

HP OpenView Performance Insight

Report Pack for RMON2 Traffic Profiling User Guide

Software Version: 2.0

Reporting and Network Solutions



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Overview

This chapter covers the following topics

- OVPI and RMON
- Folders and reports
- Managed objects
- Role of the RMON2 Traffic Profiling Datapipe

OVPI and RMON

The RMON2 Traffic Profiling Report Pack provides a series of reports designed to highlight utilization of and traffic patterns on network interfaces. This view of performance is produced by HP OpenView Performance Insight (OVPI), the core platform responsible for collecting data, summarizing data by hour, day, and month, and performing numerous calculations.

RMON2 Traffic Profiling displays statistics for the following metrics:

- Utilization
- Percentage of total interface traffic
- Bytes
- Average bytes per packet

Folders and Reports

The RMON2 Traffic Profiling Report Pack includes fifteen reports. If you are logging into the Application Server, you see three folders: ALMATRIX, HOST, and TOP_TEN.

The ALMATRIX folder contains the following reports:

- Daily ALMATRIX Details
- Daily ALMATRIX Summary
- Hourly ALMATRIX Details
- Hourly ALMATRIX Summary
- Monthly ALMATRIX Detail
- Monthly ALMATRIX Summary

The HOST folder contains the following reports

- Daily Host Detail
- Daily Host Summary
- Hourly Host Detail
- Hourly Host Summary
- Monthly Host Detail
- Monthly Host Summary

The TOP_TEN folder contains the following reports:

- Daily Top Ten
- Hourly Top Ten
- Monthly Top Ten

The reports in the ALMATRIX and HOST folders allow you to drill down from a given network interface to view usage patterns and trends.

Summary reports aggregate data by application and host devices and display hourly, daily, and monthly trending analysis. Use these reports to find out whether recent excess traffic was a short-lived anomaly or a longer-standing trend that requires corrective action.

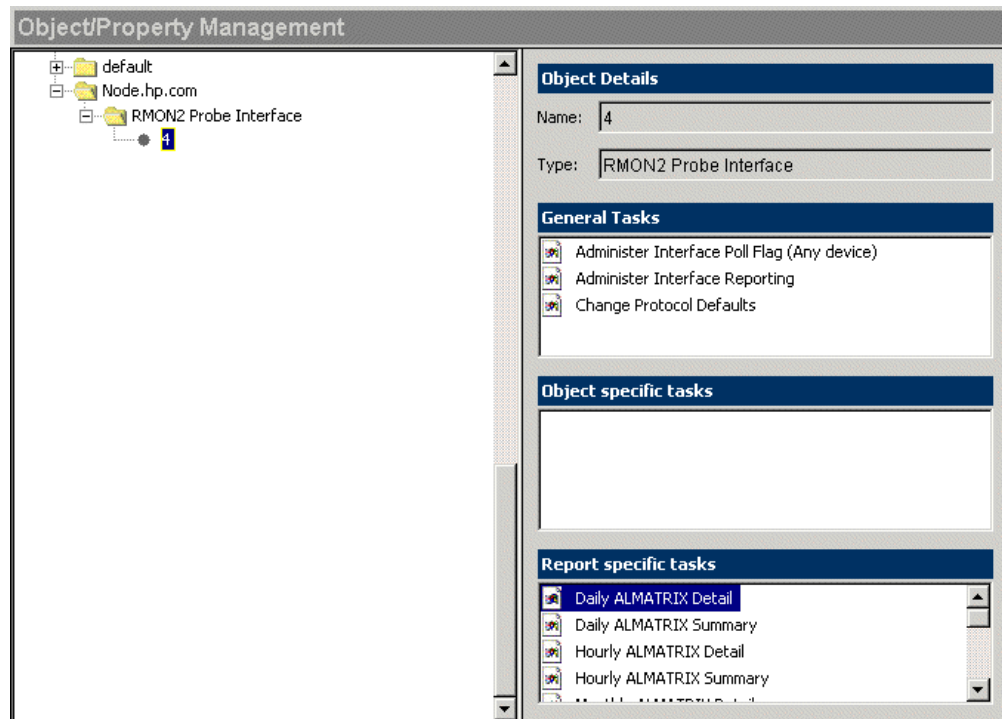
Detail reports drill down further on Summary report data, allowing you to see the contribution of source/destination and host/protocol combinations.

Top Ten reports display the top ten protocols/applications and hosts with the greatest impact on interface utilization.

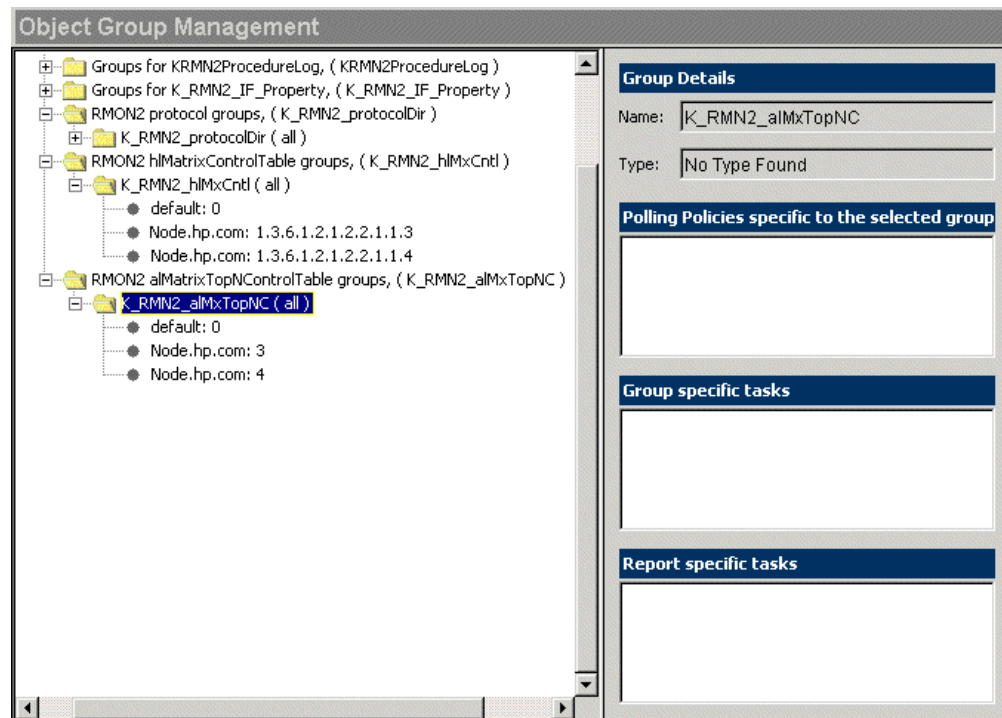
Managed Objects

Object Manager is an application that is available from the Management Console and lets you view and change certain properties of the managed objects on your system.

The RMON2 Traffic Profiling Report Pack adds the following objects to the object tree:



The RMON2 Traffic Profiling Report Pack adds the following groups to the object tree:

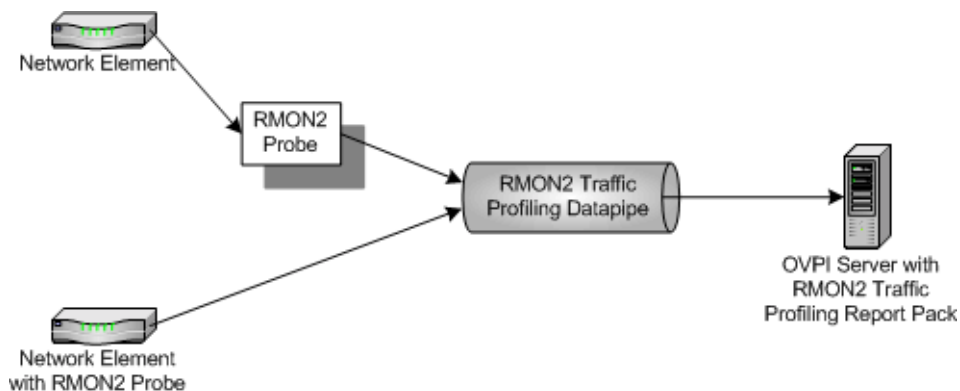


Role of the RMON2 Traffic Profiling Datapipe

RMON2 (remote monitoring) is an SNMP MIB that provides information about network traffic, specifically, application/protocol traffic. The RMON2 Traffic Profiling Datapipe has two functions:

- Gather RMON2 statistics from configured RMON2 probes
- Load the results into OVPI

Gathering ALMATRIX data from RMON2 and loading the results takes place every 15 minutes. If desired, the default polling cycle can be changed.



