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System Overview

Overview

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Overview

The CommNet™ management tool has been designed to manage and administer the [CommCell Groups](#) and [QSMCells](#) efficiently and in a timely manner in order to minimize administration costs. Additionally, you can analyze concise summaries and comprehensive reports showing various aspects of secondary and primary storage in order to resolve problems proactively rather than reactively. The software also provides features such as remote administration capabilities, alert mechanisms, user administration, job and resource management, and scheduling. All of these features are discussed in detail in the following sections.

Software Components

CommNet™ Server

The CommNet™ Server monitors the CommCell® group and QSMCells that are registered in the CommNet Server. It also gathers vital information from all the cells based on the frequency established in the [Data Collection Policy](#). It also serves the CommNet Browser which is the user interface. Microsoft SQL Server is used to store all the data gathered from cells.

- **Time Zone:** All the reports and summaries in the system will automatically take into consideration the time zone of a specific cell and adjust the time accordingly. For example, reports generated concurrently for two cells in the Eastern time and Pacific time will automatically display the local time of these Cells.

For additional information, see [CommNet Server](#).

CommNet™ Agent

The CommNet Agents are installed on the CommCell® groups and are used to communicate with the CommNet Server.

CommNet™ Browser

The CommNet Browser provides a user-friendly interface to administer and generate summaries and reports on the CommNet domain. The user interface is specifically designed to help a system administrator isolate problems and drill-down to the root cause of the problem without having to generate multiple reports. CommNet Browser can also be accessed using a web-browser.

See [CommNet Browser](#) for a comprehensive list of features provided in the CommNet Browser.

CommNet™ Explorer

CommNet Explorer provides a way to query information on the CommNet components directly from the SQL database. You can use the views provided with CommNet Explorer or customize them to reflect the data in any manner appropriate to your organization.

See [CommNet Explorer](#) for more information.

Summaries

The software provides summaries for all entities in the CommNet domain; from a comprehensive CommCell[®] and QSMCell summaries to more detailed Client, Media Agent and Library summaries. Summaries provide information at a glance about the primary and secondary storage wherever applicable, and include vital troubleshooting information crucial to any administrator.

The software gathers critical information from the CommCell[®] group and QSM Cells at specified frequencies, allowing you to view:

- Up-to-date status of any entity within a Cell.
- Detailed data protection activity and storage distribution.
- Comprehensive, historical trending information.

For addition information, see [Summaries](#).

Reports

The software contains various reports that help you to manage your CommNet[™] domain. Some of the important reports are described below:

Data Protection Coverage

Data Protection reports can help you to understand the whether or not a particular client has data protection coverage on a given day, week, month, or year. The coverage report also displays the status of the coverage on a copy basis to determine if the coverage is from a primary or an auxiliary copy. In addition, you can also view valuable trending analysis such as job success rate, media consumption and primary and secondary storage growth.

The software provides flexibility in defining the Data Protection Windows for the CommCell[®] group for reporting purposes. You can use these customized reports to fine tune various parameters of a CommCell configuration in order to meet the data protection window. A Window Utilization report is also provided, which can be used to determine the Clients, iDataAgents, and Data Protection operations that are not meeting the specified window within a specified amount of time.

Window Utilization

Data Protection Window Utilization Report can help you determine how well the data protection window is being utilized in the CommCell[®] groups. This report provides a summary of data protection operations relative to the data protection window specified in the CommCell group, including the number of jobs completing outside the window.

Data Recovery Coverage

Data Recovery reports can help you to understand the details of the recovery operations performed in the CommCell groups, including information on the restore destination and the job successes associated with the recovery operations.

Media Management Performance

Media Management related information, such as MediaAgent, library and drive performance are provided in a concise manner in various Media Management reports. The software also generates performance reports for a given MediaAgent, library and drive, to help analyze media management aspects such as throughput, data size transferred, number of data protection operations handled, and library and drive usage times.

Prediction Capabilities

The software provides the capability to predict the following, by looking at past consumption and usage:

- Data growth for each CommCell[®] group as well as the sub clients in a given CommCell[®] configuration.
- Media Prediction to forecast media usage (for tape/optical libraries) and capacity usage (for magnetic libraries) in each individual CommCell group.

Q-Factor

Q-Factor is a scale to measure how well the data protections operations are performed in a CommCell[®] group. This

is determined based on the short-term and long-term coverage. In order to customize the calculation based on your specific environment, facility to define the weights for several aspects in the short-term and long-term coverage and an acceptable Q-Factor is also provided.

Primary Storage and Media Based Costing

Media based costing mechanism provides the facility to determine the cost associated with hosting an application and its protected data, based on the type of media in which the data resides. This feature includes the facility to define cost categories and the media associated with each cost category, and billable entities, such as departments within a company.

A comprehensive Billable Charge Back report can be generated to view the cost, related expense, storage size, and ranking information for all vital primary and secondary storage entities. The report can be generated for clients or billable entities.

The costing model can be defined centrally and automatically distributed to all CommCell® group and QSMCells within the CommNet™ domain.

Load

Load information refers to the job activity status for the CommCell® groups, which includes their peak load status, the range of time with the largest amount of job activity. Users can use this report to quickly determine better data protection job schedule solutions so that the network is not overloaded at specific times. This report is extremely useful for troubleshooting network issues.

For addition information, see [Reports](#).

Other Features

There are a host of other features designed to help you manage and administer your CommCell® group and QSMCells. Some of the major features are described below:

Remote Administration

Ability to launch multiple CommCell® Consoles and QSM Consoles to remotely administer and monitor individual cells.

In addition, to provide additional monitoring capability, the Event Viewer and Job Controller associated with the CommCell group are displayed in the CommNet™ Browser.

Alerts

Alert mechanism provides the capability to notify users of critical conditions using E-mail, Pager and SNMP traps. This feature also provides the mechanism to escalate the conditions if it has not been addressed for a specified amount of time or if the condition worsens.

User Administration

The software supports a very flexible user security scheme that can be customized to provide access to only the designated administrators for a given Cell.

Scheduling

Scheduling provides the facility to run tasks such as reports and summaries on a consistent basis. Further, scheduling also provides the capability to send critical organizational information to multiple users at multiple times and intervals in easy to use formats to specified recipients.

Jobs and Resources

Jobs and Resources is a CommCell® task in the CommNet™ Browser. It allows users to troubleshoot their environment and control CommCell® jobs and manage its resources. For more information, see [CommCell® Jobs and Resources](#).

Concepts

You must acquaint yourself with the following concepts before using the software:

- [About Data Protection Windows](#)

Features

- [About Coverage Qualifier Windows](#)
- [About Activity Qualifier Windows](#)
- [About Daily Administration Activity Monitoring Windows](#)
- [Diagram of Weekday Windows](#)
- [Diagram of Weekend Windows](#)
- [About the Q-Factor](#)

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CommNet Server

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[Data Encryption](#)

Overview

The CommNet Server is the coordinator and administrator of the CommNet domain. The CommNet Server allows you to configure, schedule and administer the various activities in the CommNet domain.

The CommNet Server gathers data from the CommCells and [QSMCells](#) that are registered in a CommNet domain and maintains a database containing information collected from the various Cells. This is performed using the CommNet Server Service which runs the CommNet Server.

The CommNet Server can either be installed on the computer which has the CommServe software installed or on a totally independent computer. If the CommNet Server is installed on the CommServe computer, the CommNet Server database is also created on the same Microsoft SQL Server instance used by the CommCell.

The CommNet Agent software does not have to be installed on the QSM Server computer. The QSM Server must only be registered with the CommNet Server in order for the CommNet Server to collect data from the QSM Server.

To protect the CommNet Server database against disasters, such as computer failure, application failure, etc. it is recommended that you have a Disaster Recovery strategy in place. See [Disaster Recovery](#) for more information.

Data Encryption

The CommNet environment software supports data encryption for transmission over non-secure networks. The data is always encrypted using the same algorithm, Blowfish with 128-bit keys. The entire process, which is always enabled, is completely transparent to users. Data is encrypted on the CommNet Agent and decrypted on the CommNet Server.

A license is not required for this feature.

CommNet Browser

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

Overview

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Overview

The CommNet Browser is the graphical user interface that allows you to administer and generate summaries and reports on the CommNet domain. The CommNet Browser provides the capability to quickly identify, isolate, and drill-down to the root cause of problems without having to generate multiple reports.

The CommNet Browser can be run in two ways:

- As a [stand-alone application](#), which can be installed directly onto any computer running a supported platform that can communicate with the CommNet Server.

For comprehensive information on supported platforms, see [System Requirements - CommNet Browser as a Stand-Alone Application](#).

- As a [remote web-based application](#), which allows you to access the CommNet Browser via any computer running a supported platform with a Java-enabled web browser.

For comprehensive information on supported platforms, see [System Requirements - CommNet Browser as a Remote Web-Based Application](#).

Automatic Updates

When you login to the CommNet Browser, the CommNet Server verifies whether the CommNet Browser is up-to-date. If there has been an update to the Browser interface since the last login session, you will be notified by a prompt indicating that an update is available and ready for install. If you opt to install the update immediately, you will be required to restart the CommNet Browser. Additionally, CommNet Browser updates can be retrieved manually by selecting the **Check for Updates** option in the browser's **Setup** menu. This is useful if you do not log out of your CommNet Browser for a long period of time. If updates are available, you will be notified by a prompt indicating that an update is available and ready for install; updates are applied automatically upon exiting the CommNet Browser, and visible upon the next login.

CommNet Browser Components

The CommNet Browser contains several components:

CommNet Tree

The CommNet Tree, located in the left pane of the CommNet Browser, presents the CommNet domain's components, as well as the administrative and operational tasks associated with them, in a hierarchical tree structure.

If a particular component is not reachable or not operational, this is indicated by the addition of a red circle with an "x" in the component's icon. If an object has been uninstalled, the icon is dimmed.

CommNet Dashboard

The CommNet Dashboard window, which is accessible by clicking the **CommCell** node in the CommNet Tree, can be customized to display select reports by default. These settings can be made using the **Customize Dashboard** tab in the **Browser Options** dialog box. (See [Customize the CommNet Dashboard](#) for step-by-step instructions.)

Main Window

The main window, located in the right pane of the CommNet Browser, presents information about the component selected in the CommNet Tree.

When the main window is maximized in the CommNet Browser, any additional windows opened are displayed on top of the existing window. Conversely, if the window is not maximized, then any additional windows are cascaded or tiled. The **Previous/Next** buttons can be used to navigate between all open windows.

When you click a different node in the CommNet Tree, any open window from the previous node are closed unless you click the **Keep Visible** button for that window.

Menu Bar

Displays menu choices appropriate to the currently selected node in the CommNet Tree. Not every task can be accessed from the Menu Bar; some are accessible only by right-clicking a particular item in the CommNet Tree.

Standard Tool Bar

Provides an alternate means of accessing certain functionalities available from the Menu Bar. This bar can be toggled on/off from **View | Toolbars** in the Menu Bar.

Status Bar

Located at the bottom of the CommNet Browser, this displays the current status of the connection to the CommNet Server (connected or disconnected, the login, and the language in use. This can be toggled on/off from **View** in the Menu Bar. Current connection status is indicated as:

- Green when a connection is established
- Yellow when the CommNet Browser is trying to re-establish a lost connection
- Red when a connection is lost.









The CommNet Browser tries to re-establish lost connections with the CommNet Server using the same user name and password provided during login.




Tasks

Tasks associated with a selected node are available in three ways; as a right-click option on the node itself, which often contains the most items; in the **Tasks** window displayed at the lower right hand corner of the Browser; from **Tasks** in the Menu Bar. This window can be expanded or collapsed.

User Buttons

Several common user buttons in the CommNet Browser are outlined in the following table:

 Browser Toggle	Switches the display of the CommNet Tree and Users Task pane on or off. Part of the Standard Tool Bar, which can be toggled on or off from View in the Menu Bar.
 Previous/Next	Pages the display through multiple open windows, such as reports.
 Update	Updates the currently displayed summary. This only appears when updates have been received from a CommCell.
 Keep Visible	Prevents a window from being closed when you select a different node.
 Save	If available, saves the currently active Browser window, report content, or summary as a PDF file.
 Print	If available, prints the currently active Browser window, report, or summary.
 Export	Exports the currently active Browser window, report, or summary in Microsoft Excel format.
 Email	If available, packages the currently active Browser window in .pdf or .xls format and attaches the report to a new email message.

 Schedule	Opens New Schedule wizard to create a schedule based on the current report or summary. See Create a Schedule .
 Pause	Pauses updates to the current window.
 Play	Resumes updates to the current window.

Saving, Printing, and Emailing CommNet Browser Components

Most CommNet Browser components can be saved to a local or network disk, printed to a file or printer, and emailed to one or more email recipients. These capabilities are useful if you wish to share reports, alerts, summaries, details, and other informational entities about the CommNet.

If a particular browser component does not support a save, print, or email operation, the corresponding icon for that operation will be disabled.

Saving Browser Components

CommNet Browser components can be saved to a local disk or network share in .pdf format. Below are some of the most commonly saved components:

- From the Alerts node in the CommNet Tree, click the **Save** icon to launch the additional save options. See [Save Options - Alerts](#).
- From the Billing Entity node in the CommNet Tree, click the **Save** icon to launch the additional save options. See [Save Options - Billing](#).
- From the Cost Category node in the CommNet Tree, click the **Save** icon to launch the additional save options. See [Save Options - Cost Categories](#).
- From the Schedule node in the CommNet Tree, click the **Save** icon to launch the additional save options. See [Save Options - Schedule](#).

