# HP OpenView Performance Insight

## ATM Report Pack User Guide

**Software Version: 3.0**

*Reporting and Network Solutions 6.0*

**September 2004**

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# Overview

This overview covers the following topics:

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

## OVPI and the ATM Protocol

The ATM Report Pack will rank the performance of PVCs, ports, and SVCs, it will help you spot problem areas, and it will help you estimate what performance will be like in the future. Use the reports in this package to find answers to the following questions:

- Is the network providing an acceptable level of service?
- Which PVCs and ports are utilized the most?
- Do I have underutilized PVCs and ports that could 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 on a customer-by-customer basis?
- How does performance compare on a region-by-region basis?

### Folders and Reports

ATM 3.0 contains three folders and 49 interactive reports. These are the folders:

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

The reports in the PVC folder focus on the following metrics:

- Peak cell rate (PCR)
- Sustained cell rate (SCR)
- Percentage of dropped cells

The reports in the Port folder focus on the following metrics:

- Number of cell bits transmitted
- Utilization
- Discards
- Errors

The reports in the SVC folder focus on the following metrics:

- Success rate of call attempts
- Number of calls per second

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. Reports are in alphabetical order.

**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; these are the worst performers with the most severe problems. The port report shows the utilization for each PVC endpoint on that port. The SVC report shows the top ten SVC ports based on call attempts and calls per second.

## Version History

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

| Version | RNS Version and Date | Enhancements |
|---------|----------------------|--------------|
| 1.0 | RNS 2.0 - January 2003 | Cisco ATM Datapipe 1.0 <br> Fore ATM Datapipe 1.0 <br> Ascend ATM Datapipe 1.0 <br> Newbridge ATM Datapipe 1.0 <br> Stratacom ATM Datapipe 1.0 |
| 1.0 | RNS 3.0 - May 2003 | None |
| 2.0 | RNS 4.0 - October 2003 | 1.0-to-2.0 upgrade package |
| 3.0 | RNS 5.0 - April 2004 | Oracle support <br> ATM ifEntry Datapipe 1.0 <br> OVPI Object Manager support <br> Update ATM PVC Cell Parameters (form) <br> Update ATM QoS Parameters (form) <br> Update Port Information (form) <br> 3.0 upgrade package |
| 3.0 | RNS 6.0 - August 2004 | None |

The ATM ifEntry Datapipe is a prerequisite for the Cisco ATM Datapipe 3.0. No other datapipe requires the ATM ifEntry Datapipe.

# Ways to Customize Reports

You can customize reports by applying group filters, editing parameters, editing tables and graphs, importing customers and locations, and adding details about PVC parameters, QoS parameters, and ports. Group filters are designed for service providers who need share reports with customer. Edits to parameters, tables, and graphs are temporary changes that anyone can make. For details about editing tables and graphs (selecting a different view option) see Chapter 10, Editing Tables and Graphs.

## Group Filters

If you intend to share your reports with customers, or let divisions within your enterprise see division-specific performance data, your reports must be customer-specific, containing data limited to one customer. Creating customer-specific reports involves the following tasks:

- Importing custom property information (customer names and device locations) using Common Property Tables 3.0 or higher

- Creating a group account for all of the users affiliated with a particular customer

- Creating a group filter for the group account

For more information about creating filters for group accounts, refer to the *Performance Insight 5.0 Administration Guide.*

## Editing Parameters

By editing a parameter, you apply a constraint to the report, which eliminates data that does not interest you. 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; similarly, if you edit the Location, 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 provides these values, you do 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—then you must use the property import utility to import correct values.

If you want to update existing information, you have the option of editing a property file (a file you exported from OVPI), or using the PVC, QoS, and port change forms listed earlier in this chapter. For details about change forms, see Chapter 5, Using Change Forms.

# Sources for Additional Information

This user guide contains samples of some of the reports in ATM 3.0. The demo package that comes with ATM 3.0 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 to the ATM Report Pack 3.0 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:

• *Common Property Tables 3.5 User Guide*

• *Thresholds Module 5.0 User Guide*

• *NNM/Performance Insight Integration Module 2.0 User Guide*

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

**http://www.hp.com/managementsoftware**

Select **Technical Support** > **Product Manuals** to open the **Product Manual Search** page. Manuals for OVPI are listed under **Performance Insight**. Manuals for OVPI report packs and value-add components for NNM are listed under **Reporting and Network Solutions**.

Every title listed under **Reporting and Network Solutions** indicates the month and year of publication. If a user guide is revised and reposted, the date of publication will change even if the software version number does not change. Since updated user guides are posted to this site on a regular basis, you should search this site for updates before using an older PDF that may not be the latest PDF available.

# The Upgrade Install

This chapter covers the following topics:

- Guidelines for a smooth upgrade
- Upgrading from ATM 2.0 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 RNS CD, launch the package extraction interface, and select OVPI report packs for installation, the install script extracts every OVPI package from the CD and copies the results to the Packages directory on your system. When the extraction process 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 upgrading to ATM 3.0:

- OVPI 5.0
- All service packs currently available for OVPI 5.0
- Interface Reporting Report Pack 4.5
- Common Property Tables 3.0 or higher

### Upgrading Common Property Tables

If you are running version 2.2 of Common Property Tables, you must upgrade to version 3.0 by installing the version 2.2-to-3.0 upgrade package. When you install the upgrade package, do not install other packages at the same time. Install the upgrade package for Common Property Tables and *only* the upgrade package for Common Property Tables. If you are currently running Common Property Tables 3.0, you have the option of upgrading to Common Property Tables 3.5 by installing the 3.0-to-3.5 upgrade package.

## Polling Policies for Remote Pollers

When you uninstall an existing datapipe, the following information will be lost:

- Polling policies for remote pollers
- Multi-poller policies
- Customized polling groups

You can export existing polling policy configurations and customized polling groups by using the collection_manager and group_manager commands.

### Exporting Polling Policy Configurations

If your environment contains polling policies for remote pollers, use the collection_manager command to export exiting 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 Customized Polling Groups

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 Data Table Views

If you created custom data table views using existing property table views, drop the custom data table views now, before upgrading the report pack. Dropping custom table views will not lose data.

## Distributed Environments

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 3.0 or higher; deploy reports

- Upgrade to Interface Reporting 4.0 or higher; deploy reports

- Upgrade to ATM 3.0; deploy reports.

3 For each satellite server:

- Upgrade to Common Property Tables 3.0 or higher

- Upgrade to Interface Reporting 4.0 or higher

- 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 you installed ATM 2.0, you set up connections with satellite server databases, configured trendcopy commands, and switched off aggregations above the hourly level at each satellite server. If you upgraded from OVPI 4.6 to OVPI 5.0, some of the changes you made when you installed ATM 2.0 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 6, Distributed Systems.

# Upgrading Version 2.0 to Version 3.0

Perform the following tasks to upgrade from version 2.0 to version 3.0:

- Task 1: Stop OVPI Timer and extract packages from the RNS 6.0 CD

- Task 2: Upgrade Common Property Tables

- Task 3: Upgrade from Interface Reporting 3.0 to Interface Reporting 4.5

- Task 4: Install the UPGRADE_ATM_Checker package

- Task 5: Install the ATM 3.0 upgrade package

- 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 RNS 6.0 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 RNS 6.0 CD. 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_2.1_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 get the 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 4.5

1   Install the 3.0-to-4.5 upgrade package.

2   Remove these datapipes:

• Interface Discovery Datapipe 1.1

• IR ifEntry Datapipe 1.1

3   Install these datapipes:

• Interface Discovery Datapipe 2.0

• IR ifEntry Datapipe 2.0.

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 ATM 2.1-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_2.1_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 correct.

**Task 6:  Remove old datapipes**

The datapipes you were using with ATM 2.0 cannot be upgraded. You must remove your 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.

*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**

Sun: **sh /etc/init.d/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. Because the old datapipe may be incompatible with the new datapipe you just installed, re-importing the configurations you exported could lead to data corruption.

If, before upgrading, you dropped any customized data table views that were based on existing report pack property table views, you can recreate those custom views now.

# Package Removal

Follow these steps to uninstall ATM 3.0. Removing ATM 3.0 will automatically remove any datapipe you are using with ATM 3.0.

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

**2**  Stop OVPI Timer and wait for processes to terminate.

**3**  From the Management Console, 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 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.

# The New Install

This chapter covers the following topics:

- Guidelines for a smooth installation
- Installing ATM 3.0
- Options for viewing 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 at least two packages, a report pack and one datapipe, or sometimes a report pack and multiple datapipes. By installing a datapipe, you configure OVPI to collect a specific type of performance data at a specific polling interval. By installing a report pack, you configure OVPI to summarize and aggregate performance data in a specific way.

When you insert the RNS CD, launch the package extraction interface, and select OVPI report packs for installation, the install script extracts every OVPI report pack from the CD and copies the results to the Packages directory on your system. When the extraction process 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 Interface Reporting:

- OVPI 5.0
- All service packs available for OVPI 5.0
- Interface Reporting Report Pack 4.5
- Common Property Tables 3.0 or higher

## Upgrading Common Property Tables

If you are running an older version of Common Property Tables, you must upgrade that package to version 3.0 or higher. 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 CPT 2.2 on the central server, upgrade to 3.0.

3   If you are running Interface Reporting 3.0 on the central server, upgrade to 4.5.

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 IR 3.0 or IR 4.5, upgrade to IR 4.5.

  • 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 6, Distributed Systems.

# Installing ATM 3.0

This section covers the following tasks:

  • Task 1: Stop OVPI Timer and extract packages from the RNS CD

  • Task 2: If necessary, upgrade to Common Property Tables 3.0 or higher

  • Task 3: Install these packages and restart OVPI Timer:

    — ATM 3.0

    — At least one ATM datapipe

    — Interface Reporting 4.5

**Task 1:** **Stop OVPI Timer and extract packages from the RNS 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 RNS 6.0 CD. 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 3.0 or higher**

If you have not upgraded to Common Property Tables 3.0, do this now. 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. Unless you deploy reports, you will not get the forms that come with Common Property Tables.

• When Package Manager indicates the installation of the upgrade package 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 the 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 dependent datapipe for you.

   *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.

