click to select multiple volumes). You can add/edit additional advanced options for the selected volume by select **Advanced** on the Adding Volume dialog box. Click **OK**.
 - Click Add App to select an application and associated volumes. Click **OK**.

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

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

See also Configure Subclients for Overlapping Content.

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

NOTES

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

```
<primary_host_path> --> <backup_host_path>
```

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

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

CONFIGURE THE SUBCLIENT FOR DATA ENCRYPTION

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

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

Before You Begin

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

Required Capability: Capabilities and Permitted Actions

► To configure the subclient for data encryption:

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

CREATE A NEW SUBCLIENT

Before You Begin

- Review Subclients.
- Do not create a subclient while the parent node or any sibling subclient has a data protection or archive operation currently running on it.
- In cases where a new subclient is created with the same name as a deleted subclient, the system will append a Unix time stamp to the deleted subclient's name in data protection job history reports and views to distinguish the two subclients. For example, `subclientname_1104257351`.
- Informix iDataAgents: If you will be using the Informix ONBAR utility to create backup and restore scripts, you need not create subclients. Otherwise, if you will be using the CommCell Console to back up and restore Informix database objects (subsets/dbspaces), then you will need to create a subclient.
- ProxyHost iDataAgents: If you are using a BCV, you must prepare a batch file or a shell script file on the backup host containing commands to synchronize and split the BCV. The Resource Pack includes information on configurations for these batch files or shell scripts, as well as examples that apply to specific applications and hardware (e.g., Exchange databases in an EMC Symmetrix environment). See Resource Pack for more information on the Resource Pack. The ProxyHost iDataAgent also requires that you set permissions for the batch/shell script file on the backup host.
- SQL Server Database iDataAgents: When running on Windows Server 2003 and VSS is enabled, the **New Subclient** command is not available.
- PostgreSQL iDataAgents: Once you configure the PostgreSQL instance, the system automatically generates the default backup sets and default subclients. However, you can use the CommCell Console to create user-defined subclients for dump backup sets to distribute some of the database content. You cannot create user-defined subclients for FS backup sets.

Required Capability: See Capabilities and Permitted Actions

► To create a new subclient:

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

If the File Archiver for Windows supports Data Classification, several filter-like configuration fields are defined as archiving rules and are available from the

Subclient Properties (Rules) tab. If you want to define content and archiving rules based on file attributes other than volumes, size, and modified time (i.e., if you want to customize your rules), click the **Advanced** tab and configure as appropriate. Also, stub management options can be configured from the **Stub Rule** tab. See *Configure Archiving Rules - File Archiver Agents* for step-by-step instructions.

8. For ProxyHost and Image Level ProxyHost *iDataAgents*, click the **Pre/Post Process** tab of the Subclient Properties dialog box. In the **PreScan** field, type the path to the batch file/shell script file that contains those commands that are to run before each backup of the subclient, or click **Browse** to locate and select this file. For ProxyHost and Image Level ProxyHost, the file must reside on the backup host or primary host.
9. Optionally (if supported for your agent) you can:
 - Add a Data Protection or Discovery Filter for a Subclient on the **Filters** tab.
 - Configure a Subclient for Pre/Post Processing of Data Protection/Archive Operations on the **Pre/Post Process** tab.
 - Enable Software Compression for a Subclient on the **Software Compression** tab of the **Storage Device** tab.
 - Configure the Subclient for Data Encryption on the **Encryption** tab.
 - Enable or Disable Operations for this subclient on the **Activity Control** tab.
 - Configure Mailbox Stores for Auto-Discovery on the **Auto-discovery** tab.
 - Configure the Subclient for 1-Touch on the **1-Touch Recovery** tab.
 - View or change the user group security associations for this subclient from the **Security** tab.
 - Determine location from where archive logs will be backed up or deleted from the **Log Destinations** tab.
10. Click **OK** to save the subclient configuration. For QR Agents, this procedure is now complete. For all other agents, continue on to the next step.
11. The **Backup Schedule** dialog box advises you to schedule data protection operations for your new subclient. It is recommended you elect to set a schedule now. You can also associate this subclient with an All Agent Types schedule policy (which is automatically created by the system, or can be a user defined Data Protection schedule policy). If you have already associated a schedule policy at a previous level (Backup Set/Instance, Agent, Client, or Client Computer Group) the schedules defined in the Schedule Policy will be automatically applied to the new subclient. See *Schedule Policy* for more information.
 - If you want to associate this subclient with an All Agent Types schedule policy, click **Associate with Generic Schedule Policy**, and then select that schedule policy from the drop-down list box. Click **OK**.
 - If you want to associate this subclient with a specific schedule policy, click **Associate to schedule policy**, and then select the schedule policy from the drop-down list box. Click **OK**.
 - If you have selected to define a schedule for this subclient:
 - Click **Schedule**.
 - From the Backup/Archive Options dialog box, select the type of data protection operation that you want to schedule.
 - If you want to set Advanced Backup/Archive Options, click **Advanced**.
 - After selecting the data protection type and any advanced options, click **OK**. The **Schedule Details** dialog box appears.
 - From the Schedule Details tab, select the scheduling options that you want to apply, then click **OK**.
 - If you don't want to create a data protection schedule at this time, click **Do Not Schedule**, and then click **OK**.