See [Save Options](#).

Printing Browser Components

CommNet Browser components can be printed to a file or printer. Below are some of the most commonly printed components:

- From the Alerts node in the CommNet Tree, click the **Print** icon to launch the additional print options. See [Print Options - Alerts](#).
- From the Billing Entity node in the CommNet Tree, click the **Print** icon to launch the additional print options. See [Print Options - Billing](#).
- From the Cost Category node in the CommNet Tree, click the **Print** icon to launch the additional print options. See [Print Options - Cost Categories](#).
- From the Schedule node in the CommNet Tree, click the **Print** icon to launch the additional print options. See [Print Options - Schedule](#).

See [Print Options](#).

Save and Print options are not available on CommNet Browsers running on Macintosh computers.

Emailing Browser Components

CommNet Browser components can also be emailed to one or more recipients.

When clicked, the email icon will launch the **Email Report** dialog box, which provides the facility to create a new email message and select a file format in which the Browser component will be attached (.pdf or .xls).

Note that you must configure the sender address and mail server settings prior to using the email function. This can be done using the **Configuration** tab in the CommNet Server's **Properties** dialog box.

See the following for step-by-step instructions:

- [Define the Mail Server](#)
- [Defining the Sender's Address](#)
- [Define the Port for the SMTP Server](#)
- [Email a CommNet Browser Component](#)

Running the CommNet Browser as a Stand-Alone Application

The stand-alone version of the CommNet Browser can be run either locally from the CommNet Server computer, or remotely on a client. The CommNet Browser is automatically installed during the CommNet Server installation.

Note that the following features are not available when using the CommNet Browser on a Macintosh:

- Remote Administration of CommCells and [QSMCells](#)
- The remote web-based version using a browser
- Save
- Print
- Copy Chart
- Export is available only on version 10.3 and later of Mac OS X.

For step-by-step instructions on running the CommNet Browser as a stand-alone application, see:

- [Run the CommNet Browser as a Stand-Alone Application - Windows](#)
 - [Run the CommNet Browser as a Stand-Alone Application - Macintosh](#)
-

Running the CommNet Browser as a Remote Web-Based Application

Once the CommNet Browser software is installed on the CommNet Server computer, you can access the CommNet Browser remotely from any computer using Java Web Start. Thus, the CommNet Browser stand-alone application does not need to be installed on a remote computer that has a Java enabled Web browser. The web-based version of the CommNet Browser has the same appearance and functionality as the installable CommNet Browser stand-alone application.

When accessing the CommNet Browser remotely for the first time, Java Web Start provides you with the option of creating Desktop and Start menu icons for the CommNet Browser. If you choose to create these icons, you will be able to remotely access the CommNet Browser directly from the Desktop or Start menu without having to enter the CommNet Server name and alias in the Web browser each time. You also retain the option of continuing to remotely access the CommNet Browser via a Web browser if desired.

If you choose not to create these shortcuts, you must launch a Web browser and enter the CommNet Server name and alias each time you wish to remotely access the CommNet Browser.

Note that the IIS Server must be configured for accessing the CommNet Browser using Java Web Start. See [Setting Up the IIS Server for Web Administration](#) for more information.

For step-by-step instructions on running the CommNet Browser from a remote computer, see:

- [Run the CommNet Browser as a Remote Web-Based Application - Windows](#)
 - [Run the CommNet Browser as a Remote Web-Based Application - Linux](#)
 - [Setting Up the IIS Server for Web Administration](#)
-

CommNet Browser Options

The **Browser Options** dialog box allows users to:

- Enable/disable timeout session, and specify the period of inactivity before timeout. Enabling this option will help reduce the load on the server or machine where the browser is installed. The default idle time is set at 2 hours.
- Enable/disable browser update popup messages. By default, update popup messages are displayed upon any change to a **CommCell**, **QSMCell**, or **Cell-Client Group**. Users have the option to disable these popup messages.
- Enable/disable the display of chart point labels in a diagonal format. Enabling this option increases the number of entities viewable in a single page (when printed).
- Select the browser's date format. By default, the date format will follow that of the operating system where the browser is installed. Users can select another date format for the browser and reports.
- Select the CommCell and CommNet default tasks. By default, CommCell and CommNet Dashboards are displayed in the browser when the nodes are selected. Users can also select the summary option to display the corresponding summaries when the CommCell and CommNet nodes are selected.
- Customize the Dashboard views. For more information, see [Customize the CommNet Dashboard](#).








To set or modify the Browser Options, select **Setup | Browser Preferences** from the CommNet Browser's file

menu.

See [Browser Options](#) for more information.

CommNet Browser CommCell Status Icons

The CommNet Tree icons representing a CommCell signify the current status of the CommCell. For more information, see following table.

Icon	Description	Where Applicable
	CommCell has been recently synchronized, and is currently available.	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	CommCell has been recently synchronized, and is not currently available.	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	CommCell has not been synchronized since registration, and is currently available.	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	CommCell has not been synchronized since registration, and is not currently available.	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	CommCell has not been synchronized for more than a week, and is currently available. (Only applicable to CommCells with the current version of the CommServe software.)	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	CommCell has not been synchronized for more than a week, and is not currently available. (Only applicable to CommCells with the current version of the CommServe software.)	<ul style="list-style-type: none"> CommCell nodes on the CommNet Browser CommNet Tree CommCell Summary for CommCell nodes and Cell-Client Group nodes in the CommNet Browser CommNet Tree
	One or more CommCell(s) is not reachable or has never been synchronized.	CommNet node in the CommNet Browser CommNet Tree

User Preferences

Each user can establish several CommNet Browser preferences which are applied at each login. These preferences, which are explained below, are established when disconnecting from the CommNet Browser using **File | Disconnect** and selecting to save User Preferences in the displayed prompt.

Login Preferences

The following options can be set in the **Login** dialog box, accessed from **File | Login**:

- **LAN:** Select when the network connectivity between the CommNet Browser and CommNet Server is reliable.
- **WAN:** Select when the network connectivity between the CommNet Browser and CommNet Server may have intermittent failures and hence less reliable.
- **Locale:** Language and region are selectable for the list.
- **Apply User Preferences:** When you log out, a prompt asks if you want to save your user preferences. At each subsequent login, you can specify whether or not to use your saved preferences. Note that to save user options, you must generate the report before exiting the browser for the changes to take effect.

Session Preferences

The **User Preferences** dialog box displays the preferences established during the previous login session, including:

- a list of open windows.
- the state of the CommNet Tree from a previous session.
- the selected Window Style.
- the size of the CommNet Browser window.

Report Preferences

If you chose to save your user preferences at the end of your last login session, the CommNet Browser retains the report filter options that were selected during that session. This allows you to quickly generate routinely used reports during each login without the need to re-enter the filter criteria. You can choose whether or not to use these preferences when prompted during login.

Window Styles

The CommNet Browser has been designed to integrate as smoothly as possible with your work environment. To change the style of the CommNet Browser, from the Menu Bar, select **View**, then **Style**, then select one of the following styles:

- **Metal:** resembling a Java application environment.
- **Windows:** resembling a Windows application environment.

Cell Synchronization

The CommNet server retains the last synchronized cell information as part of user preferences, which is useful for those who regularly synchronize cells. For more information, see [Synchronize Cells](#).


Additional CommNet Browser Features

The CommNet Browser provides several additional features useful in administering the CommNet domain:

Tool Tips

Relevant additional information is provided as tool tips in all charts and tables.

Flags

The Job and Resource Views also provide a **Flags** column, which is located on the left-hand side of the window. The **Flags** column displays a  icon for any running jobs that encounter one of the following scenarios:

- A required media cannot be found in the library. This scenario requires user intervention for the job to complete successfully.
- The job has not sent an update (such as bytes or files received) in over 60 minutes. This scenario may or may not require user intervention; for example, if the delay in receipt of updates is caused by insufficient network bandwidth, the job may complete successfully once additional network bandwidth is available. Conversely, if the delay in receipt of updates is caused by a hardware issue, the job will not complete successfully until the user has resolved the hardware issue.

If neither of the above scenarios are present, the **Flags** column will remain empty.

Hyperlinks

Failures, such as CommCells that are not reachable or storage resources that are not operational, are displayed with a hyperlink to more detailed information about the particular failure.

Obtaining Information About Job Errors

If a job in the CommCell has not completed successfully, the **Job Details** dialog box for that job will provide a hyperlinked **Error Code** which links to available troubleshooting and knowledgebase article(s) relevant to that error from the customer support website. These articles may include special considerations for the type(s) of job(s) you are running, suggested workarounds for issues, and common causes for that particular error.

If an error code pertains to more than one issue, the customer support website will display links to all articles for which the code is relevant. Conversely, if an error code does not have any articles associated with it, the customer support website will display a message indicating that no articles exist for that code.

Note the following when obtaining troubleshooting articles using error codes:

- Error Codes can be obtained by double-clicking the failed job in a report.
- The Error Code field will only contain a code if a job has not completed successfully.

See [View Troubleshooting Article\(s\) Available from the Customer Support Website](#) for step-by-step instructions.

Updates

When an update is received from a CommCell, the CommNet Browser changes the following to inform you that an update has arrived:

- The text for the CommCell turns bold in the CommNet Tree.

When a node in the tree is selected, a pop-up message appears with an option to refresh the selected node and all corresponding windows. The pop-up messages are optional and can be disabled in the CommNet **Browser Options** dialog box.

- If a Summary is displayed in the right side pane, the Update icon and a corresponding yellow box is displayed at the top of the window informing you that an update is available.

Clicking this icon (or pressing the **F5** key) will update the most recent information on the specific summary, but will not update the entire node.

Register/Unregister messages

As CommCells and QSMCells are registered/unregistered, a pop-up message will be displayed.

Version

Select **About...** from the **Help** menu to display the version number and update information of the software installed on the computer.

CommNet Browser and Firewalls

See [Firewall Requirements](#).

CommNet Browser and Copy Chart

When viewing a report in the CommNet Browser, you can copy any chart to the clipboard in `.bmp` format by right-clicking the chart and selecting **Copy Chart**. This allows you to easily copy a chart into other applications. Note that the **Copy Charts** function is not compatible with Microsoft WordPad.

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CommNet Explorer

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 - [CNESummaryView](#)
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Overview

The views in CommNet Explorer provide a way to query information on the CommCell components directly from the SQL database. These views are provided in addition to the CommNet Browser Report Selection feature.

You can use the views provided with CommNet Explorer or customize them to reflect the data in any manner appropriate to your organization. You can query the database with Microsoft SQL 2000 Enterprise Manager or any SQL database query tool. Query results can be displayed through Explorer or you can use products such as Microsoft Excel or Crystal Reports to format your query output.

If you modify a view or create a new view, you must reapply them after each new release.

Views

The following view options are available in the CommNet Explorer.

CNEAppTypeView

The CNEAppTypeView provides an overview for the Agent Count and the amount of data backed up with each Agent for last 3 months.

Column	Description
WinFSCount	Total number of windows File System Agents installed.
SolarisFSCount	Total number of Solaris File System Agents installed.
OracleDBCount	Total number of Oracle Database Agents installed.
SQLDBCount	Total number of SQL Database Agents installed.
ExchangeCount	Total number of Exchange Agents installed.
WinFSSize	Total amount of Windows File System data backed up in last 3 months.
Solaris FSSize	Total amount of Solaris File System data backed up in last 3 months.
OracleDBSize	Total amount of Oracle Database data backed up in last 3 months.
SQLDBSize	Total amount of SQL Database data backed up in last 3 months.
ExchangeSize	Total amount of Exchange data backed up in last 3 months.

CNEBKpJobsView

The CNEBKpJobsView provides detailed information on each job.

Column	Description
CommCellname	CommCell name.
Pruned	Yes or No.
TimeStart	The time started for backup job.
TimeEnd	The time end for backup job.
UnCompBytes	Application Size.
ClientID	Client computer.
ClientName	The client computer name.
AppTypeID	The unique ID of the Application.

AppType	Application name.
InstanceID	The unique ID of the Instance.
InstanceName	The Instance name.
BKSetID	The unique ID of backupset.
BKSetName	Backupset name.
SubClientID	The unique ID of Subclient.
SubClientName	Subclient name.
BKLevel	Full, Increment ,Diff, etc.
StatusID	Completed, Failed, Killed.
StatusName	Completed, Failed, Killed.
OpTypeID	Backup, Restore, Recover, Auxiliary copy, etc.
OpTypeName	Backup, Restore, Recover, Auxiliary copy, etc.
CommCellID	The unique ID of the CommCell
JobID	The unique Job ID of the backup job.
WriteTime	The amount of time to write data or media.
NumOFObjects	The number of backup job objects.
Data_SPID	Data Storage Policy.
Data_SPNAME	Data Storage Policy name.
LOG_SPID	Log Storage Policy.
LOG_SPNAME	Log Storage Policy name.
DIFF_SPID	Differential Storage Policy.
DIFF_SPName	Differential Storage Policy name.

CNEChargeBackView

The CNEChargeBackView provides detailed information on each job for costing purposes.

