Software Version: 1.0

HP OpenView Performance Insight

User Guide



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The following table provides a list of changes made to this document since the last update in December 2005.

Chapter	Changes			
Chapter 1	1 Minor editorial enhancements.			
Chapter 5	Minor editorial enhancements.			
Chapter 6	Minor editorial enhancements.			
Chapter 7	Minor editorial enhancements.			

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1 Overview

This chapter covers the following topics:

- OVPI and Application Server Reporting
- Ways to Customize Reports
- Sources for Additional Information

OVPI and Application Server Reporting

HP OpenView Performance Insight (OVPI) is a performance management and reporting application. Long-term data collection, in-depth analysis, and automated web-based reporting are this application's primary strengths. If desired, OVPI can be integrated with network management and system management applications, including NNM and OVO. Integration enhances your control over fault isolation, problem diagnosis, and capacity planning.

The Application Server Report Pack contains reports that monitor the performance of BEA WebLogic servers and IBM WebSphere servers. Use the reports to:

- Verify that a server is executing requests
- Monitor availability
- Compare availability to the transaction rate
- Measure EJP pool utilization
- Measure connection pool utilization
- Measure servlet request rate
- Measure servlet response time

SPIs and Datapipes

In order to use this report pack, you must install one of the following Smart Plug-ins (SPIs) on each application server you want to monitor:

- OpenView Operations SPI for BEA WebLogic Server
- OpenView Operations SPI for IBM WebSphere Server

When you install the Application Server Report Pack, you must install at least one of the following datapipes:

- AppServer WebLogic SPI Datapipe 1.1
- AppServer WebSphere SPI Datapipe 1.0

Both datapipes have the same collection interval, 45 minutes, and both datapipes collect data from EPC, the Embedded Performance Component of OVO.

Package Contents

The Application Server Report Pack includes a main package and two sub-packages. Reports in the main package are generic, reports in the sub-packages are customized for the brand. The following table provides a list of the reports in each package.

Package	Reports
Main/Generic	 Server Availability — Throughput EJB Pool Utilization JDBC Throughput — Utilization Near Real Time Server Availability — Throughput Servlet Request Rate — Response Time
WebLogic	 EJB Cache Utilization EJB Transactions Execute Queue Throughput — Utilization JMS Throughput — Utilization Near Real Time Execute Queue Throughput — Utilization Server Transaction Rollback
WebSphere	 EJB Load-Stores Rate EJB Method Calls Rate EJB Top 20 JDBC Connection Pool Details Servlet Sessions Thread Pool Activity Transaction Throughput

Version History

The following table outlines recent enhancements.

Version	Release Date	Features/Enhancements	
1.0	March 2005	18 reports, 2 datapipes; requires Oracle packages: • ApplicationServer • ApplicationServer_Threshold • ApplicationServer_WebLogic • ApplicationServer_WebSphere • ApplicationServer_Demo datapipes: • AppServer WebLogic SPI Datapipe 1.0 • AppServer WebSphere SPI Datapipe 1.0	

Version	Release Date	Features/Enhancements
1.0	May 2006	ApplicationServer_Threshold 1.1: fixes the following defect: QXCR1000296384 AppServer WebLogic SPI Datapipe 1.1 fixes the following defects: QXCM1000294696 QXCR1000320737

Ways to Customize Reports

You can change the contents of reports by applying group filters, by editing parameters, and by changing view options for tables and graphs. Although group filters are usually used by service providers to produce customer-specific reports, anyone can edit a constraint or modify the look of a table or graph. For details about table and graph view options, see Appendix A, Editing Tables and Graphs.

Group Filters

If you want to share reports with your customers, you must configure OVPI to produce customer-specific reports. Here is an overview of the steps involved:

- Use Common Property Tables to import customer names and device locations.
- Create a group account for all the users affiliated with each customer.
- Create a group filter for each group account.

For more information about how to create filters for group accounts, refer to the *OVPI Administration Guide*.

Editing Parameters

When you edit a parameter, you apply a constraint that eliminates the data you are not interested in seeing. For example, if you edit the Customer parameter, data for all customers except the customer you typed in the Customer field drops from the report.

You can apply multiple constraints at once. Application Server supports these parameters:

- Customer
- Device
- Location
- Vendor
- Server Name

If you are viewing the report on the web, edit parameters by clicking the edit parameters icon at the bottom right-hand corner of the report. When the Edit Parameters window opens, enter the constraint in the field and click **Submit.**

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If you are using Report Viewer, select **Edit > Parameter Values** from the menu bar. When the Modify Parameter Values window opens, click the **Current Value** field. Type a new value and click **OK**.

Sources for Additional Information

The demo package that comes with Application Server contains a sample of each report in the package. If you have access to the demo package and you want to know what fully-populated reports look like, install the demo package. Like real reports, demo reports are interactive. Unlike real reports, demo reports are static.

The following documents are related to this manual:

- Application Server Report Pack 1.0 Release Notes
- AppServer WebLogic SPI Datapipe 1.1 Release Notes
- AppServer WebSphere SPI Datapipe 1.0 Release Notes
- Common Property Tables 3.5 User Guide
- Thresholds Module 5.0 User Guide

Manuals for OVPI and manuals for the reporting solutions that run on OVPI are posted to the following web site:

http://www.hp.com/managementsoftware

Select **Support** > **Product Manuals** to reach the **Product Manuals Search** page. User guides for the core product are listed under **Performance Insight**. User guides for OVPI report packs and datapipes are listed under **Performance Insight Reporting Solutions**. If a manual is revised and reposted, the date will change. Since we post revised manuals on a regular basis, you should check this site for updates before using any PDF that came with the report pack CD-ROM.

2 Installing Packages

This chapter covers the following topics:

- Guidelines for a Smooth Installation
- Installing Application Server Report Pack 1.0
- Accessing Deployed Reports
- Seeing Performance Data in Reports
- Package Removal

Guidelines for a Smooth Installation

An OVPI reporting solution has at least two ingredients, a report pack and a datapipe. Some reporting solutions provide multiple datapipes. When you install the datapipe, you configure OVPI to collect a specific type of performance data at a specific interval. When you install the report pack, you configure OVPI to summarize and aggregate the performance data collected by the datapipe.

The report pack CD contains shared packages, report packs, and datapipes. If you, or someone else, extracted packages from the report pack CD, every package, including the Application Server Report Pack, was copied to the Packages directory on your system and is ready to install. If you have not extracted packages from the report pack CD, see the package extract procedure later in this chapter.

OVO Prerequisites

The OVO prerequisites are:

- OV Operations for Windows 7.21
- OV Operations for UNIX 8.1

The application servers monitored by OVO must have one of the following SPIs:

- OpenView Smart Plug-in for BEA WebLogic Server (WebLogic SPI)
 - for Windows, version B.02.09
 - for UNIX, version A.03.50
- OpenView Smart Plug-in for IBM WebSphere Server (WebSphere SPI)
 - for Windows, version B.02.09
 - for UNIX, version A.03.50

OVPI Prerequisites

- OVPI 5.0 or 5.1
- All service packs available for the version of OVPI you are running
- Common Property Tables 3.5 or higher
- OVPA Collection Datapipe 1.0

Upgrading Common Property Tables

If you are running an older version of Common Property Tables, you must upgrade that package to version 3.5 or higher. If you are not running any version of Common Property Tables, Package Manager will install the latest version of Common Property Tables for you, automatically.

Do not install an upgrade for Common Property Tables *and* other packages at the same time. Install the upgrade package for Common Property Tables and *only* the upgrade package for Common Property Tables. For more information about installing and using Common Property Tables, refer to the *Common Property Tables 3.5 User Guide*.

Distributed Systems

If your system is distributed, the installation procedure is more complicated. Following is a summary of the installation procedure for a distributed system:

- 1 Verify that every server is running OVPI 5.0 or 5.1 and all available service packs for the installed version of OVPI.
- 2 On the central server:
 - a Disable trendcopy.
 - b Upgrade Common Property Tables to version 3.5.
 - c Install Application Server Report Pack 1.0; deploy reports.
 - d Install the Thresholds sub-package.
- 3 For each satellite server:
 - a Upgrade Common Property Tables to version 3.5.
 - b Install these packages:
 - Application Server Report Pack 1.0
 - One or both of the following sub-packages, depending on the server type(s) you want to monitor.
 - Application Server WebLogic sub-package 1.0
 - Application Server WebSphere sub-package 1.0
 - One or both of the following datapipes, depending on the server type(s) you want to monitor.
 - AppServer WebLogicSPI Datapipe 1.1
 - AppServer WebSphereSPI Datapipe 1.0

4 Re-enable trendcopy on the central server.

When installation is complete, you must set up connections with satellite server databases, configure trendcopy pull commands, and switch off aggregations at each satellite server. These steps are covered in Chapter 3, Setting Up a Distributed System.

