



PMVision™ 1.6 Release Note

June 10, 1999

PMVision™ is a configuration and monitoring application for Lucent PortMaster® products based on the Sun Microsystems Java Virtual Machine version 1.1.6. Version 1.6 of PMVision is available to any Lucent customer at no charge.

PMVision works best with the following ComOS® versions and provides equivalent functions:

- ComOS 4.1 (in beta)
- ComOS 4.0
- ComOS 3.9 (in beta)
- ComOS 3.8.2
- ComOS 3.8
- ComOS 3.7.2c3

If you are running an older version of ComOS, not all PMVision functions are available.

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About PMVision

PMVision was designed to do the following:

- Be portable across operating systems.
- Manage multiple PortMaster products simultaneously.
- Extend to allow Wizards and Smart Agents to manage PortMaster products.

PMVision provides a single document interface (SDI) panel. A control tree appears on the left, a list of currently open PortMaster products—including selection information—appears at the top center, and the main function window is in the center.

PMVision includes online help.

PortMaster Access

To access a PortMaster, you select the **Connect** option from the PortMaster pull-down menu, or select **PortMaster** in the control tree. PMVision allows you to connect to a PortMaster using the default **!root** login, or to use RADIUS authenticated administrative logins if the PortMaster is appropriately configured. If RADIUS authenticated administrative logins are used, the password for these logins is currently sent over the connection in clear text.

RADIUS User Permissions

A RADIUS NAS-Prompt-User has limited command rights. A RADIUS Administrative-User is equivalent to the **!root** administrative login. PMVision treats the RADIUS NAS-Prompt-User administrative user the same as the RADIUS Administrative-User until ComOS denies access to a function. For example, a user at the NAS-Prompt-User level can use PMVision to create a user or location record, but creation of that record is denied when the command is sent to the PortMaster.

Main Functions

You access PMVision functions by clicking them in the control tree. PMVision provides the following main functions:

- Monitoring (requires ComOS 3.8 or later)
- Graphing (requires ComOS 3.9 or later)
- Diagnosis—Debug
- Maintenance—Upgrade, Back Up, and Restore
- Command—Using the ComOS command line interface
- Configuration

Monitor

PMVision provides extensive real-time monitoring capabilities, including the ability to monitor diagnostic commands.

The **Monitor** tree item allows you to monitor operations on the PortMaster as follows:

- **Chassis** shows power use, fan status, and temperature for each board on a PortMaster 4. This feature works only with ComOS 4.0 or later.
- **Users** shows the list of connected users.
- **Modem Summary** shows the number of modems in each state on a PortMaster 3 running ComOS 3.9b6 or later or on a PortMaster 4.
- **Modem Details** shows the state of modems either for an entire PortMaster 3 chassis or for a single PortMaster 4 Quad T1 or Tri E1 board.
- **Session Summary** shows the number of connections for various connection speeds on a PortMaster 3 running ComOS 3.9b6 or later or on a PortMaster 4.
- **Session Details** shows active sessions either for an entire PortMaster 3 chassis or for a single PortMaster 4 Quad T1 or Tri E1 board.
- **Lines** shows the state of lines for an entire chassis.
- **Interfaces** shows active interfaces either for an entire PortMaster 3 chassis or for a single PortMaster 4 Quad T1 or Tri E1 board.
- **Alarms** shows the list of alarms for ComOS 3.9 or later.
- **NAT Sessions** shows the list of network address translator (NAT) sessions on a PortMaster running ComOS 3.9.
- **NAT Statistics** shows the list of NAT statistics on a PortMaster running ComOS 3.9.
- **OSPF Neighbors** shows the list of OSPF neighbors on a PortMaster running ComOS 3.9 or later.
- **Network Connections** shows the list of network connections on a PortMaster running ComOS 3.9 or later.
- **Mux Channels** shows the state of channels on a T3 Mux or STS-1 Mux board.
- **Mux Stats** shows the state of the multiplexor (mux) line on a T3 Mux or STS-1 Mux board.
- **Ethernet** shows the activity on all Ethernet interfaces.
- **L2TP Tunnels** shows the Layer 2 Tunneling Protocol (L2TP) tunnels on your PortMaster.
- **L2TP Sessions** shows the L2TP sessions on your PortMaster.

