Database Report Pack

Software Version: 1.0

HP OpenView Performance Insight

User Guide

May 2006

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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	Minor updates.
Chapter 2	Minor updates.
Chapter 6	Added text about reports.
Chapter 7	Added text about reports.
Chapter 8	Added text about reports.

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Contents

1 Overview

This chapter covers the following topics:

- OVPI and Database Performance Metrics
- Data Collection
- Ways to Customize Reports
- Thresholds and Integration with OVO

OVPI and Database Performance Metrics

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 fault isolation and problem diagnosis.

The Database Report Pack 1.0 installs on OVPI. The reports in this package perform a ranking function, allowing you to compare database instances, spot various kinds of problems before they become serious, and anticipate capacity issues. Reports provide easy access to the following information:

- Dynamic space usage over the previous week
- Daily fluctuations in instance-size-free vs. instance-size-used
- Logon activity for the last few hours, per instance
- Availability for the last few hours, per instance
- Number of transactions for the last few hours, per instance
- Details about each customer (uptime, downtime, instance size, logons)
- Details about each location (uptime, downtime, instance size, logons)
- Segment analysis (Oracle only)
- Tablespace analysis (Oracle only)

New Features Related to OVPI 5.1

The June 2005 release of report packs included new report packs, enhanced report packs, and non-enhanced report packs. The Database Report Pack, one of the new report packs in June 2005, was released unchanged in March 2006 and again in May 2006.

The Database Report Pack offers the following features:

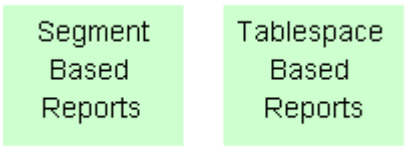
- Report linking

- Launch Point page
- Ad hoc selector reports
- Color-coded graphics in selection tables

Report linking means that navigating reports is now more like navigating a website—you have numerous links to follow and investigating a specific area of interest is easier and more efficient. You can use the links to move quickly between reports. There is no need to close the report you are viewing and then navigate folders. In addition to moving from one report to another report within the same report pack, you can link to reports in a different report pack. For example, there are links in Database reports that will open reports in the Device Resource Report Pack.

The Launch Point page groups reports into categories, providing a convenient overview of the package. The Database Report Pack includes two Launch Point pages, one for generic reports and one for Oracle reports. The generic Launch Point page offers the following choices:

The Oracle Launch Point page offers two choices:



The ad hoc selector option opens a report that lets you select specific devices and interfaces from a set of drop-down menus. Use the drop-down menus to pinpoint an item of interest. You will notice that the report displays quickly. Response time is good due to the limited number of database queries.

Categories and Reports

The following table provides a list of categories and the reports in each group.

Category	Reports Inside
Generic History	Instance Size Details Instance Size History
Generic NRT	Instance Availability NRT Instance Transactions NRT Instance Logons NRT
Customer and Location	Customer Summary Location Summary
Adhoc Selector and QuickView	Instance QuickView Ad hoc Instance Selector
Oracle Segment	Segment Size Details Segment Size History
Oracle Tablespace	Tablespace Size Used Top 20 Tablespace Size Allocated Top 20 Tablespace Size Percentage Used Top 20 Tablespace Size History Tablespace Physical I/O Top 20

Reports and Statistics

The following table outlines the statistics available from each report. For information about how each statistic is calculated, see Appendix A, Formulas.

Report	Statistics
Instance Size Details	Instance size allocated Average instance size used Average instance size free
Instance Size History	Instance size allocated Instance dynamic size usage Average instance size free
Instance Availability NRT	Total instance uptime Total instance downtime Total instance unknowntime

Report	Statistics
Instance Transactions NRT	Number of transaction Maximum transactions Minimum transactions Average transactions
Instance Logons NRT	Total logons Maximum logons Minimum logons Average logons
Customer Details	Total uptime Total downtime Total instance size free Total instance logons Average instance size percent used
Location Details	Total uptime Total downtime Total instance size free Total instance logons Average instance size percent used
Instance QuickView	Instance availability NRT details Instance size usage trend Average logon trend Average transaction trend
Adhoc Instance Selector	Average instance uptime Average instance logons Average instance transactions Average instance percentage size used
Segment Size Details	Total segment size allocated (MBs)
Segment Size History	Average size allocated Dynamic size allocation Segment size allocation details
Tablespace Size Used Top 20	Average megabytes allocated Average megabytes used

Report	Statistics
Tablespace Size Allocated Top 20	Average megabytes allocated Average megabytes used Average megabytes free
Tablespace Size Percentage Used Top 20	Total space allocated Percent used Tablespace usage trend
Oracle Tablespace Size History	Average size allocated Dynamic size usage Average size free
Oracle Tablespace Physical I/O Top 20	Total physical I/O Maximum physical I/O Minimum physical I/O Average physical I/O

Data Collection

The only datapipe used by the Database Report Pack is the Database Oracle SPI Datapipe. The Database Oracle SPI Datapipe collects data from the Embedded Performance Agent, a sub-agent that ships with OVOW 7.2+ and OVOU 7.2+. The Database Oracle SPI Datapipe does not collect data from earlier versions of OVOW or OVOU.

The Database Oracle SPI Datapipe polls the EPC data store once every 45 minutes. Because changing the polling frequency could interfere with the polling conducted by OVPI for the System Resource Report Pack, we recommend that you do not change the polling frequency.

The following table provides a list of metrics polled by the Database Oracle SPI Datapipe.

Metric	Description	metricid	objectid	valueid	value
E201_InstUptime	Availability	201	Instance name	1	Up = 5 Down = 0
E212_InstSize	Instance size	212	Instance name	1	Megabytes allocated
E212_InstSize	Instance size	212	Instance name	2	Megabytes free
E210_TblSpcSize	Tablespace size	210	Table space name	1	Megabytes allocated
E210_TblSpcSize	Tablespace size	210	Table space name	2	Megabytes free
E215_SegmntSize	Segment size	215	Segment name	1	Megabytes allocated
E213_TblSpcIO	Tablespace I/O	213	Table space name	1	Physical reads+writes since last collection

Metric	Description	metricid	objectid	valueid	value
E037_USERLOGONCNT	User logons	NA	NA	NA	Number of user logons
NAE044_COMMITRATE	Transactions	NA	NA	NA	Number of transactions

Future releases of the Database Report Pack will provide datapipes designed for:

- Sybase
- Informix
- MS SQL Server
- MS Access

Ways to Customize Reports

The contents of a report can be customized by editing parameters, by editing tables and graphs, and by modifying default thresholds. Since there are no customer-oriented reports or location-oriented reports in the Database Report Pack, you cannot use group filters to create customer-specific reports. For details about editing tables and graphs, see Appendix B, Editing Tables and Graphs.

Editing a parameter applies a constraint to the contents of the report, thereby eliminating the data you are not interested in seeing. The Database Reporting Report Pack supports the following parameters:

- Instance
- System
- Vendor
- Customer
- Location

If you are using Report Viewer, follow these steps to edit a parameter:

1. Select **Edit > Parameter Values** from the menu bar.
2. When the Modify Parameter Values window appears, click the **Current Value** field.
3. Enter a new value.
4. Click **OK**.

If you are viewing the report on the Web, follow these steps:

1. Click the Edit icon at the bottom right-hand corner of the report.
2. When the Edit Parameters window opens, type the constraint in the appropriate field.
3. Click **Submit**.

Thresholds and Integration with OVO

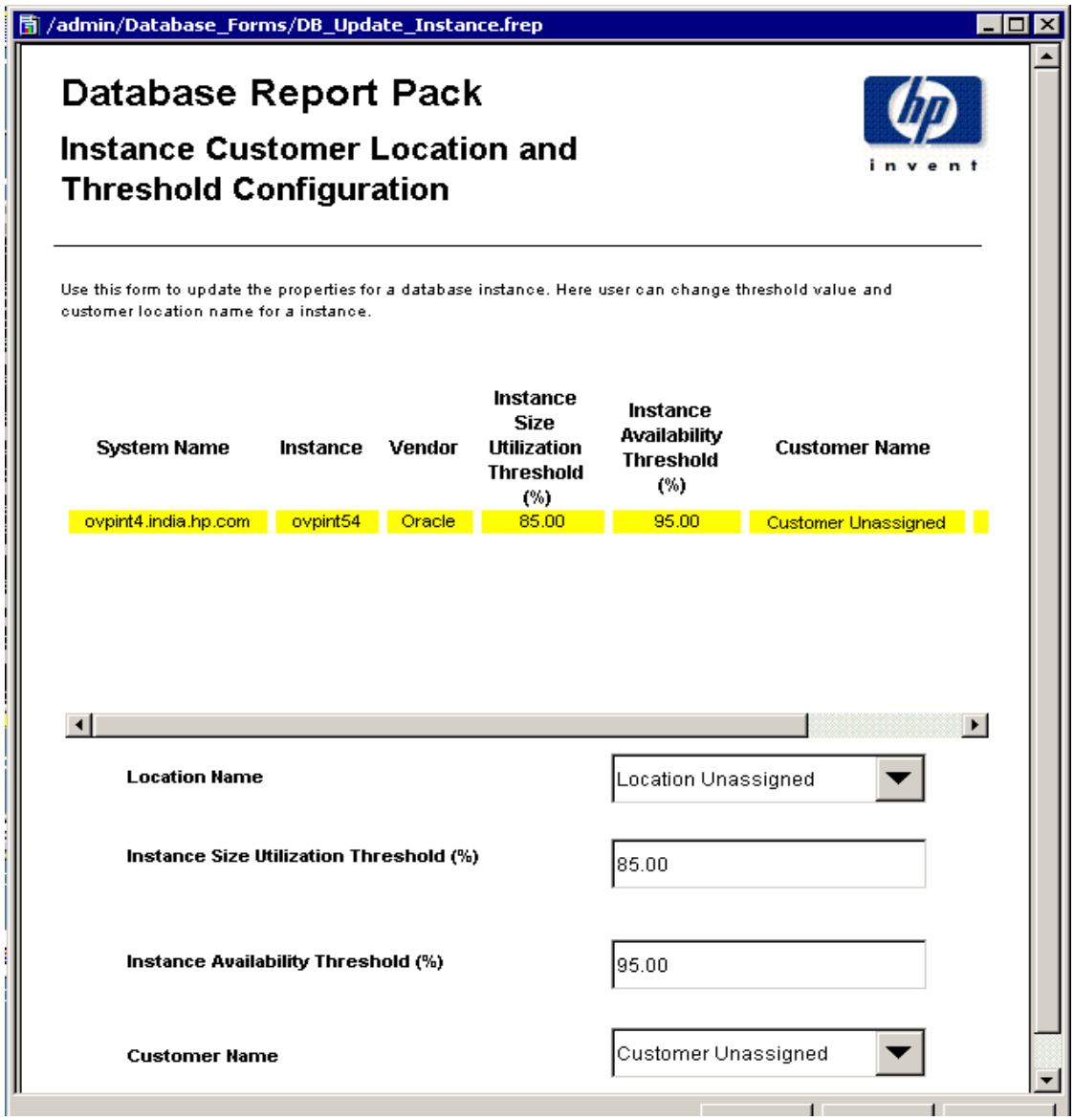
You can improve your ability to isolate faults and diagnose problems by installing the optional thresholds sub-package that comes with the Database Report Pack and configuring OVO as the destination for breach and clear traps generated by OVPI. If you install the optional thresholds sub-package, the Thresholds Module will monitor the OVPI database for breach conditions and respond to breaches by taking one of several possible actions, for example, sending breach and clear traps to OVO.

The thresholds sub-package provides the following defaults:

Instance Availability = 85%

Instance Size Used = 95%

To modify the defaults, open the Instance Customer Location and Threshold Configuration form. Enter new threshold values and save your changes.



Because Network Node Manager (NNM) is the default destination for traps, you must configure the Thresholds Module to send traps to OVO. Do this by opening the SNMP Trap Action Definition form. Fill in the necessary information and save your changes. In addition to using the SNMP Trap Action Definition form to configure a new destination for traps, your OVO administrator must prepare a trap template definition for OVO. The *Thresholds Module 5.0 User Guide* contains the information needed to prepare the template.

Sources for Additional Information

For information about the latest enhancements to this package, and any known issues, refer to the *Database Report Pack 1.0 Release Statement*.

Manuals for OVPI and manuals for the reporting solutions that run on OVPI can be downloaded from the following site:

http://www.managementsoftware.hp.com

Select **Support** > **Product Manuals** to reach the **Product Manuals Search** page. The user guides for OVPI are listed under **Performance Insight**. The user guides for report packs and datapipes are listed under **Performance Insight Reporting Solutions**.

The manuals listed under **Performance Insight Reporting Solutions** indicate the month and year of publication. If a manual is revised and reposted, the date of publication will change. Because we post revised manuals on a regular basis, we recommend searching this site for updates before using an older manual that might not be the latest version available.

2 Installation

This chapter covers the following topics:

Guidelines for a Smooth Install

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

The report pack CD includes the latest report packs, datapipes, and shared packages. When you insert the CD in the CD-ROM drive and launch the package extraction program, the install script copies every package from the CD to the Packages directory on your system. After the extract finishes, the install script prompts you to start Package Manager. Before using Package Manager, review the following guidelines.

Software Prerequisites

Version 1.0 of the Database Reporting Report Pack has the following prerequisites:

- OVPI 5.1
- All service packs available for OVPI 5.1
- Common Property Tables 3.5
- SysRes OVPA Collection Datapipe 1.0
- OVO Management Server, version 7.2 or later
- Database Oracle Smart Plug-In (SPI):
  - Version B.09.01 for Windows
  - Version A.09.10 for UNIX

If you are not currently running any version of Common Property Tables, let Package Manager install version 3.5 for you. If you are running an earlier version of Common Property Tables, upgrade to version 3.5. Upgrading Common Property Tables is easy; however, if you need assistance with the upgrade, or if you want to know more about how this package operates, refer to the *Common Property Tables 3.5 User Guide*.

