

PM for Power Systems AIX frequently asked questions

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Table of contents

General

How do I get support for PM for Power SystemsTM?

What function does the Workload Estimator and PM for Power Systems provide?

Where do I find additional documentation regarding PM for Power Systems?

What is an IBM user id? How do I get one?

I have forgotten my registration key/password. How do I get it resent?

Why are the LPARs not sorted in the forgot registration key/password dialog?

How do I update my Customer Information?

Is there a Trouble Shooting document available if I encounter any questions in the set up or data transmission process?

Setup

What releases of AIX® are supported by PM?

What happened to the old pmaix.rte fileset, which was present prior to TL upgrading?

What will happen if a customer tries to install pmaix.rte?

What else must I do to get PM working beyond having installed the TL that contains the bos.perf.tools fileset?

What would cause my server/partition to not have an active recording?

Do I need Electronic Service Agent to transfer PM Data?

What is the sys.discover tool and how do I use it?

What are the recommended PM AIX Collection Agent fixes that I should install on my AIX server?

How do I update my Customer Information?

Data collection

What are the activation steps for Shared Processor Pool and total System View graphs?

What does IBM do with the data I send?

I have been asked by my Business Partner to authorize him/her to see my data. What does this mean and how do I do it?

How many days of performance data are stored on my server/partition?

Where is the location of the performance data files that are sent to IBM?

How to a view the PM AIX Collection Agent log files?

Can I be collecting topas data for nmon at the same time as collecting topas data for PM?

Why can't I 'Enable Data Transmission'? I get an error indicating 'Persistent local binary recording is not running.'

How do I restart my performance recording?

I have stopped my performance recording, why is my server/partition still sending the same performance information to IBM?

Why am I not able to collect SAN data?

Transmission

I'm wanting to do processor pools and total system view reports on a FSM managed system. Why do I get an error message stating "Required HMC version 7.3.0 or above"?

How do I troubleshoot PM AIX data transmission?

What do I have to do to transmit my performance data to IBM?

Are their dependencies on the HMC driver level when using the HMC to transmit performance (PM) data to IBM?

I am using a HMC and attempting to transmit the PM data using ESA but it is not working.

I have transmitted data but cannot see my reports? What do I do?

How do I retransmit all of my available performance data to IBM?

Why can't I send performance data for the current date?

Security of my data is of great concern. What steps has IBM taken to ensure that my data cannot be seen by unauthorized persons?

Reports

What should I do if I'm having trouble opening the 6 month .pdf using FireFox when viewing / printing my reports?

Why do I have processor utilization greater than 100% for an uncapped partition?

What should I do if the graphed data in my reports is unreasonable? e.g. excessively high

How do I view my reports?

Where can I get more help as to what the reports mean?

Once I transmit the data, how soon can I see the reports?

What is the difference between the PM for Power Systems: no charge service level and detailed reports?

What is the official name of the full service?

What optional function services are available and how do I inquire about them? In a bind? Need more capacity? Need a performance tuning?

How do I interpret the RUN Q information?

How can I find the usage of SAN Disk on my disk graphs?

General

How do I get support for PM for Power Systems?

Problems should continue to be submitted to IBM using normal country procedures already defined for "Electronic Service Agent" support for:

- Any problems related to the activation or operation of the "Electronic Service Agent"
- The transmission of customer data from "Electronic Service Agent" to IBM

If you experience any problems with activating and using PM AIX Collection Agent, please contact your in country IBM AIX support or use the following link:

IBM representative contact list

What function does the Workload Estimator and PM for Power Systems provide?

PM for Power Systems data for your system can be integrated with the IBM Systems Workload Estimator (WLE) to help you easily size your next Power Systems upgrade based on your utilization and growth. The PM for Power Systems data can be used to:

- Size an upgrade
- Evaluate/size a server consolidation
- Evaluate/size your LPAR growth and performance
- Size the addition of new workloads like Linux, WebSphere and Domino

PM for Power Systems provides a direct link to WLE. Use the "Size Next Upgrade" feature after signing in to view your reports.

