

Spotlight[®] on Exchange Enterprise Edition

User Guide

Version 5.0.1

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World Headquarters
8001 Irvine Center Drive
Irvine, CA 92618
www.quest.com
email: info@quest.com
U.S. and Canada: 949.754.8000

Please refer to our Web site for regional and international office information.

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About This Guide

- Overview
- Conventions
- About Quest Software, Inc.
- Contacting Quest Software
- Contacting Customer Support

Overview

This document has been prepared to assist you in becoming familiar with Spotlight on Exchange, an integral component of Spotlight Suite. The User Guide contains the information required to install and use Spotlight on Exchange. It is intended for network administrators, consultants, analysts, and any other IT professionals using the product.

Conventions

In order to help you get the most out of this guide, we have used specific formatting conventions. These conventions apply to procedures, icons, keystrokes and cross-references.

ELEMENT	CONVENTION
Select	This word refers to actions such as choosing or highlighting various interface elements, such as files and radio buttons.
Bolded text	Interface elements that appear in Quest products, such as menus and commands.
<i>Italic text</i>	Used for comments.
<i>Bold Italic text</i>	Used for emphasis.
Blue text	Indicates a cross-reference. When viewed in Adobe Acrobat, this format can be used as a hyperlink.
	Used to highlight additional information pertinent to the process being described.
	Used to provide Best Practice information. A best practice details the recommended course of action for the best result.
	Used to highlight processes that should be performed with care.
+	A plus sign between two keystrokes means that you must press them at the same time.
	A pipe sign between elements means that you must select the elements in that particular sequence.

About Quest Software, Inc.

Quest Software, Inc. provides software to simplify IT management for 18,000 customers worldwide, including 75 percent of the Fortune 500. Quest products for application, database and Windows management help customers develop, deploy, manage and maintain the IT enterprise without expensive downtime or business interruption. Headquartered in Irvine, Calif., Quest Software can be found in offices around the globe at www.quest.com <<http://www.quest.com>>.

Contacting Quest Software

Phone	949.754.8000 (United States and Canada)
Email	info@quest.com
Mail	Quest Software, Inc. World Headquarters 8001 Irvine Center Drive Irvine, CA 92618 USA
Web site	www.quest.com

Please refer to our Web site for regional and international office information.

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Quest Software's world-class support team is dedicated to ensuring successful product installation and use for all Quest Software solutions.

SupportLink	www.quest.com/support
E-mail at	support@quest.com .

You can use [SupportLink](#) to do the following:

- Create, update, or view support requests
- Search the knowledge base
- Access FAQs
- Download patches

Introducing Spotlight on Exchange Enterprise Edition

- Overview
- Major Components
- Key Features
- System Requirements

Overview

Spotlight® on Exchange Enterprise Edition allows you to detect, diagnose, and resolve problems within your Exchange server organization.

Spotlight on Exchange Enterprise Edition is a powerful diagnostic and problem resolution tool that presents your entire Microsoft® Exchange Server organization at its highest level in the Spotlight on Exchange Topology Viewer.

From this starting point, you can view Exchange server activity in increasingly granular levels of detail until you see, in real time, the actual flow of data within individual Exchange servers using Spotlight on Exchange 2000/2003 or Spotlight on Exchange 5.5, the two components that make up the Spotlight on Exchange Diagnostic Console.

Major Components

Spotlight on Exchange 5.0.1 Enterprise Edition is composed of the following major components:

- Spotlight on Exchange Topology Viewer
- Diagnostic Services
 - Diagnostic Tests
 - Data Collection
 - Notification
- Web Reports
- Spotlight on Exchange Diagnostic Console:
 - Spotlight on Exchange 2000/2003
 - Spotlight on Exchange 5.5
- Spotlight on Exchange 2000/2003 Management Actions



For information about Spotlight on Exchange 5.5, please refer to the Spotlight on Exchange 5.5 User Guide.

Spotlight on Exchange Topology Viewer

The Spotlight on Exchange Topology Viewer gives you a bird's-eye view of all the Exchange servers in your Exchange server organization, whether they exist in one small area or span the globe. The unique user interface shows Exchange servers in their existing

- Routing and administrative groups
- Windows® 2000/2003 and Exchange 5.5 sites
- Domains

This provides you with an understanding of the configuration of your Exchange server organization.

Not Just a Visual Display

The Spotlight on Exchange Topology Viewer not only gives you a visual display of the layout of your Exchange server organization — it also provides you with server status using the traditional Spotlight colors: red to alert you to server problems, yellow to warn you of potential server problems, and green to let you know that the activity on the server is normal. In the Topology Viewer, you can right-click a server to perform the following:

- Run Exchange server diagnostic tests
- Configure data collection and notification settings
- Launch the Diagnostic Console, Spotlight on Exchange 2000/2003 or Spotlight on Exchange 5.5.

Diagnostic Services

Diagnostic Services are included in a Standard Installation and allow you to run Exchange Server diagnostic tests, collect and store server data, and send notification to preconfigured groups when server problems are detected.

Exchange Server Diagnostic Tests

The diagnostic tests provide in-depth information about:

- Store responsiveness
- Message delivery and delivery time
- Mailbox logon and responsiveness

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- OWA availability
- External message transfer tracking

Data Collection and Notification

The data collection feature allows you to collect Exchange server counter values without deploying agents. You can set thresholds and notified groups or individuals by email or pager when counter values become critical.

For Exchange 5.5 servers, values can be collected for the following counter categories:

- Performance
- Service status
- Network availability (ping time)

For Exchange 2000 or Exchange 2003 servers, values can be collected for the following counter categories:

- Performance
- Service status
- SMTP queues
- Network availability (ping time)

If counter values enter configured critical thresholds, Spotlight on Exchange can notify you using the following methods:

- Sending email
- Sending a message to a pager
- Launching a command line application

Web Reports

Spotlight on Exchange Enterprise Edition stores all collected counter data to an SQL server/MSDE database. This data can be retained for up to 30 days. The Web Reports feature gives you the ability to create reports for the collected data. You can use the sample report provided or, using Web Reports custom reporting options, you can create reports specific to your requirements.

Monitored Counters Report

The Monitored Counters report allows you to view the values of performance and network counters that have been selected to be monitored by the Diagnostic Services over time. You can use the data to locate server performance problems and server down time. Using this report, you can also graph multiple counters across multiple servers over time. This allows you to easily compare performance across multiple servers at once and identify busier than expected servers. For more information on the Monitored Counters Report see [“Monitored Counters” on page 126](#).

Service Status Counters Report

The Service Status Counters report allows you to view the status of the services that have been selected to be monitored by the Diagnostic Services over time. This report allows you to examine the availability of key Microsoft Exchange services such as the Information Store and System Attendant. It also examines the availability of other services such as the backup agent and anti-virus software. For more information on the Service Status Counters Report see [“Service Status Counters” on page 129](#).

SMTP Queues Status Counters Report

The SMTP Queues Status Counters report allows you to view the SMTP queue status and size over time. The report provides information about queue growth, which could directly affect mail delivery times. You can also compare queue size across multiple servers over time. This report is only applicable to Exchange 2000/2003 servers. For more information on the SMTP Queues Status Counters Report see [“SMTP Queues Status Counters” on page 130](#).

Mailbox Logon Tests Report

The Mailbox Logon Tests report allows you to view the Mailbox Logon Test results over time. You can use this report to determine mailbox logon time and mailbox responsiveness for a specific Exchange server mailbox. For more information on the Mailbox Logon Tests Report see [“Mailbox Logon Tests” on page 133](#).

Message Delivery Tests Report

The Message Delivery Tests report allows you to view the Message Delivery Test results over time. Use this report to determine if there is email connectivity between two mailboxes within your Exchange environment in a configured amount of time. The test message can be sent between servers regardless of whether or not they exist in the same routing group. For more information on the Message Delivery Tests Report see [“Message Delivery Tests” on page 134](#).

Store Responsiveness Tests Report

The Store Responsiveness Tests report allows you to view the Store Responsiveness Test results over time. You can use this test to determine whether the information store on the target Exchange server is capable of processing mailbox requests. The functionality of the information store directly impacts the functionality of mail clients such as Microsoft Outlook, and as a result, this test can provide answers to questions frequently sent to Help Desk personnel regarding mail client inefficiency. For more information on the Store Responsiveness Tests Report see [“Store Responsiveness Tests” on page 136](#).

External Message Transfer Tests Report

The External Message Transfer Tests report allows you to view the External Message Transfer Test results over time. Use this test to send and track a message from any mailbox on any server to any SMTP destination. For more information on the External Message Transfer Tests Report see [“External Message Transfer Tests” on page 138](#).

OWA Availability Tests Report

The Outlook Web Access (OWA) Availability Tests report allows you to view the OWA Availability Test results over time. Use this test to ensure that OWA is available on the Exchange server so that users can access their mail through a web browser. For more information on the OWA Availability Tests Report see [“OWA Availability Tests” on page 140](#).

The Diagnostic Console

If the Spotlight on Exchange Topology Viewer detects problems with servers, you can further diagnose and resolve issues using the Spotlight on Exchange Diagnostic Console, which features the traditional Spotlight user interface. You can view a real-time representation of the messaging system processes and components within specific connected Exchange 2000/2003 and Exchange 5.5 servers.

The Diagnostic Console contains the following:

- Home pages that target areas of Exchange server activity.
- Graphical flows that illustrate the rate at which data is moving between server components. Colorful buttons, gauges, queues, spinners, and containers display the value of key statistics and metrics.
- Visual and audible warnings that are given if the performance metrics exceed acceptable thresholds. The buttons, gauges, queues, and other

visual objects, collectively referred to as components, change color to show you the source of the problem.

- Warning messages that are displayed well before the traffic levels of a server become critical.
- A range of reports and graphs that provide you with detailed information about a server. You can view this information on the screen or you can print it.

Spotlight on Exchange 2000/2003 Management Actions

Once alerted to problems with an Exchange 2000 or Exchange 2003 server, you can use options in Spotlight on Exchange 2000/2003 to perform Exchange server management actions, which include:

- Freezing and unfreezing queues
- Forcing a queue retry
- Freezing and unfreezing messages
- Deleting messages
- Starting services
- Stopping services
- Restarting services
- Changing Exchange server diagnostic logging levels
- Mounting and dismounting stores
- Changing maximum cache size value
- Changing Cache Time to Live (Timeout) value
- Rebooting the Exchange server



The Spotlight on Exchange Diagnostic Console has features and functions common to other Spotlight Diagnostic Console products. For more information about menus, toolbar buttons, windows, editors, and dialog boxes, see [“Spotlight Concepts and Features” on page 144](#), and [“Configuring and Using Spotlight Basics” on page 179](#).

Key Features

Spotlight on Exchange Enterprise Edition contains features that make your job as an Exchange administrator easier.

KEY FEATURE	DESCRIPTION
Topology Viewer automatic discovery process	Spotlight on Exchange Enterprise Edition automatically discovers and displays your entire Exchange server organization in the Spotlight on Exchange Topology Viewer, showing Exchange 5.5 and 2000/2003 servers in their current routing and administrative groups, Windows 2000 and Exchange 5.5 sites, and domains. The discovery process not only locates all Exchange servers in your organization, but also supplies configuration details.
Remote server administration	Spotlight on Exchange Enterprise Edition allows you to perform diagnostic tests, monitor Exchange 5.5 and 2000/2003 server performance, and take management action to affect change in Exchange server environments.
Data collection at configured time intervals	Spotlight on Exchange Enterprise Edition monitors Exchange server counter activity at set time intervals providing you with a method of comparing server performance.
Real-time diagnostics	Spotlight on Exchange Enterprise Edition provides visual representation of process flows within an Exchange server so that you can observe actual server activity in real time.
Cluster connections	Spotlight on Exchange Enterprise Edition can connect to a virtual Exchange 2000/2003 server running on a two-node cluster when the physical node hosts a single virtual server. Note: If there are two virtual Exchange servers per node, inconsistent results can be expected.
Auto calibration	Spotlight on Exchange Enterprise Edition learns the normal range of values for your server and sets the visual indicators accordingly.
Effective warnings	Spotlight on Exchange Enterprise Edition provides visual and audible warnings that alert you when performance metrics exceed acceptable thresholds.
Rapid resolutions	Spotlight on Exchange Enterprise Edition displays the details of problem areas, including user connections, message transfer agent (MTA) and store activity, Simple Mail Transfer Protocol (SMTP) queues, directory replication, and server resources for rapid problem resolution.

KEY FEATURE	DESCRIPTION
Detailed graphs	Spotlight on Exchange Enterprise Edition drilldown graphs and tables provide detailed information allowing you to identify the source of each problem.
Multiple diagnostics	Spotlight on Exchange Enterprise Edition simultaneously observes multiple servers.
Easy installation	Spotlight on Exchange Enterprise Edition has a simple installation procedure that allows you to focus on the diagnostic information supplied.
Automatically apply a default template	Spotlight on Exchange Topology Viewer automatically connects the Spotlight on Exchange console to the diagnostic services and applies a default template to each Exchange server during first launch of the product.
Manually apply, modify, or clear a default template	Spotlight on Exchange Topology Viewer allows you to manually apply, modify or clear a default data collection template.

System Requirements

You should ensure that your system meets the following requirements before attempting to install and run Spotlight on Exchange Enterprise Edition:

Hardware Requirements

Before installing Spotlight on Exchange Enterprise Edition, review the following hardware requirements:

TYPE	MINIMUM	RECOMMENDED
Processor	Pentium 3 or greater, running at a minimum speed of 800 MHz	Pentium 4 running at a minimum speed of 1 GHz
RAM	256 megabytes (MB)	512 megabytes or more for computers running the Diagnostic Services or the SQL / MSDE database

cont'd...

Spotlight on Exchange Enterprise Edition

TYPE	MINIMUM	RECOMMENDED
Disk	<ul style="list-style-type: none">• 100 MB of free disk space for the application.• This space should exist on a local disk drive rather than a network drive.• The space requirement varies depending on the size of the database.	
Other	<ul style="list-style-type: none">• Monitor capable of supporting a resolution of 1024 by 768 pixels or greater. Spotlight on Exchange is designed to run on a desktop area of 1024 by 768 pixels or greater.• Pointer device must be available to access all Spotlight on Exchange features.	

Software Requirements

Before installing Spotlight on Exchange Enterprise Edition, review the following minimum software requirements:

TYPE	MINIMUM
Operating Systems	<ul style="list-style-type: none">• Microsoft Windows 2000 (Server or Professional) SP3<ul style="list-style-type: none">– OR –• Microsoft Windows 2000 Advanced Server SP3<ul style="list-style-type: none">– OR –• Microsoft Windows XP Professional SP1<ul style="list-style-type: none">– OR –• Microsoft Windows 2003 Server
Web Server	<ul style="list-style-type: none">• IIS 5.0 or 6.0 (Windows 2003 Server only)• Manually enable ASP pages for Windows 2003 Server• When you install Windows 2000 Server, IIS 5.0 is automatically installed.• If you use Windows 2000 Professional, or Windows XP Professional, you must manually add IIS 5.0 using the Add/Remove Programs facility.• You can install IIS on the same computer as Spotlight on Exchange Enterprise Edition or you can install IIS on a separate computer for enhanced performance and scalability.
Database Access	<ul style="list-style-type: none">• MDAC (Microsoft Data Access Components) 2.6 or later

TYPE	MINIMUM
Database Server	<ul style="list-style-type: none"> • Microsoft SQL Server 2000 SP3 <li align="center">– OR – • MSDE 2000 SP3
Browser	<ul style="list-style-type: none"> • Internet Explorer 5.5 <li align="center">– OR – • Internet Explorer 6.0
Email Client	<ul style="list-style-type: none"> • Microsoft Outlook 98 <li align="center">– OR – • Microsoft Outlook 2000 <li align="center">– OR – • Microsoft Outlook 2002 <li align="center">– OR – • Microsoft Outlook 2003
Other	<ul style="list-style-type: none"> • Local Windows Administrator privileges are required on the Spotlight on Exchange Console client. • Exchange 5.5 Administrator SP4 and Exchange System Manager privileges • For a distributed install, MDAC must be installed on the Console client, diagnostic services computer, and IIS Server.



Spotlight on Exchange Enterprise Edition uses some Spotlight on Windows functionality. You have the option to automatically launch Spotlight on Windows from the Spotlight Connection Manager when you create a new connection to an Exchange 2000/2003 server. For more information about creating Spotlight connections, see [“Connecting and Disconnecting” on page 186](#).

Spotlight on Exchange Topology Viewer

- Overview
- Discovering Your Exchange Server Organization
- The Menus
- The Toolbars
- Exchange Server Diagnostic Tests
- Data Collection

Overview

The Spotlight on Exchange Topology Viewer shows your entire Microsoft® Exchange server organization at a glance regardless of whether it exists in a single building or spans the globe.

The Spotlight on Exchange Topology Viewer Console is the framework where the layout of your Exchange server organization is displayed, diagnostic tests are performed, data collection and notification is configured, and Exchange server data is displayed. The Spotlight on Exchange Topology Viewer Console provides Exchange server data in the following three main sections:

- The Topology View
- The Topology Navigation View
- The Topology Summary panel

Before you can view server data, you must discover your Exchange organization.

Discovering Your Exchange Server Organization

To discover a specific Exchange server organization, you must enter the name of a server that belongs to that organization into the Spotlight on Exchange Topology Discovery dialog box. After you enter the server name, the Spotlight on Exchange Topology Viewer discovers and collects data from all Exchange servers in the same organization. The data collected from each Exchange server in your organization is stored so that you do not have to rediscover the organization each time you open the Spotlight on Exchange Topology Viewer. However, if server configurations change, you can rediscover the organization or choose to discover a new organization.

To discover your Exchange server organization

1. Select **File | Discover Topology**.
2. Enter the name of a server belonging to the organization you want to view and click **OK**.



You can use the Discover Topology menu command to discover multiple Exchange server organizations. You can quickly see the name of the Exchange server organization currently shown in the Topology View by looking at [The Current Exchange Org List](#) on the Main toolbar.

Exchange 5.5

To discover your Exchange 5.5 organization, you must enter the name of a server that belongs to the Exchange 5.5 organization. The Spotlight on Exchange Topology Viewer queries the Exchange 5.5 server directory for the information required to create a visual display of all Exchange 5.5 servers in your organization.

Exchange 2000/2003 (Native or Mixed Mode)

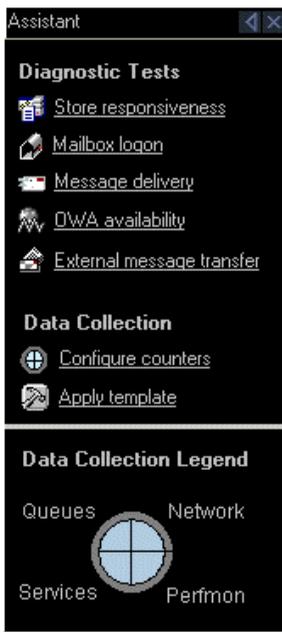
To discover your Exchange 2000/2003 server organization, you must enter the name of a server that belongs to the Exchange 2000/2003 organization. This server can be an Exchange server or a Windows 2000/2003 domain controller. The Spotlight on Exchange Topology Viewer queries Active Directory, and gathers the information required to create a visual display of all Exchange servers in your organization.

The Topology View

The Topology View is the largest section and the main visual and administrative focus of the Spotlight on Exchange Topology Viewer console. It is where the complete configuration of a specified Exchange server organization is displayed, data collection is configured, and the Exchange server diagnostic tests are performed.

Individual servers within the organization are represented by nodes; which are shown within their current routing and administrative groups; Windows 2000 and Exchange 5.5 sites; or domains. Message routes between servers are indicated by blue lines and arrows.

You can fine tune the display by clicking buttons on the Topology View toolbar and by selecting commands from the standard and shortcut menus.



The Assistant Panel

The Assistant panel, located to the right of the Topology View, provides shortcuts that launch the following dialog boxes:

- Diagnostic test configuration
- Data collection configuration
- Server template application

For information purposes, the Assistant panel shows the data collection legend to help you quickly understand where the data categories are shown in the pie slices of the server nodes in the Topology Viewer. You can open and close the Assistant panel.

To open the Assistant panel

- Select **View | Assistant Panel**.

To close the Assistant panel

- Click  in the upper-right corner of the Assistant panel.

To configure diagnostic tests from the Assistant panel

1. Select a server (or multiple servers) in the Topology View.
2. Click one of three diagnostic test links in the Assistant panel.
3. Decide whether you want to run the test once locally or schedule the test and select the corresponding option.
4. Click **Launch**.



For more information, see [“Exchange Server Diagnostic Tests” on page 53](#).

To configure data collection from the Assistant panel

1. Select a server (or multiple servers) in the Topology View.
2. Click **Configure Counters** in the Assistant panel.



For more information, see [“Data Collection” on page 83](#).

To apply a server template from the Assistant panel

1. Select a server (or multiple servers) in the Topology View.
2. Click **Apply Template** in the Assistant panel.

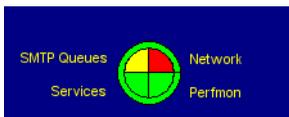


For more information, see [“Data Collection Templates”](#) on page 87.

Nodes



Nodes represent individual servers in your Exchange server organization. The nodes appear grey when you first start the Topology Viewer and remain grey until you connect to the diagnostic services, apply a template or configure data collection, and begin collecting server data. When you begin collecting data from a server, the pie slices (data categories) in the center of the node change color to indicate the status of the collected data, as shown in the image below:



Servers are shown in their current routing or administrative groups, sites (Windows 2000/2003 or Exchange 5.5), or domains, depending on the option you select from the Current Grouping list.



For more information about how you can view different server groupings, see [“The Current Grouping List”](#) on page 46.

A node displays current information about an Exchange server. You can look at a node and see information displayed in the outside ring and in the center area, as described in the table below. You can also click the node to view more information about the server in the Server Details tab. You can right-click nodes

Spotlight on Exchange Enterprise Edition

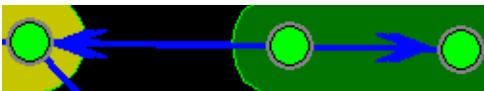
to access shortcut menus. The following table describes the information provided in various areas of a node:

AREA	INFORMATION
Outside ring	<p>The outside ring of a node provides the overall status of all diagnostic tests running on the Exchange server. The ring remains green if the Exchange server passes all of the diagnostic tests, yellow if any of the tests fail to run, and red if the Exchange server fails any of the tests.</p> <p>For detailed information on how to determine the status of individual servers in your organization, see "Exchange Server Diagnostic Tests" on page 53.</p>
Center	<p>The center of a node is a pie chart that provides the status of Exchange server counters. Each pie section represents one data category. The color of a pie section provides the status of the data category. Red represents a critical threshold, yellow provides a warning that counter values are reaching a critical level, and green tells you that the monitored counter values are normal. Grey indicates that data is not being collected.</p> <p>To see the toolbar button used to enable or disable the pie chart, see "The Topology View Toolbar" on page 47.</p> <p>For detailed information about monitoring Exchange server performance, see "Data Collection" on page 83.</p>

The following table lists the actions you can perform on a node to create more space between servers in the Topology View and to access server information:

ACTION	RESULT
Click	You can click to select a node and view detailed information in the Server Details tab of the Topology Summary panel. The node is blue when selected.
Right-click	You can right-click a selected node to access shortcut menus. For more information, see "Shortcut Menus" on page 41.
Hover	<p>You can hover over a node to view the name and status of the most recent Exchange server diagnostic test, and the names and status of monitored data categories in the Details window.</p> <p>To view the button used to enable or disable the Details window, see "The Topology View Toolbar" on page 47.</p> <p>For more information, see "The Details Window" on page 29.</p>
Drag	You can drag a node to a new location in the Topology View. This creates more space between servers and server labels in the display.

Message Routes



Message routes between Exchange servers are represented by blue lines and arrows. You can hide or show all message routes between servers and server groups. You can highlight links between selected servers and server groups.

To hide or show all message routes

- Click  on the Topology View toolbar.

To highlight links between selected servers or server groups

- Click  on the Topology View toolbar.

The Details Window

The Details window appears when you hover over a server in the Topology View. You can enable or disable the Details window. The Details window provides the following server information:

- The name and status of diagnostic tests that have been performed on the server
- The name, status, and order of monitored data categories for the server

To enable or disable the Details window

- Click  on the Topology View toolbar.

Current Server Grouping



The Spotlight on Exchange Topology Viewer displays Exchange 5.5 and Exchange 2000/2003 servers as they currently exist within Exchange server groupings in your Exchange server organization. Exchange server groupings are represented by a colored and labelled area that surrounds the servers. The current grouping color reflects the highest server severity in the group. To allow more space between them, you can select and drag server groupings to new locations in the display. You can hide or show the current grouping.

You can view the following current groupings in the Spotlight on Exchange Topology Viewer:

- Routing groups (Exchange 2000/2003 servers only)
- Administrative groups (Exchange 2000/2003 servers only)
- Windows 2000 sites (Exchange 2000/2003 servers only)
- Exchange 5.5 sites (Exchange 5.5 servers only)
- Domains

To change the view of current groupings

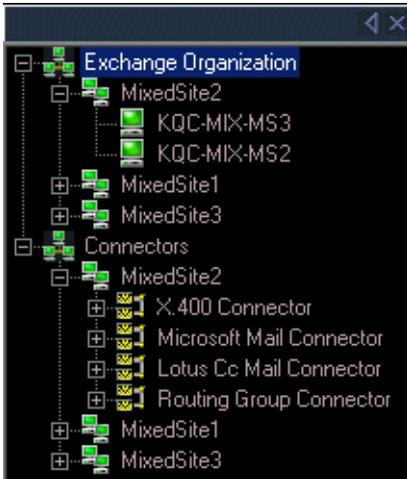
- Select an option from the Current Grouping list on the main toolbar.



To hide or show current groupings

- Click  on the Topology View toolbar.

The Topology Navigation View



The Topology Navigation View shows your Exchange server organization in a tree structure, which you can expand or collapse. The Topology Navigation View reflects the current server groupings displayed in the Topology View. For example, if you are viewing routing groups in the Topology View, the Topology Navigation View lists Exchange servers and connectors in their current routing groups.

The top level of the Topology Navigation tree structure is Exchange Organization, under which the routing or administrative groups, Windows 2000 and Exchange 5.5 sites, and domains are listed by name.

Individual servers in the group, site, or domain are also listed by name.

Server status indicators  turn red to indicate critical monitored counter levels and failed Exchange server diagnostic tests. This critical server status is also shown at the group and organization level of the tree structure.



The status indicators in the Topology Navigation View are not grey, but remain green, when server data is not being collected.

Selecting Servers

When you click a server or group name in the Topology Navigation View, the corresponding server or group is highlighted and selected in the Topology View. You can right-click a server name to configure the Exchange server diagnostic tests and data collection using shortcut menu commands.

Exchange Server Connectors

The Exchange server connectors in your organization are also listed in the Topology Navigation View tree structure. All of the Exchange server connector types in your organization are listed under the top level Connectors. You can expand the tree structure to view individual instances of each connector type.

Hiding or Showing the Topology Navigation View

You can hide or show the Topology Navigation View, which allows you to focus on other areas in the Spotlight on Exchange Topology Viewer Console.

To hide or show the Topology Navigation View

- Select **View | Topology Navigation** from the main menu bar.

The Topology Summary Panel

The Topology Summary panel is the bottom panel of the Spotlight on Exchange Topology Viewer Console. It is a dynamic panel that shows information about selected servers, diagnostic tests, and monitored servers in the following three tabs:

- The Server Details tab
- The Diagnostic Test Results tab
- The Data Collection tab

The Server Details Tab

The Server Details tab provides information about a server selected in the Topology View. The following table describes the information shown about the selected server:

SERVER DETAIL	DESCRIPTION
Server Name	The name of the Exchange server.
Exchange Version	The Exchange server version, for example Exchange 5.5 or Exchange 2000/2003, and service pack.
Exchange Edition	The Exchange server edition, Standard or Enterprise.

SERVER DETAIL	DESCRIPTION
Windows Version	The Windows® operating system version on which the Exchange server exists.
Domain	The name of the domain in which the Exchange server exists.
Windows Site	The name of the Windows site in which the Exchange server exists.
Routing Group	The name of the routing group in which the Exchange 2000/2003 server exists.
Administrative Group	The name of the administrative group in which the Exchange 2000/2003 server exists.
Exchange Role	The role of the Exchange server, for example, back or front end.
Exchange Site	The name of the Exchange site in which the Exchange 5.5 server exists.

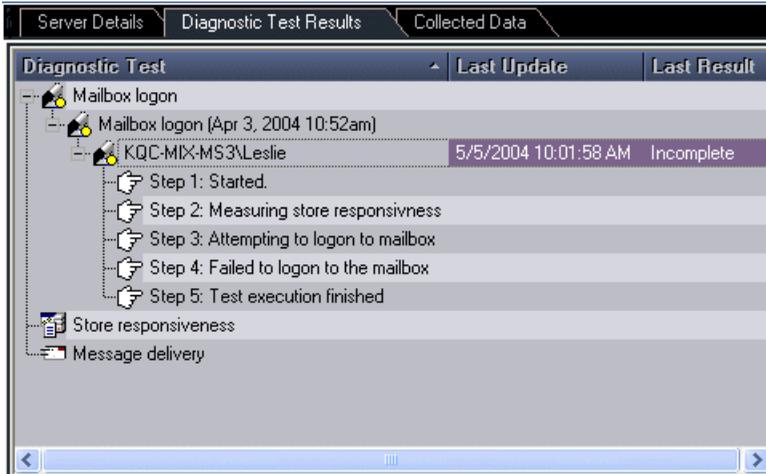
The Diagnostic Test Results Tab

The Diagnostic Test Results tab is divided into two panels, each providing Exchange server diagnostic test status and results. You can resize the panels by dragging the panel borders or by clicking the maximize and restore buttons in the top right corner of each section. The Diagnostic Test results tab does not provide test details until you run an Exchange server diagnostic test. You can view details for the tests that run once locally and for scheduled tests. You can find information about the Exchange server diagnostic tests in the following sections of the Diagnostic Test Results tab:

- The diagnostic test results tree
- The diagnostic test result details panel

The Diagnostic Test Results Tree

The following image is a sample of what you may see in the diagnostic test result tree. The details in this panel change according to the type of diagnostic tests executed and the configuration of your server environment.



Results and status of Exchange server diagnostic tests are presented in a tree structure, which you can expand and collapse. The tests are organized in the tree structure by test type, which include:

- [“Store Responsiveness Test” on page 66](#)
- [“Message Delivery Test” on page 73](#)
- [“Mailbox Logon Test” on page 70](#)
- [“External Message Transfer Test” on page 80](#)
- [“OWA Availability Test” on page 77](#)

Listed under each test type are individual diagnostic tests. The following test details are shown under the column headings:

COLUMN	DESCRIPTION
Diagnostic Test	This shows the type of diagnostic test, the diagnostic test name, the test target, and the test progression details.
Last Update	This shows the date and time that the test results were updated in the diagnostic test results tree.
Last Result	This shows whether or not the test completed, failed, or was successful.

Color Indicators

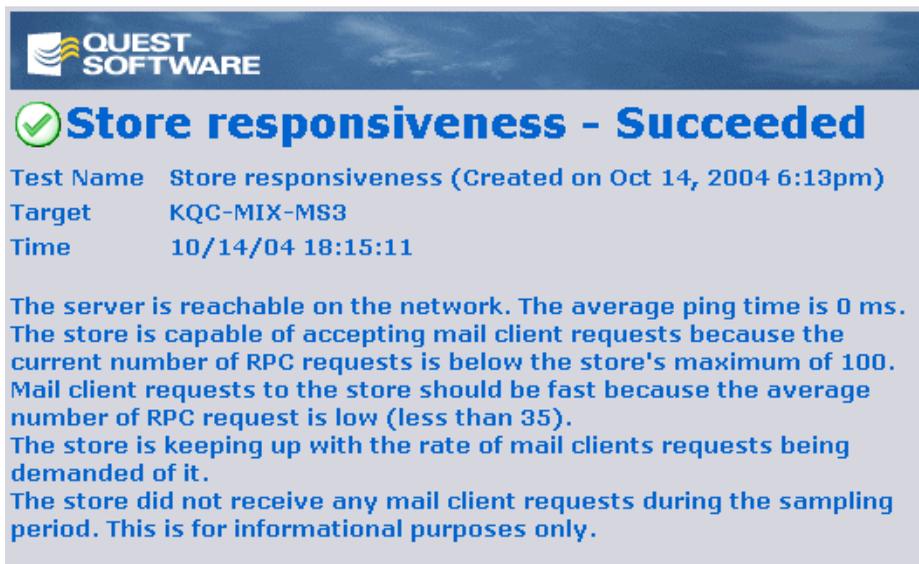
The colors on the test icons represent test status:

- Green indicates that the test is running, but may not be completed yet
- Yellow indicates that the test failed to complete
- Red indicates that the server or mailboxes failed the test.

The color on the test type name, for example, Store Responsiveness, Message Delivery, Mailbox Logon, External Message Transfer, and OWA Availability indicates the highest severity in the test group. For example, if one of the Message Delivery tests fail, the color on the Message Delivery icon is red.

The Diagnostic Test Results Details Panel

The following image shows detailed results of a diagnostic test that is highlighted in the Diagnostic Test Result tree. The details in this panel change according to the type of test highlighted and your server environment. The following image is only a sample of what you may see on this panel:



The screenshot shows a diagnostic test results panel with a blue header containing the Quest Software logo. The main title is 'Store responsiveness - Succeeded' with a green checkmark icon. Below the title, there is a table with test details:

Test Name	Store responsiveness (Created on Oct 14, 2004 6:13pm)
Target	KQC-MIX-MS3
Time	10/14/04 18:15:11

Below the table, there is a detailed description of the test results:

The server is reachable on the network. The average ping time is 0 ms. The store is capable of accepting mail client requests because the current number of RPC requests is below the store's maximum of 100. Mail client requests to the store should be fast because the average number of RPC request is low (less than 35). The store is keeping up with the rate of mail clients requests being demanded of it. The store did not receive any mail client requests during the sampling period. This is for informational purposes only.

The following test details are available in the diagnostic test result details panel:

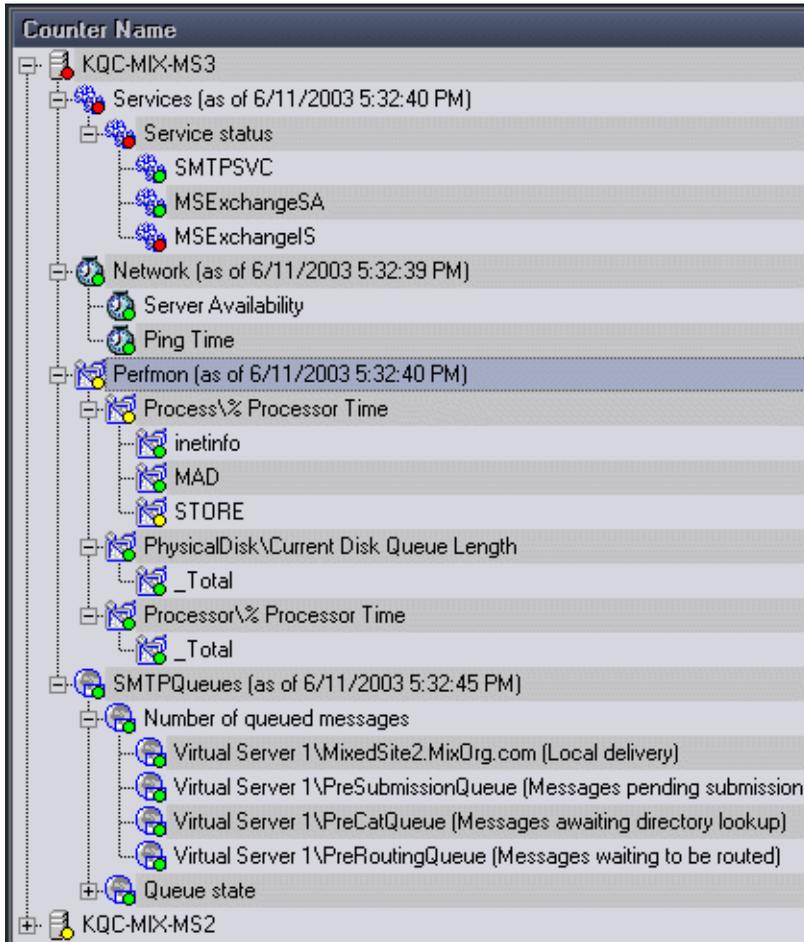
COLUMN	DESCRIPTION
Test Name	This column shows the type of diagnostic test selected in the diagnostic test result tree, and the date and time of test executions.
Target	This column shows the name of the target server and target mailbox.
Time	This column shows a more detailed textual summary of the diagnostic test highlighted in the diagnostic test result tree.
Result	This column shows whether or not the test completed, failed, or was successful. In this example the store responsiveness test succeeded.
Test Result	This column shows a more detailed textual summary of the diagnostic test selected in the diagnostic test result tree.



If the diagnostic test selected in the diagnostic test result tree has multiple targets, a table is displayed in the diagnostic test result details panel.

The Data Collection Tab

The Data Collection tab displays counter values for monitored servers. The monitored counters are presented in a tree structure, which you can expand and collapse.



The date and time of data collection is shown beside the name of each counter category. The colors on counter icons indicate counter status:

- Red indicates that the counter value has entered the critical threshold.
- Yellow indicates that the counter value has entered the warning threshold.
- Green indicates that the counter value is acceptable.

If a server counter enters the critical threshold, the status is also shown in the server icon.

The Data Collection tab shows the configured counter threshold values, the conditions that cause alarms to display, and the notification group applied to the server. You cannot edit the information displayed in the Data Collection tab.

The Menus

The Spotlight on Exchange Topology Viewer console has two types of menus, standard and shortcut.

Standard Menus

The Spotlight on Exchange Topology Viewer console has standard menus located on the menu bar at the top of the console window. You can click a menu to access frequently used commands. The standard menus include the following:

- File menu
- Edit menu
- Actions
- View menu
- Help menu

File Menu

The File menu is accessed from the main menu bar. The following table describes the commands available on the File menu:

COMMAND	USE
Discover Topology	Displays the dialog box that allows you to discover your Exchange server organization. For more information, see "Discovering Your Exchange Server Organization" on page 24.
Connect to Diagnostic Services	Displays the dialog box that allows you to connect to the diagnostic services.

COMMAND	USE
Disconnect from Diagnostic Services	Disconnects the Topology Viewer Console from the diagnostic services. Collected counter values are no longer updated in the Topology View display.
Reset Topology Layout	Reverts to the default Exchange organization layout.
Save Topology Layout	Saves the currently displayed Exchange server layout as a file. For more information, see "To save the Topology layout" on page 49 .
Load Topology Layout	Loads the saved Exchange server layout to the Topology View. For more information, see "To load the Topology Viewer layout" on page 49 .
Save Topology Image	Saves the current Exchange organization topology as either a bitmap or a jpeg image. You can take snapshots of your topology for diagnostic or migration purposes.
Print Topology	Prints the Exchange server layout exactly as it is displayed in the Topology View window.
Exit	Closes the Spotlight on Exchange Topology Viewer.

Edit Menu

The Edit menu is accessed from the main menu bar. The following table describes the command available on the Edit menu:

COMMAND	USE
Notification Groups	Displays the dialog box that allows you to create and edit groups to receive notification when collected Exchange server counters, that are configured to generate notifications, enter the critical threshold. The groups can also receive notification when Exchange server diagnostic tests fail. For more information, see "Notification" on page 96 .
Diagnostic Test Credentials	Displays the dialog box that allows you to add or delete existing Windows credentials used to run diagnostic tests. When you add existing Windows credentials to the Credential Management dialog box, you can use them to execute diagnostic tests. When you delete existing Windows credentials from the Credential Management dialog box, you are no longer able to use them to execute diagnostic tests, but you have not deleted the Windows credentials.

Actions Menu

The Actions menu is accessed from the main menu bar. The following table describes the commands available on the Actions menu:

COMMAND	USE
Apply Default Data Collection	Displays the Apply Default Templates dialog box which allows you to apply a default template for each server in the current Exchange organization.
Clear All Existing Data Collection	Displays the Clear All Existing Data Collection dialog box which allows you to clear any existing configured counters from each server in that Exchange organization.

View Menu

The View menu is accessed from the main menu bar. The following table describes the commands available on the View menu:

COMMAND	USE
Topology Navigation	Hides or shows the Topology Navigation View. The Topology Navigation View shows your Exchange server organization in a tree structure which you can expand or collapse. This view reflects the current server groupings displayed in the Topology View. For example, if you are viewing routing groups in the Topology View, the Topology Navigation View lists Exchange servers and connectors in their current routing groups. For more information, see "The Topology Navigation View" on page 31 .
Topology Summary	Hides or shows the Topology Summary panel. For more information, see "The Topology Summary Panel" on page 32 .
Assistant Panel	Hides or shows the Assistant Panel. For more information, see "The Assistant Panel" on page 26 .
Web Reports	Displays the dialog box that allows you to enter the location of Web Reports. For more information, see "Understanding Spotlight on Exchange Reports" on page 102 .
Diagnostic Services Options	Displays the dialog box that allows you to select the refresh rate for data collection, configure notification, set database retention time, and configure default diagnostic test options. Database size is also displayed in this dialog box. For more information, see "Default Diagnostic Test Settings" on page 58 . Also see "Default Diagnostic Test Settings" on page 91 .

COMMAND	USE
Diagnostic Test Schedule Manager	Displays the dialog box that allows you to make changes to and view scheduled diagnostic tests. For more information, see “Managing Scheduled Tests” on page 63 .
Refresh Data Collection	Forces the Diagnostic Services to immediately collect server counter information. The new status is updated in the pie chart and the Data Collection tab of Spotlight on Exchange Topology Viewer. For more information, “Configuring Data Collection” on page 84 .

Help Menu

The Help menu is accessed from the main menu bar. The following table describes the commands available on the Help menu:

COMMAND	USE
Contents	Displays online Help topics.
About	Displays the About Spotlight on Exchange Enterprise Edition dialog box.

Shortcut Menus

The Spotlight on Exchange Topology Viewer has shortcut menus accessed by right-clicking servers or server groups in the Topology View and server names in the Topology Navigation View.

Right-clicking a Server or Server Name

If you right-click a server in the Topology View or a server name in the Topology Navigation View, the following shortcut menu appear:

- Detect menu
- Diagnose menu
- Resolve menu

Detect Menu

You can access the Detect menu by right-clicking a server in the Topology View or a server name in the Topology Navigation View. The Detect menu displays the following commands:

COMMAND	USE
Configure Data Collection	Displays the dialog box that allows you to select counters to be monitored for the selected server, set counter thresholds, and enable or disable notification for each counter.
Clear Collected Counters	Clears the selected server of monitoring. Counter values are no longer collected from the server.
Apply Template	Displays the dialog box that allows you to apply data collection templates to the selected server.
Remove Template	Displays the dialog box that allows you to remove a previously applied data collection template from the selected server. The server is no longer monitored.
Apply Notification Group	Displays the dialog box that allows you to apply previously configured notification groups to the selected server.
Remove Notification Group	Displays the dialog box that allows you to remove previously configured notification groups from the selected server.

Diagnose Menu

You can access the Diagnose menu by right-clicking a server in the Topology View or a server name in the Topology Navigation View. The Diagnose menu displays the following commands:

COMMAND	USE
Launch the Diagnostic Console	Launches Spotlight on Exchange 2000/2003 or Spotlight on Exchange 5.5, the two components that make up the Spotlight on Exchange Diagnostic Console. Which Diagnostic Console launched depends on the type of server selected.
Store Responsiveness Test	Displays the dialog box that allows you to configure and use the Store Responsiveness Test. You can choose to run the test once locally, or schedule the test with advanced options.
Mailbox Logon Test	Displays the dialog box that allows you to configure and use the Mailbox Logon Test. You can choose to run the test once locally, or schedule the test with advanced options.

COMMAND	USE
Message Delivery Test	Displays the dialog box that allows you to configure and use the Message Delivery Test. You can choose to run the test once locally, or schedule the test with advanced options.
OWA Availability Test	Displays the dialog box that allows you to configure and use the OWA Availability Test. You can choose to run the test once locally, or schedule the test with advanced options.
External Message Transfer Test	Displays the dialog box that allows you to configure and use the External Message Transfer Test. You can choose to run the test once locally, or schedule the test with advanced options.
Clear Diagnostic Test Alert	Clears the selected Exchange server of the diagnostic test alert colors. The diagnostic test alert colors include yellow and red, which appear in the outside ring of the server.

Resolve Menu

You can access the Resolve menu by right-clicking a server in the Topology View or a server name in the Topology Navigation View. The following table shows the features you can access by right-clicking a server and selecting the Resolve command:

RIGHT-CLICK...	AND SELECT...	TO LAUNCH...
An Exchange 5.5 server	Resolve	<ul style="list-style-type: none"> Exchange 5.5 System Administrator <p>Note: Exchange 5.5 System Administrator can only be launched if you have installed it. If you have not installed it, an error message appears.</p>
An Exchange 2000/2003 server	Resolve	<ul style="list-style-type: none"> Management Action Help topics Spotlight on Exchange 2000/2003

The Help topics, listed in the following table, describe how to access the management action features in Spotlight on Exchange 2000/2003. The Help topics also describe how to use the management action features to resolve Exchange server problems:

COMMAND	HELP TOPIC
Manage Queues	Managing queues and messages
Manage Services	Managing Exchange and IIS services
Manage Diagnostic Logging Levels	Changing Exchange server diagnostic logging levels
Manage Exchange Stores	Managing stores
Manage Directory Access Cache	Managing DSAccess cache
Reboot the Exchange Server	Rebooting the Exchange server



For detailed information about the management action features, [see "Overview" on page 348.](#)

Right-Clicking Server Groupings

If you right-click the colored area that groups servers in the Topology View, the shortcut menu provides access to the commands described in the following table:

COMMAND	USE
Collapse Group	Collapses a server group including the servers within the group. The group label remains in view.
Expand Group	Expands a server group including the servers within the group.

The Toolbars

The Spotlight on Exchange Topology Viewer toolbars provide you with quick access to commonly used commands and functions. Click a button on a toolbar to carry out the command. If a button appears dimmed, it is unavailable. To see a description of each button, rest your mouse pointer over the button.

There are two toolbars in the Spotlight on Exchange Topology Viewer:

- The Main toolbar
- The Topology View toolbar

The Main Toolbar

The main toolbar is located below the menu bar and includes the Current Exchange Org, Topology View, Highlight, and Current Grouping lists.

The Current Exchange Org List



The Current Exchange Org list shows the name of the Exchange server organization currently shown in the Topology View. If you discover multiple organizations, the names of the organizations are included in the Current Exchange Org list. You can select from this list to switch views of the organizations in the Topology View.

Topology View



You can access four different views in the Topology view by making selections from the Topology View list. You can select from the following views to display the message routing paths and message flow paths that you want to display:

VIEW	DESCRIPTION
Server Routing	Displays the potential message routing paths between servers.
Connector Routing	Displays the potential message routing paths between connectors.

cont'd...

VIEW	DESCRIPTION
Server Message Flow	Displays actual message flow paths used between servers.
Connector Message Flow	Displays actual message flow paths used between connectors.

The Highlight List



You can highlight specific Exchange server types in the Topology View by making selections from the Highlight list. When you use the Highlight list, the servers are not only highlighted; they are also selected, which allows you to right-click servers and access shortcut menus. You can return to a view with no servers selected by clicking anywhere in the black background of the Topology View.

The following table describes the options available on the Highlight list:

OPTION	USE
None	Selects none of the servers displayed in the Topology View.
All Servers	Selects all servers displayed in the Topology View.
All Exchange 2000 Servers	Selects all Exchange 2000 servers displayed in the Topology View.
All Exchange 2003 Servers	Selects all Exchange 2003 servers displayed in the Topology View.
All Exchange 5.5 Servers	Selects all Exchange 5.5 servers displayed in the Topology View.

The Current Grouping List



You can choose how you view the Exchange servers in your organization by selecting a group type from the Current Grouping list. The server group types available in the Current Grouping list depend on whether the organization

displayed in the Topology View is an Exchange 2000/2003 (native or mixed mode) organization or an organization consisting of Exchange 5.5 servers only.

The following table describes the options available in the Current Grouping list for an Exchange 2000/2003 (native or mixed mode) organization:

CURRENT GROUPING	DESCRIPTION
Routing Group	Displays Exchange servers in their current routing groups.
Administrative Group	Displays Exchange servers in their current Administrative groups.
Windows 2000/2003 Site	Displays Exchange servers in their current Windows 2000 or Windows 2003 sites.
Domain	Displays Exchange servers in their current domains.

The following table describes the options available in the Current Grouping list for an organization that includes only Exchange 5.5 servers:

CURRENT GROUPING	DESCRIPTION
Exchange 5.5 Site	Displays Exchange servers grouped by the site in which they belong.
Domain	Displays Exchange servers grouped by the domain in which they belong.

The Topology View Toolbar

The Topology View toolbar is located at the top of the Topology View section of the Topology Viewer console. You can click the toolbar buttons to change the way you view your Exchange server organization.

The following table describes the toolbar buttons available on the Topology View toolbar:

BUTTON	DESCRIPTION
	Hides or shows the current server groupings. The servers remain in view while the green background representing the group is hidden or shown.

cont'd...

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BUTTON	DESCRIPTION
	Hides or shows message routes between Exchange servers.
	Hides or shows the pie chart in the center of monitored servers.
	Hides or shows server and server grouping labels.
	Enables or disables the Details window, which appears when you rest your mouse over servers in the Topology View.
	Collapses the selected server grouping.
	Expands the selected server grouping.
	Selects objects in the Spotlight on Exchange Topology Viewer console.
	Moves servers and server groupings in the Topology View.
	Increases or decreases the size of the objects in the Topology View.
	Highlights message routes between selected servers or server groups.

General Tasks

This section shows how to perform some general tasks within the Spotlight on Exchange Topology Viewer, including the following:

- Saving and loading the Topology layout
- Resizing sections and views
- Customizing the current grouping display
- Highlighting server types
- Launching the Spotlight on Exchange Diagnostic Console

Saving and Loading the Topology Layout

You can save the layout of your Exchange server organization as it appears in the Spotlight on Exchange Topology Viewer. Only the visual layout of the Exchange server organization is saved and not the server details collected during the process of discovering your Exchange server organization. This feature is similar to a Back button because you can return to a previous layout after moving the servers and server groups in the Topology View.

You can return to the saved Topology Viewer layout by loading the saved Topology layout file.

To save the Topology layout

1. Select **File | Save Topology Layout**.
2. Browse to the location where you want to save the Topology Viewer layout.
3. Enter a name for the Topology Viewer layout.
4. Select the .txt file type.
5. Click **Save**.

To load the Topology Viewer layout

1. Select **File | Load Topology Layout**.
2. Browse to the location of the saved Topology Viewer layout file.
3. Select the saved topology layout file and click **Open**.

Resizing Sections, Panels, and Views

You can resize sections, panels, and views in the Spotlight on Exchange Topology Viewer by dragging borders between sections or by clicking buttons in the top right corner of the sections and views.