Distributed Environments

If you intend to run Database Reporting in a distributed environment, installation is more complicated, since you must install the report pack and the datapipe multiple times, once on the central server, and once on each satellite server. Typically, you will not install the datapipe on the central server. Where you install the thresholds sub-package depends on how you want to implement thresholding.

Here's an overview of package installation in a distributed environment.

1. Make sure that every server is running OVPI 5.1.
2. Make sure that every server is running all available service packs for OVPI 5.1.
3. Disable trendcopy on the central server.
4. Install the following packages on the central server:
   - Common Property Tables 3.5
   - SysRes OVPA Collection Datapipe 1.0
   - Database Report Pack
   - Oracle sub-package
   - Thresholds sub-package
5. Install the following packages on each satellite server:
   - Common Property Tables 3.5
   - SysRes OVPA Collection Datapipe 1.0
   - Database Report Pack
   - Oracle sub-package
   - Thresholds sub-package
   - Database Oracle SPI Datapipe 1.0
6. Re-enable trendcopy on the central server.

If you do not want local reporting, that is, if you do not want to access reports and forms at the local level, there is no need to deploy reports to the OVPI Application Server when you install packages on satellite servers. However, if you need local reporting, be sure to deploy reports (and forms) when you install packages on a satellite server.

When you finish installing packages, you have to set up a distributed system. This involves setting up connections with satellite server databases, configuring the central server to copy data from satellite servers, and switching off higher-level aggregations at the satellite servers. These steps are covered in Chapter 3, Setting Up a Distributed System.

Installing the Database Report Pack

Perform the following tasks to install Database Reporting on a stand-alone system:

- Task 1: Stop OVPI Timer and extract report packs from the report pack CD
- Task 2: If necessary, upgrade to Common Property Tables 3.5
- Task 3: Install the report pack and the Database Oracle SPI Datapipe

Task 1: Stop OVPI Timer and extract OVPI packages from the 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 **Control Panel > Administrative Tools > Services**

   UNIX: As root, do one of the following:

   HP-UX: **`sh /sbin/ovpi_timer stop`**

   Sun: **`sh /etc/init.d/ovpi_timer stop`**
3. Insert the report pack CD in the CD-ROM drive. Do one of the following:
   - *Windows:* run the `setup.bat` command if auto run is disabled. If auto run is enabled, a Main Menu appears.
   - *UNIX:* mount the CD manually if the CD does not mount automatically, then run the `setup` command.
4. Type **1** to select OVPI report packs in the choice field and press **Enter**. The install script displays a percentage complete bar. When extraction is complete, 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 directories under the parent directory for the report pack:
   - Database_Reporting.ap
   - Database_Reporting_Demo.ap

   Installing the demo package is optional. You may install the demo package by itself, or you may install the demo package along with the report pack.

Task 2: Upgrade Common Property Tables

If you are running an older version of Common Property Tables, upgrade to Common Property Tables 3.5. Do not install the 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. When Package Manager indicates that the installation is complete, click **Done** to exit Package Manager and return to the Management Console.

Task 3: Installing Database Reporting 1.0

1. Start 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 settings for Deploy Reports; also accept the defaults for application server name and port in the same window.
5. Enter your username and password for the OVPI Application Server.
6. Click **Next**. The Package Selection window opens.
7. Select the check box next to the following packages:

   Common Property Tables 3.5

SysRes OVPA Collection Datapipe 1.0

Database Report Pack 1.0

Oracle sub-package

Database Oracle SPI Datapipe 1.0

Database Report Pack Demo

8 Click **Next**. The Type Discovery window opens.

9 To run Type Discovery immediately after package installation, keep the default and click **Next**. The Selection Summary window opens.

10 Click **Install**. The Installation Progress window opens and the install process begins. When the install process is complete, an installation complete message appears.

11 Click **Done**.

12 Restart OVPI Timer.

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

UNIX: As root, type one of the following:

HP-UX: **`sh /sbin/ovpi_timer start`**

Sun: **`sh /etc/init.d/ovpi_timer start`**

Accessing Deployed Reports

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

- OVPI client applications
- Web browser

If you have the client applications, you have access to Report Viewer, Report Builder, and the Management Console. If you do not have the client applications, using a web browser to view reports 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*.

Package Removal

Follow these steps to uninstall the Database Reporting Report Pack:

1 Log in to the system. On UNIX systems, log in as *trendadm*.

2 Stop OVPI Timer and wait for processes to terminate.

3 Start Package Manager. The Package Manager welcome window opens.

4 Click **Next.** The Package Location window opens.

5 Click the **Uninstall** radio button.

6 Click **Next.** The Report Undeployment window opens.

7 If reports were deployed to the OVPI Application Server, accept the defaults for Undeploy Reports, Application Server Name, and Port. Otherwise, clear the check box and skip to step 9.

8 Type your username and password for the OVPI Application Server.

9 Click **Next.** The Package Selection window opens.

10 Click the check box next to the following packages:

Database Report Pack 1.0

Database Report Pack Demo 1.0

11 Click **OK.**

12 Click **Next.** The Selection Summary window opens.

13 Click **Uninstall.** The Progress window opens and the removal process begins. When the uninstall process is complete, a package removal complete message appears.

14 Click **Done** to return to the Management Console.

15 Restart OVPI Timer.

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

UNIX: As root, type one of the following:

HP-UX: **`sh /sbin/ovpi_timer start`**

Sun: **`sh /etc/init.d/ovpi_timer start`**

3 Setting Up a Distributed System

If you intend to run the Database Report pack as a distributed system across multiple servers, you have to configure the central server, configure each satellite server, and verify that system clocks are synchronized.

Configuring the Central Server

To configure the central server, perform these tasks:

- Task 1: Set up connections with satellite server databases
- Task 2: Configure trendcopy pull commands from the central server to each satellite
- Task 3: Modify `trendtimer.sched`

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.
3. 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 are done.

Task 2: Configure trendcopy pull commands

1. Open this file: `$DPIPE_HOME/scripts/Database_Hourly.pro`
2. Add the central server and the satellite server to each trendcopy command.

```
# begin: DB_1 wait

# {DPIPE_HOME}/bin/trendcopy  -t SHDBINSTANCE -s SATELLITE_SERVER_1_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy  -t SHDBCUST -s SATELLITE_SERVER_1_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy  -t SHDBLOC -s SATELLITE_SERVER_1_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy  -t SHDBINSTANCE -s SATELLITE_SERVER_2_DATABASE -S
THIS_MACHINE_DATABASE
```

```
# {DPIPE_HOME}/bin/trendcopy  -t SHDBINSTANCE -s SATELLITE_SERVER_3_DATABASE -S
THIS_MACHINE_DATABASE

# end: DB_1

begin: DB_2 wait

{DPIPE_HOME}/bin/trend_sum  -f {DPIPE_HOME}/scripts/SHDBINSTANCE.sum

{DPIPE_HOME}/bin/trend_sum  -f {DPIPE_HOME}/scripts/SHDBCUST.sum

{DPIPE_HOME}/bin/trend_sum  -f {DPIPE_HOME}/scripts/SHDBLOC.sum

end: DB_2
```

3. If necessary, add more commands.
4. Open the following file: `$DPIPE_HOME/scripts/Database_Oracle_Hourly.pro`
5. Add the central server and the satellite server to each trendcopy command.

```
# begin: DB_1 wait

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_SEGMENTS -s SATELLITE_SERVER_1_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_TBLSPACES -s SATELLITE_SERVER_1_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_SEGMENTS -s SATELLITE_SERVER_2_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_TBLSPACES -s SATELLITE_SERVER_2_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_SEGMENTS -s SATELLITE_SERVER_3_DATABASE -S
THIS_MACHINE_DATABASE

# {DPIPE_HOME}/bin/trendcopy -t SHDBINST_TBLSPACES -s SATELLITE_SERVER_3_DATABASE -S
THIS_MACHINE_DATABASE

# end: DB_1

begin: DB_2 wait

{DPIPE_HOME}/bin/trend_sum  -f {DPIPE_HOME}/scripts/SHDBINST_SEGMENTS.sum

{DPIPE_HOME}/bin/trend_sum  -f {DPIPE_HOME}/scripts/SHDBINST_TBLSPACES.sum

end: DB_2
```

6. If necessary, add more commands.

Task 3: Modify trendtimer.sched

1. Open this file: `$DPIPE_HOME/lib/trendtimer.sched`
2. Confirm that the following entry is there:

   ```
   45 - - {DPIPE_HOME}/bin/pa_collect -n -i 45 -E 5
   ```

3. If this entry is not there, add it.

Configuring a Satellite Server

Follow these steps to configure a satellite server.

1. Open this file: `$DPIPE_HOME/lib/trendtimer.sched`
2. Switch off the following aggregations by commenting out the entries listed below:

```
24:00+03:00 - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/Database_DMF.pro
MONTH1+24:00 - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/Database_DMF.pro
24:00+03:00 - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/Database_Oracle_DMF.pro
MONTH1+24:00 - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/Database_Oracle_DMF.pro
```

3. Open this file: `Database_Hourly.pro`
4. Comment out all entries except this entry:

```
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SHDBINSTANCE.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SHDBCUT.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SHDBLOG.sum
```

5. Open this file: `Database_Oracle_Hourly.pro`
6. Comment out all entries except this entry:

```
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SHDBINST_SEGMENTS.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SHDBINST_TBLSPACES.sum
```

System Clocks

Verify that the system clock on each satellite server is synchronized with the system clock on the central server.

4 Generic History Reports

There are two generic history reports in Database Reporting:

1. Instance Size History
2. Instance Size Details Top 20

Instance Size History

This report looks at dynamic space usage over the previous week, and allows you to spot instances with the highest dynamic space usage. The building block in this report is a daily average for instance-size-used and a daily average for instance-size-free. The daily averages are rolled up, producing averages for the week that appear in the top selection table.

The top selection table sorts instances by dynamic space usage, most to least. The data in the usage details table below the selection table shows the daily fluctuation in average instance-size-free vs. average instance-size-used. The tabbed graph below the usage details table displays a daily bar chart and a monthly bar chart. Both charts show the fluctuation in free vs. used, allowing you to see historic trends.

Instance Size Details Top 20

This report reveals which database instances are using the most instance size. It measures instance size three ways:

- As a percentage
- In megabytes
- In megabytes allocated

Each selection table on the left looks at yesterday's data. Each graph to the right shows what the trend has been over the previous 7 days.

Database Report Pack
Instance Size History Report

This report shows top 20 instances which had the most dynamic space usage over the previous week. The instances were selected using the standard deviation of the amount of space used. The graph show historical trends for the space usage on daily and monthly basis.

Top 20 Instance

Sorted Based On Most Dynamic Space Usage (MB)

Mon, Mar 28, 2005 - Mon, Mar 28, 2005

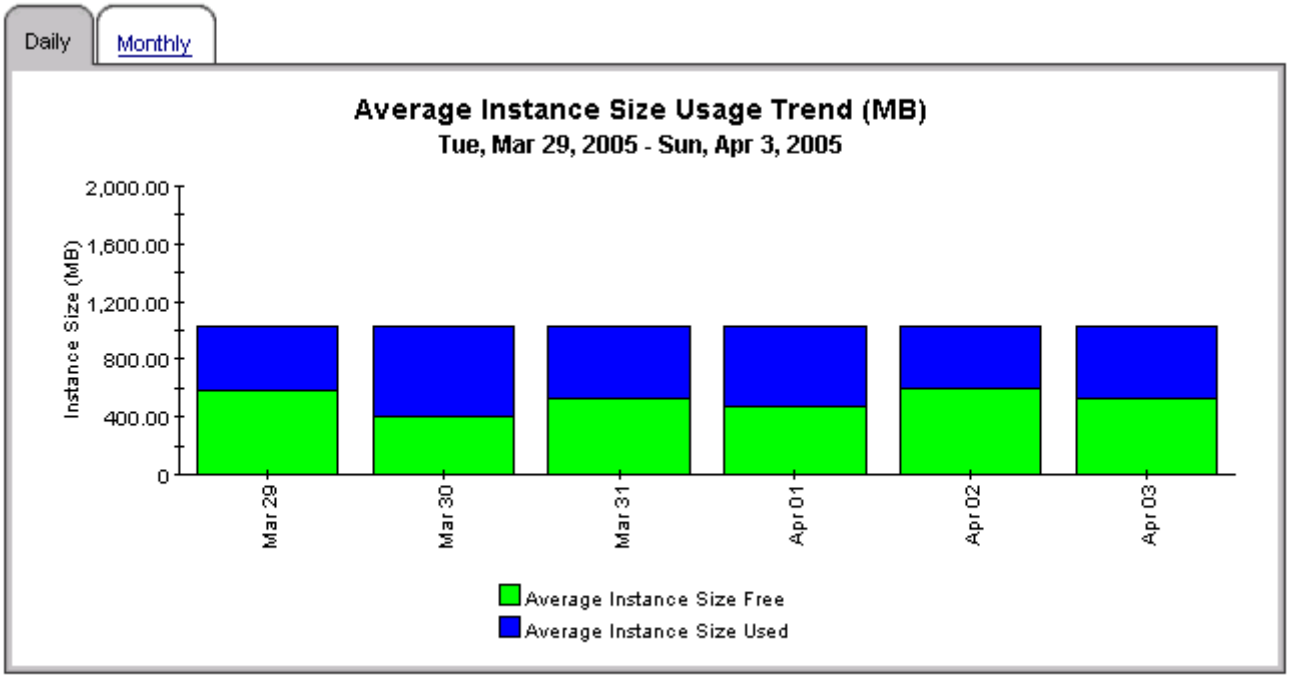
	System Name	Instance Name	Vendor	Instance Size Allocated	Instance Dynamic Size Usage	Average Instance Size Free
	ovpint4	Ovpint54	Oracle	1024.00	70.90	520.95
	ovpihpt3	Ovpihpt3	Oracle	1024.00	35.89	500.02

Customer Name	Location Name
Customer Unassigned	Location Unassigned

Instance Size Usage Details

Tue, Mar 29, 2005 - Sat, Apr 2, 2005

Date	Instance Size Allocated	Average Instance Size Used	Average Instance Size Free
Tue, Mar 29 12:00 AM	1024.00	444.59	579.41
Wed, Mar 30 12:00 AM	1024.00	616.23	407.77
Thu, Mar 31 12:00 AM	1024.00	493.70	530.30
Fri, Apr 1 12:00 AM	1024.00	547.97	476.03
Sat, Apr 2 12:00 AM	1024.00	420.99	603.01


Daily
Monthly
Average Instance Size Usage Trend (MB)
Tue, Mar 29, 2005 - Sun, Apr 3, 2005
Instance Size (MB)
2,000.00
1,600.00
1,200.00
800.00
400.00
0
Mar 29
Mar 30
Mar 31
Apr 01
Apr 02
Apr 03
Average Instance Size Free
Average Instance Size Used

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Database Report Pack

Instance Size Details Top 20 Report

This report shows top 20 Instances sorted based on megabytes allocated, megabytes used and percentage used with one table and a cor
category.