This task is now complete.

DELETE A USER-DEFINED SUBCLIENT

Related Topics:

- Command Line Interface - qdelete subclient
- Subclients

Required Capability: See *Capabilities and Permitted Actions*

▶ To delete a user-defined subclient:

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

ENABLE OR DISABLE OPERATIONS

Required Capability: See Capabilities and Permitted Actions

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

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

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



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

ENABLE OR DISABLE SOFTWARE COMPRESSION FOR A SUBCLIENT

Before you Begin

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

Required Capability: Capabilities and Permitted Actions

▶ To enable software compression for a subclient:

1. From the CommCell Browser, right-click the subclient for which you wish to enable software compression and then click **Properties**.
2. Click the **Storage Device** tab and from the Data Storage Policy tab, select the storage policy from the **Storage Policy** list.
If applicable for the selected agent, click the Log Storage Policy tab and select a storage policy from the **Transaction Log Storage Policy** list.
3. Then click the Storage Device (Data Transfer Option) tab and choose the appropriate compression option for this subclient.
4. Click **OK** to save your changes.

This task is now complete.

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

Before You Begin

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

Required Capability: Capabilities and Permitted Actions

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

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

- PostArchive
 - PostCopy
 - PostSnap
4. Repeat Step 3 for any additional processes that you want to remove.
 5. Click **OK**.

RENAME A SUBCLIENT

Before You Begin

- You can rename a subclient at any time. However, we recommend that you don't rename a subclient while a data protection or archive operation is running on that subclient.
- In cases where a subclient is renamed using the same name as a deleted subclient, the system will append a Unix time stamp to the deleted subclient's name in data protection job history reports and views to distinguish the two subclients. For example, `subclientname_1104257351`.

Required Capability: See Capabilities and Permitted Actions

▶ To rename a subclient:

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

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

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

Before you Begin

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

Required Capability: Capabilities and Permitted Actions

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

1. From the CommCell Browser, right-click a subclient and then click **Properties**.
For the DB2, DB2 DPF, Informix, Oracle, Oracle RAC, SAP, or Sybase iDataAgent, right-click an instance and then click **Properties**.
2. Click the **Storage Device** Data Transfer Option tab.
For the QR Agent:
 - To control network bandwidth settings, use the Throttle Network Bandwidth section in the General tab of the Subclient Properties dialog box.
 - To control the number of network agents, you must create a `nQRNetworkAgents` registry key.
3. Enter a number of **Network Agents** that must be used to perform data protection operations on the subclient/instance.
4. Click the **Throttle Network Bandwidth (MB/HR)** option and then enter the throughput as needed. Note that throttling is done on a per Network Agent basis.
5. Click **OK** to save the changes.

This task is now complete.

VIEW DATA PATHS ASSOCIATED WITH A SUBCLIENT

Required Capability: See Capabilities and Permitted Actions

▶ To view data paths:

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

VIEW SUBCLIENT CONTENT

Required Capability: See Capabilities and Permitted Actions

▶ To view content of a subclient:

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

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Backup Job History

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Overview

Items That Were Backed Up

Items That Failed

Pruning Backup History Information

Supported Features

Content Indexing History Information

OVERVIEW

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

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

For information on Job Details displayed in the Job History, see [Viewing Job Information](#).

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

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

ITEMS THAT WERE BACKED UP

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

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



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

See [View the Items That Were Protected During a Data Protection Operation](#) for step-by-step instructions.

ITEMS THAT FAILED

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

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

application files.

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



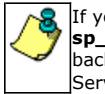
A listing of files and folders that failed is not available for the Quick Recovery Agent, or the Image Level and Image Level ProxyHost iDataAgents. These agents do not perform a file level backup/copy.

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

See [View the Items That Failed For a Data Protection Operation](#) for step-by-step instructions.

