IPM FAQs

This appendix provides answers to the following frequently asked questions about IPM:

- Which Cisco hardware platforms support the SA Agent feature of the Cisco IOS software?
- How does IPM interact with the SA Agent feature of the Cisco IOS software?
- What is the name of the MIB used by IPM?
- Does a target device need to be a router that supports SA Agent?
- What network protocols do IPM and SA Agent support?
- Do I have to run a Cisco IOS software release with the SA Agent feature on all my routers to get hop-by-hop performance statistics?
- Should I install the router component of IPM on a backbone router so that it intercepts all paths?
- Why is IPM no longer part of the CiscoWorks Blue family of products?
- How does IPM measure latency between routers in the SNA environment?
- Cisco recently announced a partnership with Concord. The Concord Network Health application generates reports based on the same SA Agent feature used by IPM. Should I purchase IPM or Concord Network Health?
- I currently own IPM Release 1.0 for Solaris. Can I upgrade to IPM Release 2.3?
- I currently own IPM Release 1.0 for AIX or HP-UX. Can I upgrade to IPM Release 2.3?
- I upgraded my IPM servers to Release 2.3, and now IPM is not working. Why?
- How much of the router's memory do collectors in SA Agent consume?
- How frequently can network performance measurements be taken?
- When I make changes to IPM components, how can I force IPM to detect the changes now, without waiting for the next automatic poll?
- When IPM collects the data from the SA Agent using SNMP, is this data averaged or summarized in any way?
- Are there plans to support IPM on Solaris for Intel platforms?
- What data collectors are available in IPM 2.3?
- For TCP Connect operations, what port numbers does IPM support?

- Why does my TCP Connect collector generate “No Connection” errors when I use an SA Agent device as the target, with a target port number greater than 1024?
- Why won’t IPM accept my timeout values for TCP Connect and DNS operations?
- For UDP operations, what port numbers does IPM support?
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- When IPM configures the routers, it seems that the configuration is a running configuration and not saved. What happens when the router is rebooted?
- Where can I find the latest information and software updates for IPM?
- Is the IPM database schema published?
- What if I lose a connection to a server?
- Why does IPM lock up sometimes when I’m running in a Web browser?
- I launched the IPM client from the command line, and now I can’t launch the client from a Web browser session. Why?
- Why can’t I access IPM Help on my Solaris workstation?
- Do keyboard shortcuts work when I run IPM in Netscape Navigator?
- In the Target Configuration window, all of my targets show Responder On as either No (off) or Not Applicable. How can I turn on the Responder for a target?
- Why won’t IPM let me delete one of my targets?
- If I see errors in graphs, what are some problems to look for?
- On the Source Properties window, how is it possible for my system up time to be longer than the time since the last reboot?
- When I enter the show rtr configuration command, I see RTR-related configuration settings on my source routers. Why?
- Does IPM support data export?
- How do I change the IP address or host name of an IPM server?
- Why do I get an error message when I use a host name as a new IP address?

What is IPM?

IPM is an application for measuring and monitoring network performance statistics such as network latency, jitter, availability, packet loss, and errors. You can view these statistics in real time, or have IPM store them in its database for historical analysis. You can also use IPM to establish network baselines and monitor thresholds.

Do I need to have CiscoWorks for UNIX or CiscoWorks2000 software to use IPM?

IPM is functionally a standalone product, with the following considerations:

- If the IPM server and CiscoWorks2000 are installed on the same workstation, IPM integrates with the CiscoWorks2000 desktop to provide access to summary reports, seed files, and server status information.

- IPM can use inventory information stored in CiscoWorks2000 Resource Manager Essentials to define source routers and target devices to collect latency data.
- IPM requires the CiscoWorks2000 Common Management Foundation (CMF) Version 2.0 or later.

When will the IPM server be available on Windows NT and Windows 2000?

Starting with IPM Release 2.2, the IPM server is available on Windows NT. Starting with IPM Release 2.3, the IPM server is also available on Windows 2000.

Does IPM require an NMS such as HP OpenView or NetView?