Top 20 Instances

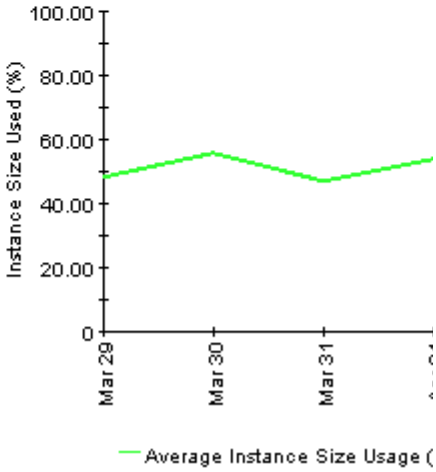
Sorted Based on Average % Used

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Instance Size Allocated	Average Instance Size Used (%)	Average Instance Size Free (%)
ovpihpt3	Ovpihpt3	Oracle	1024.00	53.35	46.65
ovpint4	Ovpint54	Oracle	1024.00	48.32	51.68

Instance Size Usage Tr

Tue, Mar 29, 2005 - Sun, Ap



Top 20 Instances

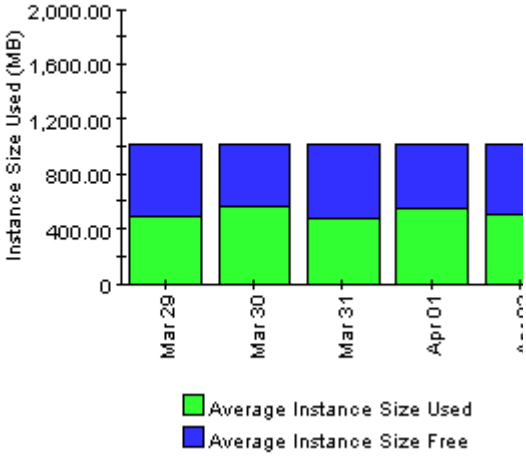
Sorted Based on MegaBytes Used

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Instance Size Allocated	Average Instance Size Used	Average Instance Size Free
ovpihpt3	Ovpihpt3	Oracle	1024.00	546.30	477.70
ovpint4	Ovpint54	Oracle	1024.00	494.84	529.16

Instance Size Usage Trend (M

Tue, Mar 29, 2005 - Sun, Apr 3, 200

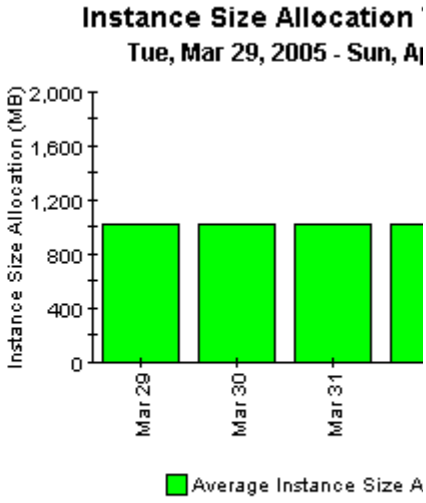


Top 20 Instances

Sorted Based on MegaBytes Allocated

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Instance Size Allocated	Average Instance Size Used	Average Instance Size Free
ovpihpt3	Ovpihpt3	Oracle	1024.00	546.30	477.70
ovpint4	Ovpint54	Oracle	1024.00	494.84	529.16



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5 Generic NRT Reports

There are three generic NRT reports in the Database Report Pack:

1. Instance Availability in Near Real Time
2. Number of Transactions in Near Real Time
3. Number of logons in Near Real Time

Availability NRT

Contains one selection table and one tabbed graph. The selection table looks at actual sample data collected over the previous six hours, not hourly averages. The selection table shows:

- Total Instance Uptime in minutes
- Total Instance Downtime in minutes
- Total Instance Unknowntime in minutes

The selection table sorts instances by Total Instance Uptime, most to least. Use the graph below the selection table to see trending on an hourly, daily, and monthly basis.

Logons NRT

Contains one selection table and one tabbed graph. The selection table looks at actual sample data collected over the previous six hours, not hourly averages. The selection table shows:

- Total logons
- Maximum logons (per hour)
- Minimum logons (per hour)
- Average logons (per hour)

The selection table sorts instances by Total Instance Uptime, most to least. Use the tabbed graph below the selection table to see trending on an hourly, daily, and monthly basis.

Transactions NRT

Contains one selection table and one tabbed graph. The selection table looks at actual sample data collected over the previous six hours, not hourly averages. The selection table shows:

- Total transactions
- Maximum transactions (per hour)
- Minimum transactions (per hour)
- Average transactions (per hour)

The selection table sorts instances by Total Instance Uptime, most to least. Use the tabbed graph below the selection table to see trending on an hourly, daily, and monthly basis.

Database Report Pack
Instance Availability Near Real Time Report

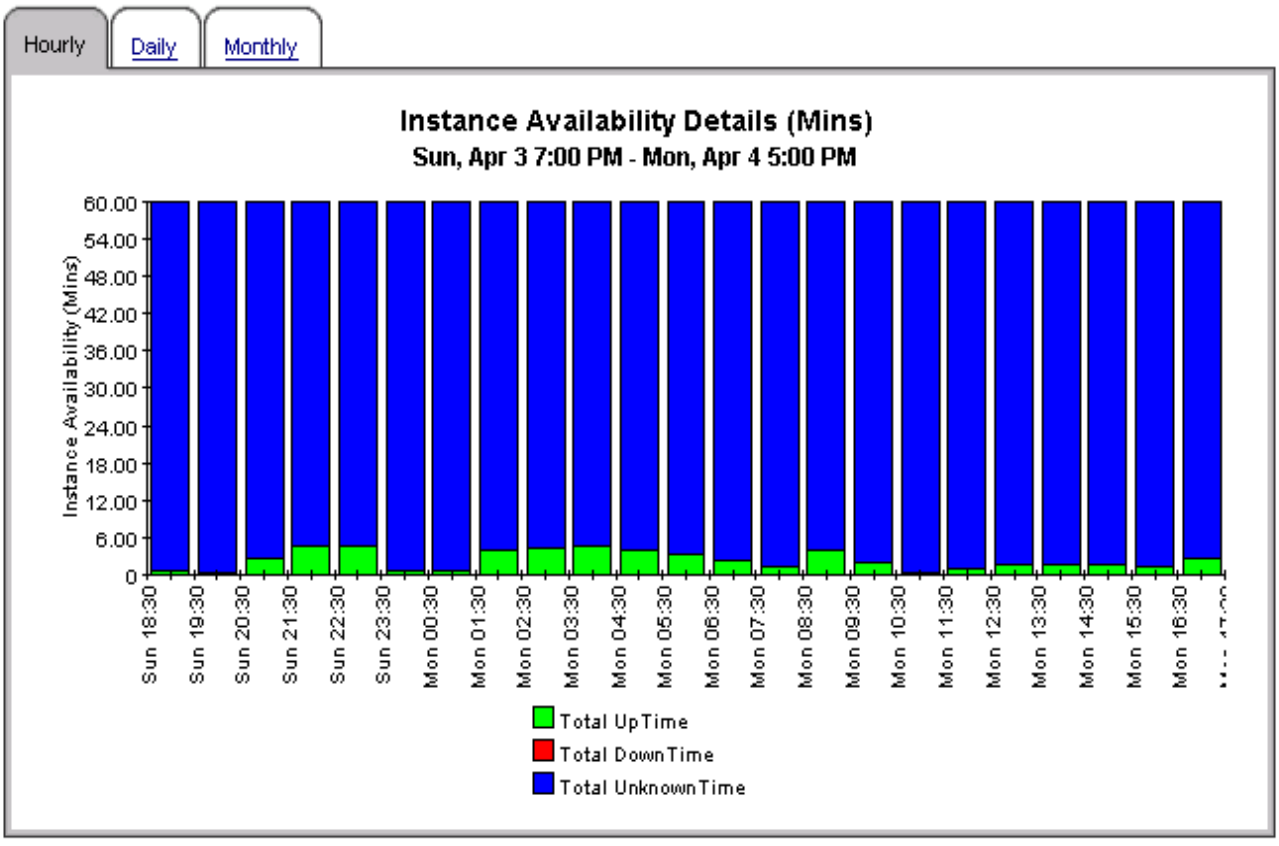
This report shows database instances sorted based on total uptime minutes of the instance. The report also shows total downtime and total unknown time for each instance. In addition it displays hourly, daily and monthly trends for uptime, downtime and unknown time. The daily and monthly trends are in terms of percentages.

Top 20 Instances

Sorted Based On Total Uptime (Mins) For the Previous 6 Hours

System Name	Instance	Vendor	Total Instance UpTime	Total Instance DownTime	Total Instance UnknownTime
ovpint4	Ovpint54	Oracle	10.27	0.00	349.73
ovpihpt3	Ovpihpt3	Oracle	13.83	0.00	346.17

Customer Name	Location Name
Customer Unassigned	Location Unassigned



Database Report Pack
Instance Logons Near Real Time Report

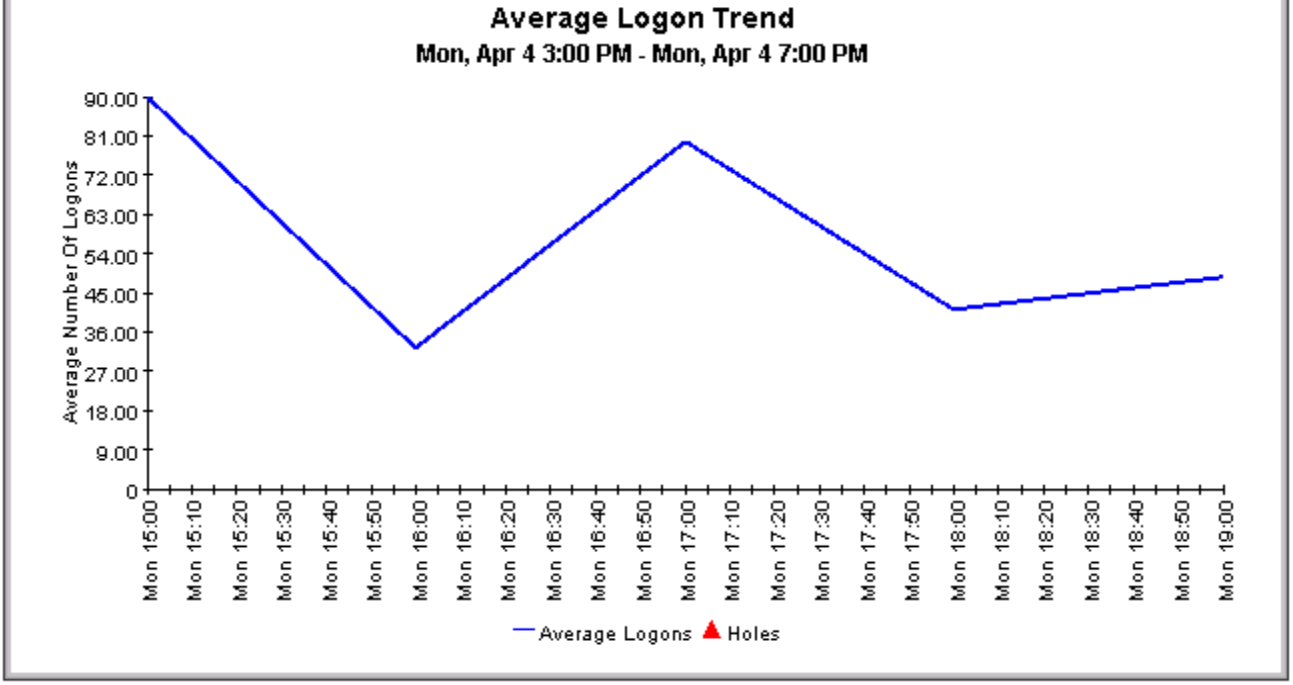
This report shows the number of user logons per instance over a period of last 6 hours. Selecting an instance from the top table gives the logon trend over the for hourly, daily and monthly.