Installing Application Server Report Pack 1.0

This section covers the following tasks:

- Task 1: Extract packages from the report pack CD
- Task 2: If necessary, upgrade Common Property Tables
- Task 3: Install these packages:
 - Application Server Report Pack
 - One or both of the following sub-packages:
 - Application Server WebLogic sub-package
 - Application Server WebSphere sub-package
 - One or both of the following datapipes:
 - AppServer WebLogicSPI Datapipe 1.1
 - AppServer WebSphereSPI Datapipe 1.0

Task 1: Extract packages from the report pack CD

- 1 Log in to the system. On UNIX systems, log in as root.
- 2 Stop OVPI Timer and wait for processes to terminate.

Windows: Select Settings > Control Panel > Administrative Tools > Services.

UNIX: As root, type one of the following:

```
HP-UX: sh /sbin/init.d/ovpi_timer stop
Sun: sh /etc/init.d/ovpi timer stop
```

- Insert the report pack CD in the CD-ROM drive. On Windows, a Main Menu displays automatically; on UNIX, mount the CD, navigate to the top-level directory for the CD drive, and type the setup command.
- 4 Select OVPI report packs by typing 1 in the choice field and pressing Enter. The install script displays a percentage complete bar. When extraction finishes, the install script starts Package Manager. The Package Manager welcome window opens.

If you navigate to the Packages directory on your system, you will see the following folders under the Application Server folder:

- ApplicationServer.ap
- ApplicationServer_Threshold.ap
- ApplicationServer_WebLogic.ap
- ApplicationServer_WebSphere.ap
- ApplicationServer_Demo.ap

Installing Packages 13

Installing the demo package is optional. You may install the demo package and only the demo package, or you can install the demo package along with everything else.

Task 2: Upgrade to Common Property Tables 3.5

When performing this upgrade, observe these rules:

- Do not install any other package with the upgrade package; install the upgrade package and *only* the upgrade package.
- When prompted to accept or disable the option to Deploy Reports, accept the default. If you do not deploy reports, you will not have access to the forms that come with Common Property Tables.
- When the install finishes, click **Done** to return to the Management Console.

If you need help with the upgrade, refer to the Common Property Tables 3.5 User Guide.

Task 3: Install the report pack and the datapipe

- From the Management Console select **Tools > Package Manager**. The Package Manager welcome window opens.
- 2 Click **Next**. The Package Location window opens.
- 3 Click **Install**. Approve the default installation directory or use the browse feature to select a different directory if necessary.
- 4 Click **Next**. The Report Deployment window opens. Accept the default for Deploy Reports; accept the default for application server name and port. Type your username and password for the OVPI Application Server.
- 5 Click Next. The Package Selection window opens.
- 6 Click the check box next to the following packages:
 - a ApplicationServer 1.0
 - b One or both of the following:
 - ApplicationServer WebLogic 1.1
 - ApplicationServer WebSphere 1.0
 - c One or both of the following:
 - AppServerWebLogicSPI Datapipe 1.1
 - AppServerWebSphereSPI Datapipe 1.0
 - d ApplicationServer Thresholds 1.1 (optional)
 - e ApplicationServer Demo (optional)
- 7 Click **Next**. The Type Discovery window opens.
- 8 Disable the default to run Type Discovery immediately after package installation.
 - The Application Server package does not require Type Discovery. However, if you are installing other report packs in addition to Application Server, you may need to run Type Discovery for those packages.
- 9 Click **Next**. The Selection Summary window opens.
- 10 Click **Install**. The Installation Progress window opens and the install process begins. When the install finishes, a package install complete message appears.

- 11 Click **Done** to return to the Management Console.
- 12 Restart OVPI Timer.

Windows: Select Settings > Control Panel > Administrative Tools > Services.

UNIX: As root, type one of the following:

HP-UX: sh /sbin/init.d/ovpi_timer start

Sun: sh /etc/init.d/ovpi timer start

Accessing Deployed Reports

When you installed the Application Server package, you enabled the Deploy Reports option. As a result, the reports in this package (as well as any forms that come with the package) were deployed to the OVPI Application Server. Once reports reside on the OVPI Application Server, you have two ways to view them:

- OVPI client applications
- Web browser

If the client applications are installed on your system, you have access to Report Viewer, Report Builder, and the Management Console. If the client applications are not installed on your system, using a web browser is the only way you can view reports.

For more information about the clients, refer to the *OVPI Installation Guide*. For details about the Management Console, including how to use the Object/Property Management view to launch reports specific to a selected object, refer to the *OVPI Administration Guide*.

Seeing Performance Data in Reports

Some reports populate with data sooner than others. The first report to populate with data are the Near Real Time (NRT) reports. You will begin to see data in this report immediately after the first data collection completes. Any report that begins with an analysis of yesterday's performance will need at least one full day's worth of data before results are viewable.

All the reports other than the NRT reports have graphs that display data on an hourly, daily, and monthly basis. If the data you collected includes data for any part of the previous calendar month, the monthly graphs will be populated. If the data you collected has no data for the previous month, the graphs will remain empty until you begin collecting data on the first day of the next month.

Package Removal

Follow these steps to uninstall the Application Server Report Pack. Removing this package automatically removes the associated datapipe and sub-packages. You can also use this procedure to remove a sub-package only.

- 1 Log in to the system. On UNIX systems, log in as root.
- 2 Stop OVPI Timer and wait for processes to terminate.

Installing Packages 15

Windows: Select Settings > Control Panel > Administrative Tools > Services.

UNIX: As root, do one of the following:

HP-UX: sh /sbin/init.d/ovpi_timer stop

Sun: sh /etc/init.d/ovpi timer stop

- 3 Start Package Manager. The Package Manager welcome window opens.
- 4 Click Next. The Package Location window opens.
- 5 Click Uninstall.
- 6 Click Next. The Report Undeployment window opens.
- 7 If Application Server reports were deployed from this server, accept the defaults for Undeploy Reports, Application Server Name, and Port. If Application Server reports were **not** deployed from this server, clear the check box and skip to step 9.
- 8 Type the username and password for the OVPI Application Server.
- 9 Click Next. The Package Selection window opens.
- 10 Click the check boxes next to the following packages, if they appear in the list:
 - a Application Server 1.0
 - b ApplicationServer_WebLogic 1.0
 - c ApplicationServer_WebSphere 1.0
 - d Application Server Thresholds 1.1
- 11 Click Next. The Selection Summary window opens.
- 12 Click **Uninstall**. The Progress window opens and the removal process begins. When the uninstall process is complete, a package removal complete message appears.
- 13 Click **Done** to return to the Management Console.
- 14 Restart OVPI Timer.

Windows: Select Settings > Control Panel > Administrative Tools > Services.

UNIX: As root, do one of the following:

HP-UX: sh /sbin/init.d/ovpi_timer start

Sun: sh /etc/init.d/ovpi timer start

3 Setting Up a Distributed System

This chapter covers the following topics:

- Verifying Correct Package Installation
- Configuring the Central Server
- Configuring Satellite Servers

Verifying Correct Package Installation

If you intend to run Application Server as a distributed system, you must configure all of the servers in the system. Before doing that, verify that you have the right packages installed on each server.

Packages on the Central Server

- Application Server Report Pack 1.0, with reports deployed
- Application Server WebLogic sub-package, with reports deployed
- Application Server WebSphere sub-package, with reports deployed
- Common Property Tables 3.5, with forms deployed

Packages on Each Satellite Server

- Application Server Report Pack 1.0
- Application Server WebLogic sub-package 1.0
- Application Server WebSphere sub-package 1.0
- Common Property Tables 3.5

Typically, the central server does not poll. If you want the central server in your system to poll, install the datapipe on the central server. If you want to view reports on satellite servers (local reporting), accept the Deploy Reports option when you install report packs at each satellite server. If central server reporting is the only reporting you want, you do not need to deploy reports and forms when you install report packs at satellite servers.

