



IBM Systems Director Active Energy Manager Plug-in for VMware vSphere Client

Active Energy Manager (AEM) is an IBM® Systems Director (ISD) advanced manager plug-in that enables system administrators to monitor and manage the energy consumption of IBM servers. The IBM Systems Director Active Energy Manager plug-in for VMware vSphere Client enables VMware vSphere and ISD customers to leverage AEM functionality through the vSphere Client user interface. vSphere is VMware's premier platform for virtualization.

This plug-in leverages capabilities such as power trending graphs and tables and the power properties on an ISD managed server directly through the vSphere Client. Active Energy Manager plug-in also enables you to easily launch the IBM Systems Director console through the vSphere Client for quick access to the full set of ISD capabilities. The plug-in provides a more integrated user experience than the prior products.

This document provides information for interacting with the IBM Systems Director Active Energy Manager through the VMware vSphere Client User Interface. This plug-in integrates selected power management functions from the IBM Systems Director Active Energy Manager to enable you to interact with the VMware vSphere Client environment.

1.0 Prerequisite requirements

The following prerequisites are required for you to use the IBM Systems Director Active Energy Manager Plug-in for VMware vSphere Client:

- Make sure that an IBM Systems Director Server 6.2 is installed and configured.
- Make sure that Active Energy Manager (AEM) 4.3 is installed and configured.
- Make sure that VMware vCenter Server (4.0 or later) is installed and configured.
- Make sure that VMware vSphere Client (4.0 or later) is installed and configured.
- Make sure that you export the IBM Systems Director Server certificate, *lwiks*, and import it into the user's local trust store, see "Appendix A. Exporting the IBM Systems Director certificate" on page 10 for instructions about how to export the certificate.

2.0 Operating system supported

This plug-in supports all of the Windows® operating systems that are supported by VMware vSphere Client. It also supports IBM System Director 6.2, Active Energy Manager 4.3, and VMware vSphere 4.0 and 4.1, and ESX and ESXi 3.5 or later.

3.0 Installing the Active Energy Manager plug-in

To install the Active Energy Manager Plug-in for VMware vSphere Client, complete the following steps:

Note: A 32-bit and the 64-bit version of the plug-in are available for download. Select and download the version based on your environment. The 32-bit version of the plug-in is only supported on VMware vCenter Server 4.0 and the 64-bit version of the plug-in is only supported on VMware vCenter Server 4.1.

1. Download the Active Energy Manager Plug-in for VMware vSphere Client. Go to <http://www.ibm.com/systems/support> and download the plug-in, *.msi, onto a system where VMware vCenter Server is installed.
2. Double-click the file, *.msi, to run the installation wizard.

3. The Installation Wizard screen displays (as shown in Figure 1).

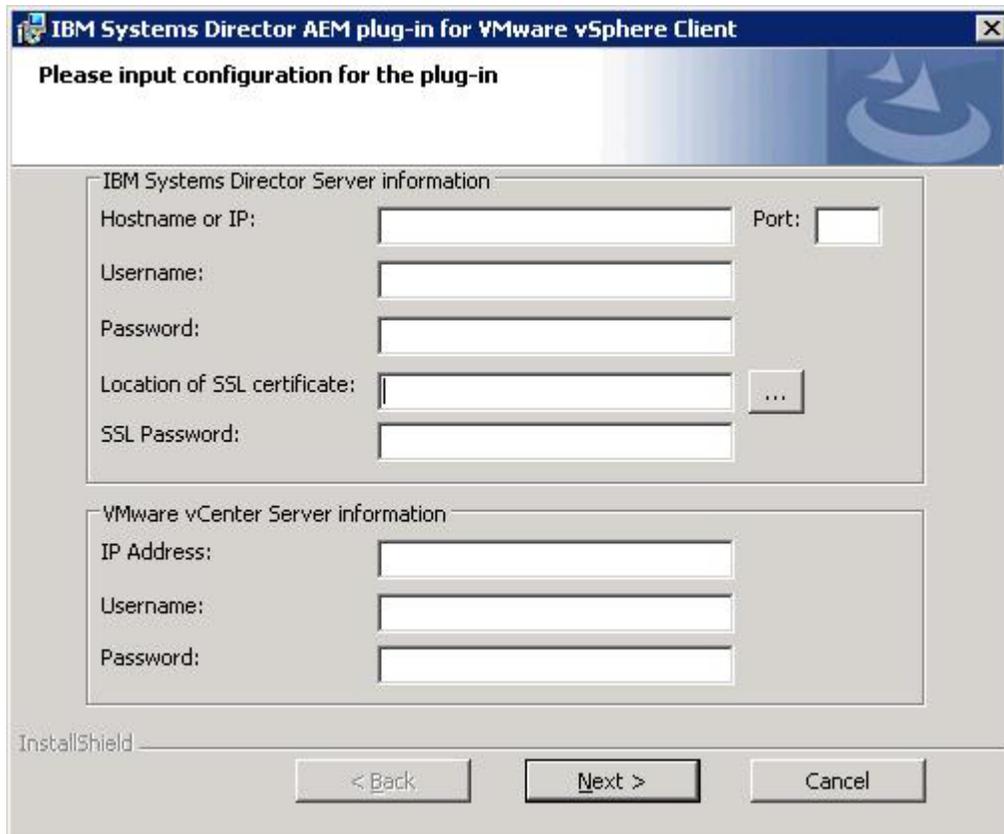


Figure 1. Plug-in configuration information screen

4. For the IBM Systems Director Server information, enter the host name or IP address for the server in the **Hostname or IP** field, enter the port that you want to assign to the server in the **Port** field (the default is 8422), and enter the user name and password of the system administrator for the IBM Systems Director Server in the **Username** and **Password** fields. Enter the location of the IBM Systems Director certificate that you imported into your local trust store earlier in the **Location of SSL certificate** field and enter the password to access the certificate in **SSL Password** field.
5. For the VMware vCenter Server information, enter the IP address for the vCenter server in the **IP Address** field and enter the user name and password of the system administrator for the VMware vCenter Server in the **Username** and **Password** fields.
6. Click **Next**.

