Make the Most of Your Intelligent PDU Investment

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Agenda

• Growth of the Intelligent Power Distribution Unit (PDU) Market
• Why Invest in Intelligent PDU’s
• Challenges in Deployment
• Solutions
The Numbers

With such significant investment, organizations need to ensure they are taking full advantage of the capabilities in order to boost their return on investment.

- **608 Million Investment in intelligent PDU**
- **Fastest-growing segment in the PDU market**
- **65% of PDU market by revenue**

- IHS Markit
Why Intelligent PDUs?

- **Availability**: Enhance availability of IT applications by monitoring power and environmental within the cabinet.
- **Security**: Help optimize usage of upstream electrical infrastructure by ensuring balanced loads across all circuits.
- **Optimization**: Reduce IT equipment energy consumption costs through visibility of equipment costs and power charge back reports.
- **Reduces Costs**: Enhance cabinet-level security through integrated electronic locks.
Challenges

Organizing and using data available through a high number of intelligent PDUs within the data center can be complex because:

• At least two (2) PDUs in EVERY cabinet
• Too many network connections
• Data center is becoming more complex with edge and IoT
• Remote management
• Security concerns
Solution: Two-Step Approach

#1. Choose intelligent PDUs with the following critical features:

- Locking outlets to prevent accidental disconnections
- Integrated environmental monitoring for inlet and outlet temperature
- High temperature rating to ensure accurate monitoring
- Built-in administration, security, threshold, notification and logging functions
Specific Features

All PDUs should have features such as:

✓ IP Consolidation to reduce networking costs
✓ Integrated environmental monitoring
✓ Integrated electronic access control to meet regulatory compliance
✓ Built-in administration, security, threshold, notification and logging
Solution: Two-Step Approach

#2. Centralized Data Center Infrastructure Management (DCIM) software application that will provide a single pane of view for rack and site conditions. Note: The granularity of the PDU affects the granularity of the DCIM reporting.

- Must be vendor agnostic
- Must have embedded databases
- Must allow easy export of data with customizable reports
- Must support Enterprise Authentication Services and API’s
- Must support auto discovery and import features
Specific Features

Centralized DCIM software application that will collect and store data from all PDUs and provide meaningful reports and features such as:

- Cabinet load capacity reports
- Grouping of equipment to generate power charge back reports
- Redundancy monitoring reports
- Cabinet-level temperature and humidity reports
- Cabinet-level power consumption reports by timeframe
How DCIM Visualizes PDU Data

- Measures Current
- Measures Active Power
- Measures Average Energy
- Monitors Redundant Power
- Measures Environmentals