Column	Description
CommCellName	CommCell name.
Pruned	Yes or No.
TimeStart	The time started for backup job.
TimeEnd	The time end for backup job.
UnComBytes	Backup Size.
ClientID	Client computer.
ClientName	The client computer name.
AppTypeID	The unique ID for Application.
AppType	Application name.
InstanceID	Instance.
InstanceName	The Instance name.
BKSetID	Backup set.
BKSetName	The backupset name..
SubclientID	The Subclient.
SubClientName	The Subclient name.
StatusID	Completed, Failed, Killed.
StatusName	Completed, Failed, Killed.
CommCellID	The unique ID for CommCell.
JobID	The unique Job ID of the backup job.
AuxCopyJobID	The Auxiliary copy job ID.
AttemptNumber	The job attempt number.
PhaseName	The job phase.
SPID	Storage Policy.
SPNAME	Storage Policy name.
SPCopyID	Storage Policy copy.
SPCopyName	Storage Policy copy name.
UnitCost	Unit Cost Per MB.

CNEJobsSummaryView

The CNEJobsSummaryView provides an overview for data protection and data recovery jobs.

Column	Description
DPJobCount	Number of Data Protection Jobs.
DPSuccessHobCount	Number of Completed Data Protection Jobs.
DPFailedorKilledJobCount	Number of Failed or Killed Data Protection Jobs.

DPPPrimaryDataSize	Total Data on the primary copy.
DRJobCount	Number of Data Recovery Jobs.
DRSuccessJobCount	Number of Completed Data Protection Jobs.
DRFailedorKilledJobCount	Number of Failed or Killed Data Protection Jobs.

CNESummaryView

The CNESummaryView provides an overview of the entities (Client, iDataAgent and Libraries) count present.

Column	Description
NumCommCells	Total number of CommCells registered
NumClients	Total number of Clients
NumAgents	Total number of Agents
NumSubClients	Total number of SubClients
NumMediaAgents	Total number of MediaAgents
NumLibraries	Total number of Libraries
NumDrives	Total number of Drives
NumLicenses	Total number of Licenses

CNESC SchedPolicyAssoc

The CNESC SchedPolicyAssoc view provides detailed information on Schedule Policies the Subclient is associated with.

Column	Description
ChildID	The unique ID for CommCell.
CommCellName	CommCell name.
ClientID	Client computer.
ClientName	The client computer name.
AppTypeID	The unique ID for Application.
AppType	Application name.
InstanceID	Instance.
InstanceName	The Instance name.
BKSetID	Backupset.
BKSetName	The backupset name.
SubClientID	The Subclient.
SubClientName	The Subclient name.
SchedPolicyID	The Schedule Policy ID.
SchedPolicyName	The Schedule Policy name.
BackupType	Full, Increment, Diff, etc.
BackupTypeStr	Full, Increment, Diff, etc.
AssocLevel	Client Level, Agent Level, etc.
AssocLevelStr	Full, Increment, Diff, etc.
SchedulePattern	One Time, Daily, Weekly, Monthly or Yearly.
TimeZone	Schedule TimeZone.

CNETimeZoneDates

The CNETimeZoneDates view provides information on time zones. This is populated when the service starts for +10 and -10 years in the CommNet Database.

Column	Description
ChildID	The unique ID for CommCell.
CommCellName	CommCell name.
Year	Year.
TimeZoneName	TimeZone name.
TimeZoneStdName	TimeZone standard name.
DSTFlag	Day Light Saving Flag is set or not.
Bias	Difference with GMT (For Eastern Time Zone (GMT-05).
STDBias	Standard Bias.
STDDate	Standard date.
DSTBias	Day Light Saving Bias is set or not.
DSTDate	Day Light Saving Date is set or not.

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Setting Up the IIS Server for Web Administration

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

The CommNet Browser as a Remote Web-Based Application allows you to administer the system from a Java-enabled web browser. During the installation of the CommNet Server, you will be prompted to configure web administration if Internet Information Service (IIS) is installed and running on the computer.

If the CommNet Server computer does not have IIS installed and running, you can use another computer with IIS in your domain to set up web administration, allowing the CommNet Browser to be run remotely from a Java-enabled web browser. Once the setup is complete, you should be able to enter the IIS server name and alias (e.g., `http://server1/Monitor`) into a web browser to start the web-based CommNet Browser.

For example, you have a CommNet Server called **green**. Green does not have IIS installed, however, another computer in your network, **blue**, already has IIS installed and running. To configure the web-based CommNet Browser to run using **blue** as the IIS server, you create a virtual directory called **Monitor** on blue that points to **green\<Software Install Path>**. The web alias is the virtual directory name, **Monitor**. Once this is complete, you can start the web-based CommNet Browser by entering **http://blue/Monitor** into your web browser.

You can remotely administer a CommCell by opening the CommCell Console from the CommNet Browser.

Note that when the CommNet Browser is opened as a remote web-based application, the CommCell Console is also opened as a remote web-based application. If the CommNet Browser is opened as an application, the user is provided with the option to open the CommCell Console either as an application (if the CommCell Console is appropriately installed in the target CommCell) or as a remote web-based application.

User Administration and Security

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

[Overview](#)

[Capabilities and Permitted Actions](#)

[User Tasks](#)

[User Group Tasks](#)

[Single Sign On](#)

Overview

Users have access to the resources and features of the CommCell based on the following:

- User accounts
- User Groups

Using this approach, a [QSMCell](#) administrator can provide users with the capabilities they are required. These requirements can vary, depending on the tasks each user needs to perform.

User Groups

A user group is a logical entity through which capabilities are assigned. Users that are members of a user groups are entitled to the same rights as the user group. A user group can either administer the CommNet Server, (with the CommNet Server capability), or can administer a selected CommCell (with the CommCell Administration capability), or can administer a QSMCell (with the QSM Cell capability) or all three, or any combination.

The master user group is created automatically upon installation of the software. This group is automatically assigned to administer the CommNet Server and any CommCell and QSMCell that is part of the CommNet domain. Additional user groups can be created from the CommNet Browser.

Users

All users that perform software functions must have a user account and be assigned to one or more user group(s). Once a user is part of a user group, this user assumes all the rights of the member user group.

When a user opens a CommNet Browser, depending on the user group to which the user is attached, only those CommCells/QSMCells that can be controlled by the user will be displayed. If a user is part of a user group that does not have the capability to control specific Cells, that user will not see those Cells in the CommNet Browser.

A default user is automatically created when the software is installed. This user is by default assigned to the **master** user group.

If necessary, additional users can be created.

Name Servers

Name Servers comprises of external domains and external user groups to which CommNet user groups can be associated in order to utilize the Single Sign On feature and/or to use external domain user account credentials for logging in. For more information, see [Single Sign On](#).

Capabilities and Permitted Actions

The capabilities of each user group permit its member users to perform certain actions. For information on these permitted actions. The following table lists the actions that a user can perform based on the assigned capabilities of the member user group: (Note that a user group with the CommCell/QSMCell Administration capability can only perform actions on the associated CommCells/QSMCells.)

Capability	Permitted Action
CommNet Administration Only	License Administration Cell Registration / Cell Re-Registration Modify CommNet Server properties

Features

	<p>Create or modify a user</p> <p>Create/modify a user group with only CommNet Administration capability</p> <p>Create/modify/delete alerts</p> <p>Modify/delete schedules (a user that created a schedule can modify and/or delete it without the CommNet administration capability)</p> <p>Create/modify/delete cost categories and billable entities</p> <p>Configure/modify the Q-Factor configuration</p> <p>Create/modify/delete cell-client groups</p> <p>Add/Modify/Delete Global Filters</p>
QSMCell Administration Only	<p>Generate Primary Storage Data Growth Report</p> <p>Generate Billing Association Report and Billing Charge Back Report to see QSMCell, primary storage data only</p> <p>Able to view:</p> <p>QSMCell Summary</p> <p>Client Summary containing information pertinent to QSMCells</p> <p>Primary Storage Client Data Growth</p> <p>Create/modify/delete cell-client groups (a user can only modify/delete a cell-client group that they created)</p>
CommCell Administration Only	<p>Generate CommCell reports</p> <p>Generate client computer and storage resource information of a CommServe</p> <p>Create/modify/delete cell-client groups (a user can only modify/delete a cell-client group that they created)</p> <p>Create schedules</p> <p>Able to view:</p> <ul style="list-style-type: none"> ● Client status ● License summary ● Drive status ● Event Viewer ● MediaAgent status ● Library status ● Job Controller
CommNet Administration and CommCell Administration	<p>All capabilities from CommNet Administration and CommCell Administration, and:</p> <p>Synchronize CommCells</p> <p>Modify CommCell registration</p> <p>Modify CommServe data collection policy</p> <p>CommCell authentication</p> <p>Modify CommCell configuration</p> <p>Create/modify a user and user group with the CommCell Administration capability only</p> <p>Create/modify/delete cell-client groups</p>
CommNet Administration and QSMCell Administration	<p>All capabilities from CommNet Administration and QSMCell Administration, and:</p> <p>Synchronize QSMCells</p> <p>Modify QSMCell registration</p>

	<p>Modify data collection policy for a QSMCell</p> <p>Modify QSMCell configuration</p> <p>Create/modify a user and user group with the QSMCell Administration capability only</p> <p>Create/modify/delete cell-client groups</p>
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User Tasks

For the Users node, the [Users Status](#) task from the **Users Tasks** section of the CommNet Browser can be used to view the various attributes of all the users within the CommNet domain.

For a particular user, the [Summary](#) task from the **User Tasks** section of the CommNet Browser can be used to view detailed information about that user.

Each window displays the local time of the CommNet Server.

User Group Tasks

For the User Groups node, the [User Groups Status](#) task from the **User Groups Tasks** section of the CommNet Browser can be used to look at various attributes of all the user groups within the CommNet domain.

For a particular user group, the [Summary](#) task from the **User Group Tasks** section of the CommNet Browser can be used to view all members and capabilities of a user group.

Each task window displays the local time of the CommNet Server.

Single Sign On

The Single Sign On feature enables users to login to the CommNet Server using their user-account credentials for the Active Directory service provider, inheriting capabilities on the CommNet Server based on their Active Directory group membership permission(s), which must include the *Browse* capabilities.

If the Single Sign On feature is enabled for this Active Directory domain, the login/password entry screen is bypassed, and the user is authenticated without them having to enter any login/password information. Users can also launch the CommNet Server and select **Cancel** before the application initiates the login process. The username field is pre-populated if the user is connecting to the CommNet Server, and the Active Directory domain they are currently logged into has been configured on the CommNet Server. Users also have the option to overwrite this username with other Active Directory user account credentials; the username must be entered in the following format: <domain name>\<user name>. When a username is entered with a domain name, the CommNet Server automatically recognizes that the password information must be authenticated by the external domain server.

Single Sign On supports Active Directory configured with secure Lightweight Directory Access Protocol (LDAP), which provides additional network security. If Active Directory (the external domain) is configured with LDAP, you can configure the external domain controller from the [Add/Edit New Domain Controller](#) dialog box to use the secure LDAP for additional network security with the external domain. Remember that this can only be enabled when the external domain has been configured to use the secure LDAP. If this protocol is enabled from the CommNet Browser's [Add/Edit New Domain Controller](#) dialog box, but not configured from the external domain; the feature is not enabled.

Configuration

Before the Single Sign On feature can be used, users must provide the information required to communicate with the Active Directory service provider (such as domain name, hostname of directory server, directory service type, username and password) so that it will be maintained in the CommNet database for authentication purposes. To do this, you must [Add a New Domain Controller](#), which registers the external domain with the CommNet Server. Once you enter this information, you or an administrator, must associate certain external domain user groups (domain name\user group) with a user group defined in the CommNet. This will provide the external domain users access to the CommNet entities. For more information, see [Add a New External User Group](#).

Once configured, if necessary, users can temporarily disable the feature or change user credentials. For more information, see [Disable Single Sign On from a Specific Browser](#).

There are no license requirements to utilize this feature.

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Clustering

[Topics](#) | [Troubleshoot](#) | [Related Topics](#)

Overview

Supported Cluster Configurations

- [Example of an Active/Passive Cluster Configuration](#)
- [A Clustered System](#)

Failover Specific Considerations

Overview

Clustering is a way of organizing your hardware and software in order to provide added measures of performance, reliability and fault tolerance. The software component of clustering allows a cluster-aware application to be represented by a virtual server. This server runs on a physical machine within the cluster, referred to as a node.

The CommNet Agent software is installed on the CommServe computer, whose clustering works differently from what is described here; for information about clustering for the CommNet Agent, see [Clustering Support](#) in the CommServe's Books Online.

Supported Cluster Configurations

A virtual server is comprised of a shared disk and a service (such as a database server). Each virtual server has its own IP Address and network name. The software supports an active/passive, shared nothing cluster configuration.

In this configuration, the physical configuration of a cluster consists of active and passive servers. An active server hosts the services that comprise the virtual server. A passive server, or standby server, monitors the active server for failure, or interruption of service, and will take over hosting the virtual server in case of such events.