4.0 Configuring the Active Energy Manager plug-in

Periodically, you might need to modify the plug-in settings such as the IBM Systems Director Server IP address, user name, and password. To reconfigure the plug-in settings, complete the following steps:

1. Go to **Start** → **Settings** → **Control Panel**, then click **Add/Remove Programs**.
2. Scroll down and select **IBM Systems Director AEM plug-in for VMware vSphere Client**, then click **Change**.
3. The Program Maintenance screen displays (as shown in Figure 2 on page 3).

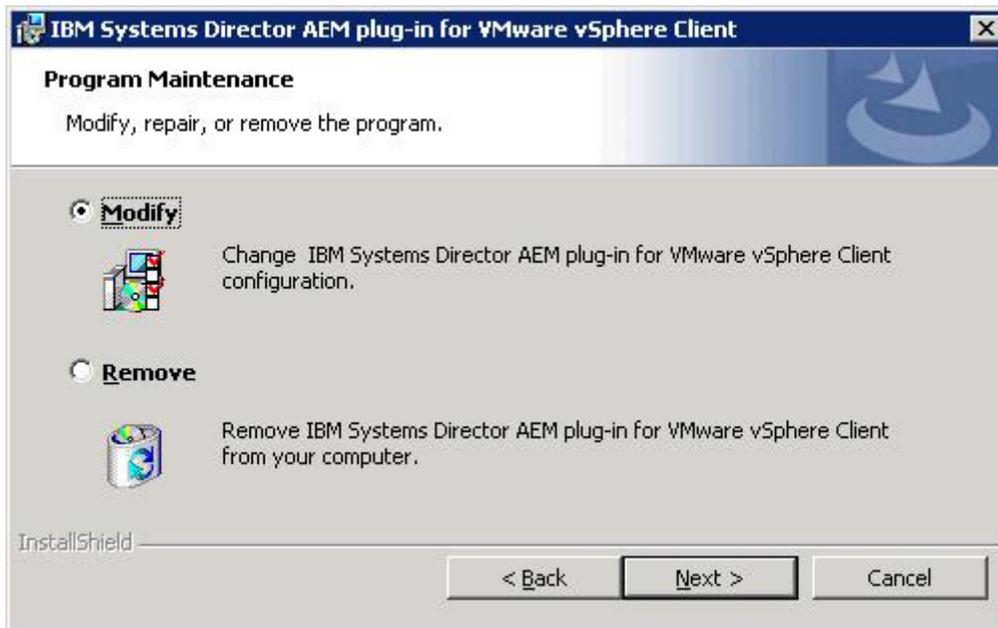


Figure 2. Plug-in program maintenance screen

4. Select **Modify** and then click **Next**.
5. The Configuration screen displays (as shown in Figure 3).

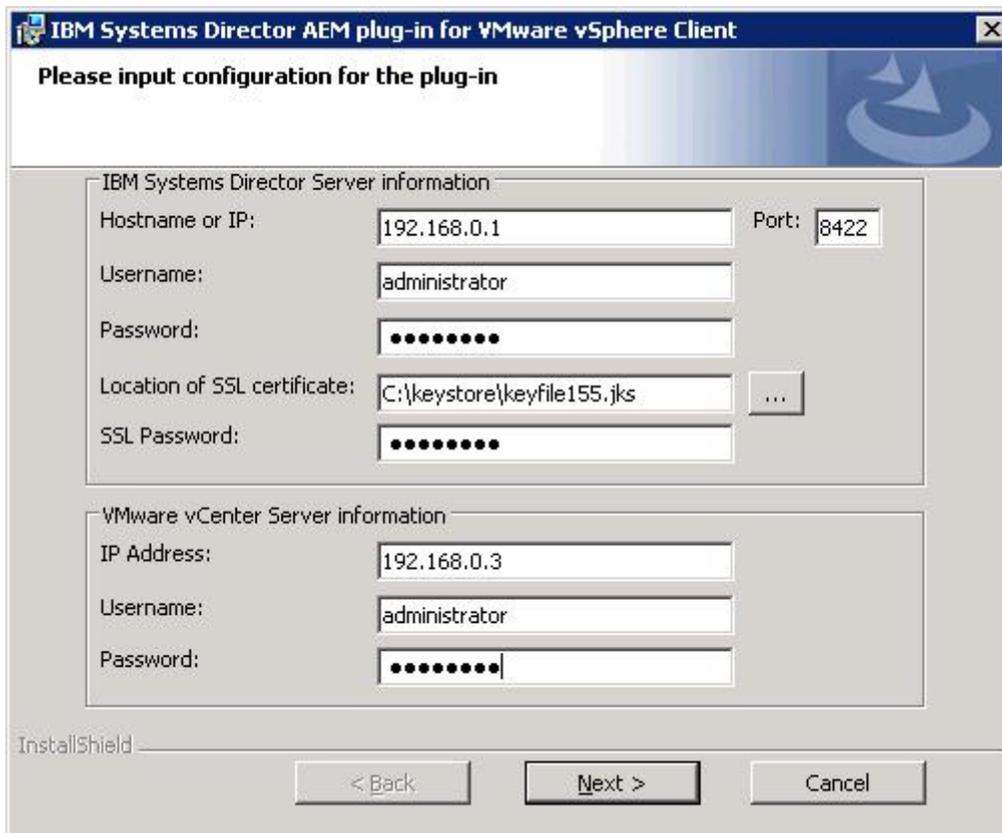


Figure 3. Plug-in configuration screen

6. Modify the appropriate settings to reconfigure the plug-in.

5.0 Using the Active Energy Manager plug-in functions

The following sections provide information on how to use the Active Energy Manager Plug-in for VMware vSphere Client functions within the vSphere Client user interface.