**12**    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**

# Options for Viewing Reports

Before reports can be viewed using a web browser, they must be deployed. During the preceding installation step, you enabled the Deploy Reports option. As a result, ATM reports are deployed and available for remote viewing.

The method of report viewing available to the user depends on how OVPI was installed. If the client component was installed on the user's system, the user has access to Report Viewer, Report Builder, and the Management Console. If the client component was not installed on your system, use the Web Access Server to view reports.

For more information about the client component, refer to the *Performance Insight Installation Guide*. For more information about deploying, viewing, and undeploying reports, refer to the *Performance Insight Guide to Building and Viewing Reports*.

# Seeing Performance Data in Reports

Some reports populate with data sooner than others. 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.

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.

# Adding Property Data 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. For example, 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 display 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. |

| Column | Definition |
|---|---|
| prop_ATMQoSNumber | Database value: integer<br>Required by the ReportPack.<br>Enumerated Value for Class Name of Ingress QoS.<br>-2 = Unassigned QoS (default)<br>1 = CBR<br>2 = VBR-RT<br>3 = VBR-NRT<br>4 = ABR<br>5 = UBR |
| prop_RevATMQoSNumber | Database value: integer<br>Required by the ReportPack. If not set uses the value from ATMQoSNumber.<br>Enumerated Value for Class of Egress QoS<br>-2 = Unassigned QoS (default)<br>1 = CBR<br>2 = VBR-RT<br>3 = VBR-NRT<br>4 = ABR<br>5 = UBR |
| prop_SCR | Database value: float<br>Required by the ReportPack if applicable.<br>Sustained cell rate on the egress direction. |
| prop_RevSCR | Database value: float<br>Required by the ReportPack if applicable. If not set uses the value from SCR.<br>Sustained cell rate on the ingress direction. |
| prop_PCR | Database value: float<br>Required by the ReportPack if applicable.<br>Peak cell rate on the egress direction. |
| prop_RevPCR | Database value: float<br>Required by the ReportPack if applicable. If not set uses the value from PCR.<br>Peak cell rate on the ingress direction. |
| prop_VPI | Database value: float<br>Virtual Path Identifier. |
| prop_VCI | Database value: float<br>Virtual Channel Identifier. |

| Column | Definition |
|---|---|
| prop_ATMPVCNumber | Database value: integer<br>1 - ATM Channel<br>2 = ATM Path<br>-2 = Unknown (default) |
| prop_PortSpeed | Not required for PVC endpoints.<br>Database value: float<br>Port speed in bits per second for the ingress direction. |
| prop_PortType | Database value: varchar (128)<br>Port type (UNI, NNI, ICI, etc.) for the ingress direction. |
| prop_PortName | Database value: varchar (128)<br>Required by the ReportPack. Should be supplied by the DataPipe.<br>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. |
| prop_PortDescription | Database value: varchar (128)<br>User definable. |
| prop_cust_id | Database value: integer<br>Required by the ReportPack.<br>Unique integer value for each customer. Assigned a default value of -2 when first populated. |
| prop_region_id | Database value: integer<br>Required by the ReportPack.<br>Unique integer value for each region. Assigned a default value of -2 when first populated. |
| prop_region_name | Database value: varchar (128)<br>Required by the ReportPack.<br>Region name associated with region_id value. |
| customer_name | Database value: varchar (128)<br>Required by the ReportPack.<br>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<br><br>Required by the ReportPack.<br><br>Port speed in bits per second for the ingress direction. |
| prop_PortType | Database value: varchar (128)<br><br>Port type (UNI, NNI, ICI, etc.) for the ingress direction. |
| prop_PortName | Database value: varchar (128)<br><br>Required by the ReportPack. Should be supplied by the DataPipe.<br><br>The port value. This value should match the dsi_table_key listed above. |
| prop_PortDescription | Database value: varchar (128)<br><br>User definable. |
| prop_cust_id | Database value: integer<br><br>Required by the ReportPack.<br><br>Unique integer value for each customer. Assigned default value of -2 when first populated. |
| prop_region_id | Database value: integer<br><br>Required by the ReportPack.<br><br>Unique integer value for each region. Assigned default value of -2 when first populated. |
| prop_region_name | Database value: varchar (128)<br><br>Required by the ReportPack.<br><br>Region name associated with region_id value. |
| prop_customer_name | Database value: varchar (128)<br><br>Required by the ReportPack.<br><br>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) <br><br> Port type (UNI, NNI, ICI, etc.) for the ingress direction. |
| prop_PortName | Database value: varchar (128) <br><br> Required by the ReportPack. Should be supplied by the DataPipe. <br><br> The port value. This value should match the dsi_table_key listed above. |
| prop_PortDescription | Database value: varchar (128) <br><br> User definable. |
| prop_cust_id | Database value: integer <br><br> Required by the ReportPack. <br><br> Unique integer value for each customer. Assigned default value of -2 when first populated. |
| prop_region_id | Database value: integer <br><br> Required by the ReportPack. <br><br> Unique integer value for each region. Assigned default value of -2 when first populated. |
| prop_region_name | Database value: varchar (128) <br><br> Required by the ReportPack. <br><br> Region name associated with region_id value. |
| prop_customer_name | Database value: varchar (128) <br><br> Required by the ReportPack. <br><br> 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 the time that the daily import process runs. See Changing the Default Run Time on page 37.

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<br>K_atm_pvc_exec<br>K_atm_pvc_exec_region |
| ATM_Port_Property.dat | Ratm_port_property | K_atm_port<br>K_atm_port_exec<br>K_atm_port_exec_region |
| ATM_SVC_Property.dat | Ratm_port_svc | K_atm_svc<br>K_atm_svc_exec<br>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.

# Using 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, 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**, then navigate to and select the interface you want to update. (Alternatively, you can 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.

# ATM

## UPDATE PVC CELL PARAMETERS

Use this form to update ATM cell related information.

| | | | | | | |
|---|---|---|---|---|---|---|
| VPI | - | PVC Virtual Path Identifier | VCI | - | PVC Virtual channel identifier |
| SCR | - | Sustained cell rate in the egress direction | RevSCR | - | Sustained cell rate in the ingress direction |
| PCR | - | Peak cell rate in the egress direction | RevPCR | - | Peak cell reate in the ingress direction |
| MCR | - | Minimum cell rate in the ingress direction | RevMCR | - | Minimum cell rate on the egress direction |
| MBS | - | Maximum burst size | CLR | - | Cell loss ratio |
| CDVT | - | Cell delay variation tolerance | CTD | - | Cell transfer delay |

### PVC Current Cell Pameters

| Target Name | PortName | VPI | VCI | SCR | RevSCR | PCR | RevPCR | MCR | RevMCR | MBS | CLR | CDVT | CTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 172.28.128.4 | 78 | 7.00 | 32.00 | | | | | | | | | | |
| 5.24 | 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 | | | | | | | | | | |

| SCR | | RevSCR | | PCR | | RevPCR | |
|---|---|---|---|---|---|---|---|

| MCR | | RevMCR | | MBS | | CLR | |
|---|---|---|---|---|---|---|---|

# Update ATM QoS Parameters

Follow these steps to update QoS parameters:

**1**    Select **HP OpenView > Performance Insight > Management Console**.

**2**    Click **Objects**, then 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.

## ATM

### UPDATE ATM PVC QoS Parameters

Use this for to update the ATM QoS parameters

| | | | |
|---|---|---|---|
| VPI | - ATM PVC Virtual Path Identifier | VCI | - ATM PVC Virtual Channel Idenfier |
| PortName | - Port associated with the PVC end point. | pvc_id | - ID to connect two PVC end points. |
| ATMQoS | - Class name of the ingress QoS | RevATMQoS | - Class name of the egress QoS |
| ATMQoSNumber | - Enumerated Class name value [ingress] | RevATMQoSNumber | - Enumerated Class name value [egress] |

#### Current ATM PVC QoS Parameters

| Target Name | PortName | VPI | VCI | ATMQoS | RevATMQoS | ATMQoSNumber | 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. |
| 5.2 | 1-12-1-10.32 | 10.00 | 32.00 | | | -2.00 | -2.00 | -2. |
| 5.7 | 2-11-3-0.34 | 0.00 | 34.00 | | | -2.00 | -2.00 | -2. |
| 5.1 | 1-5-2-0.35 | 0.00 | 35.00 | | | -2.00 | -2.00 | -2. |
| 5.1 | 1-5-2-0.62 | 0.00 | 62.00 | | | -2.00 | -2.00 | -2. |

**ATMQoS** [          ]                    **RevATMQoS** [          ]

**ATMQoSNumber** [          ]              **RevATMQoSNumber** [          ]

**pvc id** [          ]

**WARNING -**  **When you press "Apply" or "OK", all the parameters will be updated.**
           **If you do not wish to peform an update press "Cancel" button.**

# 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.

## ATM

### UPDATE PORT INFORMATION

Use this form for the updation of ATM Port Information

| | |
|---|---|
| Port Name - | The port on which the PVC endpoint resides. |
| Port Description - | Description for the Port. |
| Port ID - | The port number on which this logical port is configured. |
| Slot ID - | The slot number of which this logical port is configured. |
| Port Type - | Port type [ UNI, NNI, ICI  etc ] for the ingress direction. |
| RevPortType - | Port type [ UNI, NNI, ICI, etc ] for the egress direction. |
| Port Speed - | Port speed in bits per second for the ingress direction. |

### Current ATM Port Settings

| Target Name | PortName | PortDescription | PortID | SlotID | PortType | RevPortType | PortSpeed |
|---|---|---|---|---|---|---|---|
| 172.28.128.4 | 74 | | | | | | 0.00 |
| 172.28.128.4 | 78 | | | | | | 0.00 |
| 5.1 | 1-10-1 | | | | | | 0.00 |
| 5.1 | 1-11-1 | | | | | | 0.00 |
| 5.1 | 1-5-1 | | | | | | 0.00 |
| 5.1 | 1-5-2 | | | | | | 0.00 |

Port Name

Port Description

Port ID

Slot ID

Port Type

RevPort Type

Port Speed

**WARNING -** **When you press "Apply" or "OK" all the parameters will get updated.**
**If you do not wish to update data press the "Cancel" button.**

# Distributed Systems

If you just installed ATM for the first time, and you want to run this package as a distributed system, you must configure all of the servers in your system. Before getting to that step, verify that you have the right packages on each server.

