# ATM Report Pack

Software Version 3.0

HP OpenView Performance Insight

User Guide



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# 1 Overview

This chapter covers the following topics:

- OVPI and the ATM protocol
- Folders and reports; package version history
- Data collection
- Ways to customize reports
- Sources for additional information

# OVPI and the ATM Protocol

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, problem diagnosis, and capacity planning.

The ATM Report Pack installs on OVPI. Use the reports in this package to spot problems, to rank the performance of PVCs, ports, and SVCs, and to estimate what performance will be like in the future. Following are some of the questions ATM reports will answer for you:

- Is the network providing an acceptable level of service?
- Which PVCs and ports are utilized the most?
- Could my underutilized PVCs and ports handle more traffic?
- Are errored and dropped cells taking place during excessive utilization?
- Is there a substantial difference between ingress and egress utilization?
- Which PVCs and ports are likely to degrade network performance?
- Are SVC switches handling requests for connections?
- How does performance compare customer-by-customer, or region-by-region?

### **Folders and Reports**

ATM 3.0 contains three folders and 49 reports. The folders are:

- PVC (22 reports)
- Port (16 reports)
- SVC (11 reports)

The following table outlines the focus of each folder.	
--	--

Folder	Focus
PVC	<ul> <li>Peak cell rate (PCR)</li> <li>Sustained cell rate (SCR)</li> <li>Percentage of dropped cells</li> </ul>
Port	<ul> <li>Number of cell bits transmitted</li> <li>Utilization</li> <li>Discards</li> <li>Errors</li> </ul>
SVC	<ul><li>Success rate of call attempts</li><li>Number of calls per second</li></ul>

For a list of the reports in each folder, see the report chapters (7, 8, and 9). A brief description of the generic reports follows.

**Capacity Planning**. Allows you to assess growth, balance traffic, and plan for increases or decreases in utilization. Shows PVC endpoints and ports that are projected to be overutilized or underutilized in the near future.

**Configuration.** Indicates which PVCs and ports have property columns that are undefined. If required fields are not defined appropriately, utilization values may be incorrect.

**Daily Availability.** Provides service level agreement statistics on a daily and monthly basis. These statistics show the percentage of time that managed elements were functional. Statistics include average hourly, daily, and monthly port and PVC endpoint availability.

**Executive Summary.** Presents summary views of PVC endpoints, SVCs, or ports by customer or by region. Graphs show total in and out traffic, errors, discards, and percentage of volume based on Quality of Service types.

**Forecast.** Enables you to anticipate network growth. Points out possible hot spots that are likely to occur within the next 30 days. Delivers a view into the future so that staff can take whatever steps are necessary to prevent problems from arising.

**Hot Spots.** Identifies specific elements that consistently exceeded a threshold parameter during the previous day. Helps pinpoint problems. Grade of Service charts correlate exceptions and overutilization, allowing network managers to anticipate the impact on Quality of Service commitments.

**Near Real Time.** Not a report type, strictly speaking. Provides utilization, error, and discard data for active interfaces, trunks, and EtherChannels; the time period begins with the most recent poll and goes back six hours; drill-down to daily and monthly data.

**QuickView.** Offers a detailed look at PVC endpoints, ports, or SVCs over three time periods: the previous day, the past month, and the past six hours. Shows the ten elements with the highest daily average utilization and the highest number of call attempts.

**Snapshot.** A subset of the QuickView. When you launch a QuickView, you see tables showing the ten most utilized PVCs, ports, or SVCs. When you launch a Snapshot, a dialog box lets you select specific PVCs, ports, or SVCs for analysis. Launch a QuickView to see the bigger picture. Launch a Snapshot when you know in advance which elements you want to analyze.

**Top Ten.** Shows PVC endpoints, or ports, based on highest utilized direction; the worst performers with the severest problems. The port report shows the utilization for each PVC endpoint on that port; the SVC report looks at call attempts and calls per second.

## Data Collection

The ATM Report Pack monitors devices manufactured by the following vendors:

- Cisco
- Stratacom
- Ascend
- Newbridge
- Fore

If you have Cisco, Fore, or Ascend devices, OVPI will poll your devices. If you have Stratacom or Newbridge devices, OVPI will read a flat file generated by a preprocessor and then import the contents of that file. For more information about the preprocessors, refer to the *Stratacom Preprocessor User Guide* and the *Newbridge Preprocessor User Guide*.

The Cisco ATM Datapipe has a dependency, the ATM ifEntry Datapipe. If you select the Cisco ATM Datapipe for installation, the installation wizard will select and install the ATM ifEntry Datapipe for you, automatically. None of the other vendor-specific ATM datapipes depends on the ATM ifEntry Datapipe.

### Version History

The following table highlights recent enhancements to the ATM Report Pack.

Version	Release Date	Enhancements
1.0	January 2003	<ul> <li>49 reports; 5 datapipes:</li> <li>Cisco ATM Datapipe 1.0</li> <li>Fore ATM Datapipe 1.0</li> <li>Ascend ATM Datapipe 1.0</li> <li>Newbridge ATM Datapipe 1.0</li> <li>Stratacom ATM Datapipe 1.0</li> </ul>
1.0	May 2003	None
2.1	October 2003	1.0-to-2.1 upgrade package
3.0	April 2004	Oracle support OVPI Object Manager support UPGRADE_ATM_2.1_to_3.0 <i>new datapipe and new change forms:</i> • ATM ifEntry Datapipe 1.0 • Update ATM PVC Cell Parameters • Update ATM QoS Parameters • Update Port Information
3.0	August 2004	No changes
3.0	November 2004	No changes
3.0	June 2005	new upgrade package: UPGRADE_ATM_to_3

# Ways to Customize Reports

You can customize reports by importing customers and locations, applying group filters, editing parameters, editing tables and graphs, and adding details about PVC parameters, QoS parameters, and ports. Service providers, or any organization that wants to share reports with customers, use group filters to produce customer-specific reports. Edits to parameters, tables, and graphs are temporary changes that anyone can make. For details about editing tables and graphs (selecting view options) see Appendix A, Editing Tables and Graphs.

## **Group Filters**

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

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

For more information about group filters, refer to the OVPI 5.1 Administration Guide.

### **Editing Parameters**

When you edit a parameter, you apply a constraint to the report. The constraint eliminates the data you are not interested in. For example, if you edit the Customer Name parameter, data for every customer except the customer you typed in the Customer Name field will drop from the report, and if you edit the Location parameter, data for all locations except the location you typed in the Location field will drop from the report.

You can apply multiple constraints at once. ATM 3.0 supports the following parameters:

- Device
- Port Name
- VPI
- VCI
- Customer
- Location

If you are using the Web Access Server to view reports remotely, edit parameters by clicking the edit parameters icon at the bottom right-hand corner of the report. When the Edit Parameters window opens, enter the constraint in the field and click **Submit**.

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

### **Importing Properties**

Provisioning for the ATM Report Pack is handled by a built-in property import utility. Use this utility to populate reports with the following information:

• Customer names and customer IDs

- Regions and region IDs
- Ingress and egress Quality of Service values
- Peak cell rate and sustained cell rate values
- Port speed

If the datapipe you are using supplies these values, you do not need to use the property import utility to import them. However, if the datapipe you are using does not supply them—or if the data supplied is incorrect—then you must use the property import utility to import correct values. For details, see Chapter 5, Adding Properties to Reports.

If you want to update existing information, you have the option of editing a file (a file you exported from OVPI), or using the PVC, QoS, and port change forms. For details about change forms, see Chapter 6, Change Forms.

# Sources for Additional Information

This user guide contains samples of some of the reports in the package. The demo package that comes with this report pack contains samples of every report in the package. If you have access to the demo package and you want to know what fully-populated reports look like, install the demo package. Like real reports, demo reports are interactive. Unlike real reports, demo reports are static.

For information regarding the latest enhancements and any known issues affecting this package, refer to the *ATM Report Pack 3.0 Release Statement*. You may also be interested in the following documents:

- ATM ifEntry Datapipe 1.0 User Guide [July 2005]
- Common Property Tables 3.5 User Guide
- Thresholds Module 5.0 User Guide
- NNM/OVPI Integration Module 2.0 User Guide
- OVPI Report Packs, Version 8.0: Release Notes, June 2005

Manuals for the core product, OVPI, and manuals for the reporting solutions and shared packages that run on OVPI, can be downloaded from this 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 even if the software version number does not change. Since we post revised manuals on a regular basis, we recommend searching this site for updates before making use of an older manual that might not be the latest version available.

# 2 The Upgrade Install

This chapter covers the following topics:

- Guidelines for a smooth upgrade
- Upgrading from ATM 2.1 to ATM 3.0
- Package removal

If you are installing the ATM Report Pack for the first time, this chapter does not apply to you. See Chapter 3, The New Install.

# Guidelines for a Smooth Upgrade

When you insert the June 2005 report pack CD in the CD-ROM drive and launch the package extraction program, the install script extracts every package from the CD and copies the results to the Packages directory on your system. When the extract finishes, the install script prompts you to launch Performance Insight and start Package Manager. Before running Package Manager, review the following guidelines:

- Prerequisites for the ATM Report Pack
- Upgrading Common Property Tables
- Datapipes and remote pollers
- Custom table views
- Upgrading ATM in a distributed environment

### Prerequisites for the ATM Report Pack

Make sure the following software is already installed before upgrading to ATM 3.0:

- OVPI 5.0 or higher
- All service packs available for the version of OVPI (5.0 or 5.1) you are running
- Interface Reporting Report Pack 4.5 or higher
- Common Property Tables 3.5

Interface Reporting 5.0 is one of three enhanced report packs in the June 2005 release of report packs and datapipes. Enhanced report packs require OVPI 5.1. If you are running OVPI 5.1, you are free to upgrade to Interface Reporting 5.0.

## Upgrading Common Property Tables

If you are running version 2.2 or version 3.0 of Common Property Tables, upgrade to version 3.5 by installing the "to\_3.5" upgrade package. When you install the upgrade package, do not install other package. Install the upgrade package for Common Property Tables and *only* the upgrade package for Common Property Tables.

### **Datapipes and Remote Pollers**

If you uninstall an existing datapipe, the following information is lost:

- Single polling policy for a remote poller
- Cloned polling policies for multiple remote pollers
- Customized polling groups

To prevent this information from being lost, you can use the following commands to export existing polling policy configurations and customized polling groups:

- collection\_manager
- group\_manager

### **Exporting Polling Policy Configurations**

If your environment contains polling policies for remote pollers, use the collection\_manager command to export existing policy configurations to a file.

UNIX: As user trendadm, run the following command:

#### cd \$DPIPE\_HOME

#### ./bin/collection\_manager -export -file /tmp/savePollingPolicy.lst

*Windows:* As Administrator, launch a command window. Navigate to the OVPI install directory and execute the following command:

```
bin\collection_manager -export -file \temp\savePollingPolicy.lst
```

#### **Exporting Polling Group Configurations**

If your environment contains customized polling groups, use the group\_manager command to export groups to individual .xml files.

UNIX: As user trendadm, execute the following command:

#### cd \$DPIPE\_HOME

#### ./bin/group\_manager -export\_all -outfile /tmp/savePollingGroups

*Windows:* As Administrator, launch a command window, then navigate to the OVPI install directory and execute the following command:

bin\group\_manager -export\_all -outfile \temp\savePollingGroups

### **Custom Table Views**

If you are using table views you created yourself, the views you created may interfere with the report pack upgrade process, causing the upgrade to fail. Whether or not your views interfere with the upgrade process depends on how you created them. If you used SQL to create them, the upgrade will succeed, however, your custom views will not be available once the upgrade is complete. If you used Datapipe Manager to create them, the upgrade is likely to fail. To prevent the upgrade from failing, delete custom table views before you upgrade the report pack, then recreate those views after the report pack is upgraded.

### Upgrading ATM in a Distributed Environment

Following is an overview of the installation procedure for a distributed environment:

- 1 Disable trendcopy on the central server.
- **2** For the central server:
  - Upgrade to Common Property Tables 3.5; deploy reports.
  - Upgrade to Interface Reporting 5.0; deploy report.s
  - Upgrade to ATM 3.0; deploy reports.
- **3** For each satellite server:
  - Upgrade to Common Property Tables 3.0 or highe.r
  - Upgrade to Interface Reporting 5.0.
  - Upgrade to ATM 3.0.
  - Remove existing datapipes (the datapipes you were using with ATM 2.0).
  - Install one or more new datapipes.
- 4 Re-enable trendcopy on the central server.

When ATM 2.1 was installed, the person who installed that version had to set up connections with satellite server databases, configure trendcopy commands, and switch off aggregations above the hourly level at each satellite server. If you recently upgraded from OVPI 4.6 to OVPI 5.0, some of the server configuration changes that were made when ATM 2.1 was installed must be redone as soon as ATM 3.0 is installed. You must set up connections with satellite server databases again (this time using the Add Database Wizard), and you must configure trendcopy pull commands again. For details, see Chapter 4, Distributed Systems.

# Upgrading to Version 3.0

Perform the following tasks to upgrade from any earlier version to version 3.0:

- Task 1: Stop OVPI Timer and extract packages from the reporting solutions CD
- Task 2: Upgrade Common Property Tables
- Task 3: Upgrade from Interface Reporting 3.0 to Interface Reporting 5.0
- Task 4: Install the UPGRADE\_ATM\_Checker package
- Task 5: Install UPGRADE\_ATM\_to\_30
- Task 6: Remove any old datapipes that are currently installed

- Task 7: Install new datapipes
- Task 8: Restart OVPI Timer

#### Task 1: Stop OVPI Timer and extract packages from the report pack CD

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

On Windows, do the following:

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

On 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. On Windows, a Main Menu displays automatically; on UNIX, mount the CD if the CD does not mount automatically, navigate to the top level directory on the CD, and run the **./setup** command.
- 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.

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

- ATM.ap
- ATM\_Demo.ap
- UPGRADE\_ATM\_to\_3.ap
- UPGRADE\_ATM\_Checker

#### Task 2: Upgrade to Common Property Tables 3.0 or higher

Follow these rules:

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

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

#### Task 3: Upgrade to Interface Reporting 5.0

- 1 Install the "to\_5.0" upgrade package.
- 2 Remove these datapipes:
  - Interface Discovery Datapipe 1.1 / 2.0 / 2.1
  - Interface Reporting if Entry Datapipe 1.1 / 2.0 / 2.1

- **3** Install these datapipes:
  - Interface Discovery Datapipe 2.2
  - Interface Reporting ifEntry Datapipe 2.2

When the new datapipes are installed, click **Done** to return to the Management Console.

#### Task 4: Install UPGRADE\_ATM\_Checker

- 1 From the Management Console, select **Tools > Package Manager**. The Package Manager welcome window opens.
- 2 Click Next. The Package Location window opens.
- 3 Click Install.
- 4 Click **Next**. The Report Deployment window opens. Accept the defaults for Deploy Reports, Application Server, and Port. Type your user name and password for the OVPI Application Server.
- 5 Click Next. The Package Selection window opens.
- 6 Click the check box next to the following package:

 $UPGRADE\_ATM\_Checker$ 

- 7 Click Next. The Type Discovery window opens. Disable the default.
- 8 Click Next. The Selection Summary window opens
- **9** Click **Install**. The Installation Progress window opens and the install begins. When the install finishes, a package install complete message appears.
- 10 Click Done.
- 11 Navigate to DPIPE\_HOME/temp. Review the contents of the output file:

check\_ATM\_Property\_consistency.out

12 Fix any errors.

#### Task 5: Install the "to\_3.0" upgrade package

- 1 Start Package Manager. The Package Manager welcome window opens.
- 2 Click Next. The Package Location window opens.
- **3** Click Install.
- 4 Click **Next**. The Report Deployment window opens. Accept the defaults for Deploy Reports, Application Server, and Port. Type your user name and password for the OVPI Application Server.
- 5 Click Next. The Package Selection window opens.
- 6 Click the check box next to the following package: UPGRADE\_ATM\_to\_3.0
- 7 Click Next. The Type Discovery window opens. Disable the default.
- 8 Click Next. The Selection Summary window opens
- **9** Click **Install**. The Installation Progress window opens and the install begins. When the install finishes, a package install complete message appears.