Where do I find additional documentation regarding PM for Power Systems?

Sources of information:

- Getting Started and Managing PM Groups Tour (539KB)
- AIX Interactive Graphing Tour (608KB)
- Graph Reference Document (3.49MB)

What is an IBM user id? How do I get one?

The IBM user ID, coupled with the self registration process gives you access authority to view your on-line reports. You get one by going to the IBM Web site. Follow the instructions on the right side of the page if you do not have an existing id.

I have forgotten my registration key/password. How do I get it resent?

If you have forgotten your registration key/password, you may still be able to view your reports. Refer to the following instructions depending on the login type.

Customer Login using IBM Web ID

Follow the steps outlined below to have the registration key/password automatically emailed to you:

- Login using your IBM Web ID
- Access or create a new Group
- Click Add Server button
- Click the **here** link for "If you do not have the registration key/password press **here**."
- Follow the instructions on the dialog box

Why are the LPARs not sorted in the forgot registration key/password dialog?

When you click the **here** link for "If you do not have the registration key/password press **here**." you will be asked to enter the Serial number and Server/system name.

Upon clicking the Continue button, a list of servers will be displayed allowing you to select the appropriate LPAR that you wish to have the registration key/password sent to you. The list is sorted by Last Transmission date and not by LPAR.

How do I update my Customer Information?

To change any of your customer information such as Company Name, Contact Name & e-mail address - telnet to each server and do the following steps to configure and activate the PM AIX Collection Agent:

- Login as root
- At # prompt, type 'smit topas' and press ENTER
- Select 'List active Recordings' and confirm there is an active recording
- Press ESC+3 to go back to main 'Topas' menu
- Select 'Setup Performance Management'
- Select 'Change/Show Customer Information'
- Enter your company and contact information and press ENTER to save
- Press ESC+3 to go back to 'Setup Performance Management' menu
- Select 'Enable Data Transmission'

 Your server is now ready to generate a performance file to be picked up by ESA or HMC to be sent to IBM

Important note: You must update the Customer Information option to ensure it includes email address and correct country code.

Is there a Trouble Shooting document available if I encounter any questions in the set up or data transmission process?

Yes.

PM-AIX Basic Trouble Shooting (70KB)

Setup

What releases of AIX are supported by PM?

AIX 6.1 TL06 and higher.

What happened to the old pmaix.rte fileset, which was present prior to TL upgrading?

pmaix.rte filset will be automatically de-installed during the upgrading of TL and its functionality will be taken over by bos.perf.tools fileset.

Note: Before the upgrade it is advised to send all collected PM data to IBM.

What will happen if a customer tries to install pmaix.rte?

An error message will be printed saying that pmaix.rte is superseded by the bos.perf.tools fileset. It will not allow pmaix.rte fileset to be installed.

What else must I do to get PM working beyond having installed the TL that contains the bos.perf.tools fileset?

After upgrading your operating system, a Performance Recording will be automatically started for you. To finish the installation of PM AIX Collection Agent, do the following steps on each server/partition:

- From a command line you must type 'smit'
- Select 'Performance & Resource Scheduling'
- Select 'Topas'
- Select 'Setup Performance Management'

- Select 'Change/Show Customer Information' and enter the company name and address information as well as the contact name and e-mail address.
- Select 'Enable Data Transmission'
- Configure Electronic Service Agent (ESA) or HMC is also required as a method to transmit the PM data to IBM

Important note: You must update the Customer Information option to ensure it includes email address and correct country code.

The email address is needed as a 'registration key' is emailed to you once your system or partition transmits PM data the first time. Instructions will be included on how the key is used to allow you to view your entitled performance and capacity graphs on the Internet.

Note: PM uses "topasrec" persistent binary recording to collect the performance data. So, "topasrec" persistent binary recording should always be enabled for PM Service to collect performance data. A recording will automatically be started for you.

What would cause my server/partition to not have an active recording?

If you boot your server/partition into single-user mode, sometime referred to as run-level 5, there will not be an active recording. You must reboot your server/partition into run-level 2 mode.