5.1 Starting the Active Energy Manager plug-in

To use the AEM plug-in functions, complete the following steps:

1. Start the vSphere Client and enter your log-in information.
2. Click on the host name that you previously created.
3. Click the **Active Energy Manager** tab.
4. The Welcome to IBM Systems Director Active Energy Manager main screen is displayed with the four links (shown in Figure 4) for the host system that is being managed by Active Energy Manager.

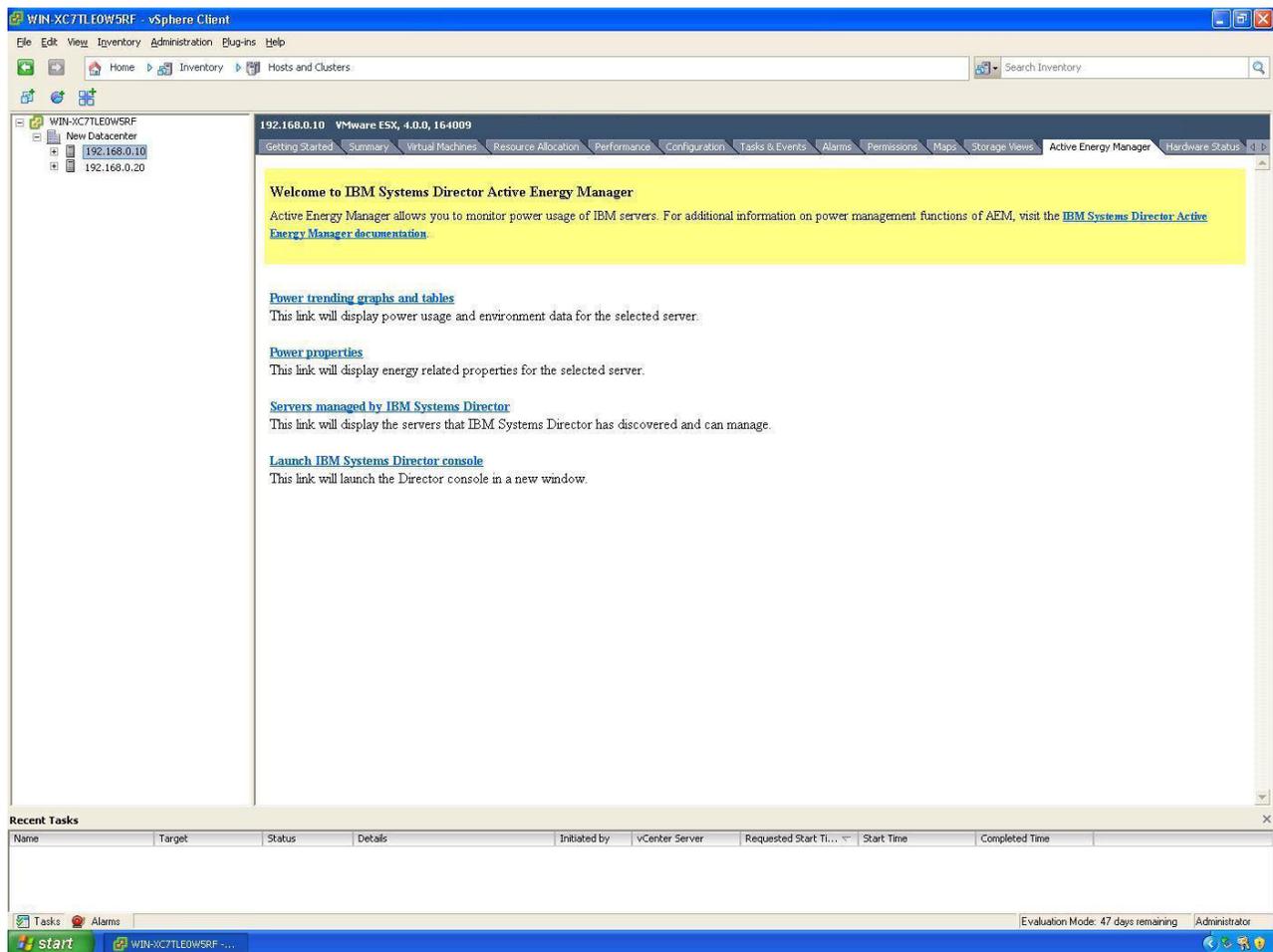


Figure 4. Links displayed when the host system is managed by AEM

If the host that you selected is managed by AEM, the following four links are displayed in the list.

- Power trending graphs and tables
- Power properties
- Servers managed by IBM Systems Director
- Launch IBM Systems Director console

If the host that you selected is not managed by AEM, only the **Servers managed by IBM System Director** and the **Launch IBM Systems Director Console** links will appear in the list (as shown in Figure 5).