#### 10 Click Done.



Do not be surprised if the UPGRADE package you just installed seems to have disappeared from view. Package Manager will display what you just installed as *ATM Report Pack 3.0*. This is not an error.

#### Task 6: Remove old datapipes

The datapipes you were using cannot be upgraded. You must remove existing datapipes, then install the latest version of each datapipe. Start Package Manager and follow the on-screen instructions for package removal. When Package Manager tells you that removal is complete, click **Done** to return to the Management Console.

#### Task 7: Install new datapipes

- 1 Start Package Manager. The Package Manager welcome window opens.
- 2 Click Next. The Package Location window opens.
- 3 Click Install.
- 4 Click Next. The Report Deployment window opens; disable the default for Deploy Reports.
- 5 Click Next. The Package Selection window opens.
- 6 Click the check box next to one or more of the following packages:

Cisco ATM Datapipe 3.0



The Cisco ATM Datapipe requires the ATM ifEntry Datapipe 1.0. Package Manager will install the ATM ifEntry Datapipe 1.0 for you. The ATM ifEntry Datapipe supports directed-instance polling.

Ascend ATM Datapipe 3.0 Fore ATM Datapipe 3.0 Stratacom ATM Datapipe 3.0 Newbridge ATM Datapipe 3.0]

- 7 Click Next. The Type Discovery window opens. Disable the default.
- 8 Click Next. The Selection Summary window opens.
- **9** Click **Install**. The Installation Progress window opens and the install begins. When the install finishes, the package installation complete message appears.
- 10 Click Done.

#### Task 8: Restart OVPI Timer

On Windows, do the following:

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

On UNIX, as root, do one of the following:

HP-UX: sh /sbin/ovpi\_timer start

# Post-Upgrade Steps

Reconfigure any polling policies and customized group definitions that need to be restored. Do not re-import the configurations you exported. Since the old datapipe may be incompatible with the new datapipe you just installed, re-importing the configurations you exported could lead to data corruption. In addition, if you removed any custom table views before upgrading the report pack, you can recreate those custom table views now.

## Package Removal

Follow these steps to uninstall ATM 3.0. Removing ATM 3.0 will automatically remove any datapipes that ATM 3.0 is using.

- 1 Log in to the system. On UNIX systems, log in as root.
- 2 Stop OVPI Timer and wait for processes to terminate.
- 3 Select Management Console > Package Manager. A welcome window opens.
- 4 Click Next. The Package Location window opens.
- 5 Click Uninstall.
- 6 Click Next. The Report Undeployment window opens.
- 7 If ATM reports were deployed from this server, accept the defaults for Undeploy Reports, Application Server Name, and Port. If ATM reports were **not** deployed from this server, 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:

ATM 3.0

ATM\_Demo 3.0

- 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.
- 15 Restart OVPI Timer.

On Windows, do the following:

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

On UNIX, as root, do one of the following:

HP-UX: sh /sbin/ovpi\_timer start Sun: sh /etc/init.d/ovpi\_timer start

# 3 The New Install

This chapter covers the following topics:

- Guidelines for a smooth installation
- Installing ATM 3.0
- Accessing deployed reports; seeing performance data in reports
- Package removal

If you are currently running ATM 2.0, this chapter does not apply to you. See Chapter 2, The Upgrade Install.

# Guidelines for a Smooth Install

Each reporting solution created for OVPI consists of two packages, a report pack and a datapipe, or sometimes a report pack and multiple datapipes. By installing a datapipe, you configure OVPI to poll individual devices or read flat files produced by a preprocessor. By installing a report pack, you configure OVPI to summarize and aggregate data collected by the datapipe.

When you insert the June 2005 report pack CD in the CD-ROM drive and launch the package extraction program, the install script extracts every package from the CD and copies the results to the Packages directory on your system. When the extract finishes, the install script prompts you to launch Performance Insight and start Package Manager. Before running Package Manager, review the following guidelines.

### Prerequisites

Make sure the following software is already installed before installing the ATM Report Pack:

- OVPI 5.0 or higher
- All service packs available for the version of OVPI (5.0 or 5.1) you are running
- Interface Reporting Report Pack 5.0
- Common Property Tables 3.5

## Upgrading Common Property Tables

If you are running an older version of Common Property Tables, upgrade your version to version 3.5. If you are not running any version of Common Property Tables, let Package Manager install Common Property Tables for you.

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

### **Distributed Environments**

If you intend to run ATM 3.0 in a distributed environment, every server must be running OVPI 5.0 and all available Service Packs for OVPI 5.0. Here is an outline of the procedure for installing ATM 3.0 in a distributed environment:

- 1 Disable trendcopy on the central server.
- **2** If you are running Common Property Tables 2.2 or 3.0 on the central server, upgrade to 3.5.
- **3** If you are running Interface Reporting 3.0, 4.5, or 4.6, upgrade to 5.0.
- 4 Install ATM 3.0 on the central server; deploy reports.
- **5** For each satellite server:
  - If the server is running CPT 2.2, upgrade to 3.0.
  - If the server is running an earlier version of Interface Reporting, upgrade to 5.0.
  - Install ATM 3.0.
  - Install at least one datapipe.
- 6 Re-enable trendcopy on the central server.

As soon as installation is complete, you must set up connections with satellite server databases, configure trendcopy pull commands, and switch off aggregations above the hourly level at each satellite server. For details, see Chapter 4, Distributed Systems.

# Installing ATM 3.0

This section covers the following tasks:

- Task 1: Stop OVPI Timer and extract packages from the report pack CD
- Task 2: If necessary, upgrade to Common Property Tables 3.5
- Task 3: Install these packages:
  - ATM 3.0
  - At least one ATM datapipe
  - Interface Reporting 4.6
- Task 4: Restart OVPI Timer

#### Task 1: Stop OVPI Timer and extract packages from the report pack CD

- 1 Log in to the system. On UNIX systems, log in as root.
- 2 Stop OVPI Timer and wait for processes to terminate.On Windows, do the following:
  - **a** Select Control Panel > Administrative Tools > Services.

- **b** Select OVPI Timer from the list of services.
- c From the Action menu, select Stop.

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

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

- ATM.ap
- ATM\_Demo.ap
- UPGRADE\_ATM\_to\_3.ap

Ignore the upgrade package. Installing the demo package is optional. You may install just the demo package, by itself, or you may install the demo package along with everything else.

#### Task 2: Upgrade to Common Property Tables 3.5

If you are running an older version of Common Property Tables, upgrade to Common Property Tables 3.5. Observe these rules:

- Do not install any other package with the upgrade package; install the Common Property Tables upgrade package and *only* the Common Property Tables upgrade package.
- Accept the default for Deploy Reports. If you do not deploy reports, you will not get the forms that come with Common Property Tables.
- When Package Manager indicates the upgrade installation is complete, click **Done** to return to the Management Console.

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

#### Task 3: Install ATM and at least one datapipe

- 1 From the Management Console, select **Tools > Package Manager**. The Package Manager welcome window opens.
- 2 Click Next. The Package Location window opens.
- 3 Click Install.
- 4 Click **Next**. The Report Deployment window opens. Accept the default for Deploy Reports; accept the default for application server name and port. Type your username and password for the OVPI Application Server.
- 5 Click Next. The Package Selection window opens.
- 6 Click the check box next to the following package:

ATM 3.0

ATM\_Demo 3.0 [optional]

7 Click the check box next to at least one of the following packages:

Cisco ATM Datapipe 3.0



The Cisco ATM Datapipe requires the ATM ifEntry Datapipe 1.0; Package Manager will install the ATM ifEntry Datapipe for you. The ATM ifEntry Datapipe supports directed-instance polling.

Ascend ATM Datapipe 3.0

Fore ATM Datapipe 3.0

 $Stratacom\,ATM\,Datapipe~3.0$ 

Newbridge ATM Datapipe 3.0

- 8 Click Next. The Type Discovery window opens.
- **9** To run Type Discovery immediately after package installation, accept 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 finishes, a package install complete message appears.
- 11 Click **Done** to return to the Management Console.

#### Task 4: Restart OVPI Timer

On Windows, do the following:

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

On UNIX, as root, do 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 ATM Report Pack, you enabled the Deploy Reports option. As a result, the reports in this package (as well as any forms that come with the package) were deployed to the OVPI Application Server. Once reports and forms are deployed to the OVPI Application Server, you have two ways to view them:

- OVPI clients
- Web browser

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

For more information about the client applications, refer to the *OVPI 5.1 Installation Guide*. For more information 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 5.1 Administration Guide*.

### Seeing Performance Data in Reports

Some reports populate with data sooner than others. The first report to populate with data is the Near Real Time report. You will see data in this report within a few hours of installation. Other reports, including any report that begins with an analysis of yesterday's performance, will need at least one full day's worth of data before results are available. Although capacity planning and forecast reports will begin to populate with data right away, reliable forecasting depends on a complete baseline, which takes about six weeks to produce.

## Package Removal

Follow these steps to uninstall ATM. Removing ATM will automatically remove any datapipe that is collecting data for ATM.

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

On Windows, do the following:

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

On 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. The Package Manager welcome window opens.
- 4 Click Next. The Package Location window opens.
- 5 Click Uninstall.
- 6 Click Next. The Report Undeployment window opens.
- 7 If ATM reports were deployed from this server, accept the defaults for Undeploy Reports, Application Server Name, and Port. If ATM reports were **not** deployed from this server, clear the check box and skip to step 9.
- 8 Type the username and password for the OVPI Application Server.
- 9 Click Next. The Package Selection window opens.
- 10 Click the check box next to *ATM* 3.0.
- 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.

On Windows, do the following:

**a** Select Control Panel > Administrative Tools > Services.

- **b** Select OVPI Timer from the list of services.
- c From the Action menu, select Start.

On UNIX, as root, do one of the following:

HP-UX: sh /sbin/ovpi\_timer start Sun: sh /etc/init.d/ovpi\_timer start

# 4 Distributed Systems

This chapter explains how to configure OVPI servers in a distributed environment. It covers the following topics:

- Package installation
- Central server configuration
- Satellite server configuration
- System clocks

# Package Installation

Before configuring servers, let's verify that you installed packages correctly. The central server requires the following packages:

- ATM 3.0, with reports deployed
- Interface Reporting 5.0, with reports deployed
- Common Property Tables 3.5, with reports (forms) deployed

Your satellite servers require the following packages:

- ATM 3.0
- Common Property Tables 3.5
- At least one of the following datapipes:
  - Ascend ATM Datapipe 3.0
  - Fore ATM Datapipe 3.0
  - Cisco ATM Datapipe 3.0



This datapipe requires the ATM ifEntry Datapipe 1.0.

- Stratacom ATM Datapipe 3.0
- Newbridge ATM Datapipe 3.0

Typically, the central server does not poll. If you want the central server in your system to poll, install datapipes on the central server. You may deploy reports from satellite servers, but only if you want to view reports from satellite servers.

# Configuring the Central Server

To configure the central server, perform the following tasks:

- Task 1: Set up connections with satellite server databases
- Task 2: Configure trendcopy pull commands and modify the entry in trendtimer

#### 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 finish adding databases.

#### Task 2: Configure trendcopy pull commands and modify the entry in trendtimer

1 Open this file:

\$DPIPE\_HOME/scripts/ATM\_trendsum\_hourly.pro

- 2 Modify the trendcopy commands so that each command includes the correct server name for each satellite server.
- **3** If necessary, add more commands.
- 4 *Optional*. If the installation requires rate data to be available on the central server, uncomment the Ratm copy commands.



Copying polled rate data from each satellite server every hour increases the amount of traffic between the satellites and the central server; it also increases the processing load on the central server.

- 5 If you do not require rate data to be available on the central server, undeploy the Near Real Time and Hot Spots reports from the application server machine that is using the central server.
- 6 If the central server is not going to poll any devices, comment out the calls to trend\_sum.
- 7 Modify the hourly trendtimer entry. The default is 40 minutes after the hour. Change the start time to 25 minutes after the hour. Changing the time will prevent the central server from trying to copy data from satellite servers just when the satellite servers are beginning their summarizations.

# **Configuring Satellite Servers**

Follow these steps to configure each satellite server.

1 Switch off interface aggregations above the hourly level by editing the \$DPIPE\_HOME/
lib/trendtimer\_sched file; comment out the line referencing ATM\_Daily.pro.



If you want the server to perform a local reporting function, do not switch off the higher aggregations. Switching off the higher aggregations disables everything except the NRT reports.

- 2 Using Table Manager, reduce the retention period of all ATM tables to a maximum of 2 days.
- **3** Configure polling policies for each datapipe, taking care that each node is being polled by one datapipe on one server.
  - If remote pollers are being used, avoid duplicate polling across the pollers or between the satellite and the pollers.
  - If a satellite server has two or more remote pollers, create separate polling policies for each poller and use view groups to separate the devices.

# System Clocks

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

# 5 Adding Properties to Reports

There are three property import files that must be produced in accordance with the naming and file-layout formats defined by the ATM Report Pack. The files are:

- ATM\_Port\_Property.dat
- ATM\_PVC\_Property.dat
- ATM\_SVC\_Property.dat

There are three ways to produce property import files:

- Export the data you need from a network provisioning system
- Export existing property data from OVPI
- Create the files yourself

This chapter covers the following topics:

- The property import utility
- Creating your own property import files
- Changing the default run time

# Property Import Utility

Provisioning for the ATM Report Pack is handled by a property import utility packaged with the report pack. Use this utility to populate reports with the following information:

- Customer names and customer IDs
- Regions and region IDs
- Ingress and egress Quality of Service values
- Peak cell rate and sustained cell rate values
- Port speed

If you want to produce reports tailored to one customer or region, you must use the property import utility to import customer and region information. If you are operating an enterprise network, you have the option of importing information about each division of the company, treating each division as though it were a customer.

Whether or not you need to import Quality of Service, cell rate, and Port speed values depends on the datapipe you are using. If the datapipe provides these values, you will not need to use the property import utility to import these values. However, if the datapipe you installed does not provide this information—or if the data that it provides is incorrect—you must use the property import utility to import correct values.

To calculate utilization, OVPI requires values for the following attributes:

- PCR
- SCR
- Port Speed

PCR and SCR values are used by OVPI to determine peak and sustained cell utilization. Port speed is used by OVPI to determine port utilization.

## Exporting Data from a Network Provisioning System

Exporting data from a network provisioning system is the easiest of the three options for creating the property import files. If this method is available, most of your work is already done.



When exporting customer data from a provisioning system, the dsi\_target\_name and dsi\_table\_key must match what the collector (ee\_collect or mw\_collect) has as the dsi\_target\_name and dsi\_table\_key.

Follow these steps to export data from a network provisioning system:

- 1 Create three property import files and name each file correctly.
- 2 Write a script to output the necessary fields.
- 3 Place your property import files in the directory where OVPI expects to find them.

When the daily import process runs, the property import utility will import the information from the property data files into the property tables.

## Exporting Files from OVPI

Exporting property data from OVPI is an option only if property information already exists in property tables. Initially, there will be no property data to export.

The export process does not run automatically. You initiate it manually any time that you want to update a property table or create an entry in the trendtimer\_sched file. The export process generates tab-delimited, time-stamped property data files and puts the files in the default PropertyData directory. You can then edit each file in WordPad or a spreadsheet application such as Microsoft Excel.