Supported RMON2 Probes

The RMON2 Traffic Profiling Report Pack supports the following RMON2 probes:

- Agilent
- Cisco NAM
- NetScout

Upgrade, Installation, and Removal

This chapter covers the following topics:

- Prerequisites
- Package Upgrade
- Package Installation
- Package Removal

Prerequisites

To successfully upgrade or install the RMON2 Traffic Profiling Report Pack, do the following:

- 1 Review the software requirements.
- 2 Review the guidelines for distributed systems.
- 3 Complete the prerequisites for upgrade/installation.

Software Requirements

The following software must be installed before installing the RMON2 Traffic Profiling Report Pack.

Software	Version
OVPI ^a	5.0 and all available service packs
Common Property Tables	3.0
Interface Discovery Datapipe	2.0

a. Although OVPI 5.0 supports both Sybase Adaptive Server and Oracle database management systems, the RMON2 Traffic Profiling Report Pack only supports the Sybase Adaptive Server database management system.

If you need help installing OVPI, refer to the following manuals:

- *OVPI Installation Guide*
- *OVPI Release Notes*

If you have already installed OVPI but have not installed the Interface Discovery Datapipe nor the Common Property Tables, you may install these packages by themselves, or you may install these packages at the same time you install the RMON2 Traffic Profiling Report Pack.

If you are upgrading the Common Property Tables, you must install the UPGRADE Common Property Tables package separately, before installing anything else. For information about installing and using this upgrade package, refer to the *Common Property Tables 3.0 User Guide*.

If you are upgrading the Interface Discovery Datapipe, you must first remove the old version of this datapipe before installing version 2.0. Refer to [Prerequisite Tasks on page 12](#) for more information.

Guidelines for Distributed Systems

Keep these guidelines in mind when upgrading/installing RMON2 Traffic Profiling on a distributed system:

- 1 Make sure you have installed OVPI 5.0 on the central server and on every satellite server.
- 2 Before starting the prerequisite tasks, disable trendcopy on the central server. After you have completed the upgrade or installation, enable trendcopy on the central server.
- 3 Upgrade/Install the RMON2 Traffic Profiling Report Pack on the central server and on each satellite server.
- 4 Upgrade/Install the RMON2 Traffic Profiling Datapipe on every server that receives data from RMON2. If the central server does not poll data, do not upgrade/install the datapipe on the central server.

Prerequisite Tasks

Complete the following tasks before upgrading/installing the RMON2 Traffic Profiling Report Pack:

- [Task 1: Extract the Packages](#)
- [Task 2: Upgrade to Common Property Tables 3.0](#)
- [Task 3: Upgrade to Interface Discovery Datapipe 2.0](#)

Task 1: Extract the Packages

To extract the RMON2 Traffic Profiling Report Pack and all other OVPI packages from the RNS CD to the Packages directory on your system, do the following:

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

Windows: Do the following:

- a From the Control Panel, select **Administrative Tools** → **Services**
- b Select OVPI Timer from the list of services.
- c From the Action menu, select **Stop**.

UNIX: As root, do one of the following:

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

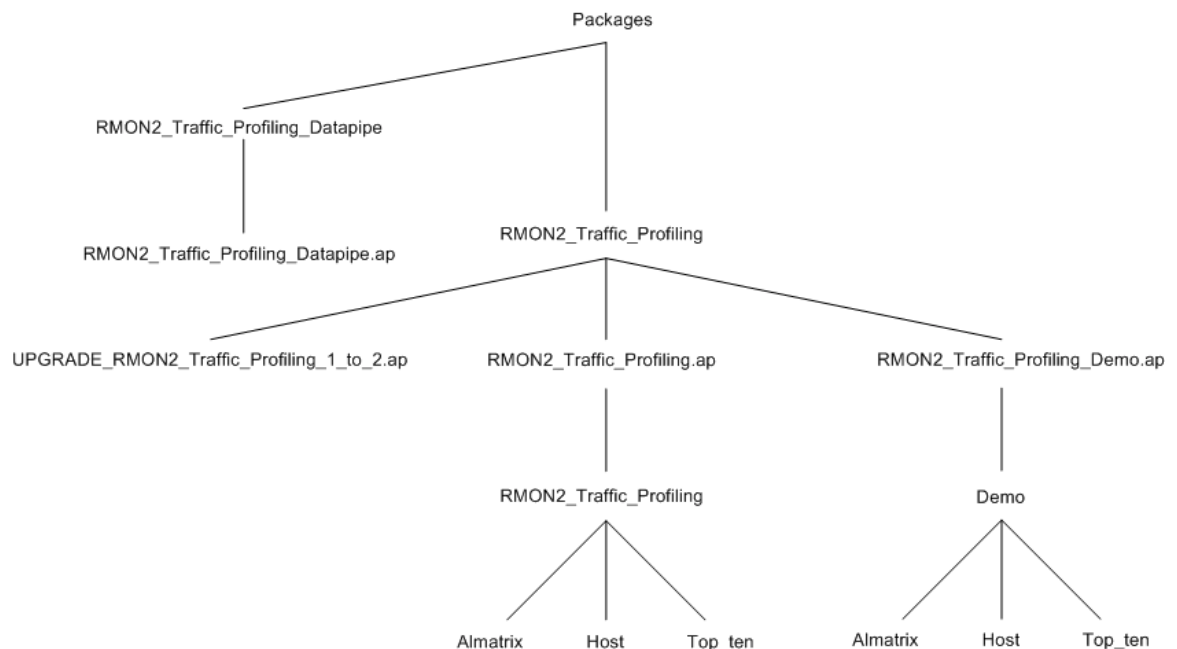
- 3 Insert the RNS CD.

Windows: The Main Menu automatically displays.

UNIX:

- a Mount the CD (if the CD does not mount automatically)
 - b Navigate to the top level directory on the CD
 - c Run `./setup`
- 4 Type **1** in the choice field and press **Enter**. The install script displays a percentage complete bar. When the copy is complete, the install script starts Package Manager. The Package Manager welcome window opens.

The following folder structure is created in the Packages directory:



Task 2: Upgrade to Common Property Tables 3.0

The RMON2 Traffic Profiling Report Pack requires Common Property Tables 3.0. Upgrade to Common Property Tables 3.0 before upgrading the RMON2 Traffic Profiling Report Pack. If you need help with the upgrade, refer to the *Common Property Tables 3.0 User Guide*.

If this is a new installation of the RMON2 Traffic Profiling Report Pack, install Common Property Tables 3.0 with the report pack (this task is completed in section [Package Installation on page 18](#)).

Task 3: Upgrade to Interface Discovery Datapipe 2.0

If you are upgrading to Interface Discovery Datapipe 2.0, you must first remove the old version of the datapipe and then install version 2.0.

To remove the old version of the Interface Discovery Datapipe:

- 1 Log on to the system if you are not logged on. On UNIX systems, log on as root.
- 2 If OVPI Timer is running, stop OVPI Timer and wait for processes to stop running.

Windows: Do the following:

- a From the Control Panel, select **Administrative Tools** → **Services**
- b Select OVPI Timer from the list of services.
- c From the Action menu, select **Stop**.

UNIX: As root, do one of the following:

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

- 3 Start Package Manager.
 - a Launch Performance Insight and select **Management Console**.
 - b Select **Tools** → **Package Manager**
The Welcome window opens.
- 4 Click **Next**. The Packages Location window opens.
- 5 Click the **Uninstall** radio button.
- 6 Click **Next**. The Report Undeployment window opens.
- 7 Click **Next**. The Package Selection window opens.
- 8 Click the check box next to the following package:
 - Interface Discovery Datapipe
- 9 Click **Next**.
- 10 Click **Uninstall**. When the uninstall process is complete, the following message appears:
Report Package: Completed.
- 11 Click **Done** to return to the main window.

To install Interface Discovery Datapipe 2.0:

- 1 Start Package Manager. The Welcome window opens.
- 2 Click **Next**. The Packages Location window opens.