### Packages on the Central Server

*   ATM 3.0, with reports deployed
*   Interface Reporting 4.0, with reports deployed
*   Common Property Tables 3.0 or higher, with reports (forms) deployed

### Packages on Each Satellite Server

*   ATM 3.0
*   Common Property Tables 3.0 or higher
*   At least one of the following datapipes:
    *   — Ascend ATM Datapipe 3.0
    *   — Fore ATM Datapipe 3.0
    *   — Cisco ATM Datapipe 3.0

    > Cisco ATM Datapipe 3.0 requires ATMifEntry 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. In addition, you may deploy reports from satellite servers, but only if you want local reporting, the ability to view reports on 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.

**2**  Using Table Manager, reduce the retention period of all ATM tables to a maximum of 2 days.

3   Configure polling policies for the datapipe(s), taking care that each node can only be polled from one system and by one datapipe type.

- 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.

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

**7**

# The PVC 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

As mentioned earlier in the Overview, the demo package contains fully populated samples of every report in the PVC folder. This chapter contains 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
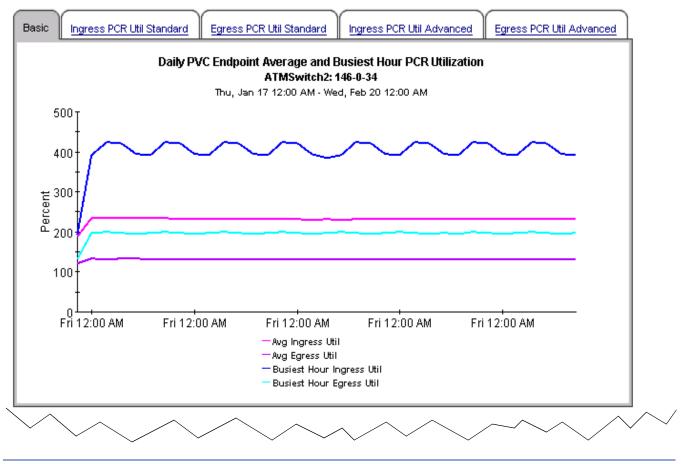
# ATM
# PVC Endpoint PCR
# Utilization Capacity Planning

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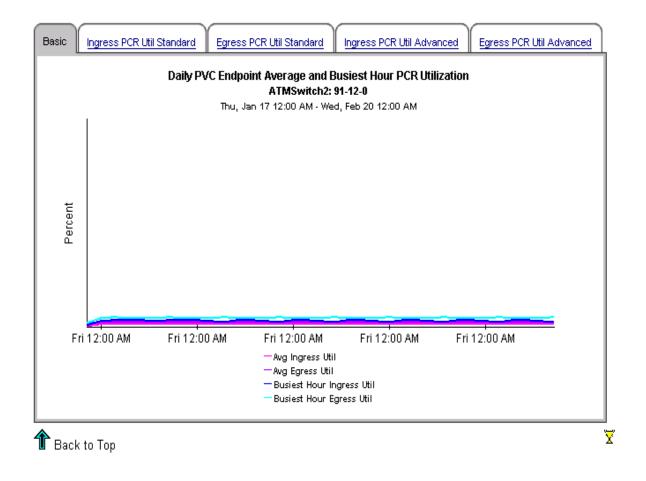
## Overutilized PVC Endpoints with a 30 Day Forecasted Value for Utilization > 60%

Utilization is Based on the Peak Cell Rate (PCR)

| Device | PVC | PVC Description | QoS | PVC Type | Day of Week | Ingress Baseline Util | DTT Ingress Util | 30/60/90 Day Ingress Forecast | Egress Baseline Util | DT Egre Uti |
|---|---|---|---|---|---|---|---|---|---|---|
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Thu | 370.45 | -64.00 | 639.55 / 823.02 / 1006.5 | 184.63 | -78. |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Mon | 403.93 | -922.00 | 420.58 / 431.93 / 443.28 | 197.80 | -2116 |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Sun | 414.92 | -6656.00 | 417.27 / 418.87 / 420.48 | 198.04 | |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Tue | 398.75 | -7472.00 | 400.75 / 402.11 / 403.47 | 196.45 | |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Fri | 398.00 | -7455.00 | 400.00 / 401.36 / 402.72 | 197.29 | |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | Wed | 410.09 | | 389.09 / 374.78 / 360.46 | 197.92 | |

Basic | Ingress PCR Util Standard | Egress PCR Util Standard | Ingress PCR Util Advanced | Egress PCR Util Advanced

### Daily PVC Endpoint Average and Busiest Hour PCR Utilization
### ATMSwitch2: 146-0-34
Thu, Jan 17 12:00 AM - Wed, Feb 20 12:00 AM



Legend:
- Avg Ingress Util
- Avg Egress Util
- Busiest Hour Ingress Util
- Busiest Hour Egress Util

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

Utilization is based on the Peak Cell Rate (PCR)

| Device | PVC | PVC Description | QoS | PVC Type | 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 |

| Basic | Ingress PCR Util Standard | Egress PCR Util Standard | Ingress PCR Util Advanced | Egress 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   Fri 12:00 AM   Fri 12:00 AM   Fri 12:00 AM   Fri 12:00 AM

— Avg Ingress Util
— Avg Egress Util
— Busiest Hour Ingress Util
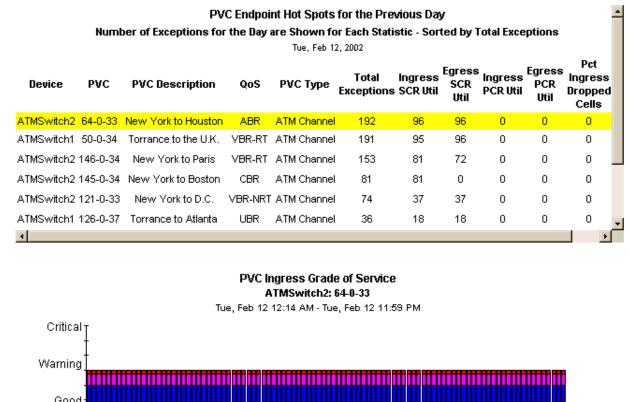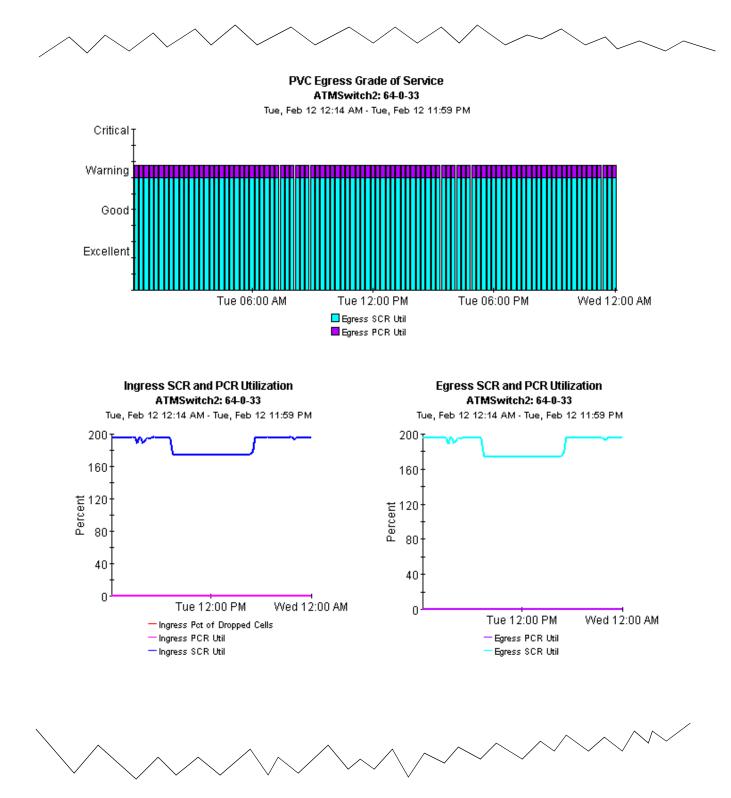— Busiest Hour Egress Util

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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% Percentage of Ingress Dropped Cells > 1%

## PVC Endpoint Hot Spots for the Previous Day
### Number of Exceptions for the Day are Shown for Each Statistic - Sorted by Total Exceptions
Tue, Feb 12, 2002

| Device | PVC | PVC Description | QoS | PVC Type | Total Exceptions | Ingress SCR Util | Egress SCR Util | Ingress PCR Util | Egress PCR Util | Pct Ingress Dropped Cells |
|--------|-----|-----------------|-----|----------|------------------|------------------|-----------------|------------------|-----------------|---------------------------|
| ATMSwitch2 | 64-0-33 | New York to Houston | ABR | ATM Channel | 192 | 96 | 96 | 0 | 0 | 0 |
| ATMSwitch1 | 50-0-34 | Torrance to the U.K. | VBR-RT | ATM Channel | 191 | 95 | 96 | 0 | 0 | 0 |
| ATMSwitch2 | 146-0-34 | New York to Paris | VBR-RT | ATM Channel | 153 | 81 | 72 | 0 | 0 | 0 |
| ATMSwitch2 | 145-0-34 | New York to Boston | CBR | ATM Channel | 81 | 81 | 0 | 0 | 0 | 0 |
| ATMSwitch2 | 121-0-33 | New York to D.C. | VBR-NRT | ATM Channel | 74 | 37 | 37 | 0 | 0 | 0 |
| ATMSwitch1 | 126-0-37 | Torrance to Atlanta | UBR | ATM Channel | 36 | 18 | 18 | 0 | 0 | 0 |