If you bring the data into a spreadsheet program, be sure to save the file in the proper tab-delimited format.

Can you simply leave the original property import files in the PropertyData directory, edit them as needed, and then run the import process to load the updates? No. Since your datapipes may be discovering new elements and updating certain fields in the property tables, your original property import files will be outdated.

### **Export Procedure**

Follow these steps to export property information from OVPI:

- 1 Go to a command prompt line at the system level.
- 2 In the {DPIPE\_HOME}/scripts directory, type:

#### trend\_proc -f ATM\_exportdata.pro

The export program does the following:

- Reads a definition file to determine which columns to export from the property tables
- Exports data from K\_atm\_pvc, K\_atm\_port, and K\_atm\_svc into the directory that has been designated to hold the export files

The files contain one row for each object. If no objects have been discovered—that is, if no polling cycle has been completed yet and the property tables are empty—the files do not contain any rows.

- Generates the following tab-delimited property data files and places them in the default directory:
  - ATM\_PVC\_Property.dat.timestamp
  - ATM\_Port\_Property.dat.timestamp
  - ATM\_SVC\_Property.dat.timestamp
- 3 Edit these files according to the guidelines in Editing a Property Data File below.
- 4 Place the property data files in the directory where OVPI expects to find them:

DPIPE\_HOME/data/PropertyData

5 You may run the import process manually, ahead of schedule, or wait for the same process to run automatically. If you want to run the process manually, enter the following command in the in the {DPIPE\_HOME}/scripts directory:

#### trend\_proc -f ATM\_importdata.pro

#### Editing a Property Data File

When editing a property data file, observe these guidelines:

- Use every column that the format dictates.
- Do not modify the sequence of columns.
- Do not use quotes.
- Do not use NULL values.
- Make sure that the property data columns of dsi\_target\_name and dsi\_table\_key match the values of dsi\_target\_name and dsi\_table\_key in the property table.



If you have a dsi\_target\_name of atmSwitch2 with a dsi\_table\_key value of 145 in your property file, there must be a matching dsi\_target\_name of atmSwitch2 with a dsi\_table\_key value of 145 in the property table. Otherwise, a new row and keyid value will be inserted into the property table.

- The prop\_PortName must be the same value that the datapipe inserts for dsi\_table\_key into the property table when collecting data for the Port statistics.
- Set the values of the \*\_id values to -2 (the default), if you are not using some or all of them. If you are not using region\_id, set the value for region\_id in your file to -2.
- Use the following file naming convention: ATM\_element\_Property.dat

Place your file in this directory:

```
{DPIPE_HOME}/data/PropertyData
```

# Creating Your Own Property Import File

If export from a network provisioning database is not an option for you, and there is no property data to export from OVPI, you must create the files manually and save them to the proper directory. It does not matter which spreadsheet application you use to create these files. However, you must save the results as ASCII tab-delimited files.

The ATM Report Pack includes sample property data files in the PropertyData directory. Use these files for guidance in creating your own property import files. From left to right, the columns in the sample files are as follows:

- 1 dsi\_target\_name
- 2 dsi\_table\_key
- 3 prop\_description
- 4 prop\_PortSpeed
- 5 prop\_PortType
- 6 prop\_cust\_id
- 7 prop\_region\_id
- 8 prop\_region\_name
- 9 prop\_customer\_name

If the sample file shows data in the region and customer columns, the user wants to see performance data by region as well as by customer.

### **Required Utilization Values**

OVPI is unable to calculate utilization unless various utilization values are available. If the datapipe does not provide these values, or if the values provided by the datapipe are incorrect, you must add these values to your property import files and then import them.

PVC utilization cannot be calculated unless the following values are available:

- prop\_SCR
- prop\_RevSCR
- prop\_PCR
- prop\_RevPCR

Port utilization cannot be calculated unless the prop\_PortSpeed value is available.

Although you can modify the properties of an existing PVC, port, or SVC, you should not modify dsi\_target\_name or dsi\_table\_key, because these values are used by OVPI to identify the PVC, port, or SVC. If you change them, they will no longer match existing values in the property tables, causing the SQL update script to add a new row to the property table instead of modifying an existing row.

### File Formats and Reserved Values

This section describes the format of the following files:

• ATM\_PVC\_Property.dat

- ATM\_Port\_Property.dat
- ATM\_SVC\_Property.dat

### ATM\_PVC\_Property.dat

The following table shows the sequence of columns in the PVC property import file and provides a definition for each column value.

Column	Definition
dsi_target_name	Device name or IP address.
dsi_table_key	Device index: a unique value based on how the device is indexed or summarized.
prop_description	Customer definable field that is used in des_descr.
prop_ATMQoSNumber	Database value: integer Required by the ReportPack. Enumerated Value for Class Name of Ingress QoS. -2 = Unassigned QoS (default) 1 = CBR 2 = VBR-RT 3 = VBR-NRT 4 = ABR 5 = UBR
prop_RevATMQoSNumber	Database value: integer Required by the ReportPack. If not set uses the value from ATMQoSNumber. Enumerated Value for Class of Egress QoS -2 = Unassigned QoS (default) 1 = CBR 2 = VBR-RT 3 = VBR-NRT 4 = ABR 5 = UBR
prop_SCR	Database value: float Required by the ReportPack if applicable. Sustained cell rate on the egress direction.
prop_RevSCR	Database value: float Required by the ReportPack if applicable. If not set uses the value from SCR. Sustained cell rate on the ingress direction.
prop_PCR	Database value: float Required by the ReportPack if applicable. Peak cell rate on the egress direction.

Column	Definition
prop_RevPCR	Database value: float Required by the ReportPack if applicable. If not set uses the value from PCR. Peak cell rate on the ingress direction.
prop_VPI	Database value: float Virtual Path Identifier.
prop_VCI	Database value: float Virtual Channel Identifier.
prop_ATMPVCNumber	Database value: integer 1 - ATM Channel 2 = ATM Path -2 = Unknown (default)
prop_PortSpeed	Not required for PVC endpoints. Database value: float Port speed in bits per second for the ingress direction.
prop_PortType	Database value: varchar (128) Port type (UNI, NNI, ICI, etc.) for the ingress direction.
prop_PortName	<ul> <li>Database value: varchar (128)</li> <li>Required by the ReportPack. Should be supplied by the DataPipe.</li> <li>The port on which the PVC endpoint resides. This value should match the prop_PortName value in the K_atm_port table associated with the same device and port that the PVC endpoint is located on.</li> </ul>
prop_PortDescription	Database value: varchar (128) User definable.
prop_cust_id	Database value: integer Required by the ReportPack. Unique integer value for each customer. Assigned a default value of -2 when first populated.

Column	Definition
prop_region_id	Database value: integer
	Required by the ReportPack.
	Unique integer value for each region. Assigned a default value of -2 when first populated.
prop_region_name	Database value: varchar (128)
	Required by the ReportPack.
	Region name associated with region_id value.
customer_name	Database value: varchar (128)
	Required by the ReportPack.
	Customer name associated with cust_id.

### ATM\_Port\_Property.dat

The following table shows the sequence of columns in the port property data file and provides a definition for each column value.

COLUMN	DEFINITION						
dsi_target_name	Device name or IP address.						
dsi_table_key	Device index: a unique value based on how the device is indexed or summarized.						
prop_description	Customer definable field that is used in des_descr.						
prop_PortSpeed	Database value: float Required by the ReportPack. Port speed in bits per second for the ingress direction.						
prop_PortType	Database value: varchar (128) Port type (UNI, NNI, ICI, etc.) for the ingress direction.						
prop_PortName	Database value: varchar (128) Required by the ReportPack. Should be supplied by the DataPipe. The port value. This value should match the dsi_table_key listed above.						
prop_PortDescription	Database value: varchar (128) User definable.						
prop_cust_id	Database value: integer Required by the ReportPack. Unique integer value for each customer. Assigned default value of -2 when first populated.						

COLUMN	DEFINITION
prop_region_id	Database value: integer
	Required by the ReportPack.
	Unique integer value for each region. Assigned default value of -2 when first populated.
prop_region_name	Database value: varchar (128)
	Required by the ReportPack.
	Region name associated with region_id value.
prop_customer_name	Database value: varchar (128)
	Required by the ReportPack.
	Customer name associated with cust_id.

### ATM\_SVC\_Property.dat File

The following table shows the sequence of columns in the SVC property data file and provides a definition for each column value.

COLUMN	DEFINITION
dsi_target_name	Device name or IP address.
dsi_table_key	Device index: a unique value based on how the device is indexed or summarized.
prop_description	Customer definable field that is used in des_descr.
prop_PortType	Database value: varchar (128)
	Port type (UNI, NNI, ICI, etc.) for the ingress direction.
prop_PortName	Database value: varchar (128)
	Required by the ReportPack. Should be supplied by the DataPipe.
	The port value. This value should match the dsi_table_key listed above.
prop_PortDescription	Database value: varchar (128)
	User definable.
prop_cust_id	Database value: integer
	Required by the ReportPack.
	Unique integer value for each customer. Assigned default value of -2 when first populated.
prop_region_id	Database value: integer
	Required by the ReportPack.
	Unique integer value for each region. Assigned default value of -2 when first populated.

COLUMN	DEFINITION
prop_region_name	Database value: varchar (128)
	Required by the ReportPack.
	Region name associated with region_id value.
prop_customer_name	Database value: varchar (128)
	Required by the ReportPack.
	Customer name associated with cust_id.

### **Reserved Values**

Certain values for region\_id and cust\_id are reserved. The following table indicates which values are reserved

COLUMN NAME	RESERVED VALUE
region_id	-2, -1, and 0
cust_id	-2, -1, and 0

### **Import Procedure**

To import information from the property data files to the property tables in OVPI, run the import process manually or let the import process run automatically. To run the import process manually:

- 1 Navigate to the {DPIPE\_HOME}/scripts directory.
- 2 Type trend\_proc -f ATM\_importdata.pro to run import.

The import process runs automatically at 4:00 a.m. If you do not want to use the default time, you can change it. See Changing the Default Run Time on page 40.

When the import process runs, ee\_collect accesses the PropertyData directory and looks for property data files. If there are no files in the directory, the import process stops. If there are files to read, OVPI populates a set of temporary *property data tables*. These tables are truncated (replaced) daily. Once the temporary property data tables are populated, an SQL update script uses values in the temporary property tables to update the permanent property tables.

Updating a property table can mean overwriting existing information or adding new information. When a row in a temporary property data table has an exact match with a row in a permanent property table, the update script overwrites the row in the property table. When a row in the temporary table has no corresponding match in a property table, two things happen:

- The datapipe (specifically, ee\_collect) adds a new row to the property table.
- The update script adds values to the row.

Old property data files move to the Archive directory, leaving the PropertyData directory empty. It remains empty until you export files from OVPI.

### Property Data Tables and Property Tables

The following table indicates which property data table and which property tables are updated by each import file.

Property Data File	Property Data Table	Property Table
ATM_PVC_Property.dat	Ratm_pvc_property	K_atm_pvc K_atm_pvc_exec K_atm_pvc_exec_region
ATM_Port_Property.dat	Ratm_port_property	K_atm_port K_atm_port_exec K_atm_port_exec_region
ATM_SVC_Property.dat	Ratm_port_svc	K_atm_svc K_atm_svc_exec K_atm_svc_exec_region

### Changing the Default Run Time

The default run time for the automatic import process is 4:00 a.m. To change the default setting, do this:

- 1 Open the trendtimer\_sched file in the OVPI/lib directory.
- 2 In the line that defines the interval and offset for the trend\_proc that executes the ATM\_importdata.pro command, change the offset indicator, that is, the number after the plus (+) sign. For example, if you change 04:00 to 18:00, the import utility will run every day at 6:00 p.m.

# 6 Change Forms

ATM 3.0 includes the following change forms:

- Update ATM PVC Cell Parameters
- Update ATM QoS Parameters
- Update Port Information

You cannot assign PVCs or ports to customers or locations that Common Property Tables does not already recognize. Add customers and locations to Common Property Tables using the **Create New Customer** form and the **Create New Location** form, or by using the batch-mode property import that comes with Common Property Tables. For details, refer to the *Common Property Tables 3.5 User Guide*.

### Update ATM PVC Cell Parameters

Follow these steps to update PVC cell parameters:

- 1 Select HP OpenView > Performance Insight > Management Console.
- 2 Click **Objects**, navigate to the interface you want to update, and select it. (Or, select a device in order to update all interfaces on that device.) The Update ATM PVC Cell Parameters form is listed under **Object Specific Tasks**.
- 3 Double-click Update ATM PVC Cell Parameters. The form opens.

**4** Modify cell parameters. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

UPDAT	E PVC CEL	L PAR	AMET	ERS							.,		,
Use this form	to update ATM cell r	related inf	ormation.										
SCR - I PCR - I MCR - I MES - I	PVC Virtual Path lide Sustained cell rate i Peak cell rate in the Minimum cell rate in Maximum burst size Cell delay variation t	n the egre egress di the ingre	rection		Revect	2 - Su 2 - Pe 2 - Mi - Ce	ak cell reate	ate in the In the Ingr ate on the	ther ingress direction egress direction				
				P	/C Curren	t Cell F	ameters						
Target Name	PortName	VPI	VCI	SCR	RevSCR.	PCR	RevPCR	MCR	RevMCR	MBS	CLR	COVT	C1D
172.28.128.4	78	7.60	32.00										
6.24	1-11-1-10.32	10.00	32.00										
5.2	1-12-1-10.32	10.00	32.00					89.00					
5.7	2-11-3-0.34	0.00	34.00										
5.1	1-5-2-0.35	0.00	35.00										
5.1	1-5-2-0.62	0.00	62.00										
5.2	1-12-1-10.100	10.00	100.00										
<i>*</i> *	1 1 1 1 1 1 1 1 1	10.00	404.00				1						
SCR [		Rev50	R		PC	R			RevPCR				
MCR		RevM	CR		МВ	s [			CLR				
срут					ст	• [							

### Update ATM QoS Parameters

Follow these steps to update QoS parameters:

- **1** Select HP OpenView > Performance Insight > Management Console.
- 2 Click **Objects**, navigate to the interface you want to update, and select it. You may also select a device, if you want to update all the interfaces on that device. The forms appear under **Object Specific Tasks**.
- 3 Double-click Update ATM QoS Parameters. The form opens.

4 Modify QoS parameters. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

UPDATE AT	M PVC Q	S Pa	rame	ters			Invent		
Use this for to update the ATM GoS parameters									
PortName -	ATM PVC Virtual I Port associated y Class name of th Enumerated Class	with the P ie ingres	VC end s GoB	point.	VCI pvr_id RevATNOaB RevATNOaSNum	<ul> <li>ID to connect i</li> <li>Class name of</li> </ul>	al Channel Idenfier wo PVC end points. (the egress GoS ass name value (egress)		
			Cu	rrent ATM	A PVC QoS Pa	rameters			
Target Name	PortName	VPI	VCI	ATNQoS	RevATMQaS	ATMQeSNumber	RevATMQoSNumber	pvc.	
172.28.128.4	78	7.00	32.00					77	
5.24	1-11-1-10.32	10.00	32.00			-2.00	-2.00	-2.	
6.2	1-12-1-10.32	10.00	32.00			-2.00	-2.00	-2.	
6.7	2-11-3-0.34	0.00	34.00			-2.00	-2.00	-2.	
6.1	1-5-2-0.35	0.00	35.00			-2.00	-2.00	-2.	
5.1	1-5-2-0.82	0.00	62.00			-2.00	-2.00	-2	
ATMQoS ATMQoSNum	ıber				RevAT RevAT	MQoS [			
WAENING - When	you press "Apply	m or mole		c id parameters	s will be updated				

### **Update Port Information**

Follow these steps to update port information:

- 1 Select HP OpenView > Performance Insight > Management Console.
- 2 Click **Objects**, then navigate to and select the interface you want to update or the device for which you want to update one or more interfaces. The Update Port Information form is listed under **Object Specific Tasks**.
- 3 Double-click Update Port Information. The form opens.