Configuring the Central Server

To configure the central server, perform the following tasks:

- Task 1: Set up connections with satellite server databases
- Task 2: Configure trendcopy pull commands

Task 1: Set up connections with satellite server databases

- 1 Start the Management Console.
- 2 Click the **Systems** icon on the lower left. The System/Network Administration pane opens.
- Right-click the **Databases** folder. When prompted, select **Add OVPI Database**. The Add Database Wizard opens.
- 4 Click Next.
- 5 Type the hostname and port number for the database you want to add; click **Next**.
- 6 Review the Summary. Repeat Steps 4 and 5 for each additional database.
- 7 Click **Finish** when you finish adding databases.

Task 2: Configure trendcopy pull commands

1 Open this file:

```
$DPIPE HOME/scripts/AppServer Reporting Hourly.pro
```

- 2 For block2, remove the "#" from the begin and end lines.
- 3 Modify the trendcopy commands so that each command includes the correct server name for the central server and for each satellite server.
- 4 If necessary, add more commands.

Configuring Satellite Servers

Switching off higher-level aggregations on a satellite server disables all reports except Near Real Time (NRT) reports. If you want access to the full set of Application Server reports at the local level, do not switch off the higher-level aggregations. If you need only the NRT reports, follow these steps to turn off higher-level aggregations:

- Open the \$DPIPE HOME/lib/trendtimer.sched file.
- 2 Comment out the lines that reference the following files:
 - AppServer Reporting DMF.pro
 - WLS Reporting DMF.pro
 - WBS Reporting DMF.pro

4 Thresholds for OVO

This chapter covers the following topics:

- Modifying Thresholds
- Update Server Details
- Integration with OVO

Modifying Thresholds

If you install the optional thresholds sub-package (ApplicationServer_Thresholds), the Thresholds Module will monitor your application servers for threshold conditions and send threshold traps to your OVO management station as needed.

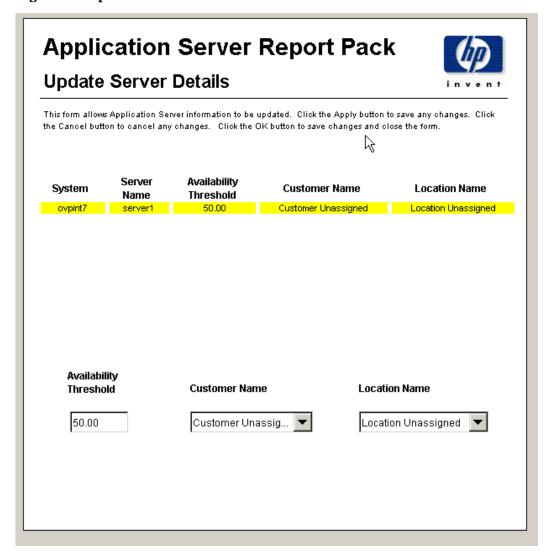
This is the default threshold:

Server availability = 50%

Update Server Details

You can use the Update Server Details form (Figure 1 on page 20) to modify the default threshold and to assign Customer/Location properties.

Figure 1 Update Server Details form



Integration with OVO

You can improve your ability to isolate faults and diagnose problems by integrating the Application Server Report Pack with HP OpenView Operations (OVO). To do that, install the thresholds sub-package that comes with the report pack. The thresholds sub-package supplies default thresholds to the Thresholds Module, which uses the defaults to monitor the OVPI database for threshold conditions. When the Thresholds Module detects a threshold condition, it takes one of several possible actions. The default action is to send breach and clear traps to Network Node Manager (NNM).

Because NNM is the default destination for traps, you must configure the Thresholds Module to send traps to OVO. Setting up OVO as a trap destination is easy. From the Management Console, open the SNMP Trap Action Definition form, fill in the necessary information, and save your changes. In addition to using the form to configure a new destination for traps, someone (probably the OVO administrator) will need to prepare a trap template definition for OVO. The *Thresholds Module User Guide* contains the information you need to prepare the template.

5 Generic Application Server Reports

The generic application server reports provide information that is not specific to the type of server that is being monitored. Each report is summarized below.

Server Availability — Throughput

The server availability chart plots the availability status of the application server on an hourly, daily, and monthly basis. The transaction throughput chart displays the number of transactions processed by the application server per second.

EJB Pool Utilization

When the maximum pool size is reached, the server passivates (transfers from memory to secondary storage) some EJBs (Enterprise Java Beans) that have not been recently used by a client. This could result in performance degradation. This report shows the percentage of EJB pool utilization.

JDBC Throughput — Utilization

This report shows the percentage of available JDBC (Java Database Connectivity) connections in a connection pool (utilization) and the number of clients serviced by this connection pool per second (throughput). Without available connections, the system cannot service requests that require access to a database. If this report indicates that there are not enough available JDBC connections and if the database can support additional connections, the administrator should add more database connections.

Near Real Time Server Availability — Throughput

This report portrays the server status for the last six hours.

Servlet Request Rate — Response Time

The servlet request rate measures the number of requests for a servlet per second. System administrators can analyze this value over time to help with capacity planning. The servlet response time chart shows the average execution time for an individual servlet. Analysis over time will give administrators clear indications of how each servlet is performing under different loads.





This report contains a histogram showing the percentages of uptime on an hourly basis. The availability for the server highlighted in the table is shown in the graph. The table shows the daily average availability. A lower than expected number of measurements may indicate unrecorded system downtime, but it may also reveal issues with the availability monitoring service, which may or may not affect actual availability. The Server transaction throughput report shows the average number of transactions processed per second for each server.

Server Availability - Throughput

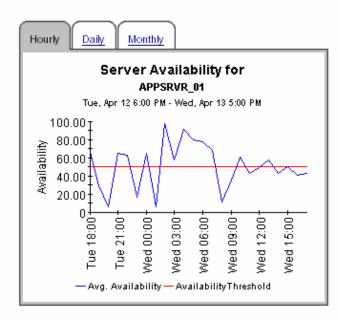
Tue, Apr 12, 2005

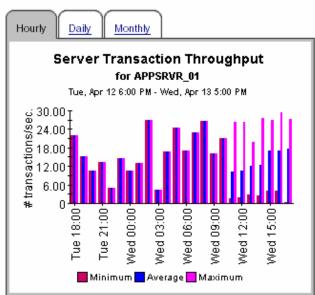
System Name	Server Name	Avg. Availability	Avg. Transaction Throughput
APPSRVR_01	Server1	45.03	15.65
APPSRVR_02	Server2	65.21	16.51 🔫
WEBSPHERE_01	WebSphereServer1	52.26	697.24 🔫
WEBSPHERE_02	WebSphereServer2	52.39	740.93 🔫

Application Server Details for APPSRVR_01

Vendor **Location Name Customer Name** WebLogic

Availability Threshold Reston-AppSrvr HP-AppSrvr



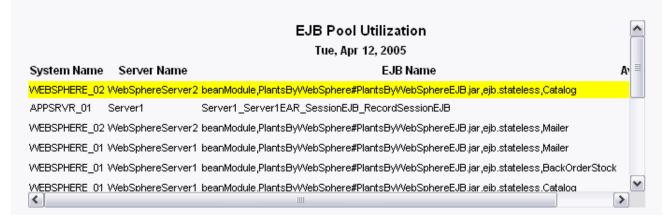


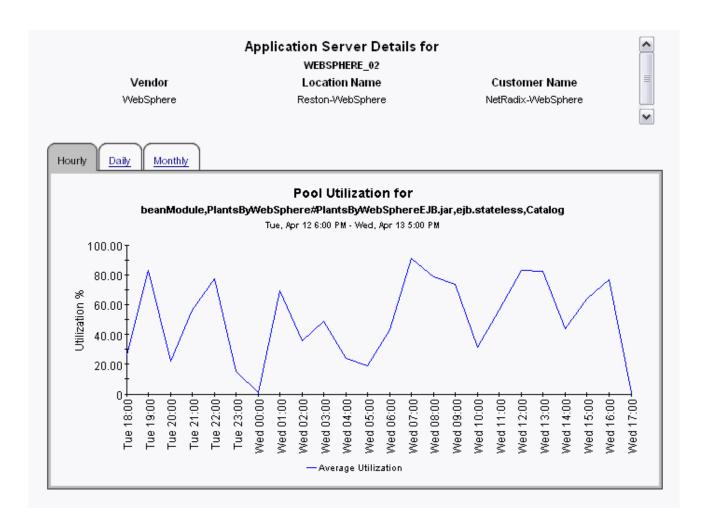
50.00

Application Server Report Pack EJB Pool Utilization



This report shows the utilization of an EJB pool as a percent of the number of EJB instances configured for the pool on the selected server. The EJBs are sorted based on the highest average pool utilization for yesterday.