## PVC Ingress Grade of Service
### ATMSwitch2: 64-0-33
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM



Legend:
- Ingress SCR Util
- Ingress PCR Util
- Pct Ingress Dropped Cells

**PVC Egress Grade of Service**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM



- ☐ Egress SCR Util
- ☐ Egress PCR Util

**Ingress SCR and PCR Utilization**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM



- — Ingress Pct of Dropped Cells
- — Ingress PCR Util
- — Ingress SCR Util

**Egress SCR and PCR Utilization**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM



- — Egress PCR Util
- — Egress SCR Util

## Exception Detail - Exception Values for the Statistics

### ATMSwitch2: 64-0-33

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

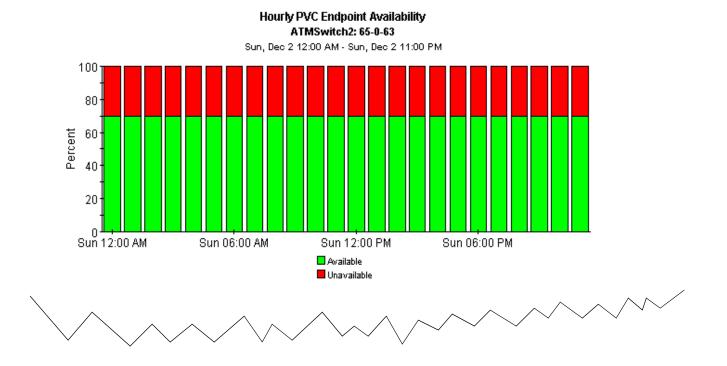| Time Period of Exception | Ingress SCR Util | Ingress PCR Util | Pct Ingress Dropped Cells | Egress SCR Util | Egress PCR Util |
|---|---|---|---|---|---|
| Tue Feb 12 12:14 AM | 195.68 | 0.46 | 0.00 | 195.68 | 0.46 |
| Tue Feb 12 12:29 AM | 195.73 | 0.46 | 0.00 | 195.72 | 0.46 |
| Tue Feb 12 12:44 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 |

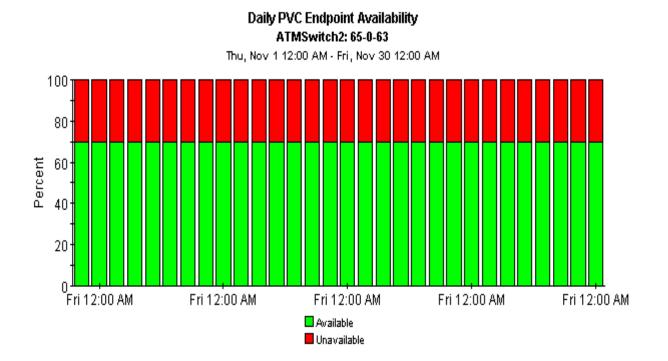⬆ Back to Top

# 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 Availability

Sun, Dec 2, 2001

| Device | PVC | PVC Description | QoS | PVC Type | 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 | |

## Hourly PVC Endpoint Availability
### ATMSwitch2: 65-0-63
Sun, Dec 2 12:00 AM - Sun, Dec 2 11:00 PM

## Monthly PVC Endpoint Availability

Nov 2001

| Device | PVC | PVC Description | QoS | PVC Type | 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 | |

## Daily PVC Endpoint Availability
### ATMSwitch2: 65-0-63

Thu, Nov 1 12:00 AM - Fri, Nov 30 12:00 AM
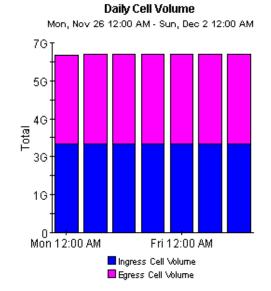


Available
Unavailable

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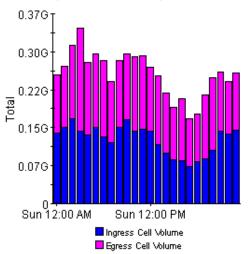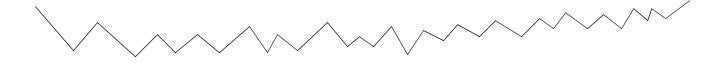
## Daily Customer Summaries
### Sun, Dec 2, 2001

Summary for All Acme PVCs

Summary for All DeskTalk PVCs

Summary for All Network PVCs

Summary for All Unassigned Customer PVCs
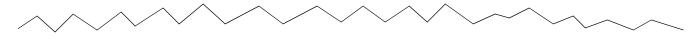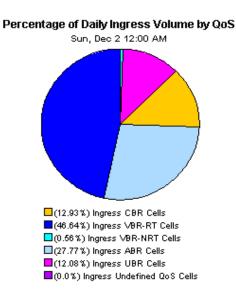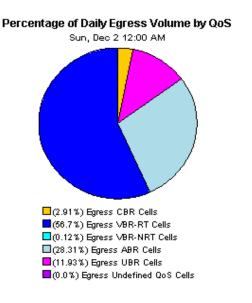
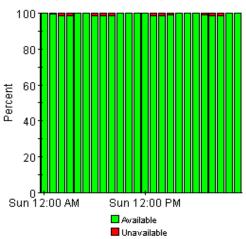### Daily Cell Volume
Mon, Nov 26 12:00 AM - Sun, Dec 2 12:00 AM

### Hourly Cell Volume
Sun, Dec 2 12:00 AM - Sun, Dec 2 11:00 PM

## Percentage of Daily Ingress Volume by QoS
### Sun, Dec 2 12:00 AM



- ☐ (12.93%) Ingress CBR Cells
- ☐ (46.64%) Ingress VBR-RT Cells
- ☐ (0.56%) Ingress VBR-NRT Cells
- ☐ (27.77%) Ingress ABR Cells
- ☐ (12.08%) Ingress UBR Cells
- ☐ (0.0%) Ingress Undefined QoS Cells

## Percentage of Daily Egress Volume by QoS
### Sun, Dec 2 12:00 AM



- ☐ (2.91%) Egress CBR Cells
- ☐ (56.7%) Egress VBR-RT Cells
- ☐ (0.12%) Egress VBR-NRT Cells
- ☐ (28.31%) Egress ABR Cells
- ☐ (11.93%) Egress UBR Cells
- ☐ (0.0%) Egress Undefined QoS Cells

## Hourly Utilization
### Sun, Dec 2 12:00 AM - Sun, Dec 2 11:00 PM



- Avg Ingress SCR Util
- Avg Egress SCR Util
- Avg Ingress PCR Util
- Avg Egress PCR Util

## Hourly Availability
### Sun, Dec 2 12:00 AM - Sun, Dec 2 11:00 PM



- ☐ Available
- ☐ Unavailable

## Hourly Exception Counts

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

## Hourly Percentage of Ingress Dropped Cells

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



Ingress SCR Util
Egress SCR Util
Ingress PCR Util
Egress PCR Util
Ingress Dropped Cells

— Avg Pct Ingress Dropped Cells

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# ATM
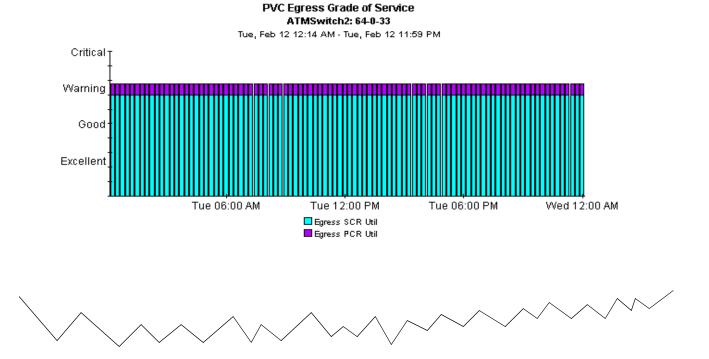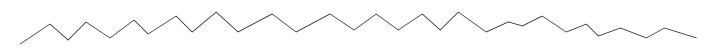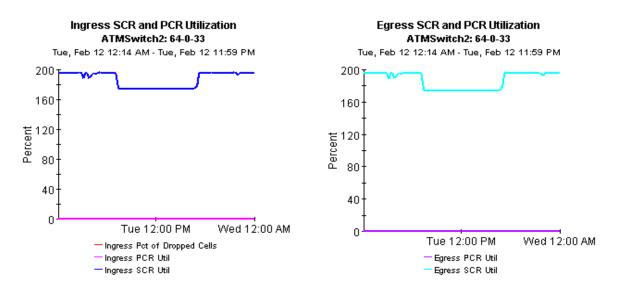# PVC Endpoint Top Ten

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.

### Daily Top Ten PVC Endpoints
### Based on Highest Average SCR Utilization in Either Direction
Sun, Dec 2, 2001 - Sun, Dec 2, 2001

| Device | PVC | PVC Description | QoS | PVC Type | SCR | Reverse SCR | Avg Ingress SCR Util | Avg Egress SCR Util | Peak Ingress SCR Util | Peak Egress 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 |

### PVC Egress Grade of Service
### ATMSwitch2: 64-0-33
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

**Ingress SCR and PCR Utilization**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

— Ingress Pct of Dropped Cells
— Ingress PCR Util
— Ingress SCR Util

**Egress SCR and PCR Utilization**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

— Egress PCR Util
— Egress SCR Util

**Exception Detail - Exception Values for the Statistics**
**ATMSwitch2: 64-0-33**
Tue, Feb 12 12:14 AM - Tue, Feb 12 11:59 PM

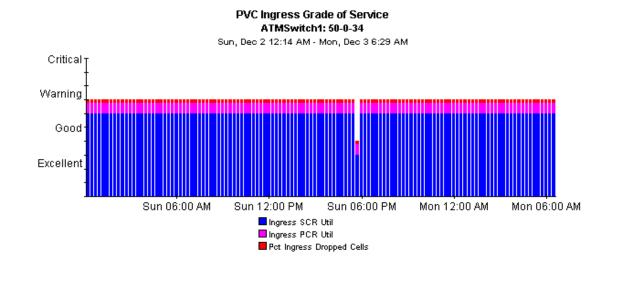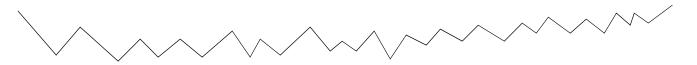| Time Period of Exception | Ingress SCR Util | Ingress PCR Util | Pct Ingress Dropped Cells | Egress SCR Util | Egress PCR Util |
|---|---|---|---|---|---|
| Tue Feb 12 12:14 AM | 195.68 | 0.46 | 0.00 | 195.68 | 0.46 |
| Tue Feb 12 12:29 AM | 195.73 | 0.46 | 0.00 | 195.72 | 0.46 |
| Tue Feb 12 12:44 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 |