Logon Details Per Instance For Previous 6 Hours

System Name	Instance	Vendor	Total Logons	Maximum Logons	Minimum Logons	Average Logons
ovpint4	Ovpint54	Oracle	359.93	89.86	32.19	59.99
ovpihpt3	Ovpihpt3	Oracle	247.31	86.15	22.13	41.22

Customer Name	Location Name
Customer Unassigned	Location Unassigned

Hourly | Daily | Monthly



Database Report Pack
Instance Transactions Near Real Time Report

This report shows the number of transaction per instance over a period of last 6 hours. Selecting an instance from the top table gives the transaction hourly, daily and monthly trend.

Transaction Details Per Instance for Previous 6 Hours

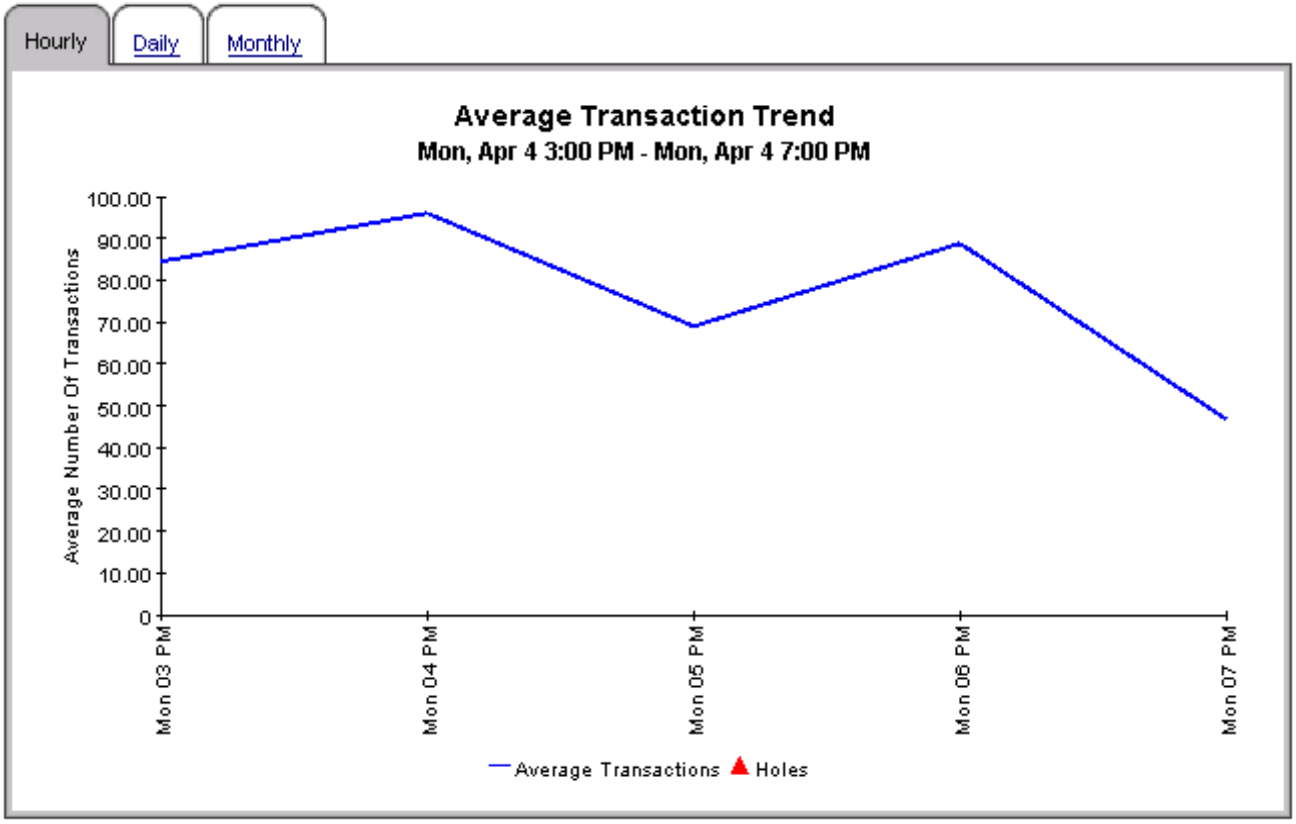
System Name	Instance	Vendor	Total Transactions	Maximum Transactions	Minimum Transactions	Average Transactions
ovpint4	Ovpint54	Oracle	424.63	96.16	39.81	70.77
ovpihpt3	Ovpihpt3	Oracle	329.50	96.63	3.86	54.92

Customer Name

Customer Unassigned

Location Name

Location Unassigned



6 Aggregation Reports

There are to aggregations reports in the Database Report Pack:

- Customer Summary Report
- Location Summary Report

base Report Pack

ner Summary Report

This report will give information about a Customer.Here user can select any customer from left panel and all aggregated information about that customer will be shown in three tables on the right.First table will provide last 2 hrs data. second one provide last day summarized data for one customer. Third one provide monthly summarized data for selected customer.

USTOMER NAME

istomer Unassigned

Customer Usage Details For Last 2 Hrs

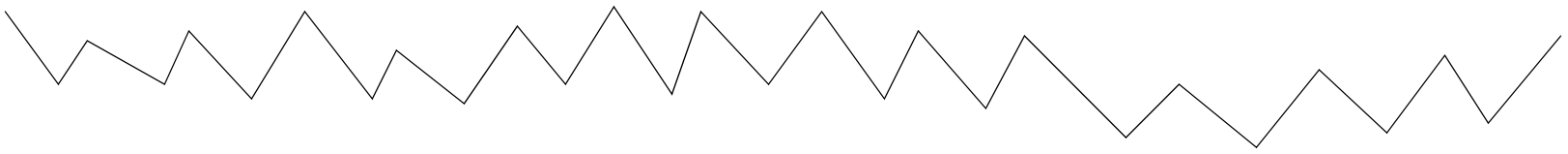
Total Up Time	Total Down Time	Time Period
75.00	0.00	Mon, Apr 11 10:00 AM

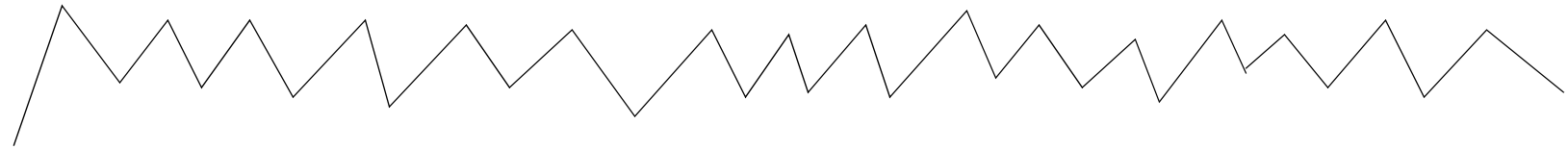
Customer Usage Details For Last Day

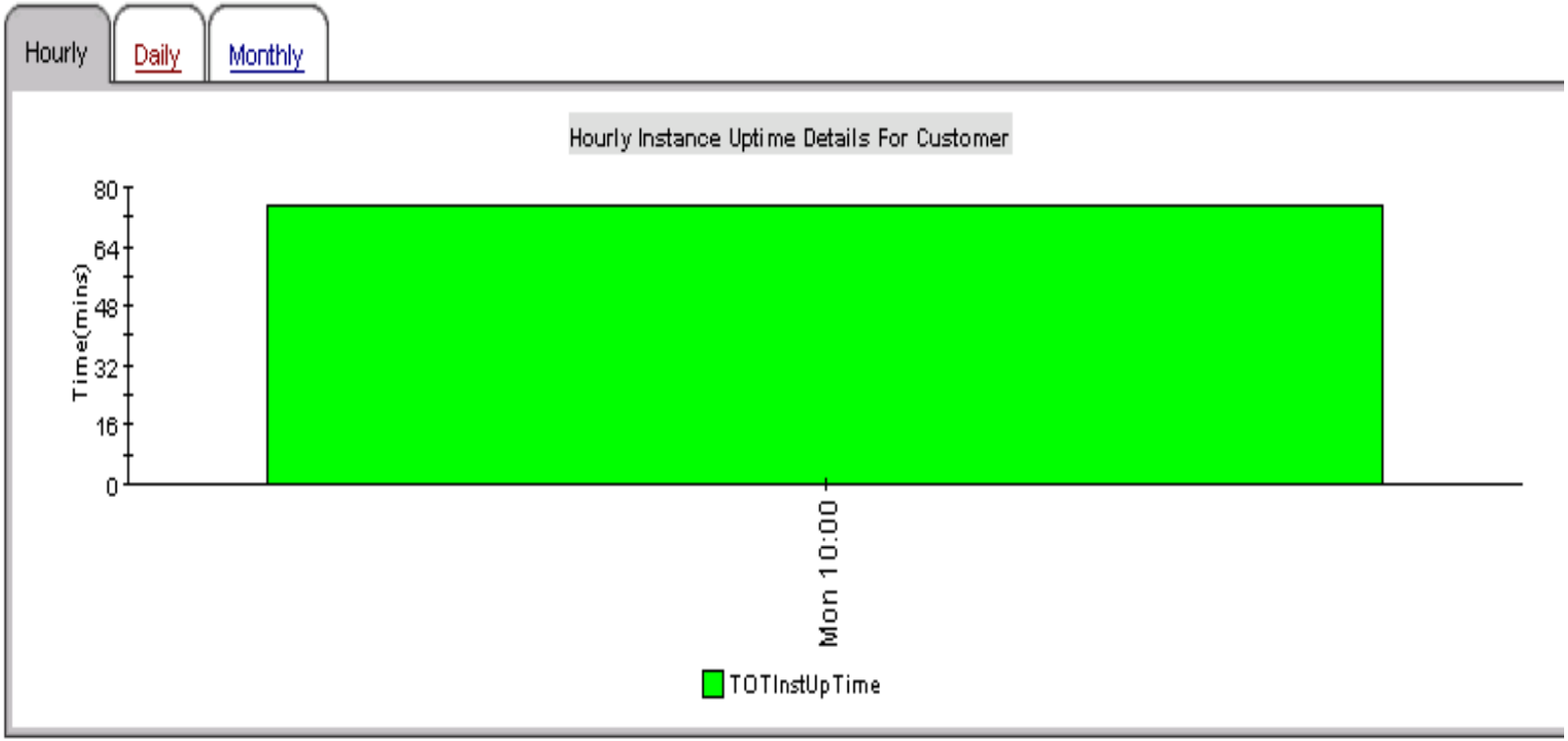
Percentage Instance Uptime	Average Down Time	Average Instance Size Free	Average Instance Logons	Average Instance Size % Used
100.00	0.00	694.10	10.00	60.88

Customer Usage Details For Last Month

Percentage Instance Uptime	Average Down Time	Average Instance Size Free	Average Instance Logons	Average Instance Size % Used
50.14	0.00	507.64	45.99	50.43






Hourly
Daily
Monthly
Hourly Instance Uptime Details For Customer
80
64
48
32
16
0
Time(mins)
Mon 10:00
TOTInstUpTime

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Database Report Pack

Location Summary Report

This report will give information about a Location.Here user can select any Location from left panel and all aggregated information about that Location will be shown in three tables on the right.First table will provide last 2 hrs data. second one provide last day summarized data for one customer. Third one provide monthly summarized data for selected Location.

LOCATION NAME

Location Unassigned

Location Usage Details For Last 2 Hrs

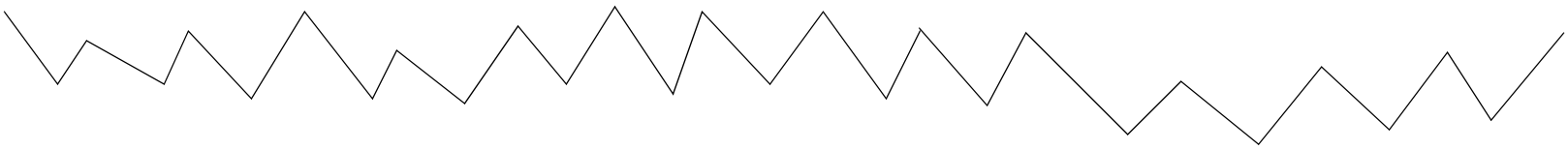
Total UpTime	Total Down Time	Time Period
75.00	0.00	Mon, Apr 11 10:00 AM