JDBC Throughput - Utilization



This report compares the throughput vs. the utilization of the DB connection pools on the selected server. Throughput is the number of connections allocated by a DB connection pool per second, and is shown in blue according to the scale on the left. The utilization of a connection pool is the number of connections being used as a percent of the maximum capacity configured for the pool and is shown in red according to the scale on the right.

Server JDBC Throughput - Utilization

Tue, Apr 12, 2005

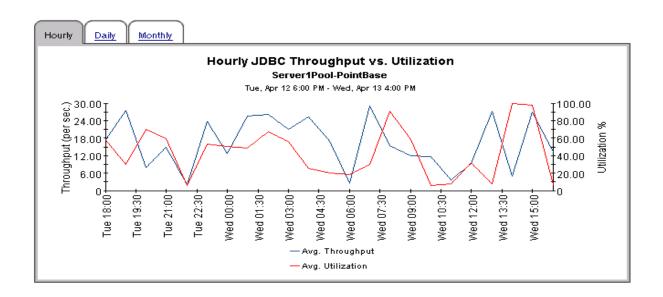
System Name	Server Name	Avg. JDBC Throughput	Avg JDBC Utilization	
APPSRVR_01	Server1	13.49	48.59	
APPSRVR_02	Server2	16.39	52.61	-



JDBC Pool Throughput - Utilization APPSRVR_01_Server1

Tue, Apr 12, 2005

JDBC Pool	Avg. Throughput	Avg. Utilization	
Server1Pool-PointBase	14.70	40.94	
Server1XAPool-PointBase	12.28	56.24	





Near Real Time Server Availability - Throughput

The near real time server availability report contains a graph showing the percentages of application server uptime. The top table shows the near real time availability and transaction throughput. A lower than expected number of measurements may indicate unrecorded system downtime, but it may also reveal issues with the availability monitoring service, which may or may not affect actual availability. The Server transaction throughput graph shows the average number of transactions processed per second for each server.

NRT Server Availability - Throughput Wed, Apr 13 12:45 PM

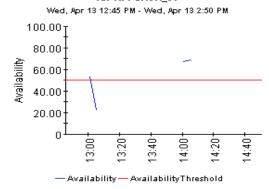
Averages over the last six hours

Target Name	Server Name	Server Availability	Transaction throughput	
APPSRVR_01	Server1	47.08	15.14	
APPSRVR_02	Server2	47.00	14.00	4
WEBSPHERE_01	WebSphereServer1	46.12	743.30	4
WEBSPHERE_02	WebSphereServer2	76.94	721.75	4

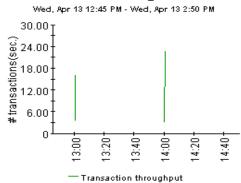
Application Server Details for APPSRVR_01

Vendor	Location Name	Customer Name	Availability Threshold
WebLogic	Reston-AppSrvr	HP-AppSrvr	50.00

NRT Server Availability for APPSRVR_01



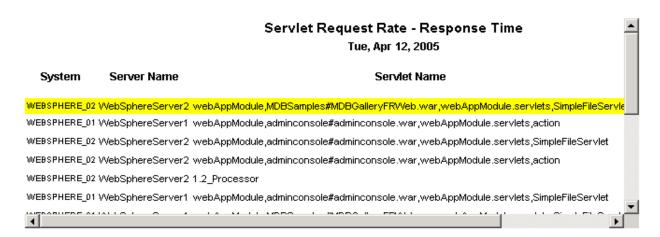
NRT Server Transaction Throughput for APPSRVR_01







The Servlet request rate report shows the number of servlet requests per second by a server. The servlet response time report shows the average response time for the top 20 servlets. The top 20 servlets are selected based on the highest average response time over the reporting period.

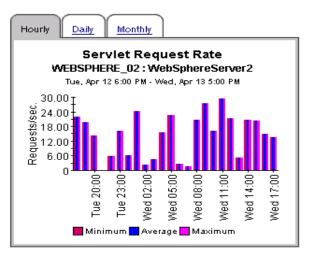


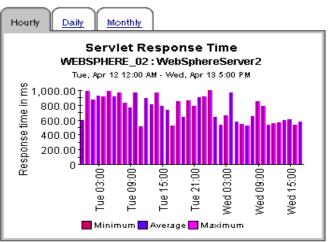
Application Server Details for WEBSPHERE_02: WebSphereServer2

Vendor WebSphere Location Name

Reston-WebSphere

Customer Name NetRadix-WebSphere





6 WebLogic Application Server Reports

The WebLogic Application Server reports provide information that is specific to WebLogic servers. Each report is summarized below.

EJB Cache Utilization

When the maximum cache size is reached, the WebLogic Server passivates (transfers from memory to secondary storage) some EJBs that have not been recently used by a client. This could result in performance degradation. The EJB Cache Utilization report gives the percentage of the EJBs in the cache in use.

EJB Transaction Reports

The EJB Free Pool Wait Rate measures the number of times per minute that no stateless session beans were available from the free pool. This means the client must wait for an available bean, impacting response time.

The EJB Load Timeout Rate measures the number of times a client timed out waiting for an EJB. This could result in new clients requesting the EJB class being blocked until an active EJB completes a method call.

The EJB Transaction Throughput measures the number of EJB transactions per second.

Execute Queue Throughput — Utilization

This report measures the number of requests serviced by an execute queue per second. The Queue Utilization chart shows the percentage of threads used for a server's execute queue. At 100% utilization, the WebLogic server will not have any threads available to service incoming requests. System administrators can increase the total number of execute threads via the administrator's console.

JMS Throughput — Utilization

This report measures the number of messages/bytes that have passed through this JMS (Java Message Service) Server per second.

The JMS Utilization report indicates what percentage of a JMS queue is filled based on the number of messages/bytes. If the value reaches the threshold, the administrator should consider increasing the size of the queue so that users will still be able to deliver messages.

Near Real Time Execute Queue Throughput — Utilization

This report provides the throughput/utilization trend of execute queues for the last six hours.

Server Transaction Rollback

This report plots, using a stacked bar graph, the percentage of transactions that are rolled back due to Resource error/Application error/Timeout error/System error.

Application Server Report Pack EJB Cache Utilization

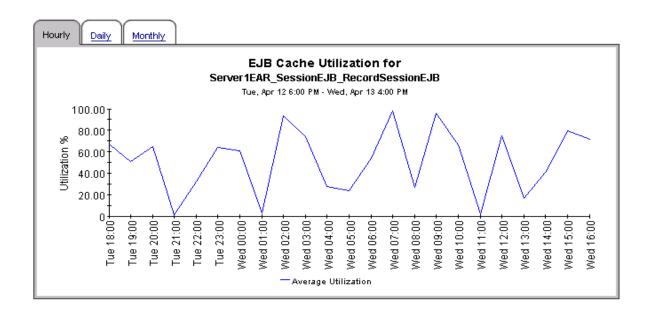


This report shows the percent of time a request to access a bean from an EJB's cache succeeded for the selected server. The EJBs are sorted based on the highest average cache hit percent over the reporting period. Stateful and entity EJBs are included in this data. This report is available for WebLogic Server versions 7.0 and higher.

EJB Selection List

Tue, Apr 12, 2005

System Server Name		Server Name	EJB Name	Avg. Cache	Util.
ļ	APPSRVR_01	Server1	Server1EAR_SessionEJB_RecordSessionEJB		49.64
APPSRVR_01 Server1 Server1EAF		Server1	Server1EAR_WebServicesEJB_Server1WebServicesEJB		52.15 🔫
,	APPSRVR_01	Server1	PhysicianEAR_PhysicianSessionEJB_PhysicianSessionEJB		47.44 🔫
APPSRVR_02 Server2		Server2	ProjectBeans_SyncDispatcher		51.53 🔫
,	APPSRVR_02	Server2	HelloWorldAsync_1h6zn35qieh7z_StatelessContainer		40.43 🔫



EJB Transaction Reports

The EJB free pool wait rate graph shows the number of requests per minute that had to wait for an instance of the EJB to become available from the EJB's free pool. The servers were sorted based on the average wait rate (number of requests that had to wait per minute) during the reporting period.