4 Modify port information. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

Jse this form for th	e updation of AT	M Port Information					
Port Port Sist I Port 1 RevP		The port on which th Description for the F The port number of Port type (UN, NN) Port type (UN, NN) Port type (UN, NN)	Port. which this lo which this log ICL etc.) for t ICL, etc.) for t	gical port is (cal port is 1e ingress ) 1e egress (	configured. configured. firection. firection.		
Torrest Marco	Destiliance		ent ATM F		-	Pro Creation	DestCo
172 20:120 4	PortName 74	PortDescription	PortiD	SlotiD	PortType	RevPortType	PortSpeer
172 20.120 4	78			_			0.00
51	1-10-1						0.00
51	1-10-1						0.00
5.1	1-11-1						0.00
5.1	1-5-1						0.00
Port Name Port ID			Port ( Slot II	)escriptic	×n		
Port Type		]	RevP	ort Tvoe			

## 7 PVC Folder: Sample Reports

The PVC folder contains the following reports:

- Availability
- Capacity Planning: PCR Utilization (2 reports: daily and monthly)
- Capacity Planning: SCR Utilization (2 reports: daily and monthly)
- Executive Summary by Customer (2 reports: daily and monthly)
- Executive Summary by Region (2 reports: daily and monthly)
- Endpoint Configuration (2 reports: daily and monthly)
- Forecast: PCR Utilization
- Forecast: SCR Utilization
- Hot Spots (2 reports: daily and monthly)
- QuickView (3 reports: daily, monthly, and Near Real Time)
- Snapshot (3 reports: daily, monthly, and Near Real Time)
- Top Ten

See below for samples of the following reports:

- Capacity Planning: PCR Utilization Daily
- Hot Spots Daily
- Availability
- Executive Summary by Customer: Daily
- Top Ten
- QuickView Near Real Time
- Forecast: PCR Utilization

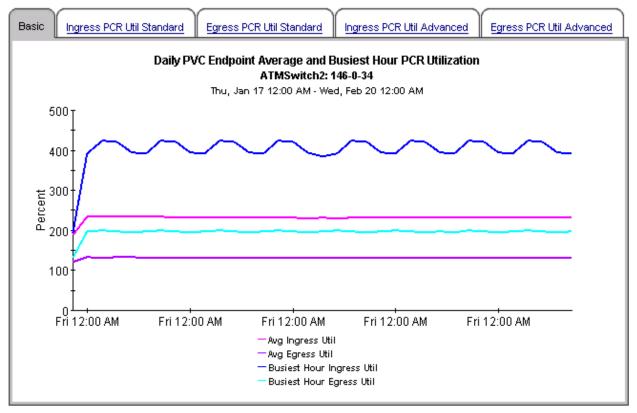
## ATM PVC Endpoint PCR Utilization Capacity Planning



Designed for CIOs, network planners, and network managers, the Capacity Planning report details the most over-and under-utilized PVC Endpoints based on a 30 day forecast. Baseline and forecasted values are based on the busiest hour of the day. These reports can indicate opportunities for load balancing to improve service levels without additional investment.

#### Overutilized PVC Endpoints with a 30 Day Forecasted Value for Utilization > 60%

						Utili	ization i	s Based on t	the Peak C	ell Rate (l	PCR)			
Device	PVC	PVC Descript		QoS	РУС Тур	pe	-	Ingress Baseline Util	DTT Ingress Util		0 Day In Forecast	-	Egress Baseline Util	DT <sup>:</sup> Egre Uti
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel	Thu	370.45	-64.00	639.55 <i>i</i>	(823.02)	1006.5	184.63	-78,
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel	Mon	403.93	-922.00	420.587	( 431.93 <i> </i>	443.28	197.80	-2116
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel	Sun	414.92	-6656.00	417.27 /	(418.87)	420.48	198.04	
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel	Tue	398.75	-7472.00	400.75 /	(402.11)	403.47	196.45	
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel	Fri	398.00	-7455.00	400.007	/ 401.36 /	402.72	197.29	
ATMSwitch2	146-0-34	New York t	o Paris V	/BR-RT	ATM Char	nnel '	Wed	410.09		389.097	374.78	360.46	197.92	



				Utilization is base	ed on the	Peak Cell R	ate (PCR)		
Device	PVC	PVC Description	QoS	РУС Туре	Day of Week	Ingress Baseline Util	DTT Ingress Util	30/60/90 Day Ingress Forecast	Egress Baseline Util
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Mon	0.00	1000.00	0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Sun	0.00	1000.00	0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Sat	0.00		0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Wed	0.00		0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Fri	0.00		0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Tue	0.00		0.00/0.00/0.00	0.00
ATMSwitch2	91-12-0	New York to Los Angeles	UBR	ATM Path	Thu	0.00	1000.00	0.01/0.01/0.01	0.00
ATMSwitch2	65-0-63	New York to San Francisco	ABR	ATM Channel	Sat	0.01		0.01 / 0.01 / 0.01	0.01
ATMSwitch2	65-0-63	New York to San Francisco	ABR	ATM Channel	Wed	0.01		0.01 / 0.01 / 0.01	0.01
ATMSwitch2	65-0-63	New York to San Francisco	ABR	ATM Channel	Sun	0.01		0.01 / 0.01 / 0.01	0.01
4									•

#### -Underutilized PVC Endpoints with a 30 Day Forecasted Value for Utilization < 10%

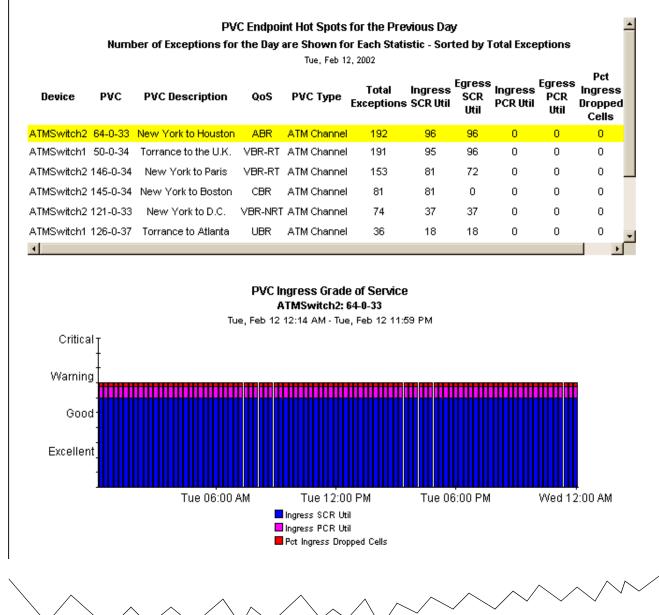
Basic Ingress PCR Util Standard Egress PCR Util Standard Egress PCR Util Advanced Ingress PCR Util Advanced Daily PVC Endpoint Average and Busiest Hour PCR Utilization ATMSwitch2: 91-12-0 Thu, Jan 17 12:00 AM - Wed, Feb 20 12:00 AM Percent Fri 12:00 AM Avg Ingress Util -Avg Egress Util — Busiest Hour Ingress Util Busiest Hour Egress Util Ϋ́

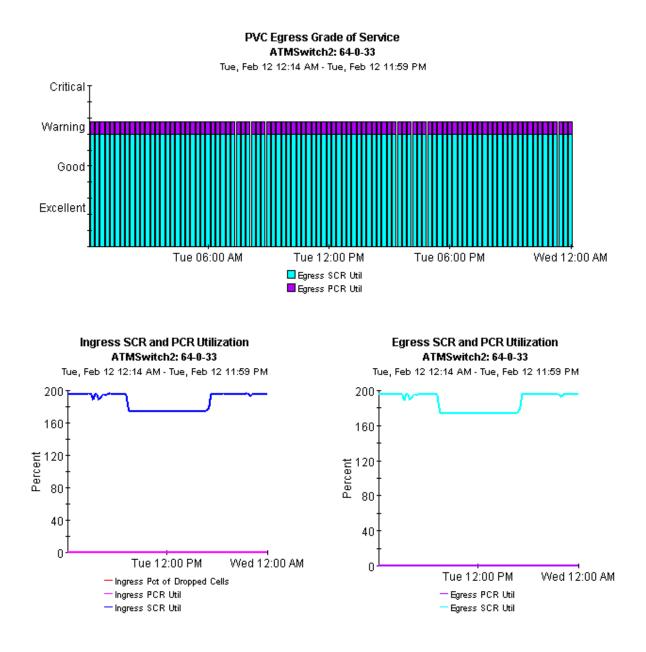
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### ATM PVC Endpoint Hot Spots



The Hot Spots report gives network managers and members of the NOC team a listing of ATM PVC Endpoints that have exceeded threshold conditions during the previous day. Offending PVC Endpoints are ranked by total number of exceptions. Drilldown reports show as polled data to help identify possible trouble spots. Exception Thresholds: Ingress SCR Utilization > 100% Egress SCR Utilization > 100% Ingress PCR Utilization > 60% Egress PCR Utilization > 60% Egress Dropped Cells > 1%





#### **Exception Detail - Exception Values for the Statistics**

#### ATMSwitch2: 64-0-33

Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

Time Period of Exception	Ingress SCR Util	Ingress PCR Util	Pct Ingress Dropped Cells	Egress SCR Util	Egress PCR Util
Tue Feb 12 12:14 AM	195.68	0.46	0.00	195.68	0.46
Tue Feb 12 12:29 AM	195.73	0.46	0.00	195.72	0.46
Tue Feb 12 12:44 AM	195.70	0.46	0.00	195.70	0.46
Tue Feb 12 12:59 AM	195.73	0.46	0.00	195.72	0.46
Tue Feb 12 01:14 AM	195.72	0.46	0.00	195.72	0.46
Tue Feb 12 01:29 AM	195.70	0.46	0.00	195.70	0.46
Tue Feb 12 01:44 AM	195.73	0.46	0.00	195.73	0.46
Tue Feb 12 01:59 AM	195.50	0.46	0.00	195.50	0.46
Tue Feb 12 02:14 AM	195.70	0.46	0.00	195.70	0.46
Tue Feb 12 02:29 AM	195.73	0.46	0.00	195.72	0.46
Tue Feb 12 02:44 AM	196.12	0.46	0.00	196.12	0.46
Tue Feb 12 02:59 AM	195.72	0.46	0.00	195.72	0.46

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Chapter 7

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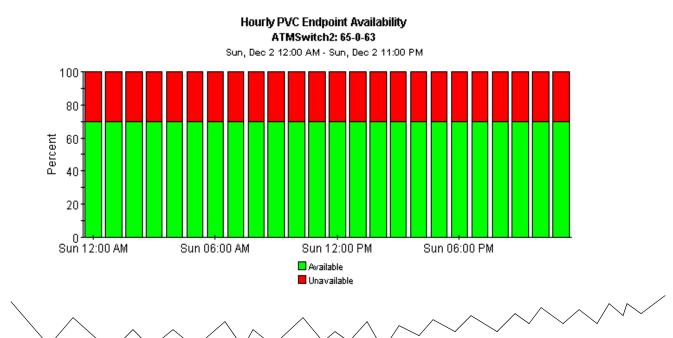
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### ATM **PVC Endpoint Availability**

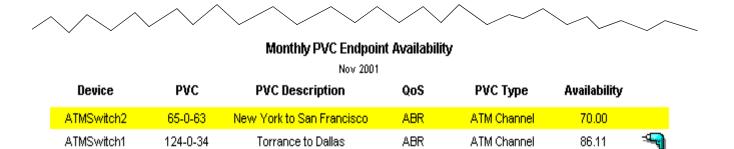


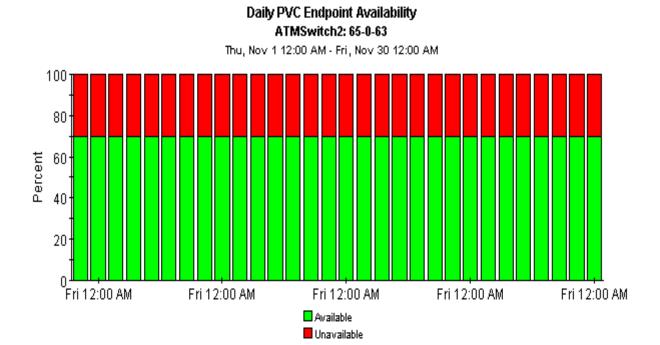
The ATM PVC Endpoint Availability report informs executives, network managers, end users, and customers on daily and monthly PVC endpoint availability. Select a PVC endpoint from the table to see availability over the previous day.

		Daily PVC Endpoint Sun, Dec 2, 20				
Device	PVC	PVC Description	QoS	РУС Туре	Availability	
ATMSwitch2	65-0-63	New York to San Francisco	ABR	ATM Channel	70.00	
ATMSwitch1	124-0-34	Torrance to Dallas	ABR	ATM Channel	86.11	-9



#### Daily DVC Endnoint Availability





Chapter 7

### ATM PVC Daily Executive Summary by Customer

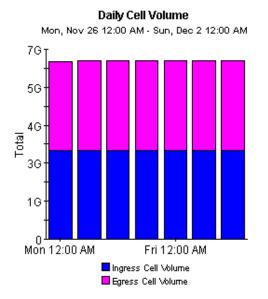


This report provides CFOs, CIOs and other managers an overview of the performance of their ATM PVCs. Each chart shows key metrics aggregated for all PVCs, for each customer. Key indicators of performance are shown including total volume by QoS type, utilization, and percentage of dropped cells

#### Daily Customer Summaries Sun, Dec 2, 2001

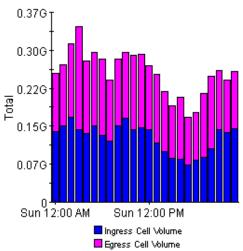
- Summary for All Acme PVCs
- Summary for All Desk Talk PVCs Summary for All Network PVCs Summary for All Unassigned Customer PVCs

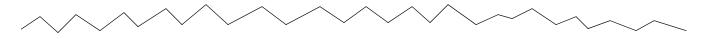


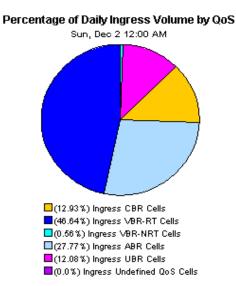


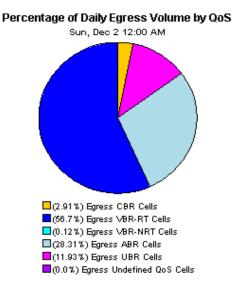
Hourly Cell Volume

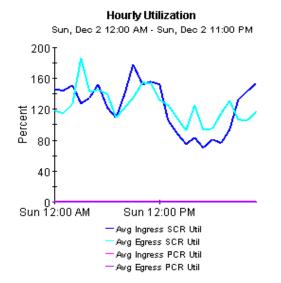
Sun, Dec 2 12:00 AM - Sun, Dec 2 11:00 PM

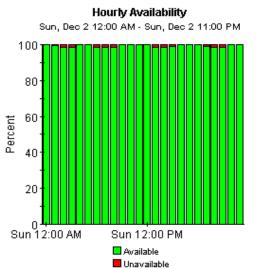




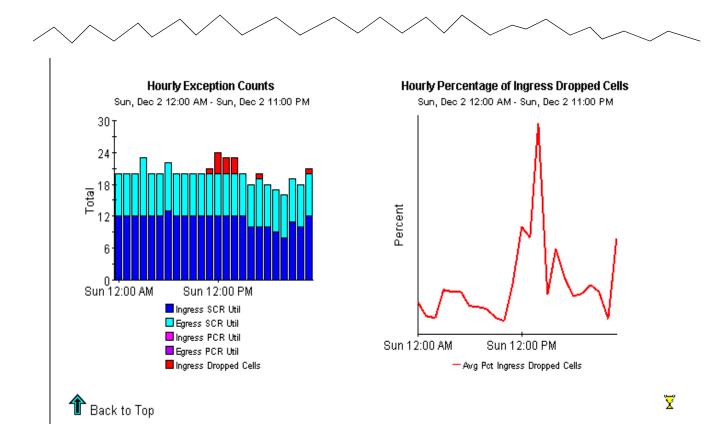








Chapter 7

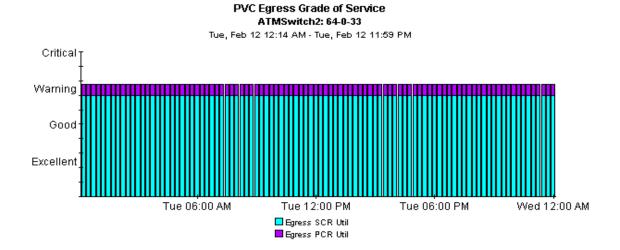


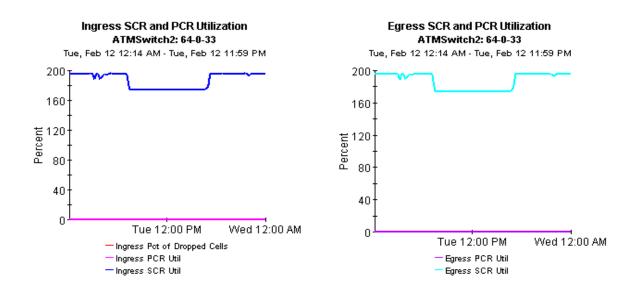
### ATM PVC Endpoint Top Ten



The Top Ten report lists the ten top utilized PVC endpoints based on highest utilized direction. These reports show ingress and egress average and peak utilization based on SCR and PCR cell rates for yesterday and last month.