IPM is functionally a standalone application. It has no dependencies on these network management platforms.

However, if you want to generate Simple Network Management Protocol (SNMP) traps from the source routers used by IPM, you must have a network management system (NMS) set up to receive and view the traps. IPM itself does not receive the traps.

Does IPM require a dedicated hardware probe to measure and monitor network performance statistics?

No. IPM utilizes the Service Assurance (SA) Agent software feature embedded in the Cisco IOS software of a router or Catalyst Route Switch Module (RSM) to measure network performance statistics.

Does the IPM application take measurements from the point of view of the management workstation?

No. IPM configures the SA Agent feature of a router or RSM running Cisco IOS software to take measurements. The measurements are taken within the network rather than from the management workstation.

What workstation and network devices do I need to run IPM?

IPM comprises several distinct pieces of functionality.

- The IPM server application runs on Solaris, Windows NT, and Windows 2000 Server and Windows 2000 Professional.
- The IPM client application, including the user interface, runs on Solaris, Windows 95, Windows 98, Windows NT, Windows 2000 Server, and Windows 2000 Professional. For Solaris and Windows NT, the IPM client can run on the same system as the IPM server, or on a different system.
- We strongly recommend version 12.1 or later of the Cisco IOS software.
- The IPM application requires a software agent embedded in the Cisco IOS software, called the SA Agent to source network performance measurements. At least one router running a Cisco IOS software release that supports SA Agent is required.
- If you are using IPM to monitor SNA latency, you must install the NSPECHO mainframe application on your MVS system. NSPECHO is distributed with the IPM software.
- IPM provides access to historical reporting information via a Web browser. To view this information, you need a Web browser, such as Netscape Navigator or Microsoft Internet Explorer, on your workstation.

Can I run IPM on my Windows PC?

You can run the IPM client user interface on Windows 98, Windows NT, Windows 2000 Professional or Windows 2000 Server on your PC. However, the IPM server must run on a Solaris or Windows NT system, Windows 2000 Professional, and Windows 2000 Server.

Optionally, you can run the IPM client as an applet from an Internet Explorer or Netscape Navigator Web browser if you have installed the Java plug-in 1.3. (For information about installing the Java plug-in, see the "Installing IPM on Windows" chapter of the *Cisco Internetwork Performance Monitor Installation Guide*.)

I want to run the IPM client as an applet from a Web browser. How can I find out if I already have the Java plug-in?

From the IPM Main window, select **View > Server Home Page**. When the Web Server Home Page displays, click **Launch Secure Web Client** (if you are an administrator of your network) or **Launch Web Client** (if you are not an administrator).

- If you already have the Java plug-in, the Java applet loads and the Web client launches.
- If you do *not* have the Java plug-in, the IPM Client main window displays a window and the prompt **Click here to get the plug-in**. Click the prompt and continue with the plug-in installation procedure, as described in the "Installing IPM on Windows" chapter of the *Cisco Internetwork Performance Monitor Installation Guide*.

Why does my IPM client hang when I'm trying to run it as an applet on Solaris?

There may be a problem with the CLASSPATH environment variable.

CLASSPATH specifies the path to the Java class library on your system. However, if CLASSPATH is set in the environment from which you launch the Web browser, the Java plug-in cannot function properly, and you cannot run the IPM client as an applet.

To prevent this problem, use the following procedure to make sure CLASSPATH is not set in the environment from which you launch the Web browser:

Step 1 On the command line, enter the **env** command. A list of environment settings is displayed.

Step 2 Find CLASSPATH in the list.

Step 3 If CLASSPATH is not set to null (no characters), set it to null.

For csh or tcsh, enter:**setenv CLASSPATH**

For ksh, enter:

```
export CLASSPATH=
```

CLASSPATH is set to null, and you can run the IPM client as an applet. Also make sure that you set the environment variables NPX_PLUGIN_PATH and NPX_JRE_PATH to the correct values.