Graph

The **Graph** tree item allows you to view and log the history of modem and session summaries. You can specify the log interval, log file, and colors for each item in the display. The colors are saved to a preferences file. This feature is currently available only on ComOS 3.9 or later.

- **Modems** shows the **Modem Summary** information over time.
- **Sessions** shows the **Session Summary** information over time.

Diagnose

Debug allows you to display debug information.

Maintain

- **Upgrade** allows you to upgrade your PortMaster with a ComOS upgrade file.
- **Back Up** allows you to save certain parts of your configuration to a file. This configuration is saved in ASCII file format.
- **Restore** allows you to restore a previously saved configuration file. When restoring a configuration, PMVision is not just performing an erase-and-restore operation. Instead, the configuration file overwrites the specific configuration information that is being restored from the file. Any items that are not overwritten by the restore operation are left unchanged.

PMVision does not read or restore binary backup files. However, you can use **Upgrade** to send binary backup files created by **pmreadconf** to a PortMaster.



Caution – Because the binary backup file format is heavily dependent on ComOS version, restoring a file saved from one version onto another is not recommended.



Warning – Loss of user passwords. If you are running ComOS 3.8 or earlier, backing up the user table fails to recover the individual user passwords. For this reason, restoring a user table from a PMVision backup produces null passwords in the user table. If a user entry has a null password, the PortMaster does not prompt the user for a password at login. As a result, the user might be unable to log in. In addition, an unauthorized user might gain access to the user account because no password is required. After a backup-and-restore operation, you must add user passwords through either PMVision or the command line interface.

As of PMVision 1.3 and ComOS 3.8.2 and later releases, user passwords can be retrieved from the PortMaster. However, the passwords are passed from the PortMaster to PMVision in clear text. They are then encrypted when saved to the file.



Warning – Loss of !root passwords and secrets. If you are running ComOS 3.8 or earlier, the administrative (!root) password and RADIUS and ChoiceNet® secrets are not saved by the backup operation. Unless you add the administrative password and RADIUS and ChoiceNet secrets to the backup file, they are not restored and the previous password and secrets remain in effect.

As of PMVision 1.3 and ComOS 3.8.2 and later releases, RADIUS and ChoiceNet secrets can be retrieved from the PortMaster. However, the secrets are passed from the PortMaster to PMVision in clear text. They are then encrypted when saved to the file. Command

Command

Command provides a command window for entering ComOS commands and viewing command output.

The following commands are not allowed in Command:

- **attach**
- **dial**
- **ping**
- **pmlogin**
- **ptrace**
- **rlogin**
- **set debug**
- **telnet**
- **tftp**
- **traceroute**

Configure

Configure allows you to enter, view, and update configuration information for the PortMaster.

PMVision 1.6 supports the following PortMaster 4 modules and boards:

- System manager module
- Quad T1 board
- Tri E1 board
- Standalone single Ethernet board
- Standalone dual Ethernet board
- T3 Mux board
- Synchronous Transport Signal 1 (STS-1) Mux board
- L2TP network server (LNS) board

When controlling a PortMaster running a ComOS release earlier than ComOS 3.8, PMVision does not provide configuration for the Simple Network Management Protocol (SNMP), the host table, or static routes.

New Features

PMVision 1.6 has the following new features:

- On the graph panels, you can now minimize the legend.
- You are now prompted to reset an IP pool after changing it.
- You are now prompted to reset a port after changing a protocol on the port.
- The **Diagnose->Debug** options panel has been redesigned.
- You can now debug the following from PMVision:
 - RIP
 - Non-facility associated signaling (NFAS)
 - IP Security (IPSec)
- The Up and Down arrow keys can scroll through the command history list in the **Command** section.
- The release notes are available online through the **Help** menu.
- The debug level can be changed through the **Help->About** PMVision dialog.

Bugs Fixed

The following bugs are fixed in PMVision 1.6:

- The **Reset Port** button under **Monitor->Users** has been fixed.
- PMVision now correctly retrieves the up times for PortMaster products running ComOS 3.7 and earlier.
- Online help has been updated to reflect new features.