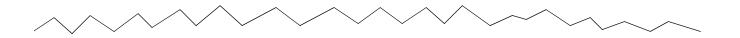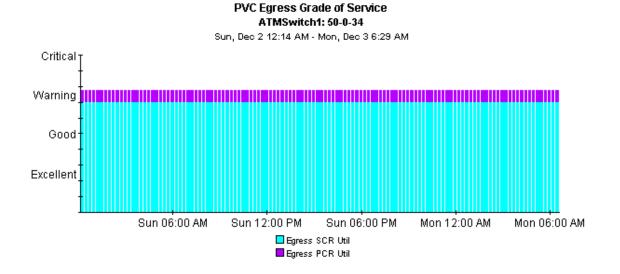⬆ Back to Top

# 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.
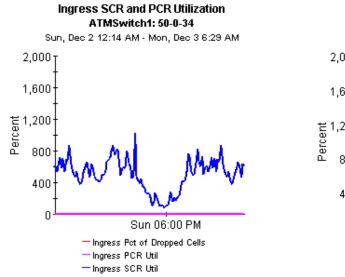
## PVC Endpoint Selection List - Sorted by Highest Average Cells per Second (CPS)
### Mon, Dec 3 6:28 AM - Mon, Dec 3 6:29 AM

| Device | PVC | PVC Description | QoS | PVC Type | SCR | Ingress SCR Util | Egress SCR Util | Avg Ingress CPS | Peak Ingress CPS | Avg Egress 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 | UBR | ATM Path | 353208 | 0.73 | 1.54 | 2591.36 | 6162.63 | 5451.2 |

## PVC Ingress Grade of Service
### ATMSwitch1: 50-0-34
#### Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



Legend:
- Ingress SCR Util
- Ingress PCR Util
- Pct Ingress Dropped Cells

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

Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



**Ingress SCR and PCR Utilization**
**ATMSwitch1: 50-0-34**

Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



**Egress SCR and PCR Utilization**
**ATMSwitch1: 50-0-34**

Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

## PVC Ingress Cell Volume
### ATMSwitch1: 50-0-34
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

## PVC Egress Cell Volume
### ATMSwitch1: 50-0-34
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

- Ingress CLP0 Cells
- Ingress CLP1 Cells

- Egress Usr CLP0 Cells
- Egress Usr CLP1 Cells
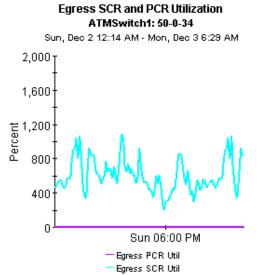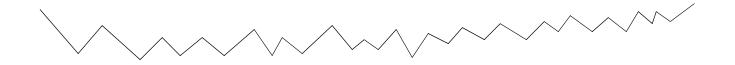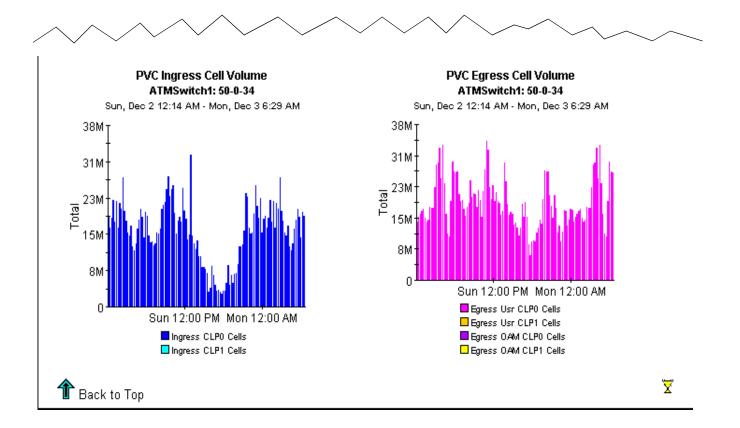- Egress OAM CLP0 Cells
- Egress OAM CLP1 Cells

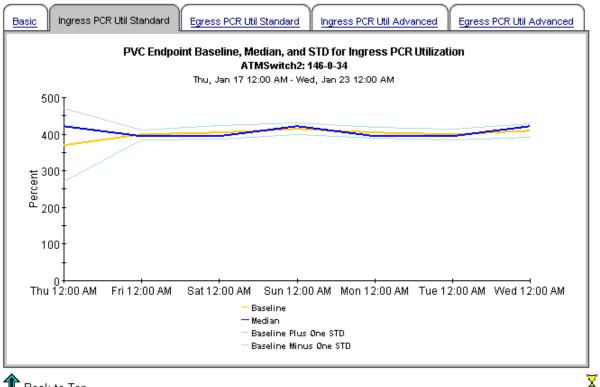Back to Top

# 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 | PVC Type | Day of Week | Ingress Baseline Util | DTT Ingress Util | 30/60/90 Day Ingress Forecast | Ingress Ratio | Egres 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 | 184.6 |
| 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 | 198.0 |
| 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 | 197.2 |
| 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 |

| Basic | **Ingress PCR Util Standard** | Egress PCR Util Standard | Ingress PCR Util Advanced | Egress PCR Util Advanced |
|-------|-------------------------------|--------------------------|---------------------------|--------------------------|

### PVC Endpoint Baseline, Median, and STD for Ingress PCR Utilization
### ATMSwitch2: 146-0-34
Thu, Jan 17 12:00 AM - Wed, Jan 23 12:00 AM



— Baseline
— Median
— Baseline Plus One STD
— Baseline Minus One STD

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# The Port 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)
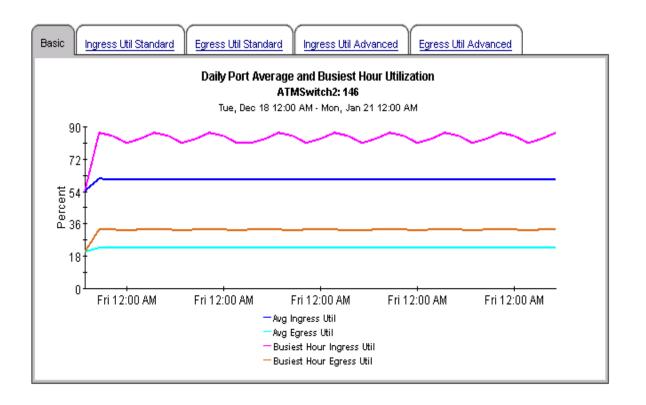- Snapshot (3 reports: daily, monthly, and Near Real Time)
- Top Ten: Daily

As mentioned earlier in the Overview, the demo package contains fully populated samples of every report in the Port folder. This chapter contains samples of the following reports:
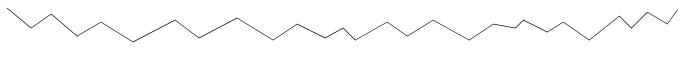
- Capacity Planning
- Availability
- Forecast
- Hot Spots
- QuickView - Near Real Time
- QuickView - Daily
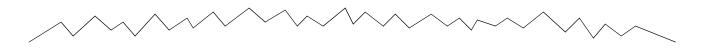- Executive Summary by Customer - Daily
- Top Ten

# 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.
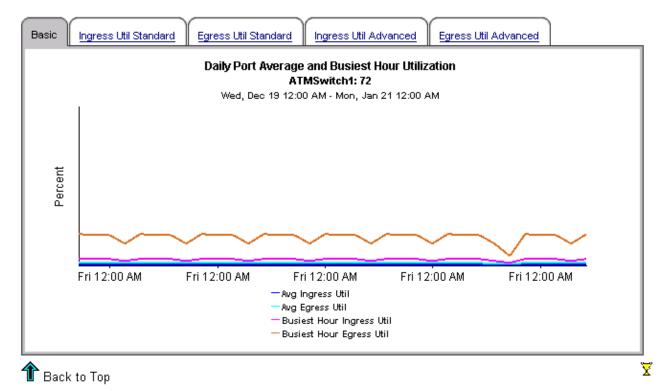
### Overutilized Ports with a 30 Day Forecasted Value for Utilization > 80%

Tue, Dec 18, 2001 - Mon, 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/Day Egr 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 |



**Basic** | Ingress Util Standard | Egress Util Standard | Ingress Util Advanced | Egress Util Advanced

**Daily Port Average and Busiest Hour Utilization**
**ATMSwitch2: 146**
Tue, Dec 18 12:00 AM - Mon, Jan 21 12:00 AM

— Avg Ingress Util
— Avg Egress Util
— Busiest Hour Ingress Util
— Busiest Hour Egress Util

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

Tue, Dec 18, 2001 - Mon, 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 Angeles | Sun | 0.75 | | 0.75 / 0.75 / 0.75 | 0.77 | | 0.76 / 0.75 / |

| Basic | Ingress Util Standard | Egress Util Standard | Ingress Util Advanced | Egress Util Advanced |
|---|---|---|---|---|

### Daily Port Average and Busiest Hour Utilization
### ATMSwitch1: 72
Wed, Dec 19 12:00 AM - Mon, Jan 21 12:00 AM



Percent

Fri 12:00 AM    Fri 12:00 AM    Fri 12:00 AM    Fri 12:00 AM    Fri 12:00 AM

— Avg Ingress Util
— Avg Egress Util
— Busiest Hour Ingress Util
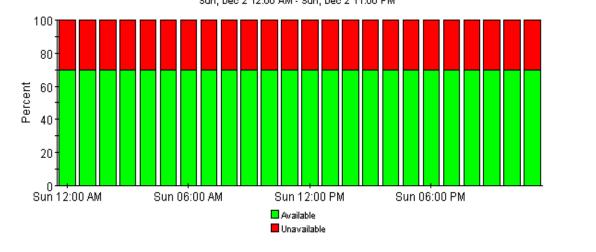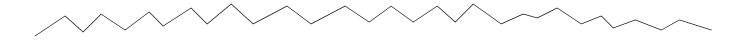— Busiest Hour Egress Util

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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.