For example in ksh, enter:

```
export NPX_PLUGIN_PATH=/opt/NSCPcom/j2re1_3_0/plugin/sparc
export NPX_JRE_PATH=/opt/NSCPcom/j2re1_3_0
```

For more detailed and current information on the environment variables to be set, refer the installation instructions of Netscape.

How do I install the IPM client?

You can install the IPM client either from the CD distributed with IPM, or by using a Web browser to download the IPM client from an IPM server.

Do I have to install any software on the router to use SA Agent and IPM?

The SA Agent is embedded in many but not all feature sets of the Cisco IOS software. A release of the Cisco IOS software which supports SA Agent must be installed on the device IPM uses to source network performance measurements. The following table summarizes which Cisco IOS software releases support SA Agent and indicates the maximum number of collectors

.

Cisco IOS Release[1]	Cisco IOS Feature Set	SA Agent/IPM Support	Maximum Number of Collectors
11.2(18) or later	IP Plus Desktop Plus IBM Enterprise	Yes	200[2]
	IP Only IP/IPX Desktop	No	–
11.3(6) or later	IP Plus Desktop Plus IBM Enterprise	Yes	200[2]
	IP Only IP/IPX Desktop	No	–
12.0(5) and later	All	Yes	500[2]
12.0(5)T and later[3]	All	Yes	500[2]
12.1(1) and later	All	Yes	500[2]
12.1(2) T and later	All	Yes	500[2]

1. We strongly recommend version 12.1 or later of the Cisco IOS software.
2. The maximum number of collectors supported by any given router might be less than 200 or 500. This number is dependent on several factors including the router configuration buffer size, the amount of DRAM installed in the router, and the type of collectors configured in IPM.

3. IP Path Echo collectors are not supported on routers running Cisco IOS software release12.0(x)T. To create IP Path Echo collectors, you must upgrade the routers defined as source routers to Cisco IOS software release 12.1(1) or later.

Note A collector is the term that IPM uses to describe an entity that performs a specific measurement between a specific source router and target device.

Can I configure collectors that use SA Agent targets and NNTP, POP3, or SMTP operations?

No. SA Agent targets are routers, and routers cannot perform NNTP, POP3, or SMTP services.

If you configure a collector with an SA Agent target and an NNTP, POP3, or SMTP TCP Connect operation (such as DefaultNNTP, DefaultPOP3, or DefaultSMTP), IPM displays “No Connection” error messages and does not collect data.

Which Cisco hardware platforms support the SA Agent feature of the Cisco IOS software?

As of the publication of this document, all platforms supporting the Cisco IOS software also support the SA Agent with the exception of the following:

- Cisco 1000 series router
- Cisco 800 series router
- Cisco 700 series router
- Cisco 90 series router

As new platforms are released, they might or might not include support for SA Agent, based on various factors.

How does IPM interact with the SA Agent feature of the Cisco IOS software?

IPM uses SNMP to configure the SA Agent in the Cisco IOS software of a source router or RSM to take measurements of network performance statistics. IPM then uses SNMP to collect the statistics from the SA Agent, and stores that information in a database for future presentation and analysis.

What is the name of the MIB used by IPM?

IPM configures and queries the RTTMON MIB, which is supported by the SA Agent feature in the Cisco IOS software. You can download this MIB from the cisco.com.

Does a target device need to be a router that supports SA Agent?

No. IPM supports targets as long as they are reachable through IP. These targets can be Web servers, PCs, printers, routers, switches, other network devices, or any other device with an IP address. IPM also supports SNA targets running the NSPECHO application provided with IPM.

However, if you are measuring UDP, Enhanced UDP, or Jitter statistics for applications such as Voice over IP or VPN monitoring, the target must be a Cisco router running a release of the Cisco IOS software that supports the SA Agent Responder feature (Cisco IOS version 12.1(2)T or later; we strongly recommend version 12.1 or later).

What network protocols do IPM and SA Agent support?

IPM and SA Agent support both IP and SNA monitoring. IPM and SA Agent also support higher level IP protocols including DHCP, DLSw, DNS, HTTP, TCP, and UDP.