		Based on High	-	p Ten PVC Er age SCR Utiliz	•		)irection			
			Sun, Dec	2, 2001 - Sun, De	eo 2, 20	01				
Device	PVC	PVC Description	QoS	РУС Туре	SCR	Reverse SCR	-	-	Peak Ingress SCR Util	-
ATMSwitch1	50-0-34	Torrance to the U.K.	VBR-RT	ATM Channel	3642	3642	483.42	595.12	1020.86	1090.97
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	3642	3642	254.03	143.74	509.75	233.61
ATMSwitch2	64-0-33	New York to Houston	ABR	ATM Channel	3642	3642	186.64	186.64	196.17	196.16
ATMSwitch2	145-0-34	New York to Boston	CBR	ATM Channel	3642	3642	134.05	30.63	226.20	71.16
ATMSwitch2	121-0-33	New York to D.C.	VBR-NRT	ATM Channel	3642	3642	131.64	131.64	236.30	236.29
ATMSwitch2	54-0-33	New York to Toronto	VBR-NRT	ATM Channel	3642	3642	84.13	84.13	84.31	84.31
ATMSwitch1	129-0-33	Torrance to Portland	CBR	ATM Channel	3642	3642	84.13	0.00	84.31	0.00
ATMSwitch1	71-0-34	Torrance to San Jose	ABR	ATM Channel	3642	3642	84.13	84.13	84.31	84.31
ATMSwitch1	126-0-37	Torrance to Atlanta	UBR	ATM Channel	3642	3642	54.35	54.35	329.48	329.48
ATMSwitch1	143-0-34	Torrance to Cotati	VBR-RT	ATM Channel	3642	3642	7.83	38.14	20.92	99.15





#### Exception Detail - Exception Values for the Statistics

#### ATMSwitch2: 64-0-33

Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

Time Period of Exception	Ingress SCR Util	Ingress PCR Util	Pct Ingress Dropped Cells	Egress SCR Util	Egress PCR Util	
Tue Feb 12 12:14 AM	195.68	0.46	0.00	195.68	0.46	
Tue Feb 12 12:29 AM	195.73	0.46	0.00	195.72	0.46	
Tue Feb 12 12:44 AM	195.70	0.46	0.00	195.70	0.46	
Tue Feb 12 12:59 AM	195.73	0.46	0.00	195.72	0.46	
Tue Feb 12 01:14 AM	195.72	0.46	0.00	195.72	0.46	
Tue Feb 12 01:29 AM	195.70	0.46	0.00	195.70	0.46	
Tue Feb 12 01:44 AM	195.73	0.46	0.00	195.73	0.46	
Tue Feb 12 01:59 AM	195.50	0.46	0.00	195.50	0.46	
Tue Feb 12 02:14 AM	195.70	0.46	0.00	195.70	0.46	
Tue Feb 12 02:29 AM	195.73	0.46	0.00	195.72	0.46	
Tue Feb 12 02:44 AM	196.12	0.46	0.00	196.12	0.46	
Tue Feb 12 02:59 AM	195.72	0.46	0.00	195.72	0.46	-



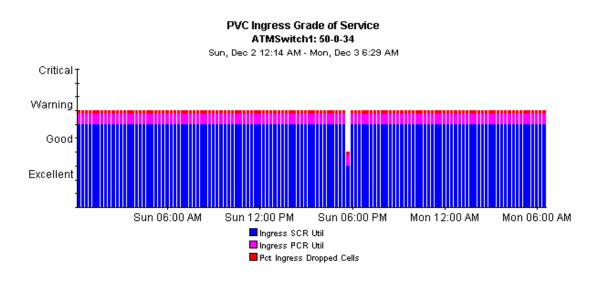
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### ATM PVC Endpoint NRT QuickView

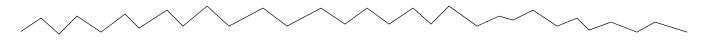


This report gives network managers and members of the NOC team ATM PVC endpoints statistics in near real time. Statistics in the "PVC Selection List" chart are averages over the last 6 hours of polling. Drilldowns show utilization, percentage of dropped cells, cell volume, and GOS for the previous 24 hours of polled data.

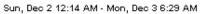
		PVC Endpoint Select		Sorted by Hi Dec 3 6:28 AM - N	<u> </u>		Cells pe	er Second	l (CPS)	-
Device	PVC	PVC Description	QoS	РУС Туре	SCR	Ingress SCR Util	Egress SCR Util	Avg Ingress CPS	Peak Ingress CPS	Avg Egres: CPS
ATMSwitch1	50-0-34	Torrance to the U.K.	VBR-RT	ATM Channel	3642	555.63	736.09	20236.19	31693.49	26808.5
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	3642	379.63	193.29	13826.15	18565.20	7039.7
ATMSwitch1	126-0-37	Torrance to Atlanta	UBR	ATM Channel	3642	269.10	269.10	9800.65	11999.53	9800.5
ATMSwitch2	64-0-33	New York to Houston	ABR	ATM Channel	3642	195.08	195.08	7104.96	7143.54	7104.9
ATMSwitch2	121-0-33	New York to D.C.	VBR-NRT	ATM Channel	3642	183.37	183.37	6678.27	8605.92	6678.2
ATMSwitch2	65-0-65	New York to Raleigh	UBR	ATM Channel	96000	6.62	6.62	6355.95	6369.05	6355.9:
ATMSwitch2	145-0-34	New York to Boston	CBR	ATM Channel	3642	160.84	28.67	5857.79	7171.58	1044.2
ATMSwitch2	91_12_0	New York to Los Angeles	LIBR	∆TM Path	353208	0.73	1 54	2591-36	6162.63	5451 2 <b>*</b>

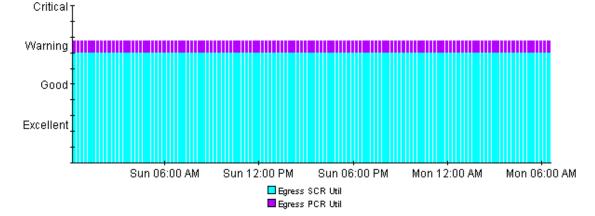


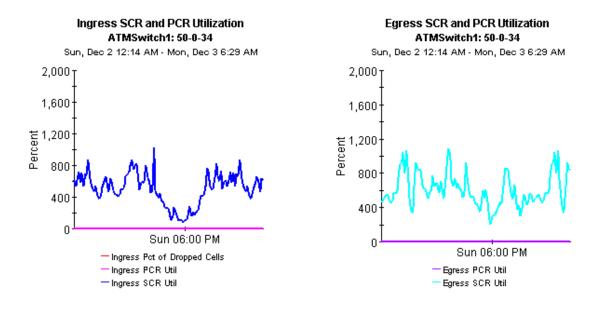


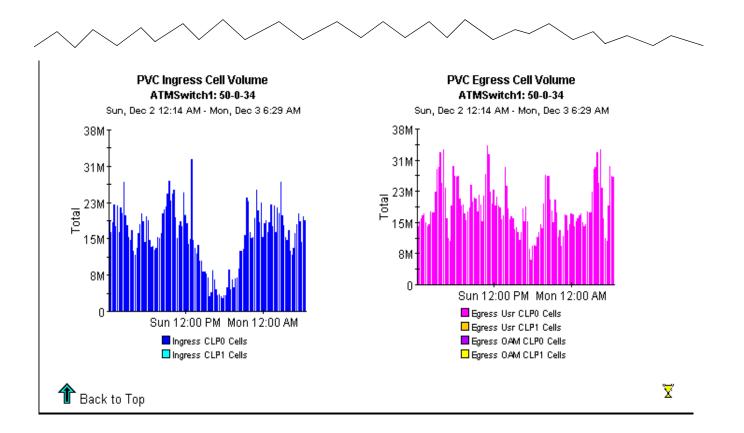


PVC Egress Grade of Service ATMSwitch1: 50-0-34









### ATM PVC Endpoint PCR Utilization Forecast



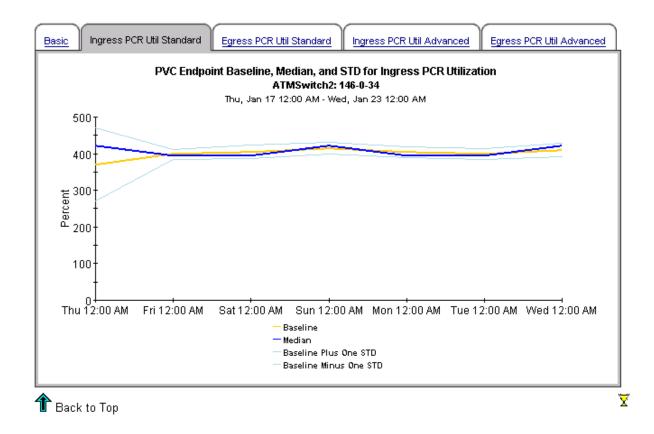
Designed for CIOs, network planners, and network managers, the Forecast report details the ports with the greatest ratio of change between the baseline utilization and the 30 day forecast. Baseline and forecast values are based on the busiest hour of the day. Drilldown reports show baseline, median, STD; and 30, 60, and 90 day forecasts of utilization.

#### PVC Endpoints with a 90 Day Forecasted Utilization Value > 60%

Sorted by Greatest Growth Ratio

Utilization is based on the Peak Cell Rate (PCR)

Device	PVC	PVC Description	QoS	РУС Туре	Day of Week	Ingress Baseline Util		30/60/90 Day Ingress Forecast	Ingress Ratio	Egre: Basel Util
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	Thu	370.45	-64.00	639.55 / 823.02 / 1006.5	1.73	<mark>184.</mark> €
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	Mon	403.93	-922.00	420.58 / 431.93 / 443.28	1.04	197.8
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	Sun	414.92	-6656.00	417.27 / 418.87 / 420.48	1.01	198.(
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	Fri	398.00	-7455.00	400.00 / 401.36 / 402.72	1.01	197.1
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	Tue	398.75	-7472.00	400.75 / 402.11 / 403.47	1.01	196.4



## 8 Port Folder: Sample Reports

The Port folder contains the following reports:

- Availability
- Configuration
- Capacity Planning
- Executive Summary by Customer (2 reports: daily and monthly)
- Executing Summary by Region (2 reports: daily and monthly)
- Forecast
- Hot Spots
- QuickView (3 reports: daily, monthly, and Near Real Time)
- Snapshot (3 reports: daily, monthly, and Near Real Time)
- Top Ten: Daily

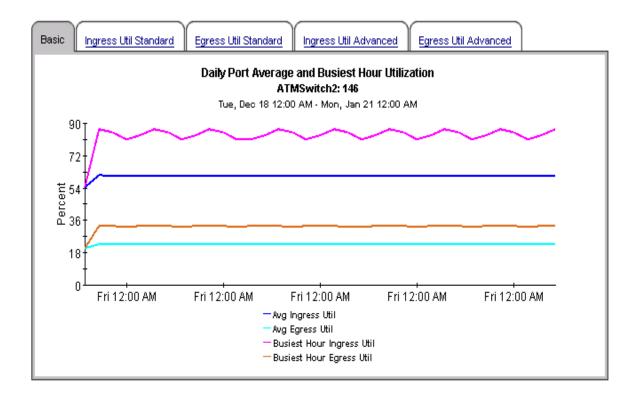
See below for samples fo the following reports:

- Capacity Planning
- Availability
- Forecast
- Hot Spots
- QuickView Near Real Time
- QuickView Daily
- Executive Summary by Customer Daily
- Top Ten

### ATM Port Capacity Planning

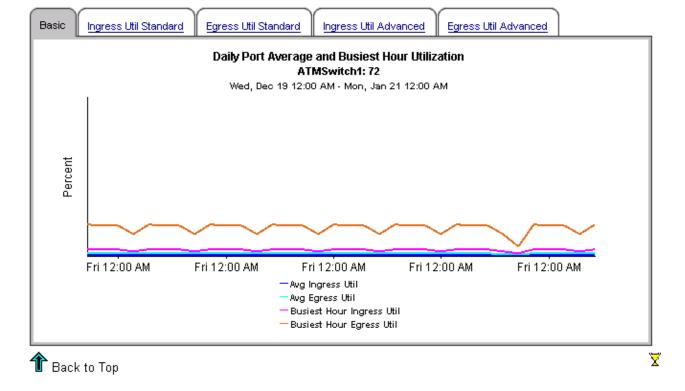
Designed for CIOs, network planners, and network managers, the Capacity Planning report details the most over- and under-utilized ports based on a 30 day forecast. Baseline and forecasted values are based on the busiest hour of the day. These reports can indicate opportunities for load balancing to improve service levels without additional investment.

