Lucent Technologies
Bell Labs Innovations

PMVision 1.3 Release Note

Introduction

PMVision™ is a configuration and monitoring application for Lucent PortMaster® products based on Sun Microsystem's Java Virtual Machine (JVM) version 1.1.4. PMVision 1.3 is available to any Lucent customer at no charge.

This version of 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 earlier 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.

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 3.9 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 3.9 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 on a PortMaster 3 running ComOS 3.9 or later and on a PortMaster 4 running ComOS 4.0 or later.

- **OSPF Neighbors** shows the list of OSPF neighbors on a PortMaster 3 running ComOS 3.9 or later and on a PortMaster 4 running ComOS 4.0 or later.

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 a PortMaster 3 running ComOS 3.9 or later or a PortMaster 4 running ComOS 4.0 or later.

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

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

Diagnose

Debug allows you to select a variety of debug information to be displayed.

Maintain

- **Upgrade** allows you to upgrade 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, ComOS 3.9, or ComOS 4.0, 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, ComOS 3.9, or ComOS 4.0, 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

Following is a partial list of the bugs fixed in PMVision 1.3:

- PMVision no longer causes a PortMaster running ComOS 3.8 or ComOS 3.8.2 to crash during an upgrade. This problem occurred because alarms older than 24 hours were reported to PMVision. PMVision no longer turns on alarm reporting for ComOS 3.8 or ComOS 3.8.2. The PMVision alarm reporting mechanism has been fixed in ComOS 3.9 and later.

- The following message is sometimes displayed while you are deinstalling PMVision on the Microsoft Windows platform:

      Uninstall Complete. The following files could not be removed: Unable to
      remove the file:
      C:\Program Files\Lucent\PMVision\lax.jar

  Click **Exit** to continue the deinstallation normally.

- The **Command** option now correctly shows the system name in the command prompt when set.

- A situation that sometimes caused PMVision to crash while exiting has been fixed.

- On the **Configure**->**Locations** panel, you can now configure the PortMaster to accept the assigned IP address of a remote location.

- PMVision no longer generates invalid RADIUS and ChoiceNet server addresses.

- Help text has been updated.

Limitations

Following is a list of known limitations in PMVision 1.3:

- If you are running ComOS 4.0, or ComOS 3.8.2 or earlier, you must not have more than one connection open to TCP port 1643 of a PortMaster during an upgrade. The disconnection of any TCP port 1643 connection during the upgrade process causes the upgrade to fail.

  Although the PortMaster itself does not crash, you must repeat the upgrade process. This limitation was discovered during the troubleshooting of an upgrade crash. This problem has been fixed in ComOS 3.9 and ComOS 4.1.

- The **Monitoring**->**Interfaces** option does not show the point-to-point interfaces on the PortMaster 4.

- You cannot currently add data link connection identifier (DLCI) entries to a Quad T1 or Tri E1 board on a PortMaster 4.

- **Configure**->**Routes** has been removed from this release.

- If you are running ComOS 3.8 or earlier, backing up the user table fails to recover the individual user passwords. As a result, restoring a user table from a PMVision backup produces null passwords in the user table. See the "Maintain" section for details.

- 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 (**Maintain**->**Back Up**). See the "Maintain" section for details.

- Do not connect to more than five PortMaster 3 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.

- During configuration, an invalid entry is changed to a valid value on some configuration panels. In a future release of PMVision, an invalid input will be identified so that you can change it to a valid value.

- 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 can run on any system with Java Development Kit (JDK) or Java Runtime Environment (JRE) version 1.1.4 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

To install PMVision use the following steps:

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 pmvision13_solaris.tar

   - For other UNIX systems, enter
     get pmvision13_unix.tar

   - For Windows, enter
     get pmvision13.zip

   - For Macintosh, enter
     get pmvision13.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 pmvision13_solaris.tar
     ./pmvision_install.bin

   – For other UNIX systems, enter the following commands on the command line:

     mkdir <bin>**/Lucent**
     mkdir <bin>**/Lucent/PMVision**
     cp pmvision13_unix.tar <bin>**/Lucent/PMVision**
     cd <bin>**/Lucent/PMVision**
     tar xvf pmvision13_unix.tar

    – For Windows, unzip the **pmvision13.zip** file, run the **pmvision_install.exe** program, and follow its instructions.

    – For Macintosh, unstuff the **pmvision13.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.

Note – 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**.

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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, electronic mail, or through the World Wide Web at **http://www.livingston.com**/. Mention that you are running PMVision 1.3 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 should 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).