- 3 Click the **Install** radio button.
- 4 Approve the default installation directory or select a different directory if necessary.
- 5 Click **Next**. The Report Deployment window opens.
- 6 Disable the default for Deploy Reports and click **Next**. The Package Selection window opens.
- 7 Click the check box next to the following package:
 - Interface_Discovery_Datapipe
- 8 Click **Next**. The Type Discover window opens.
- 9 Disable the default and click **Next**. The Selection Summary window opens.
- 10 Verify that the contents of this window are correct.
- 11 Click **Install** to begin the installation process. The Installation Progress Window opens.
- 12 When installation is complete, the following message appears: Report Package: Completed.
- 13 Click **Done** to return to the main window.

Package Upgrade

You must have completed the tasks in section [Prerequisite Tasks on page 12](#) before you can successfully upgrade the RMON2 Traffic Profiling Report Pack.

To upgrade version 1.0 to version 2.0, do the following (RMON2 Traffic Profiling must be upgraded before the RMON2 Traffic Profiling Datapipe 2.0 package is installed):

- [Task 1: Upgrade the RMON2 Traffic Profiling Package](#)
- [Task 2: Remove RMON2 Traffic Profiling Datapipe 1.0](#)
- [Task 3: Install RMON2 Traffic Profiling Datapipe 2.0](#)

Task 1: Upgrade the RMON2 Traffic Profiling Package

Follow these steps to upgrade the RMON2 Traffic Profiling package:

- 1 Log on to the system if you are not logged on. On UNIX systems log on as root.
- 2 Start Package Manager. The Welcome window opens.
- 3 Click **Next**. The Packages Location window opens.
- 4 Click the **Install** radio button.
- 5 Approve the default installation directory or select a different directory if necessary.
- 6 Click **Next**. The Report Deployment window opens.
- 7 Accept the default for Deploy Reports.
- 8 Enter the user name and password for the OVPI Application Server.
- 9 Click **Next**. The Package Selection window opens.

- 10 Click the check box next to the following package:
 - UPGRADE_RMON2_Traffic_Profiling_1_to_2
- 11 Click **Next**. The Type Discover window opens.
- 12 Disable the default and click **Next**. The Selection Summary window opens.
- 13 Verify that the contents of this window are correct.
- 14 Click **Install** to begin the installation process. The Installation Progress window opens.
- 15 When installation is complete, the following message appears: Report Package: Completed.
- 16 Click **Done** to return to the main window.



Once you install the upgrade package, Package Manager displays what you have just installed as *RMON2 Traffic Profiling*.

Task 2: Remove RMON2 Traffic Profiling Datapipe 1.0

- 1 Log on to the system if you are not logged on. On UNIX systems, log on as root.
- 2 If OVPI Timer is running, stop OVPI Timer and wait for processes to stop running.
Windows: Do the following:
 - a From the Control Panel, select **Administrative Tools** → **Services**
 - b Select OVPI Timer from the list of services.
 - c From the Action menu, select **Stop**.UNIX: As root, do one of the following:
 - HP-UX: `sh /sbin/ovpi_timer stop`
 - Sun: `sh /etc/init.d/ovpi_timer stop`
- 3 Start Package Manager.
 - a Launch Performance Insight and select **Management Console**.
 - b Select **Tools** → **Package Manager**
The Welcome window opens.
- 4 Click **Next**. The Packages Location window opens.
- 5 Click the **Uninstall** radio button.
- 6 Click **Next**. The Report Undeployment window opens.
- 7 Click **Next**. The Package Selection window opens.
- 8 Click the check box next to the following package:
 - RMON2 Traffic Profiling Datapipe
- 9 Click **Next**. The Selection Summary window opens.
- 10 Click **Uninstall**. The Progress window opens.
- 11 When the uninstall process is complete, a removal complete message appears.
- 12 Click **Done** to return to the main window.

13 Restart OVPI Timer.

Windows: Do the following:

- a** From the Control Panel, select **Administrative Tools** → **Services**
- b** Select OVPI Timer from the list of services.
- c** From the Action menu, select **Start**.

UNIX: As root, do one of the following:

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

Task 3: Install RMON2 Traffic Profiling Datapipe 2.0

Follow these steps to install RMON2 Traffic Profiling Datapipe 2.0:

- 1** Log on to the system if you are not logged on. On UNIX systems log on as root.
- 2** Start Package Manager. The Welcome window opens.
- 3** Click **Next**. The Package Location window opens.
- 4** Click the **Install** radio button.
- 5** Approve the default installation directory or select a different directory if necessary.
- 6** Click **Next**. The Report Deployment window opens.
- 7** Disable the default for Deploy Reports and click **Next**. The Package Selection window opens.
- 8** Click the check box next to the following package:
 - `RMON2_Traffic_Profiling_Datapipe`
- 9** Click **Next**. The Type Discover window opens.
- 10** Disable the default and click **Next**. The Selection Summary window opens.
- 11** Verify that the contents of this window are correct.
- 12** Click **Install** to begin the installation process. The Installation Progress window opens.
- 13** When installation is complete, the following message appears: Report Package:
Completed.
- 14** Click **Done** to return to the main window.

Package Installation

You must have completed the tasks in section [Prerequisite Tasks on page 12](#) before you can successfully install the RMON2 Traffic Profiling Report Pack.

Follow these steps to install the RMON2 Traffic Profiling Report Pack and RMON2 Traffic Profiling Datapipe:

- 1 Log on to the system if you are not logged on. On UNIX systems, log on as root.
- 2 If OVPI Timer is running, stop OVPI Timer and wait for processes to stop running.
Windows: Do the following:
 - a From the Control Panel, select **Administrative Tools** → **Services**
 - b Select OVPI Timer from the list of services.
 - c From the Action menu, select **Stop**.
 UNIX: As root, do one of the following:
 - HP-UX: `sh /sbin/ovpi_timer stop`
 - Sun: `sh /etc/init.d/ovpi_timer stop`
- 3 Launch Performance Insight and select **Management Console**.
- 4 Select **Tools** → **Package Manager**. The Welcome window opens
- 5 Click **Next**. The Packages Location window opens.
- 6 Click the **Install** radio button.
- 7 Approve the default installation directory or select a different directory if necessary. Use the browse feature to select a different directory.
- 8 Click **Next**. The Report Deployment window opens.
- 9 Accept the default for Deploy Reports.
- 10 Enter your user name and password for the OVPI Application Server.
- 11 Click **Next**. The Package Selection window opens.
- 12 Click the check box next to the following packages:
 - RMON2_Traffic_Profiling
 - RMON2_Traffic_Profiling_Datapipe
 - RMON2_Traffic_Profiling_Demo (optional)
 - Interface_Discovery_Datapipe 2.0 (if not installed)
 - Common Property Tables 3.0 (if not installed)



Installing the Demo Package is optional. The Demo Package can be installed independently (the demo runs without the RMON2 Traffic Profiling and Datapipe Packages installed). The reports in the Demo Package are interactive and you can experiment with various options for viewing tables and graphs. The data in a demo report is static and does not change from day to day.

If you are upgrading the Common Property Tables, you must install the UPGRADE Common Property Tables package separately, before installing anything else. For information about installing and using this package, refer to the *Common Property Tables User Guide*.

- 13 Click **Next**. The Type Discover window opens.
- 14 To run Discover immediately after package installation, accept the default and click **Next**. The Selection Summary window opens.
- 15 Verify that the contents of this window are correct. Click **Install** to begin the installation process. The Installation Progress window opens.
- 16 When installation is complete, the following message appears: Report Package: Completed.
- 17 Click **Done** to return to the main window.
- 18 Restart OVPI Timer.

Windows: Do the following:

- a From the Control Panel, select **Administrative Tools** → **Services**
- b Select OVPI Timer from the list of services.
- c From the Action menu, select **Start**.

UNIX: As root, do one of the following:

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

Package Removal

If you remove a report pack, the associated tables and all the data in those tables are deleted. If you want to preserve the data in those tables, archive the data before removing the report pack.

Follow these steps to uninstall the RMON2 Traffic Profiling Report Pack and RMON2 Traffic Profiling Datapipe:

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

Windows: Do the following:

- a From the Control Panel, select **Administrative Tools** → **Services**
- b Select OVPI Timer from the list of services.
- c From the Action menu, select **Stop**.