		Overutili	zed Pa		-	Forecasted Value for	Utilizatio	n > 80%	-
Device	Port	Description	Day of Week	Ingress Baseline	DTT	01 - Mon, Dec 24, 2001 30/60/90 Day Ingress Forecast	Egress Baseline Util	DTT Egress Util	30/60/90/Day Egi Forecast
ATMSwitch2	146	New York to Paris	Tue	77.26	-10	112.47 / 136.47 / 160.47	30.11	133	45.14 / 55.38 / 6
ATMSwitch2	64	New York to Houston	Tue	70.79	32	79.63 / 85.65 / 91.68	65.49	4	101.01 / 125.22 / 1
ATMSwitch2	121	New York to D.C.	Tue	59.18	16	90.08/111.14/132.21	68.52	69	74.66/78.85/8
ATMSwitch2	90	New York to Tokyo	Tue	14.42	319	23.10 / 29.02 / 34.93	57.36	17	89.71 / 111.77 / 1
ATMSwitch2	146	New York to Paris	Mon	84.14	-73	87.20 / 89.28 / 91.37	32.79	1000	32.96 / 33.08 / 3
ATMSwitch2	146	New York to Paris	Thu	84.77	-209	85.85 / 86.58 / 87.31	32.90	1000	33.07 / 33.19 / 3
ATMSwitch2	146	New York to Paris	Fri	83.04	-70	85.42 / 87.03 / 88.65	32.68	1000	33.01 / 33.25 / 3
ATMSwitch2	146	New York to Paris	Sun	84 47		84.00/83.68/83.36	32 75		32 45 / 32 24 / 3



				Tue, Dec 18	, 2001 - Mo	n, Dec 24, 2001			
Device	Port	Description	Day of Week	Ingress Baseline Util	DTT Ingress Util	30/60/90 Day Ingress Forecast	Egress Baseline Util	DTT Egress Util	30/60/90/Da Egress Fore
ATMSwitch1	72	Torrance to Reston	Wed	0.00		0.00/0.00/0.00	0.02		0.00 / 0.00 /
ATMSwitch1	72	Torrance to Reston	Sun	0.00		0.00/0.00/0.00	0.02		0.01 / 0.01 /
ATMSwitch1	72	Torrance to Reston	Fri	0.00		0.00/0.00/0.00	0.02		0.02 / 0.01 /
ATMSwitch1	72	Torrance to Reston	Thu	0.00	1000	0.00/0.00/0.00	0.02	1000	0.02 / 0.02 /
ATMSwitch1	72	Torrance to Reston	Mon	0.00	1000	0.00/0.00/0.00	0.02	1000	0.02 / 0.02 /
ATMSwitch1	72	Torrance to Reston	Sat	0.00	1000	0.01 / 0.01 / 0.01	0.02	1000	0.03 / 0.03 /
ATMSwitch2	91	New York to Los Angeles	Wed	0.75		0.75/0.75/0.75	0.77		0.76 / 0.75 /
ATMSwitch2 ▲	91	New York to Los Andeles	Sun	0.75		075/075/075	0 77		0 76 / 0 75 / 💌

#### Underutilized Ports with a 30 Day Forecasted Value for Utilization < 10%



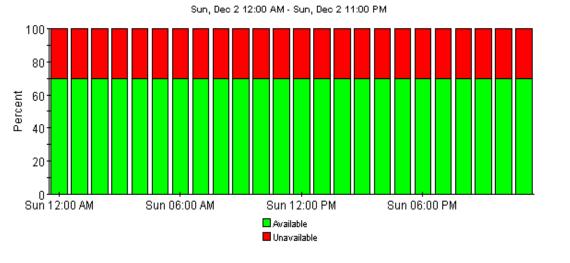
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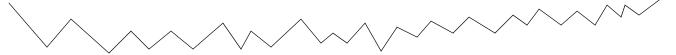
### ATM Port Availability



The ATM Port Availability report informs executives, network managers, end users, and customers on daily and monthly port availability. Select a port from the table to see availability over the previous day or month.

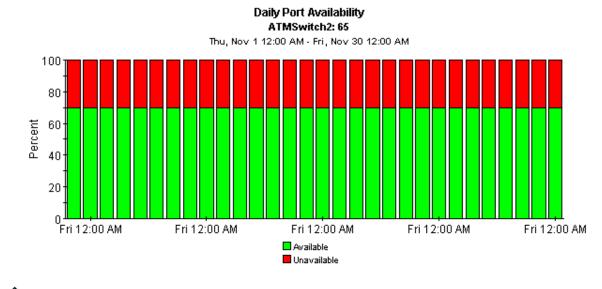
	D	aily Port Availability		
		Sun, Dec 2, 2001		
Device	Port	Description	Availability	
ATMSwitch2	65	New York to San Francisco	70.00	
ATMSwitch1	124	Torrance to Dallas	86.11	





Hourly Port Availability ATMSwitch2: 65

	Mo	nthly Port Availability		
		Nov 2001		
Device	Port	Description	Availability	
ATMSwitch2	65	New York to San Francisco	70.00	
ATMSwitch1	124	Torrance to Dallas	86.11	-9

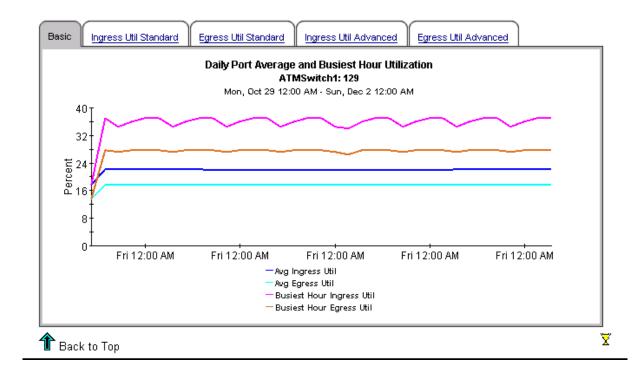


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				Ports wi	Sorte	<b>ay Forecasted Utilizat</b> <b>d by Greatest Growth</b> 1 Oct 29, 2001 - Sun, Nov 4, 2	Ratio	e > 80%		ŕ
Device	Port	Description	Day of Week	Ingress Baseline Util	DTT Ingress Util	30/60/90 Day Ingress Forecast	Ingress Ratio	Egress Baseline Util	DTT Egress Util	30/60/9) Fi
ATMSwitch1	129	Torrance to Portland	Mon	32.22	74	56.11 / 72.40 / 88.69	1.74	24.72	124.00	42.37 /
ATMSwitch2	146	New York to Paris	Mon	79.59	-13	106.54 / 124.92 / 143.29	1.34	30.11	126.00	45.90 /
ATMSwitch2	145	New York to Boston	Mon	48.35	48	70.95 / 86.36 / 101.77	1.47	21.87	212.00	33.197
ATMSwitch2	90	New York to Tokyo	Mon	15.10	544	20.23 / 23.72 / 27.22	1.34	57.59	21.00	86.18/1
ATMSwitch2	64	New York to Houston	Mon	69.16	4	96.15/114.55/132.95	1.39	67.22	5.00	97.56 / 1
ATMSwitch2	121	New York to D.C.	Mon	59.28	16	90.19/111.26/132.33	1.52	66.39	11.00	90.61 / 1
ATMSwitch1	50	Torrance to the U.K.	Mon	41.36	86	58.43 / 70.07 / 81.71	1.41	24.72	397.00	30.65 /

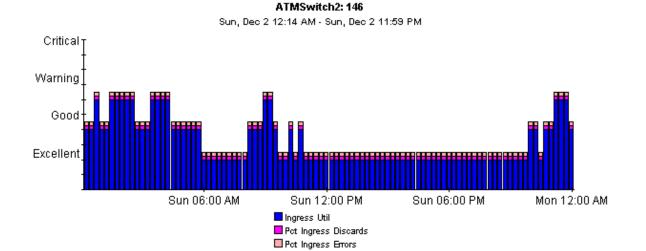


### ATM Port Hot Spots

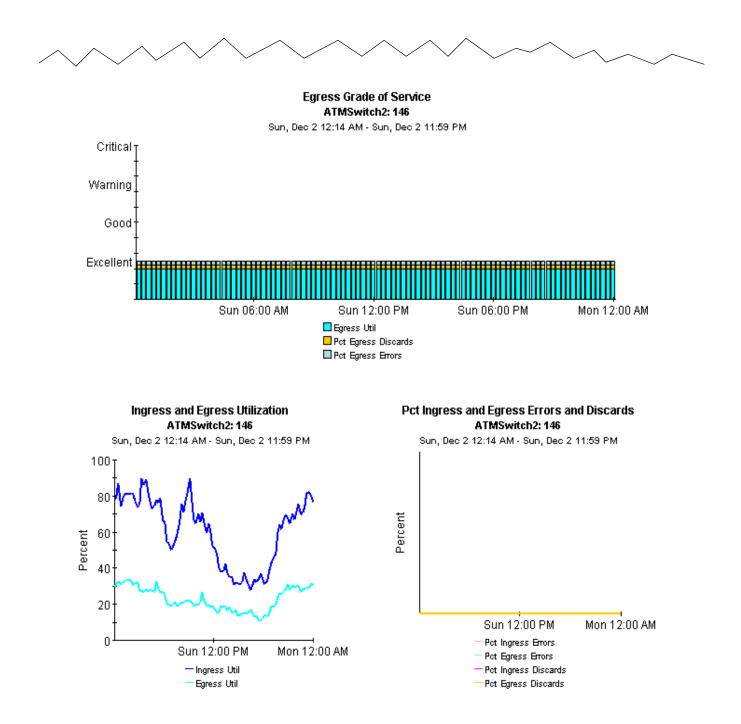


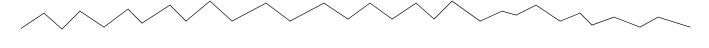
The Hot Spots report gives network managers and members of the NOC team a listing of ATM ports that have exceeded threshold conditions during the previous day. Offending ports are ranked by total number of exceptions. Drilldown reports show as polled data to help identify possible trouble spots. Exception Thresholds: Ingress Utilization > 80% Egress Utilization > 80% Pct Ingress Errors > 5% Pct Egress Errors > 5% Pct Ingress Discards > 5% Pct Egress Discards > 5%

		Number of Exceptions		Spots for th wn for Each Sun, Dec 2,	Statistic	-	by Total	Excepti	ons		
Device	Port	Description	Port Speed	Total Exceptions	Ingress Util	Egress Util	Pct Ingress Errors	<u> </u>	Pct Ingress Discards	Pct Egress Discards	
ATMSwitch2	146	New York to Paris	20352000	15	15	0	0	0	0	0	
ATMSwitch1	72	Torrance to Reston	40704000	7	0	0	7	0	0	0	Ξ
ATMSwitch2	64	New York to Houston	20352000	5	3	2	0	0	0	0	Ξ
ATMSwitch2	121	New York to D.C.	20352000	3	1	2	0	0	0	0	Ξ
ATMSwitch2	65	New York to San Francisco	20352000	3	0	0	3	0	0	0	=
ATMSwitch2	90	New York to Tokyo	20352000	2	0	2	0	0	0	0	ł



Ingress Grade of Service





#### Exception Detail - Exception Values for the Statistics ATMSwitch2: 146

Sun, Dec 2 12:44 AM - Sun, Dec 2 11:44 PM

Time Period of Exception	Ingress Util	Egress Util	Pct Ingress Errors	Pct Egress Errors	Pct Ingress Discards	Pct Egress Discards	
Sun Dec 02 12:44 AM	86.82	32.74	0.00	0.00	0.00	0.00	
Sun Dec 02 01:29 AM	81.02	32.52	0.00	0.00	0.00	0.00	
Sun Dec 02 01:44 AM	80.96	33.92	0.00	0.00	0.00	0.00	
Sun Dec 02 01:59 AM	80.97	32.98	0.00	0.00	0.00	0.00	
Sun Dec 02 02:14 AM	81.28	33.02	0.00	0.00	0.00	0.00	
Sun Dec 02 02:29 AM	80.76	30.59	0.00	0.00	0.00	0.00	
Sun Dec 02 03:29 AM	89.70	27.74	0.00	0.00	0.00	0.00	
Sun Dec 02 03:44 AM	85.60	26.71	0.00	0.00	0.00	0.00	
Sun Dec 02 03:59 AM	89.10	28.13	0.00	0.00	0.00	0.00	-

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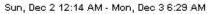
### ATM Port NRT QuickView

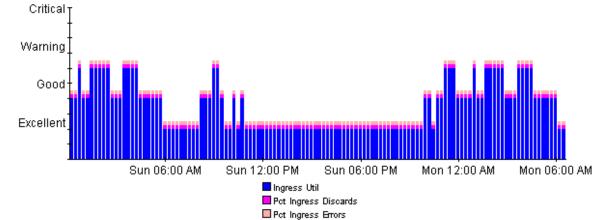


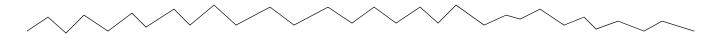
This report gives network managers and members of the NOC team ATM Port statistics in near real time. Statistics in the "Port Selection List" chart are averages over the last 6 hours of polling. Drildowns show utilization, percentage of errors, percentage of discards, and GOS for the previous 24 hours of polled data.

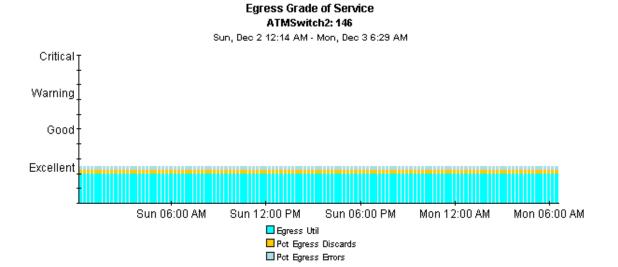
Port Selection List - Sorted by Highest Average Cells per Second (CPS) Mon, Dec 3 6:28 AM - Mon, Dec 3 6:29 AM									
Device	Port	Description	Port Speed	Ingress Util	Egress Util	Ingress CPS	Egress CPS		
ATMSwitch2	146	New York to Paris	20352000	77.38	28.19	37141.59	13530.02		
ATMSwitch1	50	Torrance to the U.K.	40704000	36.20	23.86	34750.52	22907.82	-9	
ATMSwitch1	129	Torrance to Portland	40704000	32.56	26.44	31261.47	25379.11		
ATMSwitch2	64	New York to Houston	20352000	62.02	51.52	29767.75	24727.71		
ATMSwitch2	121	New York to D.C.	20352000	46.15	56.71	22149.79	27219.64	-9	
ATMSwitch2	90	New York to Tokyo	20352000	12.85	49.83	6170.36	23919.36	≫	
ATMSwitch1	71	Torrance to San Jose	40704000	21.30	21.60	20448.86	20734.82	≫	
ATMSwitch2	145	New York to Boston	20352000	36.82	19.28	17673.06	9252.35	≫	
ATMSwitch1	64	Torrance to New York	40704000	4.34	10.50	4165.01	10079.40	*	

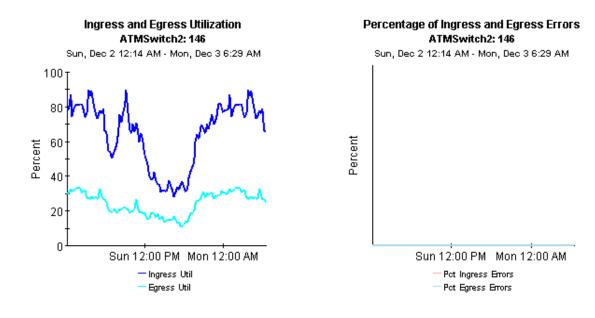
#### Ingress Grade of Service ATMSwitch2: 146

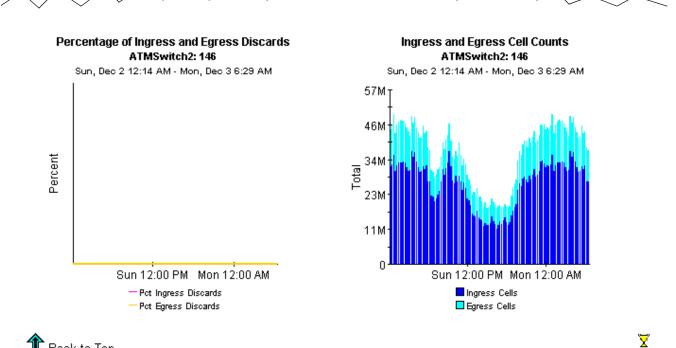












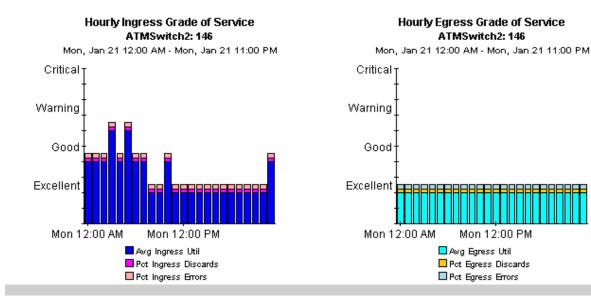
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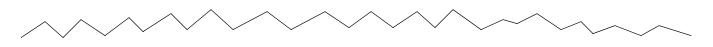
### ATM Port Daily QuickView