Clicking Buttons

You can minimize and maximize sections, panels, and views by clicking the buttons shown in the following table:

BUTTON	DESCRIPTION
	Minimizes the Topology Navigation View and the Topology Summary panel.
	Maximizes the Topology Navigation View and the Topology Summary panel.
	Closes the Topology Navigation View and the Topology Summary panel. To reopen the section, panel, or view, select the name of the view or panel from the View menu.
	Maximizes sections of tab views in the Topology Summary panel.
	Restores the sections of the tab views in the Topology Summary panel.

Customizing the Current Grouping Display

You can customize the way you view current server groupings by

- Changing the view of current server groupings
- Hiding or showing current server groupings
- Expanding or collapsing current server groupings

To change the view of current server groupings

- Select an option from the Current Grouping list on the main toolbar.

To hide or show current server groupings

- Click  on the Topology View toolbar.

To collapse current server groupings

- Click  on the Topology View toolbar.

To expand the current server grouping

- Click  on the Topology View toolbar.

Highlighting Server Types

You can quickly highlight Exchange server types displayed in the Spotlight on Exchange Topology viewer by making a selection from the Highlight list, shown below. When you select a server type from the Highlight list, the servers are not only highlighted but are selected.



To highlight servers

- Select one of the following options from the Highlight list on the main toolbar:
 - None
 - All Servers
 - All Exchange 2000 Servers
 - All Exchange 2003 Servers
 - All Exchange 5.5 Servers

Launching the Spotlight on Exchange Diagnostic Console

You can launch the Spotlight on Exchange Diagnostic Console for Exchange 5.5 or Exchange 2000/2003 servers from the Spotlight on Exchange Topology Viewer. The Spotlight on Exchange Diagnostic Console allows you to further diagnose and resolve issues within individual Exchange servers in your organization.

To launch the Spotlight on Exchange Diagnostic Console

1. Select a server in the Topology View.

– OR –

Select a server name in the Topology Navigation View.
2. Right-click the server or server name and select **Diagnose | Launch Diagnostic Console**.

Configuring MOM Integration

Spotlight on Exchange Topology Viewer offers integration with Microsoft Operations Manager (MOM) 2000 and MOM 2005, providing end-to-end discovery, diagnosis, and resolution of Exchange issues from a single console. When you highlight a domain controller (DC) alert in the MOM console, you can right-click and launch the Spotlight Diagnostic Console to view the problem DC in real-time, determine the root cause of the issue, and resolve it.



In order for MOM integration to work, you must also install Spotlight Launcher. Copy the following two files to the directory where both MOM and Spotlight are installed.

- SpotlightLauncher.exe
- Spotlights.xml

To configure MOM 2005 integration

1. Select **Start | Programs | Microsoft Operations Manager 2005 | Administrator Console**.
2. Right-click the **Tasks** folder in the treeview and select **Create Task** to open the Create Task Wizard.
3. Click **Next**.
4. Select **Operator Console** as the run location and click **Next**.
5. Select **Events** as the view type.
6. Enter the path to SpotlightLauncher.exe in the Task Command Line box. For example: "C:\Program Files\Quest Software\Spotlight\MOM Launcher\SpotlightLauncher.exe".

SpotlightLauncher.exe is provided with Spotlight on Exchange Topology Viewer.

7. Click the arrow on the right side of the Command box and add the MOM database server name after the Computer Name.
8. Click **Next**.
9. Enter **Diagnose using Spotlight** in the name box and click **Finish**.

To configure MOM 2000 integration

1. Open the Microsoft Operations Manager Console.
2. Right-click **Monitor** in the left pane treeview.
3. Select **New | Custom Task**.
4. Select the Microsoft Operations Manager users who can use this task from the Task available to list.
5. Select alert items from the Task available for list.
6. Click **Add**, then enter a name and description for the custom action.
7. Enter the path to SpotlightLauncher.exe in the Command box.
8. Click the arrow on the right side of the Command box and select **Computer** from the list.
9. Click **OK**.
10. Click **OK**.

To launch Spotlight from a MOM alert view

1. Right-click an alert in an alert view.
2. Select **Custom Tasks**.
3. Select the Diagnose Using Spotlight name.

Exchange Server Diagnostic Tests

The Spotlight on Exchange Topology Viewer is a powerful administrative tool that allows you to perform diagnostic tests on Exchange servers displayed in the Spotlight on Exchange Topology Viewer.

Each of the Exchange server diagnostic tests provides insight into whether there are specific problems with server performance and whether further diagnostic action is required.

You can run Exchange server diagnostic tests once locally or you can schedule the tests. The scheduled tests can run right away or later, even when the Spotlight on Exchange Topology Viewer user interface is closed. You can choose to use default settings for the scheduled tests, or customize the tests by making selections in the advanced options panel.

You can perform the following Exchange server diagnostic tests:

- “Store Responsiveness Test” on page 66
- “Mailbox Logon Test” on page 70
- “Message Delivery Test” on page 73
- “OWA Availability Test” on page 77
- “External Message Transfer Test” on page 80

Mailbox Access Permissions

You must have full Exchange server mailbox access rights to perform the following tests:

- Mailbox Logon Test
- Message Delivery Test
- OWA Availability Test
- External Message Transfer Test

Exchange 5.5 Server

The Windows account, under which the Spotlight on Exchange Topology Viewer is running, must have the Exchange 5.5 “Service Account Admin” role on the Site container that holds the mailboxes that the mailbox diagnostic tests run against. The “Service Account Admin” role has the necessary mailbox owner rights to have the full mailbox access that is required to carry out the tests. For more information about Exchange 5.5 server administrative roles, see the Microsoft Knowledge Base article “XADM: Microsoft Exchange Roles, Rights, and Permissions” at the following address:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;168753>

Exchange 2000/2003 Server

By default, Exchange 2000/2003 server administrators do not have full mailbox access rights to all Exchange server mailboxes. For more information about how Exchange 2000/2003 administrators can gain full access to server mailboxes, see the Microsoft Knowledge Base article “XADM: How to Get Service Account Access to All Mailboxes in Exchange 2000” at the following address:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;262054>

For more information about enabling the Security Tab in Exchange System Manager, see the Microsoft Knowledge Base article at the following address:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;259221&Product=exchange>

Possible Mailbox Enumeration Issues

The Mailbox Logon Test and the Message Delivery Test enumerate server mailboxes on target servers. Spotlight on Exchange Enterprise Edition enumerates server mailboxes by sending an LDAP query to the Exchange 5.5 server and to a Global Catalog server for Exchange 2000/2003 server. Mailbox enumeration for the Mailbox Logon Test and the Message Delivery Test can complete successfully when the default LDAP port is available on the test servers.

LDAP Port Changes and Diagnostic Test Failure

An Exchange server administrator can change the LDAP port number on an Exchange 5.5 server. For example, an Exchange server administrator would change the LDAP port number when an Active Directory Connector (ADC) is co-located on an Exchange 5.5 server in a mixed environment. When the LDAP port number is changed on the Exchange 5.5 server, mailbox enumeration for the Mailbox Logon Test and the Message Delivery Test fails.

LDAP Port Utility

To overcome the diagnostic test failure caused by LDAP port number changes, you can use an unsupported utility that is available in the following location:
<drive: >\Program Files\Quest
Software\Spotlight\Plug-ins\SpotlightonExchange\Unsupported

To run the LDAP port utility

1. Browse to the LDAP utility in Windows Explorer and double-click **SOEAltLdapPort.exe**.
2. Enter the hostname of the Exchange 5.5 server and the corresponding LDAP port.

The Mailbox Logon Test and the Message Delivery Test use the specified LDAP port to successfully complete mailbox enumeration.

Viewing Exchange Server Diagnostic Test Results

Exchange server diagnostic test results are displayed in the Spotlight on Exchange Topology Viewer in the following areas:

- Server rings
- The Diagnostic Test Results tab

Server Rings

You can view Exchange server diagnostic test results in the outside ring of the Exchange server on which the test is performed. The ring is red if the Exchange server fails the test, green if the Exchange server passes the test, and yellow if the test fails to run.

The results of the Message Delivery Test are seen in the outside ring of the source server and the target server or servers. The test message might arrive successfully at some but not all target servers. In this case, the source server and the target servers, at which the test message successfully arrives, show green rings. The target server, at which the test message did not arrive within the configured amount of time, shows a red ring.

Clearing Test Results

After you have viewed diagnostic test results, you can clear the server ring of the test result color.

To clear the diagnostic test result color

1. Right-click the server and select **Diagnose**.
2. Select **Clear Diagnostic Test Result**.

Diagnostic Test Results Tab Information

The Diagnostic Test Results tab of the Topology Summary panel shows detailed diagnostic test status and results in the form of a status tree and text. The details shown vary depending on the diagnostic test currently performed but usually include the following:

- The name of the test currently performed
- The start time of the diagnostic test
- The name of the server and or mailbox on which the test is performed
- The status of the diagnostic test as it progresses

- The results of the diagnostic test: Pass or Fail



For detailed information about how diagnostic test results are provided, see [“The Diagnostic Test Results Tab” on page 33](#).

Scheduling Exchange Server Diagnostic Tests

You can schedule Exchange server diagnostic tests to proactively check the status of Exchange servers at the application level before problems occur, or you can schedule tests to run after you fix an issue to make sure the server problem has been resolved. You can configure a test to run only once, or at several intervals during a specified time period. Once configured, scheduled diagnostic tests can run whether the Topology Viewer user interface is open or closed.

You have to install and connect to the diagnostic services with write access in order to schedule diagnostic tests. Diagnostic services are automatically installed during the Standard Installation process.

Scheduled diagnostic test results are stored in the diagnostic services database. When you run diagnostic tests once locally, the test results are not stored, but can be viewed in the Topology Viewer.



You can run the diagnostic tests once locally when you are connected to diagnostic services.

When you schedule diagnostic tests, you have to provide details about the following:

- Execution Schedule
- Notification Settings
- Impersonation Settings

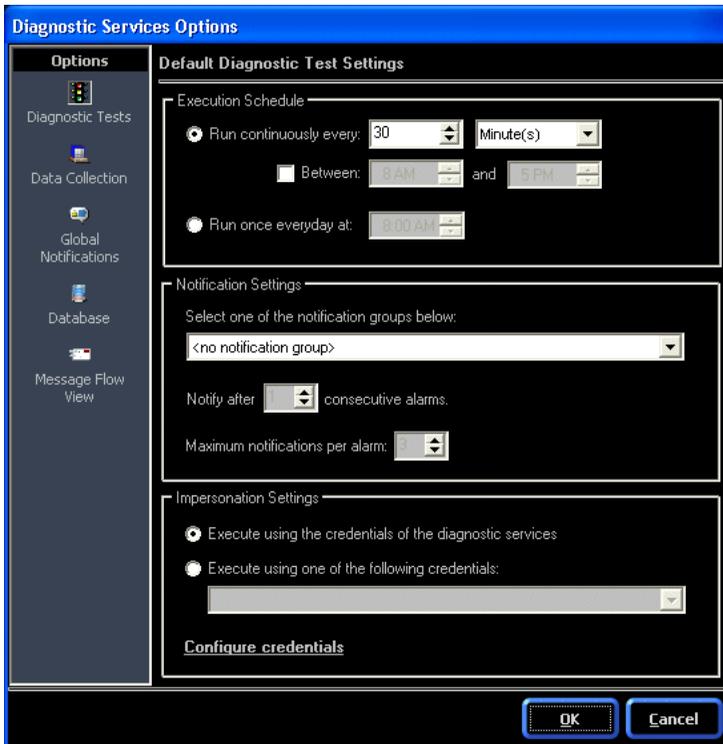
You can use the Diagnostic Services Options dialog box to enter test parameters and save them as default settings to use for all diagnostic tests, or you can tailor each scheduled test individually, using the advanced settings available on each of the diagnostic test configuration dialog boxes.

Default Diagnostic Test Settings

Using default values when scheduling Exchange server diagnostic tests allows you to configure the tests quickly. You can enter test parameters to use as the default settings in the Diagnostic Services Options dialog box.

To access the Diagnostic Test Options

- Select **View | Diagnostic Services Options** and select **Diagnostic Tests** in the Options panel.



Execution Schedule

The following options are available in the Execution Schedule panel:

OPTION	DESCRIPTION
Run continuously every	Select this to enter the time interval in minutes after which the next test starts. Note: The scheduled tests are synchronous. For example, if a tests is scheduled to run every ten minutes, but a test iteration takes an hour to run, the next iteration does not run until the first completes.
Between	Select this to indicate the time frame in which you want the test to run.
Run once everyday at	Select this to schedule the test to run once daily at this specific time.

Notification Settings

The first time you view the default diagnostic test settings, no diagnostic test notification options are selected. The following options are available in the Notification Settings panel:

OPTION	DESCRIPTION
Select one of the notification groups below	Select a notification group from the list. Note: The notification groups are preconfigured. For more information, see “Creating Notification Groups” on page 96 .
Notify after N consecutive alarms	Enter the number of consecutive alarms after which the notification group is notified.
Maximum notifications per alarm	Enter the maximum number of notifications sent to the notification group for each alarm.

Impersonation Settings

The impersonation feature allows diagnostic tests to run under alternate windows credentials. Spotlight on Exchange maintains a list of existing windows credentials from which you can select in order to run a test.

The first time you view the default diagnostic test settings, no alternative credentials are specified or used. The following options are available in the Impersonation panel:

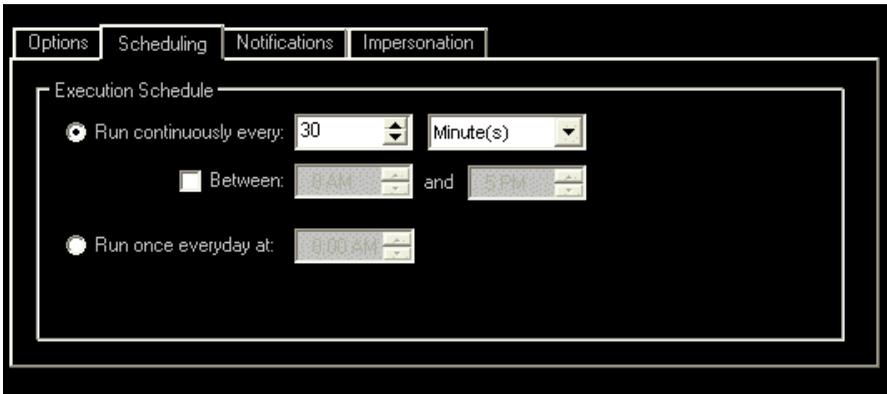
OPTION	DESCRIPTION
Execute using the credentials of the diagnostic test service	Select this option if you want scheduled diagnostic tests to execute under the credentials entered when installing the Diagnostic Services.
Execute using one of the following alternate credentials	Select the Windows credentials under which you want the diagnostic tests to execute. The list of available Windows credentials to use in Spotlight on Exchange can be modified using the Credential Management dialog box.
Configure credentials	Select this to access the Credential Management dialog box. When you add existing Windows credentials to the Credential Management dialog box, you can use them to execute diagnostic tests. When you delete existing Windows credentials from the Credential Management dialog box, you are no longer able to use them to execute diagnostic tests, but you have not deleted the Windows credentials. Note: These credentials must include an existing Windows username.



If you change the default diagnostic test options while tests are running, the tests that are running are not affected by the changes.

Customized Diagnostic Test Settings

The scheduled diagnostic tests use the default settings unless you customize individual tests using the settings available in the Scheduling, Notifications, and Impersonation tabs of the advanced options panel, shown in the following image. The advanced options panel is available on the test configuration dialog boxes for each diagnostic test.

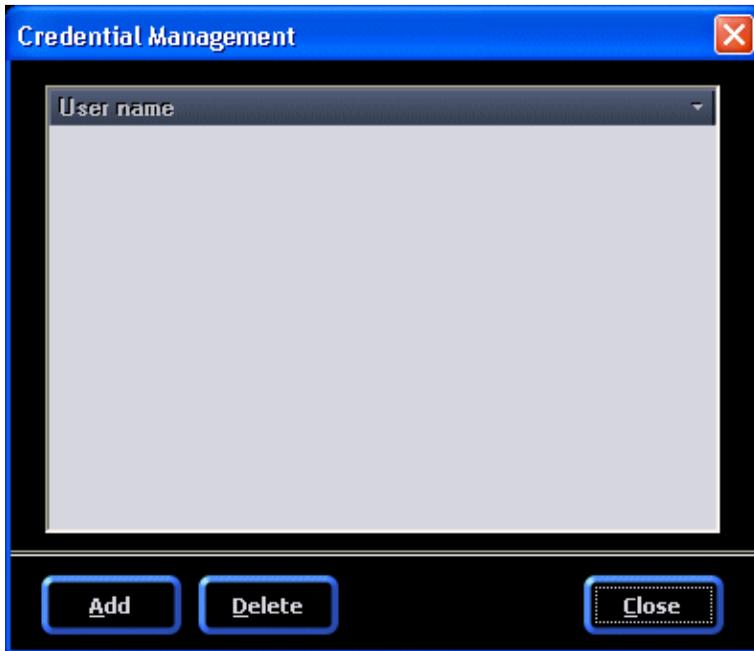


The settings entered into the advanced options panel do not remain as default values after the test is completed.

You may not have sufficient privileges to perform some Exchange server diagnostic tests. You can use the Credential Management dialog box to add existing Windows credentials that have sufficient privileges.

To access the Credential Management dialog box

- Select **Edit | Diagnostic Test Credentials**.



To add existing Windows credentials

1. Select **Edit | Diagnostic Test Credentials**.
2. Click **Add**.
3. Enter the name of a user account that has local administrative rights on the computer where the diagnostic services are installed.
4. Enter the corresponding password and click **OK**.

Windows 2000 Professional and Server

There are steps you must follow before you can use the impersonation feature when the diagnostic services are installed on Windows 2000 Professional and Windows 2000 Server.

To use impersonation with Windows 2000 Professional and Server

1. Close the Topology Viewer.
2. Select **Start | Programs | Administrative Tools | Services | Diagnostic Test Engine**.
3. Right-click Diagnostic Services and select **Stop**.

4. Select **Start | Programs | Administrative Tools | Local Security Policy** to open the Local Security Settings dialog box.
5. Select **Local Policies | User Rights Assignment** and double-click **Act as part of the operating system**.
6. Add the user account under which the Diagnostic Test Engine service is running.
7. Start the Diagnostic Test Engine service.

You can now use the Credential Management dialog box to add impersonation credentials.

Managing Scheduled Tests

Once scheduled diagnostic tests are running, you can view schedule details or change test parameters by selecting Delete, Edit, Pause, or Resume in the Diagnostic Test Schedule Management window. You can view diagnostic test results, which are displayed in the Topology Summary panel, by clicking Results. The test and test results are highlighted in the Topology Summary panel.

For more information about test results, [see “The Topology Summary Panel” on page 32](#).

When you take action against a scheduled test by clicking Delete, Edit, Pause, or Resume, all tests in the test group are affected by the change. For example, if you select a Store Responsiveness test in the Diagnostic Test Schedule Management window and click Delete, the tests are deleted from all of the servers used in the test.



You have to install and connect to the diagnostic services with write access in order to change scheduled diagnostic tests using the Diagnostic Test Execution Schedule window.

To access the Diagnostic Test Schedule Management window

- Select **View | Diagnostic Test Schedule Manager**.

Diagnostic Test Schedule Management Window

The Diagnostic Test Schedule Management window shows all scheduled diagnostic tests, whether they are currently paused or active. The columns in this section show the type of tests running and test details, described in the following table:

COLUMN	DESCRIPTION
Display Name	This column shows the type of scheduled diagnostic test.
Scheduled Status	This column shows whether the test is currently active or paused. You can select a paused test and click Resume if you want the test to continue. When you click Pause , current tests continue but the next test iteration is paused. Note: Tests may appear paused in the Scheduled Status column if credentials are invalid. You have to enter valid credentials to resume the test.
Next Run Time	This column indicates the next approximate time that the test will be run according to the configured schedule.
Execution Frequency	This column shows the amount of time that passes before the next test iteration begins.
Notification Group	This column shows the notification group selected for this test.
Alternate Credentials	This column shows the Windows credentials used for this test. These credentials must be existing Windows credentials.



You can sort the columns to show data in ascending or descending order by clicking the column titles.

Deleting Scheduled Diagnostic Tests

You can delete a scheduled diagnostic test from the Diagnostic Test Schedule Management window. When you delete a test, it is no longer scheduled to run and test configuration details no longer exist. You can choose to delete a single test or multiple tests.

To delete a scheduled diagnostic test

1. Select **View | Diagnostic Test Schedule Manager**.
2. Select a scheduled test (or multiple scheduled tests) in the Diagnostic Test Schedule Management window.
3. Click **Delete**.

Editing Test Configuration

You can edit a scheduled diagnostic test from the Diagnostic Test Schedule Management window.

To edit a scheduled diagnostic test

1. Select **View | Diagnostic Test Schedule Manager**.
2. Select a scheduled test in the Diagnostic Test Schedule Management window.
3. Click **Edit**.
4. Enter the test execution schedule parameters located in the Scheduling, Notifications, and Impersonation tabs, and click **OK**.



The edited diagnostic test runs immediately after you click **OK**.

Pausing and Resuming Diagnostic Test Schedules

You can pause or resume a diagnostic test schedule from the Diagnostic Test Schedule Management window. When you pause a diagnostic test schedule, the test iteration currently running completes; the next test iteration is paused.

To pause or resume a diagnostic test schedule

1. Select **View | Diagnostic Test Schedule Manager**.
2. Select a scheduled test (or multiple scheduled tests) in the Diagnostic Test Schedule Management window.
3. Click **Pause** or **Resume**.

Store Responsiveness Test

You can use the Store Responsiveness Test to determine whether the information store on the target Exchange server (or servers) is capable of processing mailbox requests. The functionality of the information store directly impacts the functionality of mail clients such as Microsoft® Outlook®, and as a result, this test can provide answers to questions frequently sent to Help Desk personnel regarding mail client inefficiency.

The Store Responsiveness Test uses polling samples taken over a specified amount of time. The default settings are recommended for optimal test results. You can change the number of polling samples and the number of seconds over which the samples are taken for a test. The default settings are restored when you run subsequent tests.

You can schedule the test to run several times during a specified time frame, or you can run the test once locally. For more information about scheduling diagnostic tests, [see “Scheduling Exchange Server Diagnostic Tests” on page 57](#).

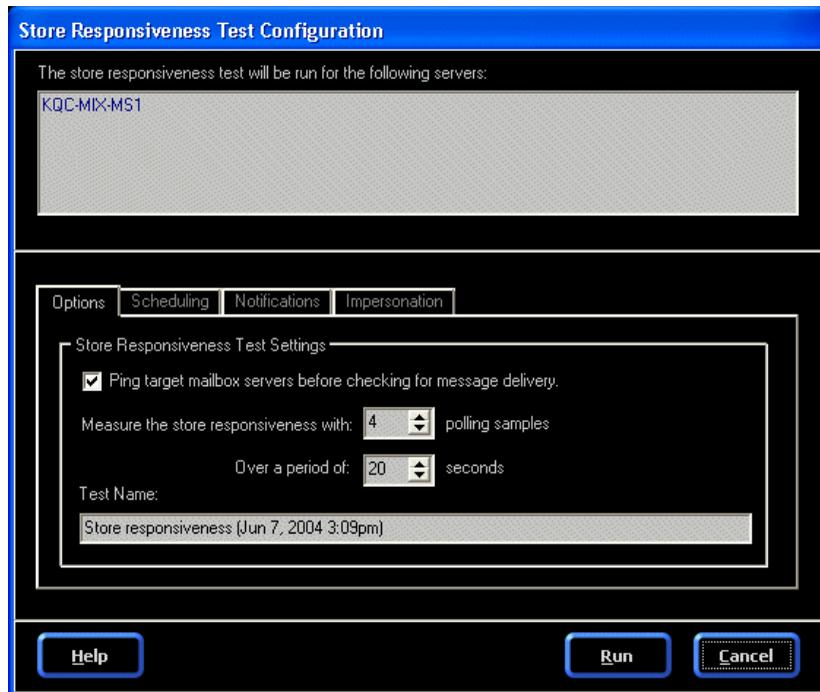


You must be connected to Diagnostic Services with write access in order to schedule diagnostic tests.

You must have local Microsoft Windows operating system administration rights to use the Store Responsiveness Test.

To run the Store Responsiveness test once locally

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | Store Responsiveness Test | Run once**.
You can select multiple servers for this test by pressing CTRL and left-clicking servers in the Spotlight on Exchange Topology Viewer. The servers turn blue when selected.
2. Verify that the correct server names appear in the Store Responsiveness Test Configuration dialog box.



3. In the **Options** tab, enter the number of polling samples to use for the test and the number of seconds over which the polling samples are taken.
4. Enter a test name.
5. Click **OK**.

To schedule the Store Responsiveness test

1. Right-click a server in the Spotlight on Exchange Topology viewer and select **Diagnose | Store Responsiveness Test | Schedule with Advanced Options**.
You can select multiple target servers by pressing CTRL and left-clicking servers in the Spotlight on Exchange Topology Viewer. The servers turn blue when selected.
2. Verify that the correct server names appear in the Store Responsiveness Test Configuration dialog box.

cont'd...

3. Click the **Options** tab and enter the number of polling samples to use for the test, and the number of seconds over which the polling samples are taken.

You can select the check box if you want to ping the target mailbox servers before checking for message delivery.

4. Click the **Scheduling** tab to enter scheduling details or use the default settings.
5. Click the **Notifications** tab to enter notification details or use the default settings.
6. Click the **Impersonation** tab to enter impersonation details or use the default settings.
7. Click **OK**.



For more information about values on the Scheduling, Notifications, and Impersonation tabs, [see “Default Diagnostic Test Settings” on page 58.](#)

Understanding Store Responsiveness Test Results

You can view details about the Store Responsiveness Test in the Diagnostic Test Results tab of the Topology Viewer Summary panel.



The Store Responsiveness Test fails to run if the target Exchange server (or servers) is unavailable on the network.

The following table provides the conditions that cause the Exchange server to pass or fail the Store Responsiveness Test. Information for each target server is provided:

TEST RESULT	CONDITIONS FOR TEST RESULT
Pass	<p>The Exchange server passes the Store Responsiveness Test if all of the following events occur:</p> <ul style="list-style-type: none"> • At each polling interval, the Store Responsiveness Test detects fewer than 100 simultaneous Remote Procedure Calls (RPC) requests being sent to the store. (This indicates that the store is able to respond to mail client requests.) • At each polling interval, the Store Responsiveness Test detects that the average number of RPC requests to the store is less than 35. (This indicates that the store is responding to mail client requests within a reasonable time period.) • At each polling interval, the Store Responsiveness Test detects that the number of RPC operations per second is zero or greater than zero with no increase in RPC requests. (This indicates that the store is meeting mail client demand.)
Fail	<p>The Exchange server fails the Store Responsiveness Test if any of the following events occurs:</p> <ul style="list-style-type: none"> • At each polling interval, the Store Responsiveness Test detects more than 100 simultaneous RPC requests being sent to the store. (This indicates that the store is unable to process mailbox requests.) • At each polling interval, the Store Responsiveness Test detects that the average number of RPC requests to the store is greater than 35. (This indicates that the store is not responding to mail client requests within a reasonable time period.) • At each polling interval, the Store Responsiveness Test detects that the number of RPC operations per second is zero or greater than zero with increases in RPC requests. (This indicates that the store is not meeting mail client demand.)



The number of RPC operations can be zero for the entire polling session. This indicates that either no mail client requests are reaching the store or that the server is inactive during the polling session. This event does not affect the final test result.

Mailbox Logon Test

You can use the Mailbox Logon Test to determine mailbox logon time and mailbox responsiveness for a specific Exchange server mailbox. You can schedule the test to run several times during a specified time frame, or you can run the test once locally. If you schedule the test, the results can be viewed in the server nodes and the Diagnostic Test Results Tab of the Topology Viewer. The results are also stored in the Diagnostic Services database.



You must be connected to Diagnostic Services with write access in order to schedule diagnostic tests.

If you run the test once locally, the results are not stored, but you can view the results in the server nodes and the Diagnostic Test Results tab of the Topology Viewer.

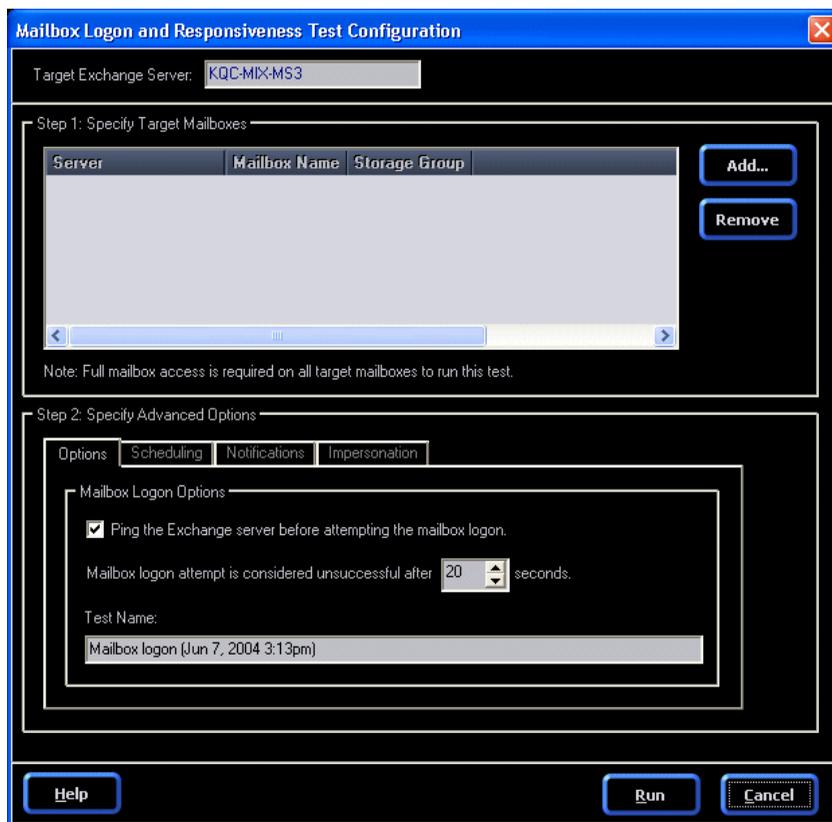


You must have full mailbox access rights to the Exchange server mailbox in order to perform the Mailbox Logon Test. For more information about how to achieve full mailbox access rights, see [see “Mailbox Access Permissions” on page 54](#).

There are up to four subtests performed during the Mailbox Logon Test, which provide information about network availability, mailbox logon time, mailbox inbox enumeration, and the ability of the store to process mailbox requests. The results of these subtests provide insight into the cause of slow mail client performance.

To run the Mailbox Logon Test once locally

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | Mailbox Logon Test | Run once**.



2. Verify that the correct server name appears in the Target Exchange Server box.
3. Click **Add** to view the list of available server mailboxes.
4. In the Specify Mailbox Search Criteria section, enter a mailbox name or a mailbox email address, select the corresponding option, and click **Search**.

If you do not know the mailbox name or mailbox email address, you can perform a wildcard search by entering the following:

*First name**

First name Last name**

cont'd...

Firstna (first few letters of first name)*

Firstna Lastna* (first few letters of first and last name)*

– OR –

Click **Search** to view all mailboxes on the Exchange server.

*You can click **Cancel** if there is a large number of mailboxes to retrieve as this process may take a long period of time. The mailboxes retrieved before you click **Cancel** are displayed.*

5. Select a mailbox name from the Matching Mailboxes list and click **Add**.
6. Click **OK**.
7. In the Specify Advanced Options section, click the **Options** tab and enter a time in seconds after which the mailbox logon attempt is considered unsuccessful.

You can clear the check box in the Advanced Options section if you choose not to ping the Exchange server before attempting the mailbox logon test.

8. Click **OK**.



The Mailbox Logon Test enumerates server mailboxes by sending an LDAP query to the target servers. The test fails if the LDAP port number is changed on an Exchange 5.5 server. For more information about port number changes causing test failures, see [“Possible Mailbox Enumeration Issues”](#) on page 55.

To schedule the Mailbox Logon test

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | Mailbox Logon Test | Schedule with Advanced Options**.
2. Follow steps 2-7 in the previous procedure for running the test once locally.
3. Click the **Scheduling** tab to enter scheduling details or use the default settings.
4. Click the **Notifications** tab to enter notification details or use the default settings.
5. Click the **Impersonation** tab to enter impersonation details or use the default settings.
6. Click **OK**.



For more information about the values for the Scheduling, Notifications, and Impersonation tabs, see [“Default Diagnostic Test Settings”](#) on page 58.

Understanding Mailbox Logon Test Results

You can view details about the Mailbox Logon Test in the Diagnostic Tests tab of the Topology Viewer Summary panel.



The Mailbox Logon Test fails to run if the target Exchange server (or servers) is unavailable on the network. This failure to run status is indicated in the Diagnostic Tests tab Test Progression Panel by a red X.

The following table provides the conditions that cause the Exchange server to pass or fail the Mailbox Logon Test:

TEST RESULT	CONDITIONS FOR TEST RESULT
Pass	The Exchange server passes the Mailbox Logon Test if the mailbox logon occurs and logon time meets or does not exceed the time you configured using the Mailbox Logon and Responsiveness Test Configuration dialog box.
Fail	The Exchange server fails the Mailbox Logon Test if either (or both) of the following occurs: <ul style="list-style-type: none"> • The mailbox logon time exceeds the configured time period. • The store is not responding to mail client requests.

Message Delivery Test

You can use the Message Delivery Test to determine if messages are delivered between selected mailboxes on any two servers in your Exchange server organization within a configured amount of time. The test message can be sent between servers regardless of whether they are in the same routing group. You can send the test message to an unlimited number of server mailboxes within your Exchange organization.

You can run the test once on the Spotlight on Exchange client, or schedule it to run several times daily. For more information about scheduling diagnostic tests, see [“Scheduling Exchange Server Diagnostic Tests” on page 57](#). The test results can be viewed in the Diagnostic Test Results tab. The outer ring on the nodes in

the Topology Viewer show the highest severity outcome of tests run on that node. Tests that are scheduled have results stored in a database.



You must have full mailbox access rights to both the originating and target Exchange server mailboxes in order to perform the Message Delivery Test. If you do not have the appropriate administrative rights to the servers, you cannot log on to the selected mailboxes to determine if the test message has been sent or received. For more information about how to achieve full mailbox access rights, see [“Mailbox Access Permissions” on page 54](#).

To run the Message Delivery test once locally

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | Message Delivery Test | Run once**.

Message Delivery Test Configuration

Step 1: Specify Originating Mailbox

Exchange Server: Mailbox:

Step 2: Specify Target Mailboxes

Exchange Server:

Server	Mailbox Name	Storage Group
--------	--------------	---------------

Note: Full mailbox access is required on all target mailboxes in order to run this test.

Step 3: Specify Advanced Options

Options | **Scheduling** | Notifications | Impersonation

Message Delivery Test Settings

Attempt SMTP message submission before using MAPI.

Ping target mailbox servers before checking for message delivery.

Consider the test message undelivered if it has not been found after: seconds.

Test Name:

2. In the Specify Originating Mailbox section, verify that the server name in the Exchange Server box is correct.
3. In the Specify Originating Mailbox section, click **Add** to view the list of mailboxes available on the originating server.

4. In the Specify Mailbox Search Criteria section, enter a mailbox name or a mailbox email address, select the corresponding option, and click **Search**.

If you do not know the mailbox name or mailbox email address, you can perform a wildcard search by entering the following:

*First name**

First name Last name**

Firstna (first few letters of first name)*

Firstna Lastna* (first few letters of first and last name)*

– OR –

Click **Search** to view all mailboxes on the Exchange server.

*You can click **Cancel** if there is a large number of mailboxes to retrieve as this process may take a long period of time. The mailboxes retrieved before you click **Cancel** are displayed.*

5. Select a mailbox name from the Matching Mailboxes list and click **Add**.



You can add only one originating mailbox. This is the mailbox that sends the test message.

6. Click **OK**.
7. In the Specify Target Mailboxes section, select a target server from the Exchange Server list.
8. Click **Add** to view the list of available mailboxes on the target server.
9. In the Specify Mailbox Search Criteria section, enter a mailbox name or a mailbox email address, select the corresponding option, and click **Search**.

– OR –

Click **Search** to view all mailboxes on the Exchange server.

*You can click **Cancel** if there is a large number of mailboxes to retrieve as this process may take a long period of time. The mailboxes retrieved before you click **Cancel** are displayed.*

10. Select a target mailbox from the Matching Mailboxes list and click **Add**.
11. Click **OK**.

cont'd...

12. In the Specify Advanced Options section, enter the amount of time after which the mailbox delivery attempt is considered unsuccessful. *You can clear the check box if you choose not to ping the Exchange server before attempting the mailbox logon test.*
13. Click **OK**.



The Message Delivery Test enumerates server mailboxes by sending and LDAP query to the target servers. The test fails if the LDAP port number is changed on a Exchange 5.5 server. For more information about how LDAP port number changes cause test failure, see [“Possible Mailbox Enumeration Issues” on page 55](#).



If you receive an LDAP error message during the mailbox selection process and you have not made any LDAP port number changes, try running the test again at a later time.

To schedule the Message Delivery test

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | Message Delivery Test | Schedule with Advanced Options**.
2. Follow steps 2-12 in the previous procedure for running the test once locally.
3. Click the **Scheduling** tab to enter scheduling details or use the default settings.
4. Click the **Notifications** tab to enter notification details or use the default settings.
5. Click the **Impersonation** tab to enter impersonation details or use the default settings.
6. Click **OK**.



For more information about the values for the Scheduling, Notifications, and Impersonation tabs, see [“Default Diagnostic Test Settings” on page 58](#).

Understanding Message Delivery Test Results

You can view details about the Message Delivery Test in the Diagnostic Test Results tab of the Topology Viewer Summary panel.



The Message Delivery Test fails to run if the target Exchange server is unavailable on the network.

The following table provides the conditions that cause the Exchange server to pass or fail the Message Delivery Test:

TEST RESULT	CONDITIONS FOR TEST RESULT
Pass	The Exchange server passes the Message Delivery Test if the test message is sent from the originating server and is received by specific mailboxes on the target server (or servers) within the configured amount of time.
Fail	The Exchange server fails the Message Delivery Test if the test message does not arrive at specific mailboxes on a target server (or servers) within the configured amount of time.

OWA Availability Test

The OWA Availability Test ensures that Outlook Web Access is available on the Exchange server, allowing users to remotely access their email.

Additionally this test can ensure whether a specific mailbox is accessible through OWA.



You must have full mailbox access rights to the target Exchange server mailbox in order to perform the OWA Availability Test on a specific mailbox.

You can schedule the test to run several times during a specified time frame during the day, or you can run the test once locally. Running the test locally means that the test is executed within the Spotlight on Exchange Topology Viewer console on the client computer.

The results can be viewed on the server nodes and the Diagnostic Test Results tab of the Topology Viewer. Scheduled test results are additionally stored in the diagnostic services database even when the Spotlight on Exchange Topology Viewer is not running.



You must be connected to Diagnostic Services with write access in order to schedule diagnostic tests. The first user to connect to Diagnostic Services receives write access, while subsequent users receive read access.



The OWA mailbox logon option is disabled for Exchange 5.5 servers.

To run the OWA Availability test once locally

1. Right-click one or more servers in the Spotlight on Exchange Topology Viewer and select **Diagnose | OWA Availability Test | Run Once**.
2. In the OWA Availability Test Configuration dialog box, verify that the servers on which the OWA Availability Test will be run are correct.

You can select multiple servers at one time on which to run the OWA Availability Test. The multi-selected servers appear in the OWA Availability Test Configuration dialog box. However, when you run the OWA Availability Test against multiple servers, the OWA mailbox logon option is disabled.

3. In the OWA Availability Test Settings section, specify the response time value in seconds.

If OWA does not respond within this time, it is considered non-responsive and the test is considered to have failed.

4. Click the **Impersonation** tab to specify alternate credentials.
5. Select the **Perform OWA mailbox logon with the following mailbox alias** check box and enter a valid mailbox.

The mailbox alias is the alias attribute of the mailbox as stored in the Exchange directory. The alternate credentials specified in the OWA Availability Test are used solely for authentication and not for specifying the mailbox to which you want to logon. This allows an administrator to use one set of Windows credentials to test the outlook web access of many mailboxes without entering alternate credentials for each mailbox.

6. Click **Run**.

To schedule the OWA Availability test

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | OWA Availability Test | Schedule with Advanced Options**.
2. Follow steps 2-6 in the previous procedure for running the test once locally.
3. Click the **Scheduling** tab to enter scheduling details or use the default settings.
4. Click the **Notifications** tab to enter notification details or use the default settings.
5. Click the **Impersonation** tab to enter impersonation details or use the default settings.
6. Click **Run**.



See the topic [Default Diagnostic Test Settings](#) for more information about the values you can enter into the Scheduling, Notifications and Impersonation tabs.

To locate the mailbox alias for a mailbox residing on an Exchange 5.5 server

1. Locate the mailbox in the appropriate recipient container in the Exchange Administrator program.
2. Double-click the mailbox to view its properties.

The mailbox alias attribute is listed on the main General tab.

To locate the mailbox alias for a mailbox residing on an Exchange 2000 (or greater) server

1. Start the Active Directory Users and Computers snap-in on a computer where Exchange System Manager is also installed.
2. Locate the User in Active Directory Users and Computers snap-in and right-click to view the Properties on the user.
3. Select the Exchange **General** tab.

The mailbox alias is listed on this tab.

Understanding OWA Availability Test Results

You can view details about the OWA Availability Test in the [The Diagnostic Test Results Tab](#) of the Topology Viewer Summary panel.



The OWA Availability Test fails to run if the target Exchange server is unavailable on the network.

The following table provides the conditions that cause the Exchange server to pass or fail the OWA Availability Test:

TEST RESULT	CONDITIONS FOR TEST RESULT
Pass	The Exchange server passes the OWA Availability Test if the test message is sent from the originating server and OWA responds within a specified time frame.
Fail	The Exchange server fails the OWA Availability Test if OWA does not respond within the specified time frame.

External Message Transfer Test

You can use the External Message Transfer Test to send and track a message from any mailbox on any server to any SMTP destination. The test is successful if the message is delivered outside of your organization within a specified, configurable delivery time frame. This test also contains a textual message path feature so you can view the message status.

All message detail processing information, time stamps, and information on how the message was handled by the Exchange servers is found in the textual message.



You must have full mailbox access rights to the originating Exchange server mailbox in order to perform the External Message Transfer Test. If you do not have the appropriate administrative rights to the servers, you cannot log on to the selected mailboxes to determine if the test message has been sent.

You can schedule the test to run several times during a specified time frame, or you can run the test once locally. If you schedule the test, the results can be viewed in the server nodes and the The Diagnostic Test Results Tab of the Topology Viewer. The results are also stored in the diagnostic services database.



You must be connected to Diagnostic Services with write access in order to schedule diagnostic tests. The first user to connect to Diagnostic Services receives write access, while subsequent users receive read access.

To run the External Message Transfer test once locally

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | External Message Transfer Test | Run Once**.
2. In the Specifying Originating Mailbox section, verify that the server name in the Exchange Server box is correct.
3. In the Specify Originating Mailbox section, click **Add** to view the list of mailboxes available on the originating server.
4. In the Specify Mailbox Search Criteria section, enter a mailbox name or a mailbox email address, select the corresponding option, and click **Search**.

If you do not know the mailbox name or mailbox email address, you can perform a wildcard search for a specific mailbox by entering the following:

*First name**

First name Last name**

Firstna (first few letters of first name)*

Firstna Lastna* (first few letters of first name and last name)*

– OR –

Click **Search** to view all mailboxes on the Exchange server.

*You can click **Cancel** if there is a large number of mailboxes to retrieve as this process may take a long period of time. The mailboxes retrieved before you click **Cancel** are displayed.*

5. Select a mailbox name from the Matching Mailboxes list and click Add.
The mailbox name is added to the Selected Mailboxes list.



You can add only one originating mailbox. This is the mailbox that sends the test message.

6. Click **OK**.
7. In the Specify Target Recipient section, enter a valid email address as a target SMTP address.
8. In the Specify Advanced Options section, click the **Options** tab and enter the amount of time after which the message transfer attempt is considered unsuccessful.
You can clear the check box if you choose not to ping the Exchange server before attempting the mailbox logon test.

9. Click **Run**.
The External Message Transfer Test enumerates server mailboxes by sending an LDAP query to the target servers. The test fails if the LDAP port number is changed on an Exchange 5.5 server. For more information about how LDAP port number changes cause test failure, see Mailbox enumeration.



If you receive an LDAP error message during the mailbox selection process and you have not made any LDAP port number changes, try running the test again at a later time.

To schedule the External Message Transfer Test

1. Right-click a server in the Spotlight on Exchange Topology Viewer and select **Diagnose | External Message Transfer Test | Schedule with Advanced Options**.

cont'd...

2. Follow steps 2-9 in the previous procedure for running the test once locally.
3. Click the **Scheduling** tab to enter scheduling details or use the default settings.
4. Click the **Notifications** tab to enter notification details or use the default settings.
5. Click the **Impersonation** tab to enter impersonation details or use the default settings.
6. Click **Run**.



See the topic [Default Diagnostic Test Settings](#) for more information about the values you can enter into the Scheduling, Notifications and Impersonation tabs.

Understanding External Message Transfer Test Results

You can view details about the External Message Transfer Test in the [The Diagnostic Test Results Tab](#) of the Topology Viewer Summary panel.



The External Message Transfer Test fails to run if the target Exchange server is unavailable on the network.

The following table provides the conditions that cause the Exchange server to pass or fail the External Message Transfer Test:

TEST RESULT	CONDITIONS FOR TEST RESULT
Pass	The Exchange server passes the External Message Transfer Test if the test message is sent from the originating server and is delivered outside of your organization within a specified, configurable delivery time frame.
Fail	The Exchange server fails the External Message Transfer Test if the test message is not delivered outside of your organization within a specified, configurable delivery time frame.

Data Collection

The Spotlight on Exchange Topology Viewer allows you to collect details about Exchange server performance without deploying agents. Spotlight on Exchange Diagnostic Services collects counter values at regular polling intervals from selected Exchange servers.

Server counter status is displayed and updated regularly at each polling interval in the Spotlight on Exchange Topology Viewer. The status is indicated in

- The pie chart in the center area of server nodes
- The Monitored Data tab of the Topology Summary panel
- The status icons in the Topology Navigation panel

Thresholds can be set, and if a counter value enters a critical threshold, visual alarms are presented and notifications can be sent to the appropriate resources.

Web Reports

Spotlight on Exchange Diagnostic Services stores data collected from each monitored Exchange server. The server data is stored on an SQL server/MSDE database for up to 30 days. The Web Reports feature allows you to create reports on the stored data.

To access Web Reports from the Spotlight on Exchange Topology Viewer

1. Select **View | Web Reports**.
2. Enter the location of the server on which Web Reports is installed.



For detailed information about the installation process, see the Spotlight on Exchange Enterprise Edition 5.0 Quick Start Guide. You can view Web Reports Help by clicking the Web Reports Help menu.

Connecting to the Diagnostic Services

To start collecting data from Exchange servers displayed in the Spotlight on Exchange Topology Viewer, you must first connect to the diagnostic services. The diagnostic services must be installed and running before the connection can be formed.

The diagnostic services can be installed on the same computer as the Spotlight on Exchange Topology Viewer Console or on a different computer. When you

connect to the diagnostic services, you must enter the address of the computer on which the diagnostic services are installed.

The following are the types of addresses you can enter:

- IP address
- NetBIOS name
- Fully-qualified name of computer



You can enter "LOCALHOST" as the address of the diagnostic services if it is installed on the same computer as the Spotlight on Exchange Topology Viewer Console.

To connect to the diagnostic services

1. Select **File | Connect to Diagnostic Services**.
2. Enter the address of the computer on which the diagnostic services reside.
3. Click **OK**.

To disconnect from the diagnostic services

- Select **File | Disconnect from Diagnostic Services**.



The diagnostic services connection status is updated in the bottom left corner of the Spotlight on Exchange Topology Viewer Console.

Configuring Data Collection

Configuring data collection for an Exchange server involves the following:

- Selecting available counters
- Configuring counter threshold values
- Data collection templates
- Setting data collection options

Selecting Available Counters

The diagnostic services retrieve all available counters from the selected server. The available counters are listed in the Available Counters section of the Configure Data Collection dialog box. The counters are arranged under counter categories in a treeview, which you can expand and collapse. The available counter categories include:

- Performance
- Services
- Network
- SMTP Message Queues (Exchange 2000/2003 servers only)

To select counters

1. Right-click a server in the Topology View and select **Detect | Configure Data Collection**.
2. Select a counter and click **Add**.



3. Click **OK**.

Configuring Counter Threshold Values

After you add counters to the Selected Counters section, you can define counter thresholds. You can enter critical and warning threshold counter values. Some of the warning and critical threshold values shown in the edit box lists are numerical while other values are textual. The value shown depends on the type of counter you have selected. The edit box appears when you click in the counter table row under the column heading.

The following symbols are listed under Condition:

- <> (Not equal to)
- > (Greater than)
- < (Less than)
- = (Equal to)

The following is an example of a Processor counter configuration:



Selected Counters	Condition	Warning Threshold	Critical Threshold	Notify?
Performance Counters				
Processor				
% Processor Time				
Total	>	70	90	Yes
Services				



If you do not want to set a threshold for a counter, you can clear the counter value by clicking in the edit box and pressing the Backspace key on the keyboard. The number 0 can be a threshold value.

To configure counter threshold values

1. Right-click a server in the Topology View and select **Detect | Configure Data Collection**.
2. Select a counter instance in the Selected Counters section.
3. Click in the Condition column and select a condition from the list.
4. Click in the Warning Threshold column to enter a value.
5. Click in the Critical Threshold column to enter a value.
6. Click **Yes** in the Notify column if you want to enable notification.
7. Click **OK**.



You can enable or disable notification in the procedure shown above. However, notifications are not sent until notification groups are created and applied to a server and notification options are configured.

Data Collection Templates

A data collection template is a set of predefined counters and thresholds. You must have at least one counter configured before attempting to create a template. The template is saved in the data collection database. This allows multiple users to access templates.



All currently monitored counters on the server are cleared when you apply a template to a server. Only the counters specified in the template are monitored after the template is applied.

To create data collection templates

1. Right-click a server in the Topology View or the Topology Navigation View.
2. Select **Detect | Configure Data Collection** to view previously configured counters or to configure counters.
3. Click **Save**.
4. Enter a template name.
5. Enter a template description (optional).
6. Click **OK** to save the template.



Spotlight on Exchange Enterprise Edition provides templates for Exchange 5.5, 2000, and 2003 servers.

To apply a template

1. Right-click a server in the Topology View or the Topology Navigation View and select **Detect | Apply Template**.
2. Select the template and click **OK**.

To remove a template

1. Right-click a server in the Topology View or the Topology Navigation View and select **Detect | Remove Template**.
2. Click **Yes**.

Counters that were monitored because the template was applied to the server are no longer monitored when the template is removed.