UNIX: As root, do one of the following:

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

- 3 Start Package Manager.
 - a Launch Performance Insight and select **Management Console**.
 - b Select **Tools → Package Manager**
The Welcome window opens.
- 4 Click **Next**. The Packages Location window opens.
- 5 Click the **Uninstall** radio button.
- 6 Click **Next**. The Report Undeployment window opens.
- 7 If RMON2 Traffic Profiling reports were deployed on this server, accept the default for Undeploy Reports; also accept the defaults for application server name and port. Otherwise, continue with step 9.
- 8 Enter the *ovpi* user name and password.
- 9 Click **Next**. The Package Selection window opens.
- 10 Click the check box next to the following packages:
 - RMON2 Traffic Profiling
 - RMON2 Traffic Profiling Datapipe
 - RMON2 Traffic Profiling Demo (if installed)
- 11 Click **Next**. The Selection Summary window opens.
- 12 Click **Uninstall**. The Progress window opens.
- 13 When the uninstall process is complete, a removal complete message appears.
- 14 Click **Done** to return to the main window.
- 15 Restart OVPI Timer.

Windows: Do the following:

- a From the Control Panel, select **Administrative Tools → Services**
- b Select OVPI Timer from the list of services.
- c From the Action menu, select **Start**.

UNIX: As root, do one of the following:

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



Removing the RMON2 Traffic Profiling Report Pack automatically removes the datapipe even if the datapipe was not selected for removal.

Configuration

This chapter covers the following topics:

- Configuring RMON2 Traffic Profiling
- Configuring distributed systems

Configuring RMON2 Traffic Profiling

Before the RMON2 Traffic Profiling Datapipe can begin to collect data, do the following:

- 1 Using the Polling Policy Manager (refer to the *OVPI Administration Guide* for more information), do the following:
 - a Add each RMON2 probe node to the RMON2 polling group.
 - b Specify the Community String Profile for each node added to the RMON2 polling group. Typically, you use the default settings (Read: public; Write: private). However, if you configured RMON2 probe to use a non-default community string profile, you must configure this non-default community string profile for each node.
- 2 Set the following MIB objects using the OVPI SNMP Tool (click the **Set Table** button; refer to the *OVPI Administration Guide* for more information), the `ConfigAlMatrix.pl` command (described in the next section), or a tool of your choice.

Table 1 Variables Under hlMatrixControlTable

MIB Object	OID	Value
hlMatrixControlNIMaxDesiredEntries	.1.3.6.1.2.1.16.15.1.1.6	6,000
hlMatrixControlAIMaxDesiredEntries	.1.3.6.1.2.1.16.15.1.1.10	12,000
hlMatrixControlStatus	.1.3.6.1.2.1.16.15.1.1.12	active

Table 2 Variables Under alMatrixTopNControlTable

MIB Object	OID	Value
alMatrixTopNControlRateBase	.1.3.6.1.2.1.16.17.3.1.3	alMatrixTopNTerminalsPkts
alMatrixTopNControlTimeRemaining	.1.3.6.1.2.1.16.17.3.1.4	900
alMatrixTopNControlRequestedSize	.1.3.6.1.2.1.16.17.3.1.7	400
alMatrixTopNControlStatus	.1.3.6.1.2.1.16.17.3.1.11	active

ConfigAlMatrix.pl

ConfigAlMatrix.pl is a tool supplied with the RMON2 Traffic Profiling Datapipe that creates the RMON2 data source to MIB-2 ifIndex and sets all the MIB objects to the values listed in Table 1 and Table 2 for a specified RMON2 probe. If you are using these MIB objects for other purposes and do not want one or more of them set to these values, do not run this tool (use the OVPI SNMP Tool or a tool of your choice to set the MIB objects).

The following command line options are available:

```
ConfigAlMatrix.pl -a ProbeHost [-c CommunityString -f ConfigFile]
```

- a *ProbeHost* **Required.** The name of the RMON2 probe.
- c *CommunityString* **Optional.** Default: private. The Write community string profile of the RMON2 probe. If the Write community string profile of the RMON2 probe is set to something other than private, than you must use this option to specify the probe's Write community string profile.
- f *ConfigFile* **Optional.** Default:
\TREND\packages\RMON2_Traffic_Profiling_Datapipe\
RMON2_Traffic_Profiling_Datapipe.ap\alMatrixConfig.xml.
XML configuration file for the RMON2 probe. This file contains the MIB objects that can be modified. By default, the MIB objects are set to the values listed in Table 1 and Table 2. Modifying these MIB objects changes the amount of data collected.

Distributed Systems

If you are running the RMON2 Traffic Profiling Report Pack on a distributed system, you installed the report pack and the datapipe on the central server and on each satellite server. You must now configure the central server and each satellite server so that they work together. This is done by making changes to various process files on the central server and each satellite server.

The Central Server

Follow these steps to configure the central server:


- 1 Set up the connection with the satellite server databases:
 - a Start the Management Console.
 - b Click the **Systems** icon on the lower left. The **System/Network Administration** pane opens.
 - c Right-click the **Databases** folder. When prompted, select **Add OVPI Database**. The Add Database Wizard opens.
 - d Click **Next**.
 - e Type the hostname and port number for the database you want to add; click **Next**.
 - f Review the Summary. Repeat Steps 4 and 5 for each additional database.
 - g Click **Finish** when you are done.
- 2 Edit the file `$DPIPE_HOME/scripts/RMN2_Hourly.pro`:
 - a If this a non-collecting central server, comment-out blocks 1 through 4 by adding the comment sign (“#”) before the word `begin` and the word `end`.
 - b For each satellite server, configure trendcopy pull commands from the central server by modifying the trendcopyblock:
 - Remove “#” before each line in trendcopyblock, including the begin and end lines.
 - Replace `SATELLITE_SERVER_1_DATABASE` with the satellite server name.
 - Replace `THIS_MACHINE_DATABASE` with the central server name.

If there is more than one satellite server, copy and modify the trendcopyblock for each satellite server.
 - c Save and close `$DPIPE_HOME/scripts/RMN2_Hourly.pro`.
- 3 If this is a collecting central server, skip to step 5.
- 4 Edit the file `$DPIPE_HOME/scripts/RMN2_Daily.pro`:
 - a Comment-out blocks 1 and 2 by adding the comment sign (“#”) before the word `begin` and the word `end`.
 - b For each satellite server, configure trendcopy pull commands f by modifying the trendcopyblock:
 - Remove “#” before each line in trendcopyblock, including the begin and end lines.
 - Replace `SATELLITE_SERVER_1_DATABASE` with the satellite server name.
 - Replace `THIS_MACHINE_DATABASE` with the central server name.

If there is more than one satellite server, copy and modify the trendcopyblock for each satellite server.
 - c Save and close `$DPIPE_HOME/scripts/RMN2_Daily.pro`.
- 5 Make sure that all system clocks are synchronized.

The Satellite Server

Daily aggregations need to be switched off on the satellite server. Follow these steps:

 This procedure assumes that the satellite server is not performing local reporting and that the `RMON2_Traffic_Profiling` module is installed.

- 1 Edit the file `$DPIPE_HOME/lib/trendtimer.sched`:
 - a Comment out the lines referencing `RMN2_Hourly.pro` and `RMN2_Daily.pro`.
 - b Save and close `$DPIPE_HOME/lib/trendtimer.sched`.
- 2 Make sure that the system clock is synchronized with the central server.

Reports

The report pack for RMON2 Traffic Profiling provides fifteen reports used to monitor and analyze traffic flow of applications/protocols on the network. This chapter shows five examples of these reports and a brief explanation of how to customize them.


Top Ten Reports

The three top ten reports (hourly, daily, and monthly) provide a starting point for in-depth analysis of traffic problems. The reports display the following information:

- Hourly utilization (hourly report)
- Busy hour utilization (daily and monthly reports)
- Top ten applications generating the most traffic
- Top ten hosts generating the most traffic

The first two tables displayed in a top ten report allow you to select a probe's interface and a time period to analyze.

RMON2 Traffic Profiling



Monthly Top Ten Summary

The Top Ten Summary report lists the top contributors to the total traffic on an interface. Select an interface and a time period to see the top ten hosts and protocols values with the greatest impact on the interface utilization for the time period selected.