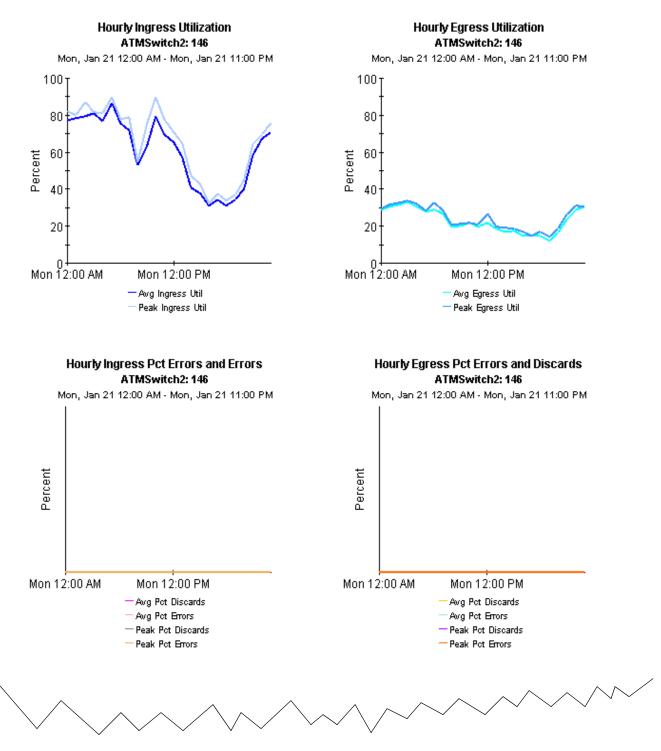


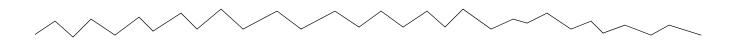
The ATM Daily Port Quick/New gives the network management staff a detailed look at the performance of a single port when just the facts are needed. Drilldowns show utilization, GOS, percentge of errors, and percentage of discarded cells.

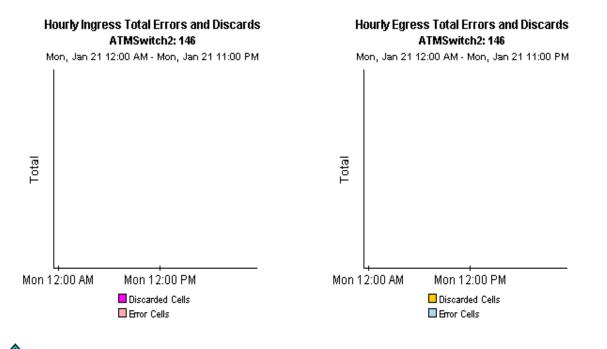
Daily Top Ten Ports Based on Highest Avg Utilization in Either Direction Mon, Jan 21, 2002										
Device	Port	Description	Port Speed	Ingress Util	Egress Util	Pct Ingress Discards	Pct Egress Discards	Pct Ingress Errors	Pct Egress Errors	
ATMSwitch2	146	New York to Paris	20352000	60.75	22.83	0.00	0.00	0.00	0.00	
ATMSwitch2	64	New York to Houston	20352000	49.33	45.09	0.00	0.00	0.00	0.00	-9
ATMSwitch2	121	New York to D.C.	20352000	39.86	45.35	0.00	0.00	0.00	0.00	-9
ATMSwitch2	90	New York to Tokyo	20352000	9.30	40.42	0.00	0.00	0.00	0.00	-9
ATMSwitch2	145	New York to Boston	20352000	38.60	17.79	0.00	0.00	0.00	0.00	-9
ATMSwitch1	50	Torrance to the U.K.	40704000	31.78	20.21	0.00	0.00	0.00	0.00	≫
ATMSwitch1	129	Torrance to Portland	40704000	22.03	17.66	0.00	0.00	0.00	0.00	≫
ATMSwitch1	71	Torrance to San Jose	40704000	11.22	12.88	0.00	0.00	0.00	0.00	×











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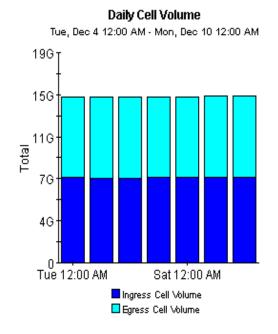
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This report provides CFOs, CIOs and other managers an overview of the performance of their ATM ports. Each chart shows key metrics aggregated for all ports for each customer. Key indicators of performance are shown including total volume, utilization, and percentage of errors and discards.

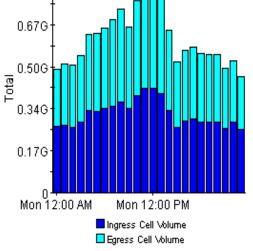
#### **Daily Customer Summaries**

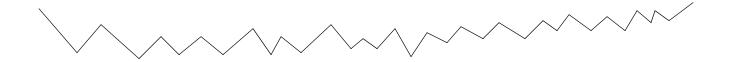
Mon, Dec 10, 2001	
Summary for All Acme Ports	
Summary for All DeskTalk Ports	-9
Summary for All Network Ports	
Summary for All Unassigned Customer Ports	-9

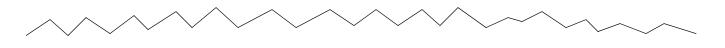


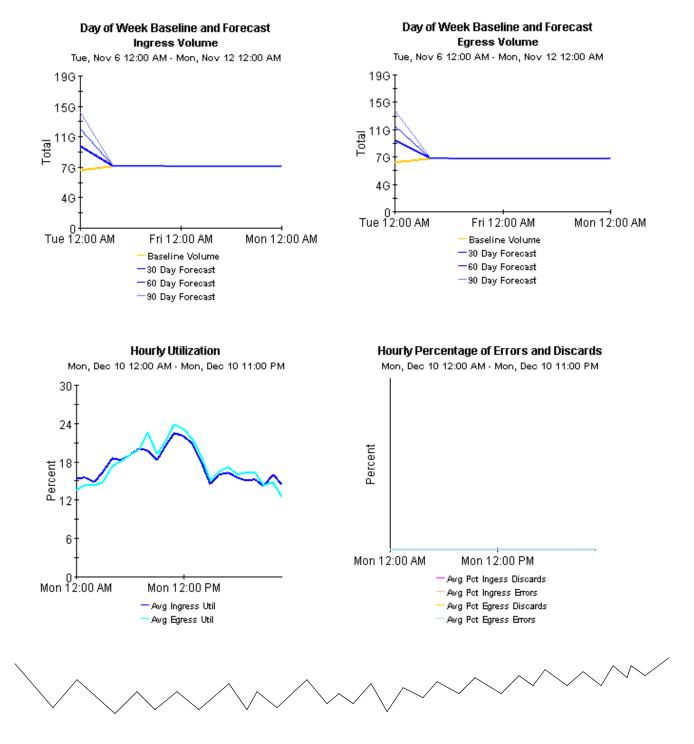
# Mon, Dec 10 12:00 AM - Mon, Dec 10 11:00 PM

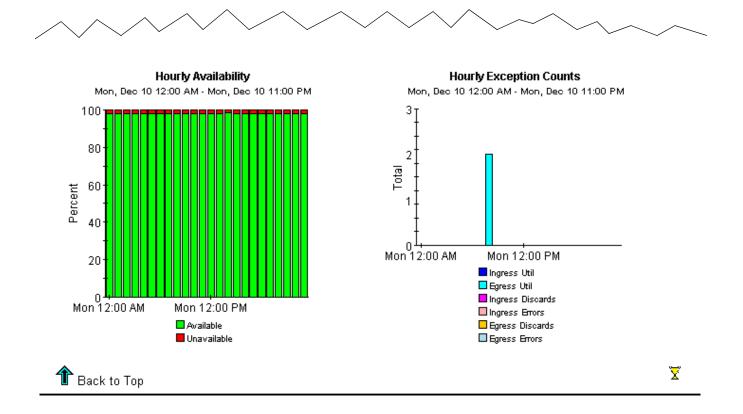
**Hourly Cell Volume** 











## ATM Port Top Ten



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The Top Ten report lists the ten top utilized ports based on highest utilized direction. These reports show ingress and egress average and peak utilization for yesterday and last month. Drilldowns show PVC endpoint utilization for each PVC endpoint connected to the port.

Daily Top Ten Ports Based on Highest Avg Utilization in Either Direction											
Mon, Jan 21, 2002											
Device	Port	Description	Port Speed	Ingress Util	Egress Util	Pct Ingress Discards	Pct Egress Discards	Pct Ingress Errors	Pct Egress Errors		
ATMSwitch2	146	New York to Paris	20352000	60.75	22.83	0.00	0.00	0.00	0.00		
ATMSwitch2	64	New York to Houston	20352000	49.33	45.09	0.00	0.00	0.00	0.00	-9	
ATMSwitch2	121	New York to D.C.	20352000	39.86	45.35	0.00	0.00	0.00	0.00	-9	
ATMSwitch2	90	New York to Tokyo	20352000	9.30	40.42	0.00	0.00	0.00	0.00	-9	
ATMSwitch2	145	New York to Boston	20352000	38.60	17.79	0.00	0.00	0.00	0.00	-9	
ATMSwitch1	50	Torrance to the U.K.	40704000	31.78	20.21	0.00	0.00	0.00	0.00	≫	
ATMSwitch1	129	Torrance to Portland	40704000	22.03	17.66	0.00	0.00	0.00	0.00	≫	
ATMSwitch1	71	Torrance to San Jose	40704000	11.22	12.88	0.00	0.00	0.00	0.00	≫	

#### PVC Endpoints Associated with the Selected Port

Sorted by Highest SCR Utilization in Either Direction

Mon, Jan 21 12:00 AM

Device	PVC	PVC Description	QoS	РУС Туре	SCR	Reverse SCR	Avg Ingress SCR Util	Avg Egress SCR Util
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	3642	3642	254.33	144.35

Dec 2001										
Device	Port	Description	Port Speed	Ingress Util	Egress Util	Pct Ingress Discards	Pct Egress Discards	Pct Ingress Errors	Pct Egress Errors	
ATMSwitch2	146	New York to Paris	20352000	60.22	22.66	0.00	0.00	0.00	0.00	
ATMSwitch2	64	New York to Houston	20352000	50.14	44.68	0.00	0.00	0.00	0.00	-9
ATMSwitch2	121	New York to D.C.	20352000	39.73	46.36	0.00	0.00	0.00	0.00	-4
ATMSwitch2	90	New York to Tokyo	20352000	9.21	39.97	0.00	0.00	0.00	0.00	-4
ATMSwitch2	145	New York to Boston	20352000	38.15	17.59	0.00	0.00	0.00	0.00	-4
ATMSwitch1	50	Torrance to the U.K.	40704000	31.52	20.11	0.00	0.00	0.00	0.00	×
ATMSwitch1	129	Torrance to Portland	40704000	21.62	17.26	0.00	0.00	0.00	0.00	×
ATMSwitch1	71	Torrance to San Jose	40704000	10.92	12.61	0.00	0.00	0.00	0.00	×

#### PVC Endpoints Associated with the Selected Port

Sorted by Highest Monthly SCR Utilization in Either Direction

Sat, Dec 1 12:00 AM

Device	PVC	PVC Description	QoS	PVC Type	SCR	Reverse SCR	Avg Ingress SCR Util	Avg Egress SCR Util
ATMSwitch2	146-0-34	New York to Paris	VBR-RT	ATM Channel	3642	3642	252.25	144.49



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## 9 SVC Folder: Sample Reports

The SVC folder contains the following reports:

- Executive Summary by Customer (2 reports: daily and monthly)
- Executive Summary by Region (2 reports: daily and monthly)
- QuickView (3 reports: daily, monthly, and Near Real Time)
- Snapshot (3 reports: daily, monthly, and Near Real Time)
- Top Ten

See below for samples of the following reports:

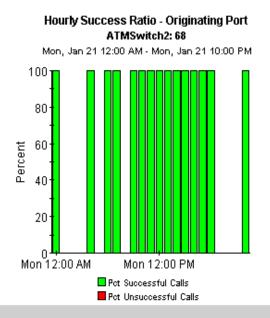
- QuickView Daily
- Executive Summary by Customer Daily
- QuickView Near Real Time
- Top Ten

## ATM SVC Daily QuickView

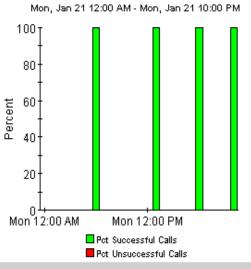


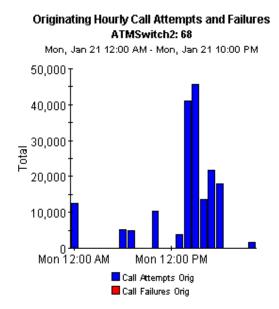
The ATM Daily SVC Endpoint Quick/New gives the network management staff a detailed look at the performance of a single SVC port when just the facts are needed. Drilldowns show percentage of successful calls, number of call attempts, number of rejections, and calls per second.