Do I have to run a Cisco IOS software release with the SA Agent feature on all my routers to get hop-by-hop performance statistics?

No. Only routers actually sourcing the network performance measurements, or routers defined as targets for Enhanced UDP and Jitter measurements, must run the SA Agent feature.

Should I install the router component of IPM on a backbone router so that it intercepts all paths?

The answer depends on the number of collectors you are using at any one time. A collector is the entity IPM creates on a router to collect performance data. The router component of IPM uses memory and CPU cycles, so Cisco recommends you run the router component on multiple edge routers instead. This setup distributes the load across multiple routers and better simulates typical network traffic patterns.

Why is IPM no longer part of the CiscoWorks Blue family of products?

The CiscoWorks Blue line of products is targeted at customers who have a mixed SNA and IP environment. IPM is now being delivered as part of the CiscoWorks2000 Routed WAN Management bundle to better represent its focus on a wider range of IP-based monitoring requirements.

How does IPM measure latency between routers in the SNA environment?

In the SNA environment, IPM uses an SNA ping. The IPM application includes a component that runs on the mainframe. The router component of IPM sends a block of data (the request) to the mainframe component, which in turn responds with a block of data (the response). Both the request and response sizes can be customized by the user so that traffic flow for various applications can be modeled. IPM supports the "SNA ping" over dependent logical unit (LU) sessions.

IPM also measures SNA latency from a router to the mainframe over a system services control point (SSCP)-LU session. For these types of sessions, the mainframe component of IPM is not necessary. In this scenario, IPM uses an SNA ECHOTEST to solicit an SNA REQECHO from the mainframe over the SSCP-LU session.

Cisco recently announced a partnership with Concord. The Concord Network Health application generates reports based on the same SA Agent feature used by IPM. Should I purchase IPM or Concord Network Health?

IPM and Concord Network Health offer different features and benefits:

- IPM is a network performance and troubleshooting tool. The reporting features within IPM are designed to troubleshoot network performance problems.
- Concord Network Health is designed to report on multiple performance statistics on devices from multiple vendors.
- IPM also supports viewing real-time statistics, analyzing multiple paths and multiple hops, and SA Agent monitoring. The Concord application does not provide these features.

I currently own IPM Release 1.0 for Solaris. Can I upgrade to IPM Release 2.3?

No. You must upgrade from IPM Release 1.0 to IPM Release 2.0 before you can install IPM Release 2.3.

I currently own IPM Release 1.0 for AIX or HP-UX. Can I upgrade to IPM Release 2.3?

No. IPM 2.3 currently supports server functionality on Solaris, Windows NT and Windows 2000 Professional and Server only. Client functionality is supported on Solaris, Windows 98, Windows NT, and Windows 2000 Professional and Server.

The AIX and HP-UX releases of IPM have been End of Lifed (EOLed). There are no plans at this time to support future releases of IPM on AIX or HP-UX.

I upgraded my IPM servers to Release 2.3, and now IPM is not working. Why?

When you upgrade IPM servers and clients, you *must* upgrade your IPM servers and clients to the same version and release level, such as Release 2.3.

How much of the router's memory do collectors in SA Agent consume?

The router memory consumed by Echo collectors depends on the release of Cisco IOS software running on the router:

- For routers running Cisco IOS software Release 11.2 to 11.3 or 12.0, each Echo collector consumes 40 KB of router memory.
- For routers running Cisco IOS software Release 12.0(5)T or later, each Echo Collector consumes 18 KB of router memory.

The router memory consumed by a Path Echo collector is dependent on the number of paths and the number of hops in the path for each collector. Path Echo operations might consume significant amounts of memory on the source router.

How frequently can network performance measurements be taken?

SA Agent generates several measurements per hour, then IPM polls the router once per hour and collects summarized statistics for that period. You can set the sampling interval for SA Agent for as often as every 10 seconds, but for optimal performance, we recommend a sample interval of at least 60 seconds (1 minute). This is the default value.

