Configuring and Monitoring AIX LPARs on IBM pSeries Server
eG Enterprise v5.6
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Configuring and Monitoring AIX LPARs on IBM pSeries Servers

This chapter deals with the steps involved in the configuring and monitoring the IBM pSeries servers.

1.1 Configuring the eG Agent to Monitor AIX LPARs on IBM pSeries Servers

The following pre-requisites need to be fulfilled before attempting AIX LPAR monitoring:

- SSH will have to be enabled on the HMC server and on each of the LPARs on the target pSeries server;
- All tests executed by the eG agent should be configured with the IP of the HMC server and the credentials of a valid user to the server;
- All tests should be configured with the credentials of a valid user to each of the LPARs configured on the pSeries server.

1.2 Administering the eG Manager to monitor IBM pSeries

1. Log into the eG administrative interface.

2. eG Enterprise cannot automatically discover IBM pSeries server. You need to manually add the server using the ADD/MODIFY COMPONENTS page (see Figure 1.1) that appears when the Infrastructure -> Components - > Add/Modify menu sequence is followed. Remember that components manually added are managed automatically. Note that the Nick name provided in Figure 1.1 should match the output of the following command:

```
Issyscfg -r sys -F ipaddr:name
```
Figure 1.1: Adding an IBM pSeries Server

3. When you attempt to sign out, a list of unconfigured tests appears as shown in Figure 1.2.

Figure 1.2: List of Unconfigured tests to be configured for the IBM pSeries server

4. Click on the DiskActivity-VM test to configure it.
5. To configure the test, specify the following in Figure 1.3.

- **TEST PERIOD** - How often should the test be executed
- **HOST** - The host for which the test is to be configured
- **PORT** - The port at which the specified host listens. By default, this is null.
- **REAL SERVERNAME** - Specify the name of the pSeries server here. If the target pSeries server has been auto-discovered using HMC, the server name will be set automatically in the **REAL SERVERNAME** text box. However, while configuring this test for a pSeries server that has been manually added, you have to explicitly provide the server name in this text box.

**Note:**

To obtain the real server name, a user can login to the target pSeries server as a valid pSeries user, go to the shell prompt of the server, and execute the following command: `lssyscfgr -r sys -F name`

- **IS MANAGED BY** - By selecting an option from the **IS MANAGED BY** list, indicate whether the target pSeries server is managed using an HMC server or an IVM (Integrated Virtual Manager) server. If the target server has been auto-discovered via an HMC server, the **HMC** option will be automatically chosen from this list.
MANAGEMENT SERVER, MANAGEMENT USER, AND MANAGEMENT PASSWORD – If the eG manager had automatically discovered the target pSeries server by connecting to an HMC server in the environment, then, the IP address/host name and user credentials pertaining to that HMC server will be automatically displayed in the MANAGEMENT SERVER, MANAGEMENT USER, and MANAGEMENT PASSWORD text boxes.

However, if the pSeries server being monitored was manually added to the eG Enterprise system (and not auto-discovered via the HMC server), then, you will have to explicitly provide the IP address of the HMC server that manages the target pSeries server in the MANAGEMENT SERVER text box. Then, in the MANAGEMENT USER and MANAGEMENT PASSWORD text boxes, you will have to provide the credentials of an HMC user who is assigned the "hmcviewer" role.

On the other hand, if the IVM option is chosen from the IS MANAGED BY list, it implies that the IP address/host name and user credentials pertaining to that IVM server has to be explicitly provided in the MANAGEMENT SERVER, MANAGEMENT USER, and MANAGEMENT PASSWORD text boxes.

Confirm the password by retyping it in the CONFIRM PASSWORD textbox.

