

IBM Servers and Storage Demos IBM Systems Director Active Energy Manager

IBM Systems Director Active Energy Manager 02/08 Script

1a 0:00

The IBM Systems Director Active Energy Manager is a unique energy management software tool that can reduce IT costs by effectively allocating, matching, and capping power limits in the data center at the system, chassis, or rack level. Active Energy Manager provides clients with a single view of actual power usage across multiple IBM platforms including System x, BladeCenter, POWER, System z and Storage Systems.

1b

As an extension of IBM Director, Active Energy Manager can leverage Director's powerful grouping capabilities. This allows the administrator to manage power consumption of multiple servers which are grouped by a variety of attributes – for example,

1c 0:51

application support,

1d 0:55

server type

1e 0:56

or location.

1f

In this demonstration, we need to measure the power used by servers installed in our New York location and determine potentially unutilized power capacity. With the information provided by Active Energy Manager, data center administrators can properly size power input requirements and more accurately plan datacenter construction or modification projects.

2a 1:05

Here, we will be using Active Energy Manager to understand current power consumption and identify strategies for more efficient usage of available power capacity.

2b

The Active Energy Manager's main window consists **of** two information panes.

2c 1:30

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On the left, the navigation pane shows our list of **BladeCenter chassis, storage, switches, servers and intelligent power distribution units, or iPDUs**, installed in the New York data center.

2d 1:52

Since we are interested in TOTAL consumption of all managed machines, we select the **Power Managed Objects folder**.

3a 2:01

The pane on the right now displays a summary table for the location. In this way, we can easily get a view of total power consumption in average watts and BTUs/per hour. The bottom pane shows more detailed information about the devices in the group including information about devices connected to the iPDUs.

3b

The iPDU function enables support for power trending when there is no native support available in a system. By plugging systems into an iPDU Active Energy Manager allows monitoring of legacy POWER systems, non-IBM hardware, storage devices and switches, thereby giving a more complete view of power used within the datacenter.

3c 2:46

Selecting the iPDU circuit for the **System p5**, we can view the power usage, relative capacity and status of the circuit.

4a 2:59

By selecting the **Show Trend Data as a Chart** we can view the power consumption and select events for various time frames.

4b 3:11

Here we select two weeks of data. This will help us identify time frames where additional workload can be added without impacting power and cooling capacity.

4c

To identify target machines which may have unusually high or unique consumption patterns, we can display more detailed trend data.

5a 3:33

By **selecting an individual server**, the trend data is displayed only for that server.

5b 3:42

We are now able to measure and manage the individual server. Notice the difference in current power consumption compared to maximum configurable draw based on power supply

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nameplate. Even under maximum load, we would still be able to free stranded power using the capping function while still supporting up to 100% CPU utilization.

5c 3:58

Power may easily be capped using the Managed Power feature and selecting **Set a power cap based on trend data historical max**. Other options available for setting a power cap are by Watts and by percentage of Pcap min to Pcap max.

6a 4:20

Power saver modes may be viewed or selected for supported IBM servers. Servers running in this mode may use up to 30% less power.

6b 4:36

Additional views could display **watt-hour meter** capability allowing the administrator to measure power use charges by inputting the regional price of electricity in cents per kilowatt/hour.

6c 4:52

For IBM BladeCenters, Active Energy Manager provides detailed data for each of the components within the chassis. Here we see the components included in **Power Domain 1**.

6d 5:00

You can also select an individual blade for further detail.

6e 5:10

To display the raw data collected by Active Energy Manager, we can select to show the **trend information as a table**.

6f 5:22

If further analysis is required, the data is easily exported for use by other programs.

7a

By making this detailed power information easily available, Active Energy Manager helps customers potentially reduce costs through monitoring actual power consumption allowing better utilization of available power resources, and to develop better plans for future datacenter modification and construction based on more accurate power sizings.