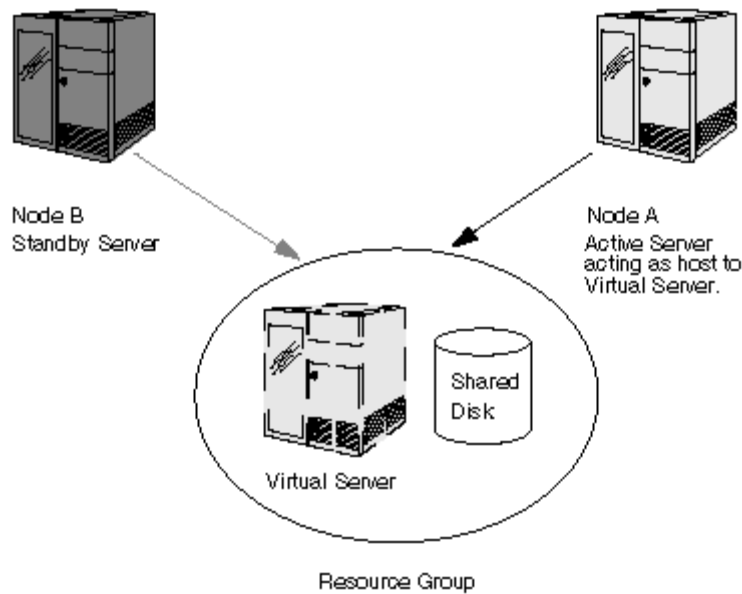
In a shared nothing architecture, only the active server can access the shared disk. This provides the highest level of availability and reliability because ownership of the disk may be transferred to another node in case of failure.

All of the configuration information is stored on a quorum disk that is selected during the installation of the Microsoft Cluster Server software.

Example of an Active/Passive Cluster Configuration

The active/passive configuration ensures that there is always an active server that can host the virtual server. With this configuration, a standby server (see Node B in the following figure) operates in passive mode and monitors the active server. The standby server recognizes the active server as operational if it can detect the active server's heartbeat.

If the standby server cannot detect a heartbeat, or a resource in the disk group fails, it comes online and takes ownership of the shared disk, thereby becoming the new virtual server host. The following illustration shows a typical cluster configuration.



A Clustered System

The software takes advantage of the same failover protection afforded to virtual servers within the clustering environment. If an active node fails, the software will still be able to function from the node that has not failed. Regardless of the hosting node, the software will be able to perform data collection operations for virtual servers as long as it has access to the network and to the virtual servers' network names and IP Addresses.

All software components must be installed correctly to take advantage of the clustered environment. For specific installation instructions, see the appropriate Deployment section of the Books Online for the particular component you want to install on a cluster.

Failover Specific Considerations

Consider the following in the event of a failover:

- Running schedules will complete
- Running reports will complete
- Synchronization processes might be interrupted and have to be repeated.
- Browser connections might be interrupted; see [What do I do when the CommNet Browser loses connection with the server.](#)
- Browser may not close; see [CommNet Browser Cannot be Closed after Failover.](#)

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Alerts and Monitoring

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[SNMP Traps](#)

[Available Alerts and Entity Association](#)

[Alert Tasks](#)

Overview

Alerts can inform you of conditions occurring within the CommNet domain that you may have otherwise not been aware of. These conditions can range from minor occurrences that do not require intervention to severe occurrences that need immediate intervention. Alerts are sent to a pre-determined set of users, and/or escalated to a different set of users (in the case of a severe condition).

Alerts are based on conditions which have occurred within the entity associated with the alert. This entity can be a CommNet Server, CommCell, client, agent, MediaAgent, or library. These entities, by default, are monitored at 20-minute intervals. If they meet the defined alert conditions, the alert (if configured) will be generated at this time.

You will be notified of the alert condition:

- Once conditions within the entity have met pre-determined threshold criteria.
 - Either:
 - When the condition is detected or after the condition has persisted for a certain length of time. The alert update time frame can be selected from the [Cell Data Collection Policy](#) dialog box.
 - You can also be notified repeatedly, and also after the condition clears.
 - By any combination of the following pre-determined notification methods:
 - By E-mail
 - By pager
 - By [SNMP traps](#) if the SNMP Enabler is installed on the CommNet Server
 - From a Windows System Event Viewer on the CommNet Server
 - The execution of a command script
-

SNMP Traps

An SNMP Trap is used for alert notifications sent by the CommNet Server via the SNMP protocol to another computer that receives the SNMP trap using a trap receiver software. An SNMP Trap is sent just once each time the CommNet Server generates an alert. SNMP traps are sent in the Management Information Protocol (MIB) format.

A CommNet Server computer can send alerts via SNMP traps to multiple computers. These computers can receive these alerts even if they do not have the software installed. These alerts are sent only if the CommNet Server SNMP Enabler has been installed on the CommNet Server and alerts have been configured to be sent via SNMP traps.

In order for an alert to be sent as an SNMP trap:

- Ensure that SNMP services are started on the CommNet Server computer.
- Install the CommNet Server SNMP Enabler software on the CommNet Server computer. For information on how to install the SNMP Enabler software, see [Install the CommNet Server SNMP Enabler](#).
- Check that the computers that are to receive the SNMP Traps are set up with the appropriate trap receiver software.
- Ensure that the CommNet Server computer that sends the trap and the remote computer that receives the trap are accessible.
- You can add additional computers to receive SNMP Traps. For information on how to add additional computers to receive SNMP Traps, see [Install the CommNet Server SNMP Enabler](#).
- Configure alerts to be sent as SNMP Traps from the [Notification Method\(s\) Selection](#) tab of the **Alert Wizard** dialog box. For a list of the alerts that can be sent as SNMP traps, see [Available Alerts and Entity Association](#).

Sample SNMP Trap Message

All SNMP traps are sent in the Management Information Base (MIB) format. When the CommNet Server SNMP Enabler is installed, the MIB file is automatically installed on the CommNet Server computer and is located at `\<Software Installation Directory>\Mib\qinetix.mib`.

Example

Part 1:

Agent Address: 172.19.61.216

OID Prefix: 1.3.6.1.4.1.14604.2.2

Time Stamp: 26126615

Generic: 6

Specific: 1

Part 2:

OID: 1.3.6.1.4.1.14604.2.2.4.1.0

SNMP Trap Components

Part 1

The following table describes Part 1 of the example of the SNMP trap message:

Field	MIB Definition
Agent Address 172.19.61.216	Address of the computer generating the trap
OID Prefix: 1.3.6.1.4.1.14604.2.2	The first part of the OID Prefix indicates the vendor's identification number of the network management system contained in the entity. In this example, this number is the Enterprise identification number. The last part of the OID Prefix, 2.2, indicates products and the software, respectively.
Time Stamp: 26126615	The time in hundredths of a second since the network management portion of the system was last re-initialized.
Generic: 6	The generic trap type. The number 6 means it is enterprise specific.
Specific: 1	The specific trap type.

Part 2

The example that follows describes the OID field as identified as Part 2 of the SNMP trap message:

1.3.6.1.4.1.14604.2.2.4.1.0

The third to last number, number 4, represents the software product.

The second to last number of the OID identifies the object type. The following table lists the object types and their corresponding MIB definitions:

Object Type	MIB Definition
1	Display name
2	Date and time of the alert detection
3	Creator of the alert
4	Alert type
5	Alert status
6	Alert actual threshold

Available Alerts and Entity Association

The following table includes the available alerts, their associated entities and criteria description. The alerts available are grouped into three categories:

- Administrative
- Job Management
- Media Management

Administrative

Alert Type	Entity	Criteria	Description
CommCells	CommNet	Criteria can only be	Value of n can be a whole number or a

Unreachable	Server, CommCell	percentage or value based. Detect when n or more CommCells are unreachable.	percentage. The CommNet Server software detects that the specified number or percentage of selected CommCells are not reachable.
CommNet Database Disk Allocation	CommNet Server	Criteria can only be value based.	Value of n can only be a whole number.
		Detect when n MB of disk is used by the CommNet database.	The CommNet Server software detects that the specified amount of disk space is being used by the CommNet database.
CommNet Database Backup Failure	CommNet Server	Criteria can only be value based.	Value of n can only be a whole number.
		Detect when n days since last successful CommNet database backup.	The CommNet Server software detects that the specified number of days have passed since the last successful CommNet database backup.
Cell Synchronization Failure Over Time	CommNet Server, CommCell, QSMCell	Criteria can only be value based.	Value of n can only be a whole number.
		Detect when n or more cells have synchronization failure during the last n days.	The CommNet Server software detects that the specified number of cells has had a synchronization failure during the last specified number of days.

Job Management

Alert Type	Entity	Criteria	Description
Clients Not Protected Over Time	CommNet Server, CommCell, Client	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.
		Detect when n or more clients have not been protected during the last n days.	The CommNet Server software detects that the specified number of clients' data has not been backed up during the last specified number of days.
		Include Entities Without Schedules	Include those entities that have no scheduled jobs.
Consecutive Job Failures	Client Based Entity: CommNet Server, CommCell, Client	Criteria can only be value based.	Value of n can only be a whole number.
	Storage Policy Based Entity: CommNet Server, CommCell, Storage Policies	Detect when n or more jobs have failed consecutively during the last n days.	The CommNet Server software detects that the specified number of jobs have failed consecutively during the last specified number of days.
Job Failures Over Time	CommNet Server, CommCell, Client, Cell-Client Group	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.
		Detect when n or more jobs have failed during the last n hours.	The CommNet Server software detects that the number of specified jobs have failed during the last specified number of hours.
Subclients Not Protected Over Time	CommNet Server, CommCell, Client, Cell-Client Group	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.
		Detect when n or more subclients have not been protected during the last n days.	The CommNet Server software detects that the specified number of subclients' data has not been backed up during the last specified number of days.
		Include Entities Without Schedules	Include those entities that have no scheduled jobs.
		Exclude Command Line Subclients	Exclude those subclients created via command line.

Media Management

Alert Type	Entity	Criteria	Description
Drives Offline*	CommNet Server, CommCell, Library	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.
		Detect when n or more drives are offline.	The CommNet Server software detects that the specified number of drives are offline.
Libraries Offline	CommNet Server, CommCell, Library	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.

		Detect when n or more libraries are offline.	The CommNet Server software detects that the specified number of libraries are offline.
MediaAgents Offline	CommNet Server, CommCell, MediaAgent	Criteria can be percentage or value based.	Value of n can be a whole number or a percentage.
		Detect when n or more MediaAgents are offline.	The CommNet Server software detects that the specified number of MediaAgents are offline.

*The Drives Offline alert only supports the physical drive level.

Alert Tasks

For the Alerts node, tasks are available from the **All Alerts Tasks** or **My Alerts Tasks** section of the CommNet Browser. These tasks allow you to display information regarding important aspects of the alerts that are configured within the CommNet domain.

The following is a list of alert tasks:

- [All Alerts](#)
- [My Alerts](#)

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Cost Analysis

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

Overview

Cost Categories

- [Primary Storage Resource](#)
- [Secondary Storage Resource](#)

Billable Entities

Billing Reports

Billing Configuration Tasks

Overview

The software provides a flexible costing model to calculate the cost of both the primary and secondary storage based on the types of storage media used. In addition the storage costs can be distributed to billable entities, such as departments within a company. The costing model can be defined centrally and is automatically distributed to all CommCells and [QSMCells](#) within the CommNet domain. The costing model consists of defining the cost categories and billable entities. These are explained in the following sections.

Cost Categories

The estimated per megabyte cost to store and protect data on a type of storage entity can be defined in a cost category. Cost categories can be associated with the following storage entities:

Primary Storage Resource

Cost categories defined for primary storage can be associated with actual primary storage resources in the CommCell Console for SRM entities (and in the QSM Console for QSM entities), once a CommCell/ [QSMCell](#) is registered with the CommNet Server. Primary storage resources include:

- Disks
- Unix logical volumes
- NAS volumes
- SharePoint databases
- NetWare pools

Secondary Storage Resource

Data protection operations that create protected copies of primary storage data are managed from the CommCell Console. Cost categories can be assigned to these storage resources in the CommNet Server and then can be viewed from a CommCell Console, once that CommCell is registered with the CommNet Server. Secondary storage resources include:

- Tape, optical, and magnetic media
- Quick Recovery scratch volume pools

Note that if you do not have an elaborate model for defining cost categories and billable entities in your organization, you can also generate the [Billing Charge Back Report](#) using a fixed costing. See [Fixed Costing](#) section in [Billing Charge Back Report](#) for more information.

Billable Entities

A billable entity can be associated with the following objects, wherever applicable:

- Clients
- Agents
- Databases

- Backup Sets
- Instances
- Subclients

For additional information on backward compatibility issues, see [Billable Entity Association for QSMCell Objects](#).

Billing Reports

After defining the Cost Categories and Billable Entities, you must associate the appropriate primary and secondary storage entities in the CommCells and [QSMCells](#). You must also [Synchronize Cells](#) before generating the reports. See [Billing and Costing - Example](#) for more information.

The following reports can be generated:

- The [Billing Charge Back Report](#) provides you with the costs of your primary and secondary storage, from fixed based costing methods or category costing methods, for a particular client computer or for all objects that are included in a billing entity.
 - The [Billing Association Report](#) provides you with the information of the association of your cost categories and billable entities of the CommNet domain.
 - The Billing Detail Report provides, for a particular cell or client, a detailed view of the charges. Can be derived by clicking on the Number of Data Protection operations, total price, Data size, or the Price for data protection or price for storage.
-

Billing Configuration Tasks

For the Billing Configuration node, tasks are available from the **Cost Categories Tasks** and **Billable Entities Tasks** section of the CommNet Browser. These tasks allow you to view information regarding important aspects of the cost categories and billing entities that are configured within the CommNet domain.