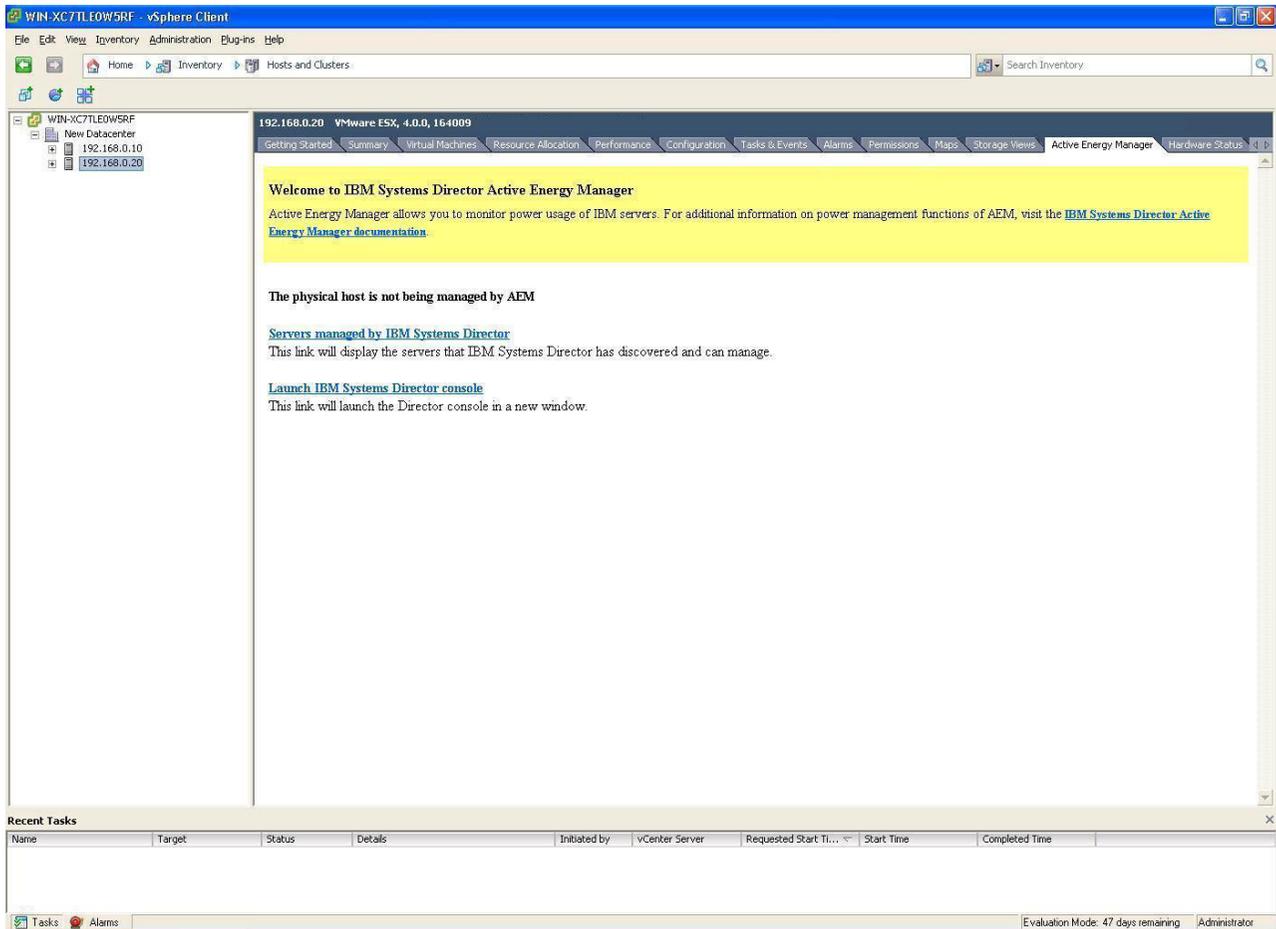


Figure 5. Links displayed when the host system is not managed by AEM

5.1.1 Power trending graphics and tables

Select the power trending graphics and tables link to view information that was previously collected by Active Energy Manager for the selected host server. This link displays power usage and environment data about the host server, such as historical and new trend data for power, power cap, temperature, humidity, dew point, microprocessor speed, and events associated with AEM resources. If a resource has any associated sensors or is plugged into an intelligent power distribution unit (PDU), you can also view the externally metered data from these devices.

When you select this link, you might be prompted to enter your login information and the power trend information screen displays (as shown in Figure 6 on page 6).