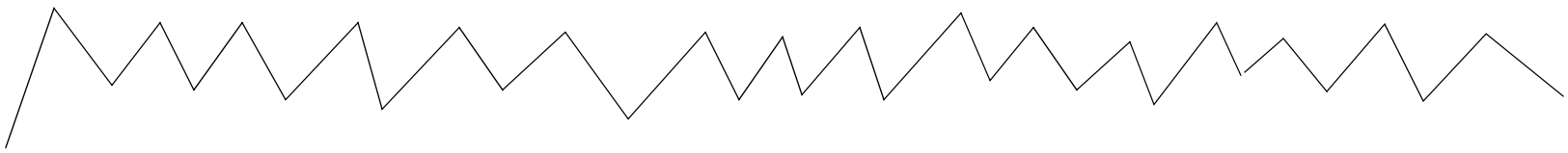
Location Usage Deatils For Last Day

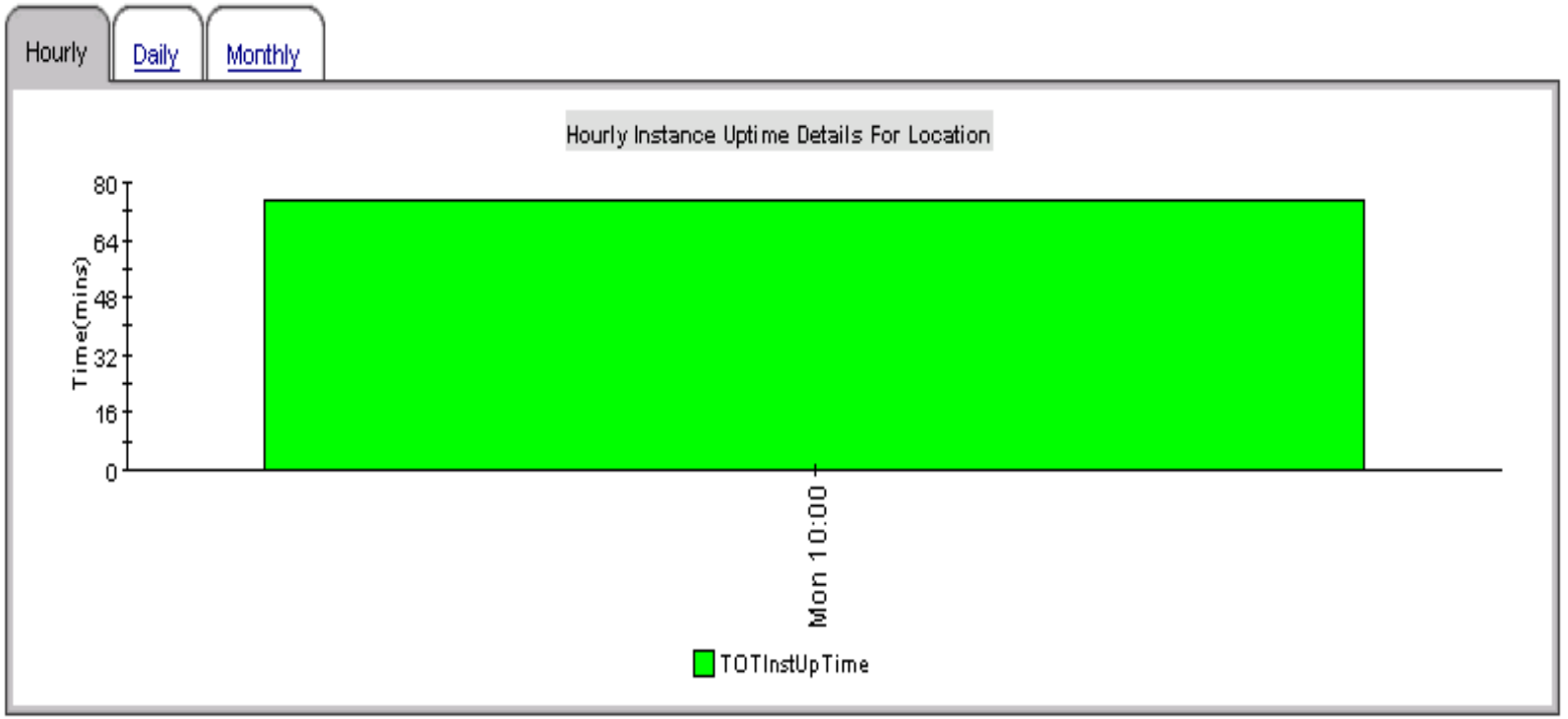
Percentage Instance Uptime	Average Down Time	Average Size Free	Average Logons	Average Size % Used	Time Period
100.00	0.00	694.10	10.00	60.88	Sun, Apr 10 12:00 AM

Location Usage Details For Last Month

Percentage Instance Uptime	Average Down Time	Average Size Free	Average Logons	Average Size % Used
50.14	0.00	507.64	45.99	50.43






Hourly
Daily
Monthly
Hourly Instance Uptime Details For Location
80
64
48
32
16
0
Time(mins)
Mon 10:00
TOTInstUpTime

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7 Selector & QuickView

Database Report Pack

Adhoc Instance Selector

This report allows you to filter the entire database instance set by several common criteria. The table below will then refresh showing you which instance comply with the drop down selections. If you are accessing the report from the web interface you can then cross launch many other reports with information relating to the selected instance.

Choose System | Choose Customer | Choose Vendor

Choose Instance | Choose Location

Instance Details

Mon, Apr 25 12:00 AM [GMT+05:30]

System Name	Instance	Vendor	Customer	Location	Average Instance Uptime	Average Instance Logons	Average Instance Transactions	Average Instance Percentage Size Used
ovpihpt3	Ovpihpt3	Oracle	Customer Unassigned	Location Unassigned	2.45			53.35
ovpint4	Ovpint54	Oracle	Customer Unassigned	Location Unassigned	2.90			48.32

Database Report Pack

Instance Quickview Report

This report gives as quick graphical overview of database instances providing such details as logons, transactions, instance size usage and availability.

System Name ovpint4

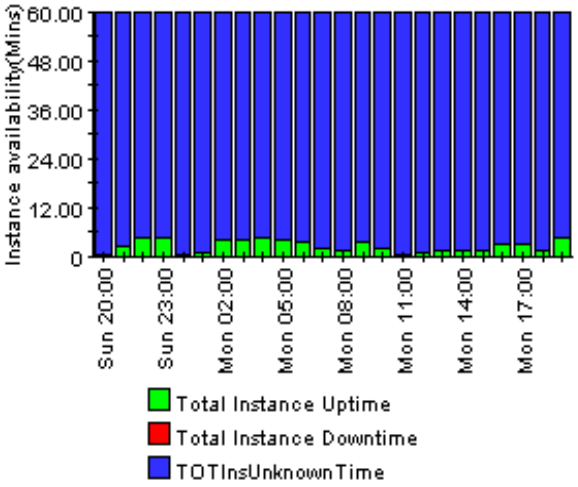
Vendor Oracle

Instance Name Ovpint54

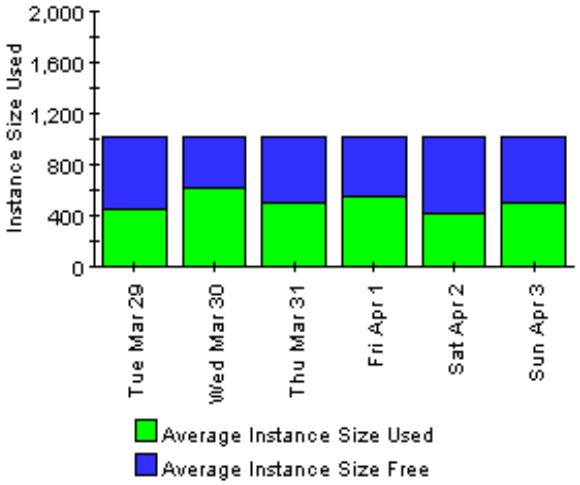
Customer
Customer Unassigned

Location
Location Unassigned

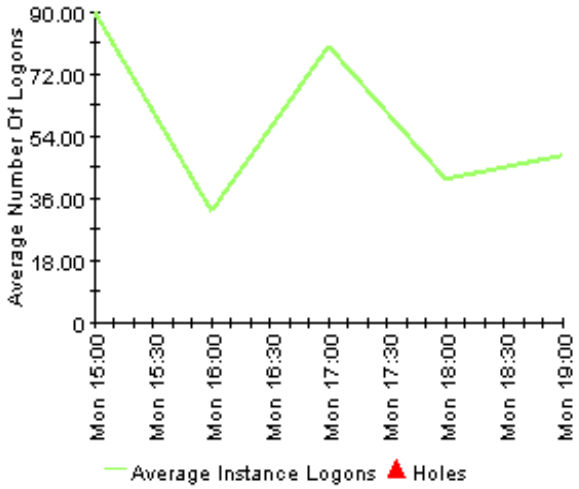
Instance Availability NRT Details
Sun, Apr 3 8:00 PM - Mon, Apr 4 7:00 PM



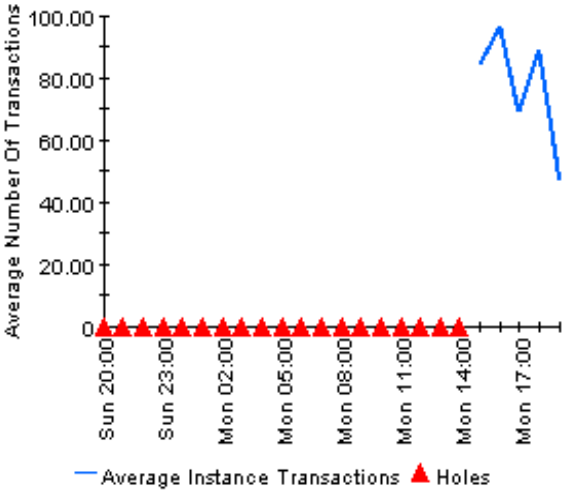
Instance Size Usage Trend(MB)
Tue, Mar 29, 2005 - Sun, Apr 3, 2005



Average Logon Trend
Mon, Apr 4 3:00 PM - Mon, Apr 4 7:00 PM



Average Transaction Trend
Sun, Apr 3 8:00 PM - Mon, Apr 4 7:00 PM



8 Oracle Segment Reports

There are two segment reports in the Database Report Pack:

- Segment Size History
- Segment Size Details

Database Report Pack
Segment Size History Report

This report shows the top segments which had the most dynamic space allocation over the reporting interval.The top segments were selected using the standard deviation of the amount of space allocated. The graph also shows historical trends for the size allocated on daily and monthly basis.

Top 20 Segments

Sorted Based On Most Dynamic Space Allocation

Mon, Mar 28, 2005 - Mon, Mar 28, 2005

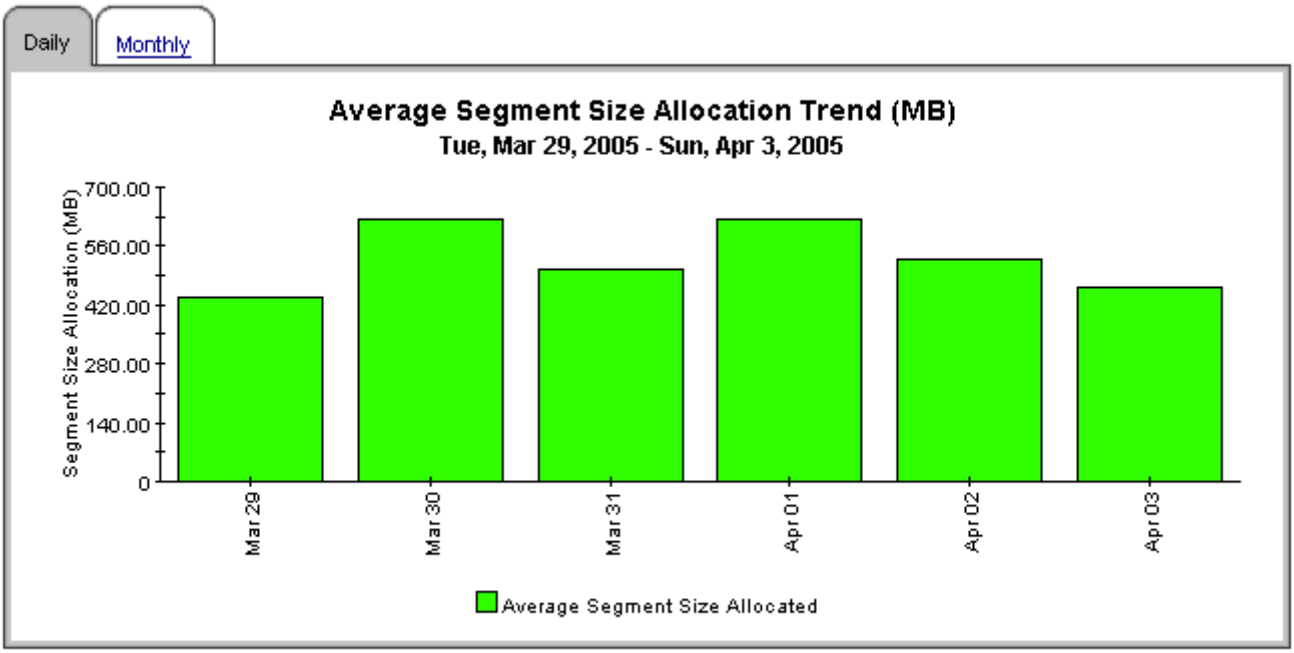
System Name	Instance	Vendor	Segment Name	Average Size Allocated	Dynamic Size Allocation
ovpint4	Ovpint54	Oracle	EXAMPLE.SH.COSTS	530.49	79.53
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE.SH.PRODUCTS	483.86	57.99
ovpint4	Ovpint54	Oracle	SYSTEM.SYS.I_SOURCE1	507.21	55.80
ovpihpt3	Ovpihpt3	Oracle	SYSTEM.SYS.I_OBJ2	536.41	52.79

Customer Name	Location Name
Customer Unassigned	Location Unassigned

Segment Size Allocation Details

Tue, Mar 29, 2005 - Sat, Apr 2, 2005

Time Period	Average Segment Size Allocated
Tue, Mar 29 12:00 AM	436.48
Wed, Mar 30 12:00 AM	623.78
Thu, Mar 31 12:00 AM	504.08
Fri, Apr 1 12:00 AM	625.03
Sat, Apr 2 12:00 AM	529.75


Daily
Monthly
Average Segment Size Allocation Trend (MB)
Tue, Mar 29, 2005 - Sun, Apr 3, 2005
Segment Size Allocation (MB)
700.00
560.00
420.00
280.00
140.00
0
Mar 29
Mar 30
Mar 31
Apr 01
Apr 02
Apr 03
Average Segment Size Allocated

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Database Report Pack
Segment Size Details Report

This report shows the top 20 segments sorted by megabytes allocated. Selecting a segment from the top table gives the daily and monthly usage trends for the segment.

