

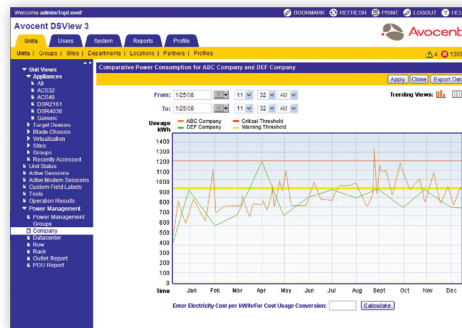
Detailed Power and Environmental Information and Control at Your Fingertips

Avocent's DSView® 3 Power Manager provides data centers with the ability to monitor and measure energy consumption, costs and trends from a single server to an entire data center. It simplifies power and cooling capacity planning and provides a consolidated view, including remote power control for individual server outlets. Through preemptive notification of rack-level power and environmental alarms, it empowers administrators with data to increase power usage efficiencies and maintain availability of IT assets. DSView 3 Power Manager offers a combined interface for the management of IT assets and the power infrastructure supporting them with seamless integration into DSView 3 management software.

Manage

DSView 3 Power Manager software provides a single, secure, browser-based interface to capture power usage at any moment in time and energy usage over a period of time. Visibility into energy consumption data helps IT to operate a more efficient data center including:

- Insight for capacity planning
- Total reading on power usage for better efficiency
- Allocating the cost of power based on actual usage by department
- Determining what activities can be moved to off-peak times
- Avoiding budget overruns by setting a maximum threshold of power usage
- Balance of power usage for better efficiency and to maintain a consistently cool data center
- Preemptive notification and alarms for proactive power management
- Single console for access and control to both physical and virtual environments



**Comparative Power Consumption Report
(by Racks, Rows, Data Center or Companies)**

DSView 3 Power Manager also enables IT to calculate what it costs to power a rack (or racks, or an entire data center) per moment, per day or over time and to operate or manage power more efficiently.

Access

DSView 3 Power Manager helps data center administrators gain real-time access to power consumption and temperature alerts to minimize interruptions and increase uptime. DSView 3 Power Manager provides power management and reporting capabilities, offering detailed data to assist with data center power usage efficiencies (PUE).

Control

Server power consumption is highly dynamic. Additional equipment, if plugged into the wrong location, can cause significant downtime and data loss because of power overloads. DSView 3 Power Manager provides detailed rack-level power and environmental information at your fingertips to monitor overall power and energy consumption usage and costs for better capacity planning and to help maintain availability of IT assets.

Applications

- Integration with DSView 3 software provides a consolidated tool for complete management of IT assets from a single interface
- Gather and aggregate power information from a variety of different PDUs
- Capture power usage at any moment in time and energy usage (kWh) over a period of time
- Environmental monitoring
- Power management as well as power control to individual outlets
- Aggregation and reporting at all levels within the data center
- Calculate costs to power a rack (or racks, or an entire data center) per moment, per day or over time

Benefits

- Consolidated user interface for centralized management
- Monitor and measure energy consumption costs (per device)
- Real-time visibility into power usage to operate or manage power more efficiently
- Identify costs and trends to simplify power and cooling capacity planning
- Determine actual energy usage by department to create chargeback process
- Identify what activities can be moved to off-peak times or virtualized servers
- Ability to set a maximum on power usage and threshold alerts to stay within budget
- Preemptive notifications and environmental alarms to ensure uptime

Calculating power and energy consumption data with access to preemptive notifications can help IT operate a more efficient data center in a variety of ways:

Help IT and the facilities department determine departmental power usage. For example, if all accounting servers are grouped together in racks, then facilities can determine what percentage of the monthly utility bill to charge accounting based on kWh used.

Assist IT with capacity planning. IT can more easily decide where to add new servers/racks in a data center. Additional equipment, if plugged into the wrong location, can cause significant downtime and data loss because of power overloads.

Help justify purchase of new equipment. A comparison of the energy cost differential between new versus old servers, for example, can help provide justification for replacement or to help with model/vendor selections.

Determine what activities can be moved to off-peak times when energy costs less to purchase. Since IT can monitor power usage at any time, including off-peak times, IT can pull reports and compare historical data to determine how much power is being consumed in peak versus non-peak times. So if the report shows that certain racks “spike” power usage during certain times of the day, IT can investigate why and then move that activity to a time when the price per kWh costs less. Major utility companies offer industrial and corporate customers lower rates during non-peak times. IT could also consider moving that activity onto a virtualized server.

Help get a total reading on power usage for the data center, and set a maximum threshold of power usage. By setting alerts to know when the threshold is reached or exceeded, a decision can be made to move certain computing activities to non-peak times, or to move activities to virtualized servers.

Provide insight to help IT keep a balance of power usage for better efficiency. By identifying hot spots or times when activity spikes draw more power, IT can shift equipment or activities for better balance to maintain a consistently cool data center (less stress on cooling systems).

Help IT know what electrical infrastructure to build into a backup/DR site. The design can be based on real historical data rather than faceplate ratings or best guess scenarios, which result in overbuilding or inefficiencies.

Ensure availability by setting power- and environmental-related thresholds and alerts. By getting preemptive notifications, IT can take action before issues happen.

Help IT decide which applications to virtualize. Applications that aren't used much, but installed on servers that use a lot of power, are good candidates for virtualization. A server sitting idle can still draw as much as 50% of the power it draws when operational, so applications on underutilized servers should be first for virtualization consideration.

Example of energy consumption cost:

If you have one rack housing 16 servers, and each server draws 0.3kW consistently while operating constantly 24 hours a day for one month (720 hours), then that rack of 16 servers will cost \$380.16 to operate for the month based on the US average of \$0.11 per kWh:

- $16 \times .3kW \times 720 = 3456$ total kWh
- $3456 \times 0.11 = \$380.16$ (0.11 is the U.S. avg. price per kWh per the Dept. of Energy)
- Conclusion: It costs \$380.16 to power those 16 servers for one month

**Product Compatibility:
DSView 3 management software:**

Versions 3.6 and higher

Rack PDUs supported:

- Avocent - PM 8/8i, 10/10i, PM1000, PM2000, PM3000, SPC 4/8/16
- Server Technology - Sentry CDUs, PTXL, PTXM*
- APC - AP71xx, AP78xx, and AP79xx series IPDUs*

* Third-party PDU licenses sold separately

(NOTE: Virtualization creates its own management challenges, and DSView 3 software is the only data center management software that provides access and control to both physical and virtual environments in a single interface.)



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