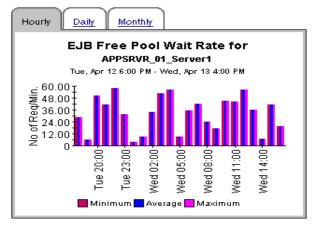
The EJB Load Timeout rate graph shows the number of requests for an EJB that timed out per minute while waiting for an instance of the EJB to become available from this EJB's free pool.

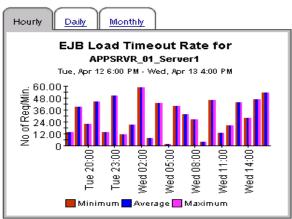
The EJB Transaction throughput graph shows the minimum, average and maximum number of transactions processed per second by EJBs. This report is available only for WebLogic version 6.1

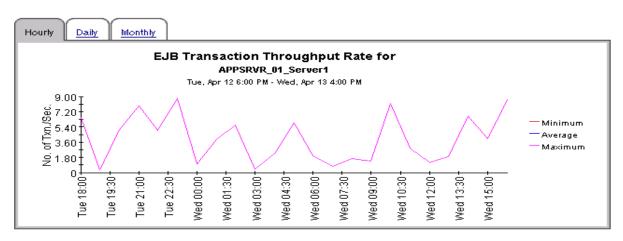
EJB Transaction

Tue, Apr 12, 2005

System Name	Server Name	Avg. Pool Wait Rate	Avg. Timeout Rate	Avg. Transaction Throughput	Customer	Location
APPSRVR_01	Server1	29.67	28.76	6.52	HP-AppSrvr	Reston-AppSrvr
APPSRVR_02	Server2	31.99	36.11	4.89	NetRadix-AppSrv	r Bangalore-AppSrvr 🔏







Execute Queue Throughput - Utilization



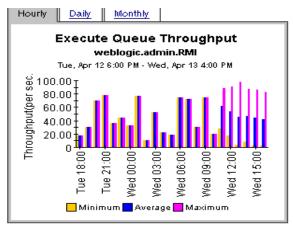
The Execute Queue throughput graph shows the average number of requests processed by a server's executing queue per second. The Execute Queue Utilization graph shows the utilization of the server execute queue thread pool as a percent of the number of threads configured for the pool.

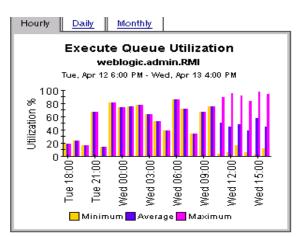
The WebLogic Server queue throughput vs. utilization graph compares the throughput vs. the utilization of the execute queues on the selected server.

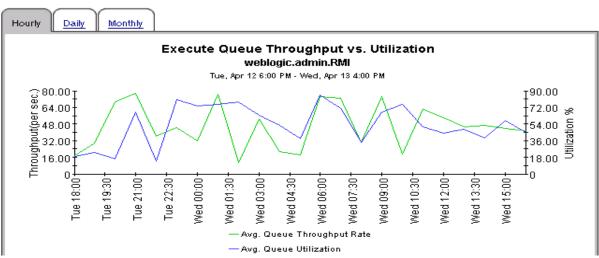
Execute Queue Throughput - Utilization

Tue, Apr 12, 2005

System Name	Server Name	Queue Name	Avg. Throughput	Avg. Utilization
APPSRVR_01	Server1	weblogic.admin.RMI	50.53	46.00
APPSRVR_01	Server1	weblogic.admin.HTTP	51.90	45.57 🔫
APPSRVR_01	Server1	weblogic.admin.System	62.11	48.63 🔫
APPSRVR_02	Server2	weblogic.admin.RMI	32.90	47.42 🔫
APPSRVR_02	Server2	weblogic.admin.HTTP	64.40	55.46 🔫
APPSRVR_02	Server2	weblogic.admin.System	49.01	46.57 🎇









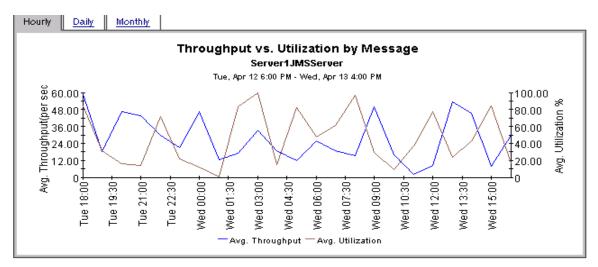


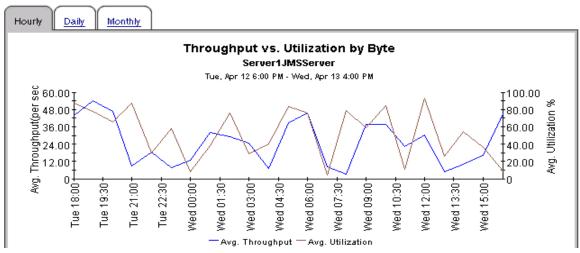
The JMS Server throughput vs. utilization by Message graph compares the throughput vs. utilization of the JMS Servers on the selected server based on the size of JMS messages. The throughput is the number of JMS messages processed by a JMS server per second. The utilization of the message queue is the total size of the messages beeing processed as a percent of the maximum size configured for the queue. The JMS Server throughput vs. utilization by Bytes graph compares the throughput vs. utilization of the JMS Servers on the selected server based on the number of JMS messages.

JMS Server Throughput vs. Utilization

Tue, Apr 12, 2005

System Name	Server Name	JMS Server Name	Avg. Tput by Msg.	Avg. Util. by Msg.	Avg. Tput by Byte	Avg. Util. by Byte
APPSRVR_01	Server1	Server1JMSServer	30.23	53.73	30.63	44.11
APPSRVR_01	Server1	WSStoreForwardInternalJMSServerServer1	29.82	47.86	28.01	45.57 🔫
APPSRVR_02	Server2	Server2JMSServer	30.54	47.57	32.24	48.86 🔫







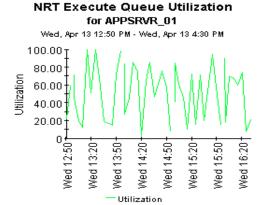


The NRT Execute Queue Throughput graph shows the average number of requests processed by a server's executing queue per second. The NRT Execute Queue Utilization graph shows the utilization of the server execute queue thread pool as a percent of the number of threads configured for the pool.

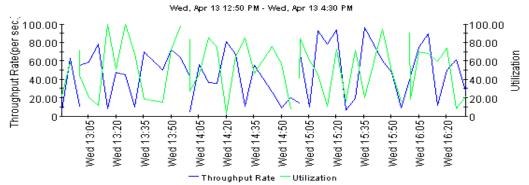
NRT Execute Queue Throughput - Utilization Wed, Apr 13, 2005 Averages over the last 6 hours						
System Name	Server Name	Queue Name	Queue Utilization	Queue Throughput		
APPSRVR_01	Server1	weblogic.admin.System	49.92	46.26		
APPSRVR_02	Server2	weblogic.admin.RMI	47.44	53.35	-⊈	
APPSRVR_02	Server2	weblogic.admin.System	47.20	50.72	- -	
APPSRVR_01	Server1	weblogic.admin.RMI	46.82	45.14	- 	

MRT Execute Queue Throughput Rate for APPSRVR_01 Wed, Apr 13 12:50 PM - Wed, Apr 13 4:30 PM Med 13:20 Med 14:20 Med 16:20 Med 1

Throughput rate







Server Transaction Rollback



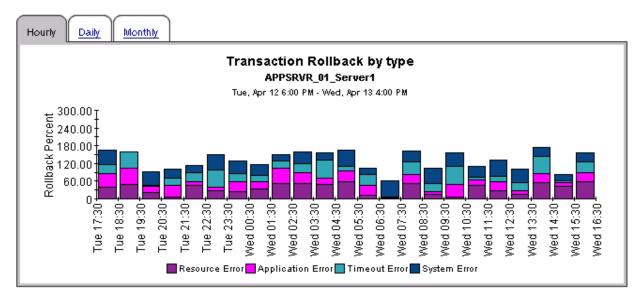
This report shows the percentage of transactions that have been rolled back for the selected server.