ADMIN USER, ADMIN PASSWORD AND CONFIRM PASSWORD – The eG agent remotely communicates with each discovered LPAR on the pSeries server to obtain their "inside view". For this, the eG agent will have to be configured with the credentials of a valid user with access rights to each LPAR. If a single user is authorized to access all the LPARs on the pSeries server, provide the name and password of the user in the ADMIN USER and ADMIN PASSWORD text boxes, and confirm the password by retyping it in the CONFIRM PASSWORD text box. On the other hand, if the test needs to communicate with different LPARs using different user accounts, then, multiple user names and passwords will have to be provided. To help administrators provide these multiple user details quickly and easily, the eG administrative interface embeds a special configuration page. To access this page, simply click on the Click here hyperlink that appears just above the parameters of this test in the test configuration page. In the page that appears next, specify the following:

i. First, provide the name of the Domain to which the LPARs belong. By default, none will be displayed here.

ii. The eG agent must be configured with user privileges that will allow the agent to communicate with the LPARs and extract statistics. To enable communication with one of the LPARs, specify the name of a user with access rights to that LPAR in the Admin User field.

iii. The password of the specified Admin User should be mentioned in the Admin Pwd text box.

iv. Confirm the password by retyping it in the Confirm Pwd text box.

v. To provide the access credentials for another LPAR, click on the circled '+' button in the page. This will allow you to add one more user specification.

vi. To clear all the user specifications, simply click the Clear button.

vii. To remove the details of a particular user alone, just click the circled '-' button corresponding to the user specification.
viii. To save the specification, just click on the **Update** button. This will lead you back to the test configuration page, where you will find the multiple user names and passwords listed against the respective fields.

ix. Once this is done, then, while attempting to connect to an LPAR, the eG agent will begin by using the first **Admin User** name of the specification. If the agent is unable to login using the first **Admin User** name, then it will try to login again, but this time using the second **Admin User** name of the specification. This routine will continue till a login attempt succeeds. Once a login attempt succeeds, then the agent will ignore the subsequent user specifications for that LPAR.

- **DOMAIN** – Set the **DOMAIN** parameter to *none*.
- **SSL** – By default, the HMC/IVM server (as the case may be) is not **SSL**-enabled. Accordingly, the **SSL** flag is set to **No** by default. This indicates that the eG agent will communicate with the **MANAGEMENT SERVER** via **HTTP** by default.
- **IGNORE VMS INSIDE VIEW** – Administrators of some high security LPAR environments might not have permissions to internally monitor one/more LPARs. The eG agent can be configured to ignore such 'inaccessible' LPARs using the **IGNORE VMS INSIDE VIEW** parameter. Against this parameter, you can provide a comma-separated list of LPAR names, or LPAR name patterns, for which the inside view need not be obtained. For instance, your **IGNORE VMS INSIDE VIEW** specification can be: *lp,aixlp*,lin*. Here, the * (asterisk) is used to denote leading and trailing spaces (as the case may be). By default, this parameter is set to *none* indicating that the eG agent obtains the inside view of all LPARs on a pSeries server by default.

**Note:**

While performing LPAR discovery, the eG agent will not discover the operating system of the LPARs configured in the **IGNORE VMS INSIDE VIEW** text box.

- **EXCLUDE VMS** - Administrators of some virtualized environments may not want to monitor some of their less-critical VMs - for instance, VM templates - both from 'outside' and from 'inside'. The eG agent in this case can be configured to completely exclude such VMs from its monitoring purview. To achieve this, provide a comma-separated list of VMs to be excluded from monitoring in the **EXCLUDE VMS** text box. Instead of VMs, VM name patterns can also be provided here in a comma-separated list. For example, your **EXCLUDE VMS** specification can be: *xp,*lin*,win*,vista*. Here, the * (asterisk) is used to denote leading and trailing spaces (as the case may be). By default, this parameter is set to none indicating that the eG agent obtains the inside and outside views of all VMs on a virtual host by default. By providing a comma-separated list of VMs/VM name patterns in the **EXCLUDE VMS** text box, you can make sure the eG agent stops collecting 'inside' and 'outside' view metrics for a configured set of VMs.

- **DD FREQUENCY** - This parameter refers to the frequency with which detailed diagnosis measures are to be generated for this test. For example, if this is set to 1:1, it
indicates that detailed measures will be generated every time this test runs, and also every time the test detects a problem.

➢ DETAILED DIAGNOSIS - To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the On option. To disable the capability, click on the Off option.