The following is a list of Billing Configuration tasks:

[Cost Categories](#)

[Billable Entities](#)

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Dashboard

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

The Dashboard displays a pictorial view of a CommNet entity's, the CommNet domain's or a CommCell's, last seven days. It contains the details of successful jobs, data protection coverage and data growth for the CommNet entity specified by the user. This is extremely useful for those needing to quickly obtain the status of their CommNet domain environment and for troubleshooting. The dashboard can display up to six (6) reports at one time. By default, it displays the following reports:

Last 7 Days Job Success

This bar graph depicts the data protection job success rate for the last seven days, according to the CommCell Browser's local time. It displays the total number of data protection jobs executed during this time, as well as those that have completed, were killed and failed. If viewing the last seven days of a CommCell rather than the entire CommNet domain, you can click on the graph to see a detailed report of the data protection jobs within this time period.

Last 7 Days DP Coverage

This bar graph depicts the data protection coverage per subclient for the last seven days, according to the CommCell Browser's local time. It displays the total number of subclients with data protection coverage as well as those with no activity, or with coverage that failed or was killed. If viewing the last seven days of a CommCell rather than the entire CommNet domain, you can click on the graph to see a detailed report of the data protection jobs per subclient within this time period.

Last 7 Days Data Growth - Combined

This bar graph depicts the data growth for both incremental and full data protection jobs for the last seven days, according to the CommCell Browser's local time. It displays the total growth for both incremental and full data protection jobs per day in GB. If viewing the last seven days of a CommCell rather than the entire CommNet domain, you can click on the graph to see a detailed report of the data growth within this time period.

Other reports available for display in the Dashboard are:

- Last 7 Days Data Growth - Incremental
- Last 7 Days Data Growth - Full
- Last 7 Days DP Activity - Data Size
- Last 7 Days DP Activity - Job Detail

To customize the Dashboard view, refer to [Customize the CommNet Dashboard](#).

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Scheduling

[Topics](#) | [How To](#) | [Tasks](#) | [Troubleshoot](#)

Scheduling ensures that you can run tasks such as reports and summaries on a consistent basis. You can use the scheduling feature to send this critical organizational information to multiple users at multiple times and intervals, in the format that works best for you.

CommNet Scheduling also allows you to:

- Save the scheduled task to a specified folder and be sent as an e-mail to users and user groups.
- Run a particular schedule immediately.
- View the history of schedules with the status of each attempt performed along with the corresponding failure reason, if needed.
- View the schedules that were created by you, along with the number of schedules that you will receive.
- Determine if a schedule is enabled or disabled.
- Disable the scheduler activity for a particular schedule or the entire scheduler.
- Filter schedules on a particular report type or summary window.
- Generate files in either PDF or TSV (Tab Separated Values) format.

In order for scheduled tasks to run, you must have the following minimum requirements:

- A CommNet Browser installed on a CommNet Server
- A valid e-mail server and a senders e-mail address for the CommNet Server
- The correct user [Capabilities and Permitted Actions](#).
- A Windows Scheduled Task Service that is up and running. Note the following:
 - All CommNet scheduled tasks are displayed in the **Windows Scheduled Tasks** dialog box.
 - All tasks in the Windows Scheduled Task window are the same as the CommNet scheduled tasks in the CommNet Browser. An update runs when the Windows Scheduled Tasks service is started, and once every hour after that.
 - All CommNet scheduled tasks are deleted from the Windows Scheduled Tasks service if the CommNet Server software is uninstalled.
 - Do not modify a scheduled task from the Windows Task Scheduler.

If a scheduled task is modified from the Windows Task Scheduler, the software will not get updated with the new start time. The scheduled task will start at the time specified in the Windows Task Scheduler and will be ignored at the time it is scheduled to start in the CommNet Browser. It is recommended all scheduled tasks be modified from CommNet Browser.

Reports

Topics | [Troubleshoot](#) | [Related Topics](#)

[Overview](#)

[Report Tasks](#)

[Available Reports](#)

[Filters](#)

[Data Availability Timelines](#)

Overview

Reports allow you to view and analyze data related to various aspects of different entities like CommCell, [QSMCell](#), Client, MediaAgent and library in the CommNet domain.

Information is presented in a logically grouped, tabular format, with the ability to also plot the information as a bar chart or pie chart wherever possible. On all reports and summaries, and in addition to selected pie or bar charts, the exact chart details also display in a data table.

When you select a given report, various filters will be available to select the entities and options to be included when the report is generated. If a report will contain tables, you can pre-select which columns will be displayed, as well as their order.

Once you generate a report, information is displayed in the bottom pane of the same report window, and wherever possible you are provided with a list of chart options to create different types of charts from the data displayed in the report.

There is a range of functionality available in the CommNet Browser related to Reports; see [CommNet Browser](#).

Report Features:

When viewing a report in the CommNet Browser, you can:

- Generate for multiple CommCells; however, information for each CommCell is presented in its own section for easy readability.
- CommNet reports are automatically generated for Data Growth, Data Protection Job Success, Q-Factor and Media Prediction, which provide a concise view of the relevant data for all the selected CommCells.
- Print, Save as a PDF file, or Export in Microsoft Excel format by clicking the appropriate icon at the top of the report window.
- To print the details of all CommCells, open the details for view in the CommNet Browser. Alternatively, to selectively print the details for a few of the CommCells, make sure to open only the CommCells that are required for printing.
- Schedule a report or summary by clicking the Schedule icon at the top of the report window.
- Copy any chart in BMP format to the clipboard by right-clicking the chart and selecting **Copy Chart**. This allows you to easily copy a chart into other applications. Note that the Copy Charts function is not compatible with Microsoft WordPad.
- Re-generate with different filtering by expanding the top pane of the report window and selecting the new filtering options (this can be done with a **Data Protection Detail Report** also); the current report will be replaced by the newly generated one, unless you click the push-pin icon at the top of the window.
- For most charts and tables, click any item to see either a **Data Protection Detail Report** with a listing of individual data protection operations, or an additional chart showing a further break-down of that day's data protection operations by application. In the **Data Protection Detail Report**, you can double-click any entry to access the [Job Detail](#) screen, which provides more space for Failure Reason, Attempt and Copy information to be displayed.
- Rearrange tabular columns by clicking and dragging the column titles to the left or right.
- For some tables, re-sort the information by clicking a column title.
- Change the columns displayed by right-clicking any row and selecting/clearing any column names from the pop-up View menu. (Column names that appear dimmed will always be displayed, as they are defaults.)
- For most charts, place the cursor over an item to display a tool-tip window with a summary of additional information available for that item.

- For some reports, cells containing data that is not compatible with the Agent will be shaded.
- In reports where column section is allowed, there are minimum default columns that will display regardless of selection.
- The following Microsoft Windows File Systems: Windows XP, Windows Server 2008 and Windows Vista, are grouped together and displayed as **Win FS** in all Reports and Summaries. Note that this does not apply to Operating System fields where the specific operating system will be displayed.
- The [Data Protection Detail Report](#) provides an error code for jobs that have not completed successfully. See [Obtaining Information about Job Errors](#) in [CommNet Browser](#) for more information.
- Launch detail reports for specific information pertaining the selected entity in the report. Clicking on a non-zero value in the report will initiate the associated detail report. Refer to the following table:

Name of Detail Report	Report(s) from which the Detail Report can be launched
Data Protection Detail Report	All Data Protection Reports
Load Detail Report	CommCell Load Report, Load Report
Data Protection Subclient Detail Report	Data Protection Coverage Report, Dashboard Report
Data Recovery Detail Report	Data Recovery Activity Report, Data Recovery Job Success Report
Data Recovery Recall Detail Report	Data Recovery Recall Report
CommCell Growth Drive Detail Report	CommCell Growth Report
CommCell Growth Library Detail Report	CommCell Growth Report

Uninstalled and Deleted Objects

Each report and summary has been designed to either reflect uninstalled and deleted objects or not, based on the way the report is designed to be used. For instance, the backed up data for a deleted subclient is retained, and thus it is reflected in the Data Protection Coverage Report. Refer to the following table to determine how each Report will treat deleted objects:

NOTE: Yes = it is included in charts and/or totals and/or details report	Deleted Subclient	Deleted Backupset	Uninstalled ;DataAgent	Deleted ;DataAgent	Uninstalled Client with Uninstalled not deleted ;DataAgent	Uninstalled Client with deleted ;DataAgent	Deleted Client
Reports							
Data Protection Coverage	Yes	No	Yes	No	Yes	No	No
Data Protection Summary	Yes	No	Yes	No	Yes	No	No
Data Protection Activity	Yes	Yes	Yes	No	Yes	No	No
Job Success	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Growth	Yes	Yes	Yes	Yes	Yes	Yes	No
Window Utilization	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Q-Factor	Yes	No	Yes	No	Yes	No	No
Client Q-Factor	Yes	No	Yes	No	Yes	No	No
Data Recovery Activity	--	Yes	Yes	Yes	Yes	Yes	Yes
Data Recovery Job Success	--	Yes	Yes	Yes	Yes	Yes	Yes
Data Recovery Recall	No	No	No	No	No	No	No
Health Check Report	No	No	No	No	No	No	No
Summaries							
CommCell	Yes	Yes	Yes	No	Yes	No	No
Client	No	No	No	No	--	--	--
Client Data Growth	Yes	Yes	Yes	--	--	--	--
Subclient Data Growth	Yes	--	Yes	--	--	--	--

- When you generate a report, several dates are shown in the report window:
 - **Generated at** - The local time on your machine where you generated the report.

- **Reported as of** - All data protection reports are based on the latest information obtained from the CommCells at the interval specified in the [Cell Data Collection Policy](#) dialog box, which means it is not "real time" data; this date shows when the last update occurred. If it is necessary to update the information from a CommCell immediately, see [Synchronize Cells](#) for more information. This is the local time of the CommCell.
- **Time Range** - The reporting period that you chose in the **Time Range Selection** filter. If you are generating reports for multiple CommCells across different time zones, bear in mind that this time is based on the CommCell's local time.
- Most reports have a 31 day window of reporting. You can choose any calendar period, 31 days at a time, for which you still have data on the CommNet Server. Data protection history is available for whatever retention period you have set in the [CommNet Properties](#) dialog box. (The **Data Growth Report** has limits of 31 days, or 24 weeks, or 6 months; however, the same principles apply.)
- Some **Data Protection Detail Reports** have an **Is Pruned** column; this indicates if the protected data is still being stored, or if it has been pruned by the MediaAgent.
- Some reports may behave differently depending upon the version of the CommNet Agent software installed on the selected CommCells. Any difference in behavior is noted in the **CommNet Agent Support** section in the help files for each individual report.
- A SQL Agent which is installed in a CommCell, but which has no subclient content configured yet, may not appear in Reports or Summaries. Once an instance has been configured as subclient content for the Agent, all Reports and Summaries will reflect the presence of the Agent in the CommCell.

Report Tasks

For the Reports node, the Reports task is available from the **Report Tasks** section of the CommNet Browser. This task allows you to select a Billing, Data Protection, Data Recovery, Media Management, Primary Storage, or License Report.

Available Reports

There are several tasks you should accomplish before generating reports, which are summarized in [Getting Started](#). To learn more about each available report, click the links provided:

Billing Reports

- [Billing Association Report](#) - shows the association of billable entities and cost categories to CommCell and QSMCell storage entities and objects. Also shows the storage entities and objects that do not have any billing entity or cost category association.
- [Billing Charge Back Report](#) - generates a list of computed charges for primary and secondary storage based on defined cost categories. Has the capability to calculate these charges automatically from a fixed costing method. Can also charge based on a billing entity or a client computer.
- [Billing Detail Report](#) - displays, for a particular cell or client, an exhaustive view of the charges. Can be derived by clicking on the Number of DP operations, total price, Data size, or the Price for data protection or price for storage.

Data Protection Reports

- [Data Protection Coverage Report](#) - displays whether or not a subclient has consistent data protection coverage
- [Data Protection Summary Report](#) - a summary of the data protection operations each day
- [Data Protection Activity Report](#) - shows data protection jobs that were completed, and/or failed or killed, for all subclients
- [Data Protection Job Success Report](#) - shows a trend of how jobs are completing over a range of days
- [Data Protection Data Growth Report](#) - shows the trend of data growth within a CommCell
- [Data Protection Window Utilization Report](#) - shows a summary of data protection operations relative to the data

protection window

- [Data Protection Q-Factor Report](#) - provides averages and performance ratings to quickly determine if your CommCells, clients, applications, and subclients have adequate data protection coverage
- [Data Protection Consecutive Job Failure Report](#) - shows the consistency of backups over a range of time
- [Data Protection Detail Report](#) - provides a list of individual data protection operations (e.g., start times, duration, interruptions, multiple attempts, and reasons for failures). This is not a primary report. Rather, it is derived from the Data Protection Data Growth, Window Utilization, Activity, Coverage, and Job Success Reports. The maximum number of jobs that are displayed per CommCell or Cell-Client Group in this report can be configured from the [CommNet Properties](#) dialog box.