You can view up-to-date real-time statistics in the Real Time Statistics window as SA Agent collects the data from the collector. However, IPM does not store the real-time data in the IPM database. IPM stores only the hourly summarized data in the IPM database.

When I make changes to IPM components, how can I force IPM to detect the changes *now*, without waiting for the next automatic poll?

IPM typically polls source routers once every hour. Therefore, IPM detects component changes in from 1 to 59 minutes, depending on when the last poll occurred. (It can take up to two hours for IPM to detect the reboot of a source router and reconfigure any associated collectors.)

However, you can use one of the following procedures to force IPM to detect your changes immediately:

- From the IPM Main window, select **View > Properties**, then click the timestamp under the **Last Update Time** field. Doing so updates the source router's properties in the IPM database.
- From the IPM Main window, select **Edit > Configuration**. Doing so updates the source router's properties in the IPM database.
- Issue the **ipm restart** command to force IPM to synchronize with all source routers. This command restarts all IPM servers and managed processes on the local host.

Note Use the **ipm restart** command only if you reconfigured your network and rebooted your routers, and IPM did not detect the reconfiguration and rebooted, but otherwise is working normally.

When IPM collects the data from the SA Agent using SNMP, is this data averaged or summarized in any way?

The data is summarized and averaged in a variety of ways. IPM displays the data in the Historical Statistics window in hourly, daily, weekly, and monthly increments. IPM also displays average, minimum, and maximum calculations of the data over the monitoring period. IPM also provides an automatic aging facility for summarizing and aging older data.

Are there plans to support IPM on Solaris for Intel platforms?

No. The demand for IPM running on this platform is fairly low, while the demand for supporting other platforms and adding additional features to the existing platforms is fairly high. Therefore, supporting IPM on Solaris for Intel is unlikely.

What data collectors are available in IPM 2.3?

IPM Release 2.3 provides support for the following types of operations:

- DHCP Echo
- DLSw Echo
- DNS Echo
- Enhanced UDP with Jitter Monitoring
- HTTP Connect
- ICMP Echo
- ICMP Path Echo
- SNA Echo
- TCP Connect
- UDP Echo

This release also provides support for Loose Source Routing and Quality of Service.

For TCP Connect operations, what port numbers does IPM support?

You can make a TCP connection to *any* port number, well known or otherwise, on *any* IP host, Cisco or non-Cisco, as long as someone is listening on that port on the target.

If you specify a target for a target uses the SA Agent, make sure you configured it as a **Cisco SAA Responder** target on the Target Configuration window. If you mistakenly configured it as an **IP** target, and you specify a Target Port that is not well known (that is, if you specify a port number greater than 1024), IPM considers the target an IP device rather than an SA Agent device and does not enable the SA Agent Control protocol. As a result, the collector cannot connect to the target and no data is collected.

Why does my TCP Connect collector generate "No Connection" errors when I use an SA Agent device as the target, with a target port number greater than 1024?

Make sure you configured the target as a **Cisco SAA Responder** target on the Target Configuration window. If you mistakenly configured it as an **IP** target, and you specify a Target Port that is not well known (that is, if you specify a port number greater than 1024), IPM considers the target an IP device rather than an SA Agent device and does not enable the SA Agent Control protocol. As a result, the collector cannot connect to the target and no data is collected.

Why won't IPM accept my timeout values for TCP Connect and DNS operations?

To ensure interoperability with Cisco IOS, the Timeout Values for TCP Connect and DNS operations are fixed at 60000 and 9000 milliseconds, respectively. If you enter some other value, IPM changes the value you enter to the default value.

For UDP operations, what port numbers does IPM support?

For UDP connections, valid port numbers are 7, and 1025 to 65535.

- If the target device is a Cisco router running version 12.1 or later of the Cisco IOS software, you can specify any port that is not well known (that is, you can specify any port number greater than 1024) to communicate with the SA Agent Responder, as long as someone is listening on that port on the target. The only allowed well known port is UDP port 7.
- If the target is *not* running version 12.1 or later of the Cisco IOS software, whether a Cisco or a non-Cisco IP host, you must specify UDP port 7 as the target port.