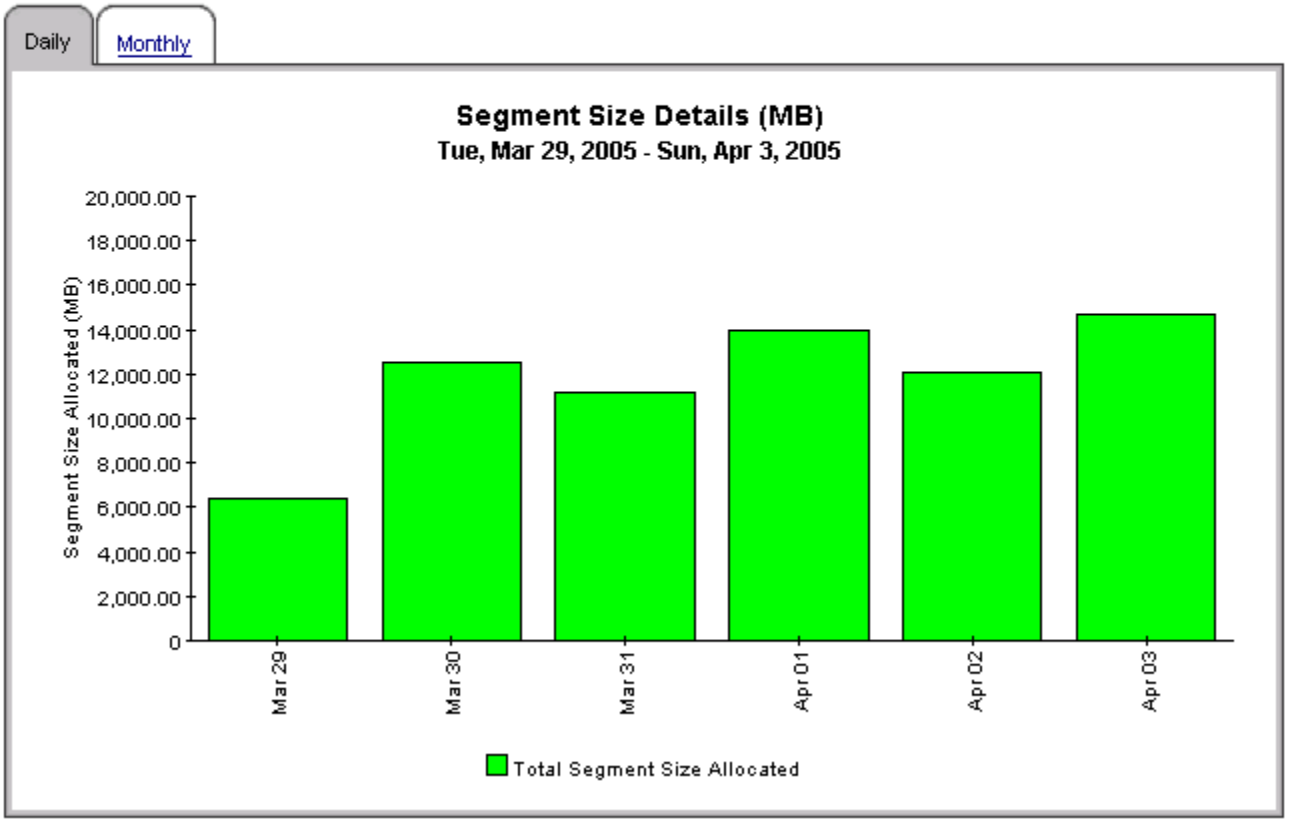
Top 20 Segments
Sorted Based on Total Allocated Size (MB)

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Segment Name	Total Segment Size Allocated
ovpihpt3	Ovpihpt3	Oracle	SYSTEM.SYS.I_OBJ2	14670.99
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE.SH.PRODUCTS	12545.87
ovpint4	Ovpint54	Oracle	SYSTEM.SYS.I_SOURCE1	11840.32
ovpint4	Ovpint54	Oracle	EXAMPLE.SH.COSTS	11131.27

Customer Name	Location Name
Customer Unassigned	Location Unassigned

Daily | Monthly



9 Oracle Tablespace Reports

There are five tablespace reports in the Database Report Pack:

- Tablespace Physical I/O Top 20
- Tablespace Size History
- Tablespace Size Allocated Top 20
- Tablespace Size Used Top 20
- Tablespace Size Percentage Used Top 20

Database Report Pack

Tablespace Physical IO Top 20 Report

This report shows the top 20 tablespace by physical I/O (reads plus writes) for the previous week. Selecting a tablespace from the top table, shows the daily and monthly I/O trends for the tablespace.

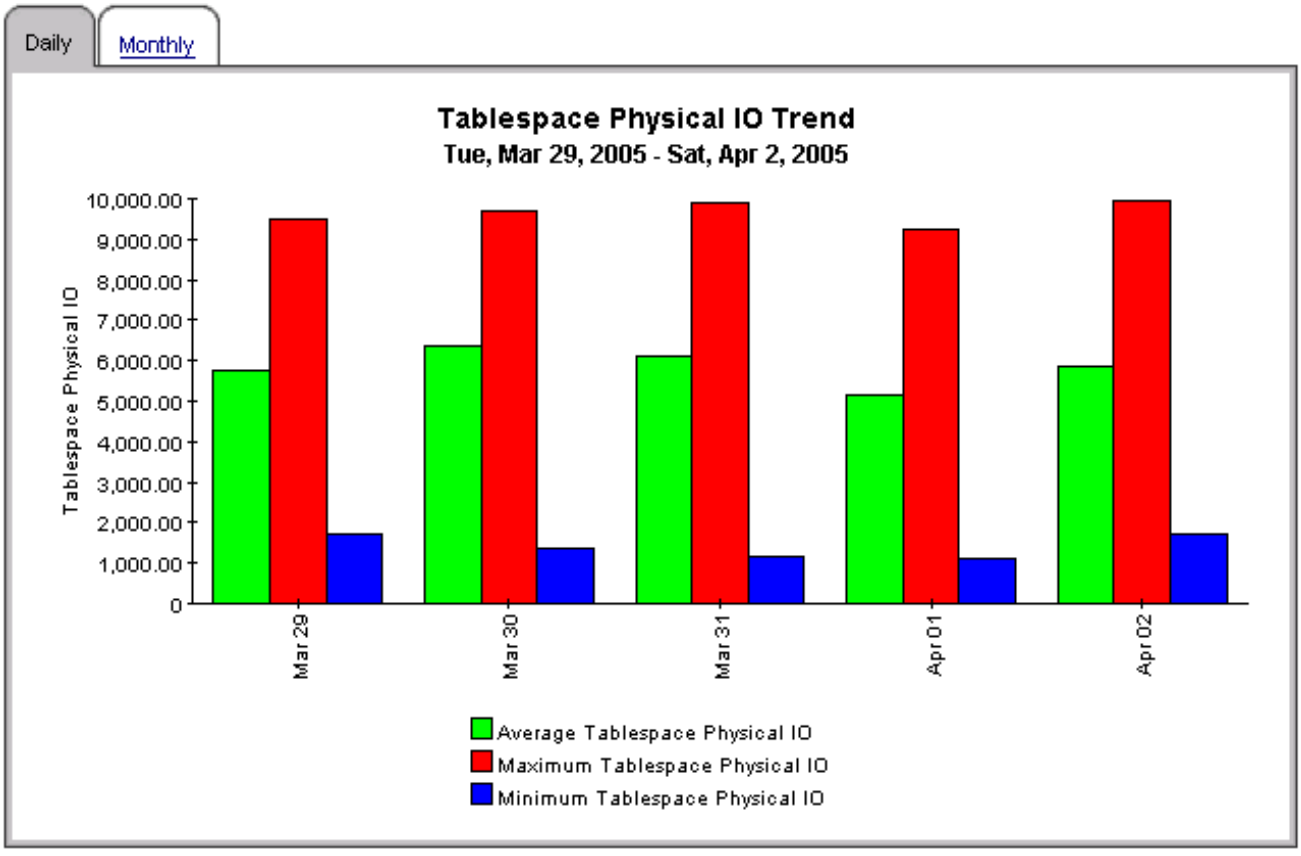
Top 20 Tablespaces

Sorted Based On Total Physical IO

Sun, Apr 17, 2005 - Sun, Apr 24, 2005 [GMT+05:30]

System Name	Instance Name	Vendor	Tablespace Name	Total Physical IO	Maximum Physical IO	Minimum Physical IO	Average Physical IO
ovpint4	Ovpint54	Oracle	DRSYS	762673.54	9961.55	1099.64	5777.78
ovpint4	Ovpint54	Oracle	CWMLITE	756694.76	9918.15	1229.29	5705.92
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE	737823.59	9952.93	1225.10	5532.06
ovpint4	Ovpint54	Oracle	SYSTEM	733414.21	9925.98	1153.64	5640.42
ovpihpt3	Ovpihpt3	Oracle	XDB	724070.33	9971.07	1107.64	5424.47
ovpint4	Ovpint54	Oracle	USERS	703221.52	9696.91	1037.66	5279.53

Daily | Monthly



Database Report Pack
Tablespace Size History Report

This report shows the top tablespaces which had the most dynamic space usage over the reporting interval.The top tablespaces were selected using the standard deviation of the amount of space used. The graph also shows historical trends for the size usage on daily and monthly basis.

Top 20 Tablespaces

Sorted Based On Most Dynamic Space Usage

Mon, Mar 28, 2005 - Mon, Mar 28, 2005

System Name	Instance Name	Vendor	Tablespace Name	Average Size Allocated	Dynamic Space Usage	Average Size Free
ovpihpt3	Ovpihpt3	Oracle	XDB	1024.00		496.58
ovpint4	Ovpint54	Oracle	USERS	1024.00	71.92	487.72
ovpint4	Ovpint54	Oracle	SYSTEM	1024.00	71.54	521.38
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE	1024.00	62.41	507.92
ovpint4	Ovpint54	Oracle	DRSYS	1024.00	50.02	538.00
ovpint4	Ovpint54	Oracle	CWMLITE	1024.00	36.88	532.07

Customer Name

Customer Unassigned

Location Name

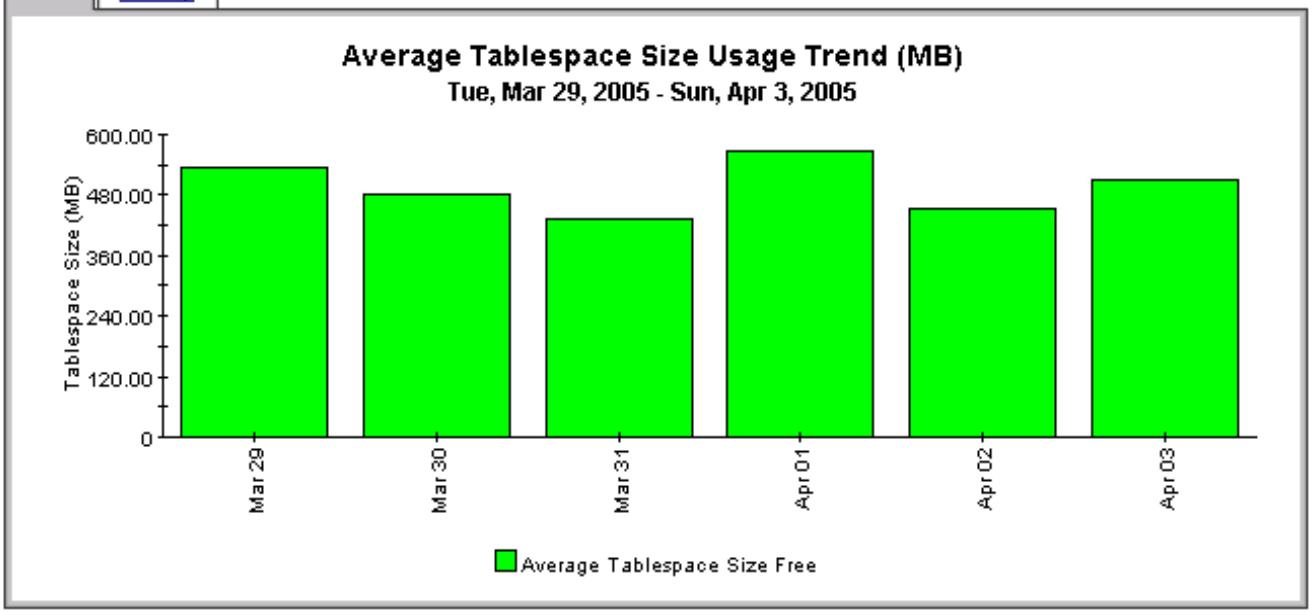
Location Unassigned

Tablespace Size Usage Details

Tue, Mar 29, 2005 - Sun, Apr 3, 2005

Date	Average Size Allocated	Average Size Used	Average Size Free
Tue, Mar 29 12:00 AM	1024.00		534.08
Wed, Mar 30 12:00 AM	1024.00		480.73
Thu, Mar 31 12:00 AM	1024.00		433.26
Fri, Apr 1 12:00 AM	1024.00		566.98
Sat, Apr 2 12:00 AM	1024.00		454.78
Sun, Apr 3 12:00 AM	1024.00		509.68

Daily | Monthly



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Database Report Pack
Tablespace Size Allocated Top 20 Report

The report shows top 20 tablespaces across all instances sorted based on megabytes allocated in the top table with a graph showing the daily trend for the tablespace selected from the top table.