Server Transaction Rollback

Tue, Apr 12, 2005

System Name Server Name		System Error R	System Error Resource Error		Timeout Error
APPSRVR_01	Server1	27.79	30.52	31.17	32.73
APPSRVR_02	Server2	22.89	30.87	32.02	27.50 🔫





7 WebSphere Application Server Reports

The WebSphere Application Server reports provide information that is specific to WebSphere servers. See below for a summary of report contents.

EJB Load-Stores Rate

Displays the number of all entity EJB loads and stores to and from the database per minute for the top 20 servers. For the selected server it lists the top 20 EJBs; the EJB is shown along with the number of all EJB loads and stores to and from the database per minute.

EJB Method Calls Rate

Displays the number of all EJB method calls per minute for the top 20 servers. The EJB is shown along with the number of all EJB method calls per minute. The top 20 EJBs are selected based on the highest average method calls per minute over the reporting period.

EJB Top 20

This report contains statistics for:

- Percentage of EJB retrievals that were not successful during the collection interval
- Average pool size for the top 20 EJBs
- Average response time in milliseconds for the top 20 EJBs

JDBC Connection Pool Details

Shows the average number of connections allocated per day for the top 20 servers. The top 20 servers are selected based on the highest average number of connections allocated over the reporting period. The DB Pool is shown along with Clients Waiting, Client Timeout Rate, Average Pool Size, and Average Wait Time.

Servlet Sessions

Shows the total number of servlet sessions being handled by the top 20 servers.

Thread Pool Activity

Compares the average size of thread pools with the average number of active threads on the selected server.

Transaction Throughput

Displays the average number of transactions processed per second by the top 20 servers for the previous day. The top 20 servers are selected based on the highest average number of transactions processed per second over the reporting period. For the selected server it displays hourly data points representing the average number of transactions processed; this extends back 7 days and forward up to the last hour for which data was summarized.

EJB Load-Stores Rate

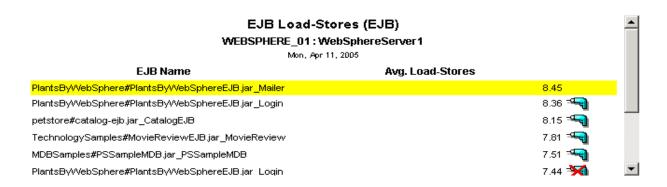


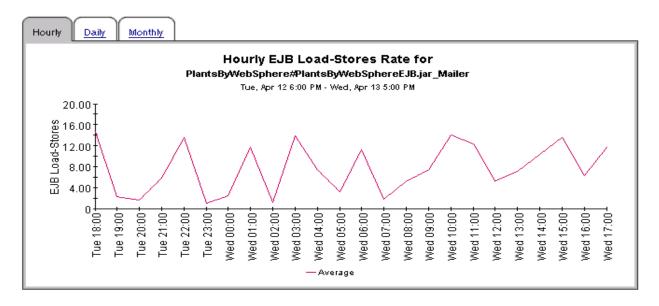
This report shows the number of all entity EJB loads and stores to/from the database per minute for the top 20 servers. The top 20 servers are selected based on the highest average loads and stores per minute.

EJB Load-Stores (Server)

Tue, Apr 12, 2005

System Name	Server Name	Avg. Load-Stores	
WEBSPHERE_01	WebSphereServer1	7.72	
WEBSPHERE_02	WebSphereServer2	7.59 🔏	





EJB Method Calls Rate

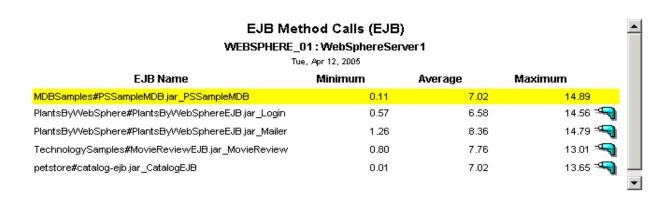


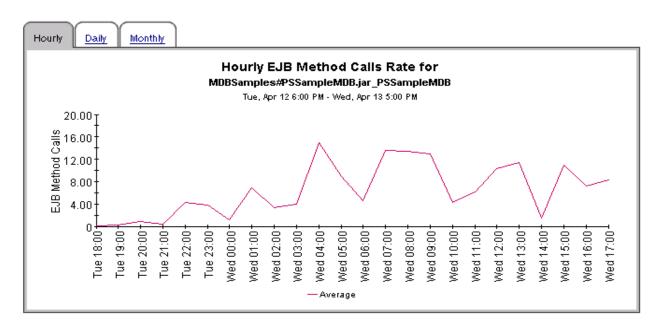
This report shows the number of all EJB method calls per minute for the top 20 EJBs. The top 20 EJBs are selected based on the highest average method calls per minute over the reporting period.

EJB Method Calls (Server)

Tue, Apr 12, 2005

System Name	Server Name	Avg. Method Calls
WEBSPHERE_01	WebSphereServer1	7.35
WEBSPHERE_02	WebSphereServer2	6.91 🔫





Application Server Report Pack EJB Top 20



This report shows the average EJB pool misses for the top 20 EJBs. The top 20 EJBs are selected based on the highest average pool misses over the reporting period. This report also shows the average pool size for the top 20 EJBs. The top 20 EJBs are selected based on the highest average pool size over the reporting period. This report also shows the average response time in milliseconds for the top 20 EJBs. The top 20 EJBs are selected based on the highest average response time over the reporting period.

		EJB Pool Misses	
		Tue, Apr 12, 2005	
System Name	Server Name	EJB Name	Avg. Pool Misses
WEBSPHERE_02	WebSphereServer2	petstore#catalog-ejb.jar_CatalogEJB	54.40
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	53.11
WEBSPHERE_02	WebSphereServer2	TechnologySamples#MovieReviewEJB.jar_MovieReview	51.60
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	51.45
WEBSPHERE_02	WebSphereServer2	MDBSamples#PSSampleMDB.jar_PSSampleMDB	51.38
WEBSPHERE_01	WebSphereServer1	TechnologySamples#MovieReviewEJB.jar_MovieReview	50.07
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	49.21
WEBSPHERE_01	WebSphereServer1	MDBSamples#PSSampleMDB.jar_PSSampleMDB	47.77
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	46.65
WEBSPHERE_01	WebSphereServer1	petstore#catalog-ejb.jar_CatalogEJB	44.71

		EJB Pool Size	Į.	•
		Tue, Apr 12, 2005		
System Name	Server Name	EJB Name	Avg. Pool Size	
WEBSPHERE_01	WebSphereServer1	petstore#catalog-ejb.jar_CatalogEJB	19.19	
WEBSPHERE_02	WebSphereServer2	petstore#catalog-ejb.jar_CatalogEJB	17.10	
WEBSPHERE_01	WebSphereServer1	MDBSamples#PSSampleMDB.jar_PSSampleMDB	16.38	
WEBSPHERE_02	WebSphereServer2	MDBSamples#PSSampleMDB.jar_PSSampleMDB	15.53	
WEBSPHERE_01	WebSphereServer1	TechnologySamples#MovieReviewEJB.jar_MovieReview	15.30	
WEBSPHERE_02	WebSphereServer2	TechnologySamples#MovieReviewEJB.jar_MovieReview	14.43	
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	14.42	
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	13.73	
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	11.44	
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	10.03	▼

Tue, Apr 12, 2005			
System Name	Server Name	EJB Name	Avg. Response Time
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	816.18
WEBSPHERE_01	WebSphereServer1	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	787.40
WEBSPHERE_02	WebSphereServer2	TechnologySamples#MovieReviewEJB.jar_MovieReview	762.73
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Mailer	754.13
WEBSPHERE_01	WebSphereServer1	TechnologySamples#MovieReviewEJB.jar_MovieReview	745.70
WEBSPHERE_02	WebSphereServer2	PlantsByWebSphere#PlantsByWebSphereEJB.jar_Login	737.57
WEBSPHERE_02	WebSphereServer2	petstore#catalog-ejb.jar_CatalogEJB	729.35
WEBSPHERE_01	WebSphereServer1	petstore#catalog-ejb.jar_CatalogEJB	723.26 —
WEBSPHERE_01	WebSphereServer1	MDBSamples#PSSampleMDB.jar_PSSampleMDB	719.84

EJB Response Time

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JDBC Connection Pool Details

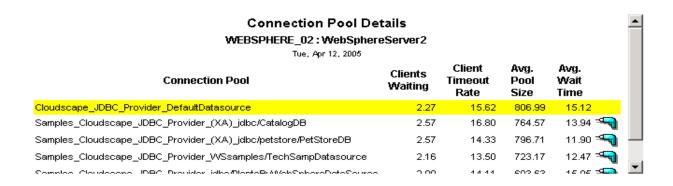


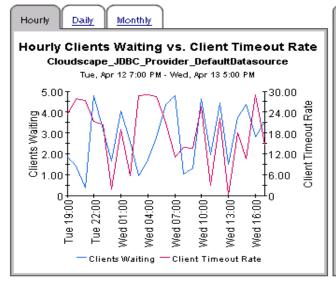
This report shows the average number of connections allocated per day for the top 20 servers. The top 20 servers are selected based on the highest average number of connections allocated over the reporting period. For the selected server it displays DB Connection Pools Details.