Automatically Applying Default Templates

Spotlight on Exchange Topology Viewer contains a feature that automatically connects the Spotlight on Exchange console to the diagnostic services and applies a default template to each Exchange server during first launch of the product.



Diagnostic Services and the Spotlight on Exchange Topology Viewer Console must be installed on the same computer for this feature to be available.

The first time that you launch Spotlight on Exchange Topology Viewer you are automatically connected to the diagnostic servers and the default data collection templates are applied to the appropriate servers. This allows you to easily view the data collection status of all servers in the topology view.

Spotlight on Exchange automatically performs the following tasks the first time you launch the Topology Viewer:

- The Spotlight on Exchange Topology Viewer is launched after installation.
- Spotlight on Exchange Topology Viewer attempts to discover the Exchange organization.

If the discovery of the Exchange organization is unsuccessful no connection to diagnostic services is attempted.

After discovery, Spotlight on Exchange Topology Viewer attempts a connection to the local diagnostic services.

If the connection is unsuccessful, an error message is displayed and the normal Topology Viewer behaviour continues.

The following table identifies the default templates that are applied to the appropriate versions of Exchange server:

EXCHANGE SERVER	DEFAULT TEMPLATE
Exchange 5.5	Exchange 5.5
Exchange 2000 Back End	Exchange 2000
Exchange 2000 Front End	Exchange 2000 Front End
Exchange 2003 Back End	Exchange 2003

EXCHANGE SERVER	DEFAULT TEMPLATE
Exchange 2003 Front End	Exchange 2003 Front End

The following two scenarios occur when Spotlight on Exchange Topology Viewer is launched after installation, and no attempt is made at connecting to the diagnostic services:

- the diagnostic services are installed on another computer
- Spotlight on Exchange is installed as an upgrade from a previous version and data collection was previously configured

Manually Applying the Default Templates

Spotlight on Exchange Topology Viewer allows you to quickly get up and running with data collection in your Exchange organization by applying default data collection templates.



The Spotlight on Exchange Topology Viewer must be started, an Exchange organization must be discovered, and the console must be connected to the diagnostic services.

To manually apply a default template

1. Launch **Spotlight on Exchange Topology Viewer**.
2. Discover the necessary Exchange organization and connect to diagnostic services.
3. Select **Actions | Apply Default Data Collection** to apply a default data collection template.

A dialog box warns you that selecting this action will remove any previously configured data collection counters.

4. Select **Yes** in the Apply Default Templates dialog box to apply a default template for each server in the current Exchange organization.

– OR –

Select **No** if you do not want to apply a default template for each server.

If you select Yes, any existing data collection will be replaced by the data collection counters on the default templates.

Modifying an Existing Data Collection Template

Spotlight on Exchange Topology Viewer allows you to modify an existing data collection template. This is useful if you want to customize an existing template, for example, by adjusting a threshold or adding or removing a counter.



The Spotlight on Exchange Topology Viewer must be started, an Exchange organization must be discovered and connected to the diagnostic services, and at least one data collection template must exist.

Using this feature after the template has been modified does not change any previous data collection that was configured on servers using this template.

To modify an existing data collection template

1. Launch **Spotlight on Exchange Topology Viewer**.
2. Discover the necessary Exchange organization and connect to diagnostic services.
3. Apply an existing template to one or more servers in the Exchange organization.
4. Right-click a server in the Topology View and select **Detect | Configure Data Collection**.
5. Make changes to the counter configuration as necessary.
6. Click **Save**.
7. Select an existing template name from the list and enter it into the New Template Name box.
8. Enter an appropriate template description into the New Template Description box.
9. Click **OK**.
10. Select **Yes** in the Overwrite existing templates dialog box to overwrite the existing template.

– OR –

Select **No** if you do not want to make any changes to the existing template.

If you select Yes, the existing template with the same name is replaced with the counter configuration that you have modified.

Clearing all Existing Data Collection

Spotlight on Exchange Topology Viewer allows you to quickly stop all data collection in your current Exchange organization. This action clears any existing configured counters from each server in that Exchange organization.



The Spotlight on Exchange Topology Viewer must be started, an Exchange organization must be discovered, and the console must be connected to the diagnostic services.

To clear all existing data collection

1. Launch **Spotlight on Exchange Topology Viewer**.
2. Discover the necessary Exchange organization and connect to diagnostic services.
3. Select **Actions | Clear All Existing Data Collection**.
4. Select **Yes** in the Clear All Existing Collected Counters dialog box to clear data collection in your Exchange organization.

– OR –

Select **No** if you do not want to clear any existing configured counters from each server.

If you select Yes, any existing configured counters are cleared from the servers in your Exchange organization.

As a result of this action the colors of the pie slices on the server's nodes appear gray to indicate that there is currently no data collection being performed.



The Actions | Clear All Existing Data Collection menu item is unavailable if you are not connected to diagnostic services.

Default Diagnostic Test Settings

Using default settings when scheduling Exchange server diagnostic tests allows you to configure the tests quickly. You can set default diagnostic test settings from the Topology Viewer if you have installed the diagnostic services and have connected to the diagnostic services with an account that has write access.

To set or view default diagnostic test values

- Select **View | Diagnostic Services Options**.

Execution Schedule

The following options are available in the Execution Schedule panel:

OPTION	DESCRIPTION
Run continuously every	Select this to enter the time interval in minutes after which the next test starts. Note: The scheduled tests are synchronous. For example, if a test is scheduled to run every ten minutes, but a test iteration takes an hour to run, the next iteration does not run until the first completes.
Between	Select this to indicate the time frame during which you want the test to run.
Run once everyday at	Select this to schedule the test to run once daily at this specific time.

Notification Settings

Each time a test runs, if one or more targets in that test fail (for example a server or mailbox), a notification email is sent if a notification group was specified for the test. This email shows all the targets within the test that have failed for this test run. If the Maximum notification per alarm settings was specified on the test, any targets that have failed consecutively this number of times will not be included in this email. In other words, these targets have reached their maximum number of notifications per alarm and no alarm will be generated for them.

After a notification email is sent, and if one or more targets succeed on the next test run, an "Alarm Cleared" notification is sent. This email details all targets that succeeded in the most recent test run after one or more previous failures. Also, the maximum notification per alarm count is reset for any test targets that have succeeded after one or more previous failures.

The first time you view the default diagnostic test options, no notification options are selected. The following options are available in the Notification Settings panel:

OPTION	DESCRIPTION
Select one of the notification groups below	Select a notification group from the list. The notification groups are preconfigured. For more information, see Notification and Creating Notification Groups .
Notify after N consecutive alarms	Enter the number of consecutive alarms after which the notification group is notified.
Maximum notifications per alarm	Enter the maximum number of notifications sent to the notification group for each alarm.

Impersonation Settings

The first time you view the default diagnostic test options, no alternative credentials are specified or used. The following options are available in the Impersonation Settings panel:

OPTION	DESCRIPTION
Execute using the credentials of the diagnostic services	Select this if you want scheduled diagnostic tests to execute under the credentials entered when installing the diagnostic services.
Execute using one of the following credentials	Select the Windows credentials under which you want the diagnostic tests to execute. The list of available Windows credentials to use in Spotlight on Exchange can be modified using the Credential Management dialog box.
Configure credentials	Click this to access the Credential Management dialog box. When you add existing Windows credentials to the Credential Management dialog box, you can use them to execute diagnostic tests. When you delete existing Windows credentials from the Credential Management dialog box, you are no longer able to use them to execute diagnostic tests, but you have not deleted the Windows credentials. These credentials must include an existing Windows username.

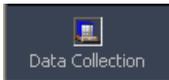
Setting Diagnostic Services Options

The Diagnostic Services Options dialog box allows you to set parameters for collecting Exchange server data.

To access the Diagnostic Services Options dialog

- Select **View | Diagnostic Services Options**.

Data Collection



The Data Collection option allows you to set the refresh rate and the notification settings. The refresh rate determines how often the diagnostic services poll Exchange servers for counter information and how often collected server status is updated in the Spotlight on Exchange Topology Viewer. The refresh rate is a global setting; it applies to all servers. The recommended refresh rate is five minutes.

The notification settings allow you to set the maximum number of notifications per alarm.

Global Notifications



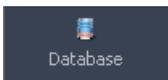
The Global Notification options allow you to configure the method and type of notification used when Exchange server counters, configured to generate notifications, enter the critical threshold. For more information about creating, enabling, and applying notification groups see ["Notification" on page 96](#).

The following table lists and provides descriptions for the Global Notification options:

GLOBAL NOTIFICATION SETTING	DESCRIPTION
SMTP server for sending email notifications	Enter the name of the SMTP server to use for sending email notifications. Note: Email notifications are not sent until the server name is entered.
Modem to use for paging	Select the modem to use for paging notification group members. The modem must be installed on the same computer as the diagnostic services.

GLOBAL NOTIFICATION SETTING	DESCRIPTION
Application to run on alert	Enter the path of the external application that executes when Exchange server counters, configured to generate notifications, enter the critical threshold. The application must be installed on the same computer as the diagnostic services.
Parameters for the application	Enter parameters that are passed to the external application.

Database



You can view the current size of the data collection database and enter the period of time after which stored data is erased from the database.

Message Flow View



You can access four different views in the Topology view by selecting either Server Routing, Connector Routing, Server Message Flow or Connector Message Flow from the Topology View list. For more information see [“Topology View” on page 45](#).

Launching an External Application

The Spotlight on Exchange Topology Viewer allows you to launch an external application when counter values enter the critical threshold. You can define the information to pass to the external application by selecting from the following available tokens:

- Server Name
- Counter Name
- Counter Instance Name
- Time
- Date
- Status

To enter the external application address

1. Select **View | Diagnostic Services Options** and select **Global Notifications**.
2. Enter the address of the external application in the Application to run on alert box.

To select a token

1. Select **View | Diagnostic Services Options** and select **Global Notifications**.
2. Enter the address of the external application.
3. Click  to select from the list of tokens and click **OK**.

Notification

You can configure the diagnostic services to email or page designated groups and group members when Exchange server counters, configured to generate notifications, enter the critical threshold. The same configured groups can receive notification for scheduled Exchange server diagnostic tests. For more information about scheduled diagnostic test options, [see "Default Diagnostic Test Settings" on page 58](#).

The following sections take you through the steps of configuring notification:

- Creating notification groups
- Enabling notification
- Setting notification options
- Applying notification groups to servers
- Removing notification groups from servers

Creating Notification Groups

You can create groups to receive notification by email or by pager when Exchange server counter values, configured to generate notifications, enter the critical threshold. Once the notification groups are created, you can apply them to Exchange servers displayed in the Topology View.



You must enter the address of the SMTP server to use for email notification before you can send email notification. You must select a modem in the Diagnostic Services Options dialog box before you can send notification by pager.

To create a notification group

1. Select **Edit | Notification Groups** to view the Notification Groups dialog box.
2. Click **New** in the Notification Groups section.
3. Enter a name for the group you are creating in the Group Name column.
4. Enter a subject line for the notification email in the Subject Line column.
5. Enter an originating email address for the notification email in the From Address column.
6. Click **OK** to save the notification group information.

– OR –

Click **Cancel** to close the Notification Groups dialog box without saving the information.

To add group members

1. After creating the notification group, click **New** in the Group Members section.
2. Enter the first name of the person to receive the email notification in the First Name column.
3. Enter the last name of the person to receive the email notification in the Last Name column.
4. Select **Yes** or **No** in the Enabled? column to enable or disable the recipient.
5. Click **OK** to save the notification group information.

To enable notification by pager

1. After creating the notification group and adding group members, click the **Pager** tab.
2. Click **New**.
3. Enter the pager number in the Pager# column.
4. Enter the pager identification number in the Pager Pin column.

cont'd...

You can leave the Pager Pin column blank if the pager identification number is not required.

5. Click **OK** to save the notification group information.



For more information about selecting a modem for sending a notification by pager, see [“Default Diagnostic Test Settings” on page 91](#).

Enabling Notification

Once you have selected the Exchange server counters from which you want to collect server data, you can choose to enable notification for counters critical to the operation of the Exchange server.

To enable notification

1. Right-click a server in the Topology View and select **Detect | Configure Data Collection** to open the Configure Data Collection dialog box.
2. Select a counter in the Selected Counters section.
3. Click in the Notify? column and select **Yes**.



4. Click **OK**.

Setting Notification Options

The Diagnostic Services Options dialog box allows you to set options for sending notifications when Exchange server counters, configured to generate notifications, enter the critical threshold.

To access the Diagnostic Services Options dialog box

- Select **View | Diagnostic Services Options**.



For more information about setting options for notification, see [“Setting Diagnostic Services Options” on page 94](#).

Applying Notification Groups to Servers

Once notification groups are created, you can apply them to monitored Exchange servers. You can apply only one notification group to a server.

To apply a notification group

1. Right-click a server in the Topology View and select **Detect | Apply Notification Group**.
2. Select a notification group and click **OK**.

To view the notification group applied to a server

- Right-click a server in the Topology View and select **Detect | Apply Notification Group**.

The notification group applied to the server is shown in the Select a notification group dialog box.



You can also view the notification group applied to a server in the Collected Data tab.

Removing Notification Groups from Servers

You can remove a notification group from an Exchange server from which you are collecting server data.

To remove a notification group

1. Right-click a monitored server in the Topology View for which a notification group has been applied.
2. Select **Detect | Remove Notification Group**.

Using Spotlight on Exchange Reports

- Understanding Spotlight on Exchange Reports
- Browsing Reports
- Viewing and Interacting with Reports
- Creating and Modifying Reports
- Report Security
- Available Reports

Understanding Spotlight on Exchange Reports

Spotlight on Exchange Enterprise Edition has a separate web-based reporting component called Spotlight on Exchange Reports.

Spotlight on Exchange Reports allows you to view reports containing metrics from information that you collect and store using your Spotlight on Exchange Enterprise Edition application.

Spotlight on Exchange Reports provides a collection of dynamic, preconfigured reports. These reports allow you to view data across multiple subsections of your organization. You can change relevant report parameters immediately using Quick Filters. Spotlight on Exchange Reports also provides you with the ability to create Build My Own reports, which allow you to create customized reports based on any data available in your Spotlight on Exchange Reports database.

To access the Spotlight on Exchange Reports component

- Select **View | Web Reports** from the Topology Viewer menu.

Browsing Reports

You can browse reports in the following three ways:

- Using command buttons
- Using the treeview
- Using the file-based model

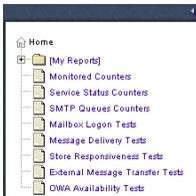
Using the Command Buttons

The following table describes the command buttons at the top of the Spotlight on Exchange Reports home page. Note that different buttons appear depending on your location within Spotlight on Exchange Reports.

ICON	FUNCTION
	Returns you to the Spotlight on Exchange Reports home page.

ICON	FUNCTION
	Allows you to go up one level in the report structure.
	Accesses the file menu, which includes options to Save, Save As, Create Shortcut, and Export reports.
	Launches the Printer dialog box to allow you to print the report that you are viewing.
	Shows the Help for the reporting component.

Using the Treeview



Spotlight on Exchange Reports uses a treeview as its main navigational tool. The treeview contains folders that expand to reveal subfolders and reports. When you select a folder from the treeview, the contents of the folder are displayed in the right pane in a file-based format. You can also select a report directly from the treeview.

The illustration above is an example of the Spotlight on Exchange Reports treeview. The Folders indicate a grouping of report information. Folders may contain subfolders or reports. When you click on a report, the contents appear in the right pane.

Using the File-Based Model

Spotlight on Exchange Reports uses a file-based model to display the available reports. When you select a folder from the treeview, the contents of the folder are displayed in the right pane in a file-based format.

Name	Last Modified	Author	
 [My Reports]			
 Monitored Counters Description about the Monitored Counters report.	5/13/2003	Quest Software	Edit ▶
 Service Status Counters Description about the Service Status Counters report.	5/13/2003	Quest Software	Edit ▶
 SMTP Queues Counters Description about the SMTP Queues Status Counters report.	5/13/2003	Quest Software	Edit ▶

3 reports, 1 folders.

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Quest Web Reports [3.3](#)



Your files may look different than the preceding example depending on the information in each report.

The following table describes the interface elements of the file-based format:

ELEMENT	DESCRIPTION
Folder Icon	Reveals the subfolders and files contained within the folder.
Report Icon	Displays the report in the right pane.
Name	Displays the title of the report. The title is also a hyperlink that you can click to display the report in the right pane.
Last Modified	Displays the datestamp of the last time the report was modified.
Author	Displays the name of the report author.
Report Description	Displays a description of the report, if applicable.
n reports, n folders.	Indicates the number of reports and subfolders in the main folder.
Edit	Displays the Edit menu. For more information see "Using the Edit Button" on page 121 .

Viewing and Interacting with Reports

Types of Reports

Spotlight on Exchange Reports hosts two types of reports: Custom reports and Dynamic reports. Some reports can be edited, and some are read-only. Reports that were created for use with this application by Quest developers or report administrators within your own corporation are read-only.

Custom reports can be edited, depending on your security clearance within Spotlight on Exchange Reports.

Custom Reports

You can create Custom reports using the Spotlight on Exchange Reports Wizard to build your own reports based on existing data sources. You can select fields, filters, format, grouping, and sorting options for Custom reports. For more information about the Spotlight on Exchange Reports Wizard, see [“Creating Custom Reports” on page 112](#).

Dynamic Reports

Dynamic reports are specific to the Spotlight on Exchange Enterprise Edition application, and are delivered with the Spotlight on Exchange Enterprise Edition. For more information about Dynamic reports, see [“Available Reports” on page 126](#).

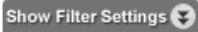
Using the Initial Filters

When you select a report from the navigation tree, you must select initial filters and settings before Spotlight on Exchange Reports renders the report. You can also change the filters and settings after a report is rendered. At the top of each report, there is a filter options section that allows you to customize its configuration. For more information about filters on each report, see [“Available Reports” on page 126](#).

To set initial filters

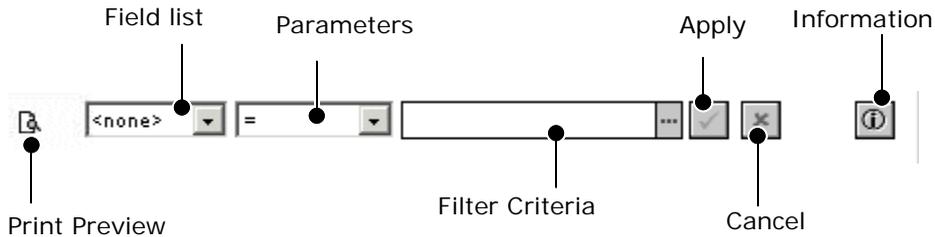
1. Click the option check box.
You can select as many filters and settings as you need from the available list.
2. Select the appropriate parameter and/or filter criteria from the list box.
3. Click **OK**.

To change filter/settings

1. Click  to show the filter/settings.
2. Click the option check box.
You can select as many filters and settings as you need from the available list.
3. Select the appropriate parameter and/or filter criteria from the list box.
4. Click **OK**.

Using Quick Filters

Each report has a Quick Filter bar at the bottom of the page. This bar does not scroll with the report; it remains at the bottom of the displayed web page.



To use Quick Filters

1. Select a field and a parameter from the list:

PARAMETER	DESCRIPTION
=	The field value equals the criteria value.
<>	The field value is greater than or less than the criteria value.
>	The field value is greater than the criteria value.
<	The field value is less than the criteria value.
>=	The field value is greater than or equal to the criteria value.
<=	The field value is less than or equal to the criteria value.
is not NULL	There is any value except NULL for the criteria value.
is NULL	There is no value for the criteria field.
between	The field value falls between the two criteria that you define.



The parameters that appear in the list depend on the field that you select. Only parameters that pertain to the selected field appear in the list.

cont'd...

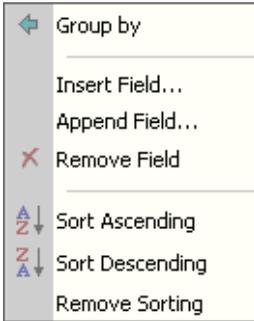
2. Define the filter criteria

– OR –

Define both criteria if you have selected **Between** as your report parameter.

3. Click .

Changing Grouping Options



After the report is generated, you can change the grouping options for the report. Each column header provides the facility to change grouping options.

The graphic to the left illustrates the grouping options that might appear when you click the column header. The options that appear depend on the current settings.

Initially, the same options appear regardless of which column header you select. After you change the grouping options, the list changes to reflect your current settings.

The following table describes all the grouping options:

OPTION	DESCRIPTION
Group by	Groups the report by the selected field.
Ungroup	Removes the grouping of the report by the selected field.
Insert Field	Adds a new field to the left of the selected field. When you select this option, a selection box appears for you to select the new field.
Append Field	Adds a new field to the right of the selected field. When you select this option, a scrolling list appears for you to select the new field.
Remove Field	Removes the selected field from the report.
Sort Ascending	Sorts the field in ascending order.

OPTION	DESCRIPTION
Sort Descending	Sorts the field grouping in descending order.
Remove Sorting	Removes the sort field that you have indicated from the report.

Any grouping changes that you make are automatically reflected in the Report Information dialog box.

Viewing Report Information

At the lower-right of each report, there is an Information  button that allows you to view the report options and notes for the selected report. For example, the following illustration shows information that you might see after clicking .



Report Options includes default filters and sort keys, as well as any quick filters and sort keys you selected using the Quick Filter options.



More than one filter line may appear in the Report Information dialog box, depending on the report that you select. There is a separate filter line for each report component. For example, if you select a report that has a tabular report and accompanying graph, there is one filter line for the tabular report and one for the graph.

Notes includes descriptions of the fields in the report, as well as any field descriptions that exist in the data source for the report.

File Menu Commands

The command items that appear on the File menu are different depending on where you are within Spotlight on Exchange Reports.



If you click  while you are in a folder view, the following menu appears.

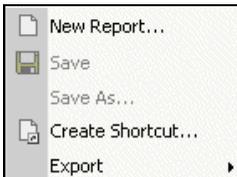


The following table describes the options on the File menu when accessed from the folder view:

OPTION	DESCRIPTION
New Report	Launches the Spotlight on Exchange Report Wizard to allow you to create the new report.
New Report from Template	Launches the New From Template dialog box where the available templates are listed for selection.
New Folder	Launches the New Folder dialog box. When you name the new folder, the application places the folder as a subfolder of the currently selected folder. If you want to add a folder to the main navigation tree, the Home node should be selected before you create the new folder.



If you click  while you are in a report view, the following menu appears:



The following table describes the options on the File menu when accessed from the report view:

OPTION	DESCRIPTION
New Report	Launches the Spotlight on Exchange Report Wizard to allow you to create the new report.
Save	Saves the changes, such as new sorting criteria, that you have made to an existing report.
Save As	Saves the changes you have made to an existing report, but gives you the option to change the name or location of the report.
Create Shortcut	Allows you to create a shortcut for the selected report. Note: Shortcuts save the current settings (including quick filters, sorting, and grouping) in a report. Web Report Users can remove fields to save as Shortcuts. All other settings are loaded from the original report from which the Shortcut was created.
Export	Allows you to export the report content into one of the following formats: <ul style="list-style-type: none">• XML• XLS (Microsoft Excel document)• Text (as comma separated values)• Text (as tab separated values)• HTML• DOC (Microsoft Word document) Note: You cannot export report content to a DOC file for use with WordPad.

Creating and Modifying Reports



Creating and modifying reports is restricted to certain Web Reports roles and permissions. For more information about Web Reports roles and permissions, see [“Report Security” on page 122](#).

Creating Custom Reports

To access the Spotlight on Exchange Report Wizard

- Select **File | New Report**.

You are taken to the Spotlight on Exchange Report Wizard home page.



From this page, you can determine the information that you want to include on your Custom report.

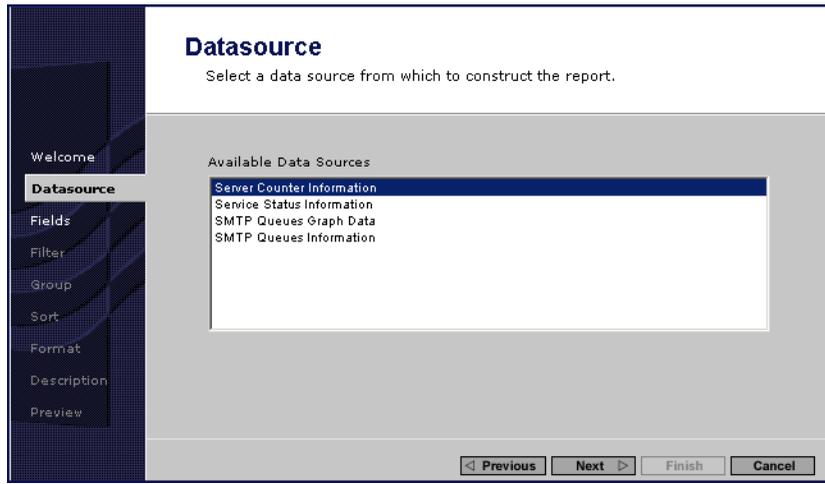


You do not have to follow the Spotlight on Exchange Report Wizard steps in order. If you know which screens you need to use, use the list of pages on the left side of the Spotlight on Exchange Report Wizard to skip to the appropriate page.

Selecting a Data Source

To access the Datasource page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Spotlight on Exchange Report Wizard.

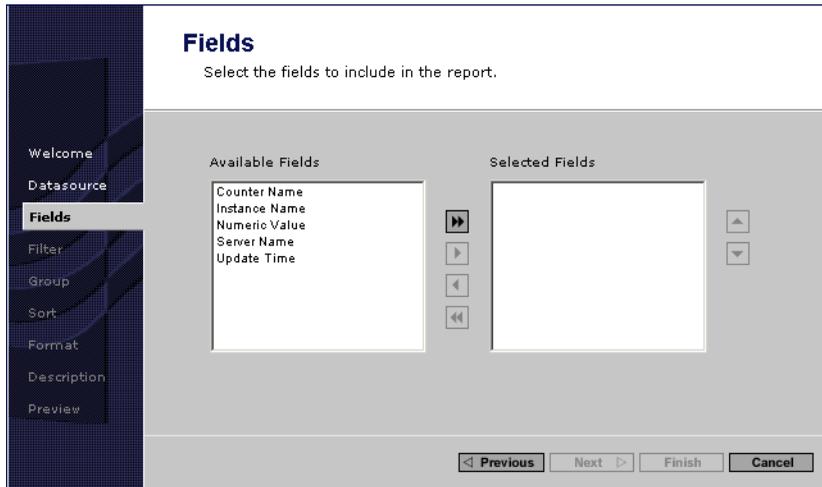


When you select a data source, the description of the data source appears under the Available Data Sources list. In the example above, Server Counter Information is the description of the data source.

Selecting Fields

To access the Fields page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Datasource page of the Spotlight on Exchange Report Wizard.



To select fields for your custom report

1. Select the fields you want to include from the Available Fields list.
2. Click the appropriate arrow button to move the fields to the Selected Fields list.
3. Click **Next** to proceed to the Filter page.

– OR –

Select the page you want to use from the list on the left side of the page.

– OR –

Click **Finish** to create the custom report.

Filtering Custom Reports

To access the Filter page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Fields page of the Spotlight on Exchange Report Wizard.

Filter

Select the filter criteria to be applied to the data.

Criteria	Predicate
<input type="checkbox"/> <none>	=

<< Previous Next >> Finish Cancel

To select filter criteria for your custom report

1. Select a field from the list.
By default, this field is <none>.
2. Select a parameter from the list.
Parameters appear in the list based on the field that you select.
3. Select a value from the list.
4. Click **Add New Filter** to define additional filters.
5. Indicate the appropriate predicate using the list.
6. Repeat steps 1 through 5 as applicable.

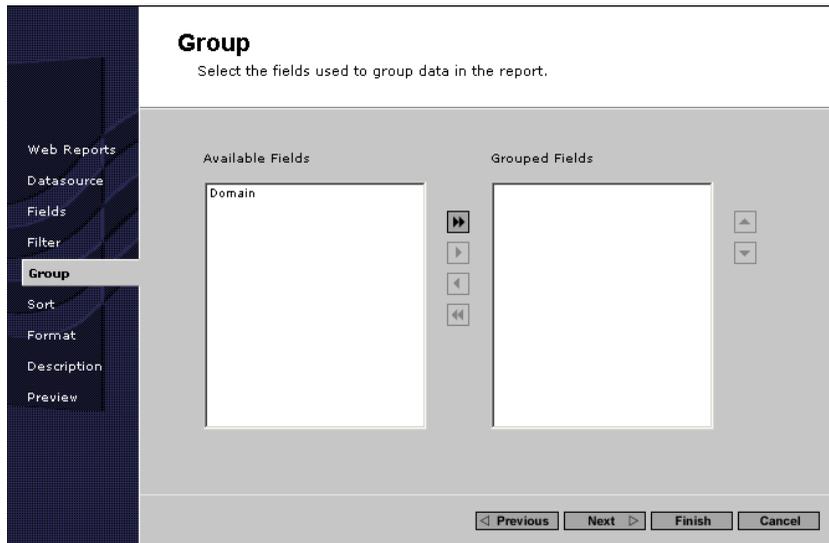
To remove filter criteria from your custom report

1. Select the check box beside the filter you want to remove.
2. Click **Remove Filters**.

Grouping Reports

To access the Group page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Filter page of the Spotlight on Exchange Report Wizard.



To select grouping options for your custom report

1. Select the fields you want to use for grouping from the Available Fields list.
2. Click the appropriate direction button to move the fields to the Grouped Fields list.

Sorting Reports

To access the Sort page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Group page of the Spotlight on Exchange Report Wizard.

Sort
Select the fields used to sort the data.

<input type="checkbox"/> Field	Sort Order
<input type="checkbox"/> <none>	Ascending

To sort your custom report

1. Select the field you want to use as your sort key from the list.
2. Select the sort order from the list.
3. Click **Add New Sort Key** to define additional sort keys.
4. Repeat steps 1 through 3 as applicable.

To remove sorting from your custom report

1. Select the check box beside the sort key you want to remove.
2. Click **Remove Sort Keys**.

Formatting Reports

To access the Format page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Sort page of the Spotlight on Exchange Report Wizard.

Format
Choose the display format.

Web Reports
Datasource
Fields
Filter
Group
Sort
Format
Description
Preview

Display Format: Columnar Tabular List

Summary Information:

Display Pagination: Paginated (40 lines per page) All on one page

Date/Time Display: GMT Local time

Options: Show quick filter bar

< Previous Next > Finish Cancel

To format your custom report

1. Select the appropriate Display Format.
2. Click **Advanced Summary Calculations** to include summary information on your report.



For more information about Advanced Summary Calculations, see [“Using Advanced Summary Calculations” on page 119](#).

3. Select **Paginated** to paginate the report.



Paginated reports display faster than non-paginated reports.

4. Select the Date/Time Display.
5. Select **Show quick filter bar** if you want to display quick filters at the bottom of the custom report.

Using Advanced Summary Calculations

The Advanced Summary Calculations option allows you to select appropriate summaries for your report. Spotlight on Exchange Reports only allows you to select summary calculations that are appropriate to the field type that you select. For example, you cannot select Total for a date field type, nor can you select Average for an alpha-numeric field type.

To set Advanced Summary Calculations

1. Click **Advanced Summary Calculations** on the Format page of the Spotlight on Exchange Reports Wizard.
2. Select the appropriate summary calculation check boxes.
3. Click **OK**.

Describing Reports

To access the Description page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Format page of the Spotlight on Exchange Report Wizard.



To enter a description for your custom report

- Enter a description in the box.

Previewing Reports

To access the Preview page of the Spotlight on Exchange Report Wizard

- Click **Next** on the Description page of the Spotlight on Exchange Report Wizard.

You can preview the way your report looks at any time during the creation of the report. Preview information changes depending on the criteria and formatting you select for your report.

Editing Reports

You can edit reports in the following ways:

- Using the quick filter bar at the bottom of the report
- Using the Edit button
- Using the column headers on the reports

The following table describes the extent of editing for each type:

TYPE	DESCRIPTION
Quick Filter Bar	Allows you to change filter options and regenerate the report. For more information, see “Using Quick Filters” on page 107 .
Edit Button	Launches the Spotlight on Exchange Report Wizard to allow you to customize an existing report or identify when to send email notification that the report has been created.
Column Header	Allows you to add or remove fields in the report, and change group and sort options.

Using the Edit Button

There is an Edit button at the right side of each folder and report in the file-based model. The commands available on the Edit button differ depending on whether the Edit button is accessed from a folder or a report.

For folders, the following commands are available:

COMMAND	DESCRIPTION
Copy To	Opens a dialog box for you to define the destination of the copied folder.
Move To	Opens a dialog box for you to define the destination of the moved folder. After the report is moved to the new location, the original is deleted.
Rename	Opens a dialog box for you to rename the selected folder.
Delete	Prompts you to verify that you want to delete the folder.
Edit Description	Opens a dialog box for you to edit the description of the folder.

For reports, the following commands are available:

COMMAND	DESCRIPTION
Copy To	Opens a dialog box for you to define the destination of the copied report.
Move To	Opens a dialog box for you to define the destination of the moved report. After the report is moved to the new location, the original is deleted.
Rename	Opens a dialog box for you to rename the selected report.
Delete	Prompts you to verify that you want to delete the report.
Modify Report	Opens the Spotlight on Exchange Report Wizard to allow you to make any changes to the selected report, and save your custom report.

Report Security

Spotlight on Exchange Reports includes a flexible solution for report security, ranging from restricting the activities that users can perform on the site, to enabling different views of the reporting tree tailored to different user communities' needs and security requirements.

Spotlight on Exchange Reports supports two types of security:

- a role-based security scheme which is inherent in the Spotlight on Exchange Enterprise Edition product
- a file-system permissions security scheme which requires NTFS manipulation on your network.

Role-Based Security Scheme

Role-based security provides an initial layer of security for your reports. The basic premise provides three report roles, each of which has preconfigured permissions. The effect of role-based security is uniform for all reports. All three roles have access to the report site, and all reports therein; however, the roles provide different permissions that can restrict the ways in which reports can be manipulated and customized.

Spotlight on Exchange Enterprise Edition provides the following three report roles in a role-based security scheme:

- Web Report Administrator
- Web Report Authors
- Web Report Users

The default membership to these roles places administrators in the Web Report Administrator role, and all other users in both the Web Report Authors and Web Report Users roles. To customize the membership for your implementation, you can add or remove users from the default roles.

The roles do not have a security heirarchy, which means that a user can obtain administrator privileges by being added to the Web Report Administrator role. The user does not also require Web Report User or Web Report Author roles.

The role-based security scheme is easier to manage, since the changes to NT groups immediately affect all reports.

The following table illustrates the capabilities that these roles provide:

CAPABILITY	WEB REPORT USER	WEB REPORT AUTHOR	WEB REPORT ADMINISTRATOR
Accessing the site	Yes	Yes	Yes
Exporting reports	Yes	Yes	Yes
Creating shortcuts in My Reports folder	Yes	Yes	Yes
Creating shortcuts in any folder	No	No	Yes
Creating custom reports	No	Yes	Yes
Saving custom reports in My Reports folder	No	Yes	Yes
Saving custom reports in any folder	No	No	Yes
Create new folders within My Reports folder	No	Yes	Yes
Create new folders within any folder	No	No	Yes
Copy folders or reports to and/or within My Reports folder	No	Yes	Yes
Copy folders or reports to and/or within any folder	No	No	Yes
Move folders or reports within My Reports folder	No	Yes	Yes
Move folders or reports from any folder to My Reports folder	No	No	Yes
Move folder to and/or within any folder	No	No	Yes

cont'd...

CAPABILITY	WEB REPORT USER	WEB REPORT AUTHOR	WEB REPORT ADMINISTRATOR
Rename folders or reports in My Reports folder	No	Yes	Yes
Rename folders or reports in any folder	No	No	Yes
Delete folders or reports in My Reports folder	No	Yes	Yes
Delete folders or reports in any folder	No	No	Yes
Edit folder descriptions in My Reports folder	No	Yes	Yes
Edit folder descriptions in any folder	No	No	Yes
Enable Report Notification for reports in My Reports folder	No	Yes	Yes
Enable Report Notification for reports in any folder	No	No	Yes

File-System Permissions Security Scheme

In addition to the Web Report security roles, you can enable an additional level of security using a permissions-based scheme. At a minimum, the role-based security scheme allows all roles to view all reports; alternately, a permission-based scheme can restrict the reports that are available to some users. Explicit permissions are applied on a per-group or per-user basis, and assigned to individual files, folders, and reports. You can configure the settings so that different groups, such as executive management, the help desk, and Exchange administrators can see different report nodes and reports.

System administrators can create more sophisticated security schemes by modifying the file permissions for reports and folders in the file system on the web server. Report files and folders normally reside in `c:\inetpub\wwwroot\SpotlightonExchange\Reports`. By restricting the reports that are available to all users, you can protect sensitive analytical data from users that do not require that information.

Users connecting through a web browser can only see report files and folders for which they have read access permissions, and folders for which they have list permissions in the file system.

Security Scenarios

Permission-based security provides more detailed control than role-based security, but it requires some action on an administrator's part. Spotlight on Exchange Enterprise Edition does not provide the functionality to manipulate the permissions on files and folders; you must use native Microsoft tools to create the appropriate Windows NT File System (NTFS) security changes.

The following table provides some security implementations that you may want to consider:

IMPLEMENTATION	DETAILS
Restricting access to out-of-the box report folders	<p>Using native Microsoft Windows tools, remove the Web Reports Administrators, Authors, and Users roles from the folder you want to restrict.</p> <p>Create new security groups and add the appropriate members to those groups.</p> <p>Add your newly-created security groups and their access rights to the report folder you want to restrict.</p>
Restricting access to newly-created report folders	<p>Create a new report folder in the report navigation tree. For more information about creating new folder, see "File Menu Commands" on page 110.</p> <p>Using native Microsoft Windows tools, remove the Web Reports Administrators, Authors, and Users roles from the folder you want to restrict.</p> <p>Create new security groups and add the appropriate members to those groups.</p> <p>Add your newly-created security groups and their access rights to the report folder you want to restrict.</p>
Restricting access to individual out-of-the-box reports	<p>Using native Microsoft Windows tools remove the Web Reports Administrators, Authors, and Users roles from the report you want to restrict.</p> <p>Create new security groups and add the appropriate members to those groups.</p> <p>Add the newly-created security groups and their access rights to the report you want to restrict.</p>

cont'd...

IMPLEMENTATION	DETAILS
Restricting access to individual custom-created reports	<p>Create a new report in the report navigation tree. For more information about creating new report, see “Creating Custom Reports” on page 112.</p> <p>Using native Microsoft Windows tools remove the Web Reports Administrators, Authors, and Users roles from the report you want to restrict.</p> <p>Create new security groups and add the appropriate members to those groups.</p> <p>Add the newly-created security groups and their access rights to the report you want to restrict.</p>



You should refer to Microsoft Windows native tools procedures for more detailed information about implementing NTFS security scenarios.

Available Reports

Spotlight on Exchange Reports provides the following Dynamic reports. These reports are preconfigured, but can be adapted to your specific needs. For more information about configuring see [“Viewing and Interacting with Reports” on page 105](#).

Monitored Counters

The Monitored Counters report allows you to view the performance and network counter values that have been selected to be monitored by the Diagnostic Services over time. The report allows the user to examine the performance of Exchange servers over time. You can use the data to spot performance problems and down time. Using this report you can also graph multiple counters across multiple servers over time, this allows the user to easily compare performance across multiple servers at once and identify busier than expected servers.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Graphs
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Update Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Data and Graph Data Only Graph Only	Indicate the report view that you prefer for this report: <ul style="list-style-type: none"> • Data and Graph present a graph at the top of the rendered report followed by the corresponding data in a table. • Data only suppresses the graph view. • Graph only suppresses the data table.
Server Name	Restricts the report content to the servers that you specify.
Counter Name	Restricts the report content to the counters that you specify.

cont'd...



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Graphs

The Monitored Counters report also contains a graphical representation of the report data. These graphs are dynamic based on the filters and options you select for the report.

You can suppress the graph by selecting **Data Only** on the initial filter page.

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To plot a graph that identifies servers that are busier than expected

1. Select the **Monitored Counters** report from the navigation tree.
2. Click **Graph Only**.
3. Select the **Server Name** check box.
4. Hold down CTRL and click to select the servers that you want to include on the graph.
5. Click to select the Counter Name check box.
6. Hold down CTRL and click to select the counters that you want to include on the graph.
7. Click **OK** to apply the filters and render the report.

Service Status Counters

The Service Status Counters report allows you to view the status of the services that have been selected to be monitored by the Diagnostic Services over time. This report allows the user to examine the availability of key Microsoft Exchange services such as the Information Store and System Attendant. It also examines the availability of other services such as the backup agent or anti-virus software.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Update Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Server Name	Restricts the report content to the servers that you specify.



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the service availability on a server over a period of 24 hours

1. Select the **Service Status Counters** report from the navigation tree.
2. Enter the time range that you want to include using the Update Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.

SMTP Queues Status Counters

The SMTP Queues Status Counters report allows you to view the SMTP queue status and size over time. The report provides information about queue growth which could directly affect mail delivery times. You can also compare queue sizes across multiple servers over time.



This report is only applicable to Exchange 2000/2003 servers.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Graphs
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Update Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Data and Graph Data Only Graph Only	Indicate the report view that you prefer for this report: <ul style="list-style-type: none"> • Data and Graph present a graph at the top of the rendered report followed by the corresponding data in a table. • Data only suppresses the graph view. • Graph only suppresses the data table.
Server Name	Restricts the report content to the servers that you specify.
Counter Name	Restricts the report content to the counters that you specify.

cont'd...



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Graphs

The SMTP Queues Status Counters report also contains a graphical representation of the report data. These graphs are dynamic based on the filters and options you select for the report.

You can suppress the graph by selecting **Data Only** on the initial filter page.

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the SMTP queues larger than 50 on a server over one week

1. Select the **SMTP Queues Status Counters** report from the navigation tree.
2. Enter the date range that you want to include using the Update Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.
6. Select the Size field from the Quick Filter field list.
7. Select **>** from the Quick Filter parameter list.
8. Enter **50** in the Quick Filter criteria box.
9. Click .

Mailbox Logon Tests

The Mailbox Logon Tests report allows you to view the mailbox logon test results over time. You can use the mailbox logon test to determine mailbox logon time and mailbox responsiveness for a specific Exchange server mailbox.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Date Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Server Name	Restricts the report content to the servers that you specify.



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the mailbox logon test results over a selected period of time

1. Select the **Mailbox Logon Tests** report from the navigation tree.
2. Enter the time range that you want to include using the Date Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.

Message Delivery Tests

The Message Delivery Tests report allows you to view the Message Delivery Test results over time. Use this test to determine if messages are delivered between selected mailboxes on any two servers in your Exchange organization within a configured amount of time.

The test message can be sent between servers regardless of whether or not they exist in the same routing group.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Date Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Source Server Name	Identifies the specific source server from which the test message is sent.



For information about how to set filters, or how to use the Quick Filter bar, please [see “Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view message delivery test results over a selected period of time

1. Select the **Message Delivery Tests** report from the navigation tree.
2. Enter the time range that you want to include using the Date Time filter.
3. Click the **Source Server filter** check box.
4. Enter the source server name from which the test message is to be sent.
5. Click **OK** to apply the filters and render the report.

Store Responsiveness Tests

The Store Responsiveness Tests report allows you to view the store responsiveness test results over time. Use this test to determine whether the information store on the target Exchange server is capable of processing mailbox requests. The functionality of the information store directly impacts the functionality of mail clients such as Microsoft Outlook, and as a result, this test can provide answers to questions frequently forwarded to Help Desk personnel regarding mail client inefficiency.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Date Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Server Name	Restricts the report content to the servers that you specify.



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the store responsiveness test results over a specified period of time

1. Select the **Store Responsiveness Tests** report from the navigation tree.
2. Enter the time range that you want to include using the Date Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.

External Message Transfer Tests

The External Message Transfer Tests report allows you to view the external message transfer test results over time. Use this test to send and track a message from any mailbox on any server to any SMTP destination.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Date Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Server Name	Restricts the report content to the servers that you specify.



For information about how to set filters, or how to use the Quick Filter bar, please see [“Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the external message transfer test results over a specified period of time

1. Select the **External Message Transfer Tests** report from the navigation tree.
2. Enter the time range that you want to include using the Date Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.

OWA Availability Tests

The Outlook Web Access (OWA) Availability Tests report allows you to view the OWA availability test results over time. Use this test to ensure that Outlook Web Access is available on the Exchange server so that users can access their mail through a web browser.

Default Report Content

Spotlight on Exchange Enterprise Edition provides initial reports that you can manipulate to suit your business needs. The default appearance of the report results from the following:

- Filter options
- Report fields

Filter Options

When you select the report that you want to view from the navigation tree, you must select the filters and settings before Spotlight on Exchange Reports renders the report. After you render the report, there are two ways to change the filter options:

- Use the Quick Filter bar to further select specific data within the resulting dataset.
- Use the filter tab to change multiple filters.

This report provides the following filter options:

OPTION	DESCRIPTION
Date Time	Restricts the report content to the date and time range you specify. Click the calendar control to change the date as appropriate, or enter the date or time in the box.
Server Name	Restricts the report content to the servers that you specify.



For information about how to set filters, or how to use the Quick Filter bar, please [see “Using Quick Filters” on page 107](#).

Report Fields

Each report provides complete field descriptions in the information page for that report.

To view the information page

- Click  at the lower right of the Spotlight on Exchange Reports window.

Analyzing Your Data

The power of Spotlight on Exchange Reports comes in the ability to adapt the reports in many ways to suit your business needs. The following example provides one of the many ways you can create and save perfectly focused reports:

To view the OWA availability test results over a specified period of time

1. Select the **OWA Availability Tests** report from the navigation tree.
2. Enter the time range that you want to include using the Date Time filter.
3. Click the **Server filter** check box.
4. Enter the server name that you want to include on the report.
5. Click **OK** to apply the filters and render the report.

Introducing Spotlight Basics

- Spotlight Concepts and Features
- The Spotlight Console
- The Spotlight Home Page
- Metrics, Thresholds, and Severities
- Alarms and the Alarm Log
- Spotlight Help
- Spotlight Menus

Spotlight Concepts and Features

Spotlight applications use metrics, thresholds, and severities to determine the performance statistics of a system. Icons, flows, and labels graphically display this information in the main Spotlight window, alerting you to system bottlenecks. Spotlight updates these flows in real time so that you can see how quickly data is moving through the system.

This chapter explains the main Spotlight window and other visual features of Spotlight including menus, toolbars, windows, and editors. This chapter also explains the concepts and features that you must understand to use Spotlight. It explains the relationship between metrics, thresholds, and severities, and how they affect what is displayed on the main Spotlight window.

The Spotlight Console

One of the major features of Spotlight is its user interface — the Spotlight console, the framework where the details for all Spotlight connections are displayed.

It contains standard features such as a menu bar, status bar, and one or more toolbars. The Spotlight console also allows you to tell the status of a connected system at a glance, either in that system's home page, or in a drilldown accessible from the home page.

The Spotlight Home Page

When you connect to a system using Spotlight, the displayed Spotlight home page shows an overview of the system.

The icons in the home page represent the components of the system that you are connected to. Related components are grouped together in panels.

Panels may be connected by dataflows that illustrate the rate at which the system is performing. The groupings reflect how your system works. Spotlight updates the statistics and flows in real time.

The main elements of a Spotlight home page are:

- Panels
- Components (including dataflows)
- Labels
- Menus
- Toolbar
- Connection identifier
- Spotlight browser

An Example of a Spotlight Home Page

The following is an example of a Spotlight Home Page:



You can change the appearance and behavior of a Spotlight home page from the Console Options window.

Elements in a Spotlight Home Page

A standard Spotlight home page contains some or all of the following visual elements:

Connection Identifier

This label identifies the system you are currently connected to, and is located at the upper right corner of the Spotlight console.



The connection identifier changes color to match the color of the Spotlight component that registers the highest alarm severity.

The activity icon, shown below, indicates whether Spotlight is currently collecting data from the connected system.



The Spotlight Browser (Connections List)

You can use the Spotlight browser (also known as the Connections list) to view the details of one or more Spotlight connections. The browser contains three connection groups, each of which can be opened by clicking on its bar within the browser:

CONNECTION GROUP	DESCRIPTION
Live connections	Click this bar to view the Spotlight connections that are currently under diagnosis by Spotlight.
All connections	Click this bar to view all the currently defined Spotlight connections (open or closed). The connections are displayed in tree form, with types of Spotlight connections as the topmost branches, and individual connections as the child branches of each type.
History	Click this bar to view the historical data available for the current Spotlight connection. For more information, see History browser. The History bar may be hidden until the first time you choose History browser from the View menu.

You can show or hide the Spotlight browser itself using the Navigation Tree option on the View menu. You can also open and close the browser by clicking on the arrow contained in the frame of the window itself.

Right-click on an item in the Spotlight browser to display a shortcut menu of available options for that connection, including the options to view the Alarm log or History browser, or to close the connection.

Viewing the Details of a Spotlight Connection

You can click on an item in the Spotlight browser to show the details of the corresponding connection in the display pane on the right. Items in the Spotlight browser alert you to any bottlenecks that may be occurring in the systems by changing color. Items in the browser take on the color of the most urgent severity now active on the systems being analyzed.

Spotlight Toolbar

The Spotlight toolbar is located at the top of the main window. The toolbar provides you with quick access to commonly used commands and functions.

Click a button on the toolbar to carry out the command. If a button appears dimmed, it is unavailable. You can see a description of each button if rest your mouse pointer over the button.



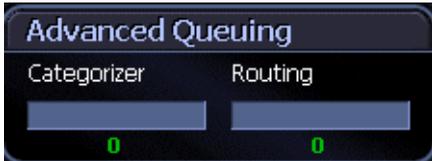
The buttons used to access drilldowns are specific to individual Spotlight applications. For more information on Spotlight on Exchange drilldown buttons, see ["Drilldown Buttons" on page 262](#).

The following are common Spotlight buttons:

CLICK THIS...	TO...
	Open a Spotlight connection to a system.
	Close an open connection.
	Return to the previous window or drilldown. Go to the next window or drilldown. This option is only available if you are viewing a previous window or drilldown.
	Go to the next window or drilldown. This option is only available if you are viewing a previous window or drilldown.
	Pause the current display. Spotlight does not retrieve data from the system. Details on the windows or drilldowns are not updated until you click the Pause button again or select File Resume .
	Return to the main Spotlight window for the current system.
	Refresh the current window. This is equivalent to choosing View Refresh .
	Take an historical snapshot of the current connection. Click the down-arrow to choose a snapshot option. This option is available only when physical snapshots can be taken. For more information, see "History for Spotlight Connections" on page 164 .
	View the alarm log for the current connection. This is equivalent to choosing View Alarm Log .
	Display context-sensitive online Help for Spotlight. For more information, see "Viewing Context-sensitive Help" on page 253 .

Panel

A panel is a visual feature that groups related components on the Spotlight home page. Components change color as alarms are raised for the metrics they contain.