Does IPM provide a default HTTP operation?

No. You must create your own HTTP operations. See the "Measuring Network Performance for HTTP" section on page 3-15 for information about creating a new HTTP operation.

Note The DefaultHTTPConn operation is not a true HTTP operation, it is a TCP Connect operation. (DefaultHTTPConn was called DefaultHTTP prior to IPM Release 2.2.)

Is IPM packaged with CiscoWorks2000?

Yes. Beginning with IPM Release 2.1, IPM is packaged with CiscoWorks2000 in the Routed WAN Management bundle. In future, IPM might be included in other CiscoWorks2000 bundles.

How many data collectors can IPM support?

There is no functional limit on the number of collectors that IPM can support. However, we recommend you limit the maximum number of collectors per IPM server to 1000. To support more than 1000 collectors, you can deploy multiple IPM servers. Many users deploy an IPM server in each geographic area of their network.

When IPM configures the routers, it seems that the configuration is a running configuration and not saved. What happens when the router is rebooted?

IPM handles configuring the source router using running configurations entirely. IPM automatically reconfigures the router after a reboot. You do not have to do anything special from the router command line after a reboot. Also, IPM does not interact with or destroy any manually generated collectors.

Where can I find the latest information and software updates for IPM?

Updated product information and software updates for IPM are available at the following URL:

http://www.cisco.com/kobayashi/sw-center/netmgmt/cw2000/IPM.html

Is the IPM database schema published?

Yes. The IPM database schema is available on the IPM product CD, in the *docs* directory.

What if I lose a connection to a server?

If your client loses its connection to the configuration server, real time poller, data view server, or data collector, IPM attempts to recover the connection automatically, as follows:

Step 1 IPM displays the following message:

Connection to *server* **Lost. Will try to reconnect.**

where *server* is the name of the server to which the connection was lost.

Step 2 IPM attempts to reconnect to the server.

Step 3 If the attempt succeeds, IPM displays the following message:

Reconnection Successful.

Step 4 IPM closes all windows except the IPM Main window.

Step 5 IPM queries the server for the collector list to make sure no messages were missed.

Step 6 You can continue using IPM as usual.

If the attempt to reconnect to the server fails, IPM displays the following message:

Reconnection to the *server* **Failed. Please shutdown this client or restart the server.**

To recover, you must either shutdown the client or restart the server.

Why does IPM lock up sometimes when I'm running in a Web browser?

IPM might not be locked up. Instead, a message might have popped up in the background, preventing you from interacting with other windows. If you are running IPM in a Web browser, and you suspect your display has locked up, look for an IPM message popup in the background before taking any other action.

This problem also can occur when you launch the Seed File window or the Statistics Data Filter window.

I launched the IPM client from the command line, and now I can't launch the client from a Web browser session. Why?

This problem occurs only when all the following conditions are met, in order:

Step 1 A Web browser session is not open on your workstation.

Step 2 You use the **ipm** or **ipm start client** command to start the IPM client from the command line.

Step 3 You take some action that opens a Web browser session (such as opening Help for the IPM client).

If all the above conditions are met, you might not be able to launch the Web client from the Web browser.

To avoid this problem, make sure you have a Web browser session open whenever you start the IPM client from the command line.

Why can't I access IPM Help on my Solaris workstation?

First, make sure you have an Internet Explorer or Netscape Navigator Web browser installed. If you do, enter the following UNIX command on your local workstation:

xhost +*remote_machine*

This command allows the remote workstation called *remote_machine* to access your local workstation.

Do keyboard shortcuts work when I run IPM in Netscape Navigator?

No. If you are running IPM in Netscape Navigator, keyboard shortcuts (such as **Ctrl-F** for **Edit > Configuration**) do not work. You must use the menu bar to access these functions.

Keyboard shortcuts work when you run IPM in Internet Explorer.

In the Target Configuration window, all of my targets show Responder On as either No (off) or Not Applicable. How can I turn on the Responder for a target?