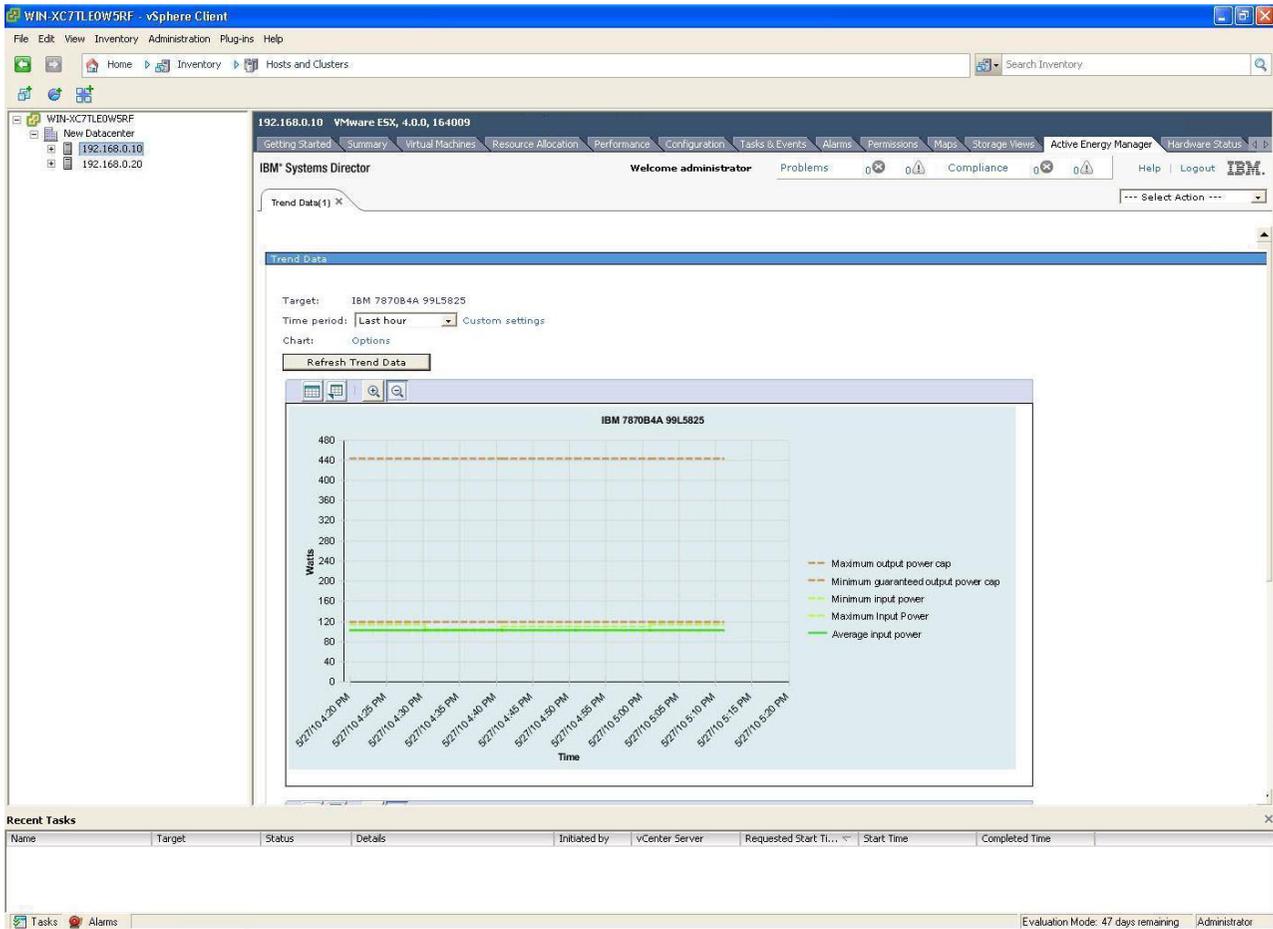


Figure 6. Power trend information

For more information about this function and other AEM functions, see the IBM Systems Director Active Energy Manager documentation. Complete the following steps to access the documentation.

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://publib.boulder.ibm.com/infocenter/director/v6r2x/index.jsp>.
2. Click the plus-sign (+) for **IBM Systems Director plug-ins** to expand the list; then, click the plus-sign (+) for the **IBM Systems Director plug-ins** entry underneath it also.
3. Scroll down and click the plus-sign (+) to expand the list for **Active Energy Manager V4.3** to see information about the various AEM functions.
4. Click the plus-signs (+) next to any function to expand the list to view additional information.

5.1.2 Power properties

Select the power properties link to view information about the host server such as AEM support level, metering, power capping and power savings settings. You can also navigate from this view to other server properties tabs such as the General tab or the Inventory tab. Click these tabs to view information about the specific physical hosts selected in the VMware vSphere Client.

When you select this link, you might be prompted to enter your login information and the power properties information screen displays (as shown in Figure 7 on page 7).

