

**HERMES SoftLab EMC  
Documentum SMART Plug-In  
for HP Operations Manager  
(SPI for EMC Documentum)**

*Version 02.10*

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**User's Guide**



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## Notices

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## Chapter 1

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### **Document Overview**

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## **Edition History**

New editions are complete revisions of the manual. The printing dates for each edition are listed below.

<b>Edition</b>	<b>Date</b>
First Edition	October 2005
Second Edition	October 2006
Third Edition	December 2007
Fourth Edition	December 2008

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## Conventions

The following typographical conventions are used in this manual:

Font	Definition	Example
<i>Italic</i>	Product names, book or manual titles, man page names, and section, table, and figure titles.  Emphasis.  Window and dialog box names.	Refer to the <i>SPI for EMC Documentum Installation and Configuration Guide</i> for additional information.  You <i>must</i> follow these steps.  From the <i>Deploy policies on...</i> window, select a node.
<b>Bold</b>	Commands on menus and buttons, dialog box titles and options, menu and icon names.	Select <b>SPI for EMC Documentum</b> and <b>SPI Data Collector</b> and click <b>OK</b> .
Computer	File names, syntax, directory names, or text that should be entered on screen or that is displayed on the monitor.	The following file is located on the root directory of the SPI for EMC Documentum installation CD: readme. txt.

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## Product Documentation

With SPI for EMC Documentum, the following documentation is provided:

- *HERMES SoftLab EMC Documentum SMART Plug-In for HP Operations Manager Installation and Configuration Guide*  
Installation and Configuration Guide is available in printed and PDF format (*DMSPI\_Install\_GuideWIN.pdf*).
- *HERMES SoftLab EMC Documentum SMART Plug-In for HP Operations Manager User's Guide*  
This guide is available in printed and PDF format (*DMSPI\_User\_GuideWIN.pdf*).
- Release notes  
Release notes are available in TXT format (*dmspi-release-notes-win.txt*).
- Readme  
Readme file is available in TXT format (*dmspi-readme-win.txt*).
- License file  
License file is available in TXT format (*hsl\_license\_terms.txt*)

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## Customer Support

Use the following e-mail and Web page addresses if you need help with the licensing process or while using the product, and if you would like additional information about this or other HERMES SoftLab products.

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## Licensing

To obtain the license activation file you can visit HERMES SoftLab licensing portal:

<http://spi.hermes-softlab.com/licensing/>

or send an e-mail to the following address:

[spi-licensing@hermes-softlab.com](mailto:spi-licensing@hermes-softlab.com)

For more information on licensing and licensing procedure refer to *SPI for EMC Documentum Installation and Configuration Guide*.

If you encounter any problems with the licensing process, contact the HERMES SoftLab licensing department at:

[spi-licensing@hermes-softlab.com](mailto:spi-licensing@hermes-softlab.com)

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## Contacting Support

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### IMPORTANT NOTE

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**Should you require additional assistance or information while using the product, contact the vendor that shipped the software.**

If you have purchased the software directly from HERMES SoftLab, send e-mail to:

[support-dmspi@hermes-softlab.com](mailto:support-dmspi@hermes-softlab.com)

### Before Contacting Support

Before you contact the support department, have the following information available so that a technical support analyst can work on your problem more efficiently:

- the support file `dmspi_supp.zip`  
To create the support file `dmspi_supp.zip`, run the **Collect Support Information** tool on one or more nodes. To run the tool, perform the following steps:

1. Go to **Tools/SPI for EMC Documentum/DMSPI-Maintenance/DMSPI-Support** tools group and run the **Collect Support Information** tool. The *Select where to launch this tool* window opens.

2. Select the node(s) and click **Launch** to run the tool. The files with the support information are created in the following directory on the node(s):

%OvDataDir%\dmspi\support (Windows nodes)

\$OvAgentDir/dmspi/support (Unix nodes)

- symptoms
- sequence of events leading to the problem
- commands and options that you used
- messages you have received (a description with the time and date)

---

## General Information

For marketing or business-related issues in reference to this or other HERMES SoftLab SPIs, send e-mail to:

[spi-info@hermes-softlab.com](mailto:spi-info@hermes-softlab.com)

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## Product Web Sites

Visit HERMES SoftLab SMART Plug-In Web site at:

[http://www.hermes-softlab.com/products/SPI/about\\_SPI.html](http://www.hermes-softlab.com/products/SPI/about_SPI.html)

and the company Web site at:

<http://www.hermes-softlab.com/>



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## Chapters Summary

This guide describes how to use HERMES SoftLab EMC Documentum SMART Plug-In for HP Operations Manager to monitor and manage Documentum application resources.

The guide contains the following chapters:

- [“Getting Started” on page 9](#)  
This chapter gives you a short overview of SPI for EMC Documentum functionality and describes four main components of the product.
- [“Setting Up the Environment” on page 19](#)  
This chapter provides information on how to perform autodiscovery and where to deploy the SPI for EMC Documentum policies.
- [“Monitoring Documentum Content Server” on page 23](#)  
This chapter provides information on how to monitor Documentum content server.
- [“Monitoring Documentum Connection Broker” on page 29](#)  
This chapter provides information on how to monitor Documentum connection broker.
- [“Monitoring Database Availability” on page 33](#)  
This chapter provides information on how to monitor database availability.
- [“Monitoring Jobs” on page 37](#)  
This chapter provides information on how to monitor Documentum administrative jobs.
- [“Monitoring Documentum Sessions and User Activity” on page 47](#)  
This chapter provides information on how to monitor Documentum sessions and user activity.
- [“Monitoring Client Response” on page 53](#)  
This chapter provides information on how to monitor client response.
- [“Monitoring Log Files” on page 59](#)  
This chapter provides information on how to monitor log files.
- [“Monitoring File Stores” on page 65](#)  
This chapter provides information on how to monitor file stores.
- [“Monitoring Database Tables” on page 69](#)  
This chapter provides information on how to monitor database tables.

- [“Monitoring Index Server” on page 75](#)  
This chapter provides information on how to monitor index server.
- [“SPI for EMC Documentum Integration with HP Reporter” on page 89](#)  
This chapter provides instructions on how to use the product for monitoring, how to integrate SPI for EMC Documentum with HP Reporter, and how to create reports.
- [“Analyzing Historical Data Using HP Performance Manager” on page 107](#)  
This chapter provides instructions on how to use HP Performance Manager to analyze historical data.
- [“Troubleshooting” on page 115](#)  
This chapter provides instructions on what to do if you encounter any problems while using the SPI for EMC Documentum.
- Appendix A, [“Metric Lists” on page 117](#)  
This chapter provides metrics lists that are created for SPI for EMC Documentum reports.

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## Chapter 2

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### **Getting Started**

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## About SPI for EMC Documentum

HERMES SoftLab EMC Documentum SMART Plug-In for HP Operations Manager (SPI for EMC Documentum) is designed specifically for use with EMC Documentum products from HP Software environments. Developed by HERMES SoftLab Group, it proactively and securely manages a distributed, Documentum environment from one, centralized point. SPI for EMC Documentum works with other HP Software solutions to help you gain control over your EMC Documentum environment. Additionally, it helps you to manage your IT infrastructure in order to increase your system availability and performance. Benefits of using SPI for EMC Documentum include the following:

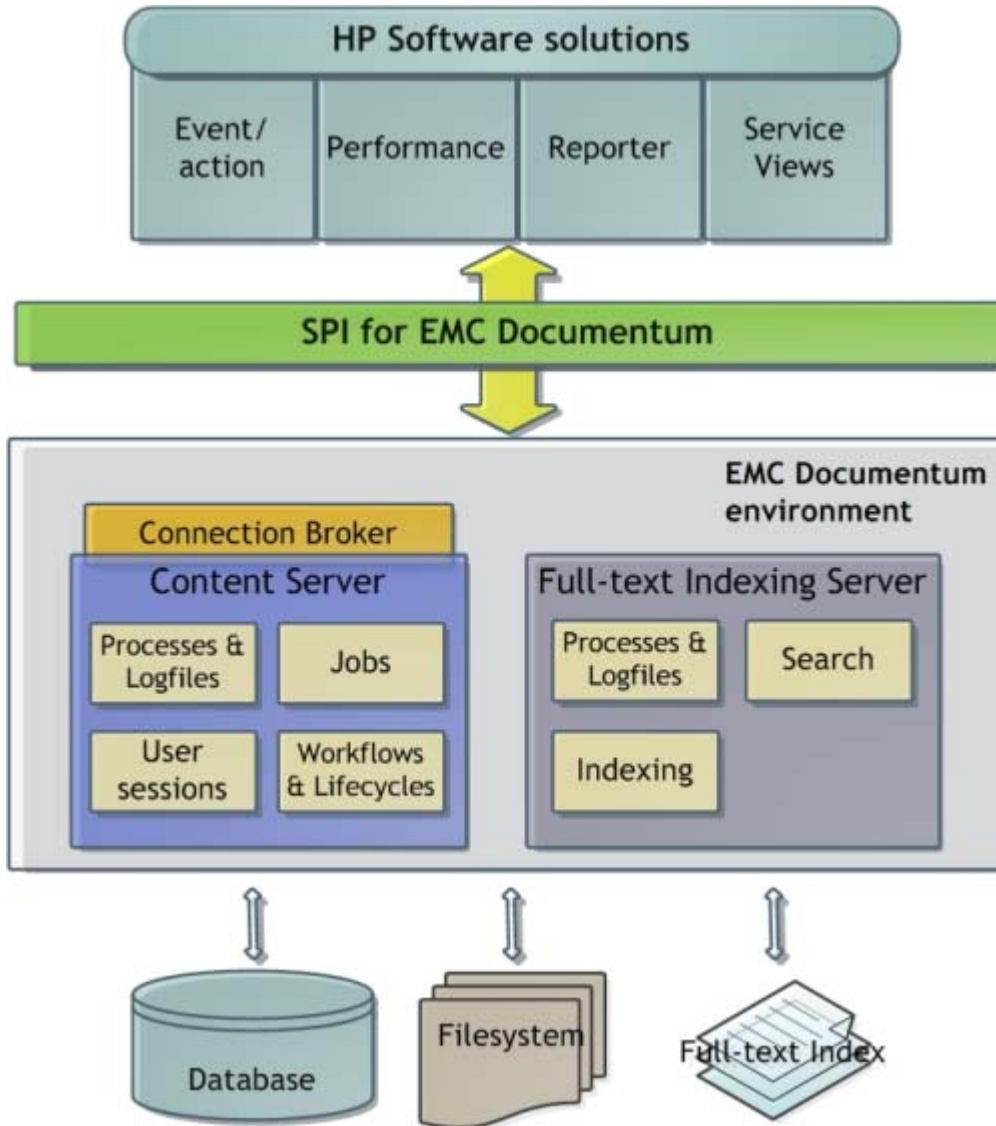
- Alerts on failures of critical Documentum processes. Server, connection broker, and job processes are monitored for availability and performance.
- Tracks the time that has elapsed since the server's last check-in and the total time that connection broker will wait before dropping the server from the list of known servers.
- Alerts on Documentum job failures.
- Monitors job execution time and detects possible hung jobs.
- Monitors jobs that were scheduled to run but never started.
- Collects job execution statistics.
- Measures response times for business transactions from end-user perspective. Sources of potential response time problems can be detected.
- Identifies user sessions that are causing excessive CPU and memory consumption.
- Monitors file stores and helps with capacity planning.
- Alerts if database is not available or connection time takes too long.
- Immediately identifies internal Documentum issues by forwarding relevant log messages.
- Monitors table size growth and the number of unprocessed renditions, the number of failed indexing items, and other events specified by user.
- Monitors if index server is available and all necessary components are running.
- Monitors if it is possible to search for documents, add new documents to full-text index, and how fast is the search.
- Monitors index server performance (save-to-search latency).
- Collects indexing performance.

- Monitors index agent health, availability, and resource consumption.
- Enhances an administrator's toolbox by providing various informational tools including information about client response time, file stores capacity, user sessions, and so on.
- Regularly records resource consumption of critical Documentum processes.
- Collects information about session activity (number of active/inactive sessions, session resource consumption).
- Collects and reports client response time statistics.
- Collects and reports information about file store and database table growth.
- Reports resource consumption for Documentum processes.
- Provides insight into session activity by generating numerous reports.
- Automatically discovers Documentum environment, creates a corresponding service map model, and displays dependencies between servers, repositories, and connection brokers.

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## High-level Architecture

Below is a high-level architecture diagram of SPI for EMC Documentum.



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## Quick Introduction to SPI for EMC Documentum

SPI for EMC Documentum integrates the following HP Operations Manager components:

- HP Operations Manager/Windows Policies
- HP Operations Manager/Windows Tools
- HP Operations Manager/Windows Reports
- HP Operations Manager/Windows Service Map

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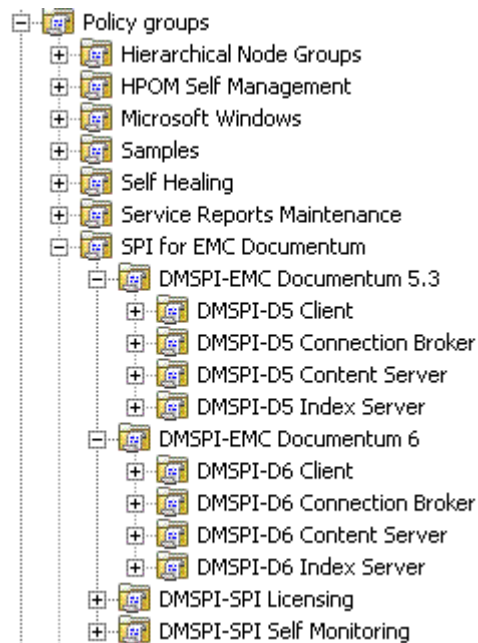
## Policies

Policies instruct HP Operations Manager how to solve system management issues, for example, "Monitor CPU Utilization".

SPI for EMC Documentum policies enable you to define complex rules and instructions for monitoring different systems and services. Policies are instructions for HP Operations Manager (HPOM) agents that monitor your Documentum environment. When an issue is detected, a message is sent to the HPOM console.

In addition, you can define automated actions to be performed upon detecting a specific issue, or include instructions for operators as part of the message. Every policy can start automatic or operator initiated action when issue is detected. You can check which actions were launched when issue was detected, and check the action outcome in the message annotation.

SPI for EMC Documentum adds a **SPI for EMC Documentum** policy group and several policies to HP Operations Manager for Windows.



These policies enable you to:

- Monitor Documentum Content Server and connection broker availability and resource consumption.
- Detect job failures and track the number of failed jobs per Repository.
- Monitor job execution time and detect possible hung jobs.
- Monitor user activity and identify user sessions that are causing excessive CPU and memory consumption.
- Monitor client response time for standard operations (for example, connect, check-in, check-out, delete) against Repositories from the client systems.
- Monitor file stores.
- Monitor log files (server, session, job, life-cycle) .
- Monitor the size and growth of Documentum DB tables (for example, dmi\_queue\_item, dm\_audittrail) .
- Monitor the number of unprocessed renditions, number of failed indexing items and other events specified by user.



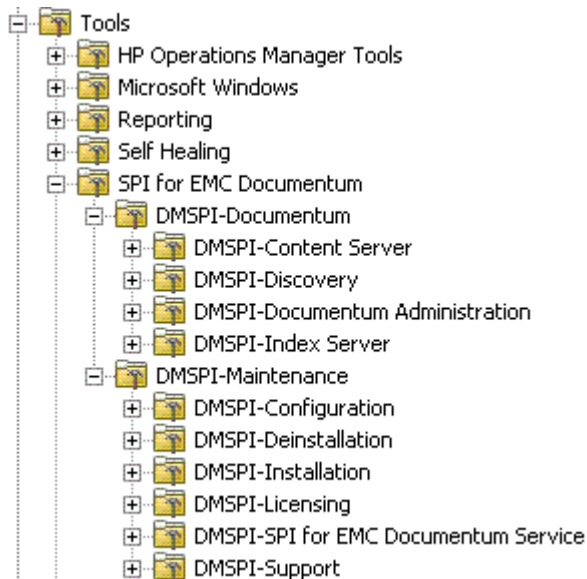
- Monitor if index server is available and all necessary components are running.
- Monitor if it is possible to search for documents, add new documents to full-text index, and how fast is the search.
- Monitor index server performance (save-to-search latency).
- Monitor index agent health, availability and resource consumption.
- Collect performance statistics.

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## Tools

SPI for EMC Documentum supplies powerful tools for monitoring and managing your EMC Documentum environment. SPI for EMC Documentum tools enable you to inspect, analyze and manage your EMC Documentum environment, check the current status, and react to issues in your environment.

SPI for EMC Documentum adds a **SPI for EMC Documentum** tools group and several tools to HP Operations Manager for Windows.



These tools enable you to perform the following tasks:

- Show users that are causing excessive CPU and memory consumption.
- Display file store info.