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



■ Available
■ Unavailable
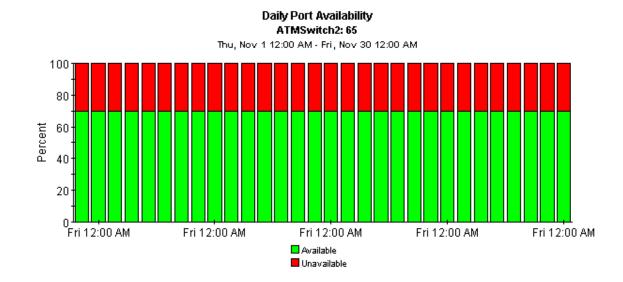
## Monthly Port Availability

Nov 2001

| Device | Port | Description | Availability |
|---|---|---|---|
| ATMSwitch2 | 65 | New York to San Francisco | 70.00 |
| ATMSwitch1 | 124 | Torrance to Dallas | 86.11 |

**Daily Port Availability**
**ATMSwitch2: 65**
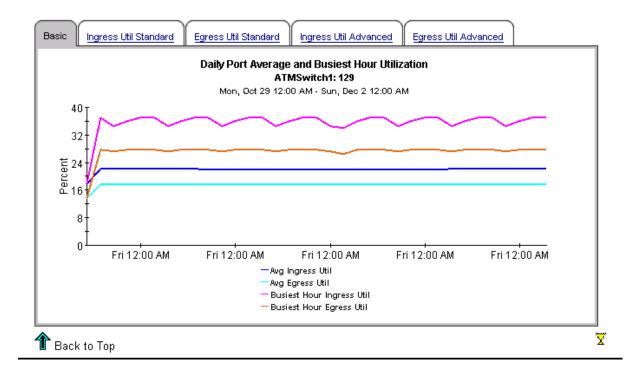Thu, Nov 1 12:00 AM - Fri, Nov 30 12:00 AM



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# ATM
# Port Forecast

## Ports with a 90 Day Forecasted Utilization Value > 80%
### Sorted by Greatest Growth Ratio
Mon, Oct 29, 2001 - Sun, Nov 4, 2001

| 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( F( |
|--------|------|-------------|-------------|----------------------|------------------|-------------------------------|---------------|---------------------|-----------------|-------------|
| 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 | 33.19 / |
| 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 / |

| Basic | Ingress Util Standard | Egress Util Standard | Ingress Util Advanced | Egress Util Advanced |

## Daily Port Average and Busiest Hour Utilization
### ATMSwitch1: 129
Mon, Oct 29 12:00 AM - Sun, Dec 2 12:00 AM



— Avg Ingress Util
— Avg Egress Util
— Busiest Hour Ingress Util
— Busiest Hour Egress Util

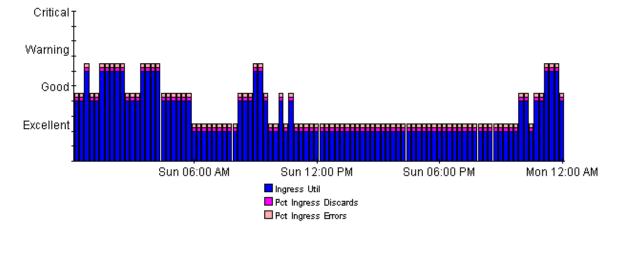⬆ Back to Top

# 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%
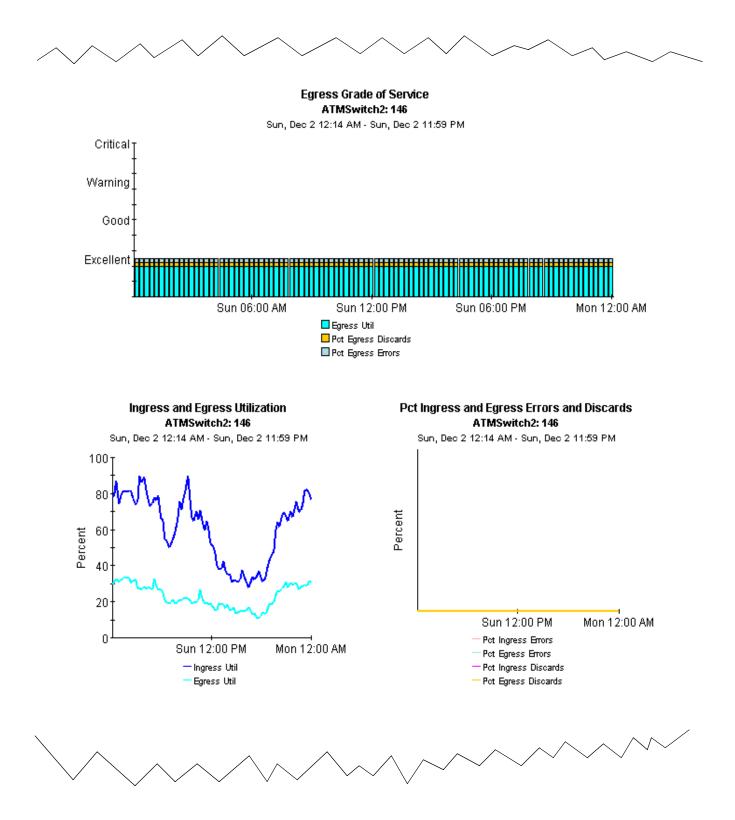
### Port Hot Spots for the Previous Day
### Number of Exceptions are Shown for Each Statistic - Sorted by Total Exceptions
Sun, Dec 2, 2001

| Device | Port | Description | Port Speed | Total Exceptions | Ingress Util | Egress Util | Pct Ingress Errors | Pct Egress Errors | 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 |
| ATMSwitch2 | 64 | New York to Houston | 20352000 | 5 | 3 | 2 | 0 | 0 | 0 | 0 |
| ATMSwitch2 | 121 | New York to D.C. | 20352000 | 3 | 1 | 2 | 0 | 0 | 0 | 0 |
| 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 |

### Ingress Grade of Service
### ATMSwitch2: 146
Sun, Dec 2 12:14 AM - Sun, Dec 2 11:59 PM



Ingress Util
Pct Ingress Discards
Pct Ingress Errors

## Egress Grade of Service
### ATMSwitch2: 146
Sun, Dec 2 12:14 AM - Sun, Dec 2 11:59 PM



- ■ Egress Util
- ■ Pct Egress Discards
- ■ Pct Egress Errors

## Ingress and Egress Utilization
### ATMSwitch2: 146
Sun, Dec 2 12:14 AM - Sun, Dec 2 11:59 PM



- — Ingress Util
- — Egress Util

## Pct Ingress and Egress Errors and Discards
### ATMSwitch2: 146
Sun, Dec 2 12:14 AM - Sun, Dec 2 11:59 PM



- — Pct Ingress Errors
- — Pct Egress Errors
- — Pct Ingress Discards
- — Pct Egress Discards

**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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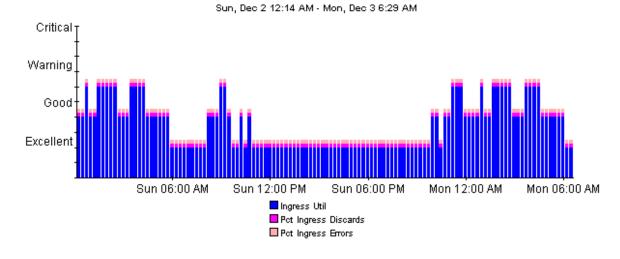
# ATM
# Port NRT QuickView
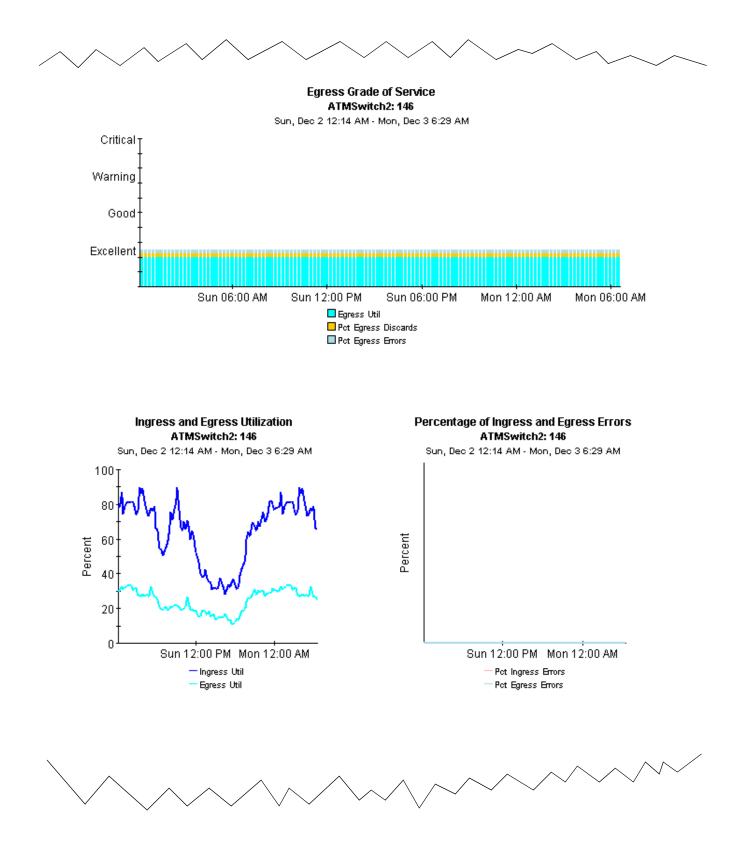
This report gives network managers and members of the NOC team ATM Port statistics in near real time. Statistics in the "Port Selection List" chart are averages over the last 6 hours of polling. Drilldowns show utilization, percentage of errors, percentage of discards, and GOS for the previous 24 hours of polled data.
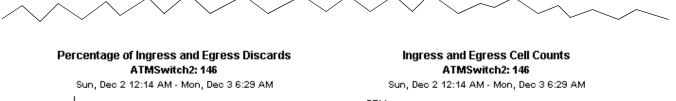
## Port Selection List - Sorted by Highest Average Cells per Second (CPS)
### Mon, Dec 3 6:28 AM - Mon, Dec 3 6:29 AM

| 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 | |
| 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 | |
| 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
### Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



Legend:
- Ingress Util
- Pct Ingress Discards
- Pct Ingress Errors

**Egress Grade of Service**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



**Ingress and Egress Utilization**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



**Percentage of Ingress and Egress Errors**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

**Percentage of Ingress and Egress Discards**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

— Pct Ingress Discards
— Pct Egress Discards

**Ingress and Egress Cell Counts**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM

■ Ingress Cells
□ Egress Cells

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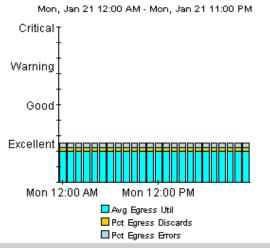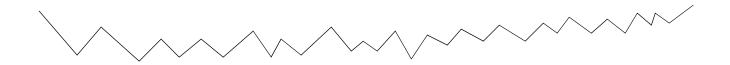
The ATM Daily Port QuickView gives the network management staff a detailed look at the performance of a single port when just the facts are needed. Drilldowns show utilization, GOS, percentge of errors, and percentage of discarded cells.