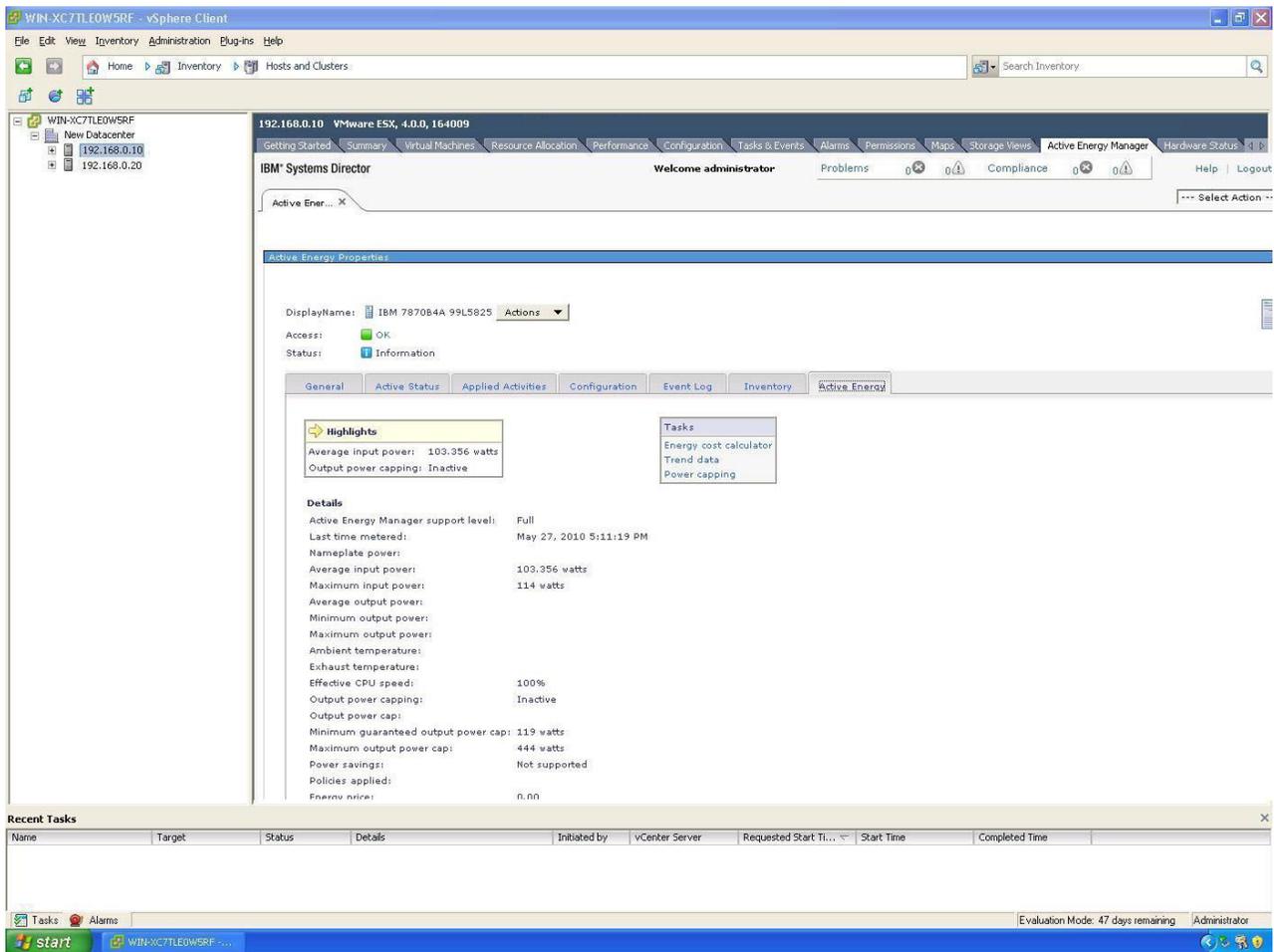


Figure 7. Power properties information

For more details about the type of information that is provided under these tabs, see the IBM Systems Director Active Energy Manager documentation. Complete the following steps to access the documentation.

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://publib.boulder.ibm.com/infocenter/director/v6r2x/index.jsp>.
2. Click the plus-sign (+) for **IBM Systems Director plug-ins** to expand the list; then, click the plus-sign (+) for the **IBM Systems Director plug-ins** entry underneath it also.
3. Scroll down and click the plus-sign (+) to expand the list for **Active Energy Manager V4.3** to view information about the various AEM functions.
4. Click the plus-signs (+) next to any function to expand the list to see additional information.

5.1.3 Servers managed by IBM Systems Director

Select the Servers Managed by IBM Systems Director link to view the list of server resource groups that are being managed by IBM Systems Director (as shown in Figure 8 on page 8).