- Display documents with largest content and most versions.
- Display workflows that are not finished yet and are older than the specified time period.
- Display current running jobs and their execution times.
- Display full-text index query response.
- Display Index Agent status.
- Display save-to-search time of a document.
- Display jobs that were scheduled to run but never started.
- Display Index Server disk usage.
- Display Index Server status.
- Perform discovery of your EMC Documentum environment and update the Documentum service model.
- Troubleshoot the SPI for EMC Documentum installation and configuration.
- License SPI for EMC Documentum.
- Manage Documentum nodes.

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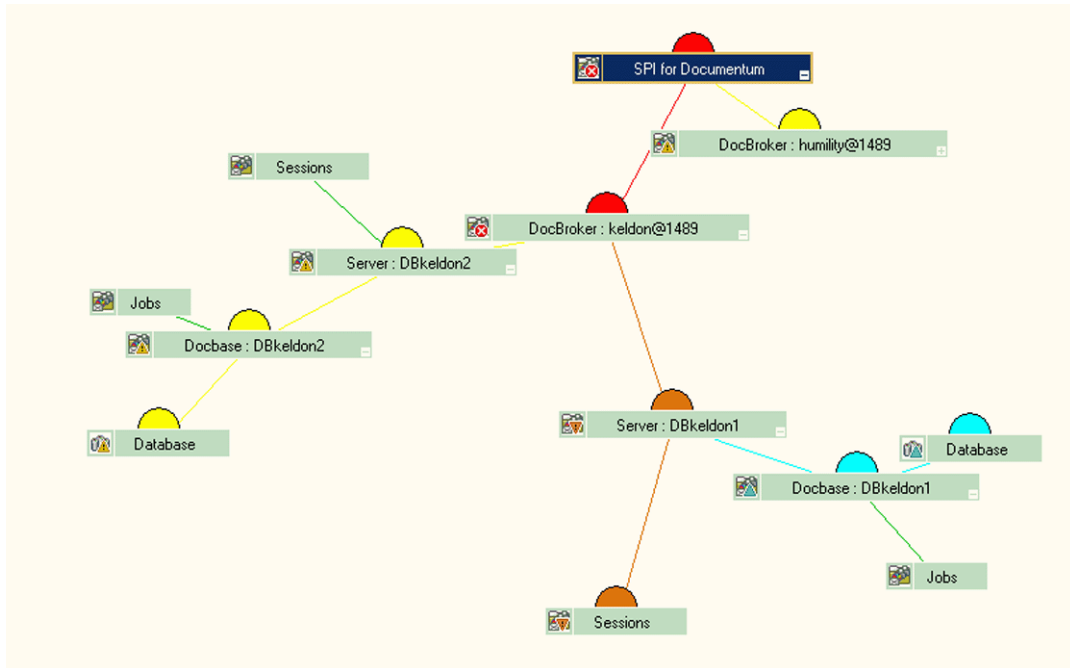
## Service Map

Service map is a component of the HP Operations Manager for Windows. This component enables you to manage your IT (information technology) environment while focusing on the IT services that you provide.

SPI for EMC Documentum integrates into the HP Operations Manager for Windows service map component. It automatically generates a Documentum service map, which offers complete graphical representation of your Documentum environment and its hierarchical organization. All Documentum object types (connection brokers, Content Servers, repositories, file stores, and so on) in your environment are displayed in a tree view, which shows the components and their hierarchical dependencies.

In addition, graphical representation of your EMC Documentum environment clearly indicates relations between EMC Documentum environment components, how they impact one another, and which business services are affected. This enables you to effectively manage services within your information technology framework.

Example of the service map view:



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## Reports and Graphs

SPI for EMC Documentum offers reporting functionality, where collected performance data can be represented in web-based reports or real-time graphs.

SPI for EMC Documentum integrates with the HP Operations Manager for Windows reporting component (Reporter Lite) and with the HP Reporter products.

Additionally, SPI for EMC Documentum integrates with the HP Operations Manager for Windows graphing component (Performance Manager Lite) and with the HP Performance Manager products.

You can generate reports and graphs on the following information:

- Documentum process availability and resource consumption
- File store statistics
- Database availability
- User activity
- Client response time

- Table size growth and the number of unprocessed events (renditions, indexing)
- Job timeline report and top jobs by longest execution time
- The number of running/failed jobs in the specified interval
- Index agent/server process availability and resource consumption
- Save-to-search latency - the time it takes to add a new document into the index and make it searchable
- Full-text index search response time

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## Chapter 3

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### **Setting Up the Environment**

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## Setting Up the Environment

Setting up your environment involves installing, licensing and configuring SPI for EMC Documentum on the HPOM management server and on the managed nodes. For more information on how to install, license and configure managed nodes refer to SPI for EMC Documentum Installation and Configuration Guide.

After you successfully configured your environment, you can start using the SPI for EMC Documentum product. For procedural information on how to:

- perform autodiscovery of Documentum components and update your configuration, refer to [“How to Perform Autodiscovery” on page 22](#).

To see the SPI for EMC Documentum policies, start the HPOM Console and expand the **Policy management/Policy groups/SPI for EMC Documentum** group.

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## Where to Deploy the Policies

- **DMSPI-Client**  
This policy group contains policies for monitoring response time from server or end-user systems. Install the policies from this group on the servers or on the nodes where the dmcl API is installed.
- **DMSPI-Connection Broker**  
This policy group contains policies for monitoring Documentum connection broker process. Install the policies from this group only on the nodes where one or more connection brokers reside.
- **DMSPI-Content Server**  
This policy group contains policies for monitoring Documentum server and server components. Install the policies from this group only on the nodes where one or more Documentum servers reside.
- **DMSPI-Index Server**  
This policy group contains policies for monitoring Documentum Indexing Server. Install the policies from this group only on the nodes where Documentum index servers reside.
- **DMSPI-Licensing**  
This policy group contains policies for generating, merging, installing license  
Install the policies from this group on all nodes where SPI for EMC Documentum is installed.

- **DMSPI-SPI Self Monitoring**

This policy group contains policies for intercepting error messages from SPI for EMC Documentum. Install the policies from this group on all nodes where SPI form EMC Documentum is installed.

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## Autodiscovery

To perform automatic discovery of the Documentum topology and generate a service view that displays your EMC Documentum environment, you can use the **DMSPI-SvcDiscMapUpIExt** policy. The policy is located in the Discovery group under Connection Broker, Content Server, or Index Server group.

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## How to Perform Autodiscovery

To perform autodiscovery, do the following:

1. Deploy the **DMSPI-SvcDiscMapUpIExt** policy on the node where SPI for EMC Documentum is installed.
2. On the system where **DMSPI-SvcDiscMapUpIExt** policy was deployed, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Discovery** and run the **Autodiscovery** tool. The tool will send a message with the EMC Documentum environment topology to the HPOM server. Automatic action on the HPOM server will upload the Documentum service tree.



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## Chapter 4

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# **Monitoring Documentum Content Server**

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## About Monitoring Documentum Content Server

Servers are processes that provide client access to the repository. Every repository must have at least one active server. If a repository does not have an active server, then users cannot access that repository. Servers are accessible for users via connection broker, which keeps a list of active Servers. To stay on the list, each Server has to check-in with the connection broker at regular intervals otherwise it is dropped from the list after a specified period of time. Availability of the Server process is vital for the health of your Documentum environment.

To monitor the Documentum server with SPI for EMC Documentum, you can use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3 /DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6 /DMSPI-D6 Content Server policy groups:

### **DMSPI-DxCS Quick Start policy group**

- **DMSPI-SrvrProcess**  
It is a Measurement Threshold policy that monitors Documentum Server service and daemon availability.
- **DMPSI-SrvrAvailability**  
It is a Measurement Threshold policy that monitors the current state of the Documentum server.
- **DMPSI-SrvrCheckIn**  
It is a Measurement Treshold policy that monitors server's last chec-in time before the server will be dropped from the list of known servers.

### **DMSPI-DxCS Additional policy group**

- **DMSPI-SrvrProcessCpu**  
It is a Measurement Threshold policy that monitors CPU utilization of the Documentum server process.
- **DMSPI-SrvrProcessMem**  
It is a Measurement Threshold policy that monitors memory usage of the Documentum server process.

### **DMSPI-DxCS Data Collection policy group**

- **DMSPI-SrvrProcessPerf**  
It is a Scheduled Task policy that collects server process MEM and CPU usage and stores this information to HP Performance Agent.

---

## How to Monitor the Status of the Documentum Server Process

To check if the Documentum server process is running, deploy the **DMSPI-SrvrProcess** policy on the system. This checks if the `dmsvr_v4.exe` (Documentum on Unix systems) process is running. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --srvr_proc
```

A message is sent each time the process state changes:

- **Not running** - critical message
- **Running** - normal message

If no servers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more servers reside on the system”](#) on page 27.

---

## How to Monitor CPU Utilization of the Documentum Server Process

To monitor CPU utilization of the server process, use the **DMSPI-SrvrProcessCpu** policy. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --srvr_proc --cpu
```

A message is sent if:

- Server process CPU utilization > 50% - warning message
- Server process CPU utilization > 70% - minor message
- Server process CPU utilization > 90% - critical message

If no servers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more servers reside on the system”](#) on page 27.

---

## How to Monitor Memory Usage of the Documentum Server Process

To monitor memory usage of the server process, use the **DMSPI-SrvrProcessMem** policy. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --srvr_proc --mem
```

A message is sent if:

- Server process memory usage > 30000 kb - warning message

- Server process memory usage > 50000 kb - minor message
- Server process memory usage > 100000 kb - major message

If no servers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more servers reside on the system”](#) on page 27.

---

## How to Collect Resource Consumption Information of the Documentum Server Process

To collect performance data about server CPU and memory utilization, deploy the **DMSPI-SrvrProcessPerf** policy to the node. The policy runs `dmspi _proc(. exe)` with the following arguments:

```
dmspi _ proc(. exe) --srvr_proc --perf
```

Information about server process CPU and memory usage will be logged to HP Performance Agent where `DMSPI _SRVR_PROCESS` class will be added to the DMSPI datasource with the following metrics:

- Repository name
- Server name
- Server process status
- Server process memory usage (KB)
- Server process virtual memory usage (KB)
- Server process CPU utilization (%)

If no servers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more servers reside on the system”](#) on page 27.

---

## How to Check the Status of the Documentum Server

To check the current state of the server, deploy the **DMSPI-SrvrAvailability** policy on the node. The policy runs `dmspi _srvr(. exe)` with the following arguments:

```
dmspi _srvr(. exe) --avai l abi l i ty
```

A message will be generated each time the server status changes. The following states are possible:

- Starting, Open
- Stopped
- Presumed down

If no servers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more servers reside on the system”](#) on page 27.

---

## How to Check Last Check-in of the Documentum Server and if the Server will be Dropped from the List of Known Servers

To check if the server did not check in and will be dropped from the connection broker's list of known servers, deploy the **DMSPI-SrvrCheckIn** policy on the node. This tracks the time that has elapsed since the server's last check-in (**LastCheckInTime**) and the total time that connection broker will wait before dropping the server from the list of known servers (**WaitTime**). The policy runs `dmspi_srvr(.exe)` with the following arguments:

```
dmspi_srvr(.exe) -checkin
```

The percentage of how much **WaitTime** has been used by **LastCheckInTime** is calculated as:

$$\text{ElapsedTimePerc} = ((\text{CurrentTime} - \text{LastCheckInTime}) / \text{WaitTime}) * 100$$

A message is sent if **ElapsedTimePerc** exceeds:

- 1% of total keep entry interval - warning message  
The threshold is so low because we want to notify the administrator immediately if the server does not check-in.
- 70% of total keep entry interval - minor message
- 90% of total keep entry interval - major message

The message also contains information about how much time (in minutes) remains until the server will be dropped.

## How to use a policy if more servers reside on the system

It is possible to have more than one server on the same system. By default, all policies for monitoring Documentum server check only the first server specified in the DMSPI configuration file (`%0vDataDir%\dmspi\conf\dmspi.cfg` on Windows or `$0vAgentDir/dmspi/conf/dmspi.cfg` on Unix systems) or the first one found on the system.

To monitor a specific server on the system, make a copy of the policy and add `--server` and `--policy` arguments to the program name.

Example:

```
dmspi_srvr(.exe) --availability --server=server_name --  
policy=my_new_policy_name
```

If the wrong server is specified, a DMSPI internal error message is sent.



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## Chapter 5

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# **Monitoring Documentum Connection Broker**

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## About Monitoring Documentum Connection Broker

The Documentum connection broker is a process that provides client sessions with connection information. When a client session is opened, the client contacts the connection broker and requests the information it needs to connect with a server for the requested repository.

To monitor Documentum connection broker with SPI for EMC Documentum, use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Connection Broker and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Connection Broker policy groups:

### DMSPI-DxCB Quick Start policy group

- **DMSPI-BrokerProcess**  
It is a Measurement Threshold policy that monitors availability of the Documentum connection broker process.

### DMSPI-DxCB Additional policy group

- **DMSPI-BrokerProcessCpu**  
It is a Measurement Threshold policy that monitors CPU utilization of the Documentum connection broker process.
- **DMSPI-BrokerProcessMem**  
It is a Measurement Threshold policy that monitors memory usage of the Documentum connection broker process.

### DMSPI-DxCB Data Collection policy group

- **DMSPI-BrokerProcessPerf**  
It is a Scheduled Task policy that collects connection broker process MEM and CPU usage and stores this information to HP Performance Agent.

---

## How to Monitor the Status of the Documentum Connection Broker Process

To check if the Documentum connection broker process is running, deploy the **DMSPI-BrokerProcess** policy on the system. This checks if the `dmdocbroker(.exe)` process is running. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --docbroker
```

A message is sent each time the process state changes:



- **Not running** - critical message
- **Running** - normal message

If no connection brokers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more connection brokers reside on the system”](#) on page 32.

---

## How to Monitor CPU Utilization of the Documentum Connection Broker Process

To monitor CPU utilization of the connection broker process, use the **DMSPI-BrokerProcessCpu** policy. The policy runs `dmspi _proc(. exe)` with the following arguments:

```
dmspi _proc(. exe) --docbroker --cpu
```

A message is sent to the console if:

- process CPU utilization > 50% - warning message
- process CPU utilization > 70% - minor message
- process CPU utilization > 90% - critical message

If no connection brokers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more connection brokers reside on the system”](#) on page 32.

---

## How to Monitor Memory Usage of the Documentum Connection Broker Process

To monitor memory usage of the connection broker process, use the **DMSPI-BrokerProcessMem** policy. The policy runs `dmspi _proc(. exe)` with the following arguments:

```
dmspi _proc(. exe) --docbroker --mem
```

A message is sent to the console if:

- process memory usage > 30000 kb - a warning message
- process memory usage > 50000 kb - a minor message
- process memory usage > 100000 kb - a major message

If no connection brokers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more connection brokers reside on the system”](#) on page 32.