When you configure a router, the SA Agent Responder is disabled by default. To turn on the Responder for a target, you must enable the Responder at the router using the **rtr responder** configuration command. Also, you must run SA Agent software version 2.1.1 or later to see the results.

Why won't IPM let me delete one of my targets?

If you try to delete a target and IPM issues an error message such as **Could not delete the target**, the reason might be one of the following:

- The target is being used as a final target by one or more collectors.
- The target is being used as an intermediate hop by one or more Path Echo collectors.

See the "Deleting Targets" section on page 4-11 for details about how to resolve this problem.

If I see errors in graphs, what are some problems to look for?

If you see "No Connection" or other errors when you display Real Time or Historical graphs, here are some common problems to look for and correct:

- Did you create any collectors on inactive PUs?, page A-25
- Did you create any collectors when no LUs were available?, page A-25
- Did you create any HTTP collectors that require authentication?, page A-25
- Did you specify any incorrect target PU names?, page A-26

- Did you specify any incorrect IP addresses?, page A-26
- Did you specify large mainframe RU sizes?, page A-26

Did you create any collectors on inactive PUs?

Collectors that you create on inactive physical units (PUs) accrue no data for Real Time or Historical graphs. The Real Time graph displays "No Connection" for the Last Data Point.

To avoid this problem, make sure the PUs are active before you create collectors on them. To display the status of the PU from the router, use the **show sna** IOS command or the **show dspu** IOS command (for downstream PUs).

Did you create any collectors when no LUs were available?

Each collector creates a logical unit (LU) connection to the mainframe. Therefore, if you create collectors when all LUs were used, those collectors accrue no data for Real Time or Historical graphs. For example, if 20 LUs were activated by the host (mainframe) and 20 LUs were used for 20 collectors, the 21st created collector would accrue no statistics. The Real Time graph displays "No Connection" for the Last Data Point.

To avoid this problem, make sure the number of collectors you create is equal to or less than the number of LUs defined on the mainframe. To display the number of LUs defined on the mainframe that are still available, use the **show sna** IOS command.

Did you create any HTTP collectors that require authentication?

If you create an HTTP collector using a URL Lookup String that requires authentication (that is, a user name and password), no statistics are collected. The HTTP General Error or HTTP Timeout Error window appears.

Similarly, if you create an HTTP collector and specify a URL Lookup String that is separated from the source router by a firewall, no statistics are collected. The Real Time graph displays the "TCP Timeout" error message. You might see a DNS error message as well, if there is no entry in the DNS table for the URL Lookup String.

Did you specify any incorrect target PU names?

When you run an SNA collector, use the PU you defined for the source router as the target PU name. When you use service point PUs, use the service point PU name configured in the router as the target PU name.

In the following example, the source router is **cwb-ipm-2500a**, and the target PU name must be **IPM2500A**:

```
sna host IPM2500A xid-snd 05ddd025 rmac 4001.7200.d022 rsap 4 lsap 4
focalpoint
cwb-ipm-2500a#
```

Did you specify any incorrect IP addresses?

If you receive a "No Connection" error from the Real Time graph when you create DLSW collectors, make sure the DLSW source IP address and target IP address are both correct. Use the View > Properties menu option to display these addresses. If either address is missing or incorrect, add the correct address and recreate the collector with the correct addresses.

Did you specify large mainframe RU sizes?

When you modify Request Payload and Response Payload sizes (for RU-response/request units), do not exceed the defined mainframe RU sizes. Doing so causes Real Time graph errors, such as the “Data Verification Error.” If you must modify the Request Payload and Response Payload parameters to make them smaller, you can access them from the Edit > Configuration > Operations > Echo > Packet Settings for SNA LU0 and SNA LU2 menu.

On the Source Properties window, how is it possible for my system up time to be longer than the time since the last reboot?

If a source router cannot be reached, or is in the process of rebooting, the Source Properties window might display an incorrect, backlevel system up time for that router. If the system up time is longer than the time since the last reboot, wait a few seconds, then refresh the screen to display the correct system up time.