Limitations

PMVision 1.6 has the following known limitations:

- Because performing a full keyword search in online help can cause PMVision to crash, the feature has been removed from this release.
- When the **show mux** command is typed in the Command window, it produces truncated output.
- The control tree is not updated when table entries are deleted or renamed.
- LEDs for the T3 Mux or STS-1 Mux boards on the PortMaster 4 are not displayed in the main monitor panel.
- LEDs for the Ethernet ports are not displayed in the main monitor panel.
- The main monitor panel does not refresh the display of boards in the PortMaster 4 chassis.

-
- Using the **Log to File** option on the Restore panel causes user passwords to be written to the log file in clear text.
 - The **Monitor->Interfaces** option does not show the point-to-point interfaces on the PortMaster 4.
 - The backup operation (**Maintain->Back Up**) does not save the administrative password.
 - You cannot connect to more than five PortMaster products unless you have more than 32MB of RAM in the computer running PMVision.
 - **Monitor->Modem** Details shows different call and retrain counts than a **show modems** command entered at the command line.
 - Modem information is not always displayed in the correct order. Click the column name to sort the column correctly.
 - On the **Diagnose->Debug** panel, the debug options do not always turn off correctly after you deselect them, and might continue to display debug information. To stop the display of all debug information, turn off all debug options by clicking **Clear** and then **Set** in the Debug Options dialog box.
 - Because ComOS has only one set of debug flags, changing the debug settings on the command line affects the debug messages displayed in the PMVision debug panel.
 - In Microsoft Windows, the “hourglass” cursor remains visible after PMVision completes an operation. Move the mouse to correct the cursor.
 - When PMVision is run under Motif or OpenWindows, the following text might appear but does not indicate any runtime problems in PMVision:

Warning:

Name: scrollbar

Class: XmScrollBar

The scrollbar page increment is less than 1.

- If a PortMaster is sent unsupported commands, a Command Error dialog box is displayed. Click Done to dismiss the box and return PMVision to a normal state

System Requirements

PMVision is a Java-based product that runs on any system with Java Development Kit (JDK) or Java Runtime Environment (JRE) version 1.1.6 or later installed. Nondevelopers can use the JRE rather than the JDK.

Currently, JDK 1.1 and JRE 1.1 are available for the following and other platforms at <http://www.javasoft.com/products/jdk/1.1/>:

Windows NT 4.0

Windows 95

Solaris 2.5.1

Solaris x86 2.5.1

Linux 2.x

FreeBSD

SGI IRIX 6.3
HP-UX 10.02
Alpha Digital UNIX 4.0
IBM AIX 4.1
Macintosh

Installation

1. Download files from **ftp.livingston.com** as follows:

```
ftp ftp.livingston.com  
(Enter anonymous.)  
(Enter your email address; it will not echo.)  
binary  
cd pub/le/software/java  
  
- For Solaris, enter  
get pmvision16_solaris.tar  
  
- For other UNIX systems, enter  
get pmvision16_unix.tar  
  
- For Windows, enter  
get pmvision16.zip  
  
- For Macintosh, enter  
get pmvision16.sit  
  
quit
```

2. For UNIX systems only, define the path for **jre/bin** in your **.cshrc** file. For example, if you install the JRE in the **/usr/local/lib** directory, your **.cshrc** file must have the following entry:

```
set path=( /usr/local/lib/jre/bin $path )
```

If the JDK has been installed, then change the **pmvision** script to use the **java** command instead of **jre**.

