Lucent Technologies
Bell Labs Innovations

PMVision 1.5 Release Note

April 30, 1999

PMVision™ is a configuration and monitoring application for Lucent PortMaster® products based on Sun Microsystem's Java Virtual Machine version 1.1.6. Version 1.5 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.

Contents

- About PMVision
- Main Functions
- Bugs Fixed
- Limitations
- System Requirements
- Installation
- Deinstallation
- Running PMVision
- Debug Log
- Contacting Lucent Remote Access Technical Support

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.

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 menu tree. PMVision provides the following main functions:

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

Monitor

PMVision provides extensive 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 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 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 board.
- **Mux Stats** shows the state of the Mux line on a T3 Mux board.
- **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 provides a command window for entering ComOS commands and viewing command output.

Configure

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

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

Bugs Fixed

The following bugs are fixed in PMVision 1.5:

- The **Back Up** and **Restore** screens are now scrollable.
- The **Boards** option under **Specific Configurations** in the **Back Up** screen has been removed. Now, rather than selecting the **Boards** option to save board configurations, you select the specific section of the board configuration to save. For example to save the line and global configurations on your line cards, you now select the **Global** and **Line** options under **Specific Configurations**.
- Saving bgp peers has been fixed. The **add** command has replaced **set**.
- The discrepancy of a line's layer 1 and 2 status between **Monitor->Lines** and **Configure->Boards->Lines** has been fixed.
- The key fields for Security Associations has been modified so that only valid decimal or hex keys are allowed.
- Missing buttons under the **Monitor->NAT** Sessions has been fixed.
- Online help has been updated to reflect new features.

Limitations

PMVision 1.5 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 Mux or STS-1 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.
- Do not connect to more than five PortMaster products unless you have more than 32MB of RAM in the computer running PMVision.
- **Monitor->Modems** shows different call and retrain counts than a **show modem** 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. Turn off all debug options to stop the display of all debug information.
- 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 platforms:

Windows NT 4.0	**http://www.javasoft.com/products/jdk/1.1/**
Windows 95	**http://www.javasoft.com/products/jdk/1.1/**
Solaris 2.5.1	**http://www.javasoft.com/products/jdk/1.1/**
Solaris x86 2.5.1	**http://www.javasoft.com/products/jdk/1.1/**
Linux 2.x	**ftp://lagrange.la.asu.edu/pub/Linux_jdk/**
FreeBSD	**http://www.freebsd.org/java/**
SGI IRIX 6.3	**http://www.sgi.com/developers/devtools**
HP-UX 10.02	**http://www.hp.com/esy/go/java.html**
Alpha Digital UNIX 4.0	**http://www.digital.com/java/download/**

IBM AIX 4.1	**http://www.ibm.com/java/tools/jdk.html**
Macintosh	**http://developer.apple.com/java/**
All other platforms	**http://java.sun.com/cgi-bin/java-ports.cgi**

The minimum Java Virtual Machine (JVM) required for the Macintosh platform is MRJ 2.1ea3.

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 pmvision15_solaris.tar

   - For other UNIX systems, enter
     get pmvision15_unix.tar

   - For Windows, enter
     get pmvision15.zip

   - For Macintosh, enter
     get pmvision15.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 pmvision15_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 pmvision15_unix.tar /usr/local/lucent/pmvision

cd /usr/local/lucent/pmvision
tar xvf pmvision15_unix.tar
rm pmvision15_unix.tar

– For Windows, unzip the **pmvision15.zip** file, run the **pmvision_install.exe** program, and follow its instructions.

– For Macintosh, unstuff the **pmvision15.sit** file, run the **pmvision_install** program, and follow its instructions.

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.

If you are using a ChoiceNet server, make sure to increase the maximum number of **pmconsole** ports to at least 2 and preferably 10 with the **set maximum pmconsole** command. PMVision uses this port for communication, and if only one port is available then ChoiceNet cannot send filters to the PortMaster. To increase the number of **pmconsole** ports, log in to your PortMaster through the console or a Telnet session and type the following command:

set maximum pmconsole 10

Debug Log

When running PMVision, you can use the following options:
-h <Hostname>
-u <Username>
-p <Password>
-g <Debug level>
-l (specifies the local directory)

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.

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**.

Copyright and Trademarks

Notices

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 1.5, 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).