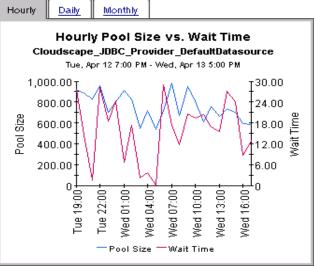
Connection Pool Throughput

Tue, Apr 12, 2005

System Name	Server Name	Connections Allocated
WEBSPHERE_02	WebSphereServer2	766.33
WEBSPHERE_01	WebSphereServer1	754.57 🔏







Servlet Sessions

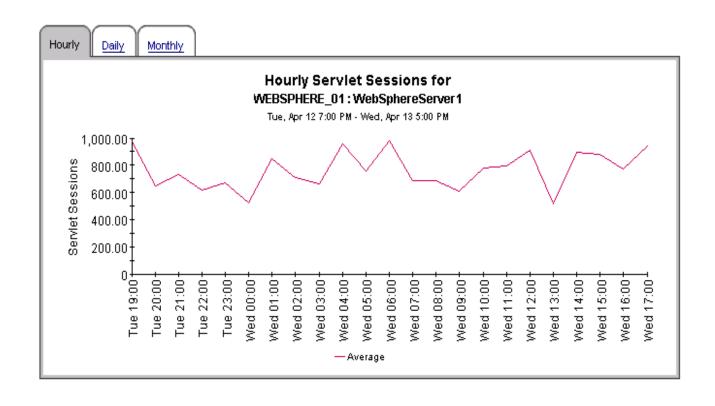


This report shows the total number of servlet sessions being handled by the top 20 servers. The top 20 servers are selected based on the highest average number of sessions over the reporting period.

Servlet Sessions

Tue, Apr 12, 2005

System Name	Server Name	Avg. Servlet Sessions
WEBSPHERE_01	WebSphereServer1	746.07
WEBSPHERE_02	WebSphereServer2	743.47 🔫



40 Chapter 7

Thread Pool Activity



This report compares the average size of thread pools with the average number of active threads on the selected server.

Thread Pool Activity (Server)

Tue, Apr 12, 2005

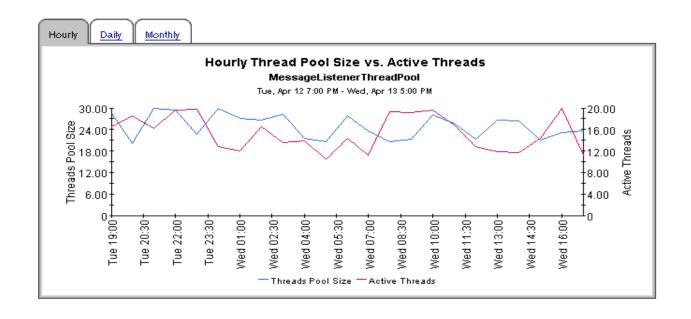
System Name	Server Name	Thread Pool Size	Active Threads
WEBSPHERE_02	WebSphereServer2	24.84	14.96
WEBSPHERE_01	WebSphereServer1	24.66	14.94 🔫

Thread Pool Activity (Thread Pool)

WEBSPHERE_02: WebSphereServer2

Tue, Apr 12, 2005

Thread Pool Name	Thread Pool Size	Active Threads
MessageListenerThreadPool	24.11	15.54
ORB.thread.pool	25.90	14.79 🔫
Servlet.Engine.Transports	24.90	14.41 ऱ─——
SoapConnectorThreadPool	24.43	15.11 🔫



Transaction Throughput

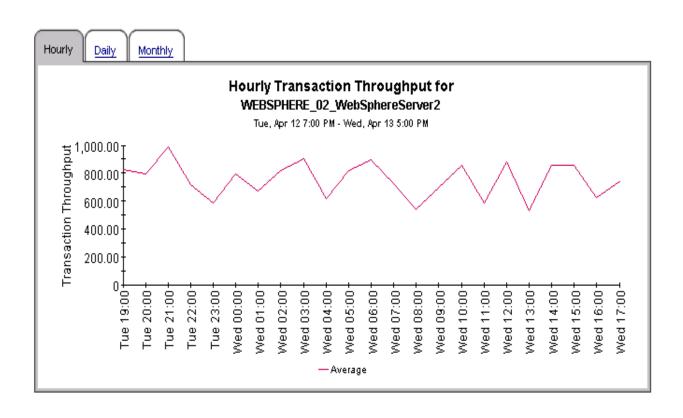


This report shows the average number of transactions processed per second by top 20 servers. The top 20 servers are selected based on the highest average number of transactions processed per second over the reporting period.

Transaction Throughput

Tue, Apr 12, 2005

System Name	Server Name	Minimum	Average	Maximum
WEBSPHERE_02	WebSphereServer2	544.21	740.93	989.87
WEBSPHERE_01	WebSphereServer1	504.33	697.24	998.74 🔫



42 Chapter 7

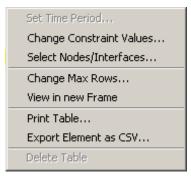
A Editing Tables and Graphs

Any table or graph can be viewed in several ways. While the default view is usually adequate, you can easily change to a different view. If you are using Report Viewer, right-click the object to open a list of view options. If you are using the Web Access Server, follow these steps to change the default view of a table or graph:

- 1 Click **Preferences** on the links bar.
- **2** Expand **Reports** in the navigation frame.
- 3 Click Viewing.
- 4 Select the Allow element editing box.
- 5 Click Apply.
- 6 Click the Edit icon next to the table or graph.

View Options for Tables

Right-clicking a table, or selecting the Edit Table icon if you are using the Web Access Server, opens a list of table view options.



Select **Set Time Period** to alter the relative time period (relative to now) or set an absolute time period. The Set Time Period window opens.

You may shorten the period of time covered by the table from, for example, 42 days to 30 days or to 7 days. If you are interested in a specific period of time that starts in the past and stops *before* yesterday, click **Use Absolute Time** and select a Start Time and an End Time.

Select **Change Constraint Values** to loosen or tighten a constraint, thereby raising or lowering the number of elements that conform to the constraint. The Change Constraint Values window opens. To loosen a constraint, set the value lower; to tighten a constraint, set the value higher.

The **Select Nodes/Interfaces** allows you to change the scope of the table by limiting the table to specific nodes, specific interfaces, or a specific group of nodes or interfaces. The Select Node Selection Type window opens.

Change Max Rows increases or decreases the number of rows in a table. The default is 50. If you expand the default, the table may take more time to open. If you are trending a large network, using the default ensures that the table opens as quickly as possible.

View in new Frame opens the table in a Table Viewer window, shown below. If necessary, make the data in the table more legible by resizing the window.

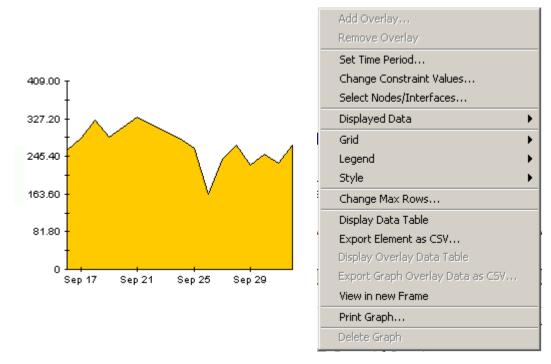
Print Table lets you print the displayed table.