Data Recovery Reports

- [Data Recovery Activity Report](#) - shows data recovery jobs that were completed, and/or failed or killed, for all subclients
- [Data Recovery Job Success Report](#) - shows a trend of how jobs are completing over a range of days
- [Data Recovery Recall Report](#) - shows the number of recall jobs that have completed, failed, or have been killed for the Migration Archiving iDataAgents in a CommCell.

Daily Administration

- [CommCell Summary](#) - provides status of all the scheduled jobs in the previous data protection window
- [QSMCell Summary](#) - provides information regarding the number of QSM Agents installed, and the total data size per agent type.

Media Management Reports

- [Media Management MediaAgent Report](#) - provides information about each MediaAgent in a CommCell
- [Media Management Drive Report](#) - provides information about each drive in a CommCell
- [Media Management Media Information Report](#) - provides information on the status of media in the CommCell.
- [Media Management Library Report](#) - provides information about each library in a CommCell
- [Media Management Performance Report](#) - provides performance related information on the libraries and drives in the CommCells
- [Media Management Media Prediction Report](#) - predicts the amount of media that will be required in the CommCells
- [Media Management Cleaning Media Report](#) - provides information about the average usage of cleaning media libraries as well as the cleaning media detail per library.
- [VaultTracker Report](#) - provides information on VaultTracker actions occurring in the CommCell.

Other Reports

- [CommCell Growth Report](#) - provides a summary of the weekly, monthly and/or yearly growth patterns of all the CommCells' data protection jobs, iDataAgents, subclients, libraries and drives.
- [Dashboard Report](#) - provides a pictorial view of a CommNet entity's last seven days. By default, four reports are displayed in the Dashboard, but users can select up to six reports to be displayed in the Dashboard. Dashboard Report can be customized via the **Browser Options** dialog box.
- [License Summary Report](#) - provides a summary of licenses for selected CommCell(s).
- [Primary Storage Data Growth Report](#) - provides information about the data size of the primary storage in QSMCells.
- [Load Report](#) - provides CommCell job activity details as well as peak load status.
- [Health Check Report](#) - provides the overall update status of the clients in the CommCells.

Filters

Filtering allows you to minimize the amount of extraneous data in your reports, so you can concentrate on only that data which is essential to managing your CommCells and QSMCells. Each report has multiple filters available for such things as Time Range, CommCell, Client, Price, Association, Configuration, Entity Selections, and others, appropriate to each report.

Time Range Selection Filter - Weekends

Some reports have a **Time Range Selection** filter with an **Override CommCell Weekend Configuration** option. This allows you to generate reports that treat weekend days as you specify, regardless of how each particular CommCell Data Protection Window is configured. Using this option will ensure that the report you generate is consistent across all selected CommCells, but will not affect the settings in the [Cell Configuration \(Data Protection](#)

[Window](#)), only the report you generate in this instance.

Client Status Selection Filter

In the [Data Protection Summary Report](#), the **Client Status Selection** filters allow you to include the following for each selected CommCell in this report:

- All clients
- Only clients that have not had data protection coverage in a specified number of days; additionally, this filter can exclude those clients with no schedules, such as unutilized default subclients.
- Only clients that do not have schedules set up, such as unutilized default subclients.

If you select the option **Clients with no data protection in last <x> days**, you will find that all clients with an unused default subclient are included in the report, even if they have other subclients that have regularly scheduled data protection. To exclude them, so you can see a report of only those clients whose scheduled data protection has not completed successfully, select the **Exclude those without schedules** option. Note that this option will exclude all clients that have no schedule, not just the ones with unused subclients. Thus it might be useful to generate a separate report using only the **Clients with no schedules** option, and ascertain if that status is appropriate for each.

The [Data Protection Q-Factor Report](#) and the [Client Q-Factor Summary](#) similarly have an **Exclude Subclients without schedules** option. Select this filtering option so you can see a report of only those clients whose scheduled data protection has not completed successfully. Importantly, selecting this option will raise the calculated Q-Factor for the CommCell, Client, and Application, since it will no longer include these subclients.

When a CommNet Agent is installed or a QSM Cell is registered, the job history in the CommCells and the data growth information in the QSM Cells are collected. The following table describes when and/or how far back this information is available in the various reports and summaries, depending on the CommNet Agent version.

Exclude Command Line Subclients

The following reports contain the **Exclude Command Line Subclients** option, which allows you to exclude those subclients, created using the command line, in report calculations.

- [CommCell Growth Report](#)
- [Data Protection Coverage Report](#)
- [Data Protection Summary Report](#)
- [Data Protection Q-Factor Report](#)

Data Availability Timelines

When a CommNet Agent is installed or a [QSMCell](#) is registered, the job history in the CommCells and the data growth information in the QSM Cells are collected. The following table describes when and/or how far back this information is available in the various reports and summaries, depending on the CommNet Agent version.

Report/Summary/Task	Agent 6.1.0	Agent 7.0.0	Agent 8.0.0
Data Protection	Supported	Supported	Supported
<ul style="list-style-type: none"> • Coverage Report <ul style="list-style-type: none"> ○ Subclient Detail Report • Activity Report • Job Success Report • Data Growth Report • Window Utilization Report • Q-Factor Report • Consecutive Job Failure Report 			
CommCell Summary			
Secondary Storage Client Data Growth (Client node tasks)			
Subclient Data Growth (Client node tasks)			
Billing Charge Back Report (Secondary Storage)	Supported	Supported	Supported
Billing Charge Back Report (Primary Storage)	Supported	Supported	Supported
Billing Detail Report	Supported	Supported	Supported

Features

Billing Association Report	Supported	Supported	Supported
Data Protection Summary Report (Client Summary)	Supported	Supported	Supported
Data Recovery Activity Report	Supported	Supported	Supported
Data Recovery Job Success Report	Supported	Supported	Supported
Data Recovery Recall Report	N/A	N/A	Supported
Media Management <ul style="list-style-type: none"> • MediaAgent Report • Drive Report • Library Report Library Summary MediaAgent Summary	Supported	Supported	Supported
Media Management Performance Report	Supported	Supported	Supported
Media Management Media Prediction Report	Supported	Supported	Supported
Media Management Cleaning Media Report	N/A	N/A	Supported
Primary Storage Data Growth Report Primary Storage Client Data Growth (Client node task) QSM Cell Summary	Supported	Supported	Supported
License Summary Report	Supported	Supported	Supported
CommCell Growth Report	Not available.	Supported	Supported
CommNet Data Protection Activity Summary	Supported	Supported	Supported
CommNet Primary Storage Summary	Supported	Supported	Supported
Cell-Client Groups	Supported	Supported	Supported
Dashboard Report	Supported	Supported	Supported
Load Report	N/A	Supported	Supported
Jobs and Resources View	Jobs View Supported Only	Supported	Supported
Health Check Report	N/A	N/A	Supported

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Summaries

[Topics](#) | [Troubleshoot](#) | [Related Topics](#)

Overview

- [Summary Features](#)

[Available Summaries](#)

[Data Availability Timelines](#)

Overview

Summary pages provide a concise view of the current state of the physical entities within the CommNet Browser. Information is presented in a logically grouped, tabular format, as well as a bar chart or pie chart wherever appropriate. For a listing, and links to more specific information about each Summary, see [Available Summaries](#).

Information that will facilitate troubleshooting is available as well, such as:

- Clients that are not reachable from a Cell
- Data growth
- CommCell related:
 - MediaAgents, libraries, and drives that are not operational. Clicking problem areas underlined in red, such as a MediaAgent that is not operational, displays more detailed information about the problem.
 - Data protection activity that failed, was killed, or was incomplete. Clicking a failed or killed data protection job in Job activity charts, displays a Data Protection Detail Report.
 - Media that was consumed, or how much a MediaAgent was utilized.
 - Comparison information between full data protection operations with non-full data protection operations that were performed.

Summary Features

There is a range of functionality available in the CommNet Browser related to Summaries; see [CommNet Browser](#). The following functionality is also available:

- Print, Save as a PDF file, or Export in Microsoft Excel format by clicking the appropriate icon at the top of the summary window.
- Schedule a summary by clicking the Schedule icon at the top of the summary window. Note that initially, summaries are generated automatically.
- Copy any chart in BMP format to the clipboard by right-clicking the chart and selecting **Copy Chart**. This allows you to easily copy a chart into other applications. Note that charts cannot be copied into Microsoft WordPad.
- For most charts and tables, click any item to see either a **Data Protection Detail Report** with a listing of individual data protection operations, or an additional chart showing a further break-down of that day's data protection operations by application. In the **Data Protection Detail Report**, you can double-click any entry to access the **Job Detail** screen, which provides more space for Failure Reason, Attempt and Copy information to be displayed.
- Rearrange tabular columns by clicking and dragging the column titles to the left or right.
- For some tables, re-sort the information by clicking a column title.
- Change the columns displayed by right-clicking any row and selecting/clearing any column names from the pop-up View menu. (Column names that are dimmed will always be displayed, because they are defaults.)
- For most charts, place the cursor over an item to display a tool-tip window with a summary of additional information available for that item.
- The following Microsoft Windows File Systems: Windows XP, Windows Server 2008 and Windows Vista, are grouped together and displayed as **Win FS** in all Reports and Summaries. Note that this does not apply to Operating System fields where the specific operating system will be displayed.

A SQL Agent which is installed in a CommCell, but which has no subclient content configured yet, may not appear in Reports or Summaries. Once an instance has been configured as subclient content for the Agent, all Reports and Summaries will reflect the presence of the Agent in the CommCell.

Available Summaries

There are several tasks you should accomplish before generating summaries, which are summarized in [Getting Started](#). To learn more about each available summary, click the links provided:

- [CommNet Summary](#)
- [CommNet Data Protection Activity Summary](#)
- [CommNet Primary Storage Summary](#)
- [User Summary](#)
- [User Group Summary](#)
- [CommCell Summary](#)
- [Library Summary](#) for Tape/Optical/Stand-alone libraries
- [Library Summary](#) for Magnetic libraries
- [MediaAgent Summary](#)
- [QSMCell Summary](#)
- [Cell-Client Group Summary](#)
- [Client Summary](#) for a client that is part of a CommCell, [QSMCell](#), or both
- [Secondary Storage Client Data Growth](#)
- [Secondary Storage Client Data Growth \(Subclient\)](#)
- [Client Q-Factor](#)
- [Primary Storage Client Data Growth](#)

Data Availability Timelines

When a CommNet Agent is installed or a [QSMCell](#) is registered, the job history in the CommCells and the data growth information in the QSM Cells are collected. The following table describes when and/or how far back this information is available in the various reports and summaries, depending on the CommNet Agent version.

Report/Summary/Task	Agent 6.1.0	Agent 7.0.0	Agent 8.0.0
Data Protection <ul style="list-style-type: none"> • Coverage Report <ul style="list-style-type: none"> ○ Subclient Detail Report • Activity Report • Job Success Report • Data Growth Report • Window Utilization Report • Q-Factor Report • Consecutive Job Failure Report 	Supported	Supported	Supported
CommCell Summary			
Secondary Storage Client Data Growth (Client node tasks)			
Subclient Data Growth (Client node tasks)			
Billing Charge Back Report (Secondary Storage)	Supported	Supported	Supported
Billing Charge Back Report (Primary Storage)	Supported	Supported	Supported
Billing Detail Report	Supported	Supported	Supported
Billing Association Report	Supported	Supported	Supported
Data Protection Summary Report (Client Summary)	Supported	Supported	Supported
Data Recovery Activity Report	Supported	Supported	Supported
Data Recovery Job Success Report	Supported	Supported	Supported
Data Recovery Recall Report	N/A	N/A	Supported
Media Management	Supported	Supported	Supported

Features

<ul style="list-style-type: none"> • MediaAgent Report • Drive Report • Library Report <p>Library Summary</p> <p>MediaAgent Summary</p>			
Media Management Performance Report	Supported	Supported	Supported
Media Management Media Prediction Report	Supported	Supported	Supported
Media Management Cleaning Media Report	N/A	N/A	Supported
Primary Storage Data Growth Report	Supported	Supported	Supported
Primary Storage Client Data Growth (Client node task)			
QSM Cell Summary			
License Summary Report	Supported	Supported	Supported
CommCell Growth Report	Not available.	Supported	Supported
CommNet Data Protection Activity Summary	Supported	Supported	Supported
CommNet Primary Storage Summary	Supported	Supported	Supported
Cell-Client Groups	Supported	Supported	Supported
Dashboard Report	Supported	Supported	Supported
Load Report	N/A	Supported	Supported
Jobs and Resources View	Jobs View Supported Only	Supported	Supported
Health Check Report	N/A	N/A	Supported

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CommCells

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Overview

[Register and Synchronize a CommCell](#)

[Register and Synchronize a CommCell with Two CommNet Servers](#)

- [What Happens When the Roles of the Primary CommNet Server and Secondary CommNet Server are Reversed](#)
- [CommCell Jobs and Resources](#)
-

Overview

The software provides an efficient way of managing multiple CommCells, by reporting all the vital information in a concise manner, highlighting only the problem areas instead of reporting all the details which could easily overwhelm an administrator.

Register and Synchronize a CommCell

In order to monitor the CommCells in your CommNet domain, you must register the CommCell with your CommNet Server. See, [Register a CommCell](#).

Once registered, each CommCell node displays the following:

- A list of [Clients](#) available in the CommCell, with each Client node providing the specific information about the client.
- A list of [Storage Resources](#) available in the CommCell, which includes the MediaAgents and Libraries. Each MediaAgent and Library nodes provide specific information about the MediaAgent or Library.