Dataflow

Panels in the Spotlight home page may be connected to other panels by dataflows that show the rate at which data is moving through a system. As the rate increases, so does the speed of the flow.



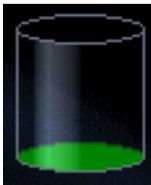
Button

Sometimes called a process icon, a button is a Spotlight component that contains a single value that represents the state or existence of a process.



Container

A container is a cylindrical component that fills up as the value it measures increases. It is normally used to indicate file size or disk usage.



Gauge

A gauge is a Spotlight component that shows a measurement as a continuous range of possible values.



Queue

A queue is a Spotlight component that shows a measurement as a range of discrete values. The globe at the end of the queue is an alarm indicator.



Spinner

A spinner is a Spotlight component that shows a measurement as a rotating wheel. The higher the value, the faster the speed of rotation.

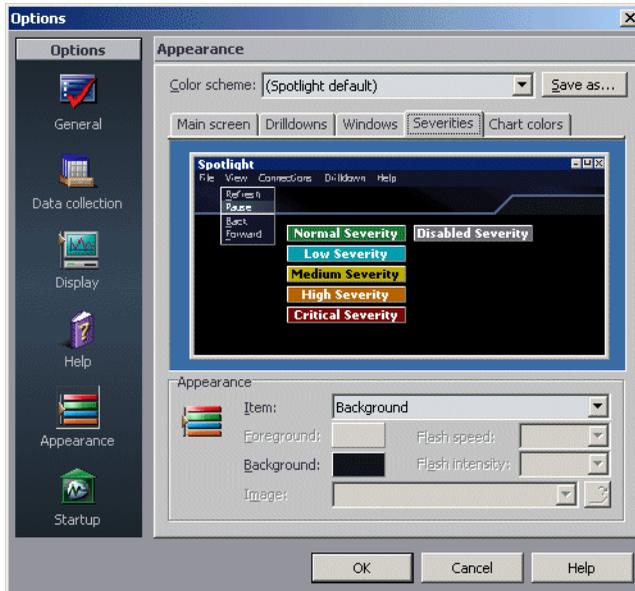


Console Options

You can set a number of options that affect the behavior and display of the Spotlight console by using the Console Options window.

To open the Console Options window

1. Select **View | Options | Spotlight Console**.



Each of the pages within the Console Options window - General, Data collection, Display, Help, Appearance, Startup, and Notifications- covers one aspect of console behavior, and can be opened by clicking the corresponding icon on the Options bar.

2. In the Options bar, click to choose the category of Spotlight console options that you want to view or edit.

OPTION CATEGORY	DESCRIPTION
General options 	These options govern the general behavior of the Spotlight console and the location of template and connection files.

cont'd...

OPTION CATEGORY	DESCRIPTION
Data collection 	These options govern how often data is collected, how it is processed, and whether it is saved for historical purposes.
Display 	These options govern various display settings for the Spotlight console.
Help 	These options govern the behavior of Spotlight's context-sensitive Help system.
Appearance 	These options govern the visual appearance of Spotlight features.
Startup 	These options govern the behavior of Spotlight at startup.
	These options govern the notification of Spotlight alerts.

For more information on changing settings within the Options window, see ["Viewing and Editing Console Options" on page 210](#).

Components and Drilldowns

The hierarchical design of Spotlight makes it possible for you to observe your system at different levels of detail. At its highest level (that is, the Spotlight home page) Spotlight components display visual representations of the status of the major features in the current system.

When you have isolated a problem, you can display a breakdown of its underlying statistics in a Spotlight page called a drilldown. The statistics that are available help you identify and anticipate performance problems.

Components

The components in the Spotlight home page (the main Spotlight window) are visual objects that correspond to important features of the system to which Spotlight is currently connected. Components can be of many different types, including buttons, gauges, dataflows, queues, spinners, and containers. Spotlight components have the following features:

- Components are labeled according to the performance measure they represent.
- They display the numerical value of a metric associated with them.
- They change color to alert you to performance bottlenecks.
- You can access information about the status of a component by moving the mouse over the component, or by clicking or right-clicking on it.
- The Spotlight drilldown pages for each component contain a detailed breakdown of the statistics used to diagnose it.

Drilldowns

Each drilldown contains a series of reports and graphs that provide you with specific information about the components of your system. Drilldown pages can contain two different types of displays - tables and charts. Spotlight drilldowns have the following features:

- There is more than one way to view a specified drilldown.
- They can be configured to display all or some of the metrics associated with components.
- You can access further information about displays in drilldowns by moving the mouse over the displays, or by clicking or right-clicking on them.
- You can copy the data shown in drilldowns to other applications or save it to a file.

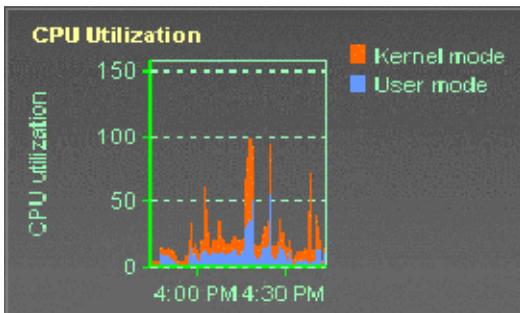


You can change the appearance and behavior of Spotlight components and drilldowns in the Properties editor window.

Drilldown Elements

Charts

A chart is a component in some Spotlight drilldowns that shows historical data as a graph. Multiple series of the same graph from different data sources can be superimposed on the same set of axes.



You can zoom any chart to look at a section of the chart in greater detail. The maximum magnification factor is 100. You can also maximize a chart to view the entire chart in greater detail.

Tables

A table (or grid) is a component in some Spotlight drilldowns (for example, the alarm log) that shows current values of metrics in tabular form.

The figure is a screenshot of a table showing process information. The table has columns for Process, PID, Virtual MB, Phys MB, % CPU, and Threads. The data is as follows:

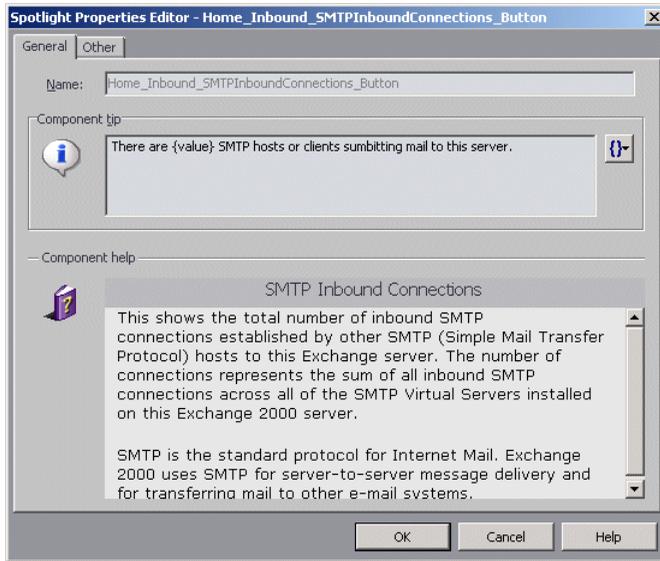
Process	PID	Virtual MB	Phys MB	% CPU	Threads
NTVDM	154	1.97	3.57	0.00	2
AcroTray	124	0.25	1.05	0.00	1
Atomica	158	2.54	8.65	0.00	4
Yak	151	1.19	4.78	2.86	3
vi_grm	138	0.33	1.35	0.00	1
VelTray	145	0.29	1.22	0.00	1
realplay	149	1.73	4.85	0.00	10
DNHEIP	215	0.17	1.38	0.00	2

The Properties Editor

You can set a number of options that affect the behavior and display of Spotlight components and drilldowns using the Properties editor.

To open the Properties editor

- Right-click on the component (or drilldown) and choose **Properties**.



Each of the pages within the Properties editor window - General, Options, Chart, and Other - covers one aspect of component behavior, and can be opened by clicking the corresponding tab at the top of the window.



For components on a Spotlight home page, the Properties editor contains the General and Other pages.

In drilldowns, the Properties editor for charts contains two pages, General and Chart, that allow you to change the properties of a graph.

The Properties editor for tables contains General and Options pages.

For more information on changing settings within the Properties editor, see [“Viewing and Editing Component Properties” on page 220](#).

Metrics, Thresholds, and Severities

Spotlight applications use metrics, thresholds, and severities to determine the performance statistics of a system. Before you start using Spotlight it is important to understand:

- What metrics are,
- Where metrics come from and
- What is the relationship between metrics, thresholds, and severities.

What is a Metric?

A metric is an individual piece of information that Spotlight has collected about the performance of a system. The information may be a numeric value (a number or percentage), a string of text, or some other piece of data.

Every time that the Spotlight window is refreshed, Spotlight retrieves the latest value of the metric, which can then be displayed in a drilldown or on the home page.

What are Thresholds and Severities?

For each numeric metric, you can define a number of thresholds - ranges of values - which indicate levels of severity for that metric. A severity can be used to specify whether the information returned in the metric represents normal or abnormal behavior for the system under diagnosis. Within Spotlight, there can be at most the following types of severity:

- Disabled
- Normal
- Information
- Low
- Medium
- High

"Normal" indicates that the system is performing within acceptable limits. If a metric returns a value with any other severity, Spotlight raises an alarm that indicates that the system is behaving outside acceptable limits. (A "disabled" status means that the system is not responding, and that no information is being returned.)

The severity controls what action Spotlight is to take when the value returned by a metric falls into the range controlled by a threshold.

For example, you may set the severity to display a color, flash the color, trigger a sound, or perform an action.



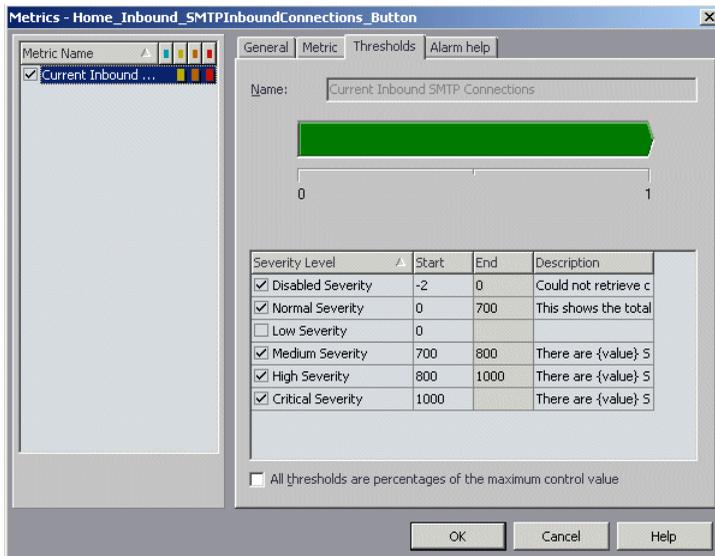
You can change the properties of metrics and of their associated thresholds and severities using the various pages (General, Metric, Thresholds, Alarm help, Data source and Series) of the Metric editor window. Note that the Metric editor for agent-based Spotlight applications does not include the Metric or Thresholds pages, as the behavior normally specified in those pages is determined instead by the agent that provides data to the Spotlight application.

The Metric Editor

The Metric editor is a window where you can view and edit the properties of Spotlight metrics, including their thresholds and severities.

To open the Metric editor for a component or drilldown element

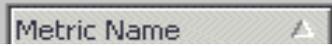
- Right-click the component and choose **Metrics**.



Each page within the Metric editor window - General, Metric, Thresholds, Alarm Help, and (for drilldown charts) Data source and Series - covers one aspect of metric behavior, and can be opened by clicking the corresponding tab in the Metric editor window.

cont'd...

In addition, the **Metric Name** area on the left allows you to manage other metric behavior. The following table displays the features of the Metric editor:

METRIC NAME FEATURE	DESCRIPTION
	Select the header to sort the metrics in ascending or descending name order.
	Select a threshold header to sort the metrics according to the chosen severity.
Check boxes	Select a check box to get Spotlight to collect the corresponding metric. Clear the check box to stop collecting the metric.
List of metrics	The metrics defined for the current component. Select a metric to highlight it and display its details.
	Move the chosen metric higher in the list of metrics.
	Move the chosen metric lower in the list of metrics.

For more information on changing settings within the Metric editor window, see [“Viewing and Editing Metrics” on page 224](#).



The Metric editor for agent-based Spotlight applications does not include the Metric or Thresholds pages, as the behavior normally specified in those pages is determined instead by the agent that provides data to the Spotlight application.

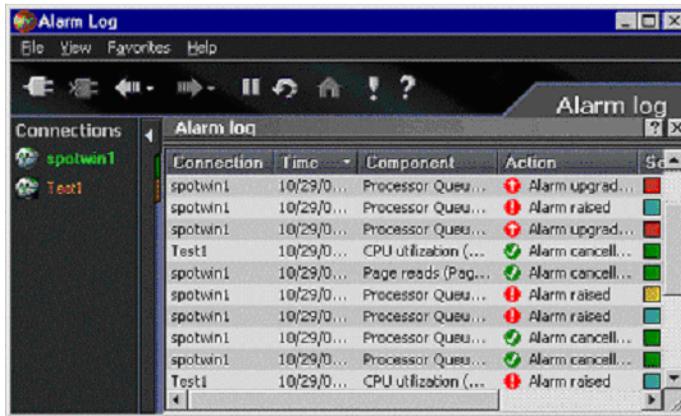
Alarms and the Alarm Log

Alarms are the warnings that Spotlight raises when a metric falls outside its "normal" range of values, which is defined by setting thresholds and severities for the metric within the Metric editor.

A new alarm is raised when the severity for a metric changes. When the severity returns to normal, the alarm is cancelled.

Spotlight uses two methods for displaying alarms:

- The relevant component on the Spotlight console changes color to indicate that an alarm has been raised. The color used depends on the severity of the alarm.
- The alarm is logged as a new entry in the Alarm log drilldown.



The Alarm log drilldown shows alarms according to the filtering options set up in the Alarm Log Options window. The number of alarms displayed in the Alarm log can be reduced by changing filtering options in the Options window. You can also use the Alarm log to view historical snapshots for alarms using the History feature.

Features in the Alarm log

The following table describes the two main features in the Alarm log:

FEATURE	DESCRIPTION
Drop-down list of defined connections	When you open the Alarm log for the current Spotlight connection, this control at the top of the Alarm log displays the name of the current connection. To view the Alarm log for another connection - including a closed connection - click the down-arrow at the right and choose the other connection from the displayed list.
Alarm log grid	This displays alarm details for the chosen system.

Columns in the Alarm Log

The following table describes the various columns in the Alarm log:

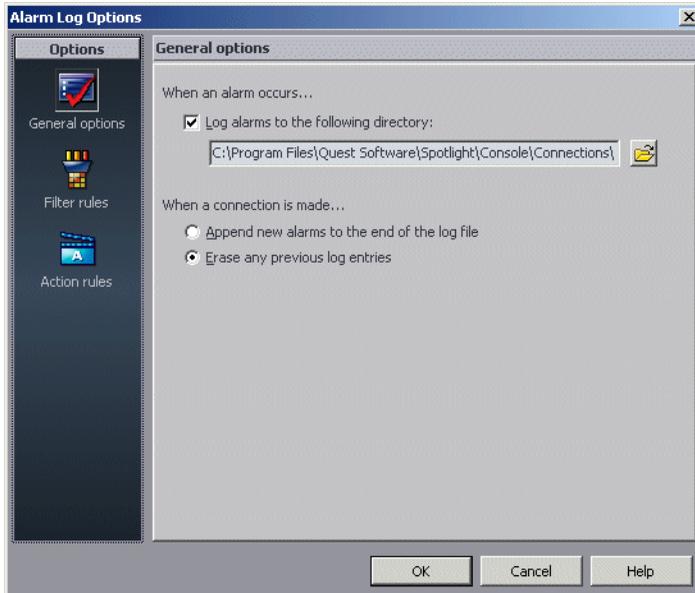
COLUMN	DESCRIPTION
Connection	The name of the Spotlight connection that raised the alarm.
Connection Type	The type of Spotlight connection that raised the alarm (for example, Spotlight on Oracle).
Time	The time at which the alarm was raised or cancelled.
Component	The component on the home page that displays the alarm.
Action	The alarm action that was performed.
Severity	The degree of urgency of the alarm.
Value	The value of the metric that caused the alarm.
Details	A brief description of the cause of the alarm.
Help	Click the ? button associated with the alarm to view more information about the alarm.

Alarm Log Options

You can set a number of options that affect the behavior and display of the Alarm log in the Alarm Log Options window.

To open the Alarm Log Options window

- Select **View | Options | Alarm Log**.



Each of the pages within the Alarm Log Options window - General options, Filter rules, and Action rules - covers one aspect of alarm log behavior, and can be opened by clicking the corresponding icon on the Options bar.

OPTION CATEGORY	DESCRIPTION
General Options 	These options govern the time period covered by the alarm log.

cont'd...

OPTION CATEGORY	DESCRIPTION
<p>Filter Rules</p> 	<p>These options govern which alarms are displayed when you view the alarm log.</p>
<p>Action Rules</p> 	<p>These options govern what Spotlight does when specified alarms are raised.</p>

For more information on changing settings within the Alarm Log Options window, see [“Viewing and Editing Alarms”](#) on page 230.

Using Alarm Log Rules

There are two types of rules that can be applied to Spotlight alarms displayed in the Alarm Log:

- Filter rules, which govern whether alarms are shown in the Alarm Log.
- Action rules, which dictate the action Spotlight takes when alarms are triggered.

You can create, modify, apply, and delete rules.

To manage Alarm Log rules

1. Select **View | Options | Alarm Log**.
2. Click **Filter Rules** in the Options bar to open the Filter rules page, which lists all the current filter rules and displays the details of the rule that is currently highlighted.

– OR –

Click **Action Rules** in the Options bar to open the Action rules page, which lists all the current action rules and displays the details of the rule that is currently highlighted.

3. Click one of the following function buttons:
New to add a new filter rule or action rule using the separate Alarm Log Filter window.

Modify to change the highlighted filter rule or action rule using the separate Alarm Log Filter window. **Modify** is enabled only when an existing rule has been selected.

Delete to delete the highlighted filter rule or action rule. **Delete** is enabled only when an existing rule has been selected.

Rename to rename the highlighted filter rule or action rule. **Rename** is enabled only when an existing rule has been selected.

Move Down to move the highlighted rule lower down in the list to be applied later. Filter rules and action rules are applied in the order in which they occur in the list. **Move Down** is enabled only when an existing rule has been selected.

Move Up to move the highlighted rule higher up in the list to be applied earlier. **Move Up** is enabled only when an existing rule has been selected.

The **New** and **Modify** buttons open the Alarm Log Filter window, where you can create new filter rules and action rules, and edit existing filter rules and action rules. For more detailed information, see the section [“Viewing and Editing Alarms” on page 230](#), and in particular the topics:

- [To create filter rules](#)
- [To modify filter rules for alarms](#)
- [To create action rules](#)
- [To modify action rules for alarms](#)

When you have finished creating or editing these rules (and have closed the Alarm Log Filter window), you can activate any rule in the Filter Rules or Action Rules pages of the Alarm Log Options window by selecting the check box associated with it. If you do not do so, the rule is inactive.

4. Click **OK** to close the Alarm Log Options window and apply the changes you have made.

History for Spotlight Connections

An important feature within Spotlight applications is the ability to collect and replay the behavior of a Spotlight connection at a given point in time (such as when an important alarm was raised). This History feature has been implemented in different ways in different versions of Spotlight.

The History feature was first introduced in June 2002, and is not available for Spotlight applications built before that time.

Most Spotlight applications built after June 2002 and before the end of 2003 use a History feature implemented using Record and Playback, where you can record and save "snapshots" of a Spotlight connection at regular intervals, or when important events occur (for example, when an alarm is raised or canceled).

Later versions of Spotlight can re-build the history of a Spotlight connection from the raw data supplied by the connection, without the need to take a physical snapshot. However, some Spotlights may not employ this new feature, and will continue to use Record and Playback to capture the history of a connection in snapshot files.

The different methods for collecting historical data influence the behavior of the Spotlight console in these ways:

- The ability to take a physical historical snapshot is limited to Spotlight applications that use Record and Playback.

The History Options window for Spotlights that use Record and Playback contains the additional pages When to collect snapshots and What to collect. The options in these pages are not needed when historical data is extracted directly from the Spotlight connection.

Viewing History for Spotlight Connections

Spotlight provides the following two mechanisms for recording the past behavior of a Spotlight connection:

- The mechanism outlined above, where you can use the Spotlight History browser to navigate through, and play back, archived historical data.
- A popup History viewer that displays charts of the continuous history of Spotlight metrics over a specified duration. (For more information, see Viewing popup charts of recent history.)

Setting Historical Preferences and Options

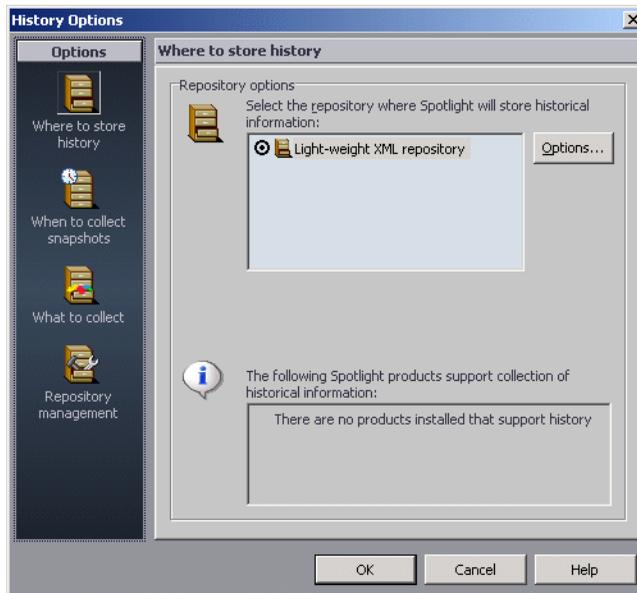
You can set the preferences and options that affect the behavior and display of historical data via the History Options window, which can be opened via the Options History... option on the View menu. Each page within the History Options window covers one aspect of history behavior, and can be opened by clicking the corresponding icon on the Options bar.

For more information on changing settings within the History Options window, see Viewing snapshots of historical data.

You can set a number of options that affect the behavior and display of Spotlight history using the History Options window.

To open the History Options window

- Select **View | Options | History**.



cont'd...

Each page within the History Options window - Where to store history, When to collect snapshots, What to collect, and Repository management - covers one aspect of history behavior, and can be opened by clicking the corresponding icon on the Options bar.

CATEGORY	DESCRIPTION
Where to store history 	These options govern where to store information collected during historical "snapshots".
When to collect snapshots 	These options govern how often data is collected, and the circumstances under which it is collected. Available only for physical snapshots. For more information, see "History for Spotlight Connections" on page 164 .
What to collect 	These options govern how much information is collected in each snapshot. Available only for physical snapshots. For more information, see "History for Spotlight Connections" on page 164 .
Repository management 	This option displays the list of current repositories. You can use it to delete some or all of the information contained in repositories.



For more information on changing settings within the History Options window, see ["Viewing Historical Data" on page 201](#). For more general information on Spotlight history, see ["History for Spotlight Connections" on page 164](#).

The History browser

Within the History browser, you can use the navigation controls, or click on an individual item in the list, to have Spotlight display details of the chosen historical "snapshot".

To open the History browser

- Select **View | History Browser**.

The following table describes the items in the History browser:

ITEM	DESCRIPTION
Navigation controls	Use these controls to scan historical data in chronological order, or to display the details of a chosen snapshot. For more details, see "History Browser Controls" on page 168 .
Archived alarms and snapshots	<p>Spotlight maintains a list of snapshots that have been raised for each day in the specified historical period. Click on a day to have Spotlight display a list of all snapshots that were recorded for that day. Click on an individual snapshot to view the Spotlight home page for that snapshot.</p> <p>Because the details captured by Spotlight's History feature are identical in format to those displayed by Spotlight in its "live" state, you can then view historical data (including drilldown data if available) in the same way as you would when viewing a live connection.</p>



Remember that the History bar may be hidden until the first time you choose History browser from the View menu.

In History browser mode, the Spotlight console also changes its appearance in these ways:

- The console's status bar indicates that History browser mode is active.
- The connection identifier at the top right of the window includes the date and time when the displayed snapshot was taken.



For more information on using the History browser, see ["Viewing Historical Data" on page 201](#).

History Browser Controls

In History browser mode, the Spotlight browser displays a tree of alarms and snapshots in chronological order, together with some basic navigation controls. You can use the navigation controls to display details of that snapshot in the Spotlight console:

CONTROL	DESCRIPTION
Previous alarm 	Click this to show the snapshot corresponding to the alarm before the one currently displayed.
Previous snapshot 	Click this to show the snapshot immediately before the one currently displayed.
Play (plus Playback speed) 	This is the button that activates Playback mode, which automatically steps through the snapshots in sequence. To choose the playback speed, click the down-arrow and choose a speed from the list. If you choose Custom, Spotlight opens the Interval Snapshots window, where you can set your own playback speed.
Next snapshot 	Click this to show the snapshot immediately after the one currently displayed.
Next alarm 	Click this to show the snapshot corresponding to the next alarm after the one currently displayed.
Select date/time 	Find the snapshot that is nearest in time to a specified date and time. Click this button to display the Snapshot search window, where you can enter the date and time whose snapshot you want to view.

Spotlight Templates and Connection Profiles

The template file for a Spotlight application contains the information that controls the standard appearance and behavior of all Spotlight connections of the specified type. Spotlight is shipped with a set of templates that are suitable for most connections.

Users select the most appropriate template when a connection is first established, and can then customize the settings and save them as a new template that can be used as the basis for further connections. You can make minor changes from one connection to another, even for connections that are based on the same template.

The information contained in templates includes:

- The configuration of controls in the home page and drilldowns, including the metrics displayed, and the data sources from which they are derived
- Calibration values for those controls
- The threshold values for alarms on those controls

Templates provide all Spotlight connections with a set of initial settings, which endure until they are overwritten by changes to an individual connection. Changes that are made to a template propagate to all connections that use that template, unless individual changes have already been made to those connections.

Spotlight uses connection profiles to store information that individual Spotlight connections use to connect to a target server or system.

When Spotlight is first installed, the "factory" templates used by Spotlight applications are stored in the Console\Templates sub-folder. The default locations for user templates and profiles are:

C:\Documents and Settings\All Users\Application Data\Quest Software\Spotlight\Templates

C:\Documents and Settings\All Users\Application Data\Quest Software\Spotlight\Profiles

You can change the location used to store Spotlight profiles and templates using the Connection Migration wizard. You can also share profiles and templates by storing them in a shared network location.

By placing profiles in a shared location, this connection information can be shared between multiple users. User-specific information (including user names and passwords) is still stored on a per-user basis. Users are identified by the Windows accounts under which they log in.

Spotlight Help

The online Help for Spotlight applications provides information at several different levels:

HELP LEVEL	DESCRIPTION
Browser Help	The online user manual for Spotlight, complete with table of contents and index. To view this Help, choose Help Contents .
Window Help	Overview Help for the current Spotlight window. Click F1 at any time to view for this menu, or choose Context Help from the Help menu.
Component Help and What's this? Help	Help for individual components on the Spotlight home page, or for individual items in drilldowns. There are several ways in which this Help can be invoked: from the toolbar button; by clicking on a component; by right-clicking on a component and choosing What's this? from the shortcut menu; or from the Metric editor or Properties editor windows. The Help items displayed are further context-sensitive in that the Help displayed for a component in an alarm state may be different from the Help for the same component in its normal state.
Tooltip Help	Spotlight allows you to write your own tooltips for individual components in the Metric editor and Properties editor windows.
Drilldown Help	Help for individual drilldown pages is available from the ? button at the top right of drilldown windows within the Spotlight console.

For more information on Spotlight's online Help, see ["Help Features" on page 253](#).

Spotlight Menus

You can use menus to access the functions of Spotlight. There are two types of menus in Spotlight:

- Standard menus are accessed from the menu bar on the Spotlight console. The menus common to all Spotlights are:
 - File menu
 - View menu
 - Favorites menu
 - Tools menu
 - Help menu
- Shortcut menus. These menus display when you right-click an object in the Spotlight home page or in a drilldown.

To open a menu

- You can access a standard menu by clicking on it with the mouse.

– OR –

Press and hold down the ALT key and then press the underlined letter in the name of the menu.

*The list of commands available from the menu appears. For example, to display the File menu you can click on **File** in the menu bar or press **ALT+F**.*

To access shortcut menus

- Right-click an item in the Spotlight window.

Shortcut menus contain a list of commands that are relevant to the area of the window where the cursor is positioned. For example, if you click the right mouse button over a dataflow, dataflow-specific commands display

Selecting Commands From a Menu

You can select a command from the menu by typing the letter that is underlined in the command name. For example, to connect to a system, press the letter **O** when the File menu is displayed. If the menu is not visible you can type the File access key (ALT+F) and then press **O**.

Some commands also have a shortcut key. If you use shortcut keys, you do not have to display the menu first.

Standard Menus

File Menu

The File menu is accessed from the main menu bar. The following table lists the commands on the File menu and their uses:

COMMAND	USE
Connect	Establishes a Spotlight connection to a system.
Recent connections	Re-establishes a Spotlight connection to a recently connected system.
Disconnect	Disconnects Spotlight from the system that is currently displayed.
Disconnect all	Disconnects Spotlight from all systems that are being analyzed.
Save	Saves the settings for the system you are currently diagnosing. This command stores the metrics and thresholds for the current system in a connection-name.scx file.
Save all	Saves the settings for all the systems you are connected to. A separate.scx file is saved for each system.
Save as template	Creates a new connection based on the full configuration of the current system. Details are saved in a .stx file.
Calibration	Starts, stops, cancels, or changes calibration.
Page Setup	Sets up how Spotlight will print the Spotlight home page or current drilldown.
Print Preview	Previews the appearance of a Spotlight page before printing.
Print	Prints the Spotlight home page or current drilldown.

COMMAND	USE
Exit	Closes Spotlight.

View Menu

The View menu is accessed from the main menu bar. The following table lists the commands on the View menu and their uses:

COMMAND	USE
Refresh	Updates the data in the current window.
Pause / Resume	Stops Spotlight collecting data. Any actions in progress when you choose this command are allowed to complete. If Spotlight is currently paused, this option is displayed as Resume.
Show All Alarms	Shows all the metrics and the thresholds specified for them for the current connection.
Alarm Log	Shows the list of all alarms triggered by Spotlight in the current session.
Live View	Shows current data for the current connection.
History Browser	Shows historical snapshots for the current connection.
Back	Moves to the previous window in the current browse sequence.
Forward	Moves to the next window in the current browse sequence.
Close Drilldown	Closes the current drilldown and returns to the Spotlight home page.
Go To	Moves to the window or drilldown chosen in the invoked submenu.
Tool Bar	Shows or hides the Spotlight toolbar.
Status Bar	Shows or hides the Spotlight status bar.
Navigation Tree	Shows or hides the browser pane at the left of the console that contains either the Spotlight browser or History browser.
Connection status bar	Shows or hides a floating status bar that contains a Spotlight icon for each active connection. The color of an icon represents the current status of the corresponding connection.
Options	Opens the Options window chosen in the invoked submenu (Spotlight Console, Alarm Log, or connection type) for the current connection.

Favorites Menu

The Favorites menu is accessed from the main menu bar. It allows you to create and manage shortcuts to specified pages or drilldowns. The following table lists the commands on the Favorites menu and their uses:

COMMAND	USE
Add to Favorites	Adds the current page to the list of Favorites.
Organize Favorites	Allows you rename favorite pages, create folders to contain them, and move favorites between folders. The arrangement of folders and favorites is displayed in the List of favorite pages.
List of favorite pages	Contains shortcuts to pages in the Favorites list.

Tools Menu

The Tools menu is accessed from the main menu bar. The following table lists the commands on the Tools menu and their uses:



Individual Spotlight applications may have additional options on this menu. For more information, see ["Standard Menus" on page 260](#).

COMMAND	USE
Migrate Connection	When NO Spotlight connections are open, you can click this option to: <ul style="list-style-type: none">• Migrate your Spotlight connection files to a location where other Spotlight users can access them, OR• Use the Spotlight connection files that another user has migrated. For more information on migrating Spotlight connections, see To migrate connections .
Enable Historical Snapshots	Click this option to enable/disable the collection of historical snapshots (where available). When there is a check mark next to the option, collection is enabled. For more information on snapshots, see "History for Spotlight Connections" on page 164 .
Take Snapshot	Click this option to take an historical snapshot of the Spotlight connection in its current state (where available). For more information on snapshots, see "History for Spotlight Connections" on page 164 .

Help Menu

The Help menu is accessed from the main menu bar. The following table lists the commands on the Help menu and their uses:

COMMAND	USE
Contents	Opens the online Help at the Contents page.
Context Help	Displays context-sensitive Help. Opens the online Help at a location that relates to the information currently displayed in the Spotlight window.
Help Options	Opens a subset of the Spotlight console options that allows you to customize Help behavior.
Support Bundle	<p>Creates a file called SpotlightSupport.zip in Spotlight's console directory. The file contains a snapshot of your Spotlight installation at the time you selected this option. System information is not included in the support bundle.</p> <p>Email this file to Quest Software with any request for assistance. Always save the page before selecting this option. This ensures that the support bundle contains the latest settings.</p> <p>Support bundles contain information for the active instance only. If you are using Spotlight to diagnose multiple instances, ensure that the correct instance is displayed before creating the support bundle.</p>
Contact Support	Allows you to contact Quest Software's technical support team by email.
About Spotlight	Displays useful information about the Spotlight version installed on your system.

Notification

You will not always have the Spotlight console open in front of you while Spotlight is diagnosing the performance of one or more connections. In this situation, you can use Spotlight's Notification feature to continuously oversee the status of all your connections, and to alert you whenever important alarms require your attention. There are two mechanisms that allow you to do this:

cont'd...

- A Spotlight icon in the System Tray of your Windows task bar.
You can control the behavior of this icon in the Notifications page of the Console Options window. For more information on the icon, and a full description of its behavior, see ["Choosing Notification Options" on page 219](#).
- A floating Connection status bar that displays the status of all current Spotlight connections. For more information, see ["The Connection Status Bar" on page 176](#).

The Connection Status Bar

You can show or hide the Connection status bar via the Connection status bar option on the **View** menu.

The Connection status bar is a floating bar that contains a Spotlight icon for each active connection. The color of an icon represents the current status of the corresponding connection.

- Click on an icon to display the corresponding connection in the Spotlight console.
- Click and drag on the checkered handle on the left to resize the bar.
- Right-click on the bar to display its shortcut menu. The options on the menu include:

OPTION	DESCRIPTION
Transparent	Choose this option to "fade" the bar when the mouse pointer is not placed over it.
Text labels	Choose this option to display the name of current connections in the bar.
Automatic resize	Choose this option to automatically resize the bar and activate a scroll arrow.
Sort by	Choose between the Name and Severity sub-options to sort the icons in the bar.



The size of the Connection status bar is designed to fit in the title bar of the Spotlight console.

Keyboard Shortcuts

Some of the main functions in Spotlight have an associated shortcut to activate the function.

To activate a function using a keyboard shortcut

- Type the shortcut keys anywhere in Spotlight.

*Shortcut keys are shown on menus, after the name of the command (for example, **F5** for **Refresh** on the **View** menu).*

The following is the list of the Spotlight shortcut keys:

TO...	USE THIS KEY
Move to the previous view in the current browse sequence.	ALT+LEFT ARROW
Move to the next view in the current browse sequence.	ALT+RIGHT ARROW
Open the Alarm Log.	ALT+L
Display context-sensitive online Help relating to the screen or drilldown you are currently viewing.	F1
Refresh the current window.	F5
Take an historical snapshot of the current connection. Valid only where physical snapshots can be taken. For more information, see "History for Spotlight Connections" on page 164.	F12
Close Spotlight.	ALT+F4



Individual drilldowns may also have keyboard shortcuts associated with them. To check this, move the mouse pointer over the toolbar button that represents a drilldown, and view the button's tooltip.

Configuring and Using Spotlight Basics

- Overview
- Handling General Tasks
- Navigating within Spotlight
- Viewing Historical Data
- Viewing and Recording Historical Snapshots
- Viewing and Editing Console Options
- Viewing and Editing Component Properties
- Viewing and Editing Metrics
- Viewing and Editing Alarms

- Help Features

Overview

This chapter explains how to configure the way in which Spotlight collects and displays information. It also describes how to use features that are common to all Spotlight applications, and how to manage Spotlight features such as metrics, thresholds, severities, and alarms.

All Spotlight applications have a similar appearance, and use similar methods for performing basic tasks. The topics in this section fall into one of the following categories:

- **General tasks**

This section details some of the "housekeeping" tasks associated with Spotlight applications, such as how to open and close applications, how to hide various window elements, and how to print from Spotlight applications.

- **Connecting and disconnecting**

This section contains the basic information that you need to begin collecting performance data from various systems. It covers topics such as opening existing connections, creating new connections, viewing connections, and choosing startup options.

- **Calibrating Spotlight connections**

The details of a connection need to be calibrated so that the Spotlight window can display metric data in its most readable form.

- **Navigation within Spotlight**

This section covers how to move through the Spotlight system of windows and drilldowns.

- **Viewing performance details via drilldowns**

Spotlight drilldowns have a number of important features that can be used for viewing detailed performance data.

- **Viewing historical data**

This section shows how to view the history of your Spotlight connections, including how to record historical snapshots of Spotlight data at specified times or events, how to view those snapshots at a later time, how to change the collection of historical data, and how to view the recent history of metrics within specified components.

- **Viewing and editing console options**

This section covers how to change the behavior of the Spotlight console in areas such as the collection, display and retention of metric data, and the visual behavior of the console itself.

- **Viewing and editing component properties**

This section allows you to change certain features of the components and drilldowns that show performance data, including display properties, Help properties, and history settings.

- **Viewing and editing metrics**

This section shows how to change properties of the performance data that is displayed in Spotlight windows, including data averaging, and thresholds and severities.

- **Viewing and editing alarms**

Alarms are Spotlight's warning system for performance problems. This section shows how to view alarm details and modify alarm settings.

- **Pausing and resuming**

This section covers how to pause and resume the collection of Spotlight data from connected systems.

- **Saving configurations**

After you have calibrated Spotlight connections, and chosen appropriate display settings for the Spotlight console, components, and metrics, you can save the changes you have made for use in later sessions.

- **Help features**

This section describes the various ways to view online Help about Spotlight and the systems it analyzes.

Handling General Tasks

Topics in this section show how to perform a number of general tasks within Spotlight, including:

- Starting and closing Spotlight.
- Changing a variety of display options.
- Setting print options, and previewing and printing the contents of a Spotlight window.

To start Spotlight

- Select **Start | Programs | Quest Software | Spotlight | Spotlight**.

To close Spotlight

- Select **File | Exit**.

To refresh the current window

- Select **View | Refresh**.



You can also press F5.

You can choose to hide or show the toolbar for any Spotlight program. (The default preference is to show the toolbar.)

To hide or show the Spotlight toolbar

- To hide the toolbar, clear the checked Tool Bar option on the View menu.

– OR –

To show the toolbar, select the unchecked Tool Bar option on the View menu.

You can choose to hide or show the status bar for any Spotlight program. (The default preference is to show the status bar.)

To hide or show the status bar

- To hide the status bar, clear the checked Status Bar option on the View menu.

– OR –

To show the status bar, select the unchecked Status Bar option on the View menu.

You can choose to hide or show the browser that displays all the systems currently connected to Spotlight.

To hide or show the Spotlight browser

- To hide the Spotlight browser, clear the checked Navigation Tree option on the View menu.

– OR –

To show the Spotlight browser, select the unchecked Navigation Tree option on the View menu.

You can also open and close the Spotlight browser by clicking on the arrow contained in the frame of the window itself.



When you view historical data, the Spotlight browser opens its History browser view.

To set print options

1. Select **File | Page Setup**.
2. Choose options in the Page Setup window to set how Spotlight windows are to be printed.
The results of the choices you make are shown in the Preview pane of the window.
3. If required, click **Printer** to choose which printer to use when printing Spotlight pages.
4. Click **OK** to save the setup.

To view how a Spotlight window will appear when printed

1. Select **File | Print Preview**.
2. Preview the appearance of the printed page, and use the toolbar at the top of the Print Preview window to change any of the display settings required.

TOOLBAR BUTTON	DESCRIPTION
Print	Send the current page to the printer.
Page Setup	Choose how you want to print the contents of the page.
Show one page Show multiple pages	Choose how to view the preview.
Zoom	Choose how much you want to magnify the print preview to get a clear look at page details. Alternatively, move the mouse pointer over the print image, and click to magnify the image.
Close	Close the Print Preview window.

3. When you have finished previewing the page, click **Print** to print the page, or choose **Close** to end the page preview.

Printing a Spotlight Window

You can choose to print the contents of a Spotlight home page, or of the drilldown currently displayed.

To print a Spotlight window

1. Select **File | Print**.
The print preview page that appears shows you what the appearance of the current page would be if it were printed now.
2. If the current preview is appropriate, click **OK** to print the page.
– OR –
Click **Cancel** to cancel the print.

Connecting and Disconnecting

This section contains the basic information that you need to begin collecting performance data from various systems. It covers topics such as opening existing connections, creating new connections, viewing connections, and choosing startup options.

Spotlight supports simultaneous connections to multiple systems. Use this section to find out how to:

- Connect to, and disconnect from, existing systems.
- Add new connections.
- Migrate existing connections for others to use, or use connections that others have migrated.
- View historical snapshots for existing connections.

The Spotlight browser (if displayed) shows all the systems that Spotlight is currently connected to. Use this section to find out how to:

- View the Spotlight browser.
- Order items in the Spotlight browser.

Spotlight allows you to configure and view startup and other connection options. Use this section to find out how to:

- Choose a startup page.
- Connect to a home page.

To connect to systems

1. Select **File | Connect**.
2. Click the type of connection you want to choose in the Connections bar:

CONNECTION TYPE	DESCRIPTION
All connections	Click to display all the Spotlight connections currently defined.
Recent connections	Click to display the connections that have been opened recently.

cont'd...

CONNECTION TYPE	DESCRIPTION
Specified connection type	Click to display all the defined Spotlight connections for the chosen type. (For example, all Spotlight on Windows connections.)

- For the specified type, choose the connection you want to open by clicking an item in the list on the right.
*To connect to a system that is not currently on the list, click **New Connection** and follow the required procedure.*
- Click **Connect** to open the chosen connection.



Click **Tools** to delete, rename, or view the properties of the chosen Spotlight connection.

*You can also connect to different Spotlight systems from the **Go To** menu item, or Spotlight toolbar.*

Adding New Connections

Before you can use Spotlight to analyze a target system, you need to connect to the system. If you have not connected to that system before, you first need to add a new connection to that system.

To add new connections

- Select **File | Connect**.
- Click **All Connections** to display all the Spotlight connections currently defined.
- Click **New Connection** in the All Connections pane on the right.
- Enter the required information.

REQUIRED INFORMATION	DESCRIPTION
Select connection type	Click on the box, and from the list, choose the type of connection you want to add.

cont'd...

REQUIRED INFORMATION	DESCRIPTION
New connection name	Enter the (unique) name you want to use for the new connection.

5. Click **OK** to open a Properties window for the new connection.
6. Enter the information needed to complete the Spotlight connection.



For more details on the required information, see the online Help for the specified Spotlight application.

7. Click **OK** to add the new connection to the list of existing connections in the Connection Manager.



In the Connection Manager, you can at any time click **Tools** to delete, rename, or view the properties of a chosen Spotlight connection.

Migrating Connections

You can now migrate your Spotlight connection files to a network location where other Spotlight users can share them or use the Spotlight connection files that another user has migrated. You can do this via the Connection Migration wizard. Using the Connection Migration Wizard, you can perform the following:

- Choose whether to migrate your connections for others to use
- Use the connection(s) that others have migrated
- Specify the network location of migrated connections
- Choose the types of connections to migrate



To use the Connection Migration Wizard, you must close all open Spotlight connections.

To migrate Spotlight connection files

1. Select **Tools | Migrate Connections**.

– OR –

In the Connection manager, click **Tools** and select **Migrate Connections**.



You may not be able to migrate connections for Spotlight applications built before 2003.
Do not migrate connections to locations that may be offline frequently or for extended periods.



Under certain circumstances, you may have difficulty opening a migrated connection. For more information, see

To disconnect from the current system

- Select **File | Disconnect**.

To disconnect from all open connections

- Select **File | Disconnect All**.

You can also disconnect from different Spotlight systems via the Spotlight toolbar.

For information on viewing the Connections list, see [“Handling General Tasks” on page 183](#).

Ordering Items in the Spotlight Browser

The current order of connections displayed in the Spotlight browser can be changed using a shortcut menu.

To order items in the Spotlight browser

- Right-click anywhere in the Spotlight browser and select one of the options.

OPTION	RESULT
By Name	Orders the list of current connections alphabetically.
By Severity	Orders the list of current connections according to the severity of alarms currently set for each connection.

Viewing Historical Snapshots for a Spotlight Connection

An important feature within Spotlight applications is the ability to collect and replay the behavior of a Spotlight connection at a given point in time (such as when an important alarm was raised). This is done by using Spotlight's History feature to create snapshots of current connections.

To view all historical snapshots for a specified connection

1. Select **File | Connect**.
2. In the Connections bar at the left, click on the type of connection you want to open.
3. Right-click on the connection to view the snapshots for that connection.
4. Select **Browse History** from the shortcut menu.
Spotlight opens the connection in History browser mode.

Choosing a Startup Page

The startup page is the page displayed when you first start a Spotlight application. It can be chosen from one of three alternatives: the current page, the Connection Manager window, or a blank page.

To choose the startup page

1. Select **View | Options | Spotlight Console**.
2. Click **Startup** in the Options bar.
3. Choose one of the available options to specify the page that Spotlight uses as its startup location.

OPTION	DESCRIPTION
Current page	Click Current page to automatically resume the current connection on startup, and to open the page now displayed in the Spotlight window.
Connection manager	Click Connection manager to use the Connection manager window as the startup page. This allows you to choose which of the available connections you want to open.

OPTION	DESCRIPTION
Blank	Click Blank to open a blank Spotlight window with no open connections and no startup page.

4. Click **OK** to save the setting.

To connect to a home page

- **At startup or connection:** The home page for a Spotlight connection is the main window for that connection. It is also the first page displayed when you start that connection, unless you have specifically chosen a different startup page
- **When already connected:** To go to a system's Spotlight home page from any other page in that system click Home on the Spotlight toolbar or select **View | Go To | Home**.

Calibrating Spotlight Connections

Because the metric data collected from Spotlight connections is not of much use if it cannot be displayed properly, the components displayed in Spotlight pages are often calibrated to display the data in the way best suited to the system under diagnosis.

A typical example on the Spotlight home page is the calibration of a dataflow that indicates the rate at which data is being transferred through a system.

Generally speaking, the faster the rate of traffic, the faster the dataflow moves. However, the dataflow is an accurate representation of system activity only if Spotlight knows the normal range of values for your system. For example, if the normal range of values for a dataflow is from 0 to 100, a value of 8 is low, and the dataflow moves slowly. If the range of values for your system is from 0 to 10, a value of 8 is high and the dataflow moves much faster.

Spotlight comes with a calibration tool that calculates the normal range of metric values for your system. In order to calibrate your system, you must place Spotlight in calibration mode for a set period of time. While in calibration mode, Spotlight measures the changes in value of important metrics within the system. It uses this data to set the upper and lower display limits for the corresponding components. You can accept the results or adjust them if necessary.

When you connect to a system for the first time, Spotlight automatically calibrates that system and a window opens that allows you to alter certain calibration settings:

SETTING	DESCRIPTION
Calibration period	From the list, choose how long you want to calibrate this new connection.
Always calibrate new connections using this setting.	Select this option to use the specified calibration period for all new connections. If you select the Always calibrate option, this Calibration window will not appear for future connections. (You can reset this option via the Spotlight Console Options window.)

While calibration is in progress, the word **Calibrating** appears in the status bar at the bottom of the Spotlight console. This section contains the information you need to begin calibrating the display of data from a connected system. It shows you how to:

- Calibrate connections
- Stop calibration
- Save calibration data in templates

To Calibrate Connections

- New Spotlight connections are automatically calibrated the first time that they are opened.

To re-calibrate a connection at any other time

1. Select **File | Calibration**.
2. Set the Calibration period by choosing a period of time from the list.
3. Click **Start** to begin calibration.

To stop calibration of a system at any time

1. Select **File | Calibration**.
2. Click **Stop** to end calibration.

Saving Calibrations

You can set Spotlight to save calibration data when saving configuration data in a Spotlight template.

To save calibration data in templates

1. Select **File | Save as Template**.
2. Enter information into the **File name**, **Save as type**, and **Description** boxes to specify where and in what format to save the Spotlight template.
3. Select the **Save calibration** check box to save calibration data in the template.
4. Click **Save**.

When the check box is selected, Spotlight will include calibration data whenever it saves a configuration as a template.

Navigating within Spotlight

Within Spotlight applications, you can view performance data for a system in its Spotlight home page, and in a number of drilldown pages that can be accessed from the home page and from other drilldowns.

There are a number of ways to view drilldowns, including browser techniques - such as Back and Forward - that are familiar to any Internet user. You can also define individual Spotlight pages as Favorites, and view them via the **Favorites** menu.

Viewing Drilldowns

There is more than one way to access a specified drilldown within Spotlight.

To view drilldowns

- Click the relevant drilldown button on the Spotlight toolbar

– OR –

Select **View | Go To** and choose the relevant drilldown.

– OR –

cont'd...

Right-click a component on a Spotlight home page and choose **Show Details**.

– OR –

Click a component on the Spotlight home page (customizable using the Spotlight Console window).

To return to the previous page or drilldown in your current browse sequence

- Select **View | Back**.

– OR –

Click **Back** on the Spotlight toolbar.

This option is disabled if you are at the start of the browse sequence.

To view the next page or drilldown in your current browse sequence

- Select **View | Forward**.

– OR –

Click **Forward** on the Spotlight toolbar.

This option is disabled if you are at the end of the browse sequence.

Viewing Favorites

When you have added a Spotlight page to the Favorites list, you can go directly to that page via the **Favorites** menu.

To view favorites

1. Select **Favorites** in the main menu.
At the bottom of the menu is the list of page names (and folders that contain page names) that have been added previously to your list of Favorites.
2. Click on one of the named pages to open it.

To add a Spotlight page to the Favorites list

1. Use Spotlight to navigate to the page that you want to add.
2. Select **Favorites | Add to Favorites**.
3. Choose how you want the page to appear in the Favorites list.

CONTROL	DESCRIPTION
Name	Enter the name that you want to use to display the new favorite.
Save the current connection as part of the favorite	Select this option if you have chosen the same display name for favorite pages in two different connections.
Create in	Choose where you want to place the new page in the current Favorites setup.
New folder	Create a new folder in which to save the favorite.