PRUNING BACKUP HISTORY INFORMATION

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



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

SUPPORTED FEATURES

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

CONTENT INDEXING HISTORY INFORMATION

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

ITEMS THAT WERE SUCCESSFULLY CONTENT INDEXED

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

CONTENT INDEXING FAILURES

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

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

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Backup Job History - How To

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[View Backup Job History](#)

[View the Items That Were Protected During a Data Protection Operation](#)

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[View the Log Files of a Job History](#)

View the Items that Were Not Indexed During Content Indexing

View the Items that Were Successfully Content Indexed

Resubmit a Backup Job

VIEW BACKUP JOB HISTORY

▶ To view backup history:

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

VIEW THE ITEMS THAT WERE PROTECTED DURING A DATA PROTECTION OPERATION



This option is available for File System-like agents.

Required Capability: none required

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

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

VIEW THE ITEMS THAT FAILED FOR A DATA PROTECTION OPERATION



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

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

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

VIEW JOB HISTORY DETAILS

Required Capability: See Capabilities and Permitted Actions

▶ To view the details of a job history:

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

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



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

VIEW THE MEDIA OR MOUNT PATHS OF A JOB HISTORY

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

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

VIEW THE EVENTS OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

▶ To view the events associated with a job:

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

VIEW THE ITEMS THAT WERE MOVED TO MEDIA DURING SNAPPROTECT BACKUP



This option is available for the SnapProtect Backup.

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

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



- To view the files moved to media for a backup copy job, right-click the SnapProtect backup job corresponding to the Backup Copy job and select **View Backup Copy file listing**.
- View backup items will not display anything for a Backup Copy job.

4. Click **File -> Exit**.
5. Click **Close** from the **Job History** window.

VIEW THE LOG FILES OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

▶ To view the log files of a Job History:

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

VIEW THE ITEMS THAT WERE SUCCESSFULLY CONTENT INDEXED



This option is available for operations that performed content indexing.

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

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

VIEW THE ITEMS THAT FAILED TO CONTENT INDEX



This option is available for operations that performed content indexing.

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

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

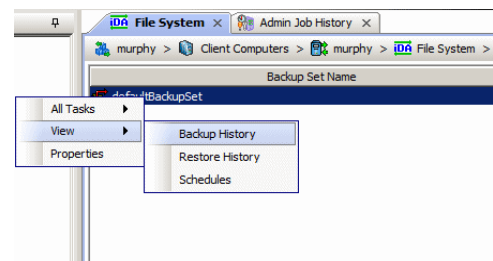
RESUBMIT A BACKUP JOB

▶ To resubmit a backup job:

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

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

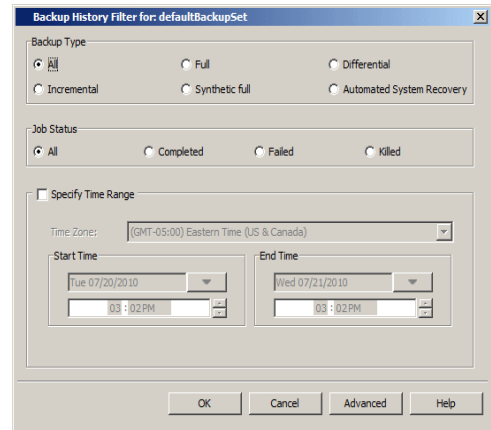
Note, if viewing the backup history for a client computer, right-click the computer name and select **Job History**.



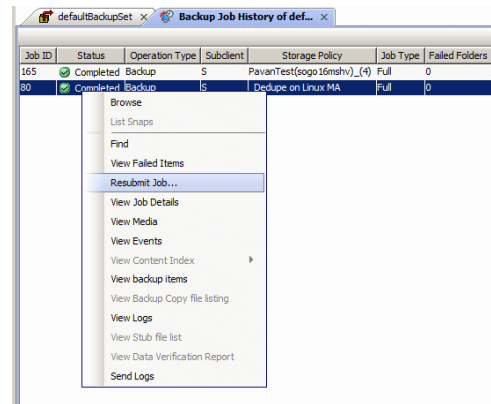
2. From the Backup History filter window select the filter options, if any, that you want to apply, and then click OK. The system displays the Backup Job History window.