To determine your current run-level:

- Login as root
- At # prompt, type 'who -r' and press ENTER
- Note the current run-level

An active recording is automatically added to the /etc/inittab and crontab. To confirm it has been added:

- Login as root
- To see if there is an active recording, type 'smit topas' and press ENTER, select 'List active Recordings' and note results.
- To locate the recording, type 'grep topasrec /etc/inittab' and press ENTER
- There should be an entry similar to: "xmdaily:2:once:/usr/bin/topasrec -L -s 300 -R 1 -r 7 -o /etc/perf/daily/ -ypersistent=1 2>&1 >/dev/null #Start daily recording"
- To locate additional settings, type 'crontab -l' and press ENTER
- There should be two entries similar to: "55 23 * * * /var/perf/pm/bin/pmcfg >/dev/null 2>&1 #Enable PM Data Collection" and "59 23 * * * /var/perf/pm/bin/pmcfg -T #Enable PM Data Transmission"

If there are not any entries, you will need to 'Start New Recording'.

Do I need Electronic Service Agent to transfer PM Data?

Yes. PM Data can be transferred to IBM either by using ESA on your HMC or on your non-HMC controlled AIX hardware. Please configure ESA to send the PM data. Please refer to the IBM Infocenter for the manual steps to transmit the PM Data.

For more information about configuring and activating ESA, please refer to the following:

- Activating PM AIX Collection Agent on AIX V6.1 TL 3, AIX V5.3 TL 9 and higher releases of both
- http://www.ibm.com/support/electronic

What is the sys.discover tool and how do I use it?

The sys.discover tool can be used to find information about your server/partition such as the Machine Type as well as the Serial Number/LPAR. It will also tell you if the server is HMC controlled as well as if PM AIX Collection Agent is enabled.

To use the tool:

- Login as root
- Enter the following at the # prompt and press enter '/usr/esa/bin/sys.discover'
- Note the following HMC_CONTROLLED and PM_INSTALLED

If PM_INSTALLED is false, then you need to 'Enable Data Transmission' before your performance data will be sent to IBM.

What are the recommended PM AIX Collection Agent fixes that I should install on my AIX server?

It is recommended that you install the latest AIX operating system fix packs to ensure your AIX server's performance information is correctly collected and sent to IBM.

Please refer to the following specific PM AIX Collection Agent fixes that are recommended that you install to your AIX server:

Non-English server locale may cause problems sending performance data to IBM

- AIX 5.3
- AIX 6.1

To resolve data transmission issue when setting up processor pools and system view graphs, please install the respective APAR.

- AIX 6.1 TL06
- AIX 6.1 TL07
- AIX 7.1 TL00

AIX 7.1 TL01

For more information about AIX operating system fix packs: IBM Support - Fix Central

How do I update my Customer Information?

To change any of your customer information such as Company Name, Contact Name & e-mail address - telnet to each server and do the following steps to configure and activate the PM AIX Collection Agent:

- Login as root
- At # prompt, type 'smit topas' and press ENTER
- Select 'List active Recordings' and confirm there is an active recording
- Press ESC+3 to go back to main 'Topas' menu
- Select 'Setup Performance Management'
- Select 'Change/Show Customer Information'
- Enter your company and contact information and press ENTER to save
- Press ESC+3 to go back to 'Setup Performance Management' menu
- Select 'Enable Data Transmission'
- Your server is now ready to generate a performance file to be picked up by ESA or HMC to be sent to IBM

Important note: You must update the Customer Information option to ensure it includes email address and correct country code.

Data collection

What are the activation steps for Shared Processor Pool and total System View graphs? Shared Processor Pool and total System View Graph instructions

To enable support for shared processor pools and total System View graphs on AIX v6.1 TL 06 or 07 and AIX v7.1 TL 00 or 01, it is necessary to download and install an ifix package. Look for the ReadMe on Developer Works titled: ReadMe V8 PM AIX SPP Xlpar V3.txt (TXT, 8.46KB)

Note: if necessary, do a search on PMAIX under the 'public' section on the left nav bar.