Probe List

Probe	Interface	Busy Hour Utilization
sniffer	3	1.17

Peak Hourly Utilization

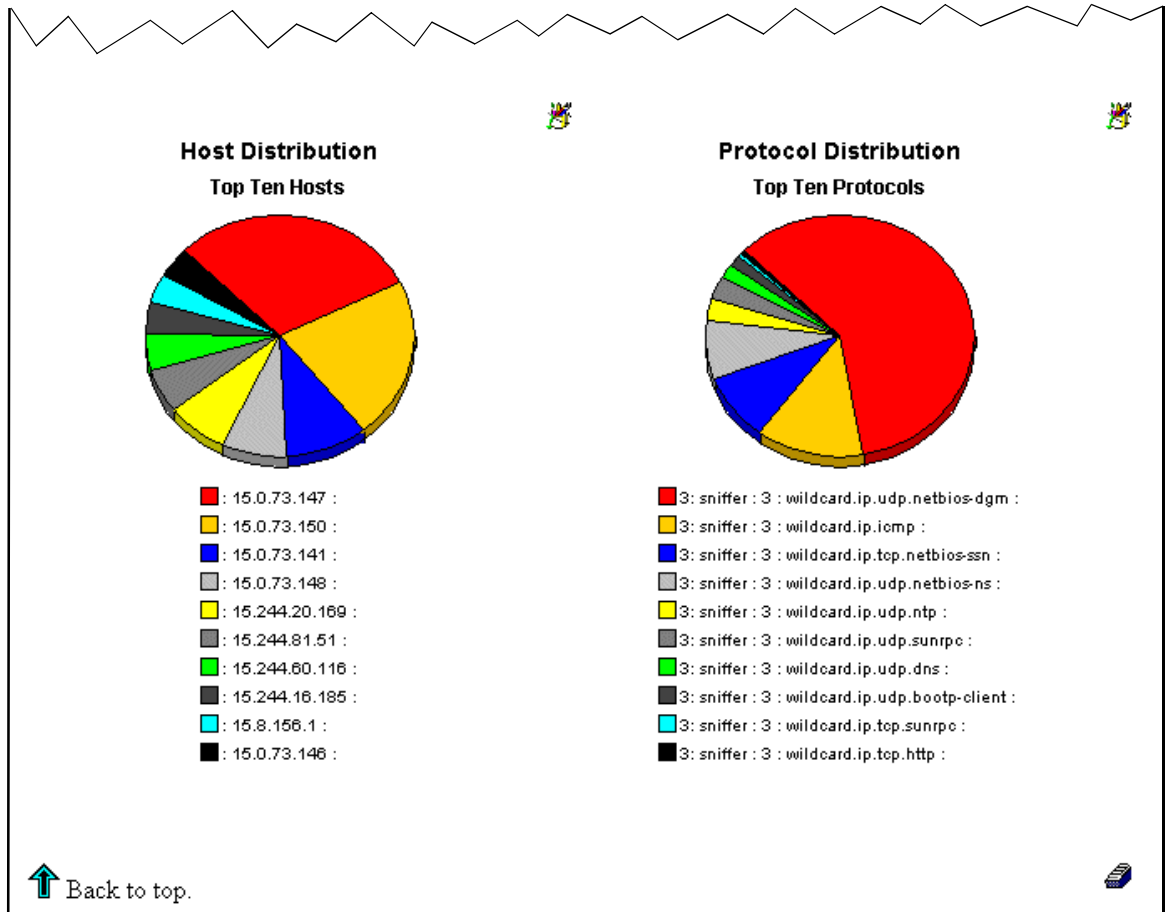
Month	Busy Hour Utilization
April, 2003	1.17
March, 2003	0.69

Top Ten Hosts

	Host	Busy Hour Utilization	% of Traffic
1	15.0.73.147	0.10	8.81
2	15.0.73.150	0.07	6.24
3	15.0.73.141	0.03	2.88
4	15.0.73.148	0.03	2.30
5	15.244.20.189	0.02	2.22
6	15.244.81.51	0.02	1.72
7	15.244.80.116	0.02	1.48
8	15.0.73.146	0.01	1.02
9	15.244.80.182	0.01	0.99
10	15.244.80.188	0.01	0.99

Top Ten Protocols

	Protocol	Busy Hour Utilization	% of Traffic
1	wildcard.ip.udp.netbios-dgm	0.70	59.21
2	wildcard.ip.icmp	0.14	12.97
3	wildcard.ip.top.netbios-ssn	0.10	8.87
4	wildcard.ip.udp.netbios-ns	0.09	7.76
5	wildcard.ip.udp.ntp	0.04	2.96
6	wildcard.ip.udp.sunrpc	0.04	2.95
7	wildcard.ip.udp.dns	0.03	1.99
8	wildcard.ip.udp.bootp-client	0.02	1.32
9	wildcard.ip.tcp.sunrpc	0.01	0.66
10	wildcard.ip.top.dns	0.01	0.33



ALMATRIX and Host Reports

ALMATRIX (application layer matrix) reports display traffic information by protocol/application and between source/destination hosts.

Host reports display traffic information by source (identified by its IP address).

Graphs with each report display historical data.

The following ALMATRIX and host reports are available:

- Hourly (detail and summary)
- Daily (detail and summary)
- Monthly (detail and summary)


For each report, select a probe's interface and the time period to analyze.

ALMATRIX Summary Report

ALMATRIX summary reports display traffic information of a specific protocol/application.

RMON2 Traffic Profiling

Hourly ALMATRIX Summary









The ALMATRIX Summary Report presents a breakdown of the protocols which contribute to the total traffic on an interface. Select an interface and a time period to see a list of protocols that had the most impact on the interface utilization for the time period selected. Select a protocol to see graphs of its historical traffic patterns.









Probe List

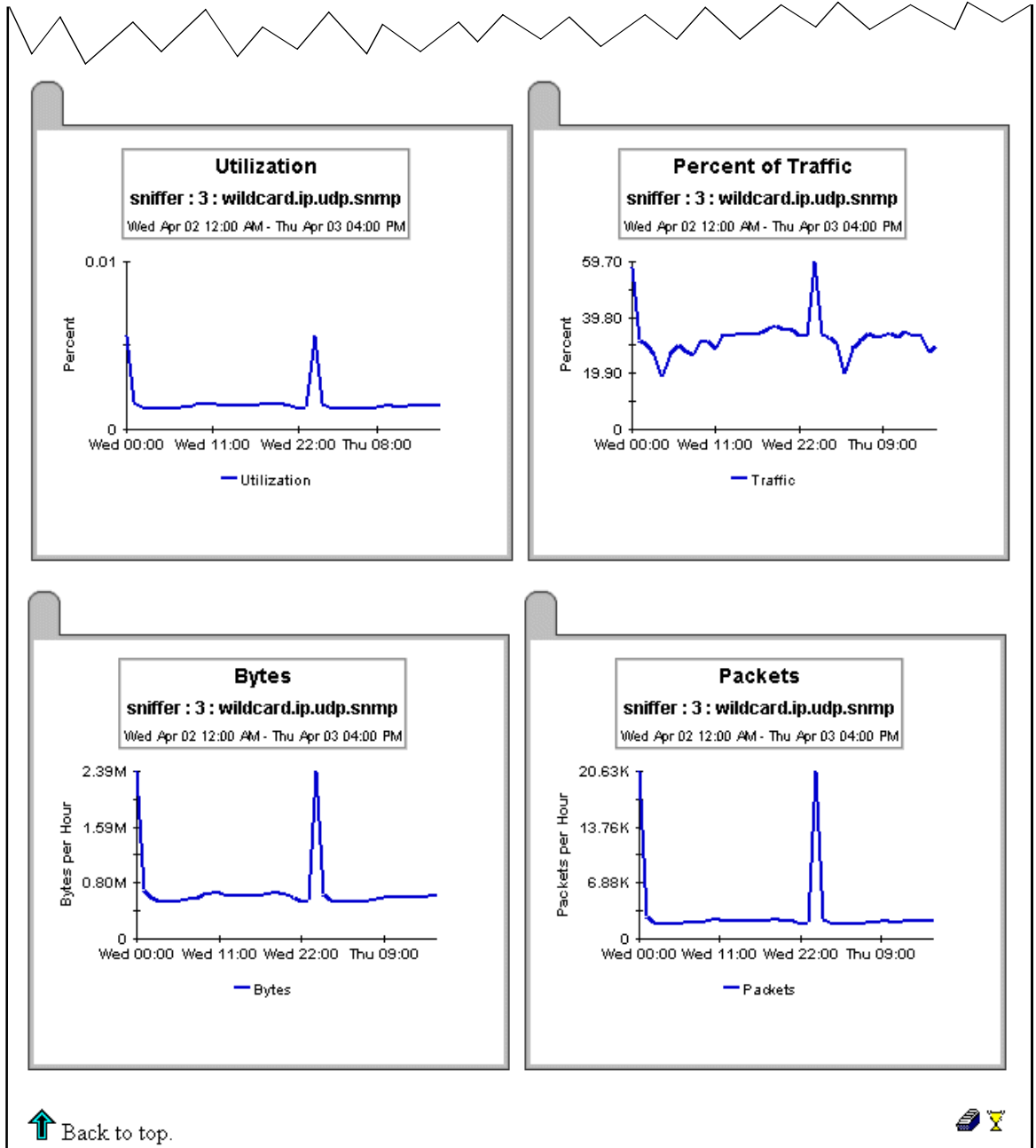
Probe	Interface	Utilization
sniffer	3	0.00