 $\begin{tabular}{ll} \textbf{Export Element as CSV} exports table data as a . csv file, suitable for importing into a spreadsheet program. \\ \end{tabular}$

III Table Viewer				
	Pol	led IP QoS Statistics I Over Previous 6 Hou	-	
Direction	IpPrecedence	Switched Bytes	Switched Pkts	Time Period
Input	0	105,688	675	Tue Oct 29 07:00 AM
Input	1	0	0	Tue Oct 29 07:00 AM
Input	2	0	0	Tue Oct 29 07:00 AM
Input	3	0	0	Tue Oct 29 07:00 AM
Input	4	0	0	Tue Oct 29 07:00 AM
Input	5	0	0	Tue Oct 29 07:00 AM
Input	6	600	5	Tue Oct 29 07:00 AM
Input	7	0	0	Tue Oct 29 07:00 AM
Input	0	98,334	638	Tue Oct 29 06:45 AM
Input	1	0	0	Tue Oct 29 06:45 AM
Input	2	0	0	Tue Oct 29 06:45 AM
Input	3	0	0	Tue Oct 29 06:45 AM
Input	4	0	0	Tue Oct 29 06:45 AM
Input	5	0	0	Tue Oct 29 06:45 AM
Input	6	0	0	Tue Oct 29 06:45 AM
Input	7	0	0	Tue Oct 29 06:45 AM
Input	0	97,539	648	Tue Oct 29 06:30 AM
Input	1	0	0	Tue Oct 29 06:30 AM
Input	2	0	0	Tue Oct 29 06:30 AM
Input	3	0	0	Tue Oct 29 06:30 AM
Input	4	0	0	Tue Oct 29 06:30 AM
Input	5	0	0	Tue Oct 29 06:30 AM
Input	6	120	1	Tue Oct 29 06:30 AM
Input	7	0	0	Tue Oct 29 06:30 AM
Input	0	90,744	564	Tue Oct 29 06:15 AM
Input	1	0	0	Tue Oct 29 06:15 AM
Input	2	0	0	Tue Oct 29 06:15 AM
Input	3	0	0	Tue Oct 29 06:15 AM
Input	4	0	0	Tue Oct 29 06:15 AM
Input	5	0	0	Tue Oct 29 06:15 AM
Input	6	0	0	Tue Oct 29 06:15 AM
Input	7	0	0	Tue Oct 29 06:15 AM
Input	0	103,775	656	Tue Oct 29 06:00 AM
Input	1	0	0	Tue Oct 29 06:00 AM
Input	2	0	0	Tue Oct 29 06:00 AM
Input	3	0	0	Tue Oct 29 06:00 AM
Input	4	0	0	Tue Oct 29 06:00 AM

View Options for Graphs

Right-clicking a graph, or clicking the Edit Graph icon if you are using the Web Access Server, opens the following list of view options.



The following table provides details about each option.

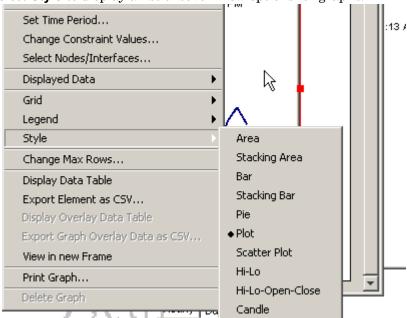
Option	Function
Set Time Period	Same as the table option shown above.
Change Constraint Values	Same as the table option shown above.
Select Nodes/Interfaces	Same as the table option shown above.
Displayed Data	For every point on a graph, display data in a spreadsheet.
Grid	Add these to the graph:
	X axis grid lines
	Y axis grid lines
	X and Y axis grid lines
Legend	Delete or reposition the legend.
Style	See Style Options on page 46.
Change Max Rows	Same as the table option shown above.
Display Data Table	See Display Data Table on page 49.

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Option	Function
Export Element as CSV	Same as the table option shown above.
View in New Frame	Opens graph in a Graph Viewer window.
Print Graph	Same as the table option shown above.

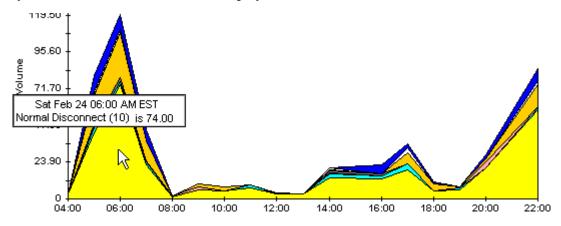
Style Options

Select **Style** to display a list of seven view options for graphs.



Style > Area

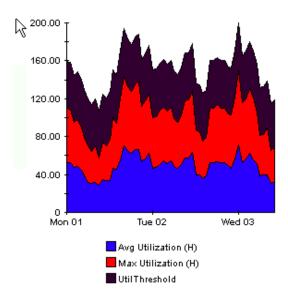
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



To shorten the time span of a graph, press SHIFT+ALT and use the left mouse button to highlight the time span you want to focus on. Release the mouse button to display the selected time span.

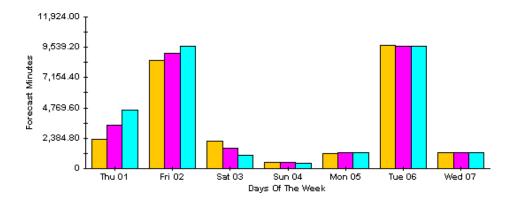
Style > Stacking Area

The area or plot graph changes to a stacking area graph. This view is suitable for displaying a small number of variables.



Style > Bar

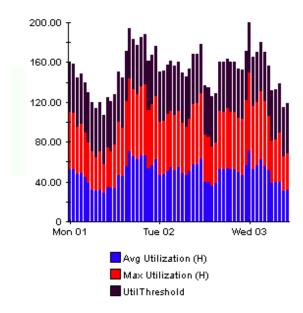
The graph changes to a bar chart. This view is suitable for displaying relatively equal values for a small number of variables. There are three variables in the graph below.



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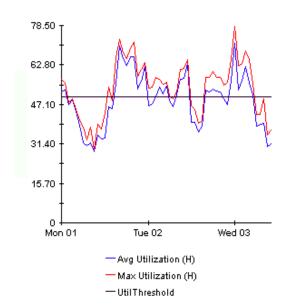
Style > Stacking Bar

The plot or area graph changes to a stacking bar chart. If you increase the width of the frame, the time scale becomes hourly. If you increase the height of the frame, the call volume shows in units of 10.



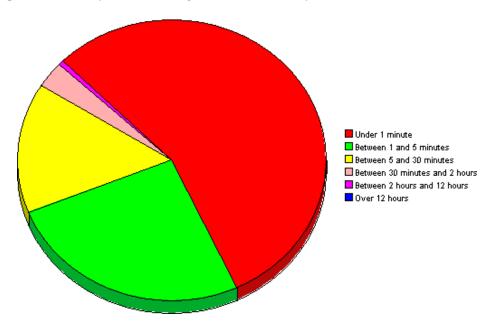
Style > Plot

Bands of color in an area graph change to lines. If you adjust the frame width, you can make the data points align with hour; if you adjust the frame height, you can turn call volume into whole numbers.



Style > Pie

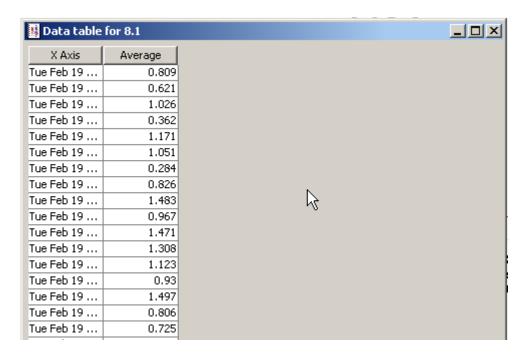
An area graph becomes a pie chart. Bands in an area graph convert to slices of a pie and the pie constitutes a 24-hour period. This view is helpful when a small number of data values are represented and you are looking at data for one day.



If you are looking at data for more than one day, you will see multiple pie graphs, one for each day.

Display Data Table

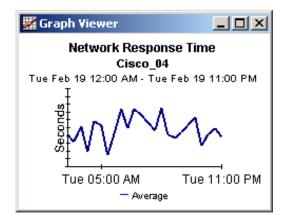
This option changes a graph into a spreadsheet.



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View in New Frame

The graph opens in a Graph Viewer window. Improve legibility by resizing the window.



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