To enable support for shared processor pools and total System View graphs on AIX v6.1 TL 08 and AIX v7.1 TL 02, a new fileset is embedded in the release that default installs. Additional instructions vary whether using an HMC or FSM to manage the system. See the specific instructions and other important information in this ReadMe (TXT, 10KB).

Note: Enabling SPP & XLPAR will enable this partition to remotely execute commands on the HMC/FSM using SSH for gathering configuration & performance data of the processor pool & other partitions.

What does IBM do with the data I send?

IBM uses the hardware problem reporting data to help reduce problem analysis and improve systems availability. The PM for Power Systems performance and capacity data is processed, and used to create the reports you see on the secure web site.

I have been asked by my Business Partner to authorize him/her to see my data. What does this mean and how do I do it?

This authorization allows the respective Business Partner(s) you authorized to have access to your PM for Power Systems reports stored in IBM's servers. The end user also can 'remove' a customer from authorization to access their reports.

For more information: Business Partner data release form instructions

How many days of performance data are stored on my server/partition?

The default of 3 days worth of performance data is stored on your server / partition. To change this setting, type 'smit topas', select 'Setup Performance Management', select 'Change/Show Data Retention Period' and change the 'Retention Period (days)' to the desired number of days.

Where is the location of the performance data files that are sent to IBM?

The default path for the stats.send file is located in /var/perf/pm/daily/\$HOSTNAME where \$HOSTNAME is the name of your server/partition.

How to a view the PM AIX Collection Agent log files?

Each time a new stats.send performance file is created the log file will be updated with the current results. To view the log file:

- Login as root
- Type 'cd /var/perf/pm/daily' and press ENTER
- Type 'cat pmcfg.log' and press ENTER
- Note any errors

Can I be collecting topas data for nmon at the same time as collecting topas data for PM?

Yes. The following questions refer to SMIT panel options directly or indirectly. In addition to these questions, you can learn more about the SMIT panel at: pSeries and AIX Information
topas/topasout/topasrec

Why can't I 'Enable Data Transmission'? I get an error indicating 'Persistent local binary recording is not running.'

Confirm that you are not in 'single user mode'. If you are, restart your server/partition into normal mode and try the 'Enable Data Transmission' option again. If you are not in single user mode, then see 'How do I restart my performance recording?'

After the recording has started, you can then type 'smit topas', select 'Setup Performance Management', select 'Enable Data Transmission'.

How do I restart my performance recording?

Confirm that there is not an active recording by typing 'smit topas', selecting 'List active Recordings', and then select 'persistent'. If you see the message 'There is no active recording', then you need to start a recording by canceling (F3) back to the main topas menu. Select 'Start New Recording', select 'Start Persistent local recording', select 'binary', be sure the 'Output Path' has been specified; the default path is typically '/etc/perf/daily'. If the path is not defined, the current directory may be used. You may also have to change 'Overwrite existing recording file' to yes if you get an error.

I have stopped my performance recording, why is my server/partition still sending the same performance information to IBM?

You will also have to Disable Data Transmission. To do this, type 'smit topas', select 'Setup Performance Management', select 'Disable Data Transmission'. The performance information will not be sent to IBM from ESA or HMC.

Why am I not able to collect SAN data?

PM service uses '/usr/sbin/datapath' command to collect SAN data. '/usr/sbin/datapath' command is shipped with devices.sdd.61.rte fileset. Please install SDD driver to get the required data.

Note: Without installing the driver, the Disk/File Space Usage graphs may not be correct.

Trasmission

I'm wanting to do processor pools and total system view reports on a FSM managed system. Why do I get an error message stating "Required HMC version 7.3.0 or above"?

An ifix available on Developer Works will allow the server managed by FSM to collect the processor pool and total system view data. Eventually this ifix will ship as part of a Service Pack in 1Q'2013. The iFix can be downloaded from:

https://www.ibm.com/developerworks/mydeveloperworks/files/app?lang=en

Look for the following or do a search in left nav bar for:

- If AIX 6.1 TL 08: SpXlpFSM6V.121008.epkg.Z.z
- If AIX 7.1 TL 02: SpXlpFSM7H.121008.epkg.Z.z

How do I troubleshoot PM AIX data transmission?