The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:

- The eG manager license should allow the detailed diagnosis capability
- Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

6. Next, signout of the administrative interface.

1.3 Monitoring the IBM pSeries Server

To monitor the IBM pSeries server, do the following:

1. Login as a monitor / supermonitor user.
2. Click on the components option in the menu bar, and select the Servers option from the components menu.
3. From the component list page, click on the IBM pSeries Server for which you wish to view measurements.

1.4 Troubleshooting Monitoring of the IBM pSeries Server

Sometimes, when monitoring the pSeries server via an IVM - i.e., if the IS MANAGED BY parameter is set to IVM - you may not be able to determine the REAL SERVER NAME of the target server using the lssyscfg - r sys -F name command. In such a case, you may have to manually create the server name using the steps discussed below:

4. Issue the following command from the shell prompt of the target pSeries server:

   lssyscfg -r sys

5. A sample output of the command has been provided below:

   ```
   name=,type_model=8203-E4A,serial_num=0631D75,ipaddr=192.168.10.16,state=Operating,sys_time=05/25/2012
   12:26:46,power_off_policy=1,active_lpar_mobility_capable=0,inactive_lpar_mobility_capable=0,active_lpar_share_idle_procs_capable=1,active_mem_sharing_capable=0,bsr_capable=1
   ```

6. From the above output, you can find the type_model and serial_num. Using these, you can create the REAL SERVER NAME as indicated below:

   ```
   type_model*serial_num
   ```
For example, from the sample output above, you can create the following server name:

8203-E4A*0631D75

7. To check whether the REAL SERVER NAME so created works or not, issue the following command at the shell prompt of the target pSeries server:

lssyscfg -r lpar -m "RealServerName" -F name,lpar_id,state

For example:

lssyscfg -r lpar -m 8203-E4A*0631D75 -F name,lpar_id,state

Also, when monitoring an IBM pSeries server that is managed by an IVM, follow the steps below to determine the operating system and IP address of the AIX LPARs on the server:

1. To check whether the REAL SERVER NAME so created works or not, issue the following command at the shell prompt of the target pSeries server:

lssyscfg -r lpar -F name,state,rmc_ipaddr,lpar_env,os_version

2. A sample output of this command as follows:

aixtest,Running,1.1.1.1,aixlinux,AIX 6.1 6100-03-01-0921
aix2,Running,1.1.1.2,aixlinux,AIX 7.1 7100-00-00-0000
aix1,Running,1.1.1.3,aixlinux,AIX 6.1 6100-03-01-0921
2.1 Configuring the eG Agent to Monitor a HMC Server

The following pre-requisites need to be fulfilled before attempting HMC Server monitoring:

- SSH will have to be enabled on the HMC server;
- All tests executed by the eG agent should be configured with the IP of the HMC server and the credentials of a valid user to the server;

2.2 Administering the eG Manager to monitor a HMC Server

1. Log into the eG administrative interface.

2. eG Enterprise cannot automatically discover the HMC server. You need to manually add the server using the ADD/MODIFY COMPONENTS page (see Figure 2.1) that appears when the Infrastructure -> Components -> Add/Modify menu sequence is followed. Remember that components manually added are managed automatically. Since the HMC server is monitored in an Agentless manner, select Linux as the OS and SSH as the Mode. Also, provide the credentials of a HMC user who is assigned the hmcviewer role in the User and Password textboxes.
Configuring and Monitoring a HMC Server

3. The newly added component details will appear as shown in Figure 2.2.

4. The tests for the new component will be configured automatically.

5. Finally, signout of the administrative interface.
2.3 Monitoring the HMC Server

To monitor the IBM pSeries server, do the following:

1. Login as a monitor / supermonitor user.
2. Click on the components option in the menu bar, and select the Servers option from the components menu.
3. From the component list page, click on the HMC Server for which you wish to view measurements.
Conclusion

This document has described in detail the steps for configuring and monitoring the IBM pSeries Servers. For details of how to administer and use the eG Enterprise suite of products, refer to the user manuals.

We will be adding new measurement capabilities into the future versions of the eG Enterprise suite. If you can identify new capabilities that you would like us to incorporate in the eG Enterprise suite of products, please contact support@eginnovations.com. We look forward to your support and cooperation. Any feedback regarding this manual or any other aspects of the eG Enterprise suite can be forwarded to feedback@eginnovations.com.