How do I use SPM to manage high density data centers?

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Sentry Power Manager (SPM) gives data center managers the necessary tools to monitor and manage cabinet PDUs in high power density data center environments.

Typical Application

In my existing data center, I have had the luxury of extensive over-provisioning of power and cooling infrastructure for my several dozen racks running 30A 3-phase 208V power. Due to the need for growth, my enterprise equipment will be moving into a new facility with double the cabinet power density. I need to continue to maintain the same level of uptime and efficiency while the company grows. How can SPM help me with this?

Our Solution

Sentry Power Manager (SPM) is the ideal, cost-effective way to aggregate the monitoring and management of a high density data center. With billing grade accurate data from Server Tech CDUs and polling of other SNMP capable power system devices, SPM keeps you informed and in control. By keeping tabs on IT device power usage and environmental conditions, high levels of uptime and efficiency will be maintained.

IT Device Power Management with SPM

Maximizing utilization of high density circuits starts with monitoring device loads.

When deploying a high-power circuit for a cabinet full of IT equipment, it is important to build a system of checks and balances to be sure that the power infrastructure can handle peak loads. Keeping track of location, application, and power usage of each racked device becomes more important with higher density racks because overloads can affect uptime of even more devices.

SPM provides a method for specifying exactly where in a cabinet a specific piece of IT equipment is mounted. By assigning outlets from the cabinet PDU to the particular equipment, the IT manager can properly identify both the space and power availability in each cabinet. Add the high-accuracy outlet measurements of the POPS® CDU® for an even more detailed picture of the cabinet.

Key Intelligent PDU Benefits:

> PIPS® and/or POPS® high-accuracy measurements of current, voltage, power, etc.

> Environmental measurements via plug-and-play probes

> SNMP traps and email alerts

> Master-Expansion linking allows single-IP access to the cabinet pair of PDUs

Alarm Management with SPM

Monitoring of power does no good if threshold alarms are not properly managed.

A simple, convenient way to mass configure the thresholds in multiple cabinet PDUs is very valuable. In addition, it is typically required that all alarms for like devices be accessible in one location. Some energy management systems have this ability and the ability to display alarm conditions and forward them to other systems.

SPM provides numerous alarms based on the hardware (PDU/CDU®) capabilities plus alarms based on aggregate values such as total power of the cabinet, user-defined zone, and location. The figure below shows a configuration page for a single Server Technology® Switched POPS® CDU® in which low and high current and power can be monitored and alerted upon per outlet. Additionally, SPM provides the ability to mass configure all levels of alerts through a multi-select process. Users of SPM see tremendous reduction in resource requirements for monitoring and managing alarms.

Key SPM Benefits:

> Custom Views for each user for quick access to relevant data

> Alarm monitoring and management from the data center level down to the outlet

> Mass configuration of Server Technology PDUs through secure SNAP™ feature

> Setup cabinet-level redundancy checks

> Identify temperature variation across the data center

> Manage user rights to access and control equipment power

> Convert continual data polling from all cabinets into actionable information in a variety of forms

Environmental Monitoring with SPM

Temperature in the data center is a "hot" topic when it comes to high density.

A doubling of the equipment power density results in a doubling of the heat load as well. By measuring and tracking temperature at multiple points within a cabinet, the facilities manager can continually verify these heat loads are not a threat to equipment reliability.

SPM provides the facilities and data center managers with a means to compare the relative temperature variation within racks and between racks. Additionally, the increase in power usage can be monitored and compared with the temperature variation. The figure below indicates that a loaded cabinet's temperature can vary over time, repeatedly breaking a set threshold. This information must be considered in life-cycle analysis as well as efficiency analysis.
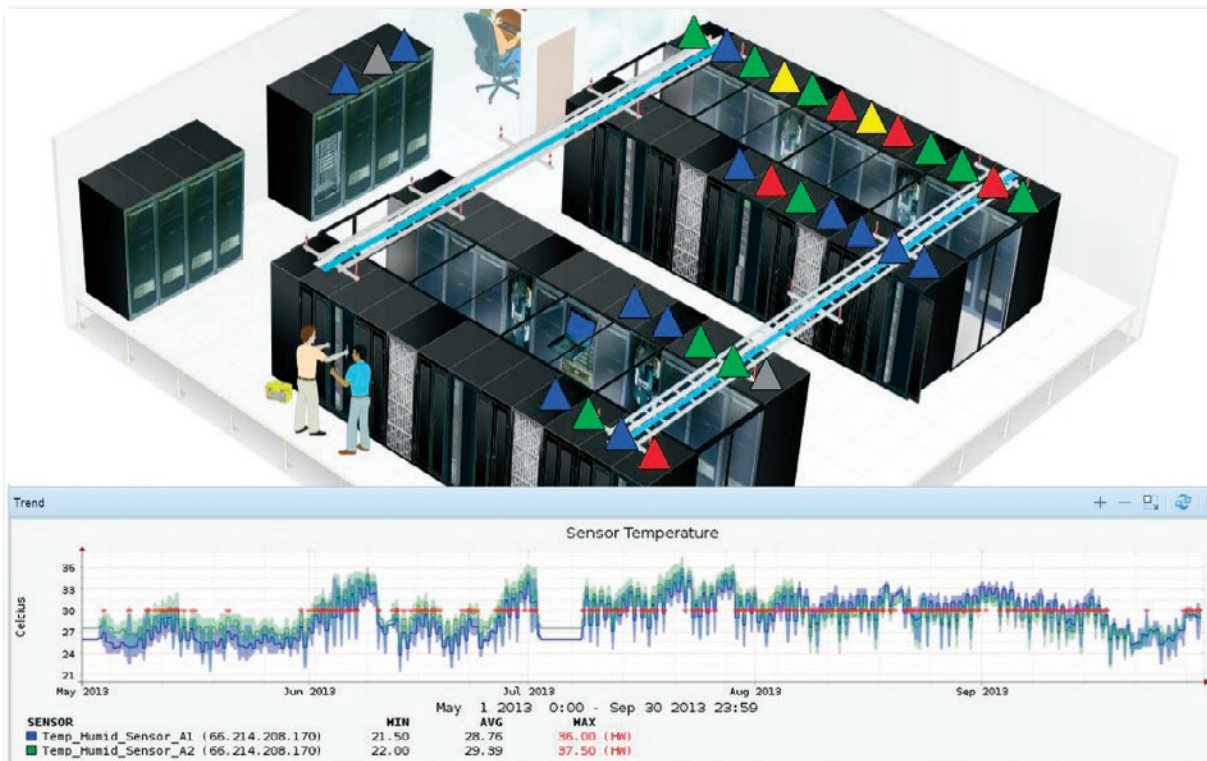
Interested in learning more about how SPM can help you with managing your high density data centers? Visit us online and download a FREE Demo at: **www.servertech.com/products/sentry-power-manager**

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