Hourly Utilization

Hour	Utilization
4:00 PM, April 3, 2003	0.00
3:00 PM, April 3, 2003	0.01 
2:00 PM, April 3, 2003	0.00 
1:00 PM, April 3, 2003	0.00 
12:00 PM, April 3, 2003	0.00 
11:00 AM, April 3, 2003	0.00 
10:00 AM, April 3, 2003	0.00 

Top Talking Protocols / Applications

Protocol	Utilization	% of Traffic	Bytes	Average Bytes per Packet
wildcard.ip.udp.snmp	0.00	29.73	637.70 k	286.35
wildcard.ip.tcp.netbios-ssn	0.00	19.34	414.95 k	366.56 
wildcard.ip.udp.netbios-dgm	0.00	13.56	290.94 k	254.99 
wildcard.ip.tcp.telnet	0.00	11.39	244.37 k	87.27 
wildcard.ip.udp.netbios-ns	0.00	11.38	244.08 k	103.82 
wildcard.ip.icmp	0.00	5.09	109.22 k	218.88 
wildcard.ip.udp.dns	0.00	3.76	80.89 k	261.97 
wildcard.ip.udp.bootp-olient	0.00	2.11	45.23 k	297.55 
wildcard.ip.ospfipg	0.00	1.38	29.52 k	82.00 




ALMATRIX Detail Report

ALMATRIX detail reports display traffic information between two nodes (source and destination listed by IP addresses) for a selected protocol/application.

RMON2 Traffic Profiling

Hourly ALMATRIX Detail



The ALMATRIX Detail Report presents a breakdown of the protocols, sources and destinations which contribute to the total traffic on an interface (data source). Select an interface and a time period to see a list of protocols that had the most impact on the interface utilization for the time period selected. Select a protocol to see a list of sources / destinations utilizing the protocol source through the selected interface. Select a source / destination combination to see graphs of its historical traffic patterns.

Probe List

Probe	Interface	Utilization
sniffer	3	0.00

Hourly Utilization

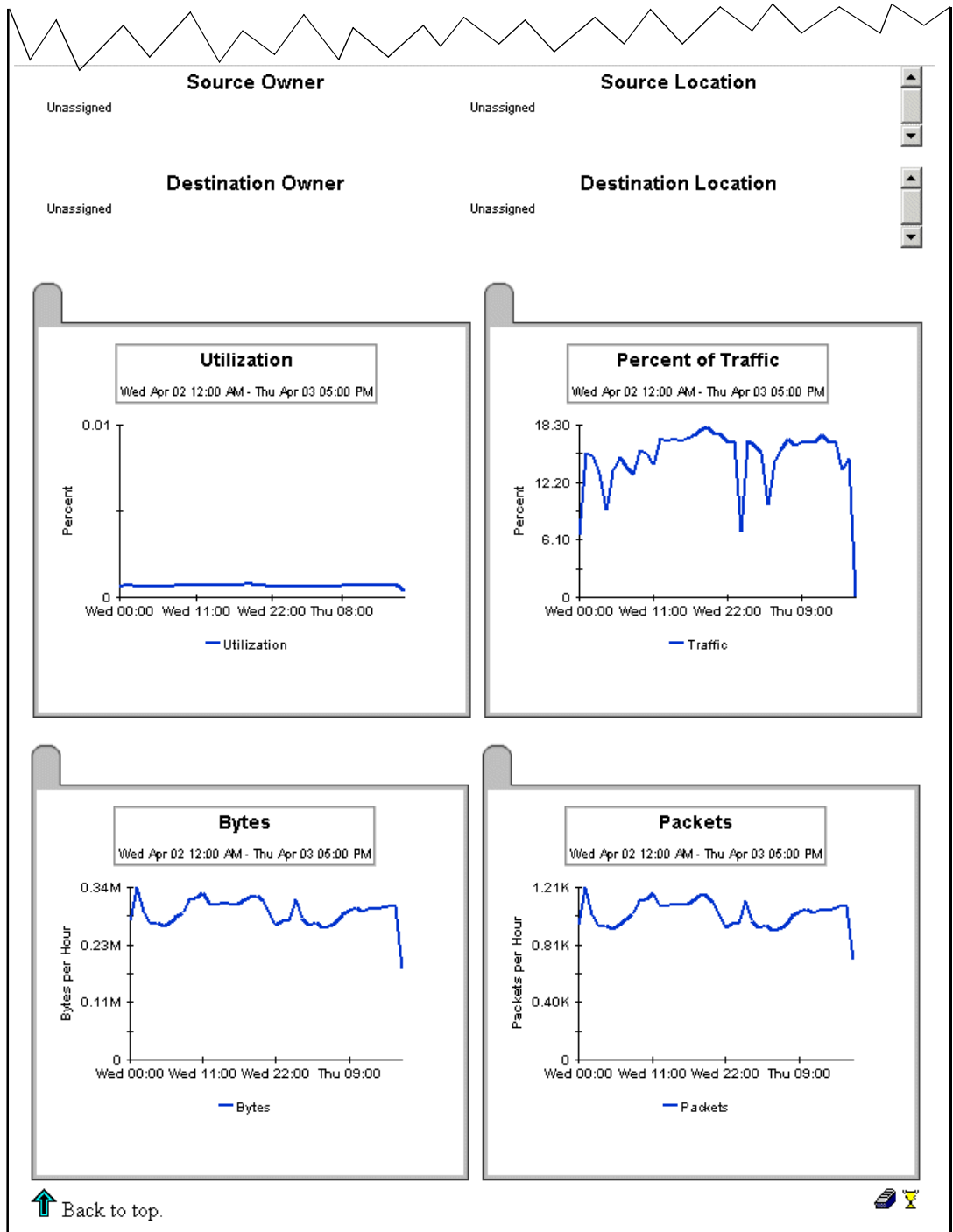
Hour	Utilization
4:00 PM, April 3, 2003	0.00
3:00 PM, April 3, 2003	0.01
2:00 PM, April 3, 2003	0.00
1:00 PM, April 3, 2003	0.00
12:00 PM, April 3, 2003	0.00
11:00 AM, April 3, 2003	0.00
10:00 AM, April 3, 2003	0.00

Top Talking Protocols / Applications

Protocol	Utilization	% of Traffic	Bytes	Average Bytes per Packet
wildcard.ip.udp.snmp	0.00	29.73	637.70 k	286.35
wildcard.ip.top.netbios-ssn	0.00	19.34	414.95 k	366.56
wildcard.ip.udp.netbios-dgm	0.00	13.56	290.94 k	254.99
wildcard.ip.tcp.telnet	0.00	11.39	244.37 k	87.27
wildcard.ip.udp.netbios-ns	0.00	11.38	244.08 k	103.82
wildcard.ip.icmp	0.00	5.09	109.22 k	218.88
wildcard.ip.udp.dns	0.00	3.76	80.69 k	261.97
wildcard.ip.udp.bootp-client	0.00	2.11	45.23 k	297.55
wildcard.ip.ospfigp	0.00	1.38	29.52 k	82.00

Top Talking Source / Destination Pairs

Source	Destination	Utilization	% of Traffic	Bytes	Average Bytes per Packet
15.1.158.148	15.0.73.150	0.00	14.74	316.08 k	287.35
15.0.73.150	15.1.158.148	0.00	14.72	315.75 k	287.05
15.0.73.150	15.24.115.12	0.00	0.11	2264	283.00
15.24.115.12	15.0.73.150	0.00	0.11	2264	283.00
15.244.16.185	15.244.63.9	0.00	0.05	1098	122.00




Host Summary Report

Host summary reports display traffic information for source nodes (listed by IP address) that generate the most traffic on the probe.