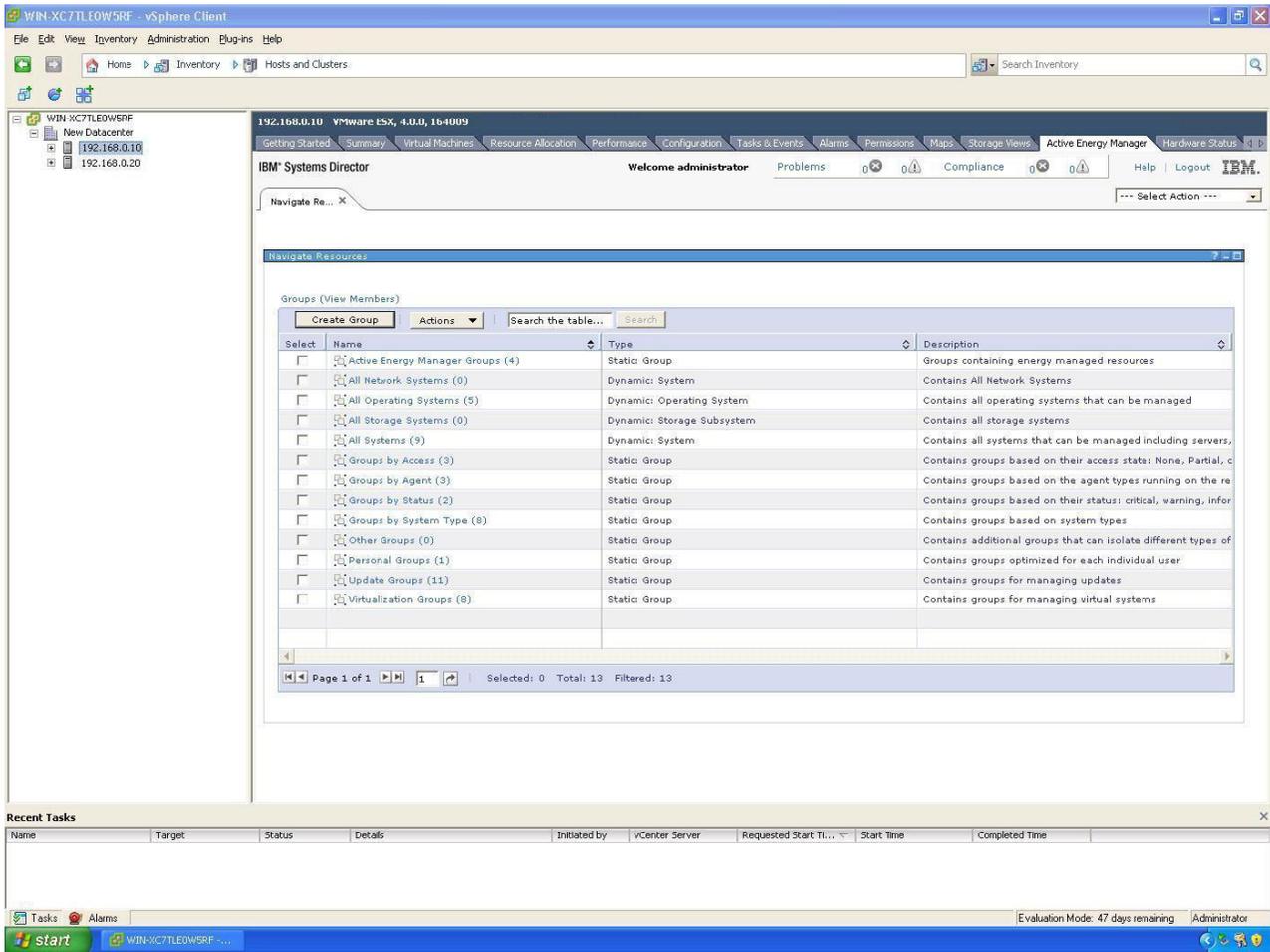


Figure 8. Servers managed by IBM Systems Director

Click on any resource group in the list to view the current group members. For more information about IBM Systems Director resource groups, see the documentation on managing IBM Systems Director resource groups. Complete the following steps to access the documentation.

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://publib.boulder.ibm.com/infocenter/director/v6r2x/index.jsp>.
2. Click the plus-sign (+) for **IBM Systems Director 6.2x** to expand the list.
3. Scroll down and click the plus-sign (+) to expand the list for **Using the web interface**; then, click **Managing groups** to view more information about managing resource groups.

5.1.4 Launch IBM Systems Director Console

Select the Launch IBM Systems Director Console link to start a new ISD session. This new ISD session is an independent session that will continue to run after you close the vSphere Client window. You can use all of the ISD platform management functions through the console.

When you select this link, you will be prompted to enter your login information (as shown in Figure 9 on page 9).

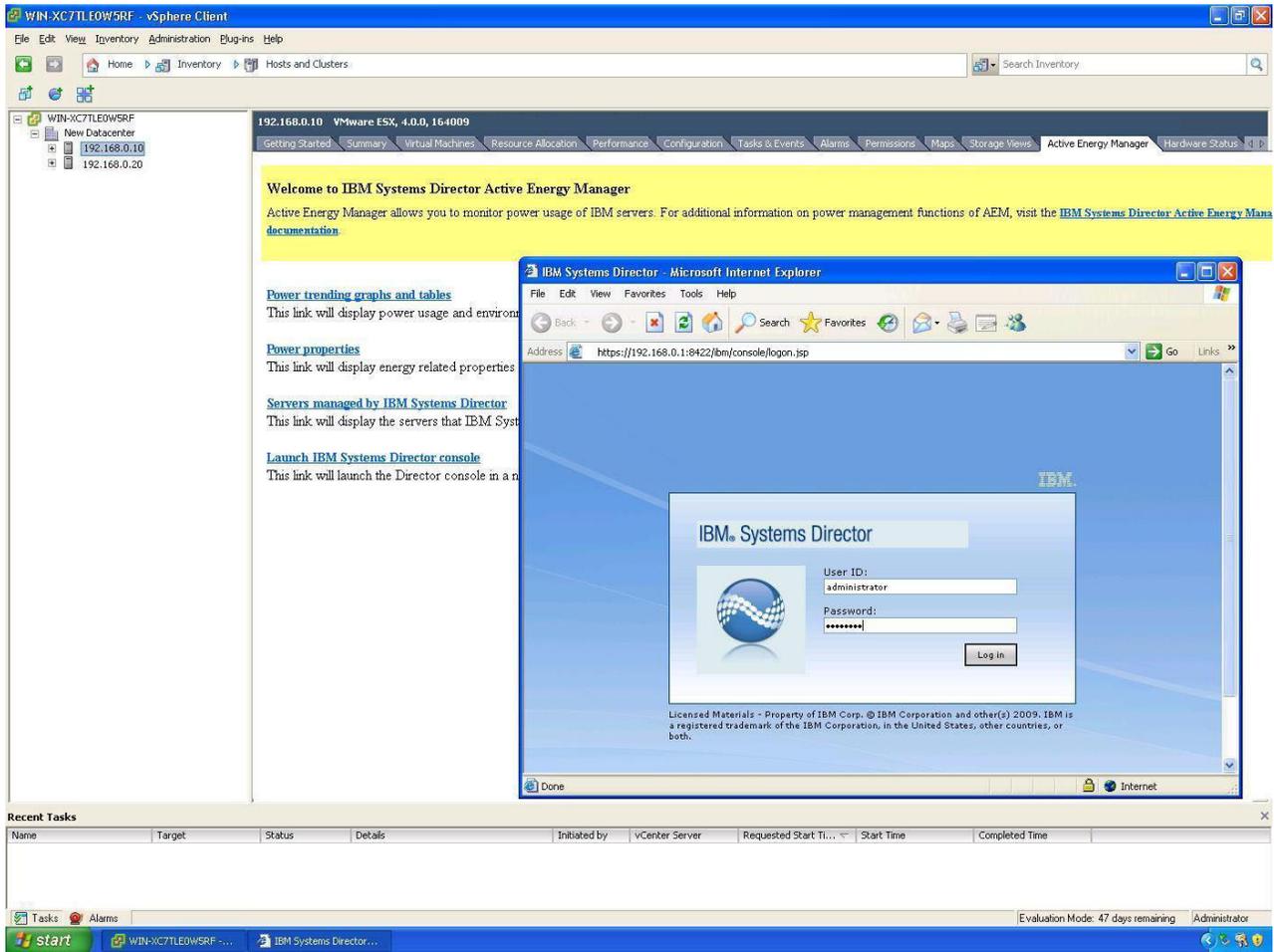


Figure 9. IBM Systems Director Console log-in screen

After you enter your login information, the Welcome to IBM Systems Director screen displays (as shown in Figure 10 on page 10).