[CommCell Summary](#) displays the date and time at which the data was obtained from the CommCell in the title of the summary page. If you wish to obtain a more up-to-date information on the CommCell, you can synchronize the CommCell as described in [Synchronize Cells](#).

The following information is synchronized from the selected CommCells:

- Configuration information which includes the following:
 - Client information
 - MediaAgent information
 - Library information
 - Job history
 - Media Management history
 - Resource view update information
 - Load Report information (data necessary to generate report)
 - Time zone information
- Information associated with the CommCell jobs
- Events associated with the CommCell jobs

The following information is synchronized from selected [QSMCells](#) and/or SRM components in a CommCell:

- Information from all the QSM/SRM Agents including the following:
 - space utilization and volume information for file systems and NAS shares
 - space utilization and content for file system subclients
 - space utilization for databases, instances, stores and storage groups
 - Billable Entity and Cost Category assignments for primary storage

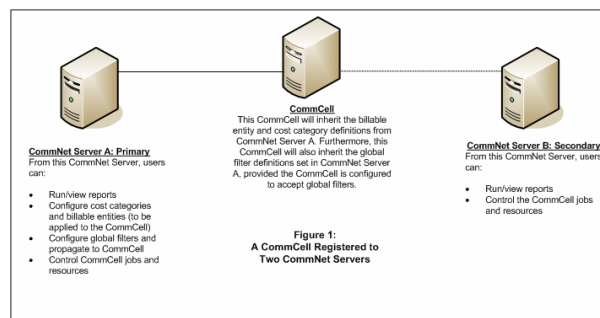
Register and Synchronize a CommCell with Two CommNet Servers

Your CommNet environment may require an alternate department (or even a third-party entity) to monitor a CommCell's data in your CommNet domain for the purpose of data and cost analysis. To satisfy this requirement, the CommCell can be registered with two CommNet Servers, which enables an alternate site to monitor the CommCell. During the CommCell registration process, the first server registered is designated as the primary server, where the other will be designated as the secondary server. The functional difference between the two

CommNet servers are that only the primary server can push policies like [global filters](#), [billable entities](#) and [cost categories](#) to the CommCell. Both CommNet Servers can collect data, monitor, control jobs and resources, and generate reports. The capabilities of the primary and secondary CommNet servers are outlined in the following table.

Primary CommNet Server	Secondary CommNet Server
Run and view reports.	Run and view reports.
Control Jobs: Suspend, Resume, Kill.	Control Jobs: Suspend, Resume, Kill.
Control Resources (libraries, drives/mountpaths, MediaAgents): Enable, Disable, or Reset.	Control Resources (libraries, drives/mountpaths, MediaAgents): Enable, Disable, or Reset.
Configure global filters and propagate downward to CommCell.	
Define billable entities and propagate downward to CommCell.	
Define cost categories and propagate downward to CommCell.	

Remember, the secondary CommNet server should be designated as the server for the alternate site due to its inability to distribute its global filter, billing and costing definitions to the CommCell. With this, a CommCell registered to two CommNet servers might resemble **Figure 1**.



The capability differences between the primary and secondary CommNet servers warrant caution when registering a CommCell to two servers. If you register a CommCell to multiple servers, and inadvertently designate the primary server to a site designated to only monitor the data (perhaps even a third-party), they will now will have the ability to define cost categories and billing entities, thereby jeopardizing the security and integrity of your data/environment. Furthermore, the CommNet server that is inadvertently designated as the secondary server, may appear to be failing b/c of the inability to execute cost analysis tasks. For verification, you can identify whether a CommNet Server is the primary or secondary server from the [CommCell Summary](#). The General section of the summary will indicate whether or not the CommNet Server is the primary or secondary server for the CommCell.

What Happens When the Roles of the Primary CommNet Server and Secondary CommNet Server are Reversed

It may be necessary to re-designate the roles of the primary and secondary servers perhaps due to a failover situation. To re-designate the servers, you must access the CommCell's Control Panel. From there, the CommNet Properties dialog will enable you to identify the CommNet Servers to which the CommCell is registered, as well as which server is designated as the CommCell's Primary CommNet Server; and if necessary, enable you to re-designate the Secondary CommNet Server as the Primary Server, and vice versa. If you reverse the roles, be sure to note the following considerations:

- When a CommCell is registered to two CommNet Servers, it will inherit the billable entity and cost category definitions configured in the Primary CommNet Server. Therefore, in an environment where a CommCell is registered two CommNet Servers and the roles of the CommNet Servers are reversed, the CommCell will inherit the billable entity and cost category definitions of the new primary server.
- CommCell jobs that have completed retain their cost category definitions, whereas currently running CommCell jobs inherit the cost category definitions from the server that is designated the primary server at the time the job completes its data writing phase. These costs will be included in the Billing Charge Back Report, which can be run from both the Primary and Secondary CommNet Servers.
- When a CommCell is registered to two CommNet Servers, it will inherit the global filter definitions configured in the Primary CommNet Server provided that the CommCell is configured to accept the CommNet Server's global filter definitions (see Global Filters). Therefore, in an environment where a CommCell is registered two CommNet Servers and the roles of the CommNet Servers are reversed, the CommCell will inherit the global filter definitions of the new primary server and delete the filter definitions from the previous primary server.

For more information, see the following:

- [Register a Cell](#)
- [Remove a Registered Cell](#)
- [Synchronize Cells](#)

To register a CommCell with two CommNet Servers, all components must have the latest software version installed.

CommCell Jobs and Resources

Jobs and Resources is a CommCell task in the CommNet Browser. When selected, users can select to view the CommCell's status information in a Jobs View and Resources View. See [Run CommCell Tasks](#).

Jobs View

The Job View contains the all the jobs associated with the selected CommCell. This view is automatically refreshed every 30 seconds per CommCell. Users can view the status of the jobs and control them via this view, which is especially useful if the Jobs View indicates that there is a problem with a resource hindering a successful completion.

From this view, users can right click on a job and perform the following actions:

- Suspend
- Resume
- Kill

For more information, see [Control Jobs from the CommCell Jobs View](#).

Resources View

The Resources view contains the events that have occurred on a given mountpath, library, drive or MediaAgent. This view is automatically refreshed every 30 seconds per CommCell as well. Users can control the mountpath and resources via this view. It can be used to quickly identify whether any libraries and/or MediaAgents are offline, or if there are any other problems with any of the resources. Additionally, from this view, users can click on a Library, Drive, MediaAgent, or Media to launch another window displaying the resource's specific details. This is especially useful if the Jobs and Resources view indicates that there is a problem with a resource.

From this view, users can right-click on a Library, Drive/Mountpath, or MediaAgent to perform the following actions:

- Library: **Enable**, **Disable**, or **Reset** the library
- Drive: **Enable**, **Disable**, **Reset**, or **Unmount** the drive
- Mountpath: **Enable** or **Disable** the mountpath
- MediaAgent: **Enable** or **Disable** the MediaAgent.

Users can also filter the Resources View to only display details related to specific libraries or MediaAgents.

For more information, see [Manage Resources from the CommCell Resources View](#).

Storage Resources

Topics | [Tasks](#)

The Storage Resources node provides vital information about the MediaAgent and libraries in the CommCell. From this node you can quickly determine the MediaAgents, libraries or drives that are not operational in the CommCell.

Both the MediaAgent and Library summaries display the date and time at which the most recent information was obtained from the CommCell about MediaAgent, in the title of the summary page. If you wish to obtain more up-to-date information, you can synchronize the CommCell associated with the MediaAgent, as described in [Synchronize Cells](#).

Libraries

[Topics](#) | [Tasks](#) | [Troubleshoot](#) | [Related Topics](#)

The library nodes in a CommCell provides vital information about the libraries in the CommCell. All the libraries that are not operational are highlighted in the CommNet tree.

The CommNet tree displays a node for each configured library in the CommCell, even when it is shared between multiple MediaAgents.

Library summaries display the date and time at which the most recent information was obtained from the CommCell about the library, in the title of the summary page.

If you wish to obtain more up-to-date information of the Client, you can synchronize the CommCell associated with the client, as described in [Synchronize Cells](#).

MediaAgents

[Topics](#) | [Tasks](#) | [Related Topics](#)

The MediaAgent nodes in a CommCell provides vital information about all the MediaAgents in the CommCell. All the MediaAgents that are not operational are highlighted in the CommNet tree.

The CommNet tree displays a node for each MediaAgent in the CommCell. The Library Status and Drive Status display the status information associated with the physical entities that are controlled by the MediaAgent. For shared libraries the following information is displayed:

- For a library shared between multiple MediaAgents in a SAN DDS environment, the library and drive status information is displayed in all these MediaAgents.
- For a direct-attached shared library, the library information is displayed by the MediaAgent controlling the media changer. All the other MediaAgents, which share the drives in the library, display the drive information associated with the specific MediaAgent.

MediaAgent Summary displays the date and time at which the most recent information was obtained from the CommCell about the MediaAgent, in the title of the summary page. If you wish to obtain more up-to-date information, you can synchronize the CommCell associated with the MediaAgent, as described in [Synchronize Cells](#).

QSMCells

[Topics](#) | [How To](#) | [Tasks](#) | [Troubleshoot](#)

The software provides an efficient way of managing multiple QSMCells, by reporting all the vital information in a concise manner, highlighting only the problem areas instead of reporting all the details which could easily overwhelm an administrator.

QSMCells are controlled by QSM Servers, which provide a centralized data repository of information gathered by the QSM Agents, which gather data from systems where they are installed.

For more information about available QSM Agents, refer to *Books Online* for QSM.

Each QSMCell node displays a list of Clients available in the QSMCell, with each Client node providing the specific information about the client.

[QSMCell Summary](#) displays a time stamp that is based on the latest information reported by the QSM Server. This time stamp represents the last time the QSM Server collected data from the QSMCell clients using (any of) the installed agents. If you wish to obtain a more up-to-date information on the QSMCell, you can synchronize the QSMCell as described in [Synchronize Cells](#).



QSMCells refers to 7.0.0 and earlier versions of the software. In the current version, QSM software has been merged with the CommCell Data Management Suite and QSM components are renamed as SRM components.

Thus, in the CommNet software, SRM components are represented as part of the CommCell. QSMCells therefore refers to an earlier version as stated above and are represented as a separate entity under **QSMCells** level in the CommNet Browser.

Cell-Client Groups

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

Cell-Client Groups, not to be confused with [Client Computer Groups](#)*, is a CommNet feature that allows users to create a logical group of clients comprising of any of the CommCells, [QSMCells](#) and/or client entities within the CommNet domain. Users can select specific applications for the group as well. This feature can be used to quickly and easily analyze specific applications or application types throughout the entire CommNet domain.

**Client Computer Groups are created in and inherited from the CommCell Console for the CommCell to which the clients belong and cannot be modified in the CommNet browser.*

Clients

Topics | [Related Topics](#)

[Overview](#)

[Client Tasks](#)

Overview

The Client nodes in a CommCell or [QSMCell](#) provide vital information about the client which helps you to analyze the various aspects of the client's primary storage and secondary storage data growth.

In the client summary page, for primary storage, the date and time at which the most recent information was obtained from the QSM/SRM Server about the client is displayed in the **Primary Storage** section of the Client Summary. For secondary storage, the date and time at which the most recent information was obtained from the CommCell about the client, is displayed in the **Secondary Storage** section of the Client Summary. If you wish to obtain a more up-to-date information of the Client, you can synchronize the Cell associated with the client, as described in [Synchronize Cells](#).

If the client is part of a CommCell, and is uninstalled (but not hard deleted), the client will be displayed as dimmed in the CommNet Browser. If the client is part of a QSMCell only, once uninstalled, the client will not be displayed at all in the CommNet Browser.

Client Tasks

Information regarding important aspects of a client can be obtained using the tasks available from the **Client Tasks** section of the CommNet Browser.

If this client is part of a CommCell only, the following tasks are available:

- [Secondary Storage Client Data Growth](#)
- [Secondary Storage Subclient Data Growth](#)
- [Q-Factor](#)
- [Client Summary](#)

If this client is part of a QSMCell only, the following tasks are available:

- [Primary Storage Client Data Growth](#)
- [Summary](#)

If this client is part of a CommCell and QSMCell, the following tasks are available:

- [Primary Storage Client Data Growth](#)
- [Secondary Storage Client Data Growth](#)
- [Secondary Storage Subclient Data Growth](#)
- [Q-Factor](#)
- [Client Summary](#)

At the CommCell node, you can view the various attributes of all the clients with a CommCell from the [Client Status](#) task from the **CommCell Tasks** section of the CommNet Browser.

At the QSMCell node, you can view the various attributes of all the clients with a QSMCell from the [Client Status](#) task from the **QSMCell Tasks** section of the CommNet Browser.

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Client Computer Groups

[Topics](#) | [Tasks](#) | [Related Topics](#)

Client Computer Groups are created in and inherited from the CommCell Console for the CommCell to which the clients belong and cannot be modified in the CommNet browser. A client computer group is a logical grouping of client computers that serves as a single CommCell entity in which selected options can apply to all member clients. Hence, the need to configure options for individual clients is eliminated once those clients are members of the group. Client Computer Groups cannot be modified in the CommNet Browser.