---

## How to Collect Resource Consumption Information of the Documentum Connection Broker Process

To collect performance data about connection broker CPU and memory utilization, deploy the DMSPI-BrokerProcessPerf policy to the node. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi _ proc(. exe) --docbroker --perf
```

Information about connection broker process CPU and memory usage is logged to HP Performance Agent where `DMSPI_DOCBROKER_PROC` class is added to the DMSPI datasource with the following metrics:

- Connection broker process name and port number
- Connection broker process status
- Connection broker process memory usage (KB)
- Connection broker process virtual memory usage (KB)
- Connection broker process CPU utilization (%)

If no connection brokers are found on the system, a DMSPI internal error message is sent.

See also [“How to use a policy if more connection brokers reside on the system”](#) on page 32.

## How to use a policy if more connection brokers reside on the system

It is possible to have more than one connection broker on the same system. By default, all policies for monitoring Documentum connection broker check only the first connection broker specified in the DMSPI configuration file (`%0vDataDir%\dmspi\conf\dmspi.cfg` on Windows or `$0vAgentDir/dmspi/conf/dmspi.cfg` on Unix systems) or the first one found on the system.

To monitor a specific connection broker on the system, make a copy of the policy and add `--port` and `--policy` arguments to the program name.

Example:

```
dmspi _ proc(. exe) --docbroker --port=port_number --  
pol i cy=my_new_pol i cy_name
```

If the wrong connection broker is specified, a DMSPI internal error message is sent.

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## Chapter 6

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# **Monitoring Database Availability**

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## About Monitoring Database Availability

Repositories comprise object type tables, type indexes, content files, and full-text indexes. The type tables and type indexes are tables in an underlying relational database. Because the Documentum database usually resides on a standalone machine, it is crucial that the Documentum servers can connect to the database.

To monitor the Documentum database availability, use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### DMSPI-DxCS Quick Start policy group

- **DMSPI-DBAvailability**  
It is a Measurement Threshold policy that checks if Documentum database is available.
- **DMSPI-DBLogin**  
It is a Measurement Threshold policy that checks the database login time from the Documentum server.

### DMSPI-DxCS Data Collection policy group

- **DMSPI-DBLoginPerf**  
It is a Scheduled Task policy that collects the information about the database login time and stores it to HP Performance Agent.

---

## How to Monitor Database Availability

To check the database availability, deploy the **DMSPI-DBAvailability** policy on the node. A message is sent each time the process state changes:

- **Available** - normal message
- **Not available** - critical message

The policy runs `dmspi_db(.exe)` with the following arguments:

```
dmspi_db(.exe) --availability
```

See also [“How to use a policy if more servers reside on the system”](#) on page 35.

---

## How to Monitor Database Login Time

To check the login time of the database, deploy the **DMSPI-DBLogin** policy on the node. A message will be generated if the database login time from the server exceeds the threshold value:

- login time > 5 seconds - minor message
- login time > 3 seconds - warning message

The policy runs `dmspi_db(.exe)` with the following arguments:

```
dmspi_db(.exe) --l o g i n
```

See also [“How to use a policy if more servers reside on the system”](#) on page 35.

---

## How to Collect Database Login Time Performance Data

To collect performance data about database login response, deploy the **DMSPI-DBLoginPerf** policy to the node. The policy runs `dmspi_db(.exe)` with the following arguments:

```
dmspi_db(.exe) --l o g i n --p e r f
```

Information about database login time is logged to HP Performance Agent where **DMSPI\_DB\_LOGIN** class is added to the DMSPI datasource with the following metrics:

- Server name
- Repository name
- Database login time (ms)

See also [“How to use a policy if more servers reside on the system”](#) on page 35.

## How to use a policy if more servers reside on the system

It is possible to have more than one server on the same system. By default, all policies for monitoring database availability check only database availability of the first server specified in the DMSPI configuration file (`%0vDataDir%\dmspi\conf\dmspi.cfg` on Windows or `$0vAgentDir/dmspi/conf/dmspi.cfg` on Unix systems) or the first one found on the system.

To monitor database availability of a specific server on the system, make a copy of the policy and add `--server` and `--policy` arguments to the program name.

Example:

```
dmspi_db(.exe) --a v a i l a b i l i t y --s e r v e r = s e r v e r _ n a m e --  
p o l i c y = m y _ n e w _ p o l i c y _ n a m e
```

If the wrong server is specified, a DMSPI internal error message is sent.



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## Chapter 7

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### **Monitoring Jobs**

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## About Monitoring Jobs

Jobs are repository objects that automate method object execution. Methods associated with jobs are executed automatically on a user-defined schedule. Jobs are invoked by the `dm_agent_exec` process. At regular intervals, the `dm_agent_exec` process examines the job objects in the repository and runs those jobs that are ready for execution.

To monitor Documentum job status, job execution time, the number of running jobs, and processes responsible for the job execution with SPI for EMC Documentum, you can use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### **DMSPI-DxCS Quick Start policy group:**

- **DMSPI-JobStatus**  
It is a Scheduled Task policy that monitors the status of Documentum jobs.
- **DMSPI-JobStatus**  
It is a Open Message Interface policy that monitors the status of Documentum jobs.
- **DMSPI-JobProcess**  
It is a Measurement Threshold policy that checks availability of the `dm_agent_exec` process. The `dm_agent_exec` process is responsible for executing jobs.
- **DMSPI-JobTime-dm\_DBWarning**  
It is a Measurement Threshold policy that checks the Documentum `dm_DBWarning` job execution time.
- **DMSPI-JobTime-dm\_DataDictionaryPublisher**  
It is a Measurement Threshold policy that checks the Documentum `dm_DataDictionaryPublisher` job execution time.
- **DMSPI-JobTime-dm\_ContentWarning**  
It is a Measurement Threshold policy that checks the Documentum `dm_ContentWarning` job execution time.
- **DMSPI-JobTime-dm\_StateOfDocbase**  
It is a Measurement Threshold policy that checks the Documentum `dm_StateOfDocbase` job execution time.



#### **DMSPI-DxCS Additional policy group:**

- **DMSPI-JobProcessMem**  
It is a Measurement Threshold policy that monitors memory usage of the dm\_agent\_exec process.
- **DMSPI-JobProcessCpu**  
It is a Measurement Threshold policy that monitors CPU utilization of the dm\_agent\_exec process.
- **DMSPI-JobsFailedToStart**  
It is a Scheduled Task policy that monitors jobs that were scheduled but for some reason failed to start.
- **DMSPI-JobsFailedToStart**  
It is a Open Message Interface policy that monitors jobs that were scheduled but for some reason failed to start.

#### **DMSPI-DxCS Data Collection policy group:**

- **DMSPI-JobProcessPerf**  
This policy collects MEM and CPU usage of the dm\_agent\_exec process and stores this information to HP Performance Agent.
- **DMSPI-JobExecTimePerf**  
It is a Scheduled Task policy that collects job execution time statistics and stores this information to HP Performance Agent.
- **DMSPI-JobStatusPerf**  
It is a Scheduled Task policy that collects statistics about the number of failed jobs and stores this information to HP Performance Agent.
- **DMSPI-RunningJobsPerf**  
It is a Scheduled Task policy that collects statistics about the number of jobs that are currently running and stores this information to HP Performance Agent.

---

## **How to Check the Job Status**

To check the status of the jobs, deploy the **DMSPI-JobStatus** (Scheduled Task) and **DMSPI-JobStatus** (Open Message Interface) policies on the node. A message is sent if the job finishes with an error.

The policy **DMSPI-JobStatus** (Scheduled Task) runs `dmspi_jobobs(.exe)` with the following arguments:

```
dmspi_jobobs(.exe) --status
```

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Check the Status of the 'dm\_agent\_exec' Process

To check if the process responsible for executing jobs is running, deploy the **DMSPI-JobProcess** policy on the system. This checks if the `dm_agent_exec(.exe)` process is running. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --j ob
```

A message is sent each time the process state changes:

- **Not running** - critical message
- **Running** - normal message

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Monitor CPU Utilization and Memory Usage of the 'dm\_agent\_exec' Process

To check the impact of the `dm_agent_exec(.exe)` process on the system, use the **DMSPI-JobProcessCpu** and **DMSPI-JobProcessMem** policies.

With the **DMSPI-JobProcessCpu** policy, you can monitor CPU utilization of the `dm_agent_exec` process. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) --j ob --cpu
```

A message is sent if:

- 'dm\_agent\_exec' process CPU utilization > 50% - warning message
- 'dm\_agent\_exec' process CPU utilization > 70% - minor message
- 'dm\_agent\_exec' process CPU utilization > 90% - critical message

With the **DMSPI-JobProcessMem** policy, you can monitor virtual memory usage of the `dm_agent_exec` process. The policy runs the `dmspi_proc(.exe)` executable with the following arguments:

```
dmspi_proc(.exe) --j ob --mem
```

A message is sent if:

- 'dm\_agent\_exec' process memory usage > 5000 kb - warning message
- 'dm\_agent\_exec' process memory usage > 10000 kb - minor message
- 'dm\_agent\_exec' process memory usage > 15000 kb - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Collect CPU Utilization and Memory Usage Information of the 'dm\_agent\_exec' Process

To collect performance data about dm\_agent\_exec CPU and MEM utilization, deploy the **DMSPI-JobProcessPerf** policy to the node. The policy runs dmspi\_proc(.exe) with the following arguments:

```
dmspi_proc(.exe) --job --perf
```

Information about the dm\_agent\_exec process CPU and memory usage is logged to HP Performance Agent.

DMSPI\_JOB\_PROCESS class is added to the DMSPI datasource with the following metrics:

- Repository name
- Server name
- dm\_agent\_exec process status
- dm\_agent\_exec process memory usage (KB)
- dm\_agent\_exec process virtual memory usage (KB)
- dm\_agent\_exec process CPU utilization (%)

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Monitor Job Execution Time

To monitor the job execution time and detect possible hung jobs, deploy the following Measurement threshold policies on the node:

- DMSPI-JobTime-dm\_ContentWarning, if you would like to monitor execution time of the dm\_ContentWarning job.
- DMSPI-JobTime-dm\_DataDictionaryPublisher, if you would like to monitor execution time of the dm\_DataDictionaryPublisher job.
- DMSPI-JobTime-dm\_DBWarning, if you would like to monitor execution time of the dm\_DBWarning job.
- DMSPI-JobTime-dm\_StateOfDocbase, if you would like to monitor execution time of the dm\_StateOfDocbase job.

To monitor the execution time of any Documentum job, copy one of the listed policies, change the policy name (for example, DMSPI-JobTime-JobName) and the --job and --policy parameters:

```
dmspi_job (.exe) --execute --job=job_name --policy=DMSPI-JobTime-  
JobName
```

The message will be sent if execution time of monitored job exceeds the predefined thresholds:

- Job execution time > 3600s - warning message
- Job execution time > 7200s - minor message
- Job execution time > 14400s - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Monitor Jobs that were Scheduled but Failed to Start

To monitor jobs that were scheduled but for some reason failed to start, deploy the **DMSPI-JobsFailedToStart** (Scheduled Task) and **DMSPI-JobsFailedToStart** (Open Message Interface) policies on the node.

The policy **DMSPI-JobsFailedToStart** (Scheduled Task) runs `dmspi_jobs(.exe)` with the following arguments:

```
dmspi_jobs(.exe) --failed
```

If more repositories reside on the system, the policy monitors the jobs only for the first repository specified in the DMSPI configuration file (`%0vDataDir%\dmspi\conf\dmspi.cfg` on Windows or `$0vAgentDir/dmspi/conf/dmspi.cfg` on Unix systems).

To monitor the jobs for the specific repository, make a copy of the policy and add `--docbase` argument.

Example:

```
dmspi_job(.exe) --failed --docbase_{repository name}
```

---

## How to Collect Job Execution Time Information

To collect the job execution time information, deploy the **DMSPI-JobExecTimePerf** policy on the node. The policy runs `dmspi_job` with the following parameters:

```
dmspi_job --execute --perf
```

Information about job execution time is logged to HP Performance Agent, where `DMSPI_JOBS_EXECUTE` class is added to the DMSPI datasource with the following metrics:

- Repository name
- Target server

- . Job name
- . Job start time in number of seconds since 01/01/1970
- . Job stop time in number of seconds since 01/01/1970
- . Job exit status
- . Job status message
- . Job owner

---

## NOTE

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To gather accurate statistics, this policy should run more frequently than the most frequent Documentum job.

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Collect Information About Failed Jobs

To collect statistics about failed jobs, deploy the **DMSPI-JobStatusPerf** policy on the node. The policy runs `dmspi_job` with the following arguments:

```
dmspi_job --status --perf
```

The policy collects and stores job statistics to HP Performance Agent where the `DMSPI_JOBS` class is added to the DMSPI datasource with the following metrics:

- . Repository name
- . Number of failed jobs

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Collect Information About Running Jobs

To collect statistics about how many jobs are running at the moment, deploy the **DMSPI-JobRunningPerf** policy on the node. The policy runs `dmspi_job` with the following arguments:

```
dmspi_job --current --perf
```

The policy collects and stores job statistics to HP Performance Agent where `DMSPI_JOBS_RUNNING` class is added to the DMSPI datasource with the following metrics:

- . Repository name
- . Target server
- . The number of jobs that are running at the moment

See also [“How to use a policy if more repositories reside on the system”](#) on page 45.

---

## How to Collect Information About Jobs that were Scheduled but Failed to Start

To collect information about jobs that were scheduled, but for some reason failed to start, deploy the **DMSPI-JobsFailedToStartPerf** policy on the node. The policy runs `dmspi _j ob` with the following arguments:

```
dmspi _j ob --failed --perf
```

The policy collects and stores job information to HP Performance Agent where `DMSPI_JOBS_NO_START` class is added to the DMSPI datasource with the following metrics:

- Job name
- Target server
- Expected execution

---

## How to Display the Job’s Last Execution Time

To display information about the job's last execution time, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Job Execution Times** tool. The following information is displayed:

- Job name
- Target server
- Job owner
- Job start time
- Job finish time
- Job duration
- Job exit status
- Job status message

---

## How to Display the Currently Running Jobs

To display jobs that are currently running, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Running Jobs** tool. The following information is displayed:

- . Job name
- . Target server
- . Job owner
- . Job start time
- . Job duration till now

---

## How to Display Jobs that were Scheduled but Failed to Start

To display jobs that were scheduled but for some reason failed to start, go to **Tools/SPI for EMC Documentum/DMSPI Documentum/DMSPI-Content Server** and run the **JobsFailedToStart** tool. The following information is displayed:

- . Job name
- . Object ID
- . Target server
- . Expected execution

## How to use a policy if more repositories reside on the system

It is possible to have more than one repository on the system. By default, all policies for monitoring jobs check only jobs for the first repository specified in the DMSPI configuration file (%0vDataDir%\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems).

To monitor the jobs of a specific repository, make a copy of the policy and add --docbase and --policy arguments to the program name.

Example:

```
dmspi_job(.exe) --status --docbase=repository_name --  
policy=my_new_policy_name
```

If the wrong repository is specified, a DMSPI internal error message is sent.





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## Chapter 8

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# **Monitoring Documentum Sessions and User Activity**

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## About Monitoring Documentum Sessions and User Activity

A repository session is opened when an end user or application establishes a connection to a server. Inactive repository sessions are sessions in which the server connection has timed out but the client has not specifically disconnected from the server. If the client sends a request to the server, the inactive session automatically reestablishes its server connection and becomes active.

To monitor Documentum sessions and user activity with SPI for EMC Documentum, you can use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### DMSPI-DxCS Quick Start policy group:

- **DMSPI-SessionsCpu**  
It is a Measurement Threshold policy that monitors CPU utilization of user sessions.

### DMSPI-DxCS Additional policy group:

- **DMSPI-SessionsMem**  
It is a Measurement Threshold policy that monitors memory usage of user sessions (should be deployed on UNIX nodes only).

### DMSPI-DxCS Data Collection policy group:

- **DMSPI-SessionsPerf**  
It is a Scheduled Task policy that collects user session CPU and memory utilization and stores information to HP Performance Agent.
- **DMSPI-NumberOfSessionsPerf**  
It is a Scheduled Task policy that collects the number of active and inactive sessions and stores information to HP Performance Agent.

---

## How to Monitor User Sessions for Extensive CPU Utilization

To check the user sessions for extensive CPU utilization and discover the users that make the most load on the Documentum server, deploy the **DMSPI-SessionsCpu** policy on the node. The policy runs `dmspi _sess` with the following arguments:

```
dmspi _sess --cpu
```

A message is sent if CPU utilization of all sessions is over:

- 50% - warning message

- . 70% - minor message
- . 90% - major message

You can add an additional filter switch `--max_cpu={session cpu threshold}` to turn on monitoring of the most CPU intensive sessions. If the switch is specified, the monitor policy will send the message only if sum of all sessions CPU utilization exceeds the threshold and the session with max CPU utilization exceeds the specified `--max_cpu` option value.

Additionally, an automatic action is prepared that displays top 10 user sessions by CPU utilization.

See also [“How to use a policy if more servers reside on the system”](#) on page 50.

---

## How to Monitor User Sessions for Extensive Memory Usage

To check the user sessions for extensive memory usage and discover the users that make the highest load on the Documentum server, deploy the **DMSPI-SessionsMem** policy on the node. The policy runs `dmspi _sess` with the following arguments:

```
dmspi _sess --mem
```

A message is sent if memory usage of the session with highest memory usage exceeds:

- . 70000KB - warning message
- . 100000KB - minor message
- . 150000KB - major message

Additionally, an automatic action is prepared that displays top 10 user sessions by memory usage.

---

### NOTE

**This feature is available only for UNIX nodes.**

See also [“How to use a policy if more servers reside on the system”](#) on page 50.

---

## How to Collect User Session CPU and Memory Utilization

To collect performance data about user session CPU and memory utilization, deploy the **DMSPI-SessionsPerf** policy on the node. The policy runs `dmspi _sess` with the following arguments:

```
dmspi_sess --top_cpu=10 --perf
```

The policy collects and stores information about top 10 user sessions with the extensive CPU utilization. The information is stored to HP Performance Agent where DMSPI\_SESS\_UTIL class is added to the DMSPI datasource with the following metrics:

- Session ID
- User name
- System name
- Server name
- Repository name
- Session CPU utilization (%)
- Session memory usage in KB (for Unix systems only)

---

## How to Collect Information About User Sessions

To collect performance data about current server sessions, deploy the **DMSPI-NumOfSessionsPerf** policy on the node. This scheduled task policy runs `dmspi_sess` with the following arguments:

```
dmspi_sess --num_sess --perf
```

The policy stores information about server sessions to HP Performance Agent. The DMSPI\_SESSIONS class will be added to the DMSPI datasource with the following metrics:

- Docbase name
- Server name
- Number of active sessions
- Number of inactive sessions
- Maximum number of concurrent sessions

## How to use a policy if more servers reside on the system

It is possible to have more than one server on the system. By default, all policies for monitoring Documentum sessions monitor only Documentum sessions of the first server specified in the DMSPI configuration file

(%0vDataDir\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems).

To monitor the Documentum sessions of a specific server, make a copy of the policy and add `--server` and `--policy` arguments to the program name.

Example:

`dmspi_sess(.exe) --mem --server=server_name --policy=my_new_policy_name`  
If the wrong server is specified, a DMSPI internal error message is sent.



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## Chapter 9

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# **Monitoring Client Response**

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## About Monitoring Client Response

A client is an end user, application, or process that uses Content Server to access the repository.

To monitor client response time for basic transactions (connect, check-in, check-out, and so on) with SPI for EMC Documentum, you can use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Client and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Client policy groups:

### **DMSPI-DxC Quick Start policy group:**

- **DMSPI-ClientResponseCheckin**  
It is a Measurement Threshold policy that monitors the time needed to checkin the dummy document to the repository.
- **DMSPI-ClientResponseCheckout**  
It is a Measurement Threshold policy that monitors the time needed to checkout the dummy document from the repository.
- **DMSPI-ClientResponseConnect**  
It is a Measurement Threshold policy that monitors the repository connect time.

### **DMSPI-DxC Additional policy group:**

- **DMSPI-ClientResponseDelete**  
It is a Measurement Threshold policy that monitors the time needed to delete the dummy document from the repository.
- **DMSPI-ClientResponseDisconnect**  
It is a Measurement Threshold policy that monitors the repository disconnect time.
- **DMSPI-ClientResponseImport**  
It is a Measurement Threshold policy that monitors the time needed to import the dummy document to the repository.

### **DMSPI-DxC Data Collection policy group:**

- **DMSPI-ClientResponsePerf**  
It is a Scheduled Task policy that collects information about the response time of standard Documentum operations and stores it to HP Performance Agent.



---

## How to Monitor Client Response Time

To monitor client response time, deploy all or some of the following policies on the system (depends on which operations would you like to monitor):

- **DMSPI-ClientResponseCheckin**
- **DMSPI-ClientResponseCheckout**
- **DMSPI-ClientResponseConnect**
- **DMSPI-ClientResponseDelete**
- **DMSPI-ClientResponseDisconnect**
- **DMSPI-ClientResponseImport**

All policies use the `dmspi_conn` executable with the different arguments:

```
dmspi_conn --checkin
```

```
dmspi_conn --checkout, and so on
```

A message will be sent if the response is longer than:

- **3000 ms** - warning message
- **5000 ms** - minor message

All policies, except **DMSPI-ClientResponseConnect** and **DMSPI-ClientResponseDisconnect**, use the dummy document (`dmspi_test.txt` stored in the OV Agent instrumentation directory) to measure the response times from the repository. It is recommended to set the `dm_DMClean` job as active to remove orphaned content objects.

See also [“How to monitor response time of a specific server/repository”](#) on page 57.

---

## How to Collect Client Response Time Data

To collect performance data about the client response time, deploy the **DMSPI-ClientResponsePerf** policy on the node. The policy runs `dmspi_conn` with the following arguments:

```
dmspi_conn --perf
```

The policy collects and stores the following information to HP Performance Agent where `DMSPI_CLIENT_RESP` class is added to the DMSPI datasource with the following metrics:

- Repository name
- Server name
- User name

- . Connect time (ms)
- . Import time (ms)
- . CheckOut time (ms)
- . CheckIn time (ms)
- . Delete time (ms)
- . Disconnect time (ms)

See also [“How to monitor response time of a specific server/repository”](#) on page 57.

---

## How to Display Client Response Statistics

To display client response time statistics, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Client Response Time** tool. The following information is displayed:

- . Repository name
- . Server name
- . User name
- . Connect time (ms)
- . Disconnect time (ms)
- . Checkin time (ms)
- . Checkout time (ms)
- . Delete time (ms)
- . Import time (ms)
- . Total time (ms)

## How to configure end-user or application server systems to monitor client response

If you deploy the policies to end-user systems, you must perform the following steps to configure the systems:

1. Deploy instrumentation (**SPI for EMC Documentum, Data Collector**) on the node.
2. Create the %0vDataDir%\dmspi directory on Windows or \$0vAgentDir/dmspi directory on Unix (for example, /var/opt/0V/dmspi).
3. Go to the %0vDataDir%\dmspi on Windows or \$0vAgentDir/dmspi on Unix and extract the dmspi.zip file with the following command:  

```
unzip %0vInstrumentationDir%\dmspi.zip or $0vInstrumentationDir/dmspi.zip on Unix.
```

4. Create the `dmspi . cfg` file and save it to the `%0vDataDi r%\dmspi \conf` directory on Windows or `$0vAgentDi r/dmspi /conf` directory on Unix.

---

## NOTE

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**The `dmcl.ini` file should contain all connection brokers that you specify in the `dmspi.cfg` configuration file.**

### *Example:*

If you want to connect to the `D1_eagl e2` repository via `eagl e2` server, you will need the following information:

- connection broker system and port number to which eagle2 sends its connection information
- Documentum admin username and password

The `dmspi . cfg` file should look like this:

```
[SERVER_eagl e2]
docbrokers=nova@1489
docbase=D1_eagl e2
[SERVERS]
servers=eagl e2
[DOCBASE_D1_eagl e2]
servers=eagl e2
docbrokers=nova@1489
user=dmuser
password=2D23E19CF1A07811
[DOCBASES]
docbases=D1_eagl e2
```

5. Start the service manually as the Documentum admin user:  
`$0vAgentDi r/dmspi /bi n/dmspi _svc --start`

## **How to monitor response time of a specific server/repository**

By default, all policies for monitoring client response times monitor only the response from the first server (repository) specified in the DMSPI configuration file (`%0vDataDi r%\dmspi \conf\dmspi . cfg` on Windows or `$0vAgentDi r/dmspi /conf/dmspi . cfg` on Unix systems).

If more servers or repositories are specified in the DMSPI configuration file and you want to monitor response time of a specific server (repository), make a copy of the policy and add `--server` (`--docbase`) and `--policy` arguments to the program name.

Example:

```
dmspi_conn(.exe) --checkin --server=server_name --  
policy=my_new_policy_name
```

```
dmspi_conn(.exe) --checkin --docbase=repository_name --  
policy=my_new_policy_name
```

If the wrong server (repository) is specified, a DMSPI internal error message is sent.

---

## Chapter 10

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### **Monitoring Log Files**

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## About Monitoring Log Files

To periodically monitor Server, connection broker, lifecycle, and user session log files for error messages with SPI for EMC Documentum, use the policies listed below. There are several patterns prepared that are searched in the log files. Additional custom patterns for searching can be added later.

Log file policies are located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups.

### DMSPI-DxCS Quick Start policy group:

- **DMSPI-ServerLog**  
It is a Logfile Entry policy that periodically scans the server log file for new messages (logs) with the content that needs attention.
- **DMSPI-AgentexecLog**  
It is a Logfile Entry policy that periodically scans the agentexec log file for new messages (logs) with the content that needs attention.

### DMSPI-DxCS Additional policy group:

- **DMSPI-LifecycleLog**  
It is a Logfile Entry policy that periodically looks for the lifecycle log files and if they exist scans them for new messages (logs) with the content that needs attention.
- **DMSPI-UserSessionLog**  
It is a Logfile Entry policy that periodically scans user session log files for new messages (logs) with the content that needs attention.

---

## How to Monitor the Server Log File

To monitor the server log file (`$DOCUMENTUM/dba/log/server_log_name.log` - log file name is usually a server name, but can be a name that you specify in the `server.ini` file), deploy the **DMSPI-ServerLog** policy on the node. The policy is started periodically and scans the server log content. The policy runs `dmspi_log(.exe)` with the following arguments:

```
dmspi_log(.exe) --srvr
```

A message is sent if the following strings are found:

- FATAL ERROR - major message
- ERROR - minor message

- WARNING - warning message

It is possible to have more than one server on the same system. By default, **DMSPI-ServerLog** policy will scan only the log file of the first server specified in the DMSPI configuration file (%0vDataDir%\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems) or the first one found on the system.

To scan the log file of the specific server, make a copy of the policy and add --server and --policy arguments to the program name.

Example:

```
dmspi_log(.exe) --server=server_name --policy=my_new_policy_name
```

If the wrong server is specified, a DMSPI internal error message is sent.

---

## How to Monitor the agentexec Log File

To monitor the agentexec log file agentexec.log (located in \$DOCUMENTUM/dba/log/docbase\_id\_hex/agentexec/), deploy the **DMSPI-AgentexecLog** policy on the node. The policy is started periodically and scans the agentexec log content. The policy runs dmspi\_log(.exe) with the following arguments:

```
dmspi_log(.exe) --agentexec
```

A message is sent if the following strings will be found:

- FATAL ERROR - major message
- ERROR - minor message
- WARNING - warning message

See also [“How to use a policy if more repositories reside on the system”](#) on page 62.

---

## How to Monitor the Lifecycle Log File

To monitor the lifecycle log files bp\_transition and bp\_schedule (located in \$DOCUMENTUM/dba/log/docbase\_id\_hex/), deploy the **DMSPI-LifecycleLog** policy on the node. The policy is started periodically and scans the lifecycle log content. The policy runs dmspi\_log(.exe) with the following arguments:

```
dmspi_log(.exe) -lifecycle
```

A message will be sent if the following strings will be found:

- FATAL ERROR - major message
- ERROR - minor message

- WARNING - warning message

By default, the policy checks the log files that were created in the last hour only to avoid monitoring of too many files. You can specify how old log files you would like to monitor with an optional argument `--hours=number_of_hours`. With this parameter, only the log files that were created after the specified hour will be scanned.

The policy runs `dmspi_log(.exe)` with the following arguments:

```
dmspi_log(.exe) --lifetime --hours=NrofHrs
```

See also [“How to use a policy if more repositories reside on the system”](#) on page 62.

---

## How to Monitor the User Session Log File

To monitor the user session log file (located in `$DOCUMENTUM/dba/log/docbase_id_hex/user_name/`), deploy the **DMSPI-UserSessionLog** policy on the node. The policy is started periodically and scans user sessions log content. The policy runs `dmspi_log(.exe)` with the following arguments:

```
dmspi_log(.exe) --user=dmuser (replace dmuser with an existing Documentum username)
```

A message will be sent if the following strings will be found:

- FATAL ERROR - major message
- ERROR - minor message
- WARNING - warning message

By default, the policy checks the log files that were created in the last hour only to avoid monitoring of too many files. You can specify how old log files you would like to monitor with an optional argument `--hours=number_of_hours`. With this parameter, only the log files that were created after the specified hour will be scanned.

The policy runs `dmspi_log(.exe)` with the following arguments:

```
dmspi_log(.exe) --user=dmuser --hours=NrofHrs
```

You can monitor log files from any user by replacing `dmuser` with the user's name.

See also [“How to use a policy if more repositories reside on the system”](#) on page 62.

## How to use a policy if more repositories reside on the system

It is possible to have more than one repository on the system. By default, all policies for monitoring log files scan only log files of the first repository specified in the DMSPI configuration file (`%0vDataDir%\dmspi\conf\dmspi.cfg` on Windows or `$0vAgentDir/dmspi/conf/dmspi.cfg` on Unix systems).



To monitor the log files of a specific repository, make a copy of the policy and add `--docbase` and `--policy` arguments to the program name.

Example:

```
dmspi_log(.exe) --dmuser --docbase=repository_name  
--policy=my_new_policy_name
```

If the wrong repository is specified, a DMSPI internal error message is sent.



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## Chapter 11

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# **Monitoring File Stores**

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## About Monitoring File Stores

File store storage areas are the basic building blocks of your storage strategy. In most installations, the majority of the content files are stored in file store storage areas.

To monitor file store growth with SPI for EMC Documentum, you can use the following policies located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### DMSPI-DxCS Quick Start policy group:

- **DMSPI-FileStores-filestore\_01**  
It is a Measurement Threshold policy that monitors available space on Documentum file store filestore\_01.

### DMSPI-DxCS Additional policy group:

- **DMSPI-FileStores-thumbnail\_store\_01**  
It is a Measurement Threshold policy that monitors available space on Documentum file store thumbnail\_store\_01.

### DMSPI-DxCS Data Collection policy group:

- **DMSPI-FileStoresPerf**  
It is a Scheduled Task policy that collects file stores statistics and stores them to HP Performance Agent.

---

## How to Monitor Documentum File Stores

SPI for EMC Documentum provides two policies to monitor default Documentum file stores (**filestore\_01** and **thumbnail\_store\_01**). To monitor other default or custom-named file stores, you should make a copy of the policy and change the parameters of the new policy. The policy runs `dmspi_filestores` with the following parameters:

```
dmspi_filestores --freospace --filestore="filestore_name" --policy="policy_name"
```

The file store policy periodically scans the disk on which the specified file store resides and returns used space in percentage. The message is sent to the console if:

- Used space > 95% - major message
- Used space > 90% - minor message

The **DMSPI-FileStores-filestore\_01** policy for monitoring the filestore\_01 file store runs `dmspi_filestores` with the following parameters:

```
dmspi_filestores --freespace --filestore="filestore_01" --
policy="DMSPI-FileStores-filestore_01"
```

*Example:*

If you want to monitor the streaming\_storage\_01 filestore, perform the following steps:

1. Make a copy of the **DMSPI-Filestores-filestore\_01** policy and change its name to **DMSPI-Filestores-streaming\_storage\_01**.
2. Change the parameters in the new policy to:

```
dmspi_filestores --freespace --filestore="streaming_storage_01" --
policy="DMSPI-FileStores-streaming_storage_01"
```

See also [“How to use a policy if more servers reside on the system”](#) on page 68.

---

## How to Collect File Store Statistics

To collect performance statistics about file stores, deploy the **DMSPI-FilestorePerf** policy on the node. The policy runs `dmspi_filestores` with the following arguments:

```
dmspi_filestores --perf
```

The policy collects and stores all file stores statistics to HP Performance Agent.

The `DMSPI_FILESTORES` class is added to the `DMSPI` datasource with the following metrics:

- Repository name
- Server name
- File store name
- Name of the distributed store
- Available space for the file store (KB)
- Total size of the disk on which file store resides (KB)
- File store used space (KB)
- Percentage of used space occupied by full text index

If you want to collect statistics for the specific file store, add the parameter

`--filestore="filestore_name"` to the `dmspi_filestores` executable:

```
dmspi_filestores -perf -filestore="filestore_name"
```

See also [“How to use a policy if more servers reside on the system”](#) on page 68.

---

## How to Display File Store Statistics

To display statistics about file stores, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Filestore Info** tool. The following information will be displayed for each file store:

- . Repository name
- . Server name
- . File store name
- . Name of the distributed store
- . File store available space [KB]
- . Filesystem capacity [KB]
- . File store used space [KB]
- . Percentage of occupied space:
  - . Content storage [%]
  - . Full text index [%]

## How to use a policy if more servers reside on the system

It is possible to have more than one server on the system. By default, all policies for monitoring file stores monitor only file stores of the first server specified in the DMSPI configuration file (%0vDataDir%\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems).

To monitor the file stores of a specific server, make a copy of the policy and add `--server` and `--policy` arguments to the program name.

Example:

```
dmspi_filestores(.exe) --freespace --filestore=filestore_name --  
server=server_name --policy=my_new_policy_name
```

If the wrong repository is specified, a DMSPI internal error message is sent.

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## Chapter 12

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# Monitoring Database Tables

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## About Monitoring Database Tables

Documentum database tables can grow rapidly if something goes wrong in your Documentum environment. For example, requests that are sent from client applications to the Documentum Content Server are stored in a special queue called `dm_queue` (database table). Documentum applications (for example, Rendition services) poll `dm_queue` at predefined intervals, and retrieve any pending requests. If Rendition server is down or does not work properly, the requests are accumulating and queue item table can grow rapidly. With SPI for EMC Documentum, you can monitor the size and the growth of any Documentum database table. Additionally, it is possible to get information about events that occurred in your Documentum environment - for example, number of unprocessed renditions, number of login failures, and so on.

Policies for monitoring database tables are located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### DMSPI-DxCS Quick Start policy group:

- **DMSPI-DmAudittrailSize**  
It is a Measurement Threshold policy that monitors the size of the `dm_audittrail` table.
- **DMSPI-DmiQueueItemSize**  
It is a Measurement Threshold policy that monitors the size of the `dmi_queue_item` table.
- **DMSPI-LogonFailure**  
It is a Measurement Threshold policy that monitors the number of logon failures.
- **DMSPI-RenditionQueue**  
It is a Measurement Threshold policy that monitors the number of unprocessed renditions.

### DMSPI-DxCS Data Collection policy group:

- **DMSPI-DmAudittrailSizePerf**  
It is a Scheduled Task policy that collects information about `dm_audittrail` table size growth.
- **DMSPI-DmiQueueItemSizePerf**  
It is a Scheduled Task policy that collects information about `dmi_queue_item` table size growth.



- **DMSPI-LogonFailurePerf**  
It is a Scheduled Task policy that collects information about number of logon failures.
- **DMSPI-RenditionQueuePerf**  
It is a Scheduled Task policy that collects information about the number of unprocessed rendition.
- **DMSPI-UnfinishedWorkflowsPerf**  
It is a Scheduled Task policy that collects data on workflows that are not finished yet and are older than the specified time period.

---

## How to Monitor the Table Size

SPI for EMC Documentum provides two policies to monitor the size of the Documentum tables:

- **DMSPI-DmAudittrailSize**
- **DMSPI-DmiQueueItemSize**

Both policies use `dmspi_table` with the following arguments:

```
dmspi_table --table="dm_audittrail"
```

```
dmspi_table --table="dmi_queueitem"
```

A message will be sent if the table size is bigger than:

- 5000 - warning message
- 8000 - minor message

To monitor the size of any other Documentum table, you should make a copy of the **DMSPI-DmAudittrailSize** or **DMSPI-DmiQueueItemSize** policy and change the `--table` parameter of the new policy:

```
dmspi_table --table="new_table_name"
```

See also [“How to use a policy if more repositories reside on the system”](#) on page 74.

---

## How to Monitor the Number of Specific Events in the Table

The events that occurred in the Documentum environment (for example, rendition requests, logon failures, and so on) are stored to database tables. To monitor the number of such events, DMSPI provides two policies:

- **DMSPI-LogonFailure**, to monitor the number of logon failures
- **DMSPI-RenditionQueue**, to monitor the number of unprocessed renditions

Both policies use `dmspi_table` with the following arguments:

```
dmspi_table --dql_query="dmspi_logfail.dql "
```

```
dmspi_table --dql_query="dmspi_rendqueue.dql "
```

A message will be sent to the console if:

- number of logon failures > 50 - warning message
- number of logon failures > 80 - minor message
- number of unprocessed renditions > 30 - warning message
- number of unprocessed renditions > 50 - minor message

To monitor the number of events in the Documentum database table, you should write your own DQL query and store it to the `%OvInstrumentationDir%` directory. In this directory, you can also find the DQL example queries that get the number of unprocessed rendition events (`dmspi_rendqueue.dql`) and logon failures (`dmspi_logfail.dql`). Then make a copy of the **DMSPI-LogonFailure** or **DMSPI-RenditionQueue** policy and change the following:

- Specify the name of the file that contains your DQL query (`--dql_query="new_dql_query"`)
  - Specify the policy name (`--policy="new_policy_name"`)
  - In the modified policy, change the threshold levels and messages if necessary
- ```
dmspi_table --dql_query="new_dql_query" --policy="new_policy_name"
```

See also [“How to use a policy if more repositories reside on the system”](#) on page 74.

---

## How to Collect Table Size Growth Information

To collect information about the size and growth of the `audittrail` and `dmi_queue_item` database tables, deploy the **DMSPI-DmAudittrailSizePerf** and **DMSPI-DmiQueueItemSizePerf** policies on the node. The policies will run the `dmspi_table` executable with the following arguments:

```
dmspi_table --table="dm_audittrail" -perf
```

```
dmspi_table --table="dmi_queue_item" --perf
```

To collect the size and growth of any Documentum table, make a copy of the **DMSPI-DmAudittrailSizePerf** or **DMSPI-DmiQueueItemSizePerf** policy and change the `--table` parameter of the new policy:

```
dmspi_table --table="table_name" --perf
```

The `DMSPI_EVENT_SIZE` class will be added to the DMSPI datasource with the following metrics:

- Repository name

- Table name
- Table size

See also [“How to use a policy if more repositories reside on the system” on page 74.](#)

---

## How to Collect Event Information

To collect information about the number of unfinished renditions and logon failures, deploy the **DMSPI-RenditionQueuePerf** and **DMSPI-LogonFailurePerf** policies on the node. The policy will run `dmspi_table` with the following arguments:

```
dmspi_table --dql_query="dmspi_logfail.dql" --perf
```

```
dmspi_table --dql_query="dmspi_rendqueue.dql" --perf
```

To collect the number of any events in the Documentum database table, you should write your own DQL query and store it to the `%OvInstrumentationDir%` directory. In this directory, you can also find the DQL example queries that get the number of unprocessed events (`dmspi_rendqueue.dql`) and logon failures (`dmspi_logfail.dql`). Then make a copy of the **DMSPI-LogonFailurePerf** or **DMSPI-RenditionQueuePerf** policy and change or add the `--dql_query` and `--event` parameters of the new policy:

```
dmspi_table --dql_query="new_dql_query" --event="event_name" --perf
```

The `DMSPI_EVENT_SIZE` class will be added to the DMSPI datasource with the following metrics:

- Repository name
- Table name
- Event name
- Number of events

See also [“How to use a policy if more repositories reside on the system” on page 74.](#)

---

## How to Collect Unfinished Workflows Information

To collect data on workflows that are not finished yet and are older than a specified time period, deploy the **DMSPI-UnfinishedWorkflowsPerf** policy on the node. The policy runs `dmspi_table` with the following arguments:

```
dmspi_table --perf --workflow=50
```

To change the predefined time period (50 days), change the `--workflow` parameter value.

The `DMSPI_U_WORKFLOWS` class will be added to the DMSPI datasource with the following metrics:

- . Repository name
- . Workflow ID
- . Workflow name
- . Workflow state
- . Workflow start date
- . Supervisor name
- . Workflow age

See also [“How to use a policy if more repositories reside on the system”](#) on page 74.

### **How to use a policy if more repositories reside on the system**

It is possible to have more than one repository on the system. By default, all policies for monitoring database tables monitor only tables of the first repository specified in the DMSPI configuration file (%0vDataDir\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems).

To monitor the database tables of a specific repository, make a copy of the policy and add `--docbase` and `--policy` arguments to the program name.

Example:

```
dmspi_table (.exe) --table="table_name" --docbase=repository_name --  
policy=my_new_policy_name
```

If the wrong repository is specified, a DMSPI internal error message is sent.

---

## Chapter 13

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### **Monitoring Index Server**

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## About Monitoring Index Server

Full-text indexes enable users to search a repository for specific text found in stored documents or the attributes of documents. The full-text indexing software consists of three components: Content Server, the index agent, and the index server.

Content Server manages the objects in a repository, generates the events that trigger full-text indexing operations, queries the full-text indexes, and returns query results to client applications.

The index agent exports documents from a repository and prepares them for indexing.

The index server creates full-text indexes and responds to full-text queries from Content Server.

With SPI for EMC Documentum you can monitor:

- If it is possible to add new documents to full-text index
- If it is possible to search for documents and how fast is the search
- What's the index server performance (save-to-search latency)
- Index server availability and resource consumption
- If there are any internal issues
- Full-text index disk usage
- Index agent availability and resource consumption
- Index queue size and number of failed indexing items

To monitor the index server with SPI for EMC Documentum, you can use the following policies that have to be deployed on the Content Server Node and are located in the SPI for EMC Documentum/DMSPI-EMC Documentum 5.3/DMSPI-D5 Content Server and SPI for EMC Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Content Server policy groups:

### **DMSPI-DxCS Additional policy group:**

- **DMSPI-FTQueryResponse**  
It is a Measurement Threshold policy that monitors full-text query response time.
- **DMSPI-FTSearchAvailability**  
It is a Measurement Threshold policy that checks Index Server search availability.
- **DMSPI-IdxAgtStatus**  
It is a Measurement Threshold policy that checks index agent status.
- **DMSPI-IdxQueueFailed**

It is a Measurement Threshold policy that checks failed items in index queue.

- **DMSPI-IdxQueueSize**  
It is a Measurement Threshold policy that monitors the size of index queue.
- **DMSPI-IndexingLatency**  
It is a Measurement Threshold policy that monitors how long does it take for a document to become searchable.

**DMSPI-DxCS Additional Data Collection policy group:**

- **DMSPI-IdxQueueFailedPerf**  
It is a Scheduled Task policy that collects failed items statistics.
- **DMSPI-IdxQueueSizePerf**  
It is a Scheduled Task policy that collects queue size statistics.
- **DMSPI-IndexingPerf**  
It is a Scheduled Task policy that collects full-text indexing performance statistics.

Additionally, the following policies located in the SPI for EMC Documentum/  
DMSPI-EMC Documentum 5.3/DMSPI-D5 Index Server and SPI for EMC  
Documentum/DMSPI-EMC Documentum 6/DMSPI-D6 Index Server policy groups  
have to be deployed on the index server node:

**DMSPI-DxIS Quick Start policy group:**

- **DMSPI-NctrlStatus**  
It is a Measurement Threshold policy that checks index server's node controller module status.
- **DMSPI-ProcServerStatus**  
It is a Measurement Threshold policy that checks index server's document processor module status.
- **DMSPI-IdxAgtLog**  
It is a Logfile Entry policy that periodically scans the index agent log file for new messages (logs) with the content that needs attention.
- **DMSPI-IdxSrvrDiskUsage**  
It is a Measurement Threshold policy that checks index server's full-text index disk usage (in %).
- **DMSPI-IdxSrvrLog**  
It is a Logfile Entry policy that periodically scans the index server log file for new messages (logs) with the content that needs attention.

#### **DMSPI-DxIS Additional policy group:**

- **DMSPI-ContentDistributorStatus**  
It is a Measurement Threshold policy that checks index server's content distributor module status.
- **DMSPI-QRServerStatus**  
It is a Measurement Threshold policy that checks index server's QRServer module status.
- **DMSPI-RTSTopDispatcherStatus**  
It is a Measurement Threshold policy that checks index server's RTS Top Dispatcher module status.

#### **DMSPI-DxIS Data Collection policy group:**

- **DMSPI-IdxAgtProcPerf**  
It is a Scheduled Task policy that collects performance data for index agent process.
- **DMSPI-IdxSrvrDiskUsagePerf**  
It is a Scheduled Task policy that collects index server's full-text index disk usage.
- **DMSPI-IdxSrvrProcPerf**  
It is a Scheduled Task policy that collects performance data for index server processes.

---

## **How to Monitor Index Server Availability**

To monitor the index server availability and detect possible cases when the index server is not functioning properly, deploy the **DMSPI-{Index Server component}Status** policies to the index server node and the **DMSPI-FTSearchAvailability** policy on the Content Server, index server, application server, or Documentum client node. A message is sent if index server does not work properly or there is no connectivity with the host where index server resides.

The policy **DMSPI-FTSearchAvailability** runs `dmspi _i dxsrvr (. exe)` with the following arguments:

```
dmspi _i dxsrvr (. exe) --availability
```

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

To monitor the status of main components in the FAST data search system, deploy the following policies to index server node:



- **DMSPI-NctrlStatus** for monitoring Node Controller component
- **DMSPI-QRServerStatus** for monitoring QRServer component
- **DMSPI-RTSTopDispatcherStatus** for monitoring Top Level Fdispatch component
- **DMSPI-ProcServerStatus** for monitoring Document Processors component
- **DMSPI-ContentDistributorStatus** for monitoring Content Distributors component

To monitor the status of any index server component, copy the **DMSPI-NctrlStatus** policy and change the `--module={module process name}` parameter of the new policy. A general index server component status monitoring policy would look like this:

```
dmspi _i dxsrvr(. exe) --module={module process name} --status --
pol icy={pol icy_name}
```

The policy **DMSPI-NctrlStatus** runs `dmspi _i dxsrvr(. exe)` with the following arguments:

```
dmspi _i dxsrvr(. exe) --module=nctrl --status --pol icy=DMSPI -Nctrl Status
```

The policy **DMSPI-QRServerStatus** runs `dmspi _i dxsrvr(. exe)` with the following arguments:

```
dmspi _i dxsrvr(. exe) --module=qrserver --status --pol icy=DMSPI -
QRServerStatus
```

The policy **DMSPI-RTSTopDispatcherStatus** runs `dmspi _i dxsrvr(. exe)` with the following arguments:

```
dmspi _i dxsrvr(. exe) --module=topfdi spatch --status --pol icy=DMSPI -
RTSTopDi spatcherStatus
```

The policy **DMSPI-ProcServerStatus** runs `dmspi _i dxsrvr(. exe)` with the following arguments:

```
dmspi _i dxsrvr(. exe) --module=procserver_n --status --pol icy=DMSPI -
ProcServerStatus
```

The policy **DMSPI-ContentDistributorStatus** runs `dmspi _i dxsrvr(. exe)` with the following arguments:

```
dmspi _i dxsrvr(. exe) --module=contentdi stri butor --status --
pol icy=DMSPI -ContentDi stri butorStatus
```

---

## How to Monitor Index Server Log File

To monitor the index server log file, deploy the **DMSPI-IdxSrvrLog** policy on the index server node. The policy is started periodically and scans the index server log content. The policy runs `dmspi_log(.exe)` with the following arguments:

```
dmspi_log(.exe) --index_server
```

A message is sent if the following string is found:

- **FATAL** - major message
- **ERROR** - minor message

---

## How to Monitor Indexing Latency

To monitor indexing latency (the time needed to merge a new document into the FT index and to make it searchable), deploy the **DMSPI-IndexingLatency** policy on the Content Server node. The policy runs `dmspi_idxsrvr(.exe)` with the following arguments:

```
dmspi_idxsrvr(.exe) --latency
```

A message is sent if:

- **Create/delete latency > 180 seconds** - warning message
- **Create/delete latency > 360 seconds** - minor message
- **Create/delete latency > 600 seconds** - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Monitor the FT Query Response Time

To monitor if your full text queries come back in a timely fashion, deploy the **DMSPI-FTQueryResponse** to the Content Server node. The policy runs `dmspi_idxsrvr(.exe)` with the following arguments:

```
dmspi_idxsrvr(.exe) --query
```

A message is sent if:

- **Query response time > 2 seconds** - warning message
- **Query response time > 5 seconds** - minor message
- **Query response time > 10 seconds** - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Monitor the Index Queue Size

To monitor the size of Index queue, deploy the **DMSPI-IdxQueueSize** policy on the Content Server node. The policy runs `dmspi_table(.exe)` with the following arguments:

```
dmspi_table(.exe) --dql_query=dmspi_index.dql
```

A message is sent if:

- **Index queue size > 500** - warning message
- **Index queue size > 5000** - minor message
- **Index queue size > 10000** - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Monitor the Index Queue for Failed Items

To monitor the Index queue and detect possible failed queue items, deploy the **DMSPI-IdxQueueFailed** policy on the Content Server node. The policy runs `dmspi_table(.exe)` with the following arguments:

```
dmspi_table(.exe) --dql_query=dmspi_indexfailed.dql
```

Message will be sent if there are Index queue items with failed state:

- **Number of failed items > 500** - warning message
- **Number of failed items > 5000** - minor message
- **Number of failed items > 10000** - major message

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Monitor the FT Index Disk Usage

To monitor the full-text index disk usage, deploy the **DMSPI-IdxSrvrDiskUsage** policy on the index server node. The **DMSPI-IdxSrvrDiskUsage** policy runs `dmspi_idxsrvr(.exe)` with the following arguments:

```
dmspi_idxsrvr(.exe) --disk_usage
```

A message is sent if:

- **FT index disk usage > 90%** - minor message
- **FT index disk usage > 95%** - major message

---

## How to Collect Index Server statistics

To collect index server statistics, deploy the **DMSPI-IdxSrvrProcPerf** policy on the index server node. The policy runs `dmspi_proc(.exe)` with the following arguments:

```
dmspi_proc(.exe) -perf --i ndex_server
```

Process performance metrics (CPU & MEM utilization) for the following index server processes will be collected:

| ProcessDescription | Module name                                                              |
|--------------------|--------------------------------------------------------------------------|
| FASTDataSearch     | Data Search 4.0 Node Controller<br>Service Fast Search & Transfer<br>ASA |
| ominNames          | Name Service                                                             |
| logserver          | Log Server                                                               |
| configserver       | Config Server                                                            |
| contentdistributor | Content Distributor                                                      |
| frtsobj            | RTS Indexer                                                              |
| fsearchctrl        | RTS Top Dispatcher                                                       |
| fsearchctrl        | RTS Search                                                               |
| qrserver           | QRServer                                                                 |
| statusserver       | Status Server                                                            |
| procserver         | Document Processor                                                       |

Index server information will be stored to HP Performance Agent. The `DMSPI_IDXSRVR_PROC` class is added to the DMSPI datasource with the following metrics:

- Process label
- Process name
- Process description
- Process status
- Process memory usage (KB)
- Process virtual memory usage (KB)
- Process CPU utilization (%)

---

## How to Collect indexing Performance Statistics

Indexing process consists of three major phases:

- **Waiting to be indexed** - after Save, Checkin, Destroy, Readonlysave, or MoveContent operation is performed on a SysObject in the repository, a new queue item is created in the dmi\_queue\_item table
- **Document preprocessing** - index agent and index server create their own representation of the document (DFTXML, FIXML) before the document is indexed
- **Indexing** of the content file and its properties

To collect indexing performance statistics, deploy the **DMSPI-IndexingPerf** policy to the node. The policy runs dmspi\_idxsrvr(.exe) binary with the following arguments:

```
dmspi_idxsrvr(.exe) --latency --perf
```

Statistics about the different stages of indexing is logged to HP Performance Agent. The DMSPI\_IDX\_PERFORMANCE class is added to the DMSPI datasource with the following metrics:

- Index agent name
- Repository name
- Awaiting time when adding new document to the FT index (ms)
- Preprocessing time when adding new document to the FT index (ms)
- Indexing time when adding new document to the FT index (ms)
- Awaiting time when removing a document from the FT index (ms)
- Preprocessing time when removing a document from the FT index (ms)
- Time to remove a document from the FT index (ms)
- FT query response time (ms)

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Collect the Index Queue Size Information

To collect the size of Index queue, deploy the **DMSPI-IdxQueueSizePerf** policy on the Content Server node. The policy runs dmspi\_table(.exe) with the following arguments:

```
dmspi_table(.exe) --dql_query=dmspi_index_size.dql --perf
```

Index queue size information will be stored to HP Performance Agent. The DMSPI\_EVENT\_SIZ class is added to the DMSPI datasource with the following metrics:

- Repository name
- Table name
- Event name
- Number of events

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Collect Information on Failed Items in the Index Queue

To collect information about the number of failed items in the Index queue, deploy the **DMSPI-IdxQueueFailedPerf** policy on the Content Server node. The policy runs `dmspi_table(.exe)` with the following arguments:

```
dmspi_table(.exe) --dql_query=dmspi_indexfailed.dql --perf
```

Information about number of failed items in Index queue will be stored to HP Performance Agent. The DMSPI\_EVENT\_SIZ class is added to the DMSPI datasource with the following metrics:

- Repository name
- Table name
- Event name
- Number of events

See also [“How to use a policy if more repositories reside on the system”](#) on page 88.

---

## How to Collect the FT Index Disk Usage Information

To collect statistics for full-text index disk usage, deploy the **DMSPI-IdxSrvrDiskUsagePerf** policy on the index server node. The **DMSPI-IdxSrvrDiskUsagePerf** policy executes `dmspi_idxsrvr(.exe)` executable with the following arguments:

```
dmspi_idxsrvr(.exe) --disk_usage --perf
```

Information about disk usage will be stored to HP Performance Agent. The DMSPI\_IDXSRVR\_DU class is added to the DMSPI datasource with the following metrics:

- Index server node name

- Full-text index location
- Disk usage (%)
- Disk usage (GB)
- Disk size (GB)
- Disk free size (GB)

---

## How to Monitor the Index Agent Availability

To monitor the index agent status (running, not responding), deploy the **DMSPI-IdxAgtStatus** policy on the Content Server node. The **DMSPI-IdxAgtStatus** policy executes `dmspi_idxsrvr(.exe)` executable with the following arguments:

```
dmspi_idxsrvr(.exe) --i ndex_agent="" --status
```

This policy will also detect if the index agent Web application, that is running as Apache Tomcat servlet, is responsive. The default policy will monitor only the first found index agent for the first repository in the local configuration file. To monitor another index agent, you will have to create a copy of the **DMSPI-IdxAgtStatus** policy and set the following parameters in the new policy:

```
--docbase={repository name} and --i ndex_agent={Index Agent name}
```

A message is sent, if the index agent does not work properly or there is no connectivity with the host where index agent resides.

---

## How to Monitor the Index Agent Log File

To monitor the index agent log file, deploy the **DMSPI-IdxAgtLog** policy on the index server node. The policy is started periodically and scans the index agent log content for error or warning messages. The policy runs `dmspi_idxlog(.exe)` with the following arguments:

```
dmspi_idxlog(.exe) --i ndex_agent="Index Agent name"
```

---

## How to Collect the Index Agent Process Information

To collect index agent process statistics, deploy the **DMSPI-IdxAgtProcPerf** policy on the index server node. The policy runs `dmspi_idxproc(.exe)` with the following arguments:

```
dmspi_idxproc(.exe) -perf --i ndex_agent={index agent name}
```

Process performance information (CPU & MEM utilization) will be stored to HP Performance Agent. The DMSPI\_I DXAGT\_PROC class is added to the DMSPI datasource with the following metrics:

- Process label
- Process name
- Repository name
- Process status
- Process memory usage (KB)
- Process virtual memory usage (KB)
- Process CPU utilization (%)

---

## How to Display Index Server Status

To display information about the status of index server components, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Index Server** and run the **Index Server Status** tool. The following information is displayed for each index server component:

- Module name
- Process name
- PID
- Status

---

## How to Display Index Server Disk Usage

To display information about the index server disk usage, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Index Server** and run the **Index Server Disk Usage** tool. The following information is displayed:

- Fulltext location
- Current disk usage
- Used disk space
- Total disk space
- Free disk space



---

## How to Display Index Agent Status

To display index agent status go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Index Agent Status** tool. The following information is displayed:

- Index agent name
- Index agent URL
- Repository
- Index name
- Status

---

## How to Display Indexing Latency

To display information about indexing latency (the time needed to merge a new document into the FT index and to make it searchable) go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **Indexing latency** tool. The following information is displayed:

- Repository
- Index agent
- Awaiting time
- Processing time
- Indexing time

---

## How to Display FT Query Response Time

To display information about current full-text query response time, go to **Tools/SPI for EMC Documentum/DMSPI-Documentum/DMSPI-Content Server** and run the **FT Query Response** tool. The following information is displayed:

- Repository
- Index agent
- Query response time

## How to use a policy if more repositories reside on the system

It is possible to have more than one repository on the system. By default, all policies for monitoring FT index availability and performance monitor only FT index of the first repository specified in the DMSPI configuration file (%0vDataDir%\dmspi\conf\dmspi.cfg on Windows or \$0vAgentDir/dmspi/conf/dmspi.cfg on Unix systems).

To monitor the FT index of a specific repository, make a copy of the policy and add --docbase and --policy arguments to the program name.

Example:

```
dmspi_idxsrvr(.exe) --query --docbase=repository_name --  
policy=my_new_policy_name
```

If the wrong repository is specified, a DMSPI internal error message is sent.

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## Chapter 14

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### **SPI for EMC Documentum Integration with HP Reporter**

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## SPI for EMC Documentum Integration with HP Reporter

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### Integration Requirements

Before reports can be installed on a system and SPI for EMC Documentum can be integrated with HP Reporter, check if:

- The HP Reporter is installed on the same system as the HPOM Management server or it is installed as a standalone system.
- The Reporter Service is running.
- An HPOM Agent is installed on the managed nodes from which you want to generate reports.

---

### Deploying Policies and Collecting Performance Data

To produce reports, policies must be deployed. All policies related to collecting performance data have the Perf extension (for example, **DMSPI-SrvrProcessPerf**). After a policy is successfully deployed, the HP Performance Agent begins to collect performance data on regular intervals. HP Reporter can be used to generate reports for all Documentum systems, where HP Performance Agents are collecting data.

---

## How HP Reporter Creates Reports

Reporter performs the following steps when producing reports:

[“Perform System Discovery” on page 91](#)

[“Gather Performance Data” on page 92](#)

[“Generate Reports” on page 93](#)

---

## Perform System Discovery

HP Reporter creates Web-based reports from data derived from the targeted systems that it "discovers". During a system discovery, Reporter looks for systems that are specified in the Discovery Area, and which have a HP Performance Agent installed. It then adds those systems to the **Discovered Systems** group:



Discovered systems are placed in groups for easier access and reporting. Systems can be assigned to groups as they are discovered as specified in the Automatic Grouping facility. By default, systems are automatically assigned to groups based on the name of their operating system. However, you can also manually assign systems to groups.

A system can belong to any number of different groups. You can also create your own groups and assign systems to them manually using the "drag and drop" action.

The following group is created automatically for SPI for EMC Documentum purposes:

- SPI for EMC Documentum

There is also auto-grouping defined for this group. Discovered system which contains a DMSPI Data Source is automatically added to the **SPI for EMC Documentum** discovered systems group in Reporter.

---

## IMPORTANT

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The auto-grouping feature only works with newly discovered systems. If your systems have already been discovered by Reporter prior to the Reporter part of SPI for EMC Documentum installation, they may not have been added to the SPI for EMC Documentum Reporter group; it may even occur that the group itself has not been created.

If a **SPI for EMC Documentum** group was not created automatically, you can create it manually:

1. In the left pane, right-click **Discovered Systems**.
2. Select **Add Group**.
3. In the *Add Group* dialog box, enter the new group name **SPI for EMC Documentum** (note that the group name is case-sensitive) and click **Add**.

If a specific Documentum system has not been put under the **SPI for EMC Documentum** group, you can add it manually.

---

## Gather Performance Data

Once Reporter has run through its discovery, it gathers performance data from each discovered system and places it in a local database. Additionally, Reporter gathers data only for those metrics that it knows about. These metrics are specified under Metrics Lists:



Metric lists control what information is gathered from a system into the Reporter's database. A metric list groups metrics from a single metric class supplied by the performance agent for UNIX or Windows. The metric list can also select the degree of summarization (points every 5 minutes, hour, day, and so on) and how much data to gather and retain in the database. The shorter the interval, the more records collected. The default summarization level is one hour. Metric lists are tightly connected to Data Source and Objects within that Data Source on each system.

For a list of metrics lists, refer to [“Metric Lists” on page 118](#).

---

## Generate Reports

Reporter generates HTML reports based on the data available from the local Reporter database. Additionally, Reporter creates HTML reports from the set of reports that it knows about; reports which are located in the Reports group:



Available reports are listed in families under the **Reports** icon. To see the reports, expand the **Reports** hierarchy in the Reporter window, and click on a report family to display its reports in the right pane.

From the right pane, you can delete a report, display its definition details, and edit the report definition details including the Date Range and Shift Name.

The following report family is created for SPI for EMC Documentum purposes:

- SPI for EMC Documentum

## Reports Implemented in SPI for EMC Documentum

Several report categories and related individual reports exist under the SPI for EMC Documentum report family as specified in the following tables.

| Category                        | Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Documentum process availability | <p><b>Server process statistics for yesterday</b><br/> <b>Server process statistics for last 28 days</b></p> <p>The reports show availability of the Documentum server processes during the previous day or the last 28 days. The first parts of the reports are focused on determining top/bottom 5 servers by server process memory usage, CPU utilization, and availability. The second parts of the reports show in detail how the resource usage and availability of the server processes varied in time.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -SrvrProcessPerf</p>                                                           |
| Documentum process availability | <p><b>Connection broker process statistics for yesterday</b><br/> <b>Connection broker process statistics for last 28 days</b></p> <p>The reports show availability of the connection broker processes during the previous day or the last 28 days. The first parts of the reports are focused on determining top/bottom 5 connection broker processes by memory usage, CPU utilization, and availability. The second parts of the reports show in detail how the resource usage and availability of the connection broker processes varied in time.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum connection broker systems that have the following policy deployed (for at least 2 days):<br/> DMSPI -BrokerProcessPerf</p> |



|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Documentum process availability | <p><b>Job process statistics for yesterday</b><br/> <b>Job process statistics for last 28 days</b></p> <p>The reports show availability of the 'dm_agent_exec' process during the previous day or the last 28 days. The first parts of the reports are focused on determining top/bottom 5 servers by 'dm_agent_exec' process memory usage, CPU utilization, and availability. The second parts of the reports show in detail how the resource usage and availability of the 'dm_agent_exec' processes varied in time.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI - JobProcessPerf</p>                                       |
| Documentum process availability | <p><b>Index server process statistics for yesterday</b><br/> <b>Index server process statistics for last 28 days</b></p> <p>The reports show availability and resource consumption of the index server processes during the previous day or last 28 days. The first parts of the reports are focused on determining top/bottom index servers by index server process memory usage, CPU utilization, and availability.</p> <p>The second parts of the reports show in detail how the resource usage and availability of the index server processes varied in time.</p> <p><b>IMPORTANT:</b> The reports take into account only those index servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -IdxSrvrProcPerf</p> |
| Documentum process availability | <p><b>Index agent process statistics for yesterday</b><br/> <b>Index agent process statistics for last 28 days</b></p> <p>The reports show availability and resource consumption of the index agent processes during the previous day or last 28 days. The first parts of the reports are focused on determining top/bottom index agents by index agent process memory usage, CPU utilization, and availability.</p> <p>The second parts of the reports show in detail how the resource usage and availability of the index agent processes varied in time.</p> <p><b>IMPORTANT:</b> The reports take into account only those index servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -IdxAgtProcPerf</p>        |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| File store statistics | <p><b>File store statistics</b></p> <p>This report shows file store distribution and statistics. The first part of the report focuses on determining top 10 file stores with largest content and least available space, and the second part show how much of the total file store space is occupied by individual file store. Additionally, detailed statistics for each file store are provided. They show free and used space for the disk, on which the file store resides. For each file store you can also see how much used space is occupied by content and how much by full text index. Use this report to precisely monitor the file store usage and available disk space.</p> <p><b>IMPORTANT:</b> This report takes into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/>DMSPI -FilestoresPerf</p> |
| Database availability | <p><b>Database availability for yesterday</b><br/><b>Database availability for last 28 days</b></p> <p>The reports show average, minimal, and maximal login time for Documentum database during the last day or the last 28 days. Login time is measured with the Documentum <b>dmdbtest</b> tool and shows the time needed for the Documentum server to login to the Documentum database.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/>DMSPI -DBLoginPerf</p>                                                                                                                                                                                                                                                                                              |
| User sessions         | <p><b>User session statistics for yesterday</b><br/><b>User session statistics for last 28 days</b></p> <p>The reports present the average session activity on Documentum servers during the previous day or the last 28 days. Based on their state, sessions are categorized as active or inactive. Use these reports to identify trends in server session activity and to compare inter-server session activities.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/>DMSPI -NumberOfSessionsPerf</p>                                                                                                                                                                                                                                                           |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User sessions   | <p><b>User session CPU and memory consumption for yesterday</b><br/> <b>User session CPU and memory consumption for last 28 days</b></p> <p>The reports show the load of user sessions on the system where the Documentum server is installed. The graph shows average CPU utilization of user sessions during the previous day or the last 28 days. Additionally, the table shows top 10 users with extensive CPU utilization for each server.</p> <p>For UNIX servers the reports also show memory usage for user sessions and a table with top 10 users with extensive memory usage.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policies deployed (for at least 2 days):<br/> DMSPI -SessionsPerf<br/> DMSPI -SessionsMemPerf</p>                   |
| Client response | <p><b>Client response time for yesterday</b><br/> <b>Client response time for last 28 days</b></p> <p>The reports present average, minimum, and maximum response time values for standard Documentum user operations from client systems during the previous day or the last 28 days for each Documentum repository. The first parts of the reports are focused on determining top 5 client systems by each Documentum operation, and the second parts of the reports show in detail how the response time varied in time. Use these reports to get insight into how fast the documents are accessed or stored to the repository.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):<br/> DMSPI -ClientResponsePerf</p> |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client response   | <p><b>Server availability for yesterday</b><br/> <b>Server availability for last 28 days</b></p> <p>The reports present the availability of Documentum infrastructure (connection brokers and repositories) from the client perspective. Availability is tested for clients that connect through DMCL. The top graphs show servers that were unavailable for most of the time. The following graphs show availability of servers during the previous day or the last 28 days.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):<br/> DMSPI -ClientResponsePerf</p>                                                             |
| Table size growth | <p><b>Database table size growth for yesterday</b><br/> <b>Database table size growth for last 28 days</b></p> <p>The reports show the table size growth during the previous day or the last 28 days. Tables are grouped by repositories and sorted by table names. Reports show the size of a specific table at the beginning of the reporting period and at the end of the period and calculate the table growth. They also show minimum, maximum, and average table size.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):<br/> DMSPI -Dmi QueueItemSizePerf<br/> DMSPI -DmAuditTrailSizePerf</p>                        |
| Table size growth | <p><b>Number of events for yesterday</b><br/> <b>Number of events for the last 28 days</b></p> <p>The reports show the number of events for every event that you are monitoring. Events are grouped by repositories and sorted by the event name. Report show the number of events that have occurred in a repository at the beginning of the period and at the end of the period, and calculates the difference between them. Additionally, the minimum, maximum, and average number of events are shown.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):<br/> DMSPI -RenderionQueuePerf<br/> DMSPI -LogonFailurePerf</p> |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jobs | <p><b>Number of failed jobs for yesterday</b><br/> <b>Number of failed jobs for last 28 days</b></p> <p>These reports show the average number of failed jobs per repository during the previous day or the last 28 days.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -JobStatusPerf</p>                                                                                                                                                                                             |
| Jobs | <p><b>Job execution time for yesterday</b><br/> <b>Job execution time for last 28 days</b></p> <p>The reports show the job execution time for all executed jobs during the previous day or the last 28 days. The first parts of the reports show top 5 jobs by job duration. The second parts of the reports show in details when and how long the jobs were running and if the jobs were finished successfully.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -JobExecTimePerf</p>   |
| Jobs | <p><b>Number of running jobs for yesterday</b><br/> <b>Number of running jobs for last 28 days</b></p> <p>The reports show the number of running jobs per repository during the previous day or the last 28 days. The first parts of the reports show repositories with the most running jobs. The second parts of the reports show in details the number of running jobs per repository during the time interval.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -RunningJobsPerf</p> |
| Jobs | <p><b>Job that were scheduled but failed to start for yesterday</b><br/> <b>Job that were scheduled but failed to start for last 28 days</b></p> <p>The reports show list of administrative jobs that were scheduled but for some reason failed to start for Documentum repositories during the previous day or the last 28 days.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -JobsFailedToStartPerf</p>                                                                            |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full-Text Indexing | <p><b>Indexing latency for yesterday</b><br/> <b>Indexing latency for last 28 days</b></p> <p>The reports present indexing latency statistics. Save-to-search latency is the time needed to merge a new document into the FT index and to make it searchable. Destroy latency is the time needed to remove a document from the FT index.</p> <p>The first parts of the reports are focused on determining top repositories by indexing latency, and the second parts of the reports show in detail average, minimum and maximum times for all three major phases of indexing process: waiting to be indexed, document preprocessing, and indexing of the content file and it's properties. Use these report to get insight into how fast the documents are stored to or removed from FT index.</p> <p>IMPORTANT: The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -I ndexi ngPerf</p> |
| Full-Text Indexing | <p><b>FT query response for yesterday</b><br/> <b>FT query response for last 28 days</b></p> <p>The reports show average, minimal, and maximal FT query response values for Documentum repositories during the previous day or the last 28 days. Full text query response shows if your FT queries come back in a timely fashion.</p> <p>IMPORTANT: The reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -I ndexi ngPerf</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Full-Text Indexing | <p><b>Index events for yesterday</b><br/> <b>Index events for last 28 days</b></p> <p>The reports show the number of events for every indexing event that you are monitoring. Index events are grouped by repositories and sorted by the event name. Reports show the number of Index events that have occurred in a repository at the beginning of the period and at the end of the period, and calculate the difference between them. Additionally, the minimum, maximum, and average number of events is shown.</p> <p>IMPORTANT: The reports take into account only those Documentum servers that have the following policies deployed (for at least 2 days):<br/> DMSPI -I dxQueueSi zePerf<br/> DMSPI -I dxQueueFai l edPerf</p>                                                                                                                                                                                                                                     |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full-Text Indexing  | <p><b>FT index disk usage</b></p> <p>The reports show index server disk usage statistics. The first parts of the reports are focuses on determining top index servers with largest disk usage and least available space, and the second parts show detailed statistics for each index server. They show free and used space for the disk, on which the FT index resides. Use these reports to precisely monitor the FT index usage and available disk space.</p> <p><b>IMPORTANT:</b> The reports take into account only those index servers that have the following policy deployed (for at least 2 days):</p> <p>DMSPI - I dxSrvrDi skUsagePerf</p>                                                                                                                                                                                                                                                                                                                            |
| Workflow statistics | <p><b>Unfinished workflows</b></p> <p>This report shows a list of unfinished workflows that are older than the specified time period in the policy.</p> <p><b>IMPORTANT:</b> This report takes into account only those Documentum servers that have the following policy deployed (for at least 2 days):</p> <p>DMSPI -Unfi ni shedWorkfl ows</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Threshold assistant | <p><b>Average CPU and MEM consumption of server process for yesterday</b></p> <p><b>Average CPU and MEM consumption of server process for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in server process monitoring policies for an individual server. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual server (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports you can determine server-specific threshold levels for server process monitoring policies, fine-tune them for the individual server or group of servers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):</p> <p>DMSPI -SrvrProcessPerf</p> |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold assistant | <p><b>Average CPU and MEM consumption of connection broker process for yesterday</b></p> <p><b>Average CPU and MEM consumption of connection broker process for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in connection broker process monitoring policies for an individual Documentum connection broker. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual connection broker (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports you can determine connection broker-specific threshold levels for connection broker process monitoring policies, fine-tune them for the individual connection broker or group of connection brokers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> These reports take into account only those Documentum connection broker systems, that have the following policy deployed (for at least 2 days):<br/>DMSPI -BrokerProcessPerf</p> |
| Threshold assistant | <p><b>Average CPU and MEM consumption of job process for yesterday</b></p> <p><b>Average CPU and MEM consumption of job process for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in job process monitoring policies for an individual server. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual job process (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine server-specific threshold levels for job process monitoring policies, fine-tune them for the individual server or group of servers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):<br/>DMSPI -JobProcessPerf</p>                                                                                                                                    |



|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold assistant | <p><b>Average database login time for yesterday</b><br/> <b>Average database login time for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in database login time monitoring policies for an individual server. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual Documentum server (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine server-specific threshold levels for database login time monitoring policies, fine-tune them for the individual server or group of servers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> These reports take into account only those Documentum servers that have the following policy deployed (for at least 2 days):<br/> DMSPI -DBLogi nPerf</p>                                      |
| Threshold assistant | <p><b>Average CPU and MEM consumption of user sessions for yesterday</b><br/> <b>Average CPU and MEM consumption of user sessions for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in session monitoring policies for an individual server. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual server (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine server-specific threshold levels for session monitoring policies, fine-tune them for the individual server or group of servers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):<br/> DMSPI -Sessi onsPerf<br/> DMSPI -Sessi onsMemPerf</p> |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold assistant | <p><b>Average client response time for yesterday</b><br/> <b>Average client response time for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in client response monitoring policies for an individual server. For each corresponding monitoring template, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual Documentum servers (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine repository-specific threshold levels for client response monitoring policies, fine-tune them for the individual Documentum server or group of servers, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):<br/> DMSPI - ClientResponsePerf</p> |
| Threshold assistant | <p><b>Average table size growth for yesterday</b><br/> <b>Average table size growth for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in table size monitoring policies for an individual repository. For each corresponding monitoring template, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual repository (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine repository-specific threshold levels for table size monitoring templates, fine-tune them for the individual repository, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):<br/> DMSPI - Dmi QueueItemSizePerf<br/> DMSPI - DmAuditTrailSizePerf</p>        |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold assistant | <p><b>Average number of events for yesterday</b></p> <p><b>Average number of events for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in event monitoring policies for an individual repository. For each corresponding monitoring policy, the reports dump out the average and minimum/maximum values for PRIME and ALL shifts for the individual repository (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine repository-specific threshold levels for events monitoring policies, fine-tune it for the individual repository, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> These reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):</p> <p>DMSPI -RenditionQueuePerf</p> <p>DMSPI -LogonFailurePerf</p> |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold assistant | <p><b>Average table size growth for yesterday</b><br/> <b>Average table size growth for last 28 days</b></p> <p>These reports provides statistical information that helps adjust thresholds in table size monitoring policies for individual repository. For each corresponding monitoring policy, the report dumps out the average and minimum/maximum values for PRIME and ALL shifts for individual repository (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine repository-specific threshold levels for table size monitoring policies, fine-tune them for individual repository, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policies deployed (for at least 2 days):<br/> DMSPI -Dmi QueueI temSi zePerf<br/> DMSPI -DmAudi t t rai l Si zePerf</p>                                                                                                                                                                                                                                                  |
| Threshold assistant | <p><b>Average CPU and MEM consumption of user sessions per repository for yesterday</b><br/> <b>Average CPU and MEM consumption of user sessions per repository for last 28 days</b><br/> <b>Average CPU and MEM consumption of user sessions per server for yesterday</b><br/> <b>Average CPU and MEM consumption of user sessions per server for last 28 days</b></p> <p>The reports provide statistical information that helps adjust thresholds in session monitoring policies for individual repository. For each corresponding monitoring policy, the report dumps out the average and minimum/maximum values for PRIME and ALL shifts for individual repository (PRIME shift needs to be defined in HP Reporter).</p> <p>With these reports it is possible to determine server-specific threshold levels for session monitoring policies, fine-tune them for individual repository or group of repositories, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT:</b> The reports take into account only those Documentum systems that have the following policy deployed (for at least 2 days):<br/> DMSPI -Sessi onsPerf<br/> DMSPI -Sessi onsMemPerf</p> |

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## Chapter 15

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# **Analyzing Historical Data Using HP Performance Manager**

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## Analyzing Historical Data Using HP Performance Manager

HP Performance Manager (HPPM) provides a central point from where you can monitor and manage performance of all networked systems in your environment. Using HP Performance Manager you can analyze historical data from HP Performance Agent systems, receive alarms generated by HP Performance Agent, and predict future resource usage. HP Performance Manager also allows you to perform the following functions:

- Select a data source and list the graphs associated with it
- Choose a graph to view, select how the graph will display, and change the metrics graphed
- Draw graphs
- Drill down to view detail over a period of time
- Export and import systems and graph policies
- Design graphs and save them as policies
- Receive and view alarms
- Create forecasts

For additional information on HP Performance Manager, refer to the HP Performance Manager documentation.

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## HP Performance Manager User Defined Graph Templates

After installation, performance graphs are added on the management server. The graph template definitions are in the following text files:

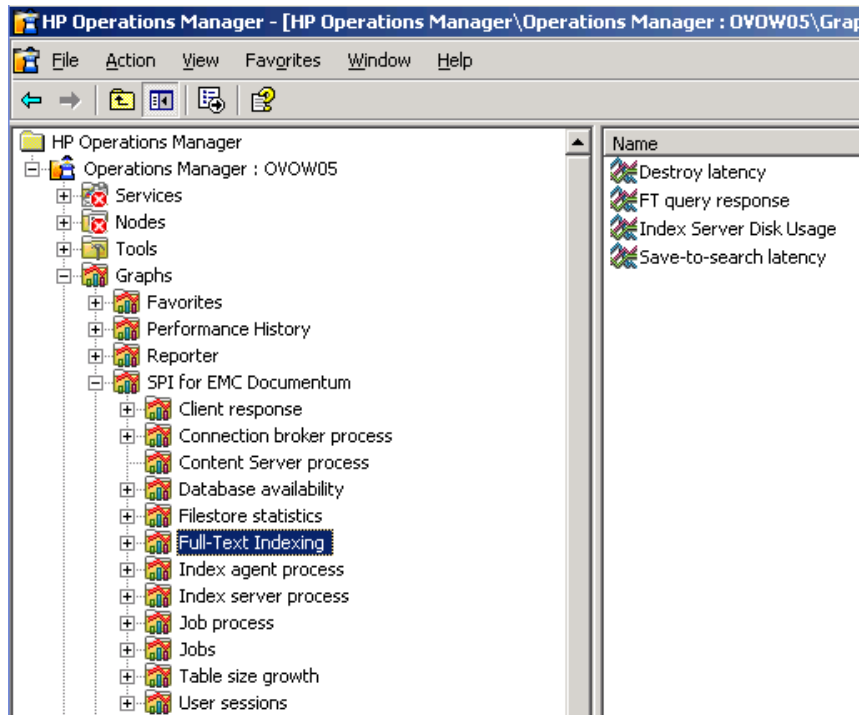
<OM Home>/newconfig/VPI\_GraphsSPI for EMC Documentum.txt

<OM Home>/newconfig/VPI\_GraphsSPI for EMC Documentum-OVPA-RPC.txt

<OM Home>/newconfig/OVPM/VPI\_GraphsSPI for EMC Documentum.txt

<OM Home>/newconfig/OVPM/VPI\_GraphsSPI for EMC Documentum-OVPA-RPC.txt

Go to **Reports & Graphs/Graphs/SPI for EMC Documentum** to see the available graphs.



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**NOTE**

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To view the graphs in HPPM, refer to the HPPM documentation for information on where to copy the graph template file.

The following table describes SPI for EMC Documentum graphs.

| Category                  | Name                                      | Description                                                                                                                        |
|---------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Client response           | Client response time                      | Shows the average client response time for standard user operations                                                                |
|                           | Documentum availability                   | Shows the availability of the Documentum from the client perspective                                                               |
| Connection broker process | Connection broker process availability    | Shows the availability of the connection broker process                                                                            |
|                           | Connection broker process memory usage    | Shows the average memory usage of the connection broker process                                                                    |
|                           | Connection broker process CPU utilization | Shows the average CPU utilization of the connection broker process                                                                 |
| Content Server process    | Content Server process availability       | Shows the availability of the Content Server process                                                                               |
|                           | Content Server process memory usage       | Shows the average memory usage of the Content Server process                                                                       |
|                           | Content Server process CPU utilization    | Shows the average CPU utilization of the Content Server process                                                                    |
| Database availability     | Average DB Login time                     | Shows the average login time for Documentum database                                                                               |
| File store statistics     | Distribution of used space                | Shows the file store distribution for the repository                                                                               |
|                           | File store usage                          | Shows the file store usage and available disk space                                                                                |
| Full-Text Indexing        | Destroy latency                           | Shows the destroy latency statistics - the time needed to remove a document from the FT index.                                     |
|                           | FT query response                         | Shows the FT query response values for Documentum repositories                                                                     |
|                           | Index Server Disk Usage                   | Show the index server disk usage statistics                                                                                        |
|                           | Save-to-search latency                    | Shows the save-to-search latency statistics - the time needed to merge a new document into the FT index and to make it searchable. |



|                      |                                      |                                                                |
|----------------------|--------------------------------------|----------------------------------------------------------------|
| Index agent process  | Index agent process availability     | Shows the availability of the index agent process              |
|                      | Index agent process memory usage     | Shows the average memory usage of the index agent process      |
|                      | Index agent process CPU utilization  | Shows the average CPU utilization of the index agent process   |
| Index server process | Index server process availability    | Shows the availability of the index server process             |
|                      | Index server process memory usage    | Shows the average memory usage of the index server process     |
|                      | Index server process CPU utilization | Shows the average CPU utilization of the index server process  |
| Job process          | Job process availability             | Shows the availability of the dm_agent_exec process            |
|                      | Job process average memory usage     | Shows the average memory usage of the dm_agent_exec process    |
|                      | Job process average CPU utilization  | Shows the average CPU utilization of the dm_agent_exec process |
| Jobs                 | Average number of failed jobs        | Shows the average number of failed jobs per repository         |
| Table size growth    | Average database table size          | Shows the average size of a specific database table            |
|                      | Average number of events             | Shows the number of events that have occurred in a repository  |
|                      | User sessions activity               | Shows the average session activity on Documentum servers       |
|                      | User session CPU utilization         | Shows the average CPU utilization of user sessions             |

## Sample Graphs

Below are some examples of the graphs that can be produced.

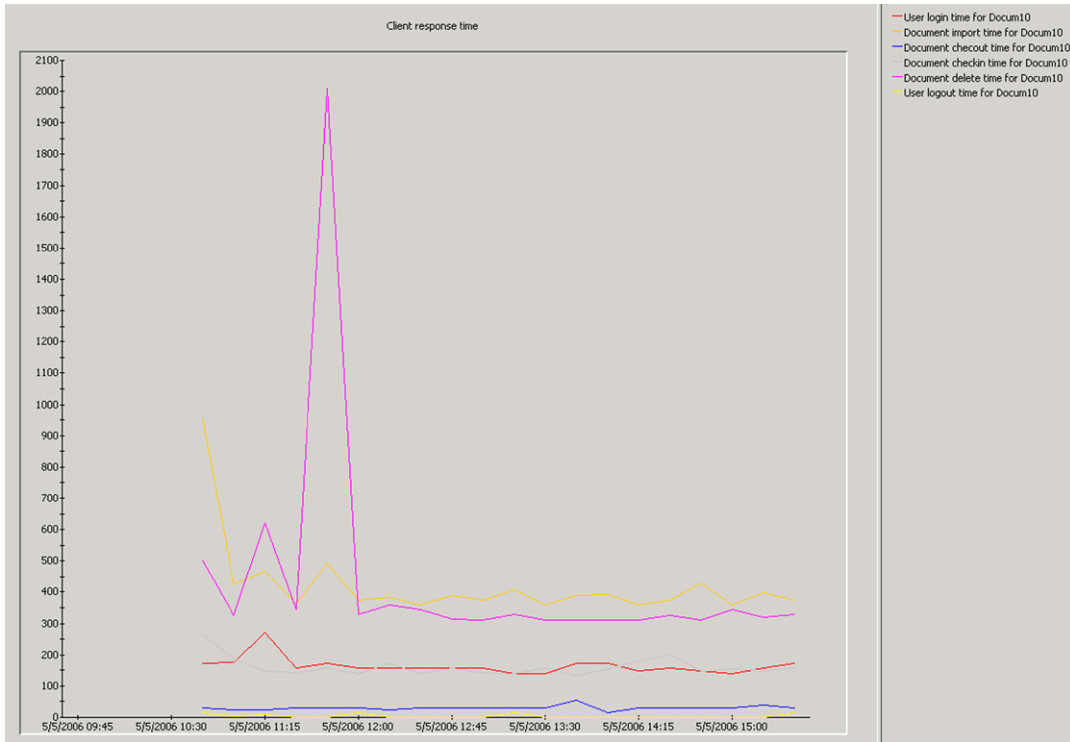
---

### NOTE

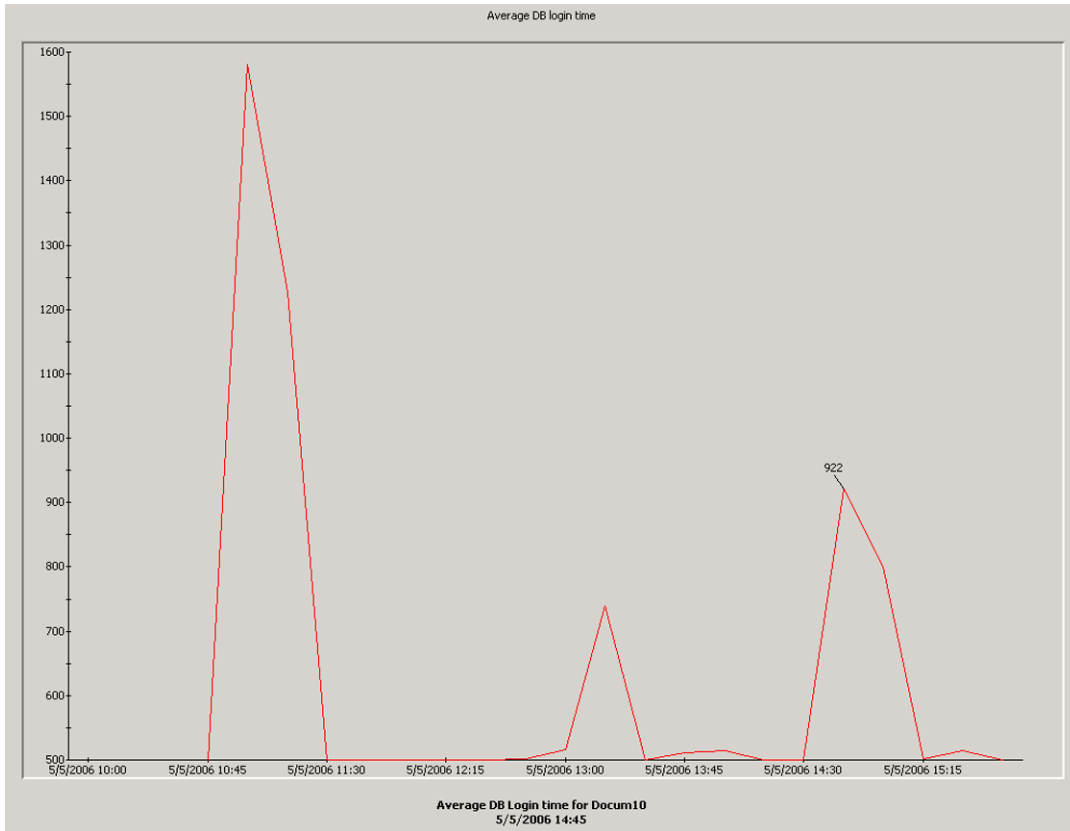
**All graphs will have the format similar to that shown in the sample graphs here.**

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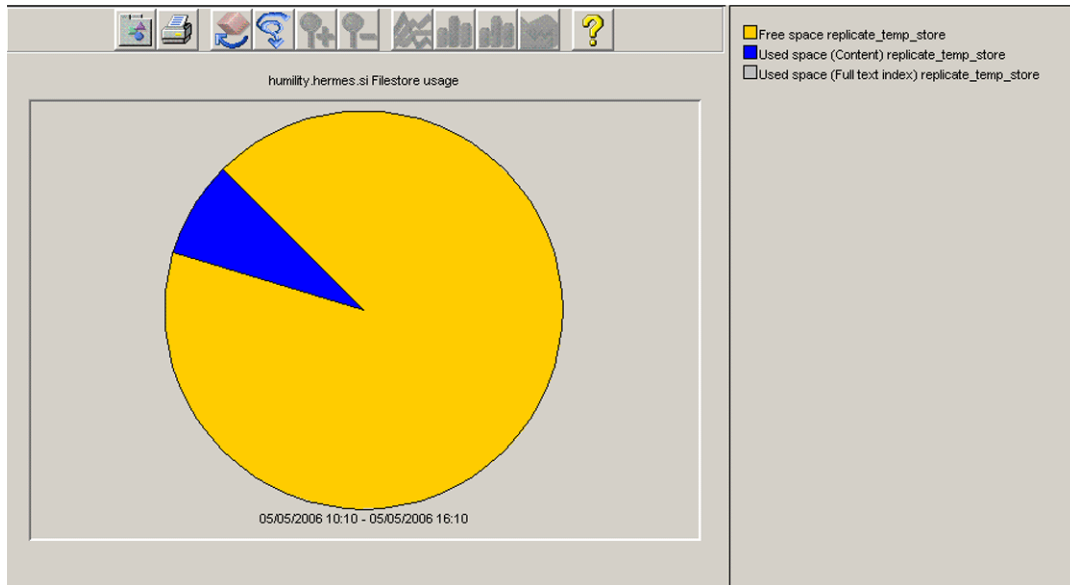
The following graph displays average client response times.



The following graph displays average database login time.



The following graph displays file store statistics.



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## Chapter 16

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# Troubleshooting

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## Troubleshooting Assistance

This chapter describes possible errors that can occur while using SPI for EMC Documentum and gives instructions on how to solve them.

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### Documentum SPI Service Stops Responding

Documentum SPI service can stop responding after some time. The reason for this problem is described on Documentum support web site:

<http://softwaresupport.emc.com/support/bugs/dmfrmdefectview.asp?id=95130>

To solve the problem, install SP4 if you are using Documentum 5.2.5 or SP1 if you are using Documentum 5.3.

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### Configuration File (dmspi.cfg) Is Overwritten if Redeployment on the Node Is Performed

To prevent automatic updates of the SPI for EMC Documentum configuration, set the *manual\_configuration* field under the *DMSPI* tab in the configuration file to true. Note that the default value is false.

Example:

```
[DMSPI ]
```

```
manual_configuration=true
```

---

### Service Tree may not Be Visible in the HPOM Console

If you do not see the complete Documentum topology service tree in the HPOM Console, restart the console.

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## Appendix A

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### **Metric Lists**

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## Metric Lists

The following metric lists are created for SPI for EMC Documentum reports on Documentum processes:

- DMSPI\_SRVR\_PROCESS
- DMSPI\_DOCBROKER\_PROC
- DMSPI\_JOB\_PROCESS

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

### DMSPI\_SRVR\_PROCESS metric list

| Metric name      | Description                              |
|------------------|------------------------------------------|
| SP_DOCBASE_NAME  | Repository name                          |
| SP_SERVER_NAME   | Server name                              |
| SP_PROCESS_STATE | Server process status                    |
| SP_MEMORY_USAGE  | Server process memory usage (KB)         |
| SP_VMEMORY_USAGE | Server process virtual memory usage (KB) |
| SP_CPU_UTIL      | Server process CPU utilization (%)       |

### DMSPI\_DOCBROKER\_PROC metric list

| Metric name      | Description                                         |
|------------------|-----------------------------------------------------|
| DP_DOCBROKER     | Connection broker process name and port number      |
| DP_PROCESS_STATE | Connection broker process status                    |
| DP_MEMORY_USAGE  | Connection broker process memory usage (KB)         |
| DP_VMEMORY_USAGE | Connection broker process virtual memory usage (KB) |
| DP_CPU_UTIL      | Connection broker process CPU utilization (%)       |



### DMSPI\_JOB\_PROCESS metric list

| Metric name      | Description                                     |
|------------------|-------------------------------------------------|
| JP_DOCBASE_NAME  | Repository name                                 |
| JP_SERVER_NAME   | Server name                                     |
| JP_PROCESS_STATE | dm_agent_exec process status                    |
| JP_MEMORY_USAGE  | dm_agent_exec process memory usage (KB)         |
| JP_VMEMORY_USAGE | dm_agent_exec process virtual memory usage (KB) |
| JP_CPU_UTIL      | dm_agent_exec process CPU utilization (%)       |

The following metric lists are created for SPI for EMC Documentum reports on Documentum server sessions:

- DMSPI\_SESSIONS
- DMSPI\_SESS\_UTIL

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

### DMSPI\_SESSIONS metric list

| Metric name          | Description                           |
|----------------------|---------------------------------------|
| SE_DOCBASE_NAME      | Repository name                       |
| SE_SERVER_NAME       | Server name                           |
| SE_ACTIVE_SESSIONS   | Number of active sessions             |
| SE_INACTIVE_SESSIONS | Number of inactive sessions           |
| SE_MAX_CONCURRENT    | Maximum number of concurrent sessions |

### DMSPI\_SESS\_UTIL metric list

| Metric name    | Description |
|----------------|-------------|
| SU_SESSION_ID  | Session ID  |
| SU_USER_NAME   | User name   |
| SU_HOST_NAME   | System name |
| SU_SERVER_NAME | Server name |

|                 |                                                    |
|-----------------|----------------------------------------------------|
| SU_DOCBASE_NAME | Repository name                                    |
| SU_CPU_UTIL     | Session CPU utilization (%)                        |
| SU_MEM_UTIL     | Session memory usage in KB (for Unix systems only) |

The following metric lists are created for SPI for EMC Documentum reports on Documentum database availability:

- DMSPI\_DB\_LOGIN

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

#### DMSPI\_DB\_LOGIN metric list

| Metric name     | Description              |
|-----------------|--------------------------|
| DL_SERVER_NAME  | Server name              |
| DL_DOCBASE_NAME | Repository name          |
| DL_LOGIN_TIME   | Database login time (ms) |

The following metric lists are created for SPI for EMC Documentum reports on Documentum file stores:

- DMSPI\_FILESTORES

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

#### DMSPI\_FILESTORES metric list

| Metric name          | Description                                             |
|----------------------|---------------------------------------------------------|
| FS_DOCBASE_NAME      | Repository name                                         |
| FS_SERVER_NAME       | Server name                                             |
| FS_FILESTORE_NAME    | File store name                                         |
| FS_DISTRIBUTED_STORE | Name of the distributed store                           |
| FS_AVAILABLE_SPACE   | Available space for the file store (KB)                 |
| FS_FS_CAPACITY       | Total size of the disk on which file store resides (KB) |

|                   |                                                      |
|-------------------|------------------------------------------------------|
| FS_USED_SPACE     | File store used space (KB)                           |
| FS_FULL_TEXT_PERC | Percentage of used space occupied by full text index |

The following metric lists are created for SPI for EMC Documentum reports on Documentum client response:

- DMSPI\_CLIENT\_RESP
- DMSPI\_CLIENT\_AVAIL

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

#### **DMSPI\_CLIENT\_RESP metric list**

| <b>Metric name</b> | <b>Description</b>   |
|--------------------|----------------------|
| CR_DOCBASE_NAME    | Repository name      |
| CR_SERVER_NAME     | Server name          |
| CR_USER_NAME       | User name            |
| CR_CONNECT_TIME    | Connect time (ms)    |
| CR_IMPORT_TIME     | Import time (ms)     |
| CR_CHECKOUT_TIME   | CheckOut time (ms)   |
| CR_CHECKIN_TIME    | CheckIn time (ms)    |
| CR_DELETE_TIME     | Delete time (ms)     |
| CR_DISCONNECT_TIME | Disconnect time (ms) |

#### **DMSPI\_CLIENT\_AVAIL metric list**

| <b>Metric name</b> | <b>Description</b>                          |
|--------------------|---------------------------------------------|
| CA_DOCBASE_NAME    | Repository name                             |
| CA_SERVER_NAME     | Server name                                 |
| CA_USER_NAME       | User name                                   |
| CA_AVAILABILITY    | Repository status (available/not available) |

The following metric lists are created for SPI for EMC Documentum reports on Documentum jobs:

- . DMSPI\_JOBS
- . DMSPI\_JOBS\_EXECUTE TIME
- . DMSPI\_JOBS\_RUNNING
- . DMSPI\_JOBS\_NO\_START

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

#### DMSPI\_JOBS metric list

| Metric name     | Description           |
|-----------------|-----------------------|
| JB_DOCBASE_NAME | Repository name       |
| JB_FAILED       | Number of failed jobs |

#### DMSPI\_JOBS\_EXECUTE TIME metric list

| Metric name        | Description                                          |
|--------------------|------------------------------------------------------|
| JE_DOCBASE_NAME    | Repository name                                      |
| JE_TARGET_SERVER   | Target server                                        |
| JE_JOB_NAME        | Job name                                             |
| JE_JOB_START       | Job start time in number of seconds since 01/01/1970 |
| JE_JOB_STOP        | Job stop time in number of seconds since 01/01/1970  |
| JE_JOB_EXIT_STATUS | Job exit status                                      |
| JE_JOB_STATUS_MSG  | Job status message                                   |
| JE_JOB_OWNER       | Job owner                                            |

#### DMSPI\_JOBS\_RUNNING metric list

| Metric name      | Description                                       |
|------------------|---------------------------------------------------|
| JR_DOCBASE_NAME  | Repository name                                   |
| JR_TARGET_SERVER | Target server                                     |
| JR_JOBS_RUNNING  | The number of jobs that are running at the moment |

### DMSPI\_JOBS\_NO\_START metric list

| Metric name        | Description                   |
|--------------------|-------------------------------|
| IN_OBJECT_NAME     | Job name                      |
| IN_TARGET_SERVER   | Target server                 |
| IN_NEXT_INVOCATION | Expected execution of the job |

The following metric lists are created for SPI for EMC Documentum reports on Documentum database table size growth:

- DMSPI\_TABLE\_SIZE
- DMSPI\_EVENT\_SIZE

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

### DMSPI\_TABLE\_SIZE metric list

| Metric name     | Description     |
|-----------------|-----------------|
| TS_DOCBASE_NAME | Repository name |
| TS_TABLE_NAME   | Table name      |
| TS_TABLE_SIZE   | Table size      |

### DMSPI\_EVENT\_SIZE metric list

| Metric name         | Description      |
|---------------------|------------------|
| ES_DOCBASE_NAME     | Repository name  |
| ES_TABLE_NAME       | Table name       |
| ES_EVENT_NAME       | Event name       |
| ES_NUMBER_OF_EVENTS | Number of events |

The following metric list is created for SPI for EMC Documentum reports on Documentum documents and workflows:

- DMSPI\_U\_WORKFLOWS

Points in metric lists are not summarized and retained for 30 days in the Reporter database.

### DMSPI\_U\_WORKFLOWS metric list

| Metric name        | Description         |
|--------------------|---------------------|
| UW_DOCBASE_NAME    | Repository name     |
| UW_WORKFLOW_ID     | Workflow ID         |
| UW_WORKFLOW_NAME   | Workflow name       |
| UW_RUNNING_STATE   | Workflow state      |
| UW_START_DATE      | Workflow start date |
| UW_SUPERVISOR_NAME | Supervisor name     |
| UW_WORKFLOW_AGE    | Workflow age        |

The following metric lists are created for SPI for EMC Documentum reports on index server:

- DMSPI\_I DXSRVR\_PROC
- DMSPI\_I DXAGT\_PROC
- DMSPI\_I DX\_PERF
- DMSPI\_I DXSRVR\_DU

Points in metric lists are summarized with an 1-hour interval and retained for 30 days in the Reporter database.

### DMSPI\_IDXSRVR\_PROC metric list

| Metric name        | Description                       |
|--------------------|-----------------------------------|
| IS_PROCESS_LABEL   | Process label                     |
| IS_PROCESS_NAME    | Process name                      |
| IS_PROCESS_DESC    | Process description               |
| IS_PROCESS_STATE   | Process status                    |
| IS_MEMORY_USAGE    | Process memory usage (KB)         |
| IS_VMEMORY_USAGE   | Process virtual memory usage (KB) |
| IS_CPU_UTILProcess | CPU utilization (%)               |

**DMSPI\_IDXAGT\_PROC metric list**

| <b>Metric name</b> | <b>Description</b>                |
|--------------------|-----------------------------------|
| IA_PROCESS_LABEL   | Process label                     |
| IA_PROCESS_NAME    | Process name                      |
| IA_DOCBASE_NAME    | Repository name                   |
| IA_PROCESS_STATE   | Process status                    |
| IA_MEMORY_USAGE    | Process memory usage (KB)         |
| IA_VMEMORY_USAGE   | Process virtual memory usage (KB) |
| IA_CPU_UTIL        | Process CPU utilization (%)       |

**DMSPI\_IDX\_PERF metric list**

| <b>Metric name</b>  | <b>Description</b>                                                 |
|---------------------|--------------------------------------------------------------------|
| IP_AGENT_NAME       | Index Agent name                                                   |
| IP_DOCBASE_NAME     | Repository name                                                    |
| IP_CREATE_AWAITING  | Awaiting time when adding new document to the FT index (ms)        |
| IP_CREATE_PREPROC   | Preprocessing time when adding new document to the FT index (ms)   |
| IP_CREATE_INDEXING  | Indexing time when adding new document to the FT index (ms)        |
| IP_DESTROY_AWAITING | Awaiting time when removing a document from the FT index (ms)      |
| IP_DESTROY_PREPROC  | Preprocessing time when removing a document from the FT index (ms) |
| IP_DESTROY_INDEXING | Time to remove a document from the FT index (ms)                   |
| IP_QUERY_TIME       | FT query response time (ms)                                        |

**DMSPI\_IDXSRVR\_DU metric list**

| <b>Metric name</b> | <b>Description</b>       |
|--------------------|--------------------------|
| IS_DU_NODE         | Index server node name   |
| IS_DU_LOCATION     | Full-text index location |

|                     |                     |
|---------------------|---------------------|
| IS_DU_USAGE_PERCENT | Disk usage (%)      |
| IS_DU_USAGE         | Disk usage (GB)     |
| IS_DU_SIZE          | Disk size (GB)      |
| IS_DU_FREE          | Disk free size (GB) |