4. Click **OK**.

To organize the Favorites list

1. Select **Favorites | Organize Favorites**.
2. Choose how you want to organize the Favorites list.

CONTROL	DESCRIPTION
Favorites	Click and drag to rearrange entries in the current list. Alternatively, click on an item to choose it, and then use the buttons on the right to rearrange it.
New folder	Create a new folder in which to save the favorite.
Rename	Rename the chosen favorite or folder.
Delete	Delete the chosen favorite or folder.

cont'd...

CONTROL	DESCRIPTION
Move to	Move the chosen favorite or folder to another location.

3. Click **Close**.

Viewing Performance Details in Drilldowns

Drilldown pages contain detailed information about the performance of systems that Spotlight is connected to. Individually, each drilldown page displays the metrics of a single performance category.

This section shows you how to:

- View drilldowns, and how to change table and chart displays within them.
- View the details of metrics in drilldowns.
- Save data from drilldowns.

For more information on viewing drilldowns, see [“Navigating within Spotlight” on page 193](#).

Showing Columns in a Drilldown Table

Where a drilldown (including the alarm log) contains a table, you can choose to hide or show individual columns in the table.

To show columns in a drilldown table

1. Right-click the header row at the top of the table.
This invokes a shortcut menu with options that represent all the columns available for display in the table.

Checked items represent the columns currently displayed. Cleared items represent the columns currently hidden.
2. Click an item to check or clear it, and change the visible contents of the table.

Sorting Columns in a Table

You can sort the contents of a Spotlight table in the order represented by any of the columns in the table.

To sort columns in a table

1. Look at the headers of the columns in the table.
If none of the headers contain an up or down arrow, the table is in its default sort order.
If a column contains an up arrow, the table is sorted according to the contents of that column in ascending order.
If the column contains a down arrow, the table is sorted according to the contents of that column in descending order.
2. Click the header of the column that you want to use when sorting the table.
If the column was previously unsorted, or sorted in descending order, it is now sorted in ascending order. If the column was previously sorted in ascending order, it is now sorted in descending order.

Freezing the First Column in a Table

The large number of columns in some Spotlight tables often make those tables too wide to display in a drilldown window, forcing you to scroll the window if you want to see ALL the information in a table. When you scroll, the first column in the table (usually vital for identifying what you are looking at) can disappear off the left side of the window.

You can configure each table so that this important first column is "frozen" in place and does not scroll when you scroll a window.

To freeze the first column in a table

1. Click on the header bar of the table to display the shortcut menu.
2. Select **Freeze First Column**.

This option may not be available for all tables.



You can also freeze the first column in a table by using the Options page in the Properties editor.

Zooming in on a Drilldown Chart

Where a drilldown displays one or more charts, you can choose to zoom in on a section of a chart.

To zoom a drilldown chart

1. Move the mouse pointer over the chart.
The pointer changes to a magnifying glass.
2. Click and drag the pointer (down and right) to create a selection region around the area that you want to magnify.
3. Release the mouse button.

To return the chart to its default size

- Click the magnifying glass button at the top right of the drilldown.



The maximum magnification factor is 100.

Maximizing and Restoring a Drilldown Chart

Where a drilldown displays several charts, you can choose to maximize a displayed chart so that it occupies the whole drilldown. When a chart is maximized, you can restore the chart to its default size.

To maximize a chart

- Right-click the chart, and select **Maximize**.

To restore the chart

- Right-click the chart, and select **Restore**.



All charts are automatically restored when you view a different drilldown.

Viewing Multiple Series in a Drilldown Chart

The graphs that Spotlight displays in some drilldowns are shown within components called charts.

Each of these charts may contain series of the same graph from different data sources superimposed on the same set of axes. For example, a "disk usage" chart for a system that has multiple disks may contain several series of graphs, one for each disk.

You can use the Metric editor to specify the series that Spotlight displays within each chart.

To view multiple series in drilldown charts

1. Right-click the chart that displays the graph whose display you want to change.
2. Select **Metrics**.
3. Click the **Series** tab.

*The Series page contains two areas: the read-only **Name** field, which shows the name of the current metric, and Multi series display options, which contains several mutually exclusive controls:*

CONTROL	DESCRIPTION
Show all series	Select this option to display all series of the current graph in the chart. For example, if a system has the multiple disks C:, D:, E:, and F:, the relevant "disk usage" chart displays the disk usage metric for all four disks.
Show only the top N series	Select this option to display only the N most significant series of graphs. The value of N is set by entering a value in the numeric field associated with the option.
Show the following items	Select this option, and then choose items from the associated list by selecting the corresponding check boxes, or by using the Select all or Clear all buttons. Spotlight displays a graph for each item chosen.

In the top right of every chart that can display multiple series of graphs, there is a legend that lists all the series associated with the chart. You can use the legend to do the following:

- Click an item in the legend to highlight its series in the chart. (Click a second time to return the series to its normal appearance.)
- Move the mouse pointer over an item in the legend to view the current value for that series within the chart.

Re-scaling Charts Manually in Drilldowns

Some Spotlight drilldown pages display metric data as a set of charts, each of which shows the historical behavior of the metrics in question. You can choose either to accept Spotlight's default scaling of these charts, or to choose your own scaling.

To re-scale a chart manually

1. Open the drilldown that contains the chart.
2. Move the mouse pointer over the chart, right-click, and select **Properties**.
3. Click the **Chart** tab.
4. Select the **Manual scaling** check box to enable manual scaling.
5. Enter the minimum and maximum values you want to display on the chart.
6. Click **OK** to save the setting.



If you want your Spotlight connection to use the new setting every time it starts, save the current configuration for the connection. For more information, see ["Saving Configurations" on page 252](#).

Viewing Metric Details from Drilldowns

There are several different types of data displayed in drilldowns. Some drilldowns chart the behavior of a single item over time, and its details are available at a glance. For example, a drilldown of CPU utilization will display only the behavior of that item over a specified period.

Others present a list of metrics within a data table (or a set of data tables), and the drilldown displays only a part of all the data collected. For example, a drilldown may display the current processes running on a server, but not the details of those processes.

To check for further details in a drilldown

1. Right-click on an item to display its shortcut menu.
2. Move the mouse pointer over the **Show Details** option in the menu.
If the option is not dimmed (disabled), a sub-menu appears.

3. Click on an item in the sub-menu to display the Details window.



To view the default set of details for a row in a data table, simply click on the row.

Saving Drilldown Data

You can choose either to copy data from a Spotlight drilldown to another application, or to save that data into a separate file.

To copy data

1. Right-click the item (image, table, or text) that you want to copy and select **Copy to Clipboard**.
2. Open the document where you want to save the item.
3. Paste the copied item into the document.

To save data

1. Right-click the item (image, table, or text) that you want to copy and select **Save As**.
2. Choose how you want to save the item (file name and file type).
3. Click **Save**.

To close drilldowns

- Select **View | Close Drilldown**.

*You can also move from the current drilldown to other Spotlight pages using toolbar buttons, the **View** menu, and the **Favorites** list.*

Viewing Historical Data

Spotlight uses historical data to show how individual metrics within components vary over time. This section shows you how to do the following:

- View historical data for a component.
- Choose whether to store historical data for a component.
- Choose whether to use data from a component in historical snapshots.

cont'd...

- Set the period of time for which historical data is stored.



As well as storing historical data for individual metrics, you can also take historical snapshots of the behavior of Spotlight connections at specified times. For more information, see [“Viewing and Recording Historical Snapshots” on page 204](#).

To view the recent history for a component's default metric

- In the Spotlight home page, right-click the component that contains the metric and select **Show History**.

The invoked popup window displays a chart of the recent history of the metric. You can click-and-drag on a corner of the chart to change its size, and you can also choose to zoom in on a section of the chart.

To view the history of any metric within a component

- In the Spotlight home page, right-click the component and choose an item from the **Show Details** sub-menu to display the corresponding drilldown.

*The drilldown may itself contain the chart(s) you want to view, or it may lead to additional drilldowns that do. In the second case, right-click on a metric in the drilldown, and again choose an item from the **Show Details** sub-menu.*

Choosing to Store Historical Data

You can choose whether to store historical data for a specified component from the Properties editor. You can set how long to keep historical data in the Console Options window.

To enable the collection of historical data for a component

1. Right-click the component and select **Properties**.
2. Click the **Other** tab.
3. Select **Show history for this component**.
4. Click **OK** to save the setting.



You can set how long to keep historical data in the Console Options window.

Choosing Whether to Contribute Data to Historical Snapshots

You can choose whether to enable the collection of data for inclusion in historical snapshots.

To include data in historical snapshots

1. Right-click on the component.
2. From the shortcut menu, choose **Properties**.
3. Click the **Options** tab.
4. Select the **Allow this component to contribute to historical snapshots** check box.
5. Click **OK** to save the setting.



You can set how long to keep historical data in the Console Options window.

Setting the Time Scale for Historical Data

Spotlight applications are designed to retain the data they collect for a fixed period of time, during which the data can be displayed in historical charts.

To set how long to keep historical data

1. Select **View | Options | Spotlight Console**.
2. Click **Data Collection**.
3. You can set the time scale for historical data by selecting **Keep history for the last:** and choosing a period of time from the list.
4. Click **OK** to save the settings.

Viewing and Recording Historical Snapshots

Spotlight provides two mechanisms for recording the past behavior of a Spotlight connection.

- A popup **History** viewer that displays charts of the continuous history of Spotlight metrics over a specified duration. (For more information, see [“Viewing Historical Data” on page 201.](#))
- A **Record and Playback** feature that takes snapshots of the Spotlight connection at pre-determined intervals.

This section shows you how to use Record and Playback, including how to:

- Choose when to record historical snapshots.
- Choose where to save snapshot data.
- Choose what to record in snapshots.
- Manage the storage of snapshot data.
- View snapshot data.

Choosing When to Record Historical Snapshots

You can choose when to record historical snapshots of Spotlight data using the History Options window, the **Tools** menu, or the Spotlight toolbar.

To choose when to record historical snapshots using the History Options window

1. Select **View | Options | History**.
2. On the Options bar, click **When to collect snapshots** to open the relevant page.

Use the displayed options to edit the behavior of Spotlight snapshots.

CONTROL	DESCRIPTION
Take snapshot every...	<p>Select the option to enable Spotlight to collect snapshot data. Use the associated numeric and unit boxes to enter how often you want Spotlight to take a snapshot. Clear the option to disable the collection of snapshot data.</p> <p>Note: Spotlight will NOT record snapshot data at a rate faster than the refresh rate for the connection.</p>
Take snapshot when the following alarms are raised	<p>Select the option to enable Spotlight to collect snapshot data when alarms are raised.</p> <p>Clear the option to disable the collection of snapshot data when alarms are raised.</p>

3. Click **OK** to save the settings.



Check the settings in the other pages of the History Options window before enabling the collection of snapshot data.

To choose when to record historical snapshots using the Tools menu

- Select **Tools | Enable/Disable Historical Snapshots**.

– OR –

Select **Tools | Take Snapshot**.



You can also use the **camera** icon on the Spotlight toolbar to take a snapshot manually.

Choosing Where to Save Historical Snapshots

You can choose where to save historical snapshots of Spotlight data using the History Options window.

To choose where to save historical snapshots using the History Options window

1. Select **View | Options | History**.
2. On the Options bar, click **Where to collect snapshots** to open the relevant page.

Use the displayed options to edit the behavior of Spotlight snapshots.

CONTROL	DESCRIPTION
Select the repository...	Select an option to save snapshot information to the corresponding database repository. Currently, the only available option is: Lightweight XML repository . Choose this option to store snapshot data as a set of Spotlight-generated XML files.
Options... button	Click this button to choose the Save options available for the option chosen in the Select the repository... control. The available options include: <ul style="list-style-type: none"> • The maximum disk space to use (in megabytes). • The maximum duration of history to store (hours/days/weeks/months). • Base snapshot path. (Where to save the data.)
The following Spotlight products...	This read-only control displays the list of installed Spotlight applications that support the collection of snapshot data.

3. Click **OK** to save the settings.

Choosing What to Record in Historical Snapshots

You can choose what to record in historical snapshots of Spotlight data using the History Options window.

To choose what to record in historical snapshots using the History Options window

1. Select **View | Options | History**.
2. On the Options bar, click **What to collect** to open the relevant page.
Use the displayed options to edit the behavior of Spotlight snapshots.

CONTROL	DESCRIPTION
Include history in each snapshot	<p>Within Spotlight, Record and Playback and History are two independent features:</p> <ol style="list-style-type: none"> 1. Record and Playback takes data snapshots of a Spotlight connection at pre-determined intervals. 2. History records the continuous history of specified metrics over a specified duration. <p>Select the check box to add continuous History data to your Record and Playback historical snapshots, and then use the associated list of times to choose how much history data to include in each snapshot. (Possible values range from 5 minutes to all available data.)</p> <p>When you do so, every recorded snapshot will contain historical details of the Spotlight connection for the specified period immediately before the snapshot was taken. You will be able to view that history during Playback.</p> <p>Note: If you want to collect history data for specified components only, you can reduce the size of historical snapshots (and reduce the load on the diagnosed system) by "turning off" history collection for all unwanted components.</p> <p>For more information, see "Choosing to Store Historical Data" on page 202.</p>

cont'd...

CONTROL	DESCRIPTION
Collect extra information if required	<p>How much information do you want in your recorded snapshots? A number of factors may influence this decision, including the frequency of snapshots and the amount of space available to contain them.</p> <p>Use the Collect extra information... controls to choose how much data to collect.</p> <ul style="list-style-type: none">• Choose Collect only basic information to record only the information that Spotlight normally collects.• Choose Collect details relating to current alarms to record basic information PLUS all drilldown information that is relevant to alarms that are current at the time that snapshots are taken.• Choose Collect all possible information to include all available information in each snapshot. <p>This setting is not usually recommended, as it may result in the collection of a very large amount of data, and may also put a heavy load on the system under diagnosis.</p>

3. Click **OK** to save the settings.

Managing the Storage of Snapshot Data

You can manage the storage of snapshot data using the History Options window.

To manage the storage of historical snapshots using the History Options window

1. Select **View | Options | History**.
2. On the Options bar, click **Repository management** to open the relevant page.

Use the displayed options to manage the storage of snapshot data.

CONTROL	DESCRIPTION
{repository list}	This is the list of all repositories currently defined for the Spotlight applications installed on your system. Every Spotlight connection can have at most one repository. Click on an item in this list to choose that repository.
Clear	Delete ALL snapshots for the chosen repository. (You cannot delete snapshots for an open Spotlight connection.)
Clear all	Delete ALL snapshots for ALL repositories.

3. Click **OK** to save the settings.

Viewing Snapshot Data

There are two ways to view the history of a Spotlight connection.

The first is the popup History window, which provides a continuous recent history of a specified Spotlight metric. For more information, see the section on [“Viewing Historical Data” on page 201](#).

The second is Spotlight's Record and Playback feature, a mechanism for taking snapshots of a Spotlight connection at pre-determined intervals, or when alarms are raised. You can use Spotlight's History browser to view these recorded snapshots.

To access the History Browser from the View menu

- Select **View | History Browser**.

To access the History Browser from the Connection Manager

1. Right-click an icon in the connections list.
2. Select **History Browser** from the shortcut menu.

To access the History Browser from the Alarm Log

- Right-click on an alarm and choose the **View in History Browser** option.

This automatically opens the appropriate snapshot.

Viewing a Snapshot in the Spotlight Console

When viewed in the Spotlight console, a recorded snapshot resembles a "live" display, but the Connections list has been replaced by the History browser.

To view snapshot information from the History Browser

1. Click on an event in the snapshot list.
2. Use the navigation buttons in the History browser to move through the snapshot list. Alternatively, use **Playback** mode, which automatically steps through the snapshots in sequence.



To return to viewing "live" data for the current connection, simply choose the **Live View** option on the **View** menu.

Viewing and Editing Console Options

You can customize the appearance and behavior of the Spotlight console from the Console Options window.

- The **General** page allows you to change the behavior of a number of background actions within Spotlight, including the locations that contain important files.
- The **Data Collection** page allows you to set refresh rates and time scales for historical data.
- The **Display** page allows you to change the visual properties of Spotlight, and of its graphs and dataflows.
- The **Help** page allows you to choose how to display component-related Help.
- The **Appearance** page allows you to change the visual appearance of Spotlight windows.
- The **Startup** page allows you to change the startup behavior of Spotlight.
- The **Notifications** page allows you to choose how you want Spotlight to notify you when an alarm is raised on a current connection.

Viewing Console Options

You can choose how Spotlight looks and behaves from the Console Options window.

To view the Console Options window

1. Select **View | Options | Spotlight Console**.
2. Click an item in the Options bar (General, Data Collection, Display, Help, Appearance, Startup or Notifications) to view the relevant options.

You can use these options to add, edit, and delete the options that govern the behavior and appearance of the Spotlight console.

To play alarm sounds

1. Select **View | Options | Spotlight Console**.
2. Click **General** in the Options bar.
3. Select **Enable alarm sounds for Action Rules** if you want Spotlight to play the sound specified in the relevant action rule when an alarm is raised. If no sound is specified, no sound is played.
4. Click **OK** to save the setting.

To show or hide confirmation messages

1. Select **View | Options | Spotlight Console**.
2. Click **General** in the Options bar.
3. Select or clear **Confirm before deleting items**, **Confirm before closing connections**, and **Confirm before reopening connections when navigating** to set the desired behavior.
4. Click **OK** to save the settings.

Showing and Hiding Calibration Messages

Spotlight provides two types of notification for use during calibration:

- Auto-calibration messages for new connections.
- "Too short" calibration warnings when a calibration is ended prematurely.

To enable auto-calibration messages

1. Select **View | Options | Spotlight Console**.
2. Click **General** in the Options bar.
3. Select or clear **Show auto-calibration message for new connections**.
4. Click **OK** to save the setting.

To enable "Too Short" calibration messages

1. Select **View | Options | Spotlight Console**.
2. Click **General** in the Options bar.
3. Select or clear **Warn when calibration period is too short**.
4. Click **OK** to save the setting.

For more information on calibration data in templates, see [see "Calibrating Spotlight Connections" on page 191](#).

To set template locations for connections

1. Select **View | Options | Spotlight Console**.
2. Click **General** in the Options bar.

You can set the location for two connection-related files from the displayed text boxes.

OPTION	DESCRIPTION
Template path	New Spotlight connections base their settings on templates. Enter the pathname that specifies where connection templates (.stx files) are stored. You can enter a shared network path.
Connection file path	Connection configuration (.scx) files are stored in the location specified in this text box. These files can include calibration data.

3. Click **OK** to save the settings.

Setting Refresh Rates

Refresh rates indicate how often Spotlight collects data from the system(s) it is currently connected to.

To set refresh rates

1. Select **View | Options | Spotlight Console**.
2. Click **Data Collection** in the Options bar.

You can set refresh rates from the Foreground information and Background information options.

OPTION	DESCRIPTION
Foreground information	<p>Enter a value in the text box to specify the rate at which foreground information will be collected, or use the arrow buttons to the right of the text box to increment or decrement the value.</p> <p>Foreground information about a connection is the information currently collected by Spotlight and displayed in the open Spotlight window.</p>
Background information	<p>Enter a value in the text box to specify the rate at which background information will be collected, or use the arrow buttons to the right of the text box to increment or decrement the value.</p> <p>Background information about a connection is the information currently collected by Spotlight but not displayed in the open Spotlight window.</p>

3. Click **OK** to save the settings.

For more information on setting the time scale for historical data, see [“Viewing Historical Data” on page 201](#).

Choosing the Default Value for Metric Smoothing

Metric smoothing (averaging) is used to prevent the generation of spurious alarms. It does not affect the graphs or tables that display metric values; these continue to display metrics as they are reported.

You can smooth the peaks and troughs in a Spotlight component by choosing to average the information that Spotlight collects over a specified number of data points.

To change the default value

1. Select **View | Options | Spotlight Console**.
2. Click **Data Collection** in the Options bar.
3. Set how incoming data is averaged by clicking the **Default setting:** and choosing the number of data points over which the current metric will be averaged.
4. Click **OK** to save the settings.

You can override this default setting for individual metrics from the Metric editor window.



If you make a change to the metric smoothing setting, the change is effective from the next refresh.

Adjusting Display Quality and Performance

You can choose to balance display quality within the Spotlight home page and drilldowns against the speed at which the application delivers information.

To adjust the display

1. Select **View | Options | Spotlight Console**.
2. Click **Display** in the Options bar.
3. Click and drag the Performance slider to a position that marks an acceptable balance between display quality and display speed.
4. Click **OK** to save the setting.

Choosing Display Options for Graphs

Spotlight makes extensive use of graphs (historical and otherwise) in its drilldown windows. You can choose the line style that is used to display those graphs.

To choose display options

1. Select **View | Options | Spotlight Console**.
2. Click **Display** in the Options bar.

You can set display options for graphs from the Graph settings controls.

CONTROL	DESCRIPTION
Graph line style	Click on the box, and from the list, choose a style that can be used when displaying graphs. The preview graph above the control demonstrates how graphs will appear under the chosen line style.

3. Click **OK** to save the setting.

Resizing Graphs in Dataflows

The graphs superimposed on dataflows in a Spotlight home page normally show the highest and lowest values that have been encountered in each dataflow. When a spike or trough appears in the graph, the graph is automatically resized to show the top of the spike or the bottom of the trough. For example, if your normal dataflow is in the range 100 to 250 and the spike is at 1000, automatic resizing ensures that the vertical component of the graph is compressed so the spike can be displayed.

However, if values in the graph usually vary only in the range between 100 to 250, then a graph resized to show values as high as 1000 may cause important but smaller variations to be ignored. Spotlight overcomes this problem by reducing the vertical scale of the graph over time.

This reduction in scale continues until a new spike or trough exceeds the displayed range. When this occurs, the graph is resized again, and the process starts over.

To allow Spotlight to resize graphs in dataflows

1. Select **View | Options | Spotlight Console**.
2. Click **Display** in the Options bar.

cont'd...

You can set resizing options for dataflows from the Flow settings controls.

CONTROL	DESCRIPTION
Check box	Select the Reduce the flow graph vertical scale over time check box to enable Spotlight to reduce the vertical scale.
Slider	Click and drag the slider below the check box to specify how fast the vertical scale is reduced after a spike.

3. Click **OK** to save the settings.

Choosing How Help is Displayed

By default, Spotlight displays a context-sensitive Help window whenever you click on an individual component in a Spotlight home page. One of two kinds of Help is displayed, component Help or alarm Help.

To select how Help is displayed

1. Select **View | Options | Spotlight Console**.
2. Click **Help** in the Options bar.

Select an option on the Help page that specifies how Spotlight behaves when you click on a control in the home page.

OPTION	DESCRIPTION
Always show balloon help	View the related component Help or alarm Help when you click on a component. Component Help is shown when no alarm is raised for the component; alarm Help is shown when an alarm is raised.
Only show help if an alarm is being raised	If no alarm is raised for the component, view the related drilldown. If an alarm is raised, view the alarm Help for the component.
Always jump directly to the related drilldown	Always view the related drilldown whether an alarm is raised or not.

3. Click **OK** to save the settings.



A third type of context-sensitive Help, metric Help, is available only via the Metric Editor's General page. (Its behavior cannot be modified.) Additional online Help is available by using the F1 key and the Help menu.

Changing the Appearance of Spotlight

You can change the appearance of the Spotlight console from the Console Options window by using a simple point-and-click method.

In particular, you can choose to create and save your own color scheme for Spotlight, and switch between various color schemes, including the supplied Default and Classic schemes.

To change the appearance of the Spotlight console

1. Select **View | Options | Spotlight Console**.
2. Click **Appearance** in the Options bar.

Use the controls on the Appearance page to set display options for the Spotlight window:

CONTROL	DESCRIPTION
Color scheme	Allows you to save the settings you have chosen as an identified color scheme. Click the text box and choose a name from the list, or click Save as to choose a new name for the color scheme.
Main screen	Select the Main screen tab to view the current display settings for the Spotlight console. Click anywhere on the sample image to choose that feature for editing, or choose a feature from the Item list. Select the available (enabled) controls in the Appearance group Foreground, Background, and Image to edit the associated feature.
Drilldowns	Select the Drilldowns tab to view the current display settings for drilldown pages, and then follow the same procedure as described for the Main screen control.

cont'd...

CONTROL	DESCRIPTION
Windows	Select the Windows tab to view the current display settings for objects such as the Spotlight Console Options window itself, and then follow the same procedure as described for the Main screen control.
Severities	Select the Severities tab to view the current methods used to display severity levels for alarms. Click anywhere on the sample image to choose that feature for editing, or choose a feature from the Item list. Select the available controls in the Appearance group - Foreground, Background, Image, Flash speed, or Flash intensity to edit the associated feature.
Chart colors	Select the Chart colors tab to view the current display settings for the charts contained in drilldowns, and then follow the same procedure as described for the Main screen control.
Item	Click the Item box to display a list of the features whose appearance you can change. Click on the available controls in the Appearance group Foreground, Background, or Image to edit the associated feature.
Foreground	When you have chosen a feature whose appearance you want to change, click Foreground to display a color chart. Select a color on the chart to use it as the foreground color for the current feature, or click More colors to display a wider range of colors to choose from.
Background	Use the Background control to repeat the procedure described immediately above, but this time for the background color of the feature.
Image	When you have chosen a feature that has a bitmap image associated with it, click Image to choose an alternative image from a list. The Default image and No image alternatives are self-evident; use Custom image to choose a different bitmap in place of the default image.
Flash speed	Click a severity bar on the sample image. Click Flash speed to display the list of possible alternatives for the chosen severity. Choose an option (None, Slow, Medium, or Fast) from the list.

CONTROL	DESCRIPTION
Flash intensity	Click a severity bar on the sample image. Click Flash intensity to display the list of possible alternatives for the chosen severity. Choose an option (Low, Medium, or High) from the list.

3. Click **OK** to save the settings.



For more information about choosing the Start up page, see the topic To choose the startup page in the section on [“Connecting and Disconnecting” on page 186](#).

Choosing Notification Options

You can set up Spotlight to notify you when an alarm is raised on a current connection.

To choose the type of notification

1. Select **View | Options | Spotlight Console**.
2. Click **Notifications** in the Options bar.
3. Change the available options to specify Spotlight's notification behavior.

CONTROL	DESCRIPTION
Show the Spotlight icon in the task bar notification area.	Select this option to display a Spotlight icon in the System Tray area of your Windows task bar. The icon has the following properties: <ul style="list-style-type: none"> • Its color reflects the highest-severity alarm raised by a current connection. • Double-clicking the icon restores the Spotlight console (if minimized). • Right-clicking the icon displays a shortcut menu.

cont'd...

CONTROL	DESCRIPTION
Pop up an alert where the severity is...	<p>Select this option to enable the Spotlight icon to display an appropriate text message when the status of a current Spotlight connection reaches or exceeds the severity chosen in the associated list.</p> <p>Use the list to choose the threshold that will trigger the message.</p> <p>Note:Multiple alerts are displayed one at a time in chronological order.</p>
Do not show alerts if Spotlight is the active window.	<p>Select this option if you are currently using Spotlight, and do not want to be notified of new alarms that may already be visible.</p>

4. Click **OK** to save the setting.

Viewing and Editing Component Properties

You can view and change the properties of Spotlight components, and of tables and graphs in drilldowns, from the Properties editor window.

- The **General** page allows you to view the context-sensitive Help that is displayed for the component in its normal state, and to edit the component tip displayed when the mouse pointer hovers over the component.
- The **Options** page allows you to choose whether to contribute data from the component to historical snapshots.
- The **Other** page (where available) allows you to choose whether or not to store historical data for the component.
- The **Chart** page (where available) allows you to manually re-scale drilldown graphs, to choose maximum and minimum display values for graphs, and to choose how graphs are displayed.

To view component properties

1. Right-click on the component and choose **Properties**.
2. Click a tab (General, Options, Chart, or Other) to view the relevant component properties.

You can edit many of these properties.

Viewing Component Help

When a component in a Spotlight home page is in its normal state (that is, no alarm has been raised):

- The component Help explains what the component represents.
- The drilldowns associated with the component show the details of the information collected.

How you view the alarm Help depends on Spotlight's current configuration, which can be changed via the Console Options window. The three relevant options are described in detail in the topic ["Choosing How Help is Displayed"](#) on [page 216](#).

For one of the three options - **Always show balloon help** - you can view the component Help directly when you click on a component.

For the other two options - **Only show help if an alarm is being raised** and **Always jump directly to the related drilldown** - clicking on the component takes you directly to the default drilldown associated with it. To view the component Help, you need to right-click on the component and invoke the Properties editor from the shortcut menu.

To view component Help in the Properties editor

1. Right-click on the component and choose **Properties**.
2. Click the **General** tab.



You can also view Help for individual metrics from the Metric editor's General page, and Help for individual alarms from the Metric editor's Alarm Help page.

Viewing and Editing Component Tips

Component tips are popup reminders that appear when:

- You place the mouse pointer over a component on the Spotlight home page (or drilldown window).
- The component is in a normal state.

cont'd...

- The component is in an alarm state and no metric tip exists for the component.

You can use component tips to find out more about components before you view the relevant drilldown.

To add, edit, or delete a component tip

1. Right-click on a component or other item in the current window, and choose **Properties**.
2. If the Properties editor is not already open at the General page, click the **General** tab.
3. Click the **Component tip** box.
4. Enter the text that you want to appear on the component tip. If required, include system-related information by clicking **Insert field** and choosing an item from the list. Available items include:

FIELD	DESCRIPTION
Component name	Choose this to include the name of the current component.
Connection name	Choose this to include the name of the current connection.
Start of range	Choose this to display the start value of the severity range that includes the current value of the metric displayed in the Spotlight home page, or of an individual metric in a drilldown table.
Value	Choose this to display the current value of the metric displayed in the Spotlight home page, or of an individual metric in a drilldown table.

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



When an alarm has been raised, the component tip is superseded by the corresponding metric tip, if one exists. When no component tip is associated with a specified metric, the component tip pop-up is disabled.

For more information about choosing whether to store historical data, see To choose whether to store historical data in the section on [“Viewing Historical Data” on page 201](#).

For more information about choosing whether to contribute data to historical snapshots, see [“Choosing to Store Historical Data” on page 202](#).

Viewing Graphs as Line Graphs or Area Graphs

Within drilldowns that contain graphs, you can choose to display graphs as either line graphs or area graphs.

To choose the display method

1. Open the drilldown that contains the graph.
2. Right-click the graph, and choose **Properties**.
3. Click the **Chart** tab.
4. Select an item from the Chart style list to choose whether to display the graph as a line graph or area graph. All the series of graphs that are displayed on the current set of axes will use this style.

If you choose to display an Area graph, you can then choose whether to stack the different series of graphs.

5. Select **Series are stacked** to plot the cumulative values of the different series. Clear the check box to superimpose the different series on the same set of axes.
6. Click **OK** to save the setting.

Choosing Maximum Display Values for Components

Some components on a Spotlight home page display metric data as positions on a bar or graph. You can choose how much of this bar or graph to display.

To select the display values

1. Right-click the component and choose **Properties**.
2. Click the **Other** tab.

The Maximum Value box displays the maximum value displayed in the specified bar or graph.

To change the maximum value displayed, click the ... button, and enter a new maximum value in the invoked editor.

3. Click **OK** to save the setting.

For components that do not display metrics as a position in a range, the Maximum value is set to zero by default.

Viewing and Editing Metrics

You can view and change the properties of Spotlight metrics, and their thresholds and severities, from the Metric editor window.

The left pane of the Metric editor window lists the series, metrics, and thresholds for the component. The right pane displays (in several tabbed pages) the properties for the item selected in the left pane.

Metrics and thresholds are unique to each component. For this reason, the mouse must be positioned over a component before you can view metrics in the Metric editor window.

Within the Metric editor you can choose to enable or disable the collection of individual metrics. In addition:

- The **General** page allows you to view the context-sensitive Help that is displayed for a metric, and to edit the metric tip displayed when the mouse pointer hovers over the component in an alarm state.
- The **Metric** page allows you to change the averaging methods used when collecting performance data from a system.
- The **Thresholds** page allows you to define the thresholds and severities used to indicate when a metric enters an alarm state.
- The **Alarm Help** page allows you to view the context-sensitive Help that is displayed for a metric in an alarm state.
- The **Data source** page (available for drilldown graphs) allows you to change the display properties of the data source from which a metric is derived.
- The **Series** page (available for drilldown graphs) allows you to choose which series of data points are displayed in a graph.

Viewing Metrics

Every component on a Spotlight home page has its own set of one or more metrics, and you can view the metrics for a specified component only via the component itself.

To view the metrics for a component

- Right-click the component in the Spotlight home page and choose **Metrics**.

The Metric editor displays all the metrics currently defined for that component. You can then view or edit a number of properties for each metric.

Enabling the Collection of Metrics

You can use the Metric editor window to choose whether to collect individual metrics for Spotlight components.

To enable collection

1. Right-click a component in a Spotlight home page and choose **Metrics**.
The left pane in the window shows a list of check boxes, each representing one of the metrics available for collection for the component. The check boxes for all collected metrics are checked; the check boxes for disabled metrics are cleared.
2. Select a check box to collect the corresponding metric; clear the check box to stop collecting the metric.

To view metric Help

1. Right-click on the component in the Spotlight home page and choose **Metrics**.
2. If the Metric editor is not already open at the General page, click the **General** tab.
3. If the Metric Name pane on the left contains more than one metric, click on the metric whose Help you want to view.
The Help topic is displayed in the Metric Help window on the right.



Similar Help is available also for components and alarms.

Viewing and Editing Metric Tips

Metric tips are popup reminders that appear when:

- You place the mouse pointer over a component on a Spotlight home page (or drilldown window).
- An alarm has been raised for that component.

You can use metric tips to find out more about alarms before you view the alarm log or a relevant drilldown.

To add, edit, or delete a metric tip

1. Right-click a component or other item in the current window and choose **Metrics**.
2. If the Metric editor is not already open at the General page, click the **General** tab.
3. Click in the **Metric tip** box.
4. Enter the text that you want to appear on the metric tip.
5. If required, include system-related information by clicking **Insert field**, and choosing an item from the list. Available items include:

FIELD	DESCRIPTION
Component name	Choose this to include the name of the current component.
Connection name	Choose this to include the name of the current connection.
Start of range	Choose this to display the start value of the severity range that includes the current value of the metric.
Value	Choose this to display the current value of the metric.

6. Click **OK** to save the tip.



If no metric tip is associated with a specified component, the relevant component tip is displayed, if it exists. Otherwise no popup is displayed. Metric tips are also displayed in the Details column of the Alarm Log.

Choosing How Metrics are Averaged

Averaging is a technique that Spotlight uses to smooth out the anomalies and spikes that may appear momentarily in the metric values for a component. The purpose of averaging is to prevent Spotlight from reporting alarms for such spikes if they do not persist.

Averaging is used only to prevent the generation of spurious alarms. It does NOT affect the graphs or tables that display metric values; these continue to display metrics as they are reported.

To select how averaging is applied

1. Right-click the component in the Spotlight home page and choose **Metrics**.
2. Click the **Metric** tab.
3. Click one of the available Averaging options:

OPTION	DESCRIPTION
Use default	Every value used to calculate a metric's alarm status is obtained by averaging the metric over its N most recent data points. To do so, Spotlight adds the values of the latest N data points together and divides the total by N. A new value is generated every time the metric is refreshed. The default setting (N=3) can be changed in Spotlight's Console Options window.
Don't average this metric	Use the raw data retrieved from the current system anomalies and spikes included.
Use custom averaging	Use a moving average, but not the default setting. When you choose this option, use the mouse or arrow keys to move the slider and so choose the number of data points that are used to generate the moving average. The higher the number of data points, the fewer the peaks and troughs. Spikes and other anomalies are smoothed. Do not to use too many data points to calculate the moving average. This may prevent the reporting of valid alarms. The maximum moving average in Spotlight is 10.

4. Click **OK**.

For more information about choosing the default value for metric smoothing, see [To choose the value for metric smoothing in the section on "Viewing and Editing Console Options" on page 210.](#)

Setting Thresholds and Severities

A metric is an individual piece of information that Spotlight has collected about the performance of a system. The information may be a numeric value (a number or percentage), a string of text, or some other piece of data.

For each numeric metric, you can define a number of thresholds - ranges of values - which indicate levels of severity for that metric.

A severity can be used to specify whether the information returned in the metric represents normal or abnormal behavior for the system under diagnosis. Within Spotlight, there can be these types of severity:

- Disabled
- Normal
- Low
- Medium
- High
- Critical

"Disabled" means that the system is not responding, and that no information is being returned. "Normal" indicates that the system is performing within acceptable limits. If a metric returns a value with any other severity, Spotlight raises an alarm that indicates that the system is behaving outside acceptable limits.

Since "acceptable limits" is a subjective measure, Spotlight allows you to define your own thresholds and severities for a metric.

To define a threshold

1. Right-click the component in a Spotlight home page and choose **Metrics**.
2. Click the **Thresholds** tab.
On the left of the Thresholds page, the Metric Name window shows all the available metrics for the current component. On the right, the editor displays the thresholds and severities defined for the metric highlighted in the Metric Name window.
3. Click a metric in the Metric Name window, and ensure that the associated check box is selected.
4. Select all the check boxes that correspond to the severities that you want to use with the current metric.

*If you want to specify that all thresholds be specified in terms of the maximum value of the current metric, select the check box **All thresholds are percentages of the maximum control value**.*

- Set the threshold range for every severity you have selected. There are two ways to do this:

METHOD	ACTION
Enter values in the table.	Click the Start cell for each chosen severity, and enter the lower value for a required threshold range. Ensure that the start value for a low-severity threshold is lower than that for a high-severity threshold. A failure to be consistent when doing this will cause problems when alarms are raised.
Move thresholds in the colored bar above the table.	The colored bar repeats the settings chosen in the table in graphical terms. To set thresholds, move the mouse pointer over the threshold between two severities until it appears as a split-bar pointer. Click and drag the mouse to move the threshold to a new position. When you have completed the move, the change also appears in the table of severities below the bar.

- Click **OK**.

To view the alarm Help in the Metric editor

- Right-click the component and choose **Metrics**.
- Click the **Alarm Help** tab.



You can also view Help for individual metrics in the Metric editor's General page, and Help for individual components in the Properties editor's General page.

Changing Data Source Properties

When you open the Metric editor for graphs in drilldowns, the Metric editor window contains a Data source page, which can be used to change the data source properties for the graphs.

Currently, the only property you can change is the color used to display a specified metric.

To change the data source properties

1. Right-click a drilldown graph and choose **Metrics**.
2. Click the **Data source** tab.
3. Click on a metric in the Metric Name window, and ensure that the associated check box is selected.
4. Click the **Series color** box, and choose a display color from the list.
5. Click **OK**.

Viewing and Editing Alarms

An alarm is logged when an event reaches anything higher than a normal severity, as defined in the Metric editor window. If the event changes to a higher severity, another alarm is logged. If it changes to a severity that is lower than the minimum severity defined in the Metric editor, the alarm is cancelled.

The Alarm Log drilldown shows alarms according to the filtering options set up on the Alarms tab in the Options window. The number of alarms displayed in the Alarm Log drilldown can be reduced by changing the filtering options.

This section explains how to:

- View current alarms
- View the alarm log
- View historical snapshots for specified alarms.
- Control which alarm details are displayed
- Ignore individual alarms for a specified time
- Control where to log alarms
- Save the contents of the alarms log
- View alarm log options
- Control which alarms are logged

- Control what to do when alarms occur



For an overview on alarms, see [“Alarms and the Alarm Log”](#) on page 158.

To view all the Spotlight alarms defined for the components of the current page

- Select **View | Show All Alarms**.

This invokes the Metric editor for all the alarms in the current page. You can use the Metric editor to view and edit the current settings associated with each alarm.



The list of all alarms defined for a connection is not the same as the list of alarms raised for that connection. To view the list of raised alarms, see the Alarm log.

Viewing the Alarm Log

The alarm log lists the alarms raised by Spotlight for the current connection. What is actually displayed in this log depends on a number of factors, including:

- The filter rules that specify what can be shown in the log.
- The action rules imposed when an alarm is raised.
- Whether the alarm log contains data from previous sessions.

To view the alarm log

- Select **View | Options | Alarm Log**.

The list of all alarms raised for a connection is not the same as the list of alarms defined for that connection. To view the list of defined alarms, see [“The Metric Editor”](#) on page 157.

For more information on showing columns in a drilldown table, see [“Viewing Performance Details in Drilldowns”](#) on page 196.

To view historical snapshots for alarms

1. Open the Alarm Log.
2. Right-click on an alarm in the list.

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3. Choose **Show snapshot** from the shortcut menu. Spotlight opens the relevant snapshot in History browser mode.



For more information on using Record and Playback, see [“Viewing and Recording Historical Snapshots” on page 204.](#)

To delete alarms

1. View the Alarm log drilldown.
2. Right-click on the Alarm log grid (table) to invoke its shortcut menu.
3. Choose **Filter settings...** from the shortcut menu to open the Alarm Log Options window.
4. Click **Action Rules** to open the Action Rules page.
5. Click **New** to create a new action rule to delete alarms.
6. In the Alarm Log Filter window:
 - Click one or more check boxes to set the conditions under which alarms will be deleted.
 - Click one or more check boxes to choose the action required. (To delete alarms, this will be either Delete or Delete after....)
 - In the Rule Description area, change the values in the new rule by clicking the appropriate hyperlink.
7. Click **OK** when you are finished.

To activate the new rule, ensure that its associated check box is selected.



When you set an action rule for alarms, note that the new rule will apply only to alarms raised AFTER the rule was created or modified. Also, deleting an alarm is NOT the same as filtering an alarm. Deleting removes alarms permanently from memory, while filtering simply hides logged alarms.

Ignoring Alarms

You can choose to ignore (or "snooze") Spotlight alarms for individual components that have associated thresholds (usually on the Spotlight home page).

You may want to do this when:

- A temporary situation causes an expected alarm whose existence in that situation is unimportant.

- There is a known problem (a network problem, for example) that is beyond your control; and a continuing reminder of the problem is neither necessary nor desirable.

If the alarm for a component is ignored,

- Alarms on ALL metrics for the specified component are ignored for the specified period.
- Alarms that are being ignored still contribute to the alarm log.
- Alarms that are being ignored still trigger historical snapshots, and are shown in the History Browser.
- Alarms that are ignored do not fire alarm log rules or take any associated actions.
- An entry is written to the Alarm log when a snoozed alarm is "unsnoozed".



You can "snooze" alarms only on a component that is already in an alarm state.

To ignore alarms

1. Right-click on the component where the alarm is raised.
2. Select **Snooze Alarm** and then a period of time during which alarms on that component will be ignored. (The available period ranges from five minutes to the duration of the current Spotlight session.)

*For the specified period, the home-page component (and any corresponding alarm log entry) displays the bell symbol shown at left. At the same time, the **Snooze Alarm** option on the shortcut menu displays a check mark.*

To restore a currently ignored alarm

1. Right-click on a component that displays the bell symbol.
2. Select **Snooze Alarm**.
This removes the associated check mark.

To set the alarm log directory

1. Select **View | Options | Alarm Log**.
2. Click **General Options** in the Options bar.
3. Modify **Log alarms to the following directory**.

cont'd...

Select the check box if you want Spotlight to create a log file for the alarms raised. When the box is checked, the alarm log will be saved to the connection.log file in the folder specified in the associated text box, whose contents can be edited.

4. Click **OK**.

To export alarm log details

1. Right-click in the Alarm log window and choose **Save as**.
2. Enter the location and name of the file where you want to save alarm log details.
3. Click **Save**.

Viewing Alarm Log Options

You can choose how alarms are notified, displayed, and logged in the Alarm Log Options window.

To view alarm log options

1. Select **View | Options | Alarm Log**.
2. Click one of the items in the Options bar (General options, Filter Rules, or Action Rules).

You can use these options to add, edit, and delete the options that govern the behavior of the alarm log.



You can also view alarm log options from the Alarm Log drilldown by right-clicking an alarm in the alarm log, and choosing Filter Settings.

To retain or erase alarm log data

1. Select **View | Options | Alarm Log**.
2. Click **General Options** in the Options bar.
3. Modify the **When a connection is made** option.

*If you choose **Append new alarms to the end of the log file**, the existing file will be retained and new log entries will be added to it. If you choose **Erase any previous log entries**, the old log file will be deleted and a new file begun for the current session.*

4. Click **OK**.

Viewing Alarm Help

When a component on a Spotlight home page raises an alarm, the color of the component changes. When that happens:

- The alarm Help explains why the alarm has been raised.
- The drilldowns associated with the alarm show you what has happened.

How you view the alarm Help depends on Spotlight's current configuration, which can be changed in the Console Options window. For more information on the options, see [“Console Options” on page 151](#).

For **Always show balloon help** and **Only show help if an alarm is being raised**, you can view the alarm Help directly when you click on a component.

For **Always jump directly to the related drilldown**, clicking on the component takes you directly to the default drilldown associated with it. To view the alarm Help, you need to right-click on the component and invoke the Metric editor from the shortcut menu.

To view alarm Help from the Alarm Log drilldown

1. Open the alarm log.
Each row in the log represents an alarm, and has a Help button associated with it.
2. Click a Help button to display the Help for the corresponding alarm.
For more information on viewing alarm Help, see [“Viewing and Editing Metrics” on page 224](#).

Creating Filter Rules for Alarms

Filter rules allow you to choose the alarms that are displayed in the alarm log.

To create filter rules

1. Select **View | Options | Alarm Log**.
2. Click **Filter Rules** in the Options bar.
This opens the Filter rules page, which lists all current filter rules and displays the details of the rule currently highlighted.

cont'd...

3. Click **New** to open the Alarm Log Filter window, which contains two panes:

PANE	PURPOSE
Select the conditions for the alarm log filter	Sets the type of condition to use in the filter. When one or more conditions are set, a rule that contains each condition is displayed in the Rule description pane.
Rule description	Displays the rule created when one or more conditions are set in the Select the conditions for the alarm log filter pane at the top of the window. Editable parts of the rule are underlined and hyperlinked.

4. Select one or more check boxes in the Select the conditions for the alarm log filter pane to choose the corresponding condition(s).
 - Where the severity is...
 - Where the component is...
 - Where the value is greater than...
 - Where the value is less than...
 - Where the value is equal to/not equal to...
 - Where the alarm has been raised...
 - Where the connection is...
 - For all alarms...

For more details on individual conditions, see [“Conditions for Alarm Log Filters” on page 241](#).

5. When you have selected one or more of these boxes, use the contents of the Rule description pane to modify the condition(s) you have chosen. Click an underlined phrase to view the values that can be used to modify the condition(s).
6. Select a value from the displayed list.
7. Repeat Steps 4, 5 and 6 until your new filter is complete, and then click **OK** to return to the Filter Rules page.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

To modify filter rules for alarms

1. Select **View | Options | Alarm Log**.
2. Click the Filter Rules item in the Options bar to open the Filter rules page, which lists all the current filter rules, and displays the details of the rule that is currently highlighted.
3. Click on an existing rule to highlight it, and then click **Modify** to open the Alarm Log Filter window, which contains two panes:

PANE	DESCRIPTION
Select the conditions for the alarm log filter	Sets the type of condition to use in the filter. When one or more conditions are set, a rule that contains each condition is displayed in the Rule description pane.
Rule description	Displays the rule created when one or more conditions are set in the Select the conditions for the alarm log filter pane at the top of the window. Editable parts of the rule are underlined and hyperlinked.

4. Select one or more check boxes in the Select the conditions for the alarm log filter pane to choose the corresponding condition(s).
 - Where the severity is...
 - Where the component is...
 - Where the value is greater than...
 - Where the value is less than...
 - Where the value is equal to/not equal to...
 - Where the alarm has been raised...
 - Where the connection is...
 - For all alarms...

For more details on individual conditions, see [“Conditions for Alarm Log Filters”](#) on page 241.

5. When you have selected one or more of these boxes, use the contents of the Rule description pane to modify the condition(s) you have chosen. Click an underlined phrase to view the values that can be used to modify the condition(s).
6. Select a value from the displayed list.

cont'd...

7. Repeat Steps 4, 5 and 6 until your filter is complete, and then click **OK** to return to the Filter Rules page.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

Creating Action Rules for Alarms

Action rules determine what Spotlight does when a specified alarm is raised.

To create action rules

1. Select **View | Options | Alarm Log**.
2. Click **Action Rules** in the Options bar to open the Action rules page, which lists all the current action rules, and displays the details of the rule that is currently highlighted.
3. Click **New** to open the Alarm Log Filter window, which contains three panes:

PANE	PURPOSE
Select the conditions for the alarm log filter	Sets the type of condition to use in the filter. When one or more conditions are set, a rule that contains each condition is displayed in the Rule description pane.
Select the actions to perform	Sets the actions that Spotlight performs when the specified alarm is raised. When one or more actions are chosen, a rule that contains each action is displayed in the Rule description pane.
Rule description	Displays the rule created when one or more conditions are set in the Select the conditions for the alarm log filter pane at the top of the window. Editable parts of the rule are underlined and hyperlinked.

4. In the Select the conditions for the alarm log filter pane, select one or more check boxes to choose the corresponding condition(s).
 - Where the severity is...
 - Where the alarm has (not) been active in the last n minutes
 - Where the component is...
 - Where the value is greater than...
 - Where the value is less than...
 - Where the value is equal to/not equal to...
 - Where the alarm has been raised...
 - Where the connection is...
 - For all alarms...

For more details on individual conditions, see [“Conditions for Alarm Log Filters” on page 241](#).

5. In the Select the actions to perform pane, select one or more check boxes to choose the corresponding action(s).
 - Play sound
 - Run program
 - Delete
 - Delete after ... minutes
 - Don't log
 - Send message to
 - Send e-mail to
 - Stop processing more rules

For more details on individual actions, see [“Actions for Alarm Log filters” on page 246](#).

6. When you have selected one or more of the boxes in the Select the conditions... and Select the actions... panes, use the contents of the Rule description pane to modify the choices you have made. Click an underlined phrase to view the values that can be used to modify the condition(s) and action(s).
7. Select a value from the displayed list, and click **OK**.
8. Repeat steps 4, 5, 6, and 7 until your new filter is complete, and then click **OK** to return to the Action Rules page.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

To modify action rules for alarms

1. Select **View | Options | Alarm Log**.
2. Click the Action Rules item in the Options bar to open the Action rules page, which lists all the current action rules, and displays the details of the rule that is currently highlighted.
3. Click on an existing rule to highlight it, and then click **Modify** to open the Alarm Log Filter window, which contains three panes:

PANE	PURPOSE
Select the conditions for the alarm log filter	Sets the type of condition to use in the filter. When one or more conditions are set, a rule that contains each condition is displayed in the Rule description pane.
Select the actions to perform	Sets the actions that Spotlight performs when the specified alarm is raised. When one or more actions are chosen, a rule that contains each action is displayed in the Rule description pane.
Rule description	Displays the rule created when one or more conditions are set in the Select the conditions for the alarm log filter pane at the top of the window. Editable parts of the rule are underlined and hyperlinked.

4. In the Select the conditions for the alarm log filter pane, select one or more check boxes to choose the corresponding condition(s).
 - Where the severity is...
 - Where the alarm has (not) been active in the last n minutes
 - Where the component is...
 - Where the value is greater than...
 - Where the value is less than...
 - Where the value is equal to/not equal to...
 - Where the alarm has been raised...
 - Where the connection is...
 - For all alarms...