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

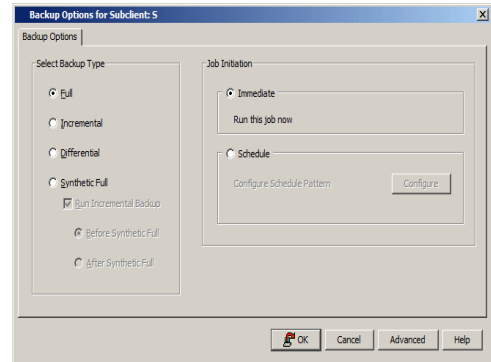
3. The Backup Job History window displays with the specified filter options.
4. Right-click on any job, and select **Resubmit Job**.



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

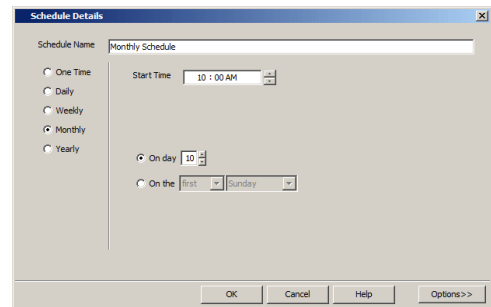


6. If you need to run the backup operation immediately, select **Immediate** from the **Job Initiation** tab. Go to step 11.
7. If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.
8. From the **Schedule Details** dialog box that appears, select the appropriate scheduling options.



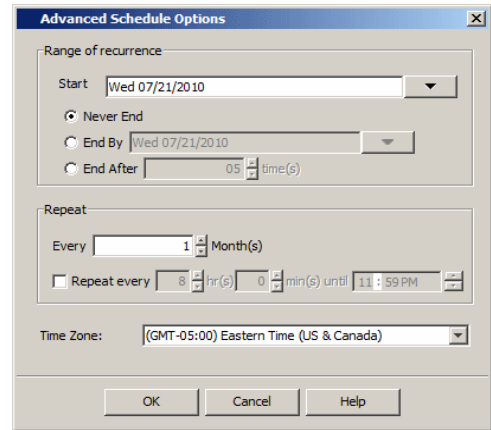
Click **Options** to view the Advanced Schedule Options dialog box.

9. From the **Advanced Schedule Options** dialog box:
 - **Range of recurrence:** Specify the date on which you want this schedule to take effect.



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

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



10. Click **OK** to close the **Schedule Details** window.
11. Click **OK** to close the job restart window.

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Restore Job History

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Supported Features

OVERVIEW

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

For information on Job Details displayed in the Job History, see [Viewing Job Information](#).

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

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

ITEMS THAT ARE RESTORED

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

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

SUPPORTED FEATURES

Consider the following.

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

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[View Restore Job History](#)

[View the Events of a Job History](#)

[View the Media of a Job History](#)

[View the Log Files of a Job History](#)

VIEW RESTORE JOB HISTORY

▶ To view the restored items associated with a job:

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

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

VIEW THE EVENTS OF A JOB HISTORY

Required Capability: See Capabilities and Permitted Actions

▶ To view the events associated with a job:

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

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

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

Required Capability: See Capabilities and Permitted Actions

▶ To view the log files of a Job History:

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

CAN WE PROTECT DATA ON NON-GLOBAL ZONES IF THE FILE SYSTEM /DATAAGENT IS INSTALLED ONLY ON THE GLOBAL ZONE?

Yes. We can protect file system data on non-global zones if the File System *iDataAgent* is installed only on the global zone. However, in order to enable consistent backups of application specific data on the non-global zones, you will need to install the corresponding application specific *iDataAgent* on the non-global zone.

HOW DO WE PROTECT INFORMIX DATA ON A NON-GLOBAL ZONE?

In order to enable consistent backups of Informix data on a non-global zone, you need to install the Informix *iDataAgent* on the non-global zone.

WHAT ARE THE FOLDERS/FILES CREATED AND CHANGES DONE DURING INSTALL OF THIS AGENT?

PLATFORMS	FOLDERS CREATED	FILES CREATED	OTHER CHANGES
Solaris	None	Create file under \$INFORMIXDR/GalaxyRelinkInfo	Create a link to ibsad001_64.so under /usr/lib/sparcv9

WHERE WILL I FIND THE PROGRESS OF A BACKUP AND RESTORE OPERATION?

You can verify whether the backup or restore operation is successful or a failure from the **ON-Bar activity log**. The ON-Bar utility writes informational, progress, warning, error, and debugging messages to the ON-Bar activity log. The activity log also records which dbspaces and logical logs were backed up or restored, the progress of the operation, and approximately how long it took for each operation. You can use this information in the activity log to determine whether a backup or restore operation succeeded or failed. ON-Bar Activity Log location can be found in **ONCONFIG** file and parameter name is **BAR_ACT_LOG**.