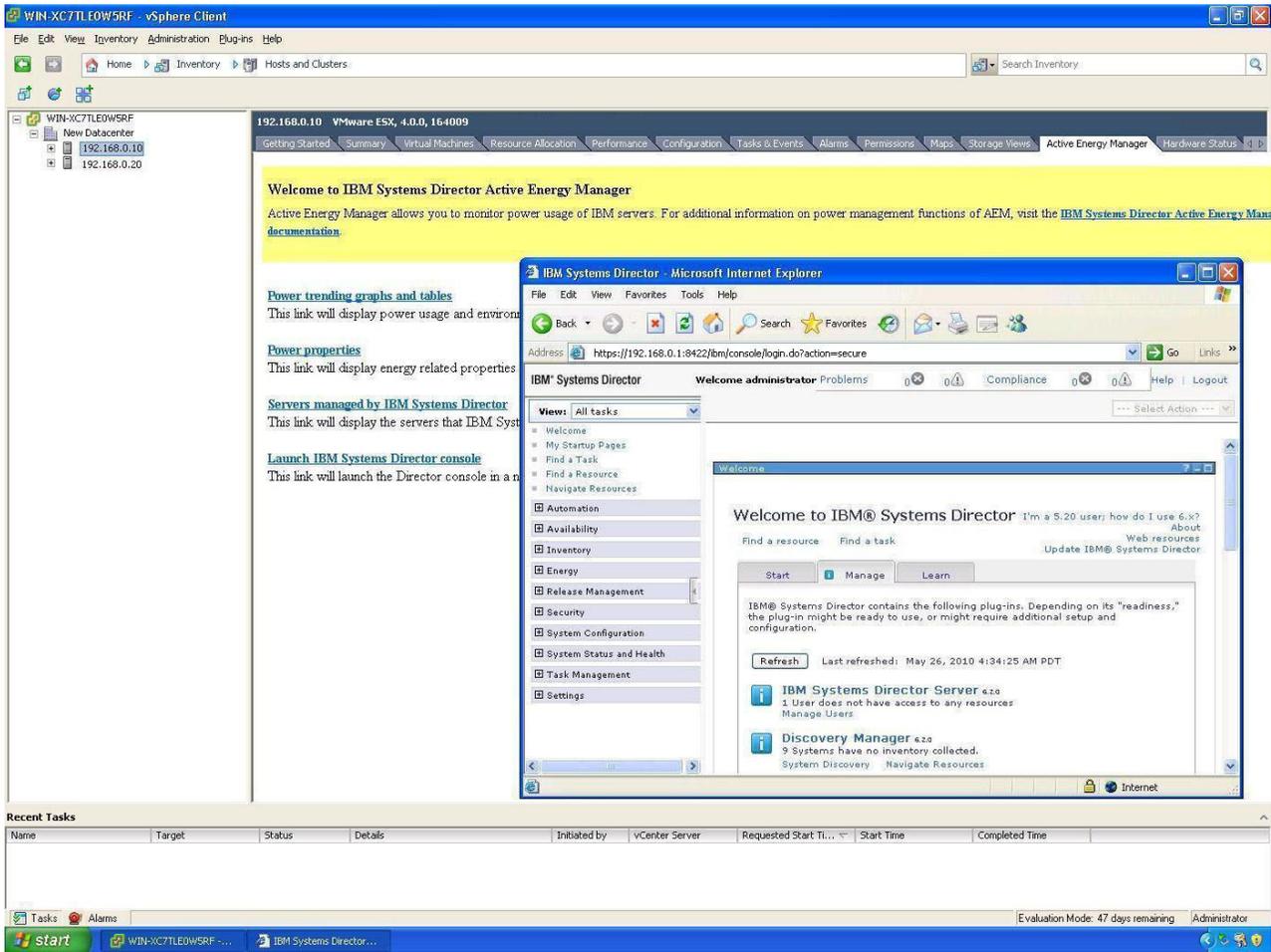


Figure 10. Welcome to IBM Systems Director screen

6.0 Uninstalling the Active Energy Manager plug-in

To uninstall the AEM plug-in, complete the following steps:

1. Go to **Start** → **Control Panel** → **Add/Remove**.
2. Scroll down and select **IBM Systems Director Active Energy Manager plug-in**.
3. Click **Remove**, then click **Yes** when prompted for confirmation.

The plug-in will be uninstalled and all related configuration files will be removed.

Appendix A. Exporting the IBM Systems Director certificate

To export the ISD certificate into your local trust store, complete the following:

1. Export the ISD certificate from the IBM Systems Director server.
 - a. Go to the directory `director_install_root\lwi\security\keystore\ibmjss2.jks`.
 - b. Use the **ikeman** tool from the directory `director_install_root\jre\bin\ikeman.exe` to export the `lwiks` certificate.
2. Import the ISD certificate to your local trust store on the server using VMware vCenter.
 - a. Use the **keytool** from the directory `vCenter_install_root\Infrastructure\jre\bin\keytool.exe` to import the certificate.

b. Type the command:

```
keytool -import -alias mytest1 -file mycert.arm -keystore C:\mykeystore\keystorefile  
-storepass keystorepassword
```

Where:

-file is the certificate file that you are importing into you local trust store.

-keystore is the location of where you want to store the certificate file.

-storepass is the password that you want to set for the certificate.

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