For more details on individual conditions, see [“Conditions for Alarm Log Filters” on page 241](#).

5. In the Select the actions to perform pane, select one or more check boxes to choose the corresponding action(s).
 - Play sound
 - Run program
 - Delete
 - Delete after ... minutes
 - Don't log
 - Send message to
 - Send e-mail to
 - Stop processing more rules

For more details on individual actions, see ["Actions for Alarm Log filters" on page 246](#).

6. When you have selected one or more of the boxes in the Select the conditions... and Select the actions... panes, use the contents of the Rule description pane to modify the choices you have made. Click an underlined phrase to view the values that can be used to modify the condition(s) and action(s).
7. Select a value from the displayed list, and then click **OK**.
8. Repeat Steps 4, 5, 6 and 7 until your modified filter is complete, and then click **OK** to return to the Action Rules page.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

Conditions for Alarm Log Filters

You can choose one or more of the following conditions from the Alarm Log Filter window when creating or editing an Alarm Log filter:

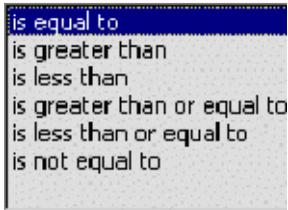
Where the severity is...

Severity is the degree of urgency of an alarm. Select **Where the severity is...** and then view the corresponding item in the Rule Description pane:

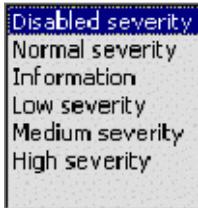
Where the severity [is equal to Disabled severity](#)

To specify the severity used in the rule

1. Click the operator link to choose one of the following options:



2. Click the Severity link to choose one of the following options:



Where the alarm has (not) been active in the last n minutes

Spotlight alarms may be transient, lasting at most a few seconds, or they may persist for minutes or hours. You can use this condition to choose the length of time that an alarm must persist before Spotlight takes some kind of action. (You can choose the action to be taken in the Select the actions to perform pane.)

Select **Where the alarm has been active in the last 1 minutes** and then view the corresponding item in the Rule Description pane:

Where the alarm [has been](#) active in the last [1 minutes](#)

To specify when you want the rule to apply

1. Click the **has been** link to choose an option from its list.



2. Click the **1** link to open a numeric box where you can type or choose the desired time value.



3. Click the minutes link to choose the desired time unit.



Where the component is...

A component is the Spotlight object that represents an important feature of the system under investigation.

Select **Where the component is...** and then view the corresponding item in the Rule Description pane:

Where the component is {component name}

To specify the component that you want the rule to apply to

1. Click the **is** link to choose an option from its list.



2. Click the **{component name}** link to apply the rule to a chosen Spotlight component. This displays a Select control... window, where you can choose the component via its Spotlight application (plug-in), page (drilldown), and component name (control).
3. Click **OK** to confirm your choice.

Where the value is greater than...

This condition is often used in combination with other conditions. An example of this may be a rule with two conditions, as in:

"Where the component is... and Where the value is greater than..."

Select **Where the value is greater than...** and then view the corresponding item in the Rule Description pane:

Where the value is greater than 1

To specify how you want the rule to apply

1. Click the **is greater than** link to choose an option from its list.



2. Click the **1** link to open a text box where you can type the desired value.



3. Press **ENTER** to finish.

Where the value is less than...

This condition is often used in combination with other conditions. An example of this may be a rule with two conditions, as in:

"Where the component is... and Where the value is less than..."

Select **Where the value is less than...** and then view the corresponding item in the Rule Description pane:

Where the value [is less than 1](#)

To specify how you want the rule to apply

1. Click the **is less than** link to choose an option from its list.



2. Click the **1** link to open a text box where you can type the desired value.



3. Press **ENTER** to finish.

Where the value is equal to/not equal to...

This condition is often used in combination with other conditions. An example of this may be a rule with two conditions, as in:

"Where the component is... and Where the value is equal to..."

Select **Where the value is equal to/not equal to...** and then view the corresponding item in the Rule Description pane:

Where the value [is equal to 1](#)

To specify how you want the rule to apply

1. Click the **is equal to** link to choose an option from its list.



2. Click the **1** link to open a text box where you can type the desired value.



3. Press **ENTER** to finish.

Where the alarm has been raised...

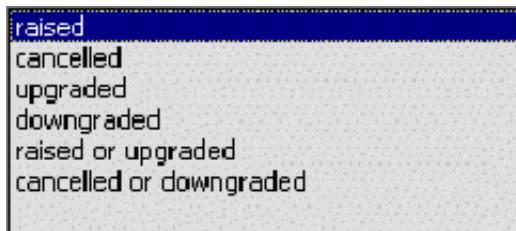
Alarms are raised when metric values exceed a minimum threshold. They are upgraded when they exceed a higher threshold. They are downgraded when they drop below a lower threshold. They are canceled when they drop below the minimum threshold.

Select **Where the alarm has been raised/canceled/upgraded/downgraded** and then view the corresponding item in the Rule Description pane:

Where the alarm has been [raised](#)

To specify the alarm condition that you want to apply

- Click the **raised** link to choose an option from its list.



Where the connection is...

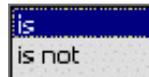
A Spotlight connection is the Spotlight view of a system under investigation. Connections have types (Spotlight onExchange, for example) and names (chosen by the user, but initially the name of the host machine).

Select **Where the connection is...** and then view the corresponding item in the Rule Description pane:

Where the connection is **{connection name}**

To specify the connection that you want the rule to apply to

1. Click the **is** link to choose an option from its list.



2. Click the **{connection name}** link to apply the rule to a chosen Spotlight connection. This displays a Select connection... window, where you can choose the connection via its type of connection (Connection filter) and name (Connection).
3. Click **OK** to confirm your choice.

For all alarms...

Use this option to choose a rule with NO conditions. All other conditions are disabled. The corresponding item in the Rule Description pane is **There is no rule selected**.

Actions for Alarm Log filters

You can choose one or more of the following actions from the Alarm Log Filter window when creating or editing an Alarm Log filter:

Play sound

The computer plays the specified sound when the alarm condition is met.

Select the **Play sound** option and then view the corresponding item in the Rule Description pane:

Play sound [{Select sound file}](#)

To specify the sound to play

1. Click the **{select sound file}** link to display an Open window, where you can browse for the required sound file.
2. When you find the file, click on it to choose it, and then click **Open** to confirm your choice.

Run program

The computer runs the specified executable (program) file when the alarm condition is met. Usually that program is one that you have written to perform a particular task. The task may be a simple action, or may be one that depends on a supplied Spotlight parameter a value or range of values, or the name of a component or connection.

Select the **Run program** option and then view the corresponding item in the Rule Description pane:

Run program [{Select program}](#) [{optional command line parameters}](#)

To specify the program to run

1. Click the **{select program}** link to display an Open window, where you can browse for the required program file.
2. When you find the file, click on it to choose it, and then click **Open** to confirm your choice.
3. If required, click the **{optional command line parameters}** link to choose any parameter(s) that may be needed when running the file.



cont'd...

The parameters you can choose include individual values {value}, component names {name}, connection names {connect}, or ranges of values {range}. You can add multiple parameters of each type.

Delete

Delete the raised alarm from the Alarm Log drilldown. This does NOT delete the corresponding entry in the alarm log file, which is saved on disk.

Choose the **Delete** option to delete the alarm. The corresponding item in the Rule Description pane is **Delete the alarm**.

Delete after ... minutes

Use this option to delete the raised alarm from the Alarm Log drilldown after the specified period of time. This does NOT delete the corresponding entry in the alarm log file, which is saved on disk.

Select the **Delete after...minutes** option and then view the corresponding item in the Rule Description pane:

Delete the alarm after [1 minutes](#)

To specify when to delete the alarm

1. Click the **1** link to open a numeric box where you can type or choose the desired time value.



2. Click the minutes link to choose the desired time unit.



Don't log

Don't write the alarm to the alarm log file. The alarm is still shown in the Alarm Log drilldown, but is not written to the alarm log file on disk.

Choose the **Don't log** option to delete the alarm. The corresponding item in the Rule Description pane is **Don't log the alarm**.

Send message to

Use this option to send a message to a specified machine on the network. The message contains the contents of the alarm that triggered the action.

Select the **Send message to...** option and then view the corresponding item in the Rule Description pane:

Send a message to [{user name}](#)

To specify the destination address

1. Click the **{user name}** link to open a text box.
2. Enter the name of the machine where you want to send the message.

Send email to

Use this option to send an email message to a specified destination. The message contains the contents of the alarm that triggered the action.

Select the **Send E-mail to...** option and then view the corresponding item in the Rule Description pane:

Send an email to [{address}](#)

To specify the destination address

1. Click the **{address}** link to open a text box.
2. Enter the email address where you want to send the message.

Stop processing more rules

Exit the current filter when the triggering condition is reached, and ignore subsequent commands.

Choose the **Stop processing more rules** option to end the current filter. The corresponding item in the Rule Description pane is **Stop processing more rules**.

Deleting Alarm Log Rules

Two types of rules can be applied to Spotlight alarms that can be displayed in the Alarm log:

- Filter rules, which govern whether alarms are shown in the Alarm log.
cont'd...

- Action rules, which dictate the action that Spotlight takes when alarms are triggered.

To delete an alarm log rule

1. Select **View | Options | Alarm Log**.
2. To delete a filter rule, click **Filter Rules** in the Options bar to open the Filter rules page.

– OR –

To delete an action rule, click **Action Rules** in the Options bar to open the Action rules page.

3. In the top pane, click the rule that you want to delete.
The rule becomes highlighted.
4. Click **Delete**.
5. Click **Yes** to confirm that you want to delete the rule.
6. Click **OK** to close the Alarm Log Options window and apply the changes you have made.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

Renaming Alarm Log Rules

Two types of rules can be applied to Spotlight alarms that can be displayed in the Alarm log:

- Filter rules, which govern whether alarms are shown in the Alarm log.
- Action rules, which dictate the action that Spotlight takes when alarms are triggered.

To rename alarm log rules

1. Select **View | Options | Alarm Log**.
2. To rename a filter rule, click **Filter Rules** in the Options bar to open the Filter rules page.

– OR –

To rename an action rule, click **Action Rules** in the Options bar to open the Action rules page.

3. In the top pane, click the rule that you want to rename.
The rule becomes highlighted.
4. Click **Rename**.
5. Enter the new name for the chosen rule and then click **OK**.
6. Click **OK** to close the Alarm Log Options window and apply the changes you have made.



For more information on alarms and alarm log rules, see [Alarms and the Alarm Log](#), [Alarm Log Options](#), and [Using Alarm Log Rules](#).

Changing the Order of Alarm Log Rules

Two types of rules can be applied to Spotlight alarms that can be displayed in the Alarm log:

- Filter rules, which govern whether alarms are shown in the Alarm log.
- Action rules, which dictate the action that Spotlight takes when alarms are triggered.

The order in which alarm log rules are applied during a Spotlight session depends on where they appear in the lists contained in the Filter Rules and Action Rules pages of the Alarm Log Options window. Rules higher up in these lists are applied earlier; rules lower down are applied later.

To change the order in which an alarm log rule is applied

1. Select **View | Options | Alarm Log**.
2. To change the order for a filter rule, click **Filter Rules** in the Options bar to open the Filter rules page.

– OR –
3. To change the order for an action rule, click **Action Rules** in the Options bar to open the Action rules page.
4. In the top pane, click the rule that you want to move. The rule becomes highlighted.
5. Click **Move up** to move the rule higher up in the list, and so be applied earlier. Click **Move down** to move the rule lower down in the list, and so be applied later.
6. Click **OK** to close the Alarm Log Options window and apply the changes you have made.

Pausing and Resuming

You can pause Spotlight so that the details you are viewing are not refreshed. Any actions that are in progress when you pause Spotlight are allowed to complete. No further actions are performed until you resume Spotlight's collection of data.

Note that pausing may affect:

- Calibration. If calibration is in progress when the Pause is started, it continues to run. The calibration finishes at the time it was originally set to finish. (It is not delayed by the Pause.)
- Drilldowns. Any drilldown that gathers information when pausing is started is affected by the Pause command.

To pause Spotlight

- Select **View | Pause**.

To resume Spotlight's collection of metric data

- Select **View | Resume**.

Saving Configurations

Once a Spotlight connection has been configured and calibrated, you can save the configuration you have chosen for re-use the next time that the same connection is made.

Alternatively you can save your configurations as templates for use with other similar systems.

To save the settings for the current connection

- Select **File | Save**.

*To save the settings for all open connections, select **Save All**.*

These options save the following data for the current system(s) :

The metrics and related thresholds for each object.

The maximum values of every dataflow graph.

Zero is used as the minimum value for every dataflow.

To save the settings for the current connection as a template for use by other connections

- Select **File | Save as Template**.

This option saves the Spotlight Page file for the current system as an .stx template file for use by other connections.

Help Features

Online Help within Spotlight can take a number of forms:

- The online user manual for Spotlight, complete with table of contents and index.
- Context-sensitive Help for windows and items within windows, including component Help, alarm Help, and metric Help.
- Customizable popup tooltips for components and metrics.

Online Help can be opened from both the Spotlight console and the Help menu.



Also available via the Help menu is the ability to build a support bundle, a zip file that you can send to Quest Software technical support when seeking additional Help for Spotlight problems.

To view the Contents page

- Select **Help | Contents**.

Viewing Context-sensitive Help

Spotlight's context-sensitive Help provides you with specialized information that is relevant to the task you are trying to complete. Spotlight provides three levels of context-sensitive Help:

HELP LEVEL	DESCRIPTION
Window level	Press F1 to view overview Help for the current Spotlight window.

cont'd...

HELP LEVEL	DESCRIPTION
What's this?	<p>What's this? Help is field-level Help for individual items in the current window. There are three ways to view What's this? Help:</p> <ul style="list-style-type: none">• Toolbar <p>Click Help (?) on the Spotlight toolbar, move the mouse Help pointer over a component, and click to display Help for the component.</p> <ul style="list-style-type: none">• Shortcut menu <p>Right-click a component and choose What's this?.</p> <ul style="list-style-type: none">• Mouse (configurable) <p>By default, Spotlight allows you to click on a component to view its component Help or alarm Help. However, Spotlight may have been configured to change this option. For more information, see "Viewing Alarm Help" on page 221 and "Viewing Alarm Help" on page 235.</p>
Drilldown Help	<p>Help for individual drilldown pages is available via a ? button at the top right of drilldown windows within the Spotlight console.</p>

For more information on choosing how Help is displayed, see ["Viewing and Editing Console Options" on page 210](#).

For more information on viewing alarm Help, ["Viewing and Editing Alarms" on page 230](#).

For more information on viewing alarm Help in the Metric editor, see ["Viewing and Editing Metrics" on page 224](#).

To view component Help

For more information on viewing component Help, see ["Viewing and Editing Component Properties" on page 220](#).

For more information on viewing component Help in the Properties editor, see ["Viewing and Editing Component Properties" on page 220](#).

For more information on viewing and editing component tips, see ["Viewing and Editing Component Properties" on page 220](#).

For more information on viewing metric Help, see ["Viewing and Editing Metrics" on page 224](#).

To build a support bundle when you want to submit a question to Quest Software

1. Select **Help | Support Bundle**.
2. Click on the displayed check boxes to select the Spotlight application(s) whose information you want to collect.
3. Click **Collect**.

This creates a file called SpotlightSupport.zip in your Spotlight directory. This file contains a snapshot of your Spotlight installation. Send this file and your request for assistance to Quest Software (support@quest.com.)

6

Spotlight on Exchange Diagnostic Console

- Overview
- The Home Pages
- The Main Home Page
- The IIS Home Page
- The Storage Groups Home Page
- The Directory Services Home Page
- The Best Practices Home Page

Overview

The Spotlight on Exchange Diagnostic Console, a major feature of Spotlight on Exchange Enterprise Edition, provides you with a real-time representation of the messaging system processes and components within specific connected Exchange 5.5, 2000, and 2003 servers.

The Spotlight on Exchange Diagnostic Console consists of the following two components:

- Spotlight on Exchange 5.5
- Spotlight on Exchange 2000/2003

This chapter describes Spotlight on Exchange 2000/2003. For information about Spotlight on Exchange 5.5, see the Spotlight on Exchange 5.5 User Guide.

Spotlight Diagnostic Console Basics

Spotlight on Exchange 2000/2003 has features and functions common to all Spotlight Diagnostic Console products. These menus, toolbar buttons, windows, options, templates, and dialog boxes are described in the chapters, *Introducing Spotlight Basics* and *Configuring and Using Spotlight Basics*.

Spotlight on Exchange 2000/2003 has unique features and functions including menu items, toolbar buttons, windows, options, and dialog boxes, which are described in the following sections.

The Home Pages

Based on the architecture of the Microsoft® Exchange 2000 and 2003 Server, the home pages of Spotlight on Exchange 2000/2003 show a quick and intuitive view of the activity and status of the server being analyzed, highlighting any problem areas with a dynamic visual display.



You can change the appearance and behavior of a Spotlight home page from the Console Options window. For more detailed information about the Console Options window, see [“Console Options” on page 151](#).

Spotlight on Exchange 2000/2003 performs an extensive analysis of the major components of an Exchange 2000 or Exchange 2003 server. The large amount of information provided is distributed across five home pages. Each home page targets and provides details about specific server activity.

HOME PAGE	DESCRIPTION
Main	Provides a high-level operational summary of your Exchange 2000 or Exchange 2003 server.
IIS	Provides details about the Exchange 2000 or Exchange 2003 Internet Information Server (IIS) and the SMTP subsystem.
Storage Groups	Provides details about the Exchange 2000 or Exchange 2003 storage subsystem.
Directory Services	Provides details about how the server interacts with Active Directory (Global Catalog, Domain Controller, and DNS servers).
Best Practices	Provides details about how the Exchange server is not conforming to well-known Exchange 2000 or Exchange 2003 best practices.

The home pages have components common to all Spotlight Diagnostic Console products including the following:

- Panel
- Components
- Labels
- Menus
- Toolbar
- Connection identifier
- Connections list



For detailed information about each of the components listed above, [see "The Spotlight Home Page" on page 144.](#)

Menus

Spotlight on Exchange 2000/2003 has standard menus located at the top of the main window and shortcut menus accessed by right-clicking components.

Standard Menus

The standard menus available in Spotlight on Exchange include the following:

- File
- View
- Favorites
- Tools
- Manage
- Help

There are two types of standard menu:

- Standard menus common to all Spotlight Diagnostic Console applications
- Standard menus unique to Spotlight on Exchange 2000/2003

Common Menus

Most of the menus in Spotlight on Exchange 2000/2003 including File, View, Favorites, Tools, and Help are common to all Spotlight Diagnostic Console applications and are described in detail in the section [Standard Menus](#).

Unique Menus

The Manage Menu is unique to Spotlight on Exchange 2000/2003. You can use it access Management action options.



For detailed information about Management action options, see [“Overview” on page 348](#).

The Spotlight on Exchange 2000/2003 View menu has an added standard menu feature. You can click the 3D Graphs option to change the appearance of drilldown graphs.

Shortcut Menus

You can right-click Spotlight on Exchange 2000/2003 components to access commands and functions.

The following shortcut menu items are available in Spotlight on Exchange 2000/2003:

MENU ITEM	DESCRIPTION
What's This?	Click this to view a description of the Exchange server activity represented by the Spotlight on Exchange component.
Show History	Click this to view a chart showing a brief history of the Exchange server activity represented by the Spotlight on Exchange component.
Show Details	Click this to view the drilldown associated with the Spotlight on Exchange component.
Snooze alarm	Click this to clear the alarm from the component for the selected time period.
Metrics	Click this to access the Metric editor.
Properties	Click this to access the Spotlight Properties Editor.
Manage	Click this to perform a management action against the connected Exchange server.

The Toolbar

The Spotlight on Exchange 2000/2003 toolbar is located at the top of the main window and includes all of the common Spotlight Diagnostic Console toolbar buttons. Added to these common toolbar buttons are the unique Spotlight on Exchange 2000/2003 drilldown buttons. If a toolbar button appears dimmed, it is unavailable.



For detailed information about common Spotlight toolbar buttons, [see "Spotlight Toolbar" on page 147.](#)

Drilldown Buttons

The Spotlight on Exchange 2000/2003 drilldown buttons, shown on the toolbar, provide access to drilldowns.



Not all drilldowns are accessed from drilldown buttons on the toolbar. Some drilldowns are accessed only by clicking a component on a home page. For detailed information about all Spotlight on Exchange 2000/2003 drilldowns and how to access them, see [“Displaying Drilldowns” on page 320](#).

The following table identifies drilldown buttons shown on the Spotlight on Exchange 2000/2003 toolbar and the associated drilldown:

CLICK THIS	TO OPEN THE FOLLOWING DRILLDOWNS
	<p>Protocols For more information about this drilldown, see “The Protocols Drilldown” on page 321.</p>
	<p>IIS (Internet Information Server) For more information about this drilldown, see “The IIS Drilldown” on page 322.</p>
	<p>Information Store (IS) For more information about this drilldown, see “The Information Store Drilldown” on page 325.</p>
	<p>Directory Services For more information about this drilldown, see “The Directory Services Drilldown” on page 330.</p>
	<p>Queue Management For more information about this drilldown, see “The Queue Management Drilldown” on page 332.</p>
	<p>DNS Servers For more information about this drilldown, see “The DNS Servers Drilldown” on page 335.</p>
	<p>Active Directory Servers For more information about this drilldown, see “The Active Directory Servers Drilldown” on page 336.</p>
	<p>Recipient Update Servers For more information about this drilldown, see “The Recipient Update Servers Drilldown” on page 337.</p>

CLICK THIS	TO OPEN THE FOLLOWING DRILLDOWNS
	<p>Known Exchange Problematic Events</p> <p>For more information about this drilldown, see “The Known Exchange Problematic Events Drilldown” on page 338.</p>

Common Home Page Elements

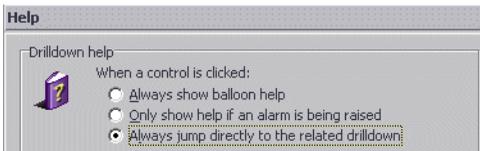
Spotlight on Exchange 2000/2003 has five home pages. Each of the home pages targets and provides details about specific server activity, and therefore is unique in layout and design. However, there are some panels and features common to all home pages.

Home Page Links



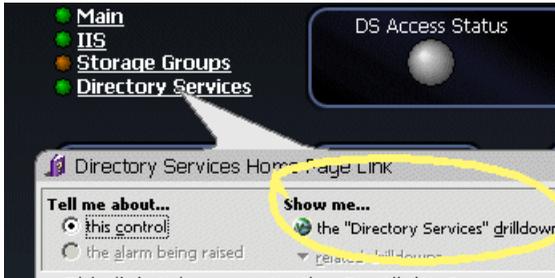
You can access each of the Spotlight on Exchange Enterprise Edition 2000/2003 home pages by clicking on the home page title links as shown in this image. These links appear on each page so that you can easily switch views. The status ball beside each title changes color to indicate the collective operational status of all of the components on that page. The white arrow indicates the current home page view.

You can link directly to the Main, IIS, Storage Groups, Directory Services, and Best Practices home pages if you select the **Always jump directly to the related drilldown** option in the Help Option window as shown in the image below:



For more information about how to configure Drilldown Help, see [“Choosing How Help is Displayed”](#) on page 216.

If you have not selected the **Always jump directly to the related drilldown** option, a Help bubble appears when you click on the home pages title links. You can access the home page from this Help bubble by clicking the **Show me** drilldown button as shown in the following image:



Media Connections

Media Connections:	
Conferencing:	N/A
Instant Messaging:	N/A
Chat Connections:	N/A

Media Connections displays the status of Exchange 2000 or Exchange 2003 Conferencing Server features such as conference service, instant messaging, and chat. You can see if these features have been installed on the server and, if they have been, how many connections to each feature have been established. If the feature has not been installed on the server, the status is displayed as N/A.

Exchange CPU Usage

Exchange CPU Usage:	
IIS	0 %
Information Store	0 %
System Attendant	0 %
MTA Stacks	0 %

Exchange CPU Usage appears on each page to keep you informed of the service status, and the CPU consumption of core Exchange 2000 or Exchange 2003 services including the IIS, information store, System Attendant, and the MTA Stacks.

Server and Platform Status

Exchange Version
Windows 2000 SP2
Uptime is 49 hr(s)
Server Role

This list indicates the service pack that is installed on the Exchange server and the length of time the server has been running since it was started. This information will help you analyze the efficiency of the server. The panel also shows the role of the server. Knowing whether it is a front-end or a back-end server will help you analyze the data provided by Spotlight on Exchange. Front-end servers run one or more of the Internet protocols, but do not house information stores or databases.

Directory Services Panel



The components of the Directory Services panel indicate how Exchange 2000 or Exchange 2003 interacts with directory services, for example Active Directory Server and Domain Name Server (DNS).

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
 The icon for the DS Access Status component, featuring a dark square with the text "DS Access Status" and a small, light-colored sphere.	<p>This shows the health of the Directory Access Cache (DSAccess) as measured by the cache hit ratio (such as the ratio of hits to misses).</p> <p>The DSAccess cache stores messaging-related information from Active Directory for use by all Exchange 2000 or Exchange 2003 components except MAPI client address book searches and specific portions of SMTP inbound and outbound routing. Having this information locally reduces the number of directory lookups issued to the Global Catalog servers and increases performance of the Exchange server.</p> <p>The two parameters that are crucial to DSAccess cache performance are the cache size and timeout (expiration time of each cache entry). View the individual component Help for the DSAccess Max size and Timeout (TTL) for more information on tuning these parameters.</p> <p>Chapter 31 of the Microsoft Exchange 2000 Resource Kit contains more information on tuning your DSAccess cache for optimal performance. At the time of writing this was available at: http://www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/exchange/reskit/ex00res/resguide/c31optim.asp</p> <p>Drilldown: Directory Access Cache tab, Directory Services</p>
 The icon for the Global Catalogs component, featuring a dark square with the text "Global Catalogs" and a small, glowing green sphere.	<p>This shows the status of the domain controllers used by this Exchange server. If all domain controllers in the Directory Access Cache (DSAccess) are responding to ping requests from this client, the domain controllers' health status is green. If any servers are considered down (for example, not responding to ping requests from this client), the status is red.</p> <p>You can click on this component to see a list of all domain controllers and Global Catalogs used by this Exchange server.</p> <p>Drilldown: Active Directory Servers</p>

COMPONENT	DESCRIPTION
	<p>This shows the status of DNS servers used by this Exchange server. These are the DNS servers in the network configuration of this Exchange server's Windows 2000 or 2003 O/S.</p> <p>Clicking on this component takes you to the DNS Servers drilldown where the DNS servers in use by this Exchange server and their status are listed. External DNS specified for particular virtual SMTP servers are not shown.</p> <p>Drilldown: DNS Servers</p>
	<p>This shows the status of the Recipient Update servers being used for the domain and enterprise where this Exchange server belongs. If all Recipient Update servers are available on the network from this client, and have a System Attendant service that is running, the Recipient Update servers' health status is green.</p> <p>The Recipient Update servers are responsible for identifying any mail-enabled (or mailbox-enabled) objects within Windows 2000 or Windows 2003 Active Directory that have been recently created or modified. If one or more Recipient Update servers are down, there is a likelihood that different Active Directory servers will have different views of the messaging organization where this Exchange server belongs.</p> <p>Microsoft Knowledge Base Article Q251395 provides a summary of the local Recipient Update Service. At the time of writing it was available at: http://support.microsoft.com/default.aspx?scid=kb;en-us;Q251395</p> <p>Clicking on this component takes you to the Recipient Update Servers drilldown where you can view individual Recipient Update Servers used in the same Windows 2000 or Windows 2003 domain and Enterprise as this Exchange server.</p> <p>Drilldown: Recipient Update Servers</p>

OS Subsystem Panel



The OS Subsystem panel displays components that represent the health of important subsystem features such as CPU and memory usage, the amount of disk space used and disk space available, as well as server response times.

The components on the OS Subsystem panel are connected to Spotlight on Windows drilldowns.



You can view Spotlight on Windows drilldowns if you have formed a connection to the server with Spotlight on Windows. For more information on forming Spotlight connections, see [“Connecting and Disconnecting” on page 186](#).

The contents of the What’s This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the ping time from this client (for example, Spotlight On Exchange) to the remote Exchange server.</p> <p>Drilldown: Physical Disk Activity tab, Disks (Spotlight on Windows)</p>
	<p>This shows the total current number of unfulfilled requests bound for all disks. If your disk queue length is consistently high, your disk subsystem is not servicing requests fast enough, and this will degrade the performance of your Exchange 2000 or Exchange 2003 server. End users will notice the server not responding as quickly because their requests to the Information Store and other Exchange subsystems will be queued.</p> <p>Drilldown: Physical Disk Activity tab, Disks (Spotlight on Windows)</p>

COMPONENT	DESCRIPTION
	<p>System Disk: This shows the percentage of disk space being consumed on your system disk.</p> <p>Used: This shows the total disk space used by all data on your system disk.</p> <p>Free: This shows the total unused disk space on the system disk (the disk that houses the Windows O/S). There should be enough free disk space to accommodate the operational requirements of the Windows O/S.</p> <p>Drilldown: Disk Summary tab, Disks (Spotlight on Windows)</p>
	<p>This shows the percentage consumption of the CPU on this Exchange server.</p> <p>Drilldown: CPU tab, CPU (Spotlight on Windows)</p>
	<p>This shows the amount of physical memory (RAM) Windows is using. Physical memory usage normally remains close to the total amount of physical memory installed on the system unless the amount of physical memory exceeds the amount of virtual memory that Windows is using. Windows normally keeps some physical memory available for immediate reuse.</p> <p>Each mounted store on your Exchange 2000 or Exchange 2003 server allocates a minimum of 10 MB of RAM (an even greater amount for the first store). Exchange uses a method called Dynamic Buffer Allocation to optimize memory requirements, which results in the Information Store memory consumption growing rapidly, and consistently sustaining high levels of demand. To observe memory usage by the storage groups, view the Database Cache Size counter.</p> <p>Drilldown: Summary tab, Memory (Spotlight on Windows)</p>

The Main Home Page

The Main home page, shown in the image below, is made up of components, panels, and dataflows that represent the flow of email messages through the Exchange 2000 or Exchange 2003 server to which you are connected.



The Main home page is a high-level operational summary of the Exchange 2000 or Exchange 2003 server and depicts the following major message flows:

- SMTP In to SMTP Out
- SMTP In to Local Store
- MAPI In to Local Store
- MAPI In to SMTP Out

The Main home page displays the Inbound, Queues, Information Store, Advanced Queuing, and Outbound panel. The panels group components that represent similar Exchange 2000 or Exchange 2003 server features and functions.

Each component links to a drilldown and a shortcut menu. The shortcut menu, accessed by right-clicking a component, provides expert Help, historical information, and configuration options.

Expert Help, accessed by selecting What's This? from the shortcut menu, provides you with a better understanding of the Exchange functionality represented by the component and advice on how to improve the performance of the server.

For more information on drilldowns, see ["Understanding Drilldowns" on page 320](#).

Inbound Panel

The Inbound panel groups components that represent current connections to the Exchange 2000 or Exchange 2003 server.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the total number of inbound SMTP connections established by other SMTP hosts to this Exchange server. The number of connections represents the sum of all inbound SMTP connections across all of the SMTP virtual servers installed on this Exchange 2000 or Exchange 2003 server.</p> <p>SMTP is the standard protocol for Internet Mail. Exchange 2000 and Exchange 2003 use SMTP for server-to-server message delivery and for transferring mail to other email systems.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the current number of active remote MTAs that have connections to this server. These connections can be other Exchange servers or MTAs on other X.400 systems. If you are running in mixed mode (an Exchange Organization and Site with Exchange 5.5 servers), Exchange 2000 and Exchange 2003 use the MTA stack to communicate with those servers in the same site.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>

cont'd...

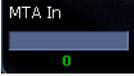
COMPONENT	DESCRIPTION
	<p>This shows the current number of user and system connections currently established to the information store.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the current number of HTTP connections to the Web service on this Exchange 2000 or Exchange 2003 server. This gives you an indication of the current number of Outlook Web Access (OWA) connections on your server.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the number of application and system event log entries appearing on the Exchange server that indicate an operational problem. This also indicates whether these entries have been acknowledged in the Spotlight on Exchange client. When the button is green, there are either no problematic Exchange server events, or that one or more do exist but they have been acknowledged.</p> <p>Drilldown: Known Exchange Problematic Events drilldown</p>

Queues Panel

There are two Queues panels on the Main home page. The first Queues panel (on the left side of the Main home page) displays components representing the Exchange queues that have received messages from SMTP and MTA sources.

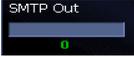
The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the number of messages that have been routed to your server from other SMTP sources but have not yet been processed (moved to another queue). After an OnSubmission event is fired, these messages are moved to the Categorizer queue. SMTP sources can include other SMTP-capable servers as well as Internet Mail clients that use SMTP for mail submission.</p> <p>Exchange 2000 SP2 is required to see the number of messages in this queue.</p> <p>Drilldown: Queue Management drilldown</p>

COMPONENT	DESCRIPTION
	<p>This shows the number of outstanding messages in the work queue, which indicates the number of messages not yet processed to completion by the MTA.</p> <p>Drilldown: Queues tab of the Information Store drilldown</p>

The second Queues panel (on the right side of the Main home page) groups components that represent the queues containing outgoing messages.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

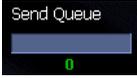
COMPONENT	DESCRIPTION
	<p>This shows the current number of messages on this Exchange server that are queued for remote delivery to other SMTP hosts. This is the cumulative total of all remote queues across all SMTP virtual servers.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the number of outstanding messages destined for, but not yet transferred to, remote Exchange MTAs and MTAs on other X.400 email systems.</p> <p>Drilldown: Queues tab of the Information Store drilldown</p>

The Information Store Panel

The Information Store panel displays information about messages being routed from the MTA and incoming MAPI and OWA connections. The Receive Queue and the Send Queue show the number of messages being sent to and from all of the private and public information stores. The container components show the amount of disk space used and disk space available on the volumes containing the mailbox stores, public folder, and transaction logs.

Spotlight on Exchange Enterprise Edition

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
 The icon for the Receive Queue component shows a dark blue rectangular bar with the text "Receive Queue" at the top and the number "0" centered below it.	<p>This shows the number of inbound messages that are destined for all the private and public information stores on this server. These messages are awaiting processing by the information store.</p> <p>Drilldown: Storage Groups home page drilldown</p>
 The icon for the Send Queue component shows a dark blue rectangular bar with the text "Send Queue" at the top and the number "0" centered below it.	<p>This shows the current number of outgoing messages being sent by all the private and public stores on this Exchange server.</p> <p>Drilldown: Storage Groups home page drilldown</p>
 The icon for the Mailbox Stores component shows a dark grey rectangular area with the text "Mailbox Stores" at the top. Below it is a green progress bar. To the right of the bar, the text "Size: 108 Mb" is displayed in green, and "Free: 0 Mb" is displayed in white.	<p>Mailbox Stores Container</p> <p>This shows the percentage of disk space consumed by the mailbox stores on this server. This allows you to assess how much of your server disk consumption is attributable to mailbox store consumption versus other data.</p> <p>Size:</p> <p>This shows the total disk space used by all mailboxes on this server. It is calculated as the sum of all Exchange mailbox stores (such as .stm and .edb files) belonging to this server. Exchange 2000/2003 Standard Edition has a built-in data size limitation of 16 GB. When the server reaches this limit, the store process automatically shuts down. This limit is removed with Exchange 2000/2003 Enterprise Edition.</p> <p>Free:</p> <p>This shows the total unused disk space for the mailbox stores on this server. The value is the sum of the unused disk space on all disks containing a mailbox store (such as Exchange .edb and .stm files). There should be enough free disk space to accommodate foreseeable future growth in your mailbox stores and to defragment any store on this server.</p> <p>Drilldown: Storage Groups home page drilldown</p>

COMPONENT	DESCRIPTION
 <p>Public Folders Size: 44 Mb Free: 0 Mb</p>	<p>Public Folders Container</p> <p>This shows the percentage of public store disk space consumed by this server. This allows you to assess how much of your server disk consumption is attributable to public store data versus other data.</p> <p>Size:</p> <p>This shows the total disk space used by all public folder stores on this server. This is the sum of all Exchange public folder stores belonging to this server. Exchange 2000 and Exchange 2003 Standard Edition has a built-in data size limitation of 16 GB. When the server reaches this limit, the store process automatically shut down. This limit is removed with Exchange 2000 and Exchange 2003 Enterprise Edition.</p> <p>Free:</p> <p>This shows the total unused disk space for the mailbox stores on this server. The value is the sum of the unused disk space on all disks containing a mailbox store (such as Exchange .edb and .stm files). There should be enough free disk space to accommodate foreseeable future growth in your mailbox stores and to defragment any store on this server.</p> <p>Drilldown: Storage Groups home page drilldown</p>
 <p>Transaction Logs Size: 82 Mb Free: 0 Mb</p>	<p>Transaction Logs Container</p> <p>This shows the total percentage of disk space consumed by transaction logs on this server. You can quickly assess how much server disk consumption is attributable to transaction log data versus other data.</p> <p>Size:</p> <p>This shows the total disk space used by all transaction logs on this server. The value is the sum of all storage group transaction logs belonging to this server.</p> <p>Free:</p> <p>This shows the total unused disk space for the transaction logs on this server. The value is the sum of the unused disk space on all disks containing a transaction log. There should be enough free disk space to accommodate future growth in your transaction logs. If circular logging is turned off on your transaction logs, there should be enough free space to accommodate at least 25% of the current transaction log size.</p> <p>Drilldown: Storage Groups home page drilldown</p>
 <p>Storage Groups: 4</p>	<p>This shows the number of storage groups installed on this server. This is shown for informational purposes only. View the Storage Groups home page to see more information about what storage groups are installed on this server.</p>

COMPONENT	DESCRIPTION
	<p>This shows the total physical memory of the store process (store.exe). High memory use is normal operating behavior for core Exchange 2000 and Exchange 2003 processes. Typically, all available RAM is used for the best performance possible. Exchange releases memory to other applications as required.</p> <p>Each mounted store on your Exchange 2000 or Exchange 2003 server allocates a minimum of 10 MB of RAM (an even greater amount for the first store). Exchange uses a method called Dynamic Buffer Allocation to optimize memory requirements, which result in the store memory consumption growing rapidly and consistently sustaining high levels of demand.</p> <p>Drilldown: Health tab of the Information Store drilldown</p>
	<p>This shows the total number of mailboxes on all mailbox stores. This count will also include the system mailbox found in each public folder store.</p>

Advanced Queuing Panel

The Advanced Queuing panel displays the components that represent the Exchange engines responsible for routing incoming messages. All messages entering the Exchange 2000/2003 server are sorted by the categorizer and routing engines.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the current number of messages in the Categorizer queue. These represent messages that have not been categorized.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the current number of messages that are waiting in the Routing queue. Messages in this queue have not been routed yet. They will be routed to either a local delivery queue (for example, to the store) or to a remote delivery queue.</p> <p>Drilldown: Routing tab of the IIS drilldown</p>

Outbound Panel

The Outbound panel groups the components that represent current connections to and from the server being diagnosed.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the total number of outbound SMTP connections to other SMTP hosts. The number of connections represents the sum of all SMTP outbound connections across all of the SMTP virtual servers installed on this Exchange 2000 or Exchange 2003 server.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the current number of active remote connections from this Exchange server to other MTAs. These connections can be other Exchange servers or MTAs on other X.400 systems. If you are running in mixed mode (in an Exchange Organization and/or Site with Exchange 5.5 servers), Exchange 2000 and Exchange 2003 use the MTA stack to communicate with the 5.5 servers in the same site.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the number of user and system connections currently established to the information store. For example, a connection can be established to the information store for an Outlook mailbox logon or an internal Exchange 2000/2003 message submission. The number of inbound MAPI connections should be equal to the number of outbound.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the current number of HTTP connections to the Web service on this Exchange 2000 or Exchange 2003 server. Since an HTTP connection is inbound/outbound neutral, the number of outbound HTTP connections should be equal to the inbound.</p> <p>Drilldown: Connections tab of the Protocols drilldowns</p>

cont'd...

COMPONENT	DESCRIPTION
	<p>This shows the total number of POP3 and IMAP4 connections. Internet mail clients use POP3 and IMAP4 clients to retrieve mail from the store, and SMTP to send mail to the information store.</p> <p>POP3 is a simple text base Internet messaging protocol that allows users to download mail from the store to their POP3 client.</p> <p>IMAP4 is an Internet messaging protocol that enables a client to access mail on a server rather than downloading it to the user's computer. IMAP4 is designed for an environment where users log on to the server from a variety of different workstations or across slow links.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>

The IIS Home Page

The IIS home page, shown in the image below, details the health of the Microsoft Internet Information Server (IIS) and the Exchange 2000 or Exchange 2003-specific components of the IIS: the SMTP subsystem.



The IIS home page provides more in depth information about the IIS and SMTP subsystems than the Main home page, and is called a home page drilldown. You can quickly scan the components, panels, and dataflows to view the health of Web service and SMTP message flows.

The IIS home page displays the Inbound, Categorizer, Routing, IIS Health, and SMTP panel. The IIS Health panel provides an immediate status of the health of key IIS services and functionality. The Categorizer and Routing panels provide a deeper layer of information about Exchange 2000 or Exchange 2003 message categorization and routing. Each component links to a drilldown and a shortcut menu. The shortcut menu, accessed by right-clicking a component, provides expert Help, historical information, and configuration options.

Expert Help, accessed by selecting What's This? from the shortcut menu, provides you with a better understanding of the Exchange functionality represented by the component and advice on how to improve the performance of the server.

For more information on drilldowns, see ["Understanding Drilldowns" on page 320](#).

The Inbound Panel

The Inbound panel groups components that represent inbound Web and SMTP connections to the Exchange 2000 or Exchange 2003 server.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the total number of current SMTP connections on the Exchange server that are established by other SMTP hosts. The number of connections represents the sum of all SMTP inbound connections across all of the SMTP virtual servers installed on this Exchange 2000 or Exchange 2003 server.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the maximum number of concurrent HTTP connections to the web service on this Exchange 2000 or Exchange 2003 server since the service was started.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>

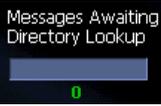
cont'd...

COMPONENT	DESCRIPTION
	<p>This shows the current number of HTTP connections to the Web service on this Exchange 2000 or Exchange 2003 server. This indicates the current number of Outlook Web Access (OWA) connections on the server. Since an HTTP connection is inbound/outbound neutral, the number of outbound HTTP connections should be equal to the inbound.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>

The Categorizer Panel

The Categorizer panel groups components that represent queues containing messages that have entered the Exchange 2000 or Exchange 2003 server and are about to be processed by the categorizer and routing engines.

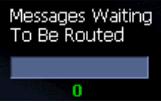
The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the number of messages waiting to be processed by the categorizer. These messages are waiting for a directory lookup query by the categorizer.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the number of messages that have failed categorization. The reasons for the failure can be one of the following:</p> <ul style="list-style-type: none"> • Connection failure to Directory Services • Logon failure to Directory Services • Non-retryable failure • Out of memory failure • Retryable failure • Sink retryable failure <p>Drilldown: Failures tab of the IIS drilldown</p>
	<p>This shows the rate that non-delivery reports are issued on undeliverable messages.</p> <p>Drilldown: Failures tab of the IIS drilldown</p>

The Routing Panel

The Routing panel groups components that represent queues containing messages in transit, such as those waiting to be delivered to the local mailbox or public folder, or messages about to be sent to other SMTP hosts.

The contents of the What's This? Help, accessed by right-clicking each component, is shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the number of messages waiting to be routed by the routing engine.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the current number of messages that the routing engine has deemed undeliverable.</p> <p>Drilldown: Routing tab of the IIS drilldown</p>
	<p>This shows the rate of lookup queries per second against the Domain Mapping Table and Domain Configuration Table. The Domain Mapping Table resolves domain names to the destination message queues. The Domain Configuration Table maps a domain to a specific configuration to determine configuration items such as authentication types.</p> <p>Drilldown: Routing tab of the IIS drilldown</p>

The SMTP Panel

The SMTP panel groups components that represent key SMTP messaging queues on the Exchange 2000 or Exchange 2003 server currently being diagnosed.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the current number of inbound messages destined for all private and public information stores on this server. The messages are waiting for processing by the information store.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the current number of messages on the Exchange server that are queued for remote delivery to other SMTP hosts. This is the cumulative total of all remote queues across all SMTP virtual servers.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the total number of current SMTP connections on the Exchange server that are established to other SMTP hosts. The number of connections represents the sum of all SMTP outbound connections across all of the SMTP virtual servers installed on this Exchange 2000 or Exchange 2003 server.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>
	<p>This shows the number of SMTP virtual servers that are installed on this Exchange server. View the Queue Management drilldown to get a better picture of all your SMTP virtual servers and how they are handling the server load.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the number of messages that are in the BadMail folder across all installed SMTP virtual servers. After a default Exchange 2000 or Exchange 2003 installation, this folder is located at the following path: <drive:>\Program Files\Exchsrvr\MailRoot\<SMTP Virtual Server Name>\BadMail</p> <p>Drilldown: Failures tab of the IIS drilldown</p>

The IIS Health Panel

The IIS Health panel groups the components that represent the status of the services critical to the operation of the Exchange 2000 or Exchange 2003 Web service.

The services listed in the IIS Services section of the panel are connected to the Services tab of the Spotlight on Windows Processes drilldown.

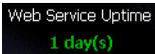
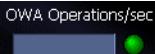


You can view the Processes drilldown if you have formed a connection to the server with Spotlight on Windows. For more information on forming Spotlight connections, see [“Connecting and Disconnecting” on page 186](#).

The contents of the What’s This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
<p>The screenshot shows a dark-themed window titled 'IIS Services:'. It lists four services with their status: IIS Admin (Running), SMTP (Running), World Wide Web (Running), and Routing Engine (Running). The word 'Running' is highlighted in green.</p>	<p>IIS Admin: This shows the current status of the IIS Admin Service. This service is critical for normal Exchange 2000 or Exchange 2003 operation.</p> <p>SMTP: This shows the current status of the SMTP Service. This service is critical for normal Exchange 2000 or Exchange 2003 operation.</p> <p>World Wide Web: This shows the current status of the World Wide Web service. This service is critical for Exchange 2000 or Exchange 2003 OWA servers.</p> <p>Routing Engine: This shows the current status of the Routing Engine Service. This service is critical for normal Exchange 2000 or Exchange 2003 operation.</p> <p>Note: You can perform Exchange server management actions by right-clicking the current status of each service and selecting Manage.</p> <p>Drilldown: Services tab of the Processes drilldown, Spotlight on Windows</p>

cont'd...

COMPONENT	DESCRIPTION
	<p>This shows the uptime, in days, of the World Wide Web service. This service is critical for Exchange 2000 or Exchange 2003 OWA servers. You can look at the IIS - Health drilldown to compare the Web service Uptime with System Uptime.</p> <p>Drilldown: Health tab of the IIS drilldown</p>
	<p>This shows the rate at which the OWA clients are issuing commands.</p> <p>Drilldown: Activity tab of the Protocols drilldown</p>
	<p>This shows the amount of physical memory (in MB) that the INETINFO.EXE process is consuming. Exchange 2000 and Exchange 2003 consume a significant portion of your system memory. This is normal and is not a concern. The Exchange server releases memory to other applications as required to improve system performance.</p> <p>Drilldown: Health tab of the IIS drilldown</p>
	<p>This shows the percentage of elapsed time that all of the threads of the IIS process (INETINFO.EXE) use to execute instructions. On multi-processor machines the maximum value of the counter is 100 percent.</p> <p>Drilldown: Health tab of the IIS drilldown</p>

The Storage Groups Home Page

The Storage Groups home page, shown in the image below, contains detailed information on the Exchange 2000 or Exchange 2003 storage subsystem. Messaging traffic, bound for a storage group, enters on the left side of the home page and flows through to a storage group on the right side.



The Storage Groups home page provides a more detailed view of the storage subsystem than the Main home page, and is called a home page drilldown.

The Storage Groups home page displays the Information Store, Storage Groups, and Storage Groups Details panel. Exchange 2000 and Exchange 2003 support from one to four storage groups on each server. The Storage Groups panel displays the names and details of each of the installed storage groups on this server. You can click the name of each storage group to view more details about that storage group in the Storage Group Details panel on the right side of home page.

Each component links to a drilldown and a shortcut menu. The shortcut menu, accessed by right-clicking a component, provides expert Help, historical information, and configuration options.

Expert Help, accessed by selecting What's This? from the shortcut menu, provides you with a better understanding of the Exchange functionality represented by the component and advice on how to improve the performance of the server.

For more information on drilldowns, see ["Understanding Drilldowns" on page 320](#).



The Storage Groups Details panel is a dynamic panel that provides a more detailed view of the Storage Groups panel.

The Information Store Panel

The Information Store panel groups components that represent the queues containing messages about to be processed by the information store, and the queues with messages that have been processed. You can see the number of user and system connections that have shown recent activity by looking at the Active Connections component.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	This shows the number of messages in the receive queue of the information store. These messages are waiting to be processed by the information store. Drilldown: Queues tab of the Information Store drilldown
	This shows the number of messages in the send queue of the information store. This queue holds all outgoing messages from the information store. Drilldown: Queues tab of the Information Store drilldown
	This shows the total number of user and system connections to the information store that have shown some activity in the last 10 minutes. This includes connections that no longer exist but that had activity in the last 10 minutes. Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown

COMPONENT	DESCRIPTION
	<p>This shows the total number of users and system connections currently logged on to the information store. Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>
	<p>This shows the total number of users currently connected to the information store. Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>
	<p>This shows the percentage of elapsed processing time that the information store (STORE.EXE) threads use to execute instructions. On multi-processor machines the maximum value of the counter is 100 percent. Drilldown: Health tab of the Information Store drilldown</p>
	<p>This shows the total amount of physical memory (in MB) that the store (Store.exe) process is consuming. It is normal to see the information store consuming more than 80% or 90% of all available memory. The information store releases memory to other applications as they make requests for memory. Drilldown: Health tab of the Information Store drilldown</p>

The Storage Groups Panel

The Storage Groups panel shows a high-level overview of the storage groups installed on the Exchange 2000 or Exchange 2003 server. If only one storage group is installed, the panel shows the details of that storage group. The panel demonstrates that more storage groups can be installed. The title of each storage group displayed in the panel is a link to more detailed information provided in the larger Storage Group panel to the right. The titles are updated as the groups are installed and named.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>First Storage Group:</p> <p>This shows the full name of the storage group.</p> <p>Container</p> <p>This shows the percentage of logical disk space consumed by all mailbox stores, public folders, and transaction logs in the storage group.</p> <p>Size:</p> <p>This shows the total disk space used by the storage group. This includes all mailbox stores and public folders.</p> <p>Free:</p> <p>This shows the total unused disk space across all logical disks containing mailbox stores and public folders that belong to the storage group.</p> <p>Mailbox Count:</p> <p>This shows the total number of mailboxes that reside in all mailbox stores, and public folders that belong to the storage group.</p> <p>Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>

The Storage Group Details Panel

The Storage Groups Details panel is the largest panel on the Storage Groups home page. It is a dynamic panel that displays an expanded view of the currently selected storage group. The name of the currently selected storage group is the title of this panel.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the number of messages in the receive queue of the storage group. These messages are waiting to be processed by the storage group.</p> <p>Drilldown: Queues tab of the Information Store drilldown</p>
	<p>This shows the number of messages in the send queue of the storage group. This queue holds all outgoing messages from the storage group.</p> <p>Drilldown: Queues tab of the Information Store drilldown</p>
	<p>This shows the total number of user and system connections to the storage group which have shown some activity in the last 10 minutes. This includes connections that no longer exist but that have had activity in the last 10 minutes.</p> <p>Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>
	<p>This shows the total number of user and system connections for all private and public stores on the storage group.</p> <p>Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>

cont'd...