RMON2 Traffic Profiling

Daily Host Summary



The Host Summary Report presents a breakdown of the host devices which contribute to the total traffic on an interface. Select an interface and a time period to see a list of hosts that had the most impact on the interface utilization for the time period selected. Select a host device to see graphs of its historical traffic patterns.

Probe List

Probe	Interface	Busy Hour Utilization
sniffer	3	0.01

Peak Hourly Utilization

Day	Busy Hour Utilization
April 1, 2003	0.01
March 31, 2003	0.01
March 30, 2003	0.01
March 29, 2003	0.01
March 28, 2003	0.01
March 27, 2003	0.01

Top Talking Hosts

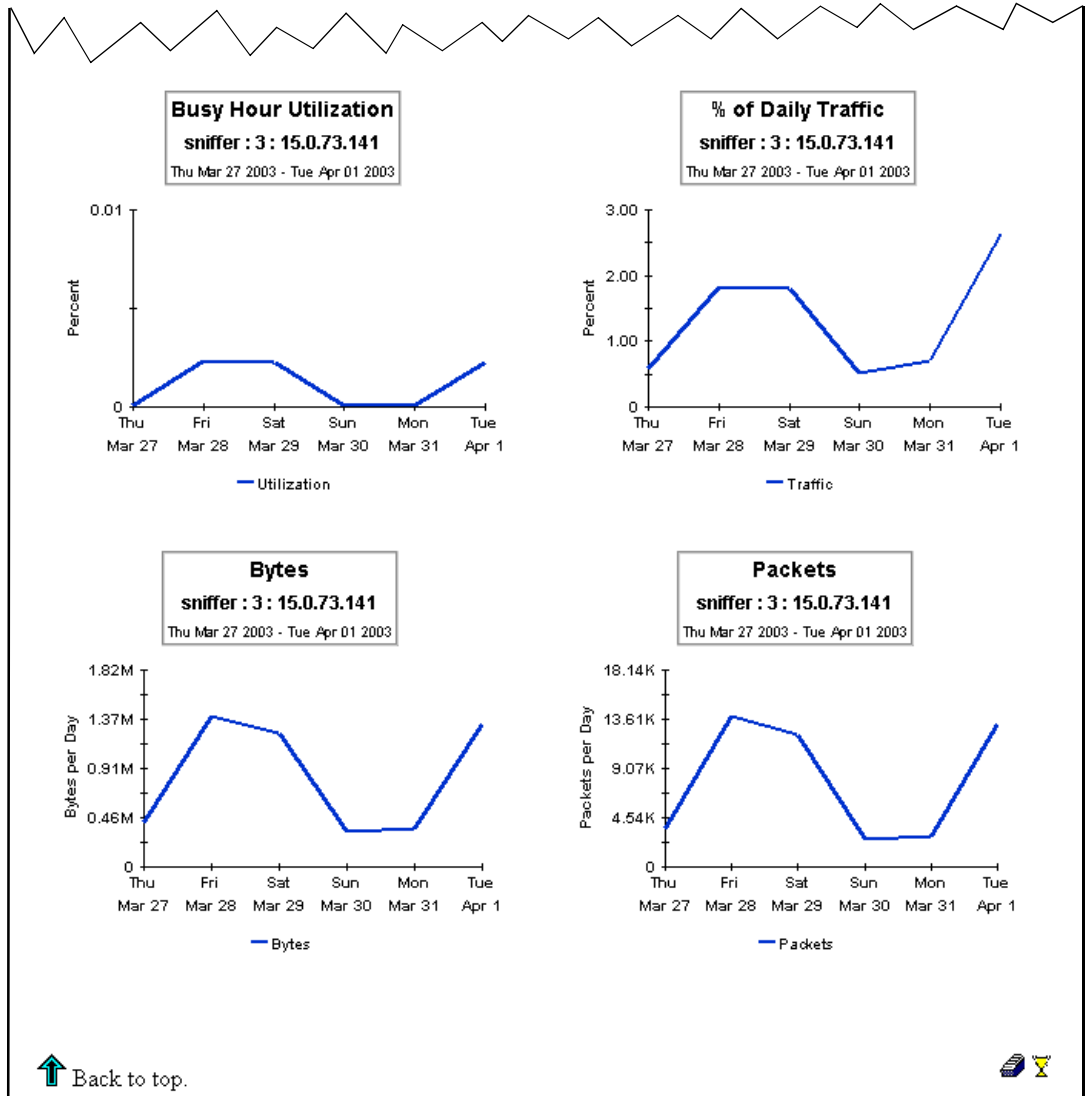
Host	Busy Hour Utilization	% of Daily Traffic	Bytes	Average Bytes per Packet
15.0.73.141	0.00	2.62	1392.39 k	103.06
15.243.128.51	0.00	8.37	4449.27 k	255.90
15.0.73.150	0.00	19.71	10.47 M	195.72
15.8.155.228	0.00	14.26	7574.20 k	731.81
15.1.158.148	0.00	13.96	7416.62 k	288.33
15.244.60.106	0.00	0.55	294.47 k	130.18
15.244.60.239	0.00	0.46	242.46 k	116.62
15.0.73.2	0.00	0.45	236.80 k	115.23
15.0.73.146	0.00	7.43	3945.02 k	106.39

Host Owner

Unassigned

Host Location


Unassigned



Host Detail Report

Host detail reports display traffic information sent by a protocol/application to a destination node (listed by IP address) for a selected source node.

RMON2 Traffic Profiling



Daily Host Detail

The Host Detail Report presents a breakdown of the hosts and protocols which contribute to the total traffic on an interface. Select an interface and a time period to see a list of hosts that had the most impact on the interface utilization for the time period selected. Select a host device to see a list of hosts / protocols accessed by the host through the selected interface. Select a host / protocol combination to see graphs of its historical traffic patterns.

Probe List

Probe	Interface	Busy Hour Utilization
sniffer	3	0.01

Peak Hourly Utilization

Day	Busy Hour Utilization
April 1, 2003	0.01
March 31, 2003	0.01
March 30, 2003	0.01
March 29, 2003	0.01
March 28, 2003	0.01
March 27, 2003	0.01

Top Talking Hosts

Host	Busy Hour Utilization	% of Daily Traffic	Bytes	Average Bytes per Packet
15.0.73.141	0.00	2.62	1392.39 k	103.06
15.243.128.51	0.00	8.37	4449.27 k	256.90
15.0.73.150	0.00	19.71	10.47 M	195.72
15.8.155.228	0.00	14.26	7574.20 k	731.81
15.1.158.148	0.00	13.96	7416.62 k	288.33
15.244.60.106	0.00	0.55	294.47 k	130.18
15.244.60.239	0.00	0.46	242.46 k	116.62
15.0.73.2	0.00	0.45	236.80 k	115.23
15.0.73.146	0.00	7.43	3945.02 k	106.39