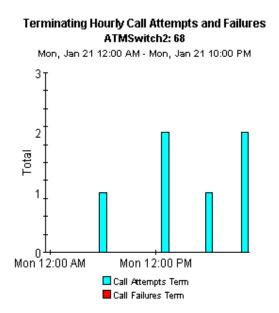
	Mon, Jan 2	21, 2002									
	Mon, Jan 21, 2002										
Description	Avg # of Active SVC	Attempts	Success Ratio - Originating	Success Ratio - Terminating							
New York to Boston	25.73	177702.00	100.00	100.00							
New York to San Jose	41.57	54023.00	100.00	100.00	-9						
Torrance to Atlanta	28.47	32848.00	100.00	100.00	-9						
Torrance to Nashua	1.07	31837.00	100.00	99.47	-9						
Torrance to London	68.79	7542.00	100.00	99.91	-9						
Torrance to Los Angeles	40.44	7137.00	100.00	99.24	*						
Torrance to New York	34.73	6992.00	100.00	100.00	*						
New York to Paris	17.68	2342.00	100.00	100.00	≫						
New York to Toronto	16.72	2340.00	100.00	100.00	≫						
	New York to Boston New York to San Jose Torrance to Atlanta Torrance to Nashua Torrance to London Torrance to Los Angeles Torrance to New York New York to Paris	DescriptionSVCNew York to Boston25.73New York to San Jose41.57Torrance to Atlanta28.47Torrance to Atlanta1.07Torrance to Nashua1.07Torrance to London68.79Torrance to Los Angeles40.44Torrance to New York34.73New York to Paris17.68	DescriptionSVCAttemptsNew York to Boston25.73177702.00New York to San Jose41.5754023.00Torrance to Atlanta28.4732848.00Torrance to Atlanta1.0731837.00Torrance to Nashua1.0731837.00Torrance to London68.797542.00Torrance to Los Angeles40.447137.00Torrance to New York34.736992.00New York to Paris17.682342.00	Description         SVC         Attempts         Originating           New York to Boston         25.73         177702.00         100.00           New York to San Jose         41.57         54023.00         100.00           Torrance to Atlanta         28.47         32848.00         100.00           Torrance to Atlanta         1.07         31837.00         100.00           Torrance to London         68.79         7542.00         100.00           Torrance to Los Angeles         40.44         7137.00         100.00           Torrance to New York         34.73         6992.00         100.00           New York to Paris         17.68         2342.00         100.00	Description         SVC         Attempts         Originating         Terminating           New York to Boston         25.73         177702.00         100.00         100.00           New York to San Jose         41.57         54023.00         100.00         100.00           New York to San Jose         41.57         54023.00         100.00         100.00           Torrance to Atlanta         28.47         32848.00         100.00         99.47           Torrance to Nashua         1.07         31837.00         100.00         99.47           Torrance to London         68.79         7542.00         100.00         99.24           Torrance to Los Angeles         40.44         7137.00         100.00         99.24           Torrance to New York         34.73         6992.00         100.00         100.00           New York to Paris         17.68         2342.00         100.00         100.00						



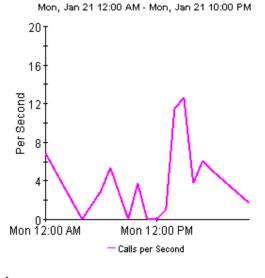
Hourly Success Ratio - Terminating Port ATMSwitch2: 68







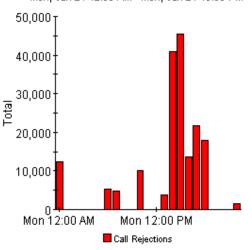
#### Hourly Calls per Second ATMSwitch2: 68



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ATMSwitch2: 68 Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM

**Hourly Call Rejections** 



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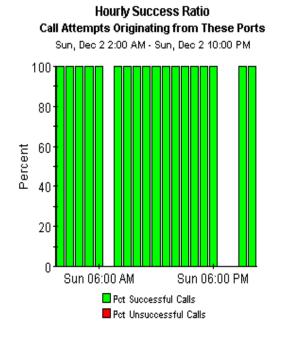
## ATM SVC Daily Executive Summary by Customer



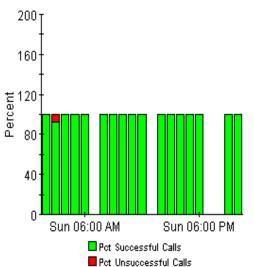
This report provides CFOs, CIOs, and other managers an overview of the performance of their ATM SVCs. Each chart shows key metrics aggregated for all SVCs for each customer by. Key indicators of performance are shown including percentage of successful calls, calls per second, and number of failed calls.

#### **Daily Customer Summaries**

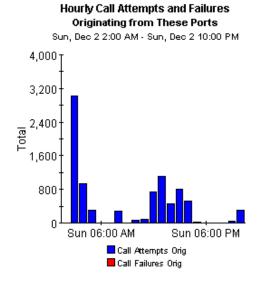
Sun, Dec 2, 2001	
Summary for All Acme SVC Ports	
Summary for All DeskTalk SVC Ports	
Summary for All Network SVC Ports	-9
Summary for All Unassigned Customer SVC Ports	-47



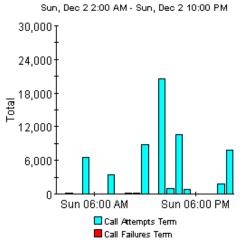
#### Hourly Success Ratio **Call Attempts Terminating on These Ports**



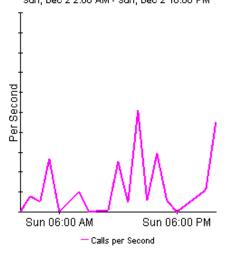
## Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM



Hourly Call Attempts and Failures Terminating on These Ports

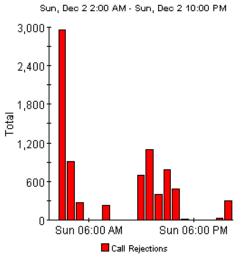


Hourly Calls per Second Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM



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Hourly Call Rejections



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## ATM SVC NRT QuickView

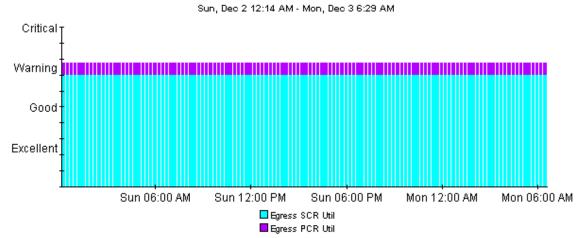


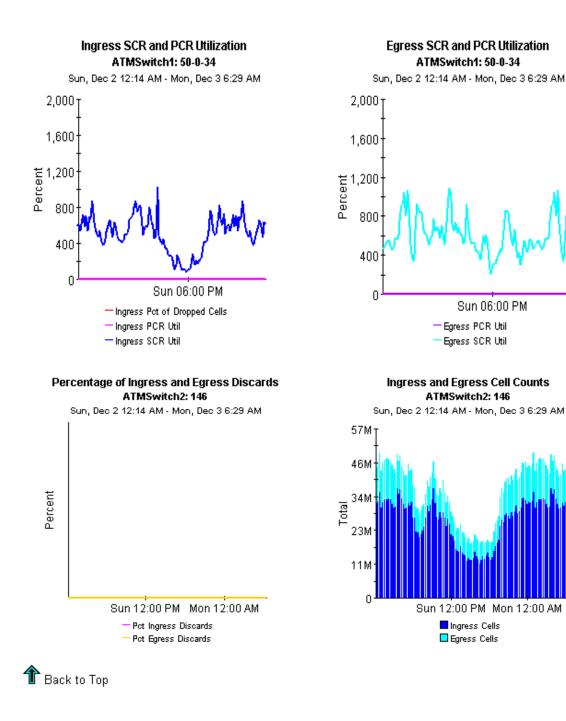
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This report gives network managers and members of the NOC team ATM SVC port statistics in near real time. Statistics in the "SVC Selection List" chart are averages over the last 6 hours of polling. Driildowns show "as polled" data including percentage of successful calls, calls per second, and call rejections.

SVC Port Selection List - Sorted by Call Attempts								
		Mon, Dec 3 4:43 AM						
Device	Description	Call Attempts	Success Ratio - Originating	Success Ratio - Terminating				
ATMSwitch2	New York to Boston	9989	100.00	100.00				
ATMSwitch1	Torrance to Atlanta	8964	100.00	99.99	-47			
ATMSwitch2	New York to San Jose	5506	100.00	99.98	-9			
ATMSwitch1	Torrance to Nashua	4804	100.00	99.13	-4-1			
ATMSwitch1	Torrance to London	2971	100.00	99.38	-40			
ATMSwitch1	Torrance to Chicago	1911	100.00	No Call Attempts	*			
ATMSwitch1	Torrance to Los Angeles	472	100.00	98.53	*			
ATMSwitch1	Torrance to New York	386	100.00	No Call Attempts	*			
ATMSwitch1	Torrance to Boston	162	100.00	85.71	->>			

#### PVC Egress Grade of Service ATMSwitch1: 50-0-34





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## ATM SVC Top Ten



The Top Ten report shows the top ten SVC ports based on call attempts and calls per second on a daily and monthly basis. These reports help network managers determine which SVC ports are being used the most.

	Daily	Top Ten SVC Ports	s by Call Attemp	Its		-
		Mon, Jan 21,	2002			
Device	Description	Avg # of Active SVC	Attempts	Success Ratio - Originating	Success Ratio - Terminating	
ATMSwitch2	New York to Boston	25.73	177708	100.00	100.00	
ATMSwitch2	New York to San Jose	41.57	54058	100.00	100.00	
ATMSwitch1	Torrance to Atlanta	28.47	33324	100.00	100.00	
ATMSwitch1	Torrance to Nashua	1.07	32026	100.00	99.47	
ATMSwitch1	Torrance to London	68.79	9429	100.00	99.91	
ATMSwitch1	Torrance to Los Angeles	40.44	7269	100.00	99.24	
ATMSwitch1	Torrance to New York	34.73	7000	100.00	100.00	
ATMSwitch2	New York to Toronto	16.72	2367	100.00	100.00	
ATMSwitch2	New York to Paris	17.68	2348	100.00	100.00	_
ATMSwitch1	Torrance to Chicago	56.51	1943	100.00	0.00	-

#### Monthly Top Ten SVC Ports by Call Attempts

		Dec 2001			
Device	Description	Avg # of Active SVC	Attempts	Success Ratio - Originating	Success Ratio - Terminating
ATMSwitch2	New York to Boston	25.67	2300217	100.00	100.00
ATMSwitch2	New York to San Jose	41.51	697276	100.00	100.00
ATMSwitch1	Torrance to Atlanta	28.46	429874	100.00	100.00
ATMSwitch1	Torrance to Nashua	1.06	416620	100.00	99.49
ATMSwitch1	Torrance to London	68.50	119827	100.00	99.91
ATMSwitch1	Torrance to Los Angeles	40.44	94055	100.00	99.28
ATMSwitch1	Torrance to New York	34.72	90616	100.00	100.00
ATMSwitch2	New York to Toronto	16.69	30631	100.00	100.00
ATMSwitch2	New York to Paris	17.66	30380	100.00	100.00 -
ATMSwitch1	Torrance to Chicago	56.51	23577	100.00	0.00

	Daily To	p Ten SVC Ports	s by Calls Per Seco	nd					
Mon, Jan 21, 2002									
Device	Description	Avg # of Active SVC	Calls per Second	Success Ratio - Originating	Success Ratio - Terminating				
ATMSwitch2	New York to Boston	25.73	4.94	100.00	100.00				
ATMSwitch2	New York to San Jose	41.57	3.00	100.00	100.00				
ATMSwitch1	Torrance to Atlanta	28.47	0.43	100.00	100.00				
ATMSwitch1	Torrance to Nashua	1.07	0.37	100.00	99.47				
ATMSwitch1	Torrance to London	68.79	0.28	100.00	99.91				
ATMSwitch1	Torrance to New York	34.73	0.19	100.00	100.00				
ATMSwitch1	Torrance to Los Angeles	40.44	0.10	100.00	99.24				
ATMSwitch1	Torrance to Chicago	56.51	0.07	100.00	0.00				
ATMSwitch2	New York to Toronto	16.72	0.07	100.00	100.00				
ATMSwitch2	New York to Paris	17.68	0.07	100.00	100.00				

#### Monthly Top Ten SVC Ports by Calls Per Second

Dec 2001								
Device	Description	Avg # of Active SVC	Calls per Second	Success Ratio - Originating	Success Ratio - Terminating			
ATMSwitch2	New York to Boston	25.67	4.94	100.00	100.00			
ATMSwitch2	New York to San Jose	41.51	3.01	100.00	100.00			
ATMSwitch1	Torrance to Atlanta	28.46	0.43	100.00	100.00			
ATMSwitch1	Torrance to Nashua	1.06	0.37	100.00	99.49			
ATMSwitch1	Torrance to London	68.50	0.28	100.00	99.91			
ATMSwitch1	Torrance to New York	34.72	0.19	100.00	100.00			
ATMSwitch1	Torrance to Los Angeles	40.44	0.10	100.00	99.28			
ATMSwitch2	New York to Toronto	16.69	0.07	100.00	100.00			
ATMSwitch2	New York to Paris	17.66	0.07	100.00	100.00			
ATMSwitch1	Torrance to Chicago	56.51	0.06	100.00	0.00			

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## A Editing Tables and Graphs

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

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

## View Options for Tables

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

Set Time Period		
Change Constraint Values		
Select Nodes/Interfaces		
Change Max Rows		
View in new Frame		
Print Table		
Export Element as CSV		
Delete Table		

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.

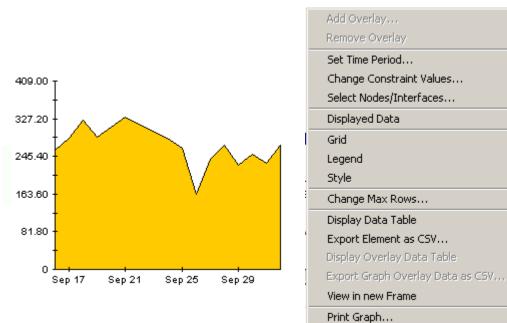
View in new Frame opens the table in a Table Viewer window, shown below. If necessary, make the data in the table more legible by resizing the window.

	Ta	Б.	-	 	-

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

## View Options for Graphs

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



Delete Graph

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.	

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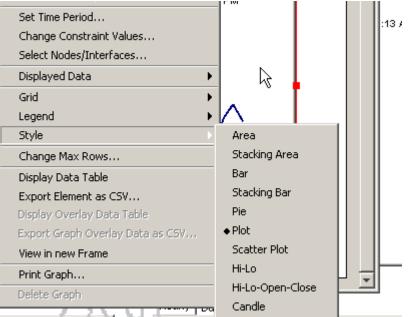
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Option	Function		
Export Element as CSV	Same as the table option shown above.		
View in New Frame	Opens graph in a Graph Viewer window.		
Print Graph	Same as the table option shown above.		

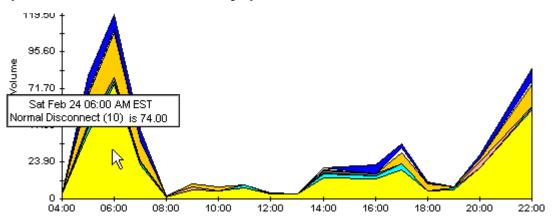
#### **Style Options**

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



#### Style > Area

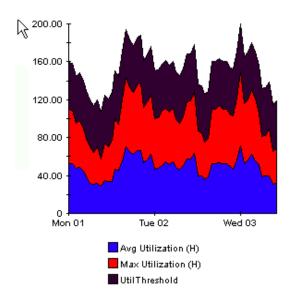
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



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

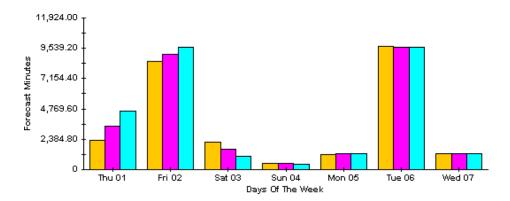
#### Style > Stacking Area

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



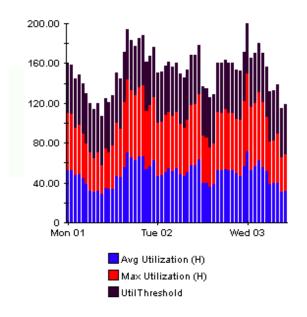
#### Style > Bar

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



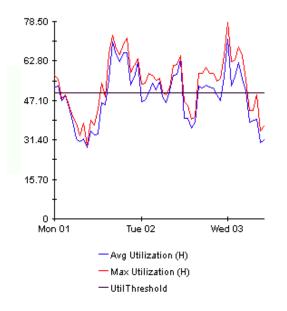
#### Style > Stacking Bar

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 for more than one day, you will see multiple pie graphs, one for each day.

#### **Display Data Table**

This option changes a graph into a spreadsheet.

📕 Data table	for 8.1
X Axis	Average
Tue Feb 19	0.809
Tue Feb 19	0.621
Tue Feb 19	1.026
Tue Feb 19	0.362
Tue Feb 19	1.171
Tue Feb 19	1.051
Tue Feb 19	0.284
Tue Feb 19	0.826
Tue Feb 19	1.483
Tue Feb 19	0.967
Tue Feb 19	1.471
Tue Feb 19	1.308
Tue Feb 19	1.123
Tue Feb 19	0.93
Tue Feb 19	1.497
Tue Feb 19	0.806
Tue Feb 19	0.725

### View in New Frame

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

🧱 Graph Viewer	_D×
Network Respons Cisco_04	e Time
Tue Feb 19 12:00 AM - Tue F	eb 19 11:00 PM
Second Second	$\sim$
Tue 05:00 AM — Average	Tue 11:00 PM

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