COMPONENT	DESCRIPTION
 <p>The screenshot shows a 'Transaction Logs' component with a green progress bar. Below the bar, it displays: Size: 0 Mb, Free: -1 Mb, and Circular Logging: Disabled.</p>	<p>Transaction Logs Container</p> <p>This shows the percentage of logical disk space consumed by the transaction logs. The disk volume should always have enough free disk space to allow for normal log growth.</p> <p>Size:</p> <p>This shows the total disk space used by the transaction logs of this storage group. For optimal disk performance the transaction logs should reside on a separate physical disk. Performing full backups clears the transaction logs.</p> <p>Free:</p> <p>This shows the total unused disk space on the logical disk containing the transaction logs. The logical disk should always have enough free disk space to allow for normal mailbox activity. Performing full backups clears the transaction logs.</p> <p>Circular Logging:</p> <p>This shows whether circular logging is enabled for the transaction logs. When disabled, transaction logs will accumulate until a normal or incremental backup is run.</p> <p>Drilldown: Transaction Logs tab of the Information Store drilldown</p>
 <p>The screenshot shows 'Mailbox Store 5' with a green status indicator. Below it, it displays: Active / Connections / Mailboxes: 0 / 5 / 2. At the bottom, there are two progress bars: EDB (6 Mb Size, 2239 Mb Free) and STM (12 Mb Size, 2239 Mb Free).</p>	<p>Mailbox Store (server name)</p> <p>This shows the full name of the mailbox store.</p> <p>Active / Connections / Mailboxes:</p> <p>This shows the total number of user and system connections that have shown some activity in the last 10 minutes, user and system connections currently logged on to the store, and total number of mailboxes.</p> <p>Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>

COMPONENT	DESCRIPTION
	<p>EDB Container</p> <p>This shows the percentage of logical disk space consumed by the rich-text store.</p> <p>Size:</p> <p>This shows the total disk space used by the rich-text store. Both mailbox stores and public folders have a rich-text store. Exchange 2000 and Exchange 2003 Standard Edition have a built-in limitation of 16 GB. Once the server has reach this limit, the information store service automatically shuts down.</p> <p>Free:</p> <p>This shows the total unused disk space on the logical disk containing the rich-text store. The disk volume should always have enough free disk space to allow for normal mailbox growth and to perform database defragmentation.</p> <p>Storage Group Users and Mailboxes tab of the Information Store drilldown</p> <p>STM Container</p> <p>This shows the percentage of logical disk space consumed by the native-content store of the mailbox store or the public folder store.</p> <p>Size:</p> <p>This shows the total disk space used by the native-content store. Both mailbox stores and public folders have a native-content store.</p> <p>Free:</p> <p>This shows the total unused disk space on the logical disk containing the native-content store. The disk volume should always have enough free disk space to allow for normal mailbox growth and to perform database defragmentation.</p> <p>Drilldown: Storage Group Disk Usage tab of the Information Store drilldown</p>

COMPONENT	DESCRIPTION
	<p>Public Folder Store (Server Name)</p> <p>This shows the full name of the public folder.</p> <p>Active / Connections / Mailboxes:</p> <p>This shows the total number of user and system connections that have shown some activity in the last 10 minutes, user and system connections currently logged on to the public folder, and total number of mailboxes.</p> <p>Drilldown: Storage Group Users and Mailboxes tab of the Information Store drilldown</p>
	<p>EDB Container</p> <p>This shows the percentage of logical disk space consumed by the rich-text store of the public folder.</p> <p>Size:</p> <p>This shows the total disk space used by the rich-text store. Both mailbox stores and public folders have a rich-text store. Exchange 2000 and 2003 Standard Edition have a built-in limitation of 16 GB. Once the server reaches this limit, the information store service automatically shuts down.</p> <p>Free:</p> <p>This shows the total unused disk space on the logical disk containing the rich-text store. The disk volume should always have enough free disk space to allow for normal mailbox growth and to perform database defragmentation.</p> <p>Drilldown: Storage Group Disk Usage tab of the Information Store drilldown</p>

COMPONENT	DESCRIPTION
	<p>STM Container</p> <p>This shows the percentage of logical disk space consumed by the native-content store of the public folder.</p> <p>Size:</p> <p>This shows the total disk space used by the native-content store. Both mailbox stores and public folders have a native-content store.</p> <p>Free:</p> <p>This shows the total unused disk space on the logical disk containing the native-content store. The disk volume should always have enough free disk space to allow for normal mailbox growth and to perform database defragmentation.</p> <p>Drilldown: Storage Group Disk Usage tab of the Information Store drilldown</p>
 <p>The screenshot shows a dark interface with the text 'Not Installed' at the top. Below it, there are two columns of data. The left column is for 'EDB' (Exchange Database) and the right column is for 'STM' (Storage Group Disk Usage). Each column has two rows: 'Size' and 'Free'. The values for all these fields are '0 Mb'. The status 'Active / Connected / Mailboxes: 0 / 0 / 0' is also visible.</p>	<p>This indicates that a mailbox store or public folder has not been installed. With Exchange 2000 or Exchange 2003, you can install up to five mailbox stores or public folders per storage group.</p>

The Directory Services Home Page

The Directory Services home page, shown in the image below, displays the status of the Exchange server connection to and use of Active Directory server, a critical dependency of Exchange 2000 and Exchange 2003.



The Directory Services home page displays the Connections, Clients, DS Proxy, DC Servers, DS Access Cache, and DNS panel. The panels group components that provide details about the status of the directory services.

Each component links to a drilldown and a shortcut menu. The shortcut menu, accessed by right-clicking a component, provides expert Help, historical information, and configuration options.

Expert Help, accessed by selecting What's This? from the shortcut menu, provides you with a better understanding of the Exchange functionality represented by the component and advice on how to improve the performance of the server.

For more information on drilldowns, see [“Understanding Drilldowns” on page 320](#).

The Connections Panel

The Connections panel has one component. It displays the number of MAPI email clients using the Directory Service Proxy (DSProxy) component on the Exchange 2000 or Exchange 2003 server.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

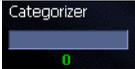
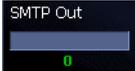
COMPONENT	DESCRIPTION
 <p>The screenshot shows a panel titled 'Connections' with two sections: 'Outlook 97/98' and 'Outlook 2000/02/03'. A green oval highlights the number '3' in the Outlook 97/98 section.</p>	<p>This shows the number of MAPI email clients (for example, Microsoft Outlook) using the DSProxy component on this Exchange server.</p> <p>Older MAPI clients (for example, Microsoft Outlook 97 or 98) issue directory requests in the same way as they would to an Exchange 5.5 server. DSProxy blindly forwards these requests to a Global Catalog server.</p> <p>Newer MAPI clients (for example, Microsoft Outlook 2000, 2002, or 2003) are able to accept a directory referral from the DSProxy component of Exchange 2000/2003. The client directly contacts the Global Catalog server identified in the referral.</p> <p>Drilldown: Connections tab of the Protocols drilldown</p>

The Clients Panel

The Clients panel groups components that give an indication of the immediate demands the Exchange server is putting on Active Directory. The Consumer Processes component represents the number of consumers (processes) requesting directory information from the DSAccess cache. The Categorizer queue indicates the number of messages requiring categorization. The SMTP component shows the number of messages bound for remote SMTP domains or hosts, which require a DNS lookup for further processing.

Spotlight on Exchange Enterprise Edition

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
	<p>This shows the current number of DSAccess cache consumers. A consumer of the cache is a process or process thread that requests directory information from DSAccess cache. These consumers are also referred to as DSAccess contexts.</p> <p>Drilldown: Directory Access Cache tab of the Directory Services drilldown</p>
	<p>This shows the current number of messages in the categorizer that are waiting to be categorized. A Global Catalog server directory lookup is required to categorize a message. This queue length provides an indication of the immediate demands that the Exchange server puts on the Global Catalog servers. The categorizer uses the DSAccess cache to get a list of available Global Catalog servers to query.</p> <p>Drilldown: Queue Management drilldown</p>
	<p>This shows the current number of messages that will be sent to remote SMTP domains or hosts. Messages destined for remote SMTP domains require a DNS lookup to find the mail exchange (MX) record for that domain and to translate the host name of the SMTP destination to an IP address.</p> <p>If this queue is backlogged, it could represent a problem with the DNS servers this Exchange server is using. This queue length also shows the load that will be put on the DNS servers in the near future.</p> <p>Drilldown: Queue Management drilldown</p>

The DS Proxy Panel

The DS Proxy panel groups the components that represent the features of the Directory Service Proxy (DSProxy). The components indicate the immediate demand the Exchange server is placing on the DSProxy by showing the number of threads in use, and the number of peak client connections.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the number of threads in use by the DSProxy. This number indicates how many DSProxy requests the Exchange server is servicing. DSProxy runs under the System Attendant service.</p> <p>Drilldown: Directory Proxy tab of the Directory Services drilldown</p>
	<p>This shows the number of peak client connections to the DSProxy since the System Attendant was started. This gives an indication of the load on the DSProxy.</p> <p>Drilldown: Directory Proxy tab of the Directory Services drilldown</p>
<p>Directory Referrals: YES</p>	<p>This shows whether the Global Catalog server that Exchange gives out as a referral to newer MAPI clients is specified manually in the Exchange server registry instead of Exchange selecting it automatically.</p> <p>To manually disable referrals, create or modify the following registry entry on the Exchange server:</p> <p>HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MicrosoftSA\Parameters\No RFR Service</p> <p>The No RFR Server value is a REG_DWORD that must be set to 0x1 to disable client referrals.</p> <p>If Microsoft Outlook 2000/2002/2003 end users experience referral problems and the referral Global Catalog server is manually overridden, ensure that this server is online and responding to directory queries.</p>

cont'd...

COMPONENT	DESCRIPTION
	<p>If you configure this Exchange 2000 or Exchange 2003 server to work through a firewall and DSProxy does not proxy directory requests, you may have to open Well Known Ports on your firewall and manually configure the Exchange server to use them. For more information, see Microsoft Knowledge Base articles Q280132 and Q270835.</p> <p>Drilldown: Directory Proxy tab of the Directory Services drilldown</p>

The DC Servers Panel

The DC Servers panel groups components that represent the Global Catalog (GC) and domain controller (DC) servers used by the Exchange server. The components show the health of the servers as well as the health of the Global Catalog domain controller the Exchange server is using to query configuration information. The Proxy and Referral GC overridden components indicate whether the Global Catalog server used for directory proxy requests is manually specified in the Exchange server registry.

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the collective health of the Global Catalog servers that this Exchange server is using. The Active Directory Servers drilldown shows the Global Catalog servers used by this Exchange server and the status of each server (whether it is up/down, fast/slow, synchronized, responding to ping requests from this client, and whether it is in the same Windows 2000 or Windows 2003 site as the Exchange server).</p> <p>If all Global Catalog servers used by this Exchange server are responding to ping requests from this client and are fast and synchronized, the health status of the Global Catalog servers is green. If any servers are not synchronized or are marked as slow, the status is yellow. If any servers are considered to be down (for example, not responding to ping requests from this client), the status is red.</p> <p>Drilldown: Active Directory Servers drilldown</p>

COMPONENT	DESCRIPTION
	<p>This shows the collective health of the domain controller servers that this Exchange server is using. The Active Directory Servers drilldown shows the domain controller servers used by this Exchange server and the status of each server (whether it is up/down, fast/slow, synchronized, responding to ping requests from this client and whether it is in the same Windows 2000 or Windows 2003 site as the Exchange server).</p> <p>If all domain controller servers used by this Exchange server are responding to ping requests from this client and are fast and synchronized, the health status is green. If any servers are not synchronized or are marked as slow, the status is yellow. If any servers are considered to be down (for example, not responding to ping requests from this client), the status is red.</p> <p>Drilldown: Active Directory Servers drilldown</p>

COMPONENT	DESCRIPTION
	<p>This shows the health of the Global Catalog domain controller that the Exchange server uses to query configuration information. Click on this component to view the Active Directory Servers drilldown, which shows the IP address of the server and its status (for example, reachable on the network, up or down, slow or fast, synchronized, and whether it is in the same Windows 2000 or Windows 2003 site as your Exchange server).</p> <p>If the domain controller used for configuration requests is down or not reachable on the network from this client, the status is red. If this domain controller is slow or not synchronized, the status is yellow. Green represents an OK condition.</p> <p>Exchange 2000 and Exchange 2003 use the domain controller to query messaging-related information for processing messages. The domain controller is consulted frequently and, for optimal performance, should reside in the same Windows 2000 or Windows 2003 site as your Exchange server. You can determine the location of the domain controller by viewing the Active Directory Servers drilldown.</p> <p>If the domain controller is constantly in alarm status and there is a valid reason for this, you can ignore the alarm by right-clicking the Active Directory Servers drilldown and selecting Ignore Alarm. A list of domain controllers appears and you can choose to ignore the configuration domain controller causing the alarm.</p> <p>Create or modify the following registry key on the Exchange server to specify the domain controller that the Exchange server should use to search for configuration information: <code>\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeDSAccess\Instance0\ConfigDCHostName</code></p> <p>The value of ConfigDCHostName is a string (type REG_SZ) that represents the host name of the domain controller.</p> <p>Create or modify the following registry entry on the Exchange server if it needs to query a specific port when communicating with the configuration domain controllers: <code>\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeDSAccess\Instance0\ConfigDCPortNumber</code></p> <p>The value of ConfigDCPortNumber is an integer (type REG_DWORD) that specifies the port on the configuration domain controller.</p> <p>Drilldown: Active Directory Servers drilldown</p>

COMPONENT	DESCRIPTION
<p>Proxy GC Overridden: NO</p>	<p>This shows whether the Global Catalog server used for directory proxy requests by older MAPI clients is manually specified in the Exchange server registry instead of Exchange selecting it automatically.</p> <p>To manually specify what server the DSProxy uses, create or modify the following registry entry on the remote Exchange server:</p> <p><code>\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeSA\Parameters\NSPI Target Server</code></p> <p>The NSPI Target Server value is a string that signifies the hostname of the Global Catalog server that this Exchange server should use for Directory Proxy requests.</p> <p>If a DSProxy server is not manually specified in the registry of the Exchange server, NO is displayed (that is no manual override).</p> <p>If the Exchange server is experiencing directory proxy problems and this is overridden, ensure that the overridden Global Catalog server is online and responding to directory queries such as email address resolutions.</p> <p>Drilldown: Active Directory Servers drilldown</p>
<p>Referral GC Overridden: NO</p>	<p>This shows whether the Global Catalog server used for directory referrals to newer MAPI clients (for example, Microsoft Outlook 2000/2002/2003) is specified manually in the Exchange server registry instead of Exchange selecting it automatically.</p> <p>To manually specify the Active Directory server to be given to newer MAPI clients as a referral, create or modify the following registry entry on the remote Exchange server:</p> <p><code>\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeSA\Parameters\RFR Target Server</code></p> <p>The RFR Target Server value is a string that signifies the hostname of the Global Catalog server that this Exchange server should use for Directory Proxy referrals.</p> <p>If a DSProxy referral server is not specified manually in the registry of the Exchange server, NO is displayed (that is no manual override).</p> <p>If the Exchange server is experiencing directory referral problems and this is overridden, ensure that the overridden Global Catalog server is online and responding to directory queries such as email address resolutions.</p> <p>Drilldown: Active Directory Servers drilldown</p>

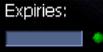
The DS Access Cache Panel

The DS Access Cache panel groups components that represent the features of the DSAccess cache. The components show the rate at which directory entries are entering and leaving the cache and the percentage of space occupied by all directory cache entries.



You can change the maximum cache size and timeout (TTL) parameters by using the "Manage" menu, which is accessed by right-clicking any of the DSAccess components on the DS Access Cache panel. For more information, see ["Managing DSAccess Cache" on page 362](#).

The contents of the What's This? Help, accessed by right-clicking each component, are shown in the following table. The name of the drilldown for each component is also listed:

COMPONENT	DESCRIPTION
	<p>This shows the rate at which directory entries enter the cache. If cache expiration is too long and the rate of entry is significant, the DSAccess cache grows large and affects performance. To learn more about this, view the Help on the DSAccess Cache Max size component and the Timeout (TTL) component.</p> <p>Drilldown: Directory Access Cache tab of the Directory Services drilldown</p>
	<p>This shows the rate at which directory entries are leaving the cache. An entry leaves the cache once it has expired. The duration an entry is retained in the cache is referred to as the cache timeout or Time to Live (TTL) value. This value can be manually set on your Exchange server. See the Help for the Timeout (TTL) component on the DSAccess cache for more information.</p> <p>Drilldown: Directory Access Cache tab of the Directory Services drilldown</p>
	<p>Container:</p> <p>This shows the percentage of space occupied by all DSAccess cache entries. You can manually set the maximum size of the DSAccess cache in the registry. View the Help on the DSAccess Cache Max size component for details. If no maximum size is manually set, the maximum size is 50 MB.</p>

COMPONENT	DESCRIPTION
 <p>Size: 0 Mb Max: 50 Mb Timeout: 15 mins. Cache Hit: 36 %</p>	<p>Size:</p> <p>This shows the total size of the DSAccess cache in megabytes. If the cache size is reported as 0 MB, the size is probably less than 0.5 MB and is rounded down to 0 MB. The cache size itself is not a problem unless it consistently nears the maximum size for the cache. For information on adjusting the DSAccess cache size and on the maximum size for optimum performance, see the component Help on the following: DSAccess Cache Max size.</p>

COMPONENT	DESCRIPTION
	<p>Max:</p> <p>This value shows the maximum size (in megabytes) for the DSAccess cache. The default DSAccess cache size is 4 MB. Adjusting the maximum size of your cache can significantly alter the cache performance and your overall Exchange server performance.</p> <p>The optimal cache size depends on the cache timeout setting (per entry time-to-live) and the expected demand put on the cache. Each consumer of the cache (such as Internet Protocol clients and inbound SMTP messages) requires approximately 3.6 KB of cached entries. Using this figure and the 2.5 MB overhead associated with the DSAccess cache, you can use the following formula to determine the optimal size for your DSAccess cache:</p> <ul style="list-style-type: none"> • Max Cache Size KB = (Expected Demand) * (Cache TTL) * 3.6 + 2500 <p>To determine demand on the cache you can estimate the total rate of actions for each DSAccess client. You can use the number of commands per second from the various email clients and the SMTP message flow rates shown on the Main Home page drilldown. For example, if the expected DSAccess demand is 30 actions per second and the cache timeout value is set to 10 minutes (600 sec), the cache size should be set to:</p> <ul style="list-style-type: none"> • Max Cache Size KB = (30 * 600 * 3.6 + 2500) = 67,300 KB <p>You can manually set the maximum default cache size by creating or modifying the following registry entry on the Exchange server: \HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MSExchangeDSAccess\Instance0\MaxMemory.</p> <p>The MaxMemory value is a REG_DWORD that specifies the maximum size of the DSAccess cache in kilobytes.</p> <p>Chapter 31 of the Microsoft Exchange 2000 Resource Kit contains more information on tuning your DSAccess cache for optimal performance. At the time of writing this was available at: http://www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/exchange/reskit/ex00res/resguide/c310ptim.asp .</p>

COMPONENT	DESCRIPTION
 <p>Size: 0 Mb Max: 50 Mb Timeout: 15 mins. Cache Hit: 36 %</p>	<p>Timeout:</p> <p>This shows how long an entry remains in the DSAccess cache. This value is also known as the Time to Live (TTL) setting. It is important in determining the cache size and how well the cache performs.</p> <p>You can control the cache timeout value by creating or altering the following registry value on the remote Exchange 2000 or Exchange 2003 server: <code>"\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Service s\MExchangeDSAccess\Instance0\CacheTTL"</code>. The value of this entry is a REG_DWORD that represents the number of seconds an entry is stored in DSAccess cache.</p> <p>Increasing the DSAccess cache timeout value has a significant impact on the cache size because each entry resides in the cache longer and more entries accumulate and consume additional memory. It is recommended that you set the cache timeout value in conjunction with the maximum cache size. For information on how to set your maximum cache size, view the Help for the DSAccess cache Max size component.</p> <p>However, you can improve performance by increasing the DSAccess cache timeout value. If more entries are retained in the cache, it reduces the need (and associated latency) generated by remotely querying an Active Directory.</p> <p>Chapter 31 of the Microsoft Exchange 2000 Resource Kit contains more information on tuning your DSAccess cache for optimal performance. At the time of writing this was available at: http://www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/exchange/reskit/ex00res/resguide/c31optim.asp</p>

COMPONENT	DESCRIPTION
 <p>Size: 0 Mb Max: 50 Mb Timeout: 15 mins. Cache Hit: 36 %</p>	<p>Cache Hit:</p> <p>This shows the ratio of hits to misses in the DSAccess cache. The number of hits is typically at least twice the number of misses (a cache hit ratio of at least 66 percent). In smaller environments, lower cache hit ratios are more common.</p> <p>The DSAccess cache stores messaging-related information from Active Directory for use by all Exchange 2000 and Exchange 2003 components except MAPI client address book searches and specific portions of SMTP inbound and outbound routing. By having this information locally, you can reduce the number of directory lookup queries issued to an Active Directory server (domain controller or Global Catalog) and improve performance of the Exchange server.</p> <p>Two parameters are crucial to DSAccess cache performance: cache size and timeout (expiration time of each cache entry). View the individual component Help for details about the DSAccess cache size and timeout.</p>

The DNS Panel

The DNS panel groups the components that represent the primary and secondary DNS servers configured on the Windows 2000 or Windows 2003 operating system where the Exchange 2000 or Exchange 2003 server resides.

The contents of the What's This? Help, accessed by right-clicking each component, is shown in the following table. The name of the drilldown for each component is also listed.

COMPONENT	DESCRIPTION
<p>Primary DNS Server: 10.4.48.49</p>	<p>This shows the Primary DNS server that is configured on the Windows 2000 or 2003 operating system where the Exchange 2000 or 2003 server resides. Exchange uses this DNS server to find the SMTP host designated to receive mail for a remote SMTP domain (identified by a Mail Exchange (MX) record) and to perform a host name to IP address translation for remote SMTP hosts where this Exchange server sends mail. The component also shows whether these DNS servers are up or down (for example, responding to ping requests from this client). If either the primary or secondary DNS servers are not responding, the IP address flashes red.</p> <p>Clicking on either DNS server invokes the DNS Servers drilldown that lists all of the DNS servers configured on the Exchange Windows 2000 or 2003 operating system and their respective status.</p> <p>If one or more DNS servers are constantly in alarm status (for example, not responding to ping requests from this client), you can choose to ignore the alarm for that server. Right-click in the DNS Servers drilldown and select Ignore Alarm. Select the problematic DNS servers from the list.</p> <p>If the Exchange server has multiple network cards, the DNS servers that are displayed correspond to the first network card found in the registry.</p> <p>An Exchange SMTP virtual server can be configured to use other DNS servers (for example, not configured in the Windows 2000 or 2003 operating system). These are usually DNS servers external to the resident Exchange Organization and have not yet been shown here or in the DNS Servers drilldown.</p> <p>Drilldown: DNS Servers drilldown</p>

cont'd...

COMPONENT	DESCRIPTION
<p>Secondary DNS Server: 10.4.60.12</p>	<p>This shows the Secondary DNS server that is configured on the Windows 2000 or 2003 operating system where the Exchange 2000 or 2003 server resides. Exchange uses this DNS server to find the SMTP host designated to receive mail for a remote SMTP domain (identified by a Mail Exchange (MX) record) and to perform a host name to IP address translation for remote SMTP hosts where this Exchange server sends mail. The component also shows whether these DNS servers are up or down (for example, responding to ping requests from this client). If either the primary or secondary DNS servers are not responding, the IP address flashes red.</p> <p>Clicking on either DNS server invokes the DNS Servers drilldown that lists all of the DNS servers configured on the Exchange Windows 2000 or 2003 operating system and their respective status.</p> <p>If one or more DNS servers are constantly in alarm status (for example, not responding to ping requests from this client), you can choose to ignore the alarm for that server. Right-click in the DNS Servers drilldown and select Ignore Alarm. Select the problematic DNS servers from the list.</p> <p>If the Exchange server has multiple network cards, the DNS servers that are displayed correspond to the first network card found in the registry.</p> <p>An Exchange SMTP virtual server can be configured to use other DNS servers (for example, not configured in the Windows 2000 or 2003 operating system). These are usually DNS servers external to the resident Exchange Organization and have not yet been shown here or in the DNS Servers drilldown.</p> <p>Drilldown: DNS Servers drilldown</p>

The Best Practices Home Page

The Best Practices home page, shown below, can help you to maximize the performance of your Exchange server and alert you to any situations which do not conform to well-known Exchange 2000 or Exchange 2003 best practices.



The Best Practices home page displays the following panels:

- Exchange Updates
- Security Configuration
- Exchange Configuration
- Maintenance Events panels

Some components on the Best Practice home page link to drilldowns. All components have shortcut menus. The shortcut menu, accessed by right-clicking a component, provides Expert Help (What's This?), historical information (Show Details), and configuration options (Metrics, Properties).

Some shortcut menus offer the Snooze Alarm option, which allows you to ignore alarms. For more information about the Snooze Alarm option, [see "To ignore alarms" on page 233.](#)

Expert Help provides you with a better understanding of the Exchange functionality represented by the component and advice on how to improve the performance of the server.

For more information on drilldowns, see [“Understanding Drilldowns” on page 320](#).



The metrics, thresholds, and severities have been carefully configured for the components on the Best Practices home page, and it is recommended that you do not change these configurations. For more information about these settings, see [“Metrics, Thresholds, and Severities” on page 156](#).

Exchange Updates Panel

Spotlight on Exchange 2000/2003 detects whether or not the latest Exchange server and Windows operating system updates have been installed on the server being diagnosed. This information is shown in the Exchange Updates panel, shown below.

Exchange Updates		
Latest Installed Exchange Update:	None Detected	Details
Latest Installed Windows Update:	8/5/2003	Details

If an update has been installed, Spotlight on Exchange 2000/2003 displays the date and time of the installation. You can click the Details button to view the corresponding drilldown. For example, if you click the Details button for the latest Exchange update, you can view the Exchange Updates tab of the Updates drilldown.

The drilldown is divided into two sections. The top section lists all of the installed Exchange updates. The bottom section is an embedded Web browser that is set to display the Microsoft Product Support Services Web page. You can click any of the rows of information in the top section of the drilldown and the Web browser navigates to the corresponding Microsoft Knowledge Base article.

If Spotlight on Exchange 2000/2003 detects that the latest updates have not been installed, the following message appears: None detected.

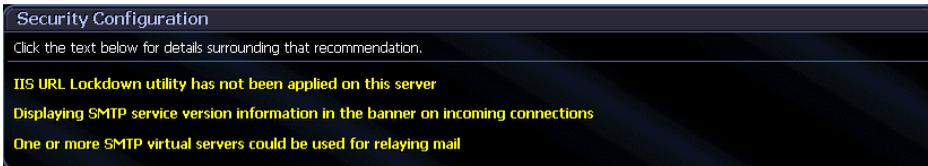
You can click the None detected message to view the corresponding drilldown, where you can use the Web browser to search for updates.



For more information, see [“The Updates Drilldown” on page 341](#).

Security Configuration Panel

The Security Configuration panel, shown below, provides warnings and expert advice (Expert Help) about how you can improve the security of the Exchange 2000 or Exchange 2003 server to which you are connected.



Spotlight on Exchange 2000/2003 checks to see whether or not the IIS URL Lockdown utility has been applied to the server, whether SMTP service version information is displayed in the banner on incoming connections, and whether any SMTP virtual servers are used for relaying mail.

You can click the messages on the Security Configuration panel to view drilldowns and Expert Help. The message text changes according to the current status of the server. The color of the text also indicates status. Yellow indicates non-conformance with best practices, and green indicates that best practices are in place on the server.

IIS URL Lockdown Utility

The Internet Information Services (IIS) URL Lockdown utility is used to secure a Web server. You can use this utility to disable unused IIS features, which secures your Exchange 2000 or Exchange 2003 server against attack.

Spotlight on Exchange 2000/2003 detects whether or not the IIS URL Lockdown utility has been applied, and if it has been applied, checks to see if it is the latest version of the utility. Version 1.0 is not the latest version of this utility. You can find information about the latest version at the following address:

<http://support.microsoft.com/search/preview.aspx?scid=kb;en-us;Q309508>

Spotlight on Exchange Enterprise Edition

The following table shows the IIS URL Lockdown messages that appear on the Security Configuration panel:

CONDITION DETECTED	MESSAGE
The IIS URL Lockdown utility has been applied to the Exchange 2000 or Exchange 2003 server	IIS URL Lockdown utility has been applied on this server
The IIS URL Lockdown utility version 1.0 has been applied on the Exchange 2000 or Exchange 2003 server	Latest IIS URL Lockdown utility has not been applied on this server
The IIS URL Lockdown utility has not been applied on the Exchange 2000 or Exchange 2003 server	IIS URL Lockdown utility has not been applied on this server



See the Component and Alarm Help for more detailed information about the IIS URL Lockdown utility and for the location of Microsoft Knowledge Base articles.

SMTP Service Version Information Displayed

Spotlight on Exchange 2000/2003 checks to see if SMTP service version information is displayed in the banner on incoming connections. To improve security on the Exchange 2000 or Exchange 2003 server, this information should not be displayed.

The following table shows the SMTP service version messages that appear on the Security Configuration panel:

CONDITION DETECTED	MESSAGE
SMTP service version information is displayed in the banner on incoming connections.	Displaying SMTP service version information in the banner on incoming connections
SMTP service version information is not displayed in the banner on incoming connections.	SMTP service version information is not displayed in the banner on incoming connections

You can click the SMTP service version messages to view details in the SMTP Version tab of the Security Configuration drilldown.



See the component and alarm Help for more detailed information about the SMTP service version information display and for the location of Microsoft Knowledge Base articles.

SMTP Virtual Server Used for Relaying Mail

Spotlight on Exchange 2000/2003 detects whether SMTP virtual servers could be used for relaying mail. This type of SMTP virtual server use can be a security risk for Exchange 2000 or Exchange 2003 server.

The following table shows the SMTP virtual server messages that appear on the Security Configuration panel:

CONDITION DETECTED	MESSAGE
One or more SMTP virtual servers could be used for relaying mail.	One or more SMTP virtual servers could be used for relaying mail
No SMTP virtual servers can be used for relaying mail.	None of the SMTP virtual servers can be used for relaying mail

You can click the SMTP virtual server messages to view details in the SMTP Relay tab of the Security Configuration drilldown.



See the Component and Alarm Help for more detailed information about SMTP virtual servers used for relaying mail and for the location of Microsoft Knowledge Base articles.

Exchange Configuration Panel

The Exchange Configuration panel provides warnings and expert advice (Expert Help) about the physical location of mailbox stores and transaction logs, virtual memory usage, and potential security problems with access control lists (ACLs) on the Exchange 2000 or Exchange 2003 server being diagnosed.



You can click the messages on this panel to view drilldowns and Expert Help. The messages change according to the current status of the server.

Mailbox Stores and Transaction Log Location

Spotlight on Exchange 2000/2003 detects whether or not the server being diagnosed has mailbox stores and transaction logs that share a physical disk. Transaction logs are critical to the restoration of lost data and, in case of disk failure, should not be located on the same physical disk as the data to be restored.

Spotlight on Exchange 2000/2003 saves you from manually checking the paths of mailbox stores and transaction logs, which is a long and tedious procedure that may not produce accurate results.

The following table shows the mailbox and transaction log messages that appear on the Exchange Configuration panel:

CONDITION DETECTED	MESSAGE
No mailbox stores share the same physical disk as the transaction logs.	There are no Mailbox Stores sharing a physical drive with Transaction Logs
There are mailbox stores on the same physical disk as transaction logs.	One or more Mailbox Stores and a set of Transaction Logs share a physical disk Note: You can click this message to view the Conflicting Transaction Logs tab of the Exchange Configuration drilldown.



Only the stores in the storage group that conflict with the transaction logs are reported in the Exchange Configuration drilldown. For more information about this drilldown, see “Displaying Drilldowns” on page 320.

Improved Virtual Memory Allocation

The information store is a key Exchange server process that can shut down if it consumes two gigabytes of virtual memory. It is not uncommon for a heavily-loaded Exchange server to reach this level of memory consumption. If this happens, memory allocations fail and you must restart the information store service. To avoid this issue, you can install a three gigabyte memory switch in the boot.ini file of the server being diagnosed.

Spotlight on Exchange 2000/2003 reminds you to install the three gigabyte virtual memory switch if the following conditions are met:

- Spotlight on Exchange Enterprise Edition is connected to an Exchange 2000 or Exchange 2003 server.
- The server has at least one gigabyte of RAM.
- The operating system on the server is
 - Windows Server 2003, Enterprise Edition
 - Windows Server 2003, Datacenter Edition
 - Windows 2000 Advanced Server
 - Windows 2000 Datacenter Edition
- You have not enabled the three gigabyte virtual memory switch from the boot.ini file of the server.

If the above conditions are met, Spotlight on Exchange 2000/2003 displays the following message on the Exchange Configuration panel: This server requires a change for improved Virtual Memory allocation

You can right-click this message to view Expert Help about the three gigabyte virtual memory switch including directions on how to access the switch.

If Spotlight on Exchange 2000/2003 detects that you have already enabled the three gigabyte virtual memory switch or that the server does not meet the above required conditions, the following message is displayed on the Exchange Configuration panel: No Virtual Memory changes are necessary

You can right-click this message to view Expert Help.

Everyone Group is in the Access Control List

In a default Exchange 2000 or Exchange 2003 installation, the access control list (ACL) for the tracking logs share contains the Everyone group. This poses a security risk because unauthenticated users could access the tracking logs and expose sensitive information to all users on the network.

The following table shows the Everyone Group in the Access Control List messages that appear on the Exchange Configuration panel:

CONDITION DETECTED	MESSAGE
The Everyone group is in the ACL for the tracking logs of the server.	The Everyone group is in the Access Control List for this server's tracking log share
The Everyone group is not in the ACL for the tracking logs of the server	The Everyone group is not in the Access Control List for this server's tracking log share

You can right-click the access control list messages to view Expert Help.

Domain Controller Location

Spotlight on Exchange 2000/2003 detects whether or not the Exchange 2000 or Exchange 2003 server to which you are connected is also acting as a Windows 2000 or Windows 2003 domain controller. It is a good idea to have the domain controller in a separate location as it can consume large amounts of server resources and impede Exchange server performance.

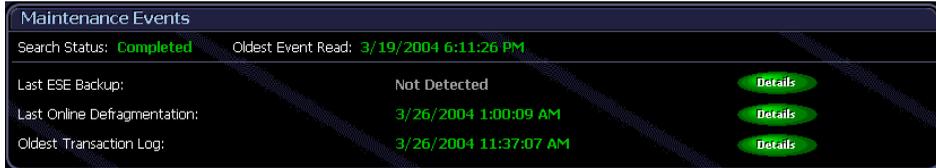
The following table shows the domain controller messages that appear on the Exchange Configuration panel:

CONDITION DETECTED	MESSAGE
The Exchange 2000 or Exchange 2003 server is not acting as a Windows 2000 or Windows 2003 domain controller	The Exchange server is not acting as a Windows domain controller
The Exchange 2000 or Exchange 2003 server is also acting as a Windows 2000 or Windows 2003 domain controller.	The Exchange server is also acting as a Windows domain controller

You can right-click the domain controller messages to view Expert Help.

Maintenance Events Panel

Spotlight on Exchange 2000/2003 searches the event logs of the server being diagnosed for well-known Exchange 2000 or Exchange 2003 maintenance events that have occurred. The Maintenance Events panel displays the results of the search.



Search Status and Oldest Event Read

By viewing the Search Status and Oldest Event Read labels, you can quickly see whether or not Spotlight on Exchange 2000/2003 is still searching and you can view the date and time of the oldest event read.

Last Successful ESE Backup

If the Extensible Storage Engine (ESE) is used to back up data on the server, Spotlight on Exchange 2000/2003 can detect the date and time of this event in the event log and will display this information beside the Last Successful ESE Backup label. If the ESE is not used to perform the backup, Spotlight on Exchange 2000/2003 displays: Not Detected.

You can click Details to view a table that provides backup information for all storage groups. For more information,

Last Failed ESE Backup

If for some reason the backup failed, Spotlight on Exchange 2000/2003 displays the date and time of the failed event. If the ESE is not used to perform the backup, Spotlight on Exchange 2000/2003 displays: Not Detected.

Oldest Transaction Log

Each time a backup occurs, the transaction log files are purged. You can click the Details button on the Maintenance Events panel to view the Oldest Transaction Log drilldown; which provides the names of storage groups, the date

and time that a backup occurred for each storage group, and the age (in hours) of the transaction log for each storage group.



For more information about the corresponding drilldown, see [“The Oldest Transaction Log Drilldown” on page 342](#).

Last Online Defragmentation

The Maintenance Events panel also displays the date and time of the last online defragmentation event for a store. The name of the store is displayed as well as the percentage of whitespace in the store.

Store Name

The Maintenance Events panel displays the name of the store for which the last online defragmentation took place.

Whitespace

The Maintenance Events panel displays the percentage of white space for the store associated with the last online defragmentation. The name of this store is shown beside the Store Name label.

Diagnostic Console Drilldowns

- Understanding Drilldowns
- Displaying Drilldowns

Understanding Drilldowns

The hierarchical design of Spotlight on Exchange 2000/2003 makes it possible for you to analyze a server at different levels of detail.

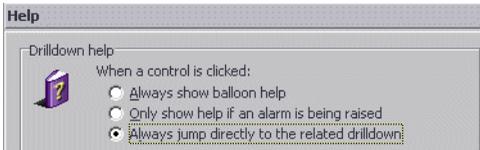
At its highest level — the Main home page, Spotlight on Exchange 2000/2003 displays an operational overview, showing the status of the major features of the current Exchange 2000 or Exchange 2003 server. The detail at this level is designed to help you quickly locate and identify message flow problems.

The IIS, Storage Groups, Directory Services, and Best Practices home pages provide more detail of specific areas of the Exchange server, and are called home page drilldowns. You are drilling down to view more specific data. For more information about each home page, see [“The Home Pages” on page 258](#).

At its deepest level, Spotlight on Exchange 2000/2003 provides drilldowns in the form of tables and graphs. The graphs display a more historical view of a component, for example CPU consumption over a period of time. The tables, which have several columns, break down a component into granular details.

Displaying Drilldowns

Drilldowns can be displayed by clicking the titles of the home pages in the Home Page panel, using the drilldown buttons on the toolbar, or clicking a component on a home page. If you are unable to view the drilldown by clicking on the component, it is because the **Always jump directly to the related drilldown** option is not selected. The following image illustrates this option:



You can select this option in the Spotlight Console Options window. For more information about how to configure Drilldown Help, see [“Choosing How Help is Displayed” on page 216](#).

For more information about the drilldown buttons, see [“Drilldown Buttons” on page 262](#).

The Protocols Drilldown

The Protocols drilldown displays two tabs:

- Connections
- Activity

The tabs show detailed information about current connections to the Exchange server being monitored.

To display the Protocols drilldown

- Click  on the toolbar.

Connections Tab

The Connections tab displays graphs, described in the following table, detailing the types and numbers of connections to the server:

GRAPH	DESCRIPTION
SMTP	Shows the total number of SMTP connections to other SMTP hosts. The number of connections represents the sum of all SMTP outbound connections across all of the SMTP virtual servers installed on the Exchange 2000 or Exchange 2003 server.
MAPI	Shows the current number of RPC active sessions established to the information store by Exchange RPC clients (MAPI clients).
POP3 / IMAP4	Shows the total number of POP3 and IMAP4 connections. Internet mail clients use POP3 and IMAP4 clients to retrieve mail from the store, and SMTP to send mail to the store.
MTA	Shows the current number of active remote MTA connections. These connections can be to other Exchange servers or MTAs on other X.400 systems. If you are running in an Exchange organization and site in mixed mode, Exchange 2000 and Exchange 2003 use the MTA stack to communicate with those servers in the same site.
OWA (HTTP)	Shows the current number of HTTP connections to the Web service on the connected Exchange 2000 or Exchange 2003 server. This gives you an indication of the current number of OWA connections on the server.
MEDIA	Shows the current number of active conferences, instant messaging connections, and chat connections established with the server.

Activity Tab

The Activity tab displays graphs, described in the following table, detailing the rate that data is being sent to and received from the Exchange server:

GRAPH	DESCRIPTION
SMTP	Shows the rate of messages being sent and received by the Exchange server to and from other SMTP hosts.
MAPI	Shows the rate that RPC data is being read and written by Exchange RPC clients, for example MAPI clients, to and from the store.
POP3 / IMAP4	Shows the rate that POP3 and IMAP4 clients are issuing commands to the store.
MTA	Shows the rate messages are being sent and received by the local MTA.
OWA	Shows the rate that OWA clients are issuing commands that read and write data to and from the information store.
HTTP	Shows the rate in bytes per second that data is being sent and received by the HTTP clients.

The IIS Drilldown

The IIS drilldown displays three tabs:

- Health
- Routing
- Failures

The tabs provide detailed information about the health of the IIS, including how much time is used to execute IIS instructions and the physical and virtual memory used in the process. The drilldowns also provide a view of the categorizer and routing engines.

To display the IIS drilldown

- Click  on the toolbar.

Health Tab

The Health Tab displays graphs, described in the following table, that provide a historical view of elapsed time used by the IIS to execute instructions and the physical and virtual memory used in the process:

GRAPH	DESCRIPTION
CPU Usage	Shows the percentage of elapsed time that all of the threads of the IIS process (INETINFO.EXE) use to execute instructions. On multi-processor computers, the maximum value of the counter is 100% times the number of processors.
Memory Usage	Shows the amount of physical (in MB) that the INETINFO.EXE process is consuming. Exchange 2000 and Exchange 2003 can consume a significant portion of memory. This is normal and should not be a concern. The Exchange server releases memory to other applications as required to increase system performance.
Web Service Uptime	Shows the uptime in days of the World Wide Web service. This service is critical for Exchange 2000 and Exchange 2003 OWA servers. You can compare the Web service uptime with the system uptime.

Routing Tab

The Routing Tab provides detailed information in graphs, described in the following table, about the activity of the Exchange server, specifically the activity of the routing engine:

GRAPH	DESCRIPTION
Local Queue Length	Shows the number of messages waiting to be delivered to a local mailbox or public folder.
Routing Table Lookups / sec	Shows the rate of lookups per second against the Domain Mapping Table and Domain Configuration Table. The Domain Mapping Table resolves domain names to the destination message queues. The Domain Configuration Table maps a domain to a specific configuration, in order to determine configuration items such as authentication types.
Categorizer Address Lookups	Shows the number of categorizer lookups and completions per second.
Messages Currently Undeliverable	Shows the current number of messages that the routing engine has deemed undeliverable.

cont'd...

GRAPH	DESCRIPTION
Messages Pending Routing	This shows the number of messages that have been categorized but not routed. At this point the message is ready to be routed to the appropriate destination.
Messages Submitted to Categorizer	Shows the rate of messages flowing from the inbound SMTP queue to the categorizer.

Failures Tab

The Failures Tab provides detailed information in graphs, described in the following table, about the activity of the categorizer engine:

GRAPH	DESCRIPTION
Failed Categorizations	Shows the number of messages that have failed categorization. The reasons for this failure can be any of the following: <ul style="list-style-type: none">• Connection failure to Directory Services• Logon failure to Directory Services• Non-Retryable Failure• Out of memory Failure• Retryable Failure• Sink Retryable Failure
Bad Mail Messages	Shows the number of messages that are in the BadMail folder across all installed SMTP virtual servers. After a default Exchange 2000 or Exchange 2003 installation, this folder can be found at <drive:>\Program Files\Exchsrvr\MailRoot\<SMTP Virtual Server Name>\BadMail.
Rate of NDRs	Shows the rate that Non-Delivery reports are issued on undeliverable messages.
Bad Mail Messages (Size)	Shows the size, in kilobytes, of all messages that are in the BadMail folder across all installed SMTP virtual servers.

The Information Store Drilldown

The Information Store drilldown includes nine tabs:

- Store Information
- Store Backup
- Store Whitespace
- Health
- Activity
- Queues
- Storage Groups Users and Mailboxes
- Storage Group Disk Usage
- Transaction Logs

The tabs display information detailing the current activity of the information store.

To display the Information Store drilldown

- Click  on the toolbar.

Store Information Tab

The Store Information tab provides detailed information, described in the following table, about all public and private stores on the connected Exchange server.

COLUMN	DESCRIPTION
Store Name	This shows the full name of the mailbox store or public folder.
Store Type	This shows the type of store, public or private.
Mailboxes	This shows the total number of mailboxes on the store. It is normal to see one mailbox on a public folder; this is a system mailbox that resides on all public folders.
EDB File Size (Mb)	This shows the size of the EDB file. It is the total disk space used by the rich-text store.

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COLUMN	DESCRIPTION
EDB Free Disk Space (Mb)	This shows the total amount of unused space on the logical disk containing the rich-text store. The disk should always contain free space to allow for normal mailbox growth and database defragmentation.
EDB Disk Space (Mb)	This shows the total amount of used space on the logical disk containing the rich-text store.
STM File Size (Mb)	This shows the total disk space used by the native content store.
STM Free Disk Space (Mb)	This shows the total amount of unused disk space on the logical disk containing the native content store. The disk should always contain free space to allow for normal mailbox growth and database defragmentation.
STM Disk Space (Mb)	This shows the total amount of disk space on the logical disk containing the native content store.

Store Backup Tab

The Store Backup Tab provides detailed information, described in the following table, about backups performed on storage groups on the connected server.

COLUMN	DESCRIPTION
Storage Group Name	This shows the full name of the storage group.
Last Backup	This shows the date and time of the last backup performed on the storage group.
Result	This shows whether the last backup performed on the storage group was successful or if it failed.
Description	This shows a description of the last backup performed on the storage group.

Store Whitespace tab

The Store Whitespace tab provides detailed information, described in the following table, about the amount of whitespace on stores, the date and time of the last online defragmentation, and the amount of whitespace following defragmentation.

COLUMN	DESCRIPTION
Store Name	This shows the name of the storage group and shows the name of the server on which the storage group resides.
Whitespace (Mb)	This shows the amount of whitespace in megabytes on the store.
Last Online Defragmentation	This shows the date and time of the last online defragmentation.
Results	This shows the amount of free space in megabytes after online defragmentation is terminated.

Health Tab

The Health Tab provides detailed information in graphs, described in the following table, about the activity of the information store. The graphs provide a historical view of the rate at which data is being read by the store, CPU usage, and the amount of physical and virtual memory being consumed by the information store:

GRAPH	DESCRIPTION
CPU Usage	Shows the percentage of elapsed time that all of the threads of the information store (STORE.EXE) use to execute instructions. On multi-processor computers, the maximum value of the counter is 100% times the number of processors.
Disk Reads / sec	Shows the rate that data is being read by the information store from the disk subsystem of the Windows 2000 or Windows 2003 server running Exchange.
Memory Usage	Shows the total amount of physical memory in MB that the STORE.EXE process is consuming. It is normal to see the information store consuming upwards of 80 or 90% of all available memory. The information store will release memory to other applications as they make requests for memory.

cont'd...

GRAPH	DESCRIPTION
Disk Writes / sec	Shows the rate that data is being written from the store to the disk subsystem of the Windows 2000 or Windows 2003 server running Exchange.

Activity Tab

The Activity tab provides detailed information in graphs, described in the following table, about the activity of the information store, specifically the flow of messages to and from the mailbox stores and public folders.

GRAPH	DESCRIPTION
Information Store Messages Received / sec	Shows the rate that messages are received by mailbox stores and public folders.
Messages in Transit to Information Store	Shows the number of messages that are being delivered to the information store. This can be to either the Advanced Queueing Engine or the MTA.
Information Store Messages Sent / sec	Shows the rate that messages are sent by mailbox stores and public folders.
Messages in Transit from Information Store	Shows the number of messages that are being sent from the information store. This can be from either the Advanced Queueing Engine or the MTA.

Queues Tab

The Queues tab shows a drilldown of graphs that provide a historical view of the information store, specifically the number of messages in various stages of delivery.

GRAPH	DESCRIPTION
MTA In	Shows the number of outstanding messages in the Work Queue, which is the number of messages that have been received from remote MTAs.
Receive Queue	Shows the number of inbound messages that are destined for all the private and public information stores on the server. These messages are awaiting processing by the information store.
MTA Out	Shows the number of outstanding messages destined for, but not yet transferred to, remote Exchange MTAs and/or MTAs on other X.400 email systems.

GRAPH	DESCRIPTION
Send Queue	Shows the current number of outgoing messages being sent by all the private and public stores on the Exchange server.

Storage Group Users and Mailboxes Tab

The Storage Group Users and Mailboxes tab provides detailed information in graphs, described in the following table, about the numbers of users and mailboxes on a specific storage group. There are four graphs on this tab, but not all show data if the storage groups have not been installed on the server. You must have at least one storage group installed.

GRAPH	DESCRIPTION
First Storage Group	Shows the number of active users, connected users, and mailboxes on this storage group.
Other Installed Storage Groups	Shows details about each storage group installed on the server. There are a total of four graphs in this drilldown that each correspond to one installed storage group and display information if the storage group is installed. If only one storage group is installed, only one graph will show data. The graphs show the number of connected users, active users, and mailboxes for each storage group on the server.

Storage Group Disk Usage Tab

The Storage Group Disk Usage tab provides detailed information in graphs, described in the following table, about the activity of the information store. Specifically, it shows the amount of disk space used by each mailbox store and public folder installed on the server. There are four graphs available to provide data for each storage group installed.

GRAPH	DESCRIPTION
First Storage Group	This shows the disk usage by each mailbox store and public folder on the storage group. (Three other graphs show data if the storage groups are installed.)

cont'd...

GRAPH	DESCRIPTION
Other Installed Storage Groups	Shows details about each storage group installed on the server. There are a total of four graphs in this drilldown that each correspond to one installed storage group and display information if the storage group is installed. If only one storage group is installed, only one graph will show data. The graphs show the disk usage by each mailbox store and public folder in a storage group.

Transaction Logs Tab

The Transaction Logs tab provides detailed information in graphs, described in the following table, about the activity of the information store. Specifically, it shows the disk space used by the transaction logs and the rate at which transaction logs are written.