Host Owner

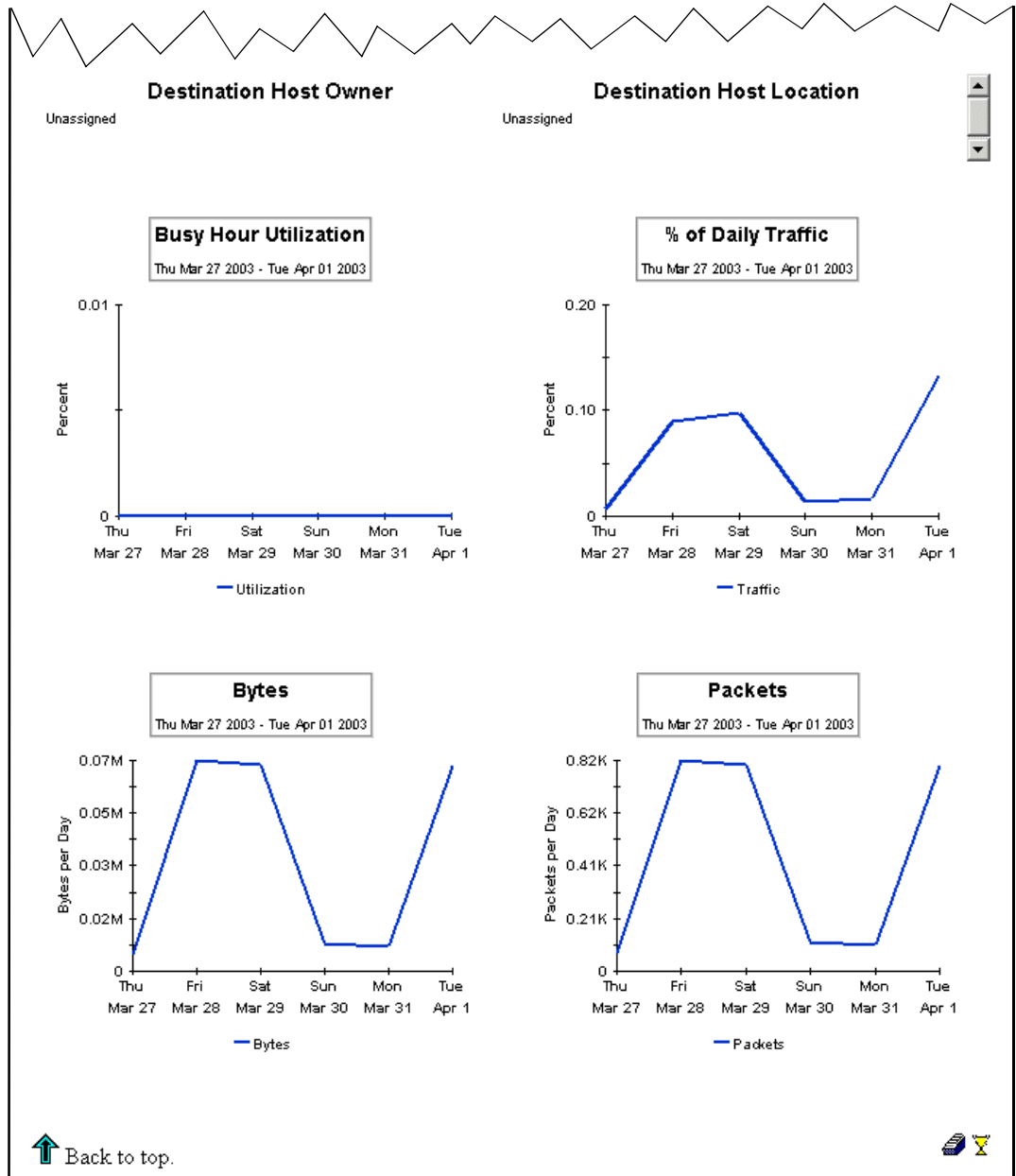
Unassigned

Host Location

Unassigned

Top Talking Host / Protocol Pairs

Destination Host	Protocol	Busy Hour Utilization	% of Daily Traffic	Bytes	Average Bytes per Packet
15.243.128.51	wildcard.ip.udp.dns	0.00	0.13	70.12 k	85.30
15.13.218.121	wildcard.ip.udp.snmp	0.00	0.04	21.53 k	97.00
15.61.226.191	wildcard.ip.udp.snmp	0.00	0.03	15.71 k	97.00
15.244.37.53	wildcard.ip.udp.snmp	0.00	0.02	11.05 k	98.67
15.244.36.67	wildcard.ip.udp.snmp	0.00	0.02	11.05 k	98.67



Report Customization

You can change the contents of a report by editing parameters and customize how tables and graphs in reports are viewed. This section covers some basic information. For more detailed information, refer to the *HP OpenView Performance Insight Guide to Building and Viewing Reports*.

Options for Viewing Reports

The method of report viewing available to you depends on how OVPI was installed. If the client component is installed on your system, you have access to Report Viewer, Report Builder, and Object Manager. If the client component was not installed on your system, use the Web Access Server to view reports. In this section, examples are shown for Report Viewer and the Web Access Server.

For more information about Report Viewer and Report Builder, refer to the *Performance Insight Installation Guide*. For more information about Object Manager, refer to the *Performance Insight Administration Guide*. For more information about deploying, viewing, and undeploying reports, refer to the *Performance Insight Guide to Building and Viewing Reports*.

Seeing Performance Data in Reports

Some reports populate with data sooner than others. Most of the reports need at least one full day's worth of data before any results are viewable.

As you would expect, until data has been collected for several days, the daily charts contain very little data, and until data has been collected for several months, the monthly charts contain very little data.

Adding Locations to Reports

Although the RMON2 Traffic Profiling package operates without importing custom property information, none of the location-oriented reports would provide meaningful data. To add locations to reports, use the property import utility included with the Common Property Tables package. Here is an overview of the steps involved:

- 1 Allow the RMON2 Traffic Profiling Datapipe to perform at least one collection.
- 2 Export existing property data from OVPI.
- 3 Modify the property import file, adding locations to the file.
- 4 Store the property import file where OVPI expects to find it.

You can see locations in reports immediately after OVPI processes the updated import file.

For more information about import and export utilities and property import files, refer to the *Common Property Tables User Guide*.

Editing Parameters

To change report contents, edit one or more parameters. When you edit a parameter, you apply a constraint to the report and eliminate the data that does not interest you. For example, if you edit the ProbeName parameter, only data for the probe you typed in the ProbeName field is shown in the report (data for all other probes is not included in the report).

Constraining the contents of a report by editing parameters is optional. You may apply multiple constraints at the same time. The RMON2 Traffic Profiling Report Pack supports the following parameters:

- ProbeName
- Interface_Name
- IF_Customer_Name
- IF_Customer_ID
- Start_Time
- End_Time
- Client_Name (of source)
- Server_Name (of destination)
- Application_Name (of protocol)

Most reports support a subset of these parameters.


Report Viewer

Using the Report Viewer, to edit a parameter, do the following:

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

Web Access Server

Using the Web Access Server, to edit a parameter, do the following:

- 1 Click  (the edit parameters 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**.

Customizing Tables and Graphs

There are multiple ways to view the tables and graphs in reports. Although the default view may be the view you use most of the time, you can easily change to a different view.

Report Viewer

Using the Report Viewer, change the view of a table or graph by doing the following:


- 1 Right-click on a table or graph.
- 2 Select one of the optional views.

You can customize the following table and graph view options (there are more options to customize using the Report Viewer):

- Set Time Period - alter the relative time or set an absolute time period
- Change Constraint Values - display more or less data
- Grid (graph only) - display or do not display grid lines
- Legend (graph only) - reposition a graph's legend
- Style (graph only) - change the type of graph displayed
- Change Max Rows - display more or less rows of data
- Display Data Table/Display Overlay Data Table (graph only) - display data for every point on a graph in a spreadsheet

Web Access Server

Using the Web Access Server, change the view of a table or graph by doing the following:

- 1 Specify element editing as a report reference:
 - a Click **Preferences** on the links bar.
 - b Expand **Reports** in the navigation frame.
 - c Click **Viewing**.
 - d Select the **Allow element editing** box.
 - e Click **Apply**.
- 2 Click on  (the edit icon) next to the table or graph.

You can customize the following table and graph view options:

- Max Rows - display more or less rows of data
- Constraints - display more or less data
- Time Range - alter the relative time or set an absolute time period
- Graph Style - change the type of graph displayed

average bytes per packet

The average number of bytes per packet passed by the host or application or passed between the source/destination.

busy hour utilization (daily and monthly reports)

The maximum hourly average for the day. Unlike the average for the day, this value does not smooth out daily peaks and valleys. Unlike daily maximum, or peak, this value represents a relatively persistent phenomenon, not a momentary condition. Note that since busy hour is an average, actual utilization could have been well above the average for a portion of that hour.

bytes

The number of bytes passed by the host or application or passed between the source/destination.

day

The day of the year for which the information was collected.

destination

Where the application/protocol traffic is going.

host

Where the application/protocol traffic is coming from.

hour

The hour for which the information was collected.

interface

The network interface number of the probe.

month

The month for which the information is collected.

packets

The total number of packets passed by the host or application or passed through the source/destination.

percentage of traffic

The percentage of traffic attributed to the host, application, or source/destination in relation to the total traffic passing through the interface.

probe

The name RMON2 probe.

protocol

The name of the protocol through which the network traffic is being routed.

source

See host.

utilization (hourly reports)

The percentage of system resources used for one hour beginning at the listed time.

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