Steps to trouble shoot issue with PM AIX data not being transmitted to IBM:

- 1. Confirm the pmcfg entry is listed in crontab for root user crontab -1 | grep pmcfg
- 2. Confirm whether topasrec is running or not, using "ps -aef | grep topasrec | grep ypersistent " if steps 2 fails, go to step 3, else go to step 4
- 3. Start a new recording
 - i) smit topas -> " Start New Recording " -> " Start Persistent local recording " -> " binary " $\,$
 - ii) Hit enter to start new recording with default settings.
 - Ensure that persistent recording is running .. you can check using " ps -aef \mid grep topasrec \mid grep ypersistent "
 - Wait for 10 mins before performing step 4
- 4. Enable data transmission after "smit topas" -> "Setup Performance Management" -> "Enable Data Transmission"
- Run "/var/perf/pm/bin/pmcfg "
 Check whether files are generated under "/var/perf/pm/daily/<hostname>/ "
- 6. Run "/var/perf/pm/bin/pmcfg -s " to confirm stats.send file is generated.
- 7. If the step 5 fails, look for the error logs " cat /var/perf/pm/daily/pmcfg.log " If the stats.send file is generated and no errors in pmcfg.log, re-transmit the PM data manually using " smit topas " -> " Setup Performance Management " -> " Retransmit Recorded Data "
 - Follow the steps provided after "Retransmit Recorded Data" to transmit the data using HMC or ESA and check for errors.

Other basic steps

- * To find the PM tool version, run " lslpp -l | grep bos.perf.tools "
- * To check for symbolic link /var/adm/perfmgr, " ls -l /var/adm/perfmgr "

See also the Troubleshooting document here

What do I have to do to transmit my performance data to IBM?

Once you install and activate both the Electronic Service Agent and PM for Power Systems code, data transmission will be done automatically on the schedule you establish in the Electronic Service Agent set up. Normally this data transmission is done daily.

The PM AIX Collection Agent generates the previous day's performance file just before midnight. So it is recommended that you set ESA or HMC to send the performance file after the file is created. Example: 01:00 am.

Are their dependencies on the HMC driver level when using the HMC to transmit performance (PM) data to IBM?

If using the HMC to transmit PM data:

- POWER6 server hardware: HMC must be at driver level V7R3.5.0 or later
- POWER7 server hardware: HMC must be at driver level V7R7

Note: Customer also has option to send PM data via:

- FSM (flex systems)
- Service and Support Manager within IBM Systems Director
- Electronic Service Agent (ESA) configured at the partition

I am using a HMC and attempting to transmit the PM data using ESA but it is not working.

Look at the HMC event logs

- Click 'HMC Management' on the left side of the HMC web interface
- Click 'View HMC Events' in the center HMC web interface
- If you do not see any errors, there my be a problem with IBM.ServiceRM

The HMC needs to communicate with IBM.ServiceRM on each server/partition. Without it running, the HMC will not be able to pick up the performance data file. Ensure that the IBM.ServiceRM is active on both the HMC and server/partition.

To check your server/partition:

Login as root

- At the # prompt, type 'lssrc -g rsct; lssrc -g rsct rm' and press ENTER
- Ensure the IBM.ServiceRM is active

To restart the IBM.ServiceRM on your server/partition:

- Login as root
- At the # prompt, type '/usr/sbin/rsct/bin/rmcctrl -z' and press ENTER
- Next type '/usr/sbin/rsct/bin/rmcctrl -A' and press ENTER
- Finally type 'lsrsrc IBM.Sensor' and press ENTER

To restart the IBM.ServiceRM on your HMC

• Reboot the HMC server

Contact IBM Support if you continue to experience a problem.

I have transmitted data but cannot see my reports? What do I do?