## 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 | |
| ATMSwitch2 | 121 | New York to D.C. | 20352000 | 39.86 | 45.35 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 90 | New York to Tokyo | 20352000 | 9.30 | 40.42 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 145 | New York to Boston | 20352000 | 38.60 | 17.79 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 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 | |

### Hourly Ingress Grade of Service
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

### Hourly Egress Grade of Service
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

- Avg Ingress Util
- Pct Ingress Discards
- Pct Ingress Errors

- Avg Egress Util
- Pct Egress Discards
- Pct Egress Errors

## Hourly Ingress Utilization
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

— Avg Ingress Util
— Peak Ingress Util

## Hourly Egress Utilization
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

— Avg Egress Util
— Peak Egress Util

## Hourly Ingress Pct Errors and Errors
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

— Avg Pct Discards
— Avg Pct Errors
— Peak Pct Discards
— Peak Pct Errors

## Hourly Egress Pct Errors and Discards
### ATMSwitch2: 146
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

— Avg Pct Discards
— Avg Pct Errors
— Peak Pct Discards
— Peak Pct Errors

**Hourly Ingress Total Errors and Discards**
**ATMSwitch2: 146**
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

Total

Mon 12:00 AM          Mon 12:00 PM

☐ Discarded Cells
☐ Error Cells

**Hourly Egress Total Errors and Discards**
**ATMSwitch2: 146**
Mon, Jan 21 12:00 AM - Mon, Jan 21 11:00 PM

Total

Mon 12:00 AM          Mon 12:00 PM

☐ Discarded Cells
☐ Error Cells

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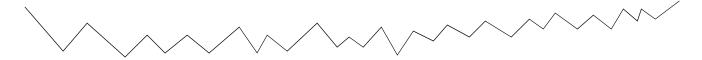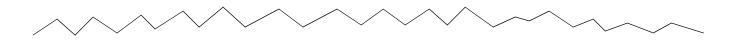
This report provides CFOs, CIOs and other managers an overview of the performance of their ATM ports. Each chart shows key metrics aggregated for all ports for each customer. Key indicators of performance are shown including total volume, utilization, and percentage of errors and discards.

## Daily Customer Summaries

Mon, Dec 10, 2001

Summary for All Acme Ports

Summary for All DeskTalk Ports

Summary for All Network Ports

Summary for All Unassigned Customer Ports

### Daily Cell Volume
Tue, Dec 4 12:00 AM - Mon, Dec 10 12:00 AM

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

**Day of Week Baseline and Forecast**
**Ingress Volume**
Tue, Nov 6 12:00 AM - Mon, Nov 12 12:00 AM

Baseline Volume
30 Day Forecast
60 Day Forecast
90 Day Forecast

**Day of Week Baseline and Forecast**
**Egress Volume**
Tue, Nov 6 12:00 AM - Mon, Nov 12 12:00 AM

Baseline Volume
30 Day Forecast
60 Day Forecast
90 Day Forecast

**Hourly Utilization**
Mon, Dec 10 12:00 AM - Mon, Dec 10 11:00 PM

Avg Ingress Util
Avg Egress Util

**Hourly Percentage of Errors and Discards**
Mon, Dec 10 12:00 AM - Mon, Dec 10 11:00 PM

Avg Pct Ingess Discards
Avg Pct Ingress Errors
Avg Pct Egress Discards
Avg Pct Egress Errors

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



Available
Unavailable

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



Ingress Util
Egress Util
Ingress Discards
Ingress Errors
Egress Discards
Egress Errors

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# ATM
# Port Top Ten

*hp invent*

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 | |
| ATMSwitch2 | 121 | New York to D.C. | 20352000 | 39.86 | 45.35 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 90 | New York to Tokyo | 20352000 | 9.30 | 40.42 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 145 | New York to Boston | 20352000 | 38.60 | 17.79 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 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 | 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 | 254.33 | 144.35 |

## Monthly Top Ten Ports Based on Highest Avg Utilization in Either Direction

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 | |
| ATMSwitch2 | 121 | New York to D.C. | 20352000 | 39.73 | 46.36 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 90 | New York to Tokyo | 20352000 | 9.21 | 39.97 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ATMSwitch2 | 145 | New York to Boston | 20352000 | 38.15 | 17.59 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 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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# The SVC 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

As mentioned earlier in the Overview, the demo package contains fully populated samples of every report in the SVC folder. This chapter contains samples of the following reports:

- QuickView - Daily
- Executive Summary by Customer - Daily
- QuickView - Near Real Time
- Top Ten
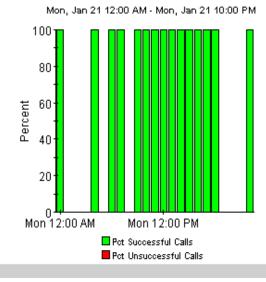
# ATM
# SVC Daily QuickView
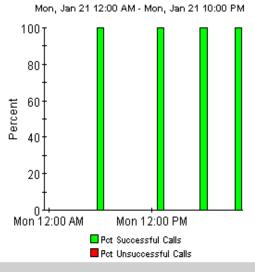
The ATM Daily SVC Endpoint QuickView gives the network management staff a detailed look at the performance of a single SVC port when just the facts are needed. Drilldowns show percentage of successful calls, number of call attempts, number of rejections, and calls per second.
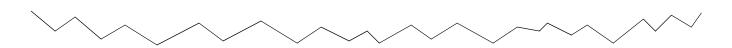
## Daily Top Ten SVC Ports by Call Attempts
### Mon, Jan 21, 2002

| Device | Description | Avg # of Active SVC | Attempts | Success Ratio - Originating | Success Ratio - Terminating | |
|---|---|---|---|---|---|---|
| ATMSwitch2 | New York to Boston | 25.73 | 177702.00 | 100.00 | 100.00 | |
| ATMSwitch2 | New York to San Jose | 41.57 | 54023.00 | 100.00 | 100.00 | |
| ATMSwitch1 | Torrance to Atlanta | 28.47 | 32848.00 | 100.00 | 100.00 | |
| ATMSwitch1 | Torrance to Nashua | 1.07 | 31837.00 | 100.00 | 99.47 | |
| ATMSwitch1 | Torrance to London | 68.79 | 7542.00 | 100.00 | 99.91 | |
| ATMSwitch1 | Torrance to Los Angeles | 40.44 | 7137.00 | 100.00 | 99.24 | |
| ATMSwitch1 | Torrance to New York | 34.73 | 6992.00 | 100.00 | 100.00 | |
| ATMSwitch2 | New York to Paris | 17.68 | 2342.00 | 100.00 | 100.00 | |
| ATMSwitch2 | New York to Toronto | 16.72 | 2340.00 | 100.00 | 100.00 | |

## Hourly Success Ratio - Originating Port
### ATMSwitch2: 68
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM

■ Pct Successful Calls
■ Pct Unsuccessful Calls
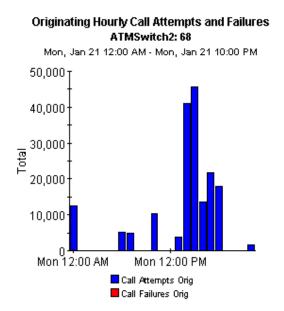
## Hourly Success Ratio - Terminating Port
### ATMSwitch2: 68
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM

■ Pct Successful Calls
■ Pct Unsuccessful Calls

**Originating Hourly Call Attempts and Failures**
**ATMSwitch2: 68**
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM

**Terminating Hourly Call Attempts and Failures**
**ATMSwitch2: 68**
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM
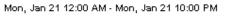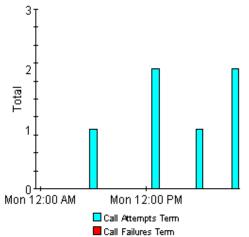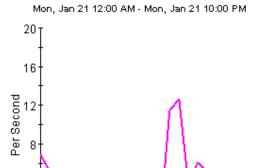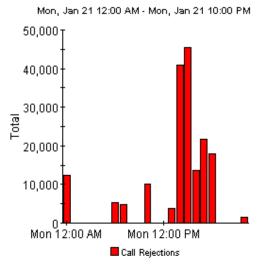
**Hourly Calls per Second**
**ATMSwitch2: 68**
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM

**Hourly Call Rejections**
**ATMSwitch2: 68**
Mon, Jan 21 12:00 AM - Mon, Jan 21 10:00 PM
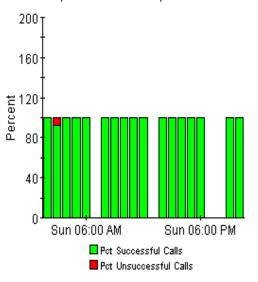
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# ATM
# SVC Daily Executive Summary by Customer

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

Summary for All Unassigned Customer SVC Ports

**Hourly Success Ratio**
**Call Attempts Originating from These Ports**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

- Pct Successful Calls
- Pct Unsuccessful Calls
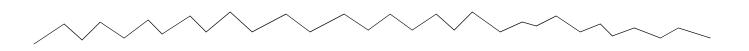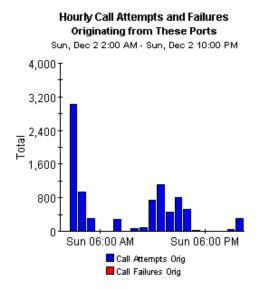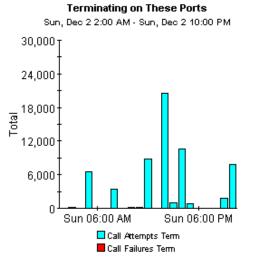
**Hourly Success Ratio**
**Call Attempts Terminating on These Ports**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