Top 20 Tablespaces

Sorted Based on Average Megabytes Allocated (MB)

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Tablespace Name	Average Megabytes Allocated	Average Megabytes Used	Average Megabytes Free
ovpint4	Ovpint54	Oracle	DRSYS	1024.00	533.02	490.98
ovpint4	Ovpint54	Oracle	USERS	1024.00	583.02	440.98
ovpint4	Ovpint54	Oracle	SYSTEM	1024.00	595.55	428.45
ovpint4	Ovpint54	Oracle	CWMLITE	1024.00	434.89	589.11
ovpihpt3	Ovpihpt3	Oracle	XDB	1024.00		509.68
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE	1024.00	600.46	423.54

Customer Name

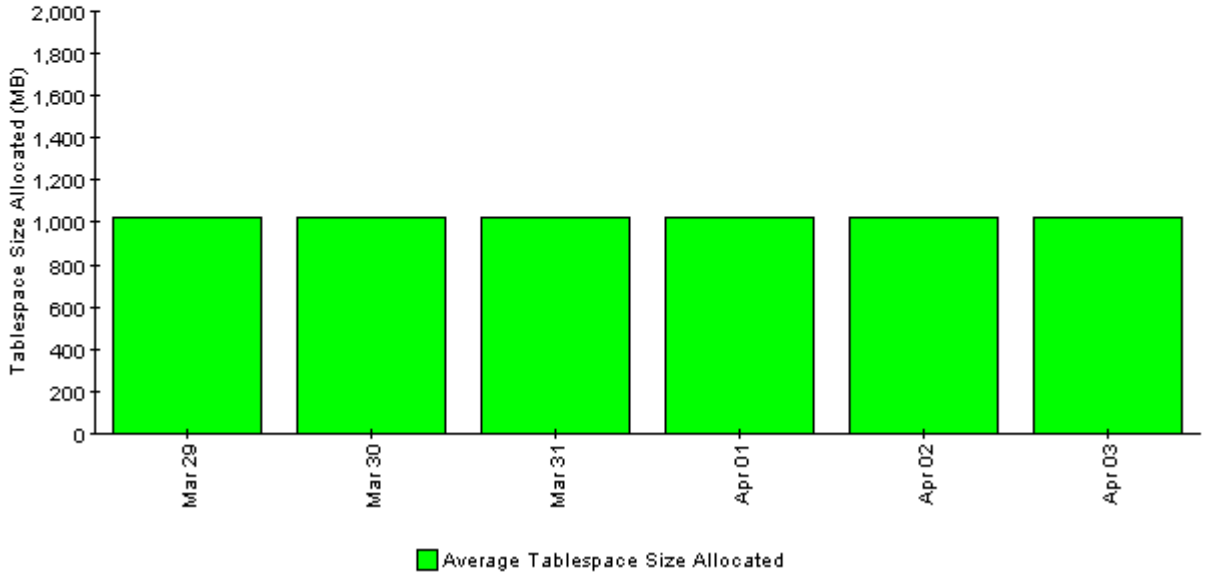
Customer Unassigned

Location Name

Location Unassigned

Average Tablespace Size Allocated (MB)

Tue, Mar 29, 2005 - Sun, Apr 3, 2005



Database Report Pack
Tablespace Size Used Top 20 Report

The report shows top 20 tablespaces across all instances sorted based on megabytes used in the top table with a graph showing the daily trend for the tablespace selected from the top table.

Top 20 Tablespaces

Sorted Based on Average Megabytes Used (MB)

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Tablespace Name	Average Megabytes Allocated	Average Megabytes Used
ovpihpt3	Ovpihpt3	Oracle	XDB	1024.00	
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE	1024.00	600.46
ovpint4	Ovpint54	Oracle	SYSTEM	1024.00	595.55
ovpint4	Ovpint54	Oracle	USERS	1024.00	583.02
ovpint4	Ovpint54	Oracle	DRSYS	1024.00	533.02
ovpint4	Ovpint54	Oracle	CWMLITE	1024.00	434.89

Customer Name

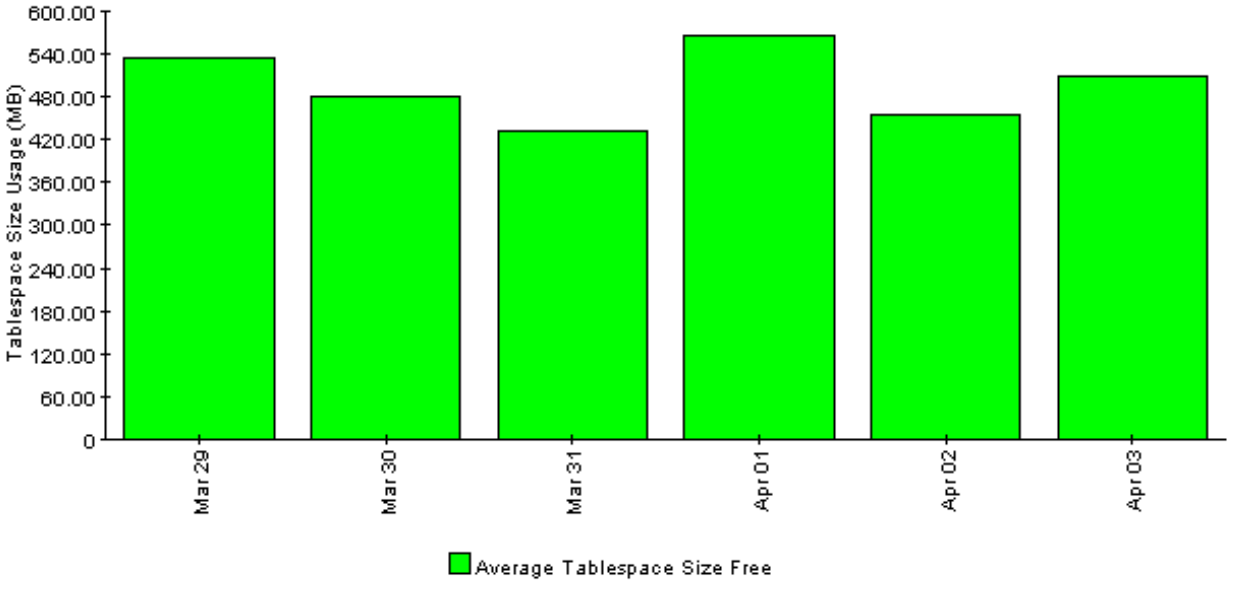
Customer Unassigned

Location Name

Location Unassigned

TableSpace Size Usage Details (MB)

Tue, Mar 29, 2005 - Sun, Apr 3, 2005



Database Report Pack

Tablespace Size Percentage Used Top 20 Report

The report shows top 20 tablespaces across all instances sorted based on percentage tablespace size used in the top table with a graph showing the daily trend for the selected tablespace from the top table.

Top 20 Tablespaces

Sorted Based on Percentage Used

Sun, Apr 3, 2005 - Sun, Apr 3, 2005

System Name	Instance Name	Vendor	Tablespace Name	Total Space Allocated	Percent Used
ovpihpt3	Ovpihpt3	Oracle	EXAMPLE	24576.00	29.32
ovpint4	Ovpint54	Oracle	SYSTEM	24576.00	29.08
ovpint4	Ovpint54	Oracle	USERS	24576.00	28.47
ovpint4	Ovpint54	Oracle	DRSYS	24576.00	26.03
ovpint4	Ovpint54	Oracle	CVMLITE	24576.00	21.23
ovpihpt3	Ovpihpt3	Oracle	XDB	24576.00	0.00

Customer Name

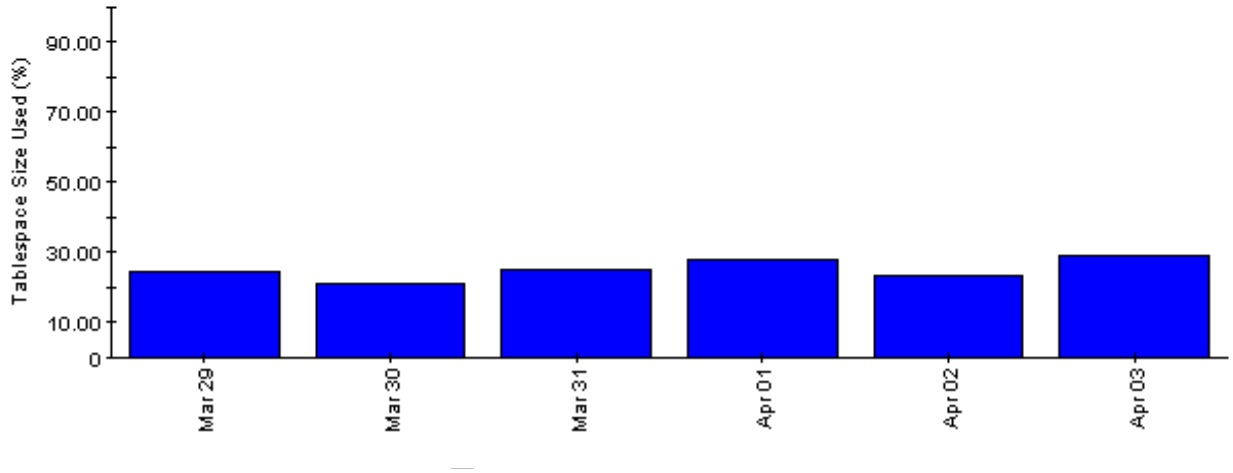
Customer Unassigned

Location Name

Location Unassigned

Tablespace Usage Trend (%)

Tue, Mar 29, 2005 - Sun, Apr 3, 2005



A Formulas

Main Package Formulas

If a metric cannot be collected directly from the EPC sub-agent, OVPI calculates it. The following table indicates how each metric is calculated.

Metric	How the Metric is Calculated
Instance uptime	Time in minutes the database instance was up
Instance downtime	Time in minutes the database instance was down
Instance unknowntime	Time that is unaccounted for, time when the instance was neither up nor down = (60 – Uptime – Downtime)
Instance percent uptime	Average Percent Up time of database instance = (InstUpTime/60) * 100
Instance percent downtime	Average Percent Down time of database instance = (InstDownTime/60) * 100
Instance percent unknowntime	Average Unknown time of database instance = ((InstUpTime+InstDownTime)/60) * 100
Instance size allocated	Total size of memory allocated by this instance, measured in megabytes
Instance size free	Amount of memory still free from the total allocated, measured in megabytes
Instance size used	Amount of memory used, measured in megabytes = (InstanceSizeAllocated – InstanceSizeFree)
Instance size percent used	Average Percent Instance Size Used = (InstSizeUsed/ InstSizeAllocated) * 100
Instance size percent free	Average Percent Instance Size Used = (InstSizeFree/ InstSizeAllocated) * 100

Oracle Sub-Package Formulas

The following formulae are used to calculate metrics for reports in the Oracle sub-package.

Metric	How the Metric is Calculated
Tablespace Size Allocated	Total size of Tablespace, measured in megabytes

Metric	How the Metric is Calculated
Tablespace Size Free	Amount of free Tablespace size, measured in megabytes
Tablespace Size Used	Amount of used Tablespace size, measured in megabytes = (TblSpaceSizeAllocated – TblSpaceSizeFree)
Tablespace Size Percent Used	Average Percent Tablespace Size Used = (InstSizeUsed/ InstSizeAllocated) * 100
Tablespace Size Percent Free	Average Percent Tablespace Size Used = (InstSizeFree/ InstSizeAllocated) * 100
Segment Size Allocated	Total size of segment, measured in megabytes
Instance Logons	Number of logons for an instance
Instance Transactions	Number of transaction for an instance
I/O	Number of physical I/O operations for a tablespace

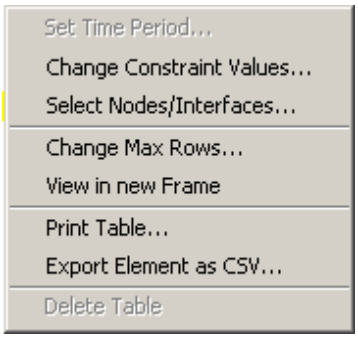
B Editing Tables and Graphs

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 a web browser to view the report, follow these steps to change the default view:

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.

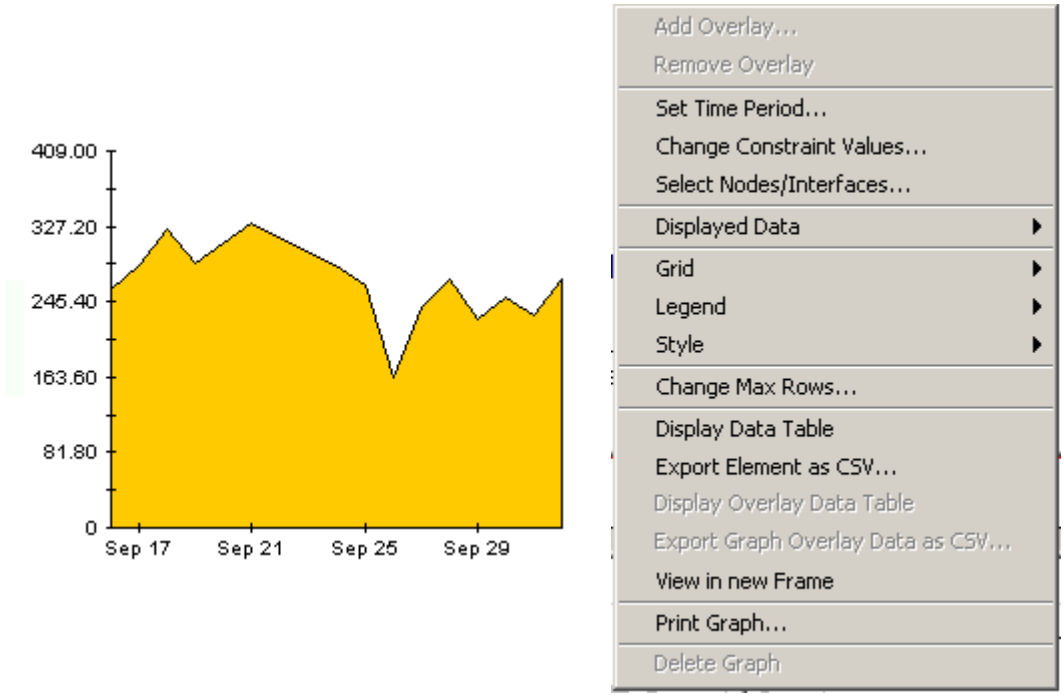
Table Viewer

Polled IP QoS Statistics Data - Input
Over Previous 6 Hours

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

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.