PM AIX Collection Agent will generate the performance information for the previous day and will be sent to IBM. Please allow one business day after receipt of all transmitted performance data before the information is available in interactive graphs.

Before submitting a problem, do the following:

- 1. Activating PM AIX Collection Agent on AIX V6.1 TL 3, AIX V5.3 TL 9 and higher releases of both
- 2. Verify that your data has been transmitted. To do so, go to the Electronic Service Agent log and verify whether the transmission was successful or failed. If successful, go to step 3. If failed retransmit* the data.

How do I retransmit all of my available performance data to IBM?

To retransmit all of your available performance data to IBM, type 'smit topas', select 'Setup Performance Management', select 'Retransmit Recorded Data', enter zero '0' for the 'Enter the Date [YYYYMMDD]' and press ENTER. Follow the instructions on how to use ESA or HMC to manually send the performance file to IBM.

Why can't I send performance data for the current date?

You can only generate a performance file for the previous day's performance recording.

^{*} Electronic Service Agent will normally retry the transmission up to 3 times. After that 3 unsuccessful tries there is a retransmit button you can select to retransmit the data.

Security of my data is of great concern. What steps has IBM taken to ensure that my data cannot be seen by unauthorized persons?

Of key importance here is that neither the IBM Electronic Service Agent code nor the PM for Power Systems (including the PM for Power Systems: no charge service level) transmit any customer proprietary information (e.g. data files, internal user-ids, passwords, etc.).

Electronic Service Agent

With Electronic Service Agent you have the ability to manage data sensitivity concerns and have direct control over the transmission of sensitive data. You have the ability to review the actual data prior to shipment to IBM and if after reviewing it, determine you do not want it sent, you can turn off the transmission.

Secure communications use restricted dial-out, strong TTY and modem security and are performed using and IBM Confidential AT&T network. TTY and modem security are both configured not to auto-answer the modem or allow logic access from the TTY port. Electronic Service Agent only allows outbound calls to be created from the customer location. Electronic Service Agent logs the results of each Electronic Service Agent transmissions made on your system. It records the time of the transmission and whether the transmission completed successfully or resulted in an error. You also have the ability to have Electronic Service Agent send an E-mail message or page notification to contacts relating to all or limited machine problem information.

Electronic Service Agent (ESA) will be updated to include direct Internet connectivity (including encryption) as well as a 16 digit registration ID that will be used to verify authorized customer contacts.

- PM for Power Systems: no charge service level
- PM for Power Systems (Full Service)

Like Electronic Service Agent, PM for Power Systems does not transmit any customer proprietary data. It collects and transmits, through the Electronic Service Agent, performance and capacity tracking data.

PM for Power Systems reports

- **Customer access:** Customer reports are only viewable by authorized customer personnel through an online Internet secure site.
- **IBM access:** Internal IBM marketing personnel have access to your performance/capacity reports, and may contact you regarding marginal performance conditions.
- **Business Partner access:** You may submit an authorization form where you identify specific IBM Business Partners that you authorize to have access to your performance data. IBM Business Partners, not identified by you, will not be given access to your data.

Reports

What should I do if I'm having trouble opening the 6 month .pdf using FireFox when viewing / printing my reports?

Troubleshooting - opening the .pdf in FireFox:

If you are having trouble with the .pdf not opening after clicking the .pdf icon in "Server Information" page, there are 2 things to try.

- 1) Press CTRL + F5 at the same time to clear you cache, or clear the cache using the menu option Tools > Options > and click on Advanced the choose the "Network" tab. Click on the "Clear Now" buttons for "Cached Web Content" and "Offline Web Content and User Data".
- 2) Exempt the PM website if you are using a pop-up blocker. If the PM pop-up window is being blocked you will get the warning bar at the top of the page. Choose Options and always allow. Or, go to the menu option Tools > Options > and click on "Content". To the right of "Block pop-up windows" you can see a button for Exemptions. Click on the button and add the website URL you want to exempt--enter pmeserver.rochester.ibm.com and click to close.