CommNet Services

Topics | How To

Overview

- [Additional Services](#)
- [TCP Port Used for Services](#)

[Binding Services to Specific Network Interface Cards \(NIC\)](#)

Overview

The CommNet Server requires the following services to run properly and to communicate with the CommCells and/or QSMCells within the CommNet domain:

Cell Component	Service Name	Description
CommNet Server computer only	Calypso Monitor Service	Must be running so that a CommNet Browser can operate and the CommNet Server can receive updates from the CommCells within the CommNet domain. This service is dependent on the Microsoft SQL Service.
CommNet Agent Computer only (any system)	Bull Calypso Client Event Manager Service	Must be running so that a CommCell can communicate with the CommNet Server.
QSM Server Computer only (any system)	QSM GUI Service	Must be running so that a QSMCell can communicate with the CommNet Server.

Additional Services

The following additional services may be required:

Function	Cell Component	Service Name	Description
Disaster Recovery	CommNet Server Computer	Base services (i.e., Bull Calypso Client Event Manager - GxEvMgrC, and Bull Calypso Communications Service - GxCVD) NOTES <ul style="list-style-type: none"> • Is installed when the Microsoft SQL Server iDataAgent is installed on the CommNet Server computer. 	Must be running so that regular backups of the CommNet Server database can be performed for Disaster Recovery purposes. For more information on planning for disaster recovery, see Planning for Disaster Recovery of the CommNet Server .
CommNet Server Communication With CommCells Across a Firewall	CommNet Server Computer	Bull Calypso Communication Service (GxCVD) NOTES <ul style="list-style-type: none"> • Is installed when the Microsoft SQL Server iDataAgent is installed on the CommNet Server computer. 	Must be running so that the CommNet Server can communicate with a CommCell across a firewall. For more information on communicating across firewalls, see Firewall Requirements .

TCP Port Used for Services

The CommNet Server communicates with the Cell components in the CommNet domain through TCP Port number 8403. This is a registered network port number and is identified in the Windows/System32/Drivers/etc/Services file as a Static Port.

Binding Services to Specific Network Interface Cards (NIC)

By default the system binds the services to all the available NICs, if it is not configured. You can however, bind the services to a specific NIC using the following methods.

1. Create the **IPsToBind.txt** file in the **<Software Installation directory>\Base** folder.
2. Add the IP address or the interface name associated with the NIC cards(s) that must be used.

There must be one entry per line, as shown in the following example:

```
123.45.67.895
```

```
interface1.company.com
```

3. Save the file and then stop and start the services.

If the **IPsToBind.txt** file is created, at least one valid IP address must match the resolved IP address of the interface name provided for the Client or else services will not start.

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Data Collection

Topics | [How To](#)

The CommNet Server monitors the CommCells and [QSMCells](#) that are registered in the CommNet Server. It also gathers vital information from all the cells based on the frequency established in the Data Collection Policy. Data Collection Policy allows you to specify how often the system must automatically collect data from each CommCell and QSM Cell. By default, the software enables automatic data collection from Cells with a standard value. The default values can be changed to suit your requirements.

As soon as you register a cell, the system automatically downloads the data from the registered cell into the CommNet Server. When you setup the data collection policy, by default, the system automatically synchronizes the data between the CommNet Server and the registered cells every 4 hours.

If necessary you can also disable data collection as described in [Enable or Disable Data Collection](#) and manually [Synchronize Cells](#).

When scheduling data collection operations, it is important to review the storage resources in your domain. See [Manage Resources from the CommCell Resources View](#).

Firewall Requirements

[Overview](#)

[CommNet Server](#)

[CommNet Agent](#)

[CommNet Browser](#)

Overview

The system communicates across firewall(s) using the same ports used by the CommCell(s)/QSMCells to communicate across firewall(s). Both one-way firewall and two-way firewalls are supported.

NOTES

- The system uses a secure proprietary protocol for all inter-process communication on enabled ports.

Consider the following to ensure the smooth operation of the system across firewall(s).

CommNet Server

Communicating with a CommServe

- If the CommNet Server is installed on a computer which has the CommServe software installed, the same firewall ports are used by both the CommServe and CommNet Server.
- If the CommNet Server computer behind a firewall does not have the CommServe software, you must install the SQL Server *iDataAgent*. (The SQL Server *iDataAgent* is also required to backup the CommNet Server database to provide disaster recovery solutions for the CommNet Server.) Note the following:
 - The firewall ports used by the SQL *iDataAgent* are also used by the CommNet Server.
 - If any CommCell in the CommNet domain is configured to communicate with the CommNet Server across a firewall, the **Bull Calypso Communication Service** must be running on the CommNet Server computer.
 - If the CommNet Server and the SQL *iDataAgent* are installed using two different interface names, then the CommNet Server and the SQL *iDataAgent* must be installed with the same interface name. For example, if the CommNet Server is installed using `computer1.company.com` then the SQL *iDataAgent* must also be installed using `computer1.company.com`.

Communicating with a QSM Server

- In order for the CommNet Server to communicate with a QSM Server across a firewall, the port used on the QSM Server must be allowed connection across the firewall. This port number is defined in the **QSMCell GUI Server Port Number** field of the [Register CommCell/QSMCell](#) dialog box.
-

CommNet Agent

As the CommNet Agent is installed on the CommServe computer, the firewall ports used by the CommServe software will also be used by the CommNet Agent.

CommNet Browser

If the CommNet Browser is installed as a stand-alone application, (without any other CommServe component on that computer) and if the computer is across firewall(s) from the CommNet Server, port number 8403 must be allowed connection through the firewall.

If the CommNet Browser is opened as a remote web-based application, then in addition to allowing connection for port 8403 through the firewall, ensure that the http service port, which is typically port 80, is also allowed connection in the firewall.

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Global Filters

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

Global Filters are exclusions that can be set within the CommNet software to filter out data from data protection operations on all agents of a certain type for multiple CommCells with a CommNet domain. This is useful in cases where certain files or folders need to be excluded from backups on all File System clients across CommCells; and in cases where specified mailbox folders need to be excluded from data protection operations on all Exchange Mailbox iDataAgents, Exchange Mailbox Archiver and/or Exchange Compliance Archiver clients and online content indexing operations on clients with Online Content Indexing for Exchange agent within multiple CommCells.

Global Filters are configured separately for each agent type in a CommCell, and support the use of literal paths as well as regular expressions (or wildcards) to exclude data based on patterns. Once defined, global filters can be enabled from the CommCell level and subclient levels in the CommServe so that the next time a data protection operation is run for the specified agents, unwanted data will not be backed up or archived.

CommNet global filters represent the top-level of a filtering hierarchy such that filters defined at the CommNet level can be propagated downward to CommCells within a CommNet domain, which can then be propagated down to specified subclients on those CommCells. The inheritance of global filters by subordinate objects within the filtering hierarchy is illustrated by a simple Windows-based example below.

Example:

CompanyA decided to save money on storage and reduce the backup window by not backing up a folder commonly found on computers in their organization called `C:\temp`. To accomplish this goal using Global Filters, that path was specified as an exclusion filter entry in CommNet, then the Global Filters were enabled on each CommCell in the CommNet domain, and enabled on each file system subclient for those CommCells so that the CommNet filter entry was inherited by the selected CommCells and subclients. Using this approach avoided typing in that filter path for 100 subclients across 10 CommCells at their site. Also, the next time backups were run for those subclients it took less time and fewer tapes because `C:\temp` was successfully filtered out of the backups.

For more information on configuring Global Filters in the the CommServe, see the Books Online documentation.

- Keep in mind that Global Filters are disabled by default at the subclient level for CommCells, and the supported wildcards vary for each agent type. Be sure to use only the wildcards that work with the operating system or application for which you are creating a filter. Refer to [Wildcards - File System](#) or [Wildcards - Exchange](#) for a list of supported regular expressions.
 - Global Filters configured in the CommNet environment are stored in the CommServe database of the CommCell for which they were created. Note that these filters can only be deleted utilizing the CommNet software, and will be removed from the CommServe database after CommCell Synchronization. Therefore, if a connection does not exist between the CommNet server and the CommServe, these Global Filters will continue to exist on the CommCell.
-

Managing Multiple Network Interface Cards (NIC)

Topics | How To

Overview

Consider the following when configuring multiple NIC cards.

CommCell

You may have multi-homed computers that has two or more network interface cards (NICs) in both the CommNet Server as well as the CommCell computer. You can configure the software to communicate across a specific NIC to take advantage of such multi-homed computers.

QSM Cell

In the case of a QSM Cell, as there is only one-way communication from the CommNet Server to the QSM Server, you can configure the QSM Server interface used to communicate with the QSM Server.

Q-Factor

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

The Q-Factor helps you to quickly measure the overall performance of the data protection operations that have occurred within the CommCells of the CommNet domain. This performance rating can let you know if data protection operations for CommCells, clients, applications, or subclients are within acceptable levels or not. Based on this rating, you can then determine if you need to take any corrective action such as modifying the retention policies, schedule patterns, or by fixing problems that may exist in the network or hardware.

The Q-Factor is calculated by taking the various short-term and long-term data protection coverage data into account as defined in the [Q-Factor Setup](#) dialog box. This dialog box includes such coverage data categories as the existence of full coverage, existence of any level of coverage, redundancy in coverage, and failure rate. From this dialog box, you can set a benchmark level called the Admissible Q-Factor. Once the Q-Factor is calculated, it is compared against this benchmark to determine if the CommCells, Clients, or applications are adequately covered. A Q-Factor above this benchmark reflects adequate data protection coverage; a Q-Factor below this benchmark reflects inadequate coverage.

The Q-Factor for any entity at a level higher than a subclient is computed by taking the average of the Q-Factors for all associated subclients. If the Q-Factor for a particular entity is below the benchmark level, then analyze all the subclients associated to determine if the problem is uniform across all subclients or a particular subclient.

Q-Factor averages can be viewed from the [Client Q-Factor](#) window and the [Data Protection Q-Factor Report](#).

License Administration

Topics | [How To](#)

License Administration allows you to do the following:

- View the CommNet ID
- View the Activation Key
- Update existing licenses. This includes:
 - Add additional CommCell licenses
 - Add additional [QSMCell](#) licenses
 - Upgrade the existing evaluation license to a permanent license
 - Enable advanced reporting access
- Add a new license (This can include updating the license from another OEM software edition.)

You can add additional CommCell and QSMCell licenses to the CommNet domain or upgrade an evaluation license to a permanent license. Also, a license will be released when you un-register a Cell from the CommNet domain.

In addition, you can view existing license information for an entire CommCell using the **CommCell License Summary** window, including license types, permanent and evaluation usage, install times, and software version information.

Log Files

Topics | [How To](#)

[Overview](#)

[Log File Pruning](#)

Overview

Log files are used by the software to record processing details of operations that have occurred on the CommNet Server and CommNet Agent and can be viewed for troubleshooting purposes. The log files are recorded to the following locations:

- On the CommNet Server computer: `<CommNet software installation directory>\Log files\CommNetServer.log`
 - On the CommNet Agent computer: `<CommServe software installation directory>\Log files\CommNetAgent`
-

Log File Pruning

The default size of each log file is 5MB. The system prunes the log files every 10 minutes if the size of the `Log Files` directory is over 100 MB. This is done by pruning the older files until the size of the `Log Files` directory is 80% of the maximum size established for the log files directory (by default, 80% of 100 MB, which is 80MB).

Older log files are copied to the following directory:

- `<CommNet software installation directory>\Log files\Old Log Files\`

The log files stored in the `Old Log Files` directory have a starting timestamp and ending timestamp as a part of the filename.

Disaster Recovery

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

Overview

[Planning for Disaster Recovery of the CommNet Server](#)

[Building a Standby CommNet Server Using Log Shipping](#)

Overview

In the case of disaster recovery, where a full system restore is required, you must rebuild the system to exactly the state as it existed before the problem. In some cases, where the SQL Server is corrupted, the SQL Server software must be reloaded and the server rebuilt.

Planning for Disaster Recovery of the CommNet Server

- Install the *iDataAgent* for SQL Server on the CommNet Server computer. The SQL *iDataAgent* can be a client on any CommCell.
 - Schedule regular backups of the CommNet Server database, using the SQL *iDataAgent*.
 - Monitor these scheduled backups and ensure that they successfully back up the data.
-

Building a Standby CommNet Server Using Log Shipping

You could also setup a standby server for disaster recovery purposes. See [Building a Standby CommNet Server Using Log Shipping](#) for step-by-step instructions.

Updates and Service Packs

Updates and Service Packs are used to improve the overall performance of the product.

To install:

1. From Windows Explorer, navigate to the update that you want to install.
2. Double click on the update executable, <update>.exe. This will launch the installation; click **Setup**.
3. Select the language for the installation from the dropdown box. (This should be the same language of the Operating System.)
4. Select **I Agree** from the **License Agreement** window, and click **Next**.
5. Follow the remaining prompts keeping the default settings.

NOTES

If while installing the update, there are jobs running, you will be prompted with a warning message asking whether you wish to continue with the installation. If you click **Yes**: services will be stopped, jobs will go into a pending state, and the update installation will continue. If you click **No**: the installation will abort, and jobs will not be interrupted.

6. Upon completion of the installation, you will have the option of starting services in the **Services Startup Option** dialog box. If you need to install additional updates, it is recommended that you select **Do Not Start Services**. Click **OK**.
-