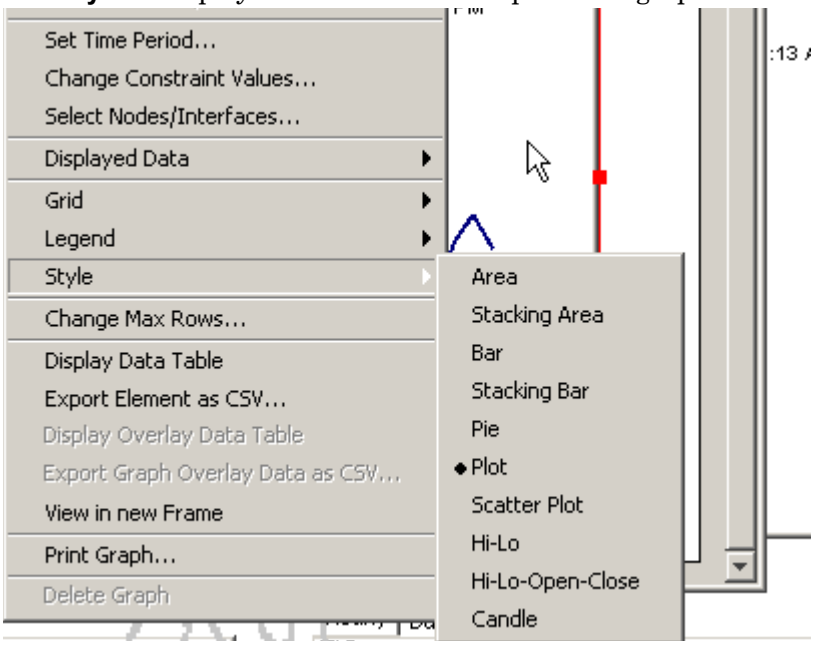


The following table provides details about each option.

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 the illustrations below.
Change Max Rows...	Same as the table option shown above.
Display Data Table	See below.
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.

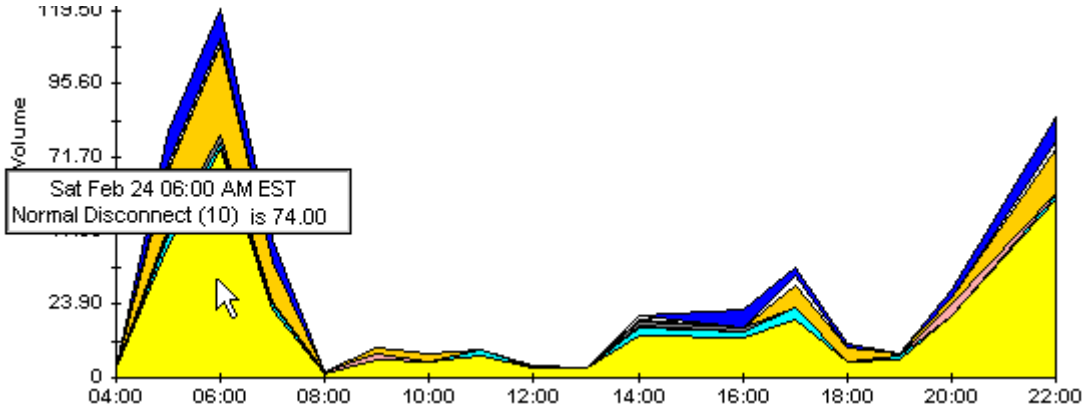
Style Options

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



Style > Area

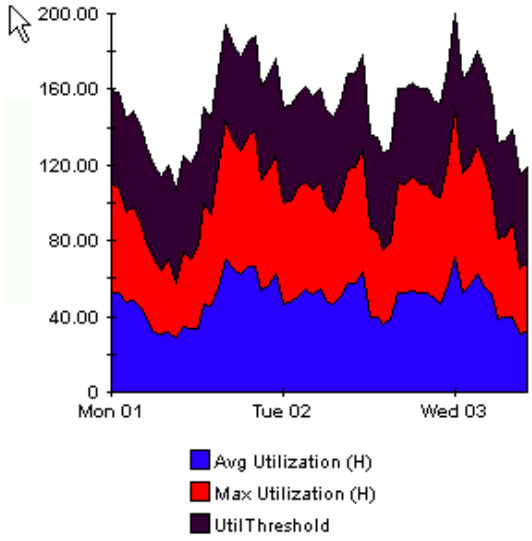
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



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.

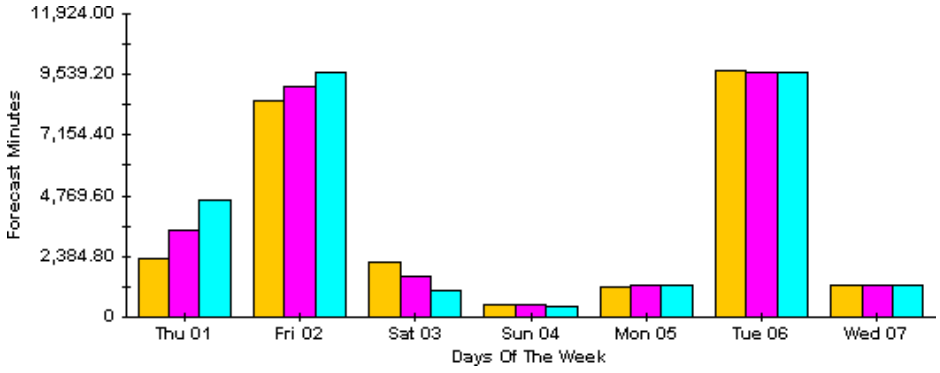
Style > Stacking Area

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



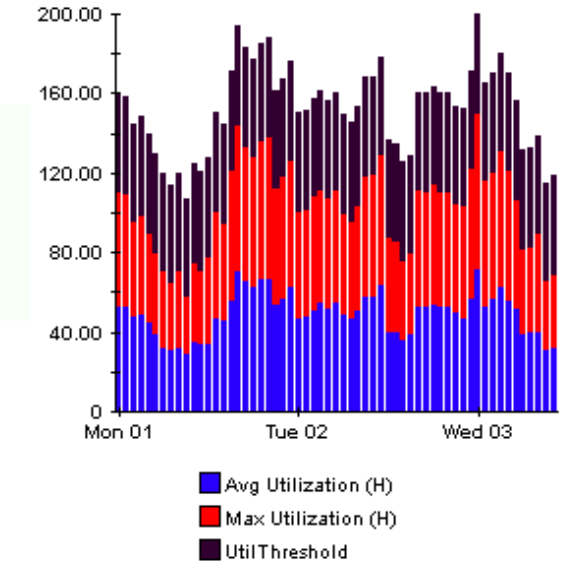
Style > Bar

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.



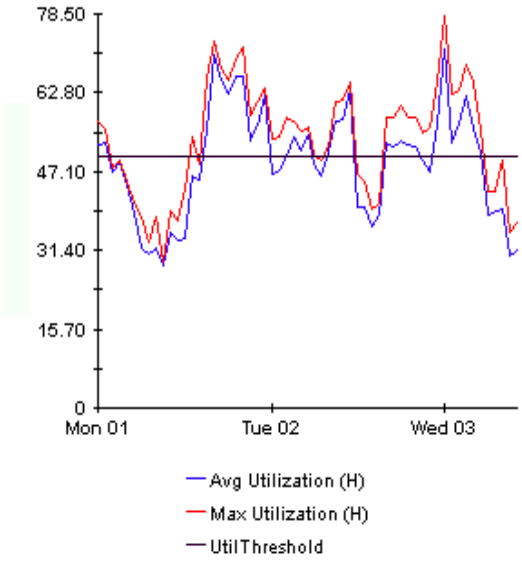
Style > Stacking Bar

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 ten.



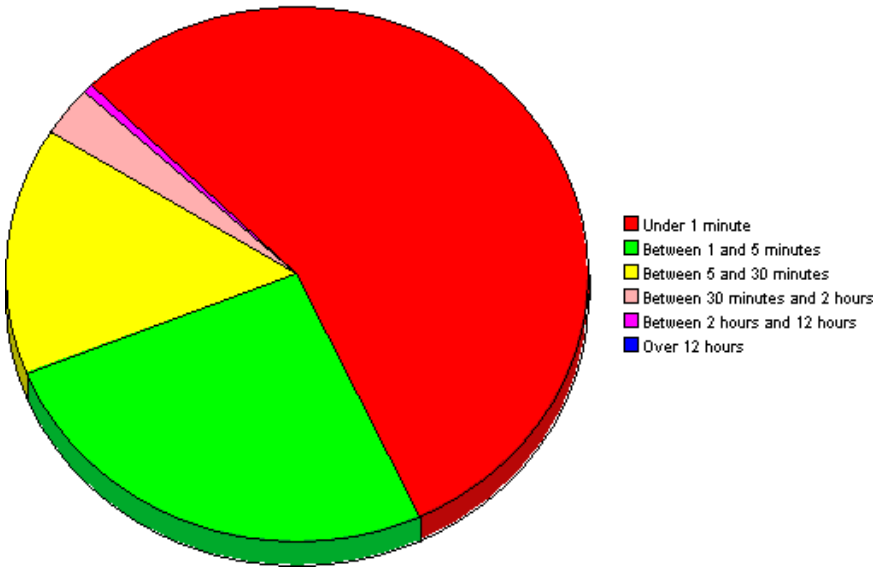
Style > Plot

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

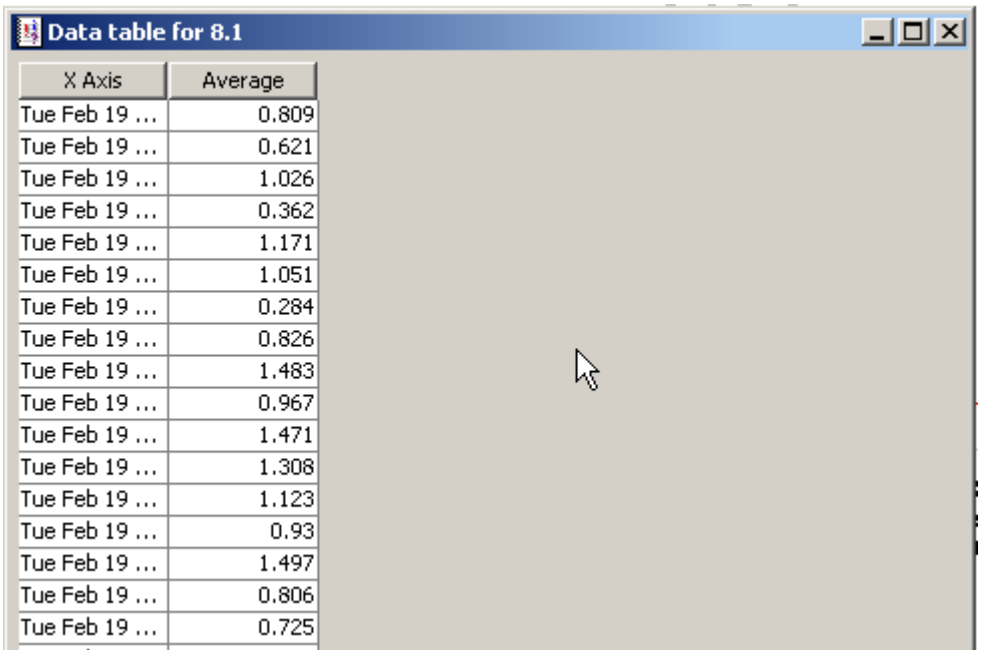
An area graph becomes a pie chart. Bands in an area graph convert to slices of a pie and the pie constitutes a 24-hour period. This view is helpful when a small number of data values are represented and you are looking at data for one day.



If you are looking at data covering several days, you will see multiple pie graphs, one for each day.

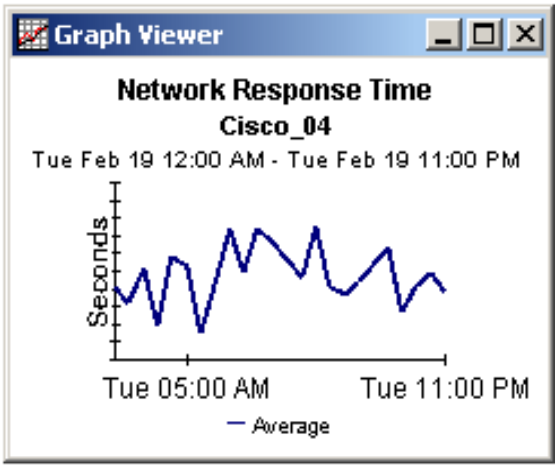
Display Data Table

This option changes a graph into a spreadsheet.



View in New Frame

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



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