- Pct Successful Calls
- Pct Unsuccessful Calls

**Hourly Call Attempts and Failures**
**Originating from These Ports**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

■ Call Attempts Orig
■ Call Failures Orig

**Hourly Call Attempts and Failures**
**Terminating on These Ports**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

■ Call Attempts Term
■ Call Failures Term
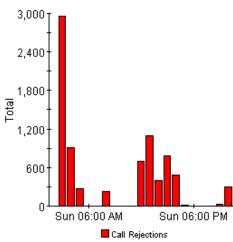
**Hourly Calls per Second**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

— Calls per Second

**Hourly Call Rejections**
Sun, Dec 2 2:00 AM - Sun, Dec 2 10:00 PM

■ Call Rejections

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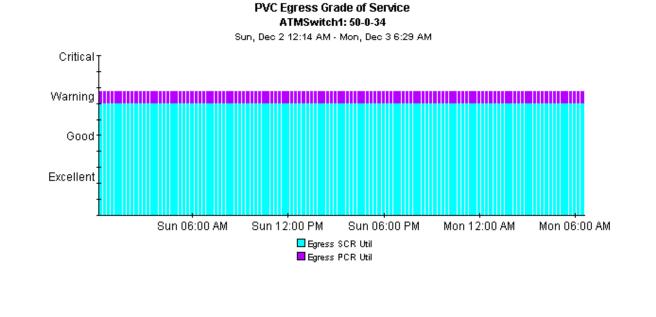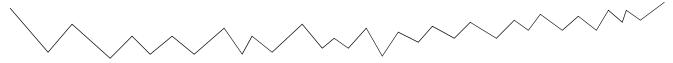
# ATM
# SVC NRT QuickView
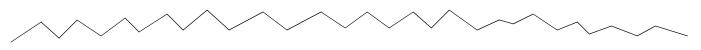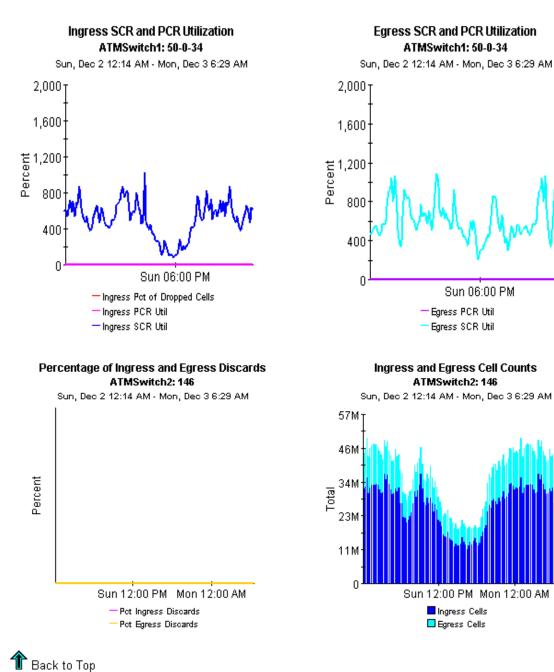
This report gives network managers and members of the NOC team ATM SVC port statistics in near real time. Statistics in the "SVC Selection List" chart are averages over the last 6 hours of polling. Drilldowns show "as polled" data including percentage of successful calls, calls per second, and call rejections.

## 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 | |
| ATMSwitch2 | New York to San Jose | 5506 | 100.00 | 99.98 | |
| ATMSwitch1 | Torrance to Nashua | 4804 | 100.00 | 99.13 | |
| ATMSwitch1 | Torrance to London | 2971 | 100.00 | 99.38 | |
| 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
### Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



Legend:
- Egress SCR Util
- Egress PCR Util

**Ingress SCR and PCR Utilization**
**ATMSwitch1: 50-0-34**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



— Ingress Pct of Dropped Cells
— Ingress PCR Util
— Ingress SCR Util

**Egress SCR and PCR Utilization**
**ATMSwitch1: 50-0-34**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



— Egress PCR Util
— Egress SCR Util

**Percentage of Ingress and Egress Discards**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



— Pct Ingress Discards
— Pct Egress Discards

**Ingress and Egress Cell Counts**
**ATMSwitch2: 146**
Sun, Dec 2 12:14 AM - Mon, Dec 3 6:29 AM



■ Ingress Cells
□ Egress Cells

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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 by Call Attempts

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 Top Ten SVC Ports by Calls Per Second**

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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# Editing Tables and Graphs
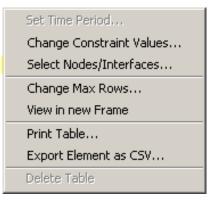
Any table or graph can be viewed in several ways. While the default view is usually adequate, you can easily change to a different view.

If you are using the Report Viewer application, right-click the object to display a list of view options. If you are looking at a report 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 a Table

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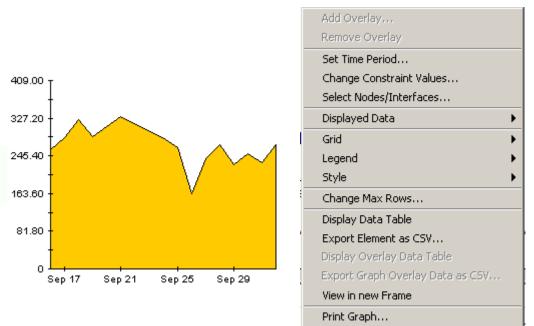
The **Select Nodes/Interfaces** allows you to change the scope of the table by limiting the table to specific nodes, specific interfaces, or a specific group of nodes or interfaces. The Select Node Selection Type window opens.

**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.

**Table Viewer**

### Polled IP QoS Statistics Data - Input
### Over Previous 6 Hours

| Direction | IpPrecedence | Switched Bytes | Switched Pkts | Time Period |
|-----------|--------------|----------------|---------------|-------------|
| Input | 0 | 105,688 | 675 | Tue Oct 29 07:00 AM |
| Input | 1 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 2 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 3 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 4 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 5 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 6 | 600 | 5 | Tue Oct 29 07:00 AM |
| Input | 7 | 0 | 0 | Tue Oct 29 07:00 AM |
| Input | 0 | 98,334 | 638 | Tue Oct 29 06:45 AM |
| Input | 1 | 0 | 0 | Tue Oct 29 06:45 AM |
| Input | 2 | 0 | 0 | Tue Oct 29 06:45 AM |
| Input | 3 | 0 | 0 | Tue Oct 29 06:45 AM |
| Input | 4 | 0 | 0 | Tue Oct 29 06:45 AM |
| 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 |

# View Options for a Graph

Right-clicking a graph, or clicking the Edit Graph icon if you are using the Web Access Server, opens the following list of view options.
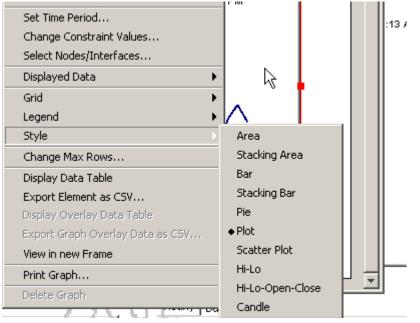
The following table provides details about each option.

| Option | Function |
|---|---|
| Set Time Period | Same as the table option shown above. |
| Change Constraint Values | Same as the table option shown above. |
| Select Nodes/Interfaces | Same as the table option shown above. |
| Displayed Data | For every point on a graph, display data in a spreadsheet. |
| Grid | Add these to the graph:<br>X axis grid lines<br>Y axis grid lines<br>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. |

| 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. |
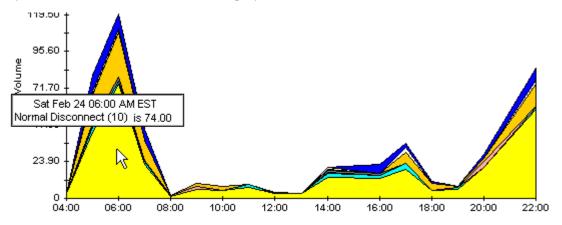
## Style Options

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



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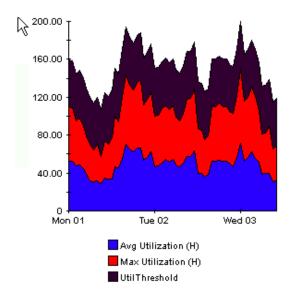
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location

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.
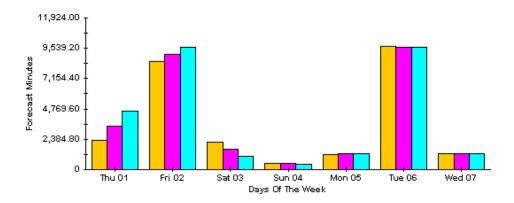
## Style > Stacking Area

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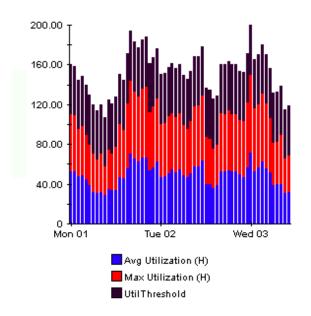


## Style > Bar

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.
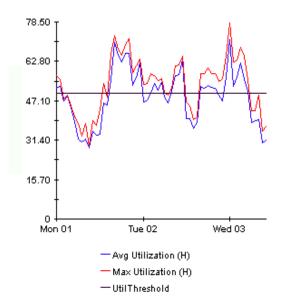
## Style > Stacking Bar

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.
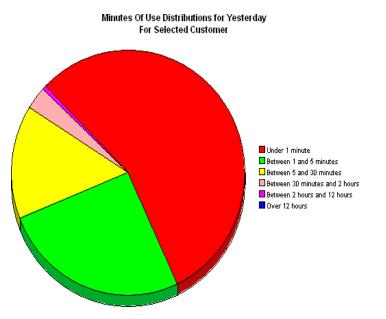


## Style > Plot

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.

## View in New Frame

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

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