GRAPH	DESCRIPTION
Disk Usage	Shows the disk usage by the transaction logs.
Log Writes	Shows the rate the log buffer is committed to the transaction logs. Once a message is received by the Exchange server it is placed in RAM, in pages known as the transaction log buffer area. Once the transaction is committed to memory, it is committed to the transaction logs. After all operations are completed for the transaction, the data (message) is read from memory and written to the appropriate database.

The Directory Services Drilldown

The Directory Services drilldown displays two tabs:

- Directory Proxy
- Directory Access Cache

The tabs show detailed information about the status of the Exchange 2000 or Exchange 2003 connection to the directory services provided by Active Directory.

To display the Directory Services drilldown

- Click  on the toolbar.

Directory Proxy Tab

The Directory Proxy tab provides detailed information in graphs, described in the following table, about the Exchange server connection to the directory proxy component (DSProxy). Specifically, it shows the rate at which the Exchange server connects to the DSProxy and the rate of bytes per second being transmitted to and from the DSProxy.

GRAPH	DESCRIPTION
Client Connects / sec	Shows the rate of client connections by older MAPI clients (such as Outlook 97/98) to the DSProxy.
Bytes Transmitted / sec	Shows the rate of bytes per second being transmitted to and from the DSProxy.
Client Referrals / sec	Shows the rate of directory referrals being handed out by the DSProxy to new MAPI clients (for example, Outlook 2002 or 2003).
Threads in Use / Peak Client Connections	Shows the number of threads in use as well as the maximum number of concurrent connections to the DSProxy.

Directory Access Cache Tab

The Directory Access Cache tab provides detailed information in graphs, described in the following table, about this Exchange server's use of the directory services.

GRAPH	DESCRIPTION
Inserts and Expiries / sec	Shows the rate at which directory entries are entering and exiting the cache. If the cache expiration is too long and the rate of entry is significant the DSAccess cache can grow large and affect performance. To learn more about this, view the component Help on the DSAccess Cache Max size and Timeout components.
Cache Hits and Misses / sec	Shows the rate of cache hits and misses per second.
Cache Hit Percentage	Shows the cache hit percentage. This is used to measure the efficiency of the Directory Access cache.
LDAP Searches / sec	Shows the rate of LDAP requests being issued by the Directory Access cache to one or more domain controllers.

cont'd...

GRAPH	DESCRIPTION
Cache Hits and Misses Total	Shows the total count of cache hits and misses.
Consumer Processes	Shows the number of current consumer processes. Consumer processes are applications (processes) that use the DSProxy for directory lookups.

The Queue Management Drilldown

The Queue Management drilldown displays two tables that provide details about all of the SMTP virtual servers and associated message queues installed on the Exchange server. If you have used the options available in the Queue Filter Settings dialog box, only specified messages display in the drilldown.

To display the Queue Management drilldown

- Click  on the toolbar.

The following table describes the data displayed in the first drilldown table:

COLUMN	DESCRIPTION
Virtual Server Name	Shows the name of the virtual server.
Queue Name	Shows the names of the queues located on the virtual server.
Messages Queued	Shows the number of messages waiting for delivery in each queue.
Queue Size (KB)	Shows the size of the queue in kilobytes.
Oldest Messages	Shows the date of the oldest message.
Status	Shows the operational status of the queue.
Extended Status Info	Shows any additional descriptions of the queue status.
Freeze First Column	Allows you to always display server name.

The following table describes the data displayed in the second drilldown table:

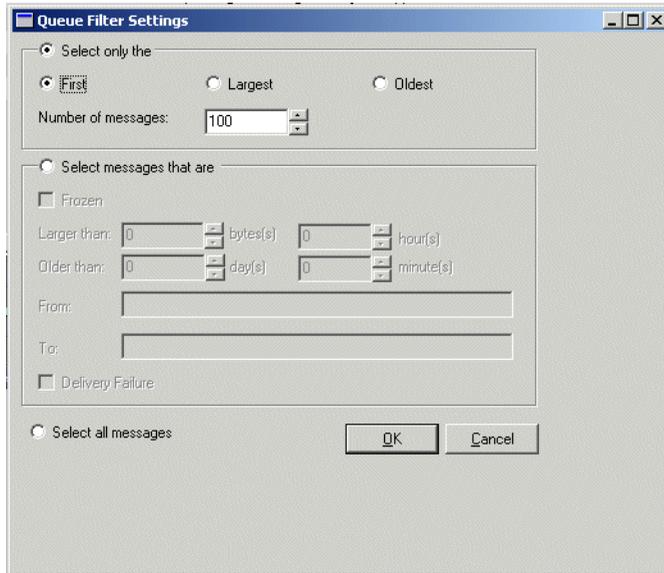
COLUMN	DESCRIPTION
Message Subject	Shows the text in the subject line of the message.
State	Shows the state of the queue, for example, whether the queue is frozen or ready.
Sent From	Shows the identity of the message sender.
Priority	Shows the level of importance assigned to the message.
Message Size (Kb)	Shows the size of the message in kilobytes.
Time Submitted	Shows the time at which the message was sent.
Envelope Recipient	Shows the identity of the message recipient.
Message ID	This shows the identification number assigned to the message by the Exchange server.
Freeze First Column	Allows you to always display the message subject.

Queue Filter Settings Dialog Box

You can use the Queue Filter Settings dialog box, shown in the image below, to configure the number, size, and type of messages that display in the Queue Management drilldown.

To Access the Queue Filter Settings dialog box

- Click the **Filter: Enumerate N Messages** Link on the Queue Management drilldown page.



The available options are described in the following table:

FILTER	DESCRIPTION
Select only the	Select this to access the options available in the first section of the Queue Settings dialog box.
First	Select this to display the first message in the queue.
Largest	Select this to display the largest message in the queue.
Oldest	Select this to display the oldest message in the queue.
Number of Messages	Use this scroll box to enter the number of messages to display.
Select messages that are	Select this to access the options available in the second section of the Queue Settings dialog box.
Frozen	Select this to display messages that are suspended.
Larger than	Use this scroll box to enter the size of the messages to display in the drilldown.

FILTER	DESCRIPTION
Older than N days	Use this scroll box to enter the minimum age in days of the messages to display in the drilldown.
Older than N hours	Use this scroll box to enter the minimum age in hours of the messages to display in the drilldown.
Older than N minutes	Use this scroll box to enter the minimum age in minutes of the messages to display in the drilldown.
From	Use this box to enter the identity of a specific sender. Messages received from this sender display in the drilldown.
To	Use this box to enter the identity of a specific recipient. Messages sent to this recipient display in the drilldown.
Delivery Failure	Select this to display messages that have not been delivered to their final destination because of a failure in the process.
Select all messages	Select this to display all messages in the drilldown.

The DNS Servers Drilldown

The DNS Servers drilldown shows the status of the DNS servers used by the Exchange server. These are the DNS servers configured in the Windows 2000 or Windows 2003 operating system of the Exchange server. If a DNS server does not respond to ping requests, and is marked as down, you can choose to ignore the alarm for the corresponding Spotlight on Exchange component.

To display the DNS Servers drilldown

- Click  on the toolbar.

To access the Ignore Alarm option

1. Right-click anywhere on the DNS Servers drilldown table.
2. Select **Ignore Alarm**.

cont'd...

The following table describes the data displayed on the DNS Servers drilldown:

COLUMN	DESCRIPTION
IP Address	Shows the IP address of the DNS server.
Network Availability	Shows the availability of the DNS server.
Ping Time (ms)	Shows the ping time from this client to the DNS server.
Ignore Alarm	Shows whether or not the Ignore Alarm option is selected. If a DNS server does not respond to ping requests, and is marked as down, you can choose to ignore the alarm.

The Active Directory Servers Drilldown

The Active Directory Servers drilldown provides detailed information about the status of the Global Catalog and domain controller servers the Exchange server is using. At times, these servers can be unsynchronized or slow, and you can choose to disable the alarm for the corresponding Spotlight on Exchange component.

To display the Active Directory Servers drilldown

- Click  on the toolbar.

To access the Ignore Alarm option

1. Right-click anywhere on the Active Directory Servers table.
2. Select **Ignore Alarm**.

The following table describes the information displayed on the Active Directory Servers drilldown:

COLUMN	DESCRIPTION
Host Name	Shows the network name of the Active Directory server. There are different types of Active Directory servers that Exchange can automatically select or the user can manually select.
Automatic / Manual	Shows whether the Active Directory server has been automatically selected or manually selected.
Availability	Shows the availability of the Active Directory server.

COLUMN	DESCRIPTION
Response	Shows how fast or slow the Active Directory server is responding to the Exchange server.
In – Sync	Shows whether the information provided by this Active Directory server is synchronized with other Active Directory servers.
Site	Shows the Windows 2000 or Windows 2003 site where the Active Directory server resides.
Same Site	Shows whether or not the Exchange 2000 or Exchange 2003 server resides within the same site as the Active Directory server.
Ignore Alarm	Shows whether or not the Ignore Alarm option is selected. An Active Directory server can be unavailable, or it can be slow or not unsynchronized.

The Recipient Update Servers Drilldown

The Recipient Update Servers drilldown provides details about recipient update servers (RUS) used by this Exchange server. These servers can be up or down, and you can choose to disable the alarm for the corresponding Spotlight on Exchange component.

To display the Recipient Update Servers drilldown

- Click  on the toolbar.

To Access the Ignore Alarm option

1. Right-click anywhere on the Recipient Update Servers table.
2. Select **Ignore Alarm**.

cont'd...

The following table describes the data displayed on the Recipient Update Servers drilldown:

COLUMN	DESCRIPTION
RUS Host Name	Shows the name of the recipient update server, which is the computer responsible for keeping the Active Directory servers synchronized.
System Attendant Status	Shows the status of the system attendant on the RUS server.
Domain Controller	Shows the name of the domain controller this server uses.
Scope	Shows whether the recipient update server is responsible for local or enterprise updates.

The Known Exchange Problematic Events Drilldown

The Known Exchange Problematic Events drilldown lists application log and system log events for the Exchange server. Only entries that have occurred within the configured time frame are shown in this table. The data that appears in the drilldown is predetermined and cannot be configured. There are a number of options available to you in this drilldown. You can change the time period for when these events are reported, disable event log alarms, and acknowledge all events.

To display the Known Exchange Problematic Events drilldown

- Click  on the toolbar.

Application Log Events

The top section of the Known Exchange Problematic Events drilldown provides details about specific Exchange 2000 and Exchange 2003 application event log entries. The presence of these entries indicates an operational problem with the Exchange server.

System Log Events

The bottom section of the Known Exchange Problematic Events drilldown provides details about specific system event log entries. The presence of these entries indicates an operational problem with the operating system.

To acknowledge all events

- Click the **Acknowledge All Events** option.

Acknowledging all events will clear alarms for any Exchange server events currently displayed in the drilldown.

To change the report time period

1. Click the **Exchange Event IDs in the last 60 minutes** option.
2. Enter the number of minutes in the Set Event IDs Collection Time dialog and click **OK**.

To disable event log alarms

- Click the **Disable Event Log Alarms** option.

Disabling the Event Log will ensure that no alarm is raised for any Exchange log entry for the duration of the Spotlight on Exchange connection to the Exchange server.

The following table describes the data displayed in both sections of the Known Exchange Problematic Events drilldown:

COLUMN	DESCRIPTION
Event ID	Shows the event identification number.
Time Generated	Shows the date and time the event occurred.
Source	Shows the identity of the server component generating the event.
Description	Shows a description of the event.

The Exchange Configuration Drilldown

The Exchange Configuration drilldown provides detailed information about the stores and storage groups that share physical disk space with transaction logs on the server being diagnosed. If there is a conflict, the drilldown displays the name of the store, storage group, the physical drive, and the logical path of the store.

To display the Exchange Configuration drilldown

- Click the **One or more mailbox stores and a set of Transaction Logs share a physical disk** link on the Exchange Configuration panel of the Best Practices home page.



If Spotlight on Exchange Enterprise Edition detects that no stores share space with transaction logs on the server being diagnosed, you can click the message, "There are no Mailbox Stores sharing a physical drive with Transaction Logs" on the Exchange Configuration panel. The message, "No conflicts detected" is displayed in the Exchange Configuration drilldown.

The following table describes the data found in the columns of the table:

COLUMN	DESCRIPTION
Storage Group Name	Shows the name of the storage group sharing a physical drive with transaction logs on the server.
Transaction Log Path	Shows the path of the transaction logs sharing a physical drive with storage groups on the server.
Store Name	Shows the name of the store sharing a physical drive with transaction logs on the server.
Store Path	Shows the path or location of the store on the physical drive.
Physical Disk Name	Shows the identity of the physical drive shared by the storage group and transaction logs.

The Updates Drilldown

The Updates drilldowns displays two tabs:

- Exchange Updates
- Windows Updates

The tabs provide details about the latest Exchange and Windows 2000/2003 updates installed on the Exchange server, as well as the latest updates available.

To display the Updates drilldowns

- Click the **Details** buttons on the Exchange Updates panel on the Best Practices home page to view the corresponding Updates drilldown.

The top section of each drilldown lists all of the Exchange and Windows 2000/2003 updates installed on the server being diagnosed. The following table describes the data provided in the top section of the Updates drilldowns:

COLUMN	DESCRIPTION
Q Name	Shows the Microsoft identification number of the update.
Description	Shows the full name of the update.
Type	Shows the type of update installed, for example whether it is a security or service update.
Installed By	Shows the account name.
Installed Date	Shows the date of the update installation. Note: The date shown is not the date of the update release.

The bottom section of each drilldown is an embedded Web browser that is set to display the Microsoft Product Support Services Web page. You can click any of the dates in the top section of each drilldown, and the Web browser navigates to the corresponding Microsoft Knowledge Base article.

The Oldest Transaction Log Drilldown

The Oldest Transaction Log drilldown displays important details about the transaction logs of each storage group on the server.

To access the Oldest Transaction Log drilldown

- Click the **Details** button beside the Oldest Transaction Log label on the Maintenance Events panel on the Best Practices home page.

The following table describes the details provided in the Oldest Transaction Log drilldown:

COLUMN	DESCRIPTION
Storage Group Name	Shows the name of a specific storage group.
Oldest Transaction Log	Shows the month, day, year, and time of the last transaction log backup for this storage group.
Transaction Log Age (hrs)	Shows the age, in hours, of the oldest transaction log, which should indicate the length of time that has passed since the last transaction log was backed up.

The Manage Diagnostic Logging Levels Drilldown

You can manage the diagnostic logging levels for specific Exchange 2000 and Exchange 2003 service categories on the Exchange server to which you are connected from the Manage Diagnostic Logging Level drilldown.

To access the Manage Diagnostic Logging Level drilldown

- Click  on the toolbar.

The drilldown table lists Exchange 2000 and Exchange 2003 services, such as POP3 Service, in the left column. You can expand the listed services to view individual service categories, as shown in the image below. You set diagnostic logging levels on the service categories and not the service.

POP3 Service (POP3Svc)	
Connections	Minimum
Authentication	Medium
Client Action	None
Configuration	Maximum
Content Engine	Minimum
General	None

To set diagnostic logging levels

1. Expand a service shown in the Manage Diagnostic Logging Level drilldown.
2. Right-click the service category for which you want to set a diagnostic logging level.
3. Select **Change** Logging Level from the submenu.
4. Select **None**, **Minimum**, **Medium**, or **Maximum** from the list of possible logging levels provided.
5. Click **Yes** in the Warning dialog.

Spotlight on Exchange reports the success or failure of the management action.

The following table describes the information shown in the Manage Diagnostic Logging Levels drilldown:

COLUMN	DESCRIPTION
Exchange Service and Category Name	This shows the names of Exchange 2000 or Exchange 2003 services and service categories.
Logging Level	This shows the current logging level for the category. After you change a diagnostic logging level for a category, you can view the changed status in this column.
Highest Logging Level In Service	This shows the highest logging level for all categories listed under each Exchange 2000 or Exchange 2003 service.

The Security Configuration drilldown

The Security Configuration drilldown displays two tabs:

- SMTP Relay
- SMTP Version

You can click the tabs to view details about SMTP virtual servers that may be a security threat to the Exchange 2000 or Exchange 2003 server.

To display the Security Configuration drilldown

- Click the following messages on the Security Configuration panel on the Best Practices home page:

Displaying SMTP service version information in the banner on incoming connections

SMTP service version information is not displayed in the banner on incoming connections

One or more SMTP virtual servers could be used for relaying mail

None of the SMTP virtual servers can be used for relaying mail



You must select the **Always jump directly to the related drilldown Help** option if you do not want to view component or Alarm Help when you click the messages on the Security Configuration panel. For more information about setting the Help option, see [“Choosing How Help is Displayed” on page 216](#).

The SMTP Relay Tab

The SMTP Relay tab of the Security Configuration drilldown shows you the list of SMTP virtual servers on your Exchange 2000 or Exchange 2003 server, and whether or not they could be used for relaying mail.

If Spotlight on Exchange detects that one or more SMTP virtual servers could be used to relay mail, the message: **One or more SMTP virtual servers could be used for relaying mail** alarms (turns yellow) on the [Security Configuration Panel](#).

The SMTP Version Tab

The SMTP Version tab of the Security Configuration drilldown shows you the list of SMTP virtual servers on your Exchange 2000 or Exchange 2003 server, and whether or not they display SMTP service version information in the banner on incoming connections.

If Spotlight on Exchange detects that one or more SMTP virtual servers displays SMTP service version information in the banner on incoming connections, the message: **Displaying SMTP service version information in the banner on incoming connections** alarms (turns yellow) on the Security Configuration panel.

Managing Your Exchange Server

- Overview
- Where to Find Management Action Options
- Managing Queues
- Managing Exchange and IIS Services
- Changing Diagnostic Logging Levels
- Mounting and Dismounting Stores
- Managing DSAccess Cache
- Rebooting the Exchange Server

Overview

Spotlight on Exchange 2000/2003 provides you with the ability to manage the Exchange server to which you are connected. You can right-click a component, or you can click a toolbar button to make immediate changes to the Exchange server environment.

Spotlight on Exchange 2000/2003 management actions include the following:

- Managing queues and messages
 - Freezing and unfreezing queues
 - Forcing a queue retry
 - Freezing and unfreezing messages
 - Deleting messages
- Managing Exchange and IIS services
 - Starting services
 - Stopping services
 - Restarting services
- Changing Exchange server diagnostic logging levels
- Mounting and dismounting stores
- Managing DSAccess cache
 - Changing maximum cache size value
 - Changing Cache Time to Live (Timeout) value
- Rebooting the Exchange server

Where to Find Management Action Options

You can perform management actions from several areas in Spotlight on Exchange 2000/2003. Except for the Server Reboot option, the management action options are listed on a shortcut menu accessed by right-clicking specific components or by right-clicking in drilldowns. The following table shows the

available management actions and where to go in Spotlight on Exchange 2000/2003 to perform the actions:

MANAGEMENT ACTION	OPTION LOCATION	WHERE IS THAT?
<p>Managing queues:</p> <ul style="list-style-type: none"> • Freezing and unfreezing queues • Forcing a retry • Freezing and unfreezing messages • Deleting messages 	<p>The Queue Management Drilldown</p>	<p>You can get to the Queue Management drilldown by clicking any of the following components on the Main or IIS home pages:</p> <p>Main home page</p> <ul style="list-style-type: none"> • SMTP In • Categorizer • SMTP Out <p>IIS home page</p> <ul style="list-style-type: none"> • Messages Awaiting Directory Lookup • Messages Waiting To Be Routed • Local Delivery Queue • Queued SMTP Out <p>– OR –</p> <ul style="list-style-type: none"> • Click  on the toolbar.
<p>Managing Core Exchange services</p> <ul style="list-style-type: none"> • Starting services • Stopping services • Restarting services 	<p>Exchange CPU Usage</p>	<p>The Exchange CPU Usage list is located at the lower left corner of the Main, IIS, Storage Groups, and Directory Services home pages.</p>
<p>Managing IIS Exchange services</p> <ul style="list-style-type: none"> • Starting services • Stopping services • Restarting services 	<p>The IIS Health Panel</p>	<p>The IIS Health panel is located on the IIS home page.</p>
<p>Controlling diagnostic logging levels</p>	<p>The Manage Diagnostic Logging Levels Drilldown</p>	<p>You can access the Manage Diagnostic Levels drilldown by clicking  on the toolbar.</p>

cont'd...

MANAGEMENT ACTION	OPTION LOCATION	WHERE IS THAT?
Mounting and dismounting stores	The Storage Group Details Panel	The Storage Groups Details panel is located on the Storage Groups home page. It is the largest panel on the page and dynamically shows details of the storage group selected in the Storage Groups panel.
Managing DSAccess cache <ul style="list-style-type: none">• Changing maximum cache size value• Changing Cache Time to Live (Timeout) value	The DS Access Cache Panel	The DS Access Cache panel is located on the Directory Services home page.
Rebooting the Exchange server	Toolbar	You can reboot your Exchange server by clicking  on the toolbar.

Refresh Settings

Spotlight on Exchange 2000/2003 has refresh settings that affect how often data is collected from the Exchange server. The refresh rate affects the length of time it takes for you to see the impact of your management action in the Spotlight on Exchange 2000/2003 window. You might see the change more quickly by forcing the Spotlight on Exchange 2000/2003 window to refresh by clicking F5 or the refresh button on the toolbar. For more information about refresh settings [“To set refresh rates” on page 213](#).

Managing Queues

Spotlight on Exchange 2000/2003 components alarm if the SMTP queues are backlogged on the Exchange server to which you are connected. Components showing the health of SMTP queues include the following:

Main Home Page

- First Queues panel
 - SMTP In
 - SMTP Out
- Advanced Queuing panel
 - Categorizer
 - Routing
- Second Queues panel
 - SMTP Out

IIS Home Page

- Categorizer panel
 - Messages Awaiting Directory Lookup
- Routing panel
 - Messages Waiting To Be Routed
- SMTP panel
 - Local Delivery Queue
 - Queued SMTP Out

If you click the components showing SMTP queue health, you can view component or Alarm Help, which may provide the steps you need to take to get messages flowing on your Exchange server. You can also click the component and go to the associated drilldown.



You have to set the Help option to Always jump directly to the related drilldown if you do not want to view the Alarm or Component Help when you click a component. For more information, see [“Understanding Drilldowns” on page 320](#).

The Queue Management drilldown provides SMTP virtual server, queue, and message details. If you right-click in this drilldown, you can select queue management actions from the Manage menu.

The Queue Management Drilldown

The Queue Management drilldown shows you detailed information about SMTP queues, including virtual server and queue names, queue size, number of messages queued, date of the oldest message in the queue, operational status of the queue, and additional information about the queue status if available.

If the Queue Management drilldown shows a queue containing a large number of messages and you have a good idea of why the queue is backlogged, you can perform any of the following management actions to attempt to remedy the situation:

- Freezing and unfreezing queues
- Forcing a retry
- Freezing and unfreezing messages
- Deleting messages

To access the Queue Management drilldown

- Click  on the toolbar.



For more detailed information about this drilldown, see [“The Queue Management Drilldown” on page 332](#).

Freezing and Unfreezing Queues

If you suspect there are problems with messages within an SMTP queue, you can freeze the queue to stop messages from transferring from the queue.

To freeze a selected queue

1. Select a queue in the top section of the Queue Management drilldown.
2. Right-click the queue and select **Manage**.
3. Select **Freeze Selected Queue**.
4. Click **Yes**.

Spotlight on Exchange 2000/2003 reports the success or failure of the management action.

You can view the results of this management action in the Status column of the Queue Management drilldown. If there is a large number of messages in the selected queue, it may take more time for the status of the queue to display.

Forcing a Queue Retry

Messages can become backlogged in a queue when an active connection between the queue and the server to which the messages are being sent does not exist. If the link between the queue and the next-destination server is not connected, the connection state is Disabled. If the link between the queue and the next-destination server is connected, the connection state is Enabled, but can be in any of the following states:

- Active
- Ready
- Remote
- Frozen
- Retry
- Scheduled

After viewing the status of the various SMTP queues, you can select a queue and use Spotlight on Exchange 2000/2003 to force an active connection. This is also known as "forcing a retry".

To force a selected queue retry

1. Select a queue in the top section of the Queue Management drilldown.
2. Right-click the queue and select **Manage**.
3. Select **Force Selected Queue Retry**.
4. Select **Yes**.

You can view the results of this management action in the Status column of the Queue Management drilldown.

Freezing and Unfreezing Messages

If you see suspect that messages in a queue are problematic, you can freeze and unfreeze a selected message, all messages, or messages in the queue specified using the Filter dialog box.

To select messages in the bottom section of the Queue Management drilldown, you have to first select a queue in the top section and wait while messages are enumerated. For more information about enumerating messages, [see "Queue Filter Settings Dialog Box" on page 333](#).

To freeze a message

1. Select a message in the bottom section of the Queue Management drilldown.
2. Right-click the message and select **Manage**.
3. Select **Freeze Selected Message**.
4. Click **Yes**.

To freeze all messages

1. Right-click any message in the bottom section of the Queue Management drilldown and select **Manage**.
2. Select **Freeze All Messages**.
3. Click **Yes**.

To freeze messages by filter

1. Right-click any message in the bottom section of the Queue Management drilldown and select **Manage**.
2. Select **Freeze Messages By Filter**.
3. Enter the information into the Filter dialog box and click **OK**.
4. Click **Yes**.

The Filter Dialog Box

You can use the Filter dialog box to select the messages you want to delete, freeze, or unfreeze.

The screenshot shows the 'Freeze Messages By Filter' dialog box. It has a title bar with the text 'Freeze Messages By Filter' and a close button. The dialog is divided into two main sections. The first section is titled 'Select only the' and contains three radio buttons: 'First' (which is selected), 'Largest', and 'Oldest'. Below these is a 'Number of messages:' label followed by a spinner box containing the number '100'. The second section is titled 'Select messages that are' and contains a radio button that is selected. Below this are several options: a 'Frozen' checkbox, a 'Larger than:' label followed by a spinner box containing '0' and the text 'bytes(s)', and an 'Older than:' label followed by three spinner boxes containing '0', '0', and '0' with the labels 'day(s)', 'hour(s)', and 'minute(s)' respectively. There are also 'From:' and 'To:' text boxes. At the bottom of the dialog, there is a radio button labeled 'Select all messages', and two buttons labeled 'OK' and 'Cancel'.

To access the Filter dialog box

1. Select any message in the bottom section of the Queue Management drilldown.
2. Right-click the message and select **Manage**.
3. Select a management action to perform **By Filter**.

The purpose of the Filter dialog box is based on the management action you choose from the Manage submenu. For example, if you choose Freeze Messages By Filter from the Manage submenu, the information you enter identifies which messages you want to freeze. If you choose Delete Messages By Filter, information you enter identifies which messages you want to delete.

The options available in the Filter dialog box are described in the following table:

FILTER OPTIONS	DESCRIPTION
Frozen	Select this to delete or unfreeze frozen messages.
Larger than N bytes	Enter the size in bytes that all messages to be deleted, frozen, or unfrozen must be larger than.
Older than N days	Enter the number of days that all messages to be deleted, frozen, or unfrozen must be older than.
Older than N hours	Enter the number of hours that all messages to be deleted, frozen, or unfrozen must be older than.
Older than N minutes	Enter the number of minutes that all messages to be deleted, frozen, or unfrozen must be older than.
From	Enter the sender from whom all messages to be deleted, frozen, or unfrozen must be sent.
To	Enter the recipient to whom all messages to be deleted, frozen, or unfrozen must be sent.
Delivery Failure	Select this to delete, freeze, or unfreeze messages that have delivery failure status.
Select all messages	Select this to delete, freeze, or unfreeze all messages in the queue.

Deleting Messages

If you suspect that messages in a queue are problematic, you can delete a selected message, all messages, or messages in the queue specified using the Filter dialog box. You can delete messages and choose to have a non-delivery report sent by Exchange server.

To select messages in the bottom section of the Queue Management drilldown, you have to first select a queue in the top section and wait while messages are enumerated. For more information about enumerating messages, [see “Queue Filter Settings Dialog Box” on page 333](#).

To delete a message

1. Select a message in the bottom section of the Queue Management drilldown.
2. Right-click the message and select **Manage**.
3. Select **Delete Selected Message (With NDR)**.

– OR –

Select **Delete Selected Message (No NDR)**.

4. Click **Yes**.

To delete all messages

1. Select a message in the bottom section of the Queue Management drilldown.
2. Right-click the message and select **Manage**.
3. Select **Delete All Messages (With NDR)**.

– OR –

Select **Delete All Messages (No NDR)**.

4. Click **Yes**.

To delete messages by filter

1. Select a message in the bottom section of the Queue Management drilldown.
2. Right-click the message and select **Manage**.
3. Select **Delete Messages By Filter (With NDR)**.

– OR –

Select **Delete Messages By Filter (No NDR)**.

4. Click **Yes**.

Managing Exchange and IIS Services

You can use Spotlight on Exchange 2000/2003 to manage core and IIS Exchange services on the Exchange server to which you are connected. You can start, stop, and restart services from the IIS Health panel on the IIS home page and from the E2K CPU Usage list. The E2K CPU Usage list appears on all but the Best Practices home page. The IIS Health panel and E2K CPU Usage list indicate whether the services are currently running or stopped.

Dependent Services

Exchange services have dependencies that are affected by Spotlight on Exchange 2000/2003 management actions. If you stop the IIS service, you automatically stop the SMTP service and all other services dependent on the IIS service. However, if you use Spotlight on Exchange 2000/2003 to start the IIS service, you do not automatically start the dependent services of the IIS service. For example, you do not start the SMTP service by starting the IIS service.

Restarting services does restart all dependent services that are running on the Exchange server. (You cannot restart a service that is not currently running on the Exchange server.)

Managing Core Exchange Services

You can start, stop, and restart the following core Exchange services on the Exchange server to which you are connected:

- IIS
- Information Store
- System Attendant
- MTA Stacks

You can manage the core Exchange services from the Exchange CPU Usage list, shown below:

Exchange CPU Usage:	
IIS	0 %
Information Store	0 %
System Attendant	0 %
MTA Stacks	0 %

The Exchange CPU Usage list appears on the Main, IIS, Storage Groups, and Directory Services home pages.

Service Status

The status of the Exchange service is shown beside the service label. The status is either displayed as Stopped with red text, or Running with green text. If the service is stopped, the CPU usage amount shows -2.

To manage the core Exchange services

1. Right-click the CPU usage amount **0** and select **Manage**.
2. Select **Start Service**, **Stop Service**, or **Restart Service**.
3. Click **Yes**.

Managing IIS Services

Spotlight on Exchange 2000/2003 provides you with the option to start, stop, and restart the following IIS services on the Exchange server to which you are connected:

- IIS Admin
- SMTP
- World Wide Web
- Routing Engine

You can manage the IIS services from the IIS Health panel on the IIS home page, shown below:



Service Status

The status of the IIS service is shown beside the service label. The status is either displayed as Stopped with red text or Running with green text.

To manage the IIS services

1. Right-click the service status **Running** or **Stopped**, and select **Manage**.
2. Select **Start Service**, **Stop Service**, or **Restart Service**.
3. Click **Yes**.

Changing Diagnostic Logging Levels

Spotlight on Exchange 2000/2003 provides you with the option to set the diagnostic logging levels for the following Exchange 2000 or Exchange 2003 services on the Exchange server to which you are connected:

- Message Transfer Agent (MSEExchangeMTA)
- Private Information Store (MSEExchangeISPrivate)
- Public Information Store (MSEExchangeISPublic)
- System Information Store (MSEExchangeISSystem)
- SMTP Routing Engine and Transport (MSEExchangeTransport)
- System Attendant (MSEExchangeSA)
- IMAP4 Service (IMAP4Svc)
- POP3 Service (POP3Svc)
- Exchange Address List (MSEExchangeAL)

cont'd...

- Directory Access Cache (MSExchangeDSAccess)
- Directory to Metabase Updates (MSExchangeMU)
- Site Replication Service (MSExchangeSRS)

You can manage the diagnostic logging levels for Exchange 2000 or Exchange 2003 services from the Manage Diagnostic Logging Level drilldown. You can set logging levels for the services to None, Minimum, Medium, or Maximum.

To access the Manage Diagnostic Logging Levels drilldown

- Click  on the toolbar.

The drilldown table lists Exchange 2000 and Exchange 2003 server services, such as the POP3 Service, in the left column. You can expand the listed services to view individual service categories, as shown below. You set diagnostic logging levels for the service categories but not for the service.

POP3 Service (POP3Svc)	
Connections	Minimum
Authentication	Medium
Client Action	None
Configuration	Maximum
Content Engine	Minimum
General	None

To set diagnostic logging levels

1. Expand an Exchange service shown in the Manage Diagnostic Logging Level drilldown.
2. Right-click the service category for which you want to set a diagnostic logging level.
3. Select **Manage | Change Logging Level**.
4. Select **None**, **Minimum**, **Medium**, or **Maximum**.
5. Click **Yes**.



For more information, see [“The Manage Diagnostic Logging Levels Drilldown” on page 342](#).

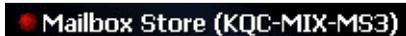
Mounting and Dismounting Stores

Spotlight on Exchange 2000/2003 provides you with the option to mount or dismount a private or public store on the Exchange server to which you are connected. You can mount or dismount a store from the [The Storage Group Details Panel](#), which is located on the [The Storage Groups Home Page](#).

You can right-click any area in the Storage Groups Details panel that shows data. These areas are usually green.

How to Identify Dismounted Stores

A store is dismounted when the status ball, shown below, is red. A store is mounted when the status ball is green.



To mount a store

1. Right-click green text that provides data and select **Manage**.
2. Select **Mount Store**.
3. Click **Yes**.

To dismount a store

1. Right-click green text that provides data and select **Manage**.
2. Select **Dismount Store**.
3. Click **Yes**.

Managing DSAccess Cache

The Exchange 2000 and Exchange 2003 DSAccess cache is a server-side cache of directory information that allows Exchange server to carry out operations such as routing messages and expanding distribution lists. The cache hit ratio is the percentage of directory query hits to misses and is an important measure of how well the cache is performing.

When the cache performs efficiently, the Exchange server performs messaging operations quickly because it does not have to query Active Directory for the directory information required.

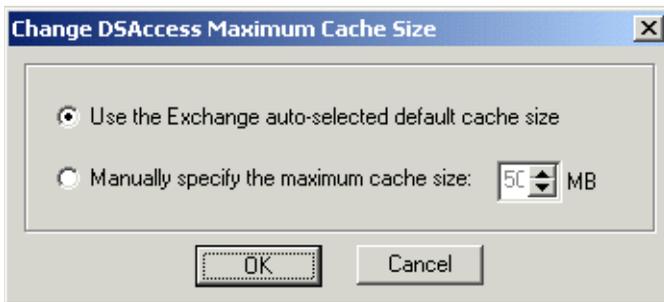
To optimize the DSAccess cache of the Exchange 2000 or Exchange 2003 server to which you are connected, you can change the maximum cache size and the Time To Live (Timeout) values.

You can make changes to the DSAccess cache from [The DS Access Cache Panel](#), which is located on the [The Directory Services Home Page](#).

Changing Maximum Cache Size Value

Spotlight on Exchange 2000/2003 provides you with the option to change the maximum size value of the DSAccess cache for the Exchange 2000 or Exchange 2003 server to which you are connected.

Using the Change DSAccess Maximum Cache Size dialog box, shown below, you can choose to use the default cache size, which is set by Exchange 2000 and Exchange 2003, or you can manually specify a maximum cache size.



If you manually set the maximum cache size, you can return to the Exchange 2000 or Exchange 2003 default setting by selecting that option in the Change DSAccess Maximum Cache Size dialog box.

To change the maximum cache size value

1. Right-click any component providing data on the DS Access Cache panel and select **Manage**.
2. Select **Change the Maximum Cache Size Value**.
3. Select **Use the Exchange 2000/2003 auto-selected default cache size**.

– OR –

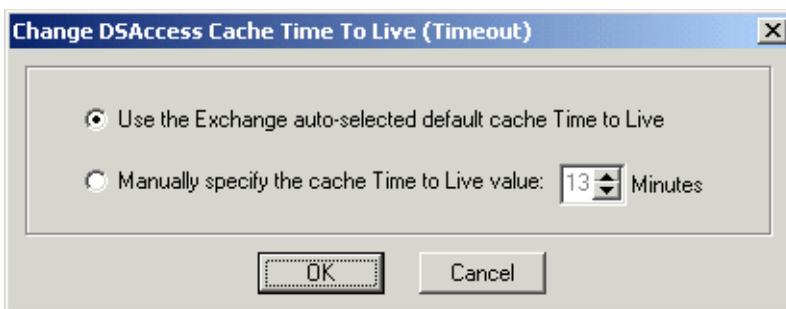
Select **Manually specify the maximum cache size** and enter a size in MB.

4. Click **OK**.
5. Click **Yes**.

Changing Cache Time to Live (Timeout) Value

Spotlight on Exchange 2000/2003 provides you with the option of changing the Time to Live, also known as Timeout, setting of the DSAccess Cache for the Exchange server to which you are connected.

Using the Change DSAccess Cache Time To Live (Timeout) dialog box, shown below, you can choose to use the default Time to Live setting, set by Exchange 2000 and Exchange 2003, or you can manually specify a Time to Live value.



If you manually set the Time to Live value, you can return to the Exchange 2000 or Exchange 2003 default setting by selecting that option in the Change DSAccess Time To Live (Timeout) dialog box.

To tune DSAccess Cache Time to Live

1. Right-click any component providing data on the DS Access Cache panel and select **Manage**.
2. Select **Change the Cache Time To Live (Timeout) Value**.
3. Select **Use the Exchange 2000/2003 auto-selected default cache Time To Live**.

– OR –

Select **Manually specify the cache Time To Live value** and enter a value in minutes.

4. Click **OK**.
5. Click **Yes**.

Rebooting the Exchange Server

You can use Spotlight on Exchange 2000/2003 to reboot the Exchange server to which you are connected. This management action should be performed with caution.

After clicking the Server Reboot icon on the toolbar, you are presented with the Warning dialog box. The default option on the Warning dialog box is No so that you do not unintentionally reboot the server.

To reboot the Exchange server

1. Click  on the toolbar.
2. Click **Yes**.

Troubleshooting

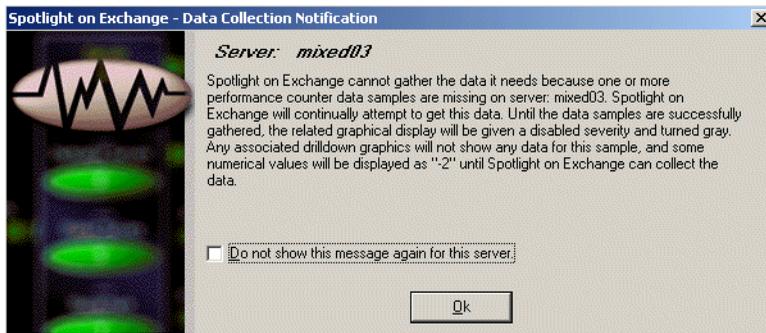
- Data Gathering Errors
- Display Problems
- Drilldown Problems
- Miscellaneous Problems
- Product Authorization Errors
- Contacting Spotlight on Exchange Support

Data Gathering Errors

At certain times, Spotlight on Exchange can have difficulty gathering data. The following sections list the possible reasons why this might occur and the error messages that will appear. The Quest Support team is available to assist you and may ask you to send Data Gathering log files for analysis.

Counter Data Values Cannot be Retrieved

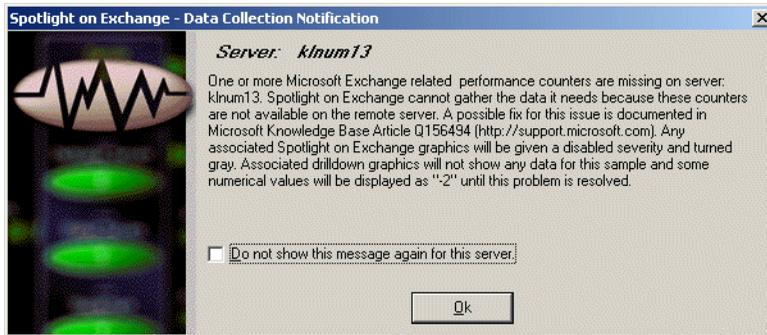
Spotlight on Exchange has difficulty gathering data if one or more counter data values cannot be retrieved. When this occurs, the following error message appears:



Exchange Server Counters are Disabled or Missing

Spotlight on Exchange Enterprise Edition cannot retrieve data if one or more Exchange related counter values are disabled or missing on the Exchange server

to which Spotlight on Exchange Enterprise Edition is connected. In this case, the following error message appears:



Non-Exchange Counters are Disabled or Missing

Spotlight on Exchange cannot retrieve data if one or more non-Exchange related counter values are disabled or missing on the Exchange server to which Spotlight on Exchange Enterprise Edition is connected. In this case, the following error message appears:



Logical Disk Counters are Missing

Spotlight on Exchange cannot retrieve data if one or more logical disk counters are missing on the remote server. In this case, the following error message appear:



You can disable these error messages for an individual server. However, if the messages are disabled, you cannot view them again unless you reinstall Spotlight on Exchange.

MTA Queue Size Unavailable

At times, Spotlight on Exchange may not be able to retrieve data regarding the MTA queue size. If this happens, Spotlight on Exchange will display -1 as the queue size to indicate that a data gathering problem exists.

Data Gathering Log Files

Spotlight on Exchange includes a logging feature that gathers valuable information about data gathering issues you may encounter. The Data Gathering Log files are automatically generated in the Spotlight on Exchange installation directory where they can be picked up by the Support Bundle feature and sent to the Support team for analysis.

To send the Data Gathering log files to support

1. Select **File | Save All**.
2. Select **Help | Contact Support**.
3. Select the Spotlight plug-in.
4. Click **Collect**.

This creates and sends an email addressed to Quest Support with a file called SpotlightSupport.zip attached.

Display Problems

At times, you may encounter the following problems with the Spotlight on Exchange display:

Dataflows Are Not Changing

Dataflows in the main window may appear to be static. This may be caused because either the refresh rate is too slow or Spotlight on Exchange is paused.

Possible Solution

You can update the current screen or check the foreground refresh rate. Try a rate of approximately 30 seconds. Also, check to see if Spotlight on Exchange is paused.

To update the current screen

- Select **View | Refresh**.

To change the foreground refresh rate

- Use the Data Collection option in the Spotlight Console Options window to change the foreground refresh rate.

For information on how to access this window, see [“Console Options” on page 151](#).

To unpause Spotlight on Exchange

- Select **View | Resume**.

If Resume is not available, Spotlight on Exchange is not paused.

Main Window Is Hard To Read

This may be because there are not enough colors in the display or the screen resolution is too low.

Possible Solution

You can increase the number of colors your computer is using. Spotlight on Exchange requires a monitor that supports 65536 colors (or Hi Color/16-bit) so that it can properly shade its graphs. You can also increase the screen resolution.

To increase the number of colors

1. Open the Windows Control panel and double-click **Display**.
2. Click the **Settings** tab.
3. Increase the number of colors in the palette.

If this option is not available, you should upgrade your hardware.

Drilldown Problems

The following are possible situations and solutions to drilldown-related problems that may occur.

Wrong Information is Displayed

You may find that when you click on a component, you cannot see the associated drilldown. This is probably because the Always jump directly to the related drilldown option has not been selected. For more information about this option, see [“Displaying Drilldowns” on page 320](#).

Possible Solution

You can use the Help options in the Spotlight Console Options window to change the Help settings. For information about how to access this window, see [“Console Options” on page 151](#).

Miscellaneous Problems

The following are possible situations and solutions to miscellaneous problems that may occur while you are using Spotlight on Exchange.

Sounds Are Not Played

You may find that sounds are not played when a threshold is exceeded. There are a number of reasons why this problem may occur. You can try the following solutions:

- Check the volume on your computer and make sure that you can hear sounds made by other applications.

– OR –

Check the configuration of your computer's sound card. If you do not have a sound card, you should consider upgrading your hardware. Spotlight on Exchange uses standard Windows sound files.

Standard Windows sound files normally have a file type of .wav. You must have a sound card in your computer to use .wav files.

– OR –

Check that sounds have been enabled.

To check that sounds have been enabled

- Use the General options in the Spotlight Console Options window to see if sounds have been enabled.

For information about how to access this window, see [“Console Options” on page 151](#).

To ensure that the alarms have been configured to use sounds

- Use the Action Rules options in the Alarm Log Options window to ensure that alarms have been configured to use sounds. Please see the Spotlight Basics online Help for information about how to access this window.

Product Authorization Errors

You can take the following steps if you encounter an authorization problem in Spotlight on Exchange.

ERROR MESSAGE	EXPLANATION	POSSIBLE SOLUTION
Authorization string has expired	Trial authorization for Spotlight on Exchange has expired.	If the trial date has not passed, check that the date on your system is set correctly. If the date was not set correctly, the key will no longer work.
Invalid authorization string or site message	Either the authorization string or the site message has not been entered correctly.	Make sure that you entered the authorization string and site message exactly as stated on your Product Authorization sheet or as provided by your Quest Software distributor. Note: The site message is case-sensitive.

Changing Your Authorization Key

You are required to change the authorization key when you upgrade from a trial version of Spotlight on Exchange to a licensed version. You can enter a valid authorization key and site message in the Spotlight on Exchange Topology Viewer.

To enter a valid authorization key and site message

1. Select **Help | About** in the Spotlight on Exchange Topology Viewer.
2. Click **Edit License**.
3. Enter the new authorization key and site message and click **OK**.
4. Click **OK**.

Contacting Spotlight on Exchange Support

You can contact Quest Software, Inc. for product information or for customer support. If you have questions about using Spotlight on Exchange, please contact our support staff. Please include the version number, and if your question is about an error message, include the text as well.

You can send a snapshot of your Spotlight on Exchange installation. For more information about how to send a snapshot, [see “Data Gathering Log Files” on page 368](#).

For important contact information, [see “Contacting Quest Software” on page 9](#).

Glossary

This glossary contains definitions from Microsoft publications.

ACL

Access Control List

An access control list is a table that tells a computer operating system which access rights each user has to a particular system object, such as a file directory or individual file.

Calibration

Determines the maximum and minimum values for every dataflow by observing the data moving through the database system. This information helps Spotlight on Exchange display the dataflows correctly. You can manually override these calibrated thresholds at any time, and for any given dataflow.

Client

A software application that requests the services, data, or processing of another application or computer (known as the server).

Cluster

A cluster is a group of computers (workstations or servers) attached to a main computer. If one computer fails then another computer in the cluster may be able to resume the activities of the other.

Component

The graphics in the main Spotlight on Exchange window. Buttons are oval in shape and contain a single value that represents the state or existence of a database process. Containers are cylindrical and fill up as a file or database increases in size. Gauges show a measurement. The highest and lowest possible values of the measurement are shown. Queues show the number of items waiting in the specified queue.

Console

The Spotlight window that provides the framework where you can view the details of a Spotlight connection.

Dataflow

A line graph on the main Spotlight on Exchange window. Dataflows depict the flow of information between panels. The color of a dataflow can change in response to the thresholds set.

DNS server

Domain Name Server

A DNS Server is a computer that completes the process of name resolution in Domain Name System (DNS). DNS Servers contain files, called zone files, that enable them to resolve names to IP addresses (or vice versa). When queried, a DNS Server returns the requested name-resolution or IP-resolution information, returns a pointer to another DNS Server that can service the request, or indicates that it does not have the requested information.

Domain Controller (DC)

A server that authenticates domain logon passwords and maintains security policy and the security accounts master database for a domain.

Drilldown

When you have isolated a problem in the server, you can display a detailed breakdown of the underlying statistics, called a drilldown, by clicking on the icon. Each drilldown contains a series of reports and graphs that provide you with specific information about the components of your system. The statistics that are available help you to identify and anticipate performance problems.

Flow

The flow shows you the current level of activity. As the rate of data transfer increases, so too does the speed of the flow. If the statistic represented by the flow moves into another threshold, the flow may change color. The combination of movement and color makes it easy to spot congested areas. The graph sits on top of the flow and shows you how the load has varied over time.

Global Catalog (GC)

A portion of the Active Directory that contains a subset of information about all of the objects within all domains of the Active Directory data store. The Global Catalog is used to improve performance of authentications and for sharing information between domains.

Graph

A white line that sits on top of a pulse. The graph represents how the load on the database has varied over time. See flow for more information.

LDAP

Lightweight Directory Access Protocol

A protocol used for querying and modifying information stored within directory services. The Active Directory can be queried and modified through the use of LDAP-compatible tools.

MTA

message transfer agent

The Exchange component responsible for routing messages. Depending on the destination, the message transfer agent routes messages to other MTAs, to the information store, to Exchange connectors, and to third-party gateways.

MAPI

Messaging API

An application programming interface developed by Microsoft to enable messaging applications to work with different messaging systems and on different platforms through a single client.

Metric

A unit of measurement that can be applied to a database. Metrics can help you gauge the performance of a database system.

Paging

The process of moving data and code between memory and disk.

Panel

A group of related components on the main Spotlight on Exchange window. The name of the panel is normally shown at the top of the panel.

Plug-in

A Spotlight application that is launched from the Spotlight Console. Each plug-in has a unique user interface and adds functionality. Examples of Spotlight plug-ins include Spotlight on Exchange Enterprise Edition, Spotlight on Windows, and Spotlight on Oracle.

Process

A unit of execution in a multi-processing environment. A process typically executes a specific program and has a unique and private allocation of memory. The operating system determines the process access to resources such as CPU, physical memory, and disk.

Proxy server

A server that sits between a client application and a real server. It intercepts all requests to the real server to see if it can fulfill the requests itself.

Pulse

Pulses move in the direction of dataflows. As the rate of data transfer increases, so too does the speed of the pulse. Pulses combine the information displayed in a graph and a flow. Pulses change color when the statistic represented by the pulse moves into another threshold.

Query

A statement that returns a set of values. Spotlight on Exchange uses a variety of queries to collect information about a system's performance.

Server

A computer in a network shared by multiple users.

Severity

Describes the level of importance of a threshold. A severity is user-defined and determines how Spotlight on Exchange behaves when the values for a metric fall within a range of values. For example, unusually large values might force a metric into a threshold with a high severity. This in turn could change the color of an icon, play a sound, or execute an operating-system command.

Spike

An abnormally high maximum value in a dataflow or graph.

Standard deviation

A measure of how widely values diverge from the mean.

SMTP

Simple Mail Transfer Protocol

The standard email protocol on the Internet for sending email messages between servers.

Template file

Spotlight on Exchange template files contain metrics and thresholds that are customized for specific environments. You must select a template file the first time you connect to a database.

Thread

A unit of execution that shares its memory space with other threads. Threads can be implemented within processes on some systems or may be used in place of processes in others (for instance, in Windows NT).

Threshold

A range of values that might be returned by a metric. If the metric falls within this range, Spotlight on Exchange checks the threshold's severity to determine how to behave. For example, the component representing the metric might change color.

Virtual server

Multiple servers that appear as one server, or one system image, to the operating system or for network administration.

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