3. Run the installation.

- For Solaris, enter the following commands on the command line:

```
tar xvf pmvision16_solaris.tar  
./pmvision_install.bin
```

- For other UNIX systems, enter the following commands on the command line, replacing **</usr/local/lucent>** with whatever path you prefer:

```
mkdir </usr/local/lucent>  
mkdir </usr/local/lucent>/pmvision  
cp pmvision16_unix.tar </usr/local/lucent>/pmvision
```

```
cd </usr/local/lucent>/pmvision
tar xvf pmvision16_unix.tar
rm pmvision16_unix.tar
```

- For Windows, unzip the **pmvision16.zip** file, run the **pmvision_install.exe** program, and follow its instructions.
 - For Macintosh, unstuff the **pmvision16.sit** file using Stuffit Expander 5.0 or later, run the **pmvision_install** program, and follow its instructions.
4. If you are using a ChoiceNet server, increase to at least 2 and preferably 10 the maximum number of **pmconsole** connections allowed into the PortMaster. PMVision and ChoiceNet both use TCP port 1643 for communication. If only one port is available, ChoiceNet cannot send filters to the PortMaster while PMVision is connected.

To increase the number of connections allowed through this port, log in to your PortMaster through the console or a Telnet session and type the following command:

```
set maximum pmconsole 10
```

Deinstallation

- On a Solaris, Windows, or Macintosh system, an application called **Uninstall_PMVision** is placed in the **Lucent/PMVision** directory. Run this application to remove PMVision from your system.

On Solaris, if the local **jre** directory still exists after you run **Uninstall_PMVision**, remove the directory with the command **rm -rf jre**.

- On a UNIX system, remove the shell script and **jar** files to remove PMVision from your system.

Running PMVision

- On a Windows NT system, select the PMVision icon from the Lucent folder in your **Start->Programs** menu.
- On UNIX systems (including Solaris), run PMVision by typing **pmvision** when you are in the PMVision installation directory. If you have added the PMVision installation directory to your PATH, you can run it from anywhere.
- On Macintosh systems, select the PMVision icon from the Apple menu.

Login Options

When running PMVision, you can use the following options:

-h <Hostname>
-u <Username>
-p <Password>

Use the **-h**, **-u**, and **-p** options together to force PMVision to log in to the specified PortMaster at startup. For example:

pmvision -h <Hostname> -u “\!root” -p <Password>

If only **-h** is specified, the Connect dialog box is displayed with the hostname filled in.

Debug Log

To specify the debug level for PMVision, select **Help->About PMVision** and choose from the drop-down list. Alternatively, you can select a debug level at the command line with the following debug options:

The **-g** <Debug level> option specifies the debug level. Valid debug level values are the following:

0	NONE	No debug output
10	FATAL_ERRORS	Debug output for fatal errors only
20	ALL_ERRORS	Debug output for all errors (the default)
30	DEBUG	Useful debug information
40	VERBOSE	More debug output than you can possibly stand

The **-l** option sends all debug output to the directory PMVision is installed in. By default, all debug output is sent to the **Lucent/PMVision** directory created in your home directory. On UNIX machines, the default works properly. However the concept of a home directory is not so clear on PCs and seems to differ for each vendor's Virtual Machine. Try looking for one of the following:

c:\java\Lucent\PMVision
c:\users\<username>\Lucent\PMVision
c:\windows\Lucent\PMVision

If you still cannot find the directory that contains debug output, select **Find->File** and search for **debuglog.txt**.

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Contacting Lucent Remote Access Technical Support

Lucent Technologies Remote Access Business Unit (previously Livingston Enterprises) provides technical support via voice, fax, and electronic mail, or through the World Wide Web at **<http://www.livingston.com/>**.

Mention that you are running PMVision 1.6, and include the version of JDK or JRE that you are running, the operating system version (**uname -a** output), and the version of ComOS on the PortMaster.

The **About PMVision...** menu item in the Help menu displays the version of PMVision you are running including the build date, debug level, and location of runtime debug files.

Internet service providers (ISPs) and other end users in Europe, the Middle East, Africa, India, and Pakistan must contact their authorized Lucent Remote Access sales channel partner for technical support; see **<http://www.livingston.com/International/EMEA/distributors.html>**.

For North and South America and Asia Pacific customers, technical support is available Monday through Friday from 7 a.m. to 5 p.m. U.S. Pacific Time (GMT -8). Dial 1-800-458-9966 within the United States (including Alaska and Hawaii), Canada, and the Caribbean, or 1-925-737-2100 from elsewhere, for voice support. Otherwise, fax to 1-925-737-2110, or send email to **support@livingston.com** (**asia-support@livingston.com** for Asia Pacific customers).