When I enter the show rtr configuration command, I see RTR-related configuration settings on my source routers. Why?

This is normal, expected behavior, and nothing to be concerned about.

IPM uses SNMP for all configuration tasks. SNMP in turn generates RTR configuration statements. Those RTR configuration statements typically appear only in the running configuration; they are not saved to the nonvolatile RAM (NVRAM) configuration.

The RTR configuration statements affect only RTR-based functions. They have no other effect on router configuration.

Does IPM support data export?

Yes. IPM supports export to comma-separated value files, as well as to HTML files.

How do I change the IP address or host name of an IPM server?

If you must change the IP address or host name of the server on which IPM is running, keep the following considerations in mind:

- If you change the IP address of the IPM server, but the host name of the server remains unchanged, IPM is not impacted. If the /etc/hosts, host name, DNS, Network Information Services (NIS), netmask, and so on are all configured correctly with the new IP address, the IPM server and client work correctly after you reboot the system.
- (Solaris only) If you change the host name of an IPM system, IPM no longer starts up or works correctly. To correct this problem, issue the **ipm hostname** command, then reboot the system.

Why do I get an error message when I use a host name as a new IP address?

If you get a "Host not found" error when you use a host name as the new IP address, you must enter the actual IP address as the new IP address.

In general, you should not use a host name in the **New IP Address** field of the Change IP Address window. It only works if there is a single DNS entry for the device, and if the domain name exactly matches the one in the database.

My client system has multiple IP addresses and I'm having problems staying connected to the IPM server from this client. How can I correct this problem?

This problem occurs because the IPM server does not know which address to use when responding to the client. The client talks to the server using one address, but the server responds using another one listed in the naming server for the client.

To correct this problem, issue the **ipm clientaddr** command. This command forces the IPM client to bind to a specific IP address, an address to be used by both the client and the server.

When you select an address, specify the primary address used by the client, and make sure the server can access the address.

What if I accidentally create a collector that uses all remaining memory in the source router?

The SA Agent in IOS 12.1 and later provides a low-watermark feature to prevent collectors from using all the memory in the source router. Refer to the *Cisco IOS Configuration Fundamentals Command Reference* for details on the **rtr low-memory** command.

What is casusers group?

To address a CiscoWorks2000 security issue, IPM 2.3 will no longer be installed under the user, bin. IPM 2.3 will be installed under the new user, casuser, which belongs to the new group, *casusers*.

In IPM 2.3, why do file permissions get changed to casuser::casusers after installation?

To address a CiscoWorks2000 security issue, IPM 2.3 will no longer be installed under the user, bin. IPM 2.3 will be installed under the new user, casuser, which belongs to the new group, *casusers*.

In Solaris, the casuser account has the following attributes:

- Does not have password
- Does not have UNIX shell
- Has write permission to the directory */var/adm/CSCOpx*
- Does not have root privileges

In Windows NT and Windows 2000, the *casuser* account has the following attributes:

- An initial password entered by the system administrator during installation
- No administrative privileges

This ensures that there is no unauthorized access.

In IPM 2.3, why can some commands be run by root only, and others by members of the casusers group?

This is to address a security issue. Members of the casusers group will not have permissions to run all commands. IPM allows only the user with administrative privileges to run all commands. For any user to run any IPM command they must be a member of the group, casusers.

After remote upgrade, why do collectors encounter synchronization problems if both versions of IPM are run simultaneously?

After remote upgrade collectors might encounter synchronization problems if both versions are run simultaneously. This occurs when both versions of IPM are trying to manage the same set of routers. To solve this problem you should terminate the earlier version of IPM.

Can IPM 2.3 co-exist with older versions of IPM on the same network?

IPM 2.3 co-exists well with IPM 2.2. However, when you have IPM 2.0 with IPM 2.3 on the same network, you might encounter problems with the MsgLogServer. It is recommended that you do not run IPM 2.0 along with IPM 2.3 in the same network.

Do not run the same set of collectors while simultaneously running two different versions of IPM.

Can IPM 2.3 co-exist with older versions of IPM on the same network?