If you are having issues with Firefox opening the same month no matter what month you have chosen then you will need to either:

- a) upgrade to Firefox version 23.01 or
- b) go to the "Tools" drop down menu click on "Options" and then on "Applications", where you see under "Content Type" the "Adobe Acrobat Document" may use the default option "Use Adobe Acrobat (in Firefox)" under "Action". Change this option to be "Use Adobe Acrobat (default)".

This will allow opening the PM reports in Adobe Reader for different months.

Why do I have processor utilization greater than 100% for an uncapped partition?

This will occur when an uncapped partition running in a Shared Processor Pool, is using more processor than the base allocation.

For example; if the uncapped partition is defined as initially being allocated 0.2 cores, but it is utilizing 0.3 cores, PM will display a utilization of 150%. The utilization is always relative to the base allocation for the partition. Normalizing to the base allocation allows you to understand the additional resource the partition is using and it allows PM to produce the long term trending needed for planning purposes.

What should I do if the graphed data in my reports is unreasonable? e.g. excessively high

The issue may be that topas is not recording your raw data correctly and needs an ifix applied. Please open a PMR to obtain further instruction.

How do I view my reports?

Go to the PM Web site and sign on with your Web ID.

PM Login Page

Where can I get more help as to what the reports mean?

For more information:

General FAQ PM AIX Collection Agent - Where do I find additional documentation regarding PM for Power Systems?

Once I transmit the data, how soon can I see the reports?

Please allow one business day after receipt of all transmitted performance data before the information is available in interactive graphs.

What is the difference between the PM for Power Systems: no charge service level and detailed reports?

With the no charge service, you see summary level information depicting three key system measurements identifying potential capacity problems. With the detailed report service, you have access to customizable reports concerning many performance and capacity measurements on your system.

For additional information, visit the description on the PM for Power Systems home page: http://www.ibm.com/systems/power/support/perfmgmt/description.html

What is the official name of the full service?

The name of the full detail report service is Performance Management for Power Systems. Depending upon geographical location, there may be a slight variation in naming.

What optional function services are available and how do I inquire about them? In a bind? Need more capacity? Need a performance tuning?

Contact us for information about additional services for performance management and capacity planning. Your inquiry will be routed to a principal within your Geography who can assist you.

Please use the contact information provided below. You will need to provide enough information so that we will be able to contact you. Please provide your:

- Name
- Country code
- Phone number

email address

Your request will be directed to an IBM location near you.

In the United States:

Telephone: 1-800-426-4682 email: <u>capacity@us.ibm.com</u>

International Contact:

Contact your local IBM Representative or IBM Business Partner

How do I interpret the RUN Q information?

Please refer to the Server Information Page (SIP) column "% Time Run Q > Limit (AIX)". You can also look at reports 656A (CPU - RUN Q > Limit in %, Per Day) and 656B (CPU - RUN Q > Limit in %, Per Hour During the Period).

Run Q > Limit is a measure of the number of tasks that are in the Run Queue waiting to run.

Run Q > Limit = Percentage of time run queue > than number of processors times 5. Minimum value is 5. For partial processor LPARs (less than 1 processor), 5 is the value used for the limit.

The recommend threshold for Run Q > Limit is 20%. If the RUNQ > Limit percentage is consistently above 20%, then corrective action should be taken.

How can I find the usage of SAN Disk on my disk graphs?

Note: For disk arm utilization where SAN storage is involved, please be aware:

- 1. The graphs are for the portion of the SAN unit which is logically attached to the server.
- 2. If there is an increase in the disk arm activity for the SAN unit, this could be due to the SAN being accessed at the same time by multiple servers or it could simply be caused by a growth in arm activity for the logical portion of the SAN assigned to the server. In the former case, arm utilization may be over stated in the PM reports.

You may need to install the SDD driver to include the SAN information. For more information, please refer to:

Why am I not able to collect SAN data?

Note: You will need to upgrade to PM AIX Collection Agent to include any SAN information in your graphs.

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When referring to storage capacity, 1 TB equals total GB divided by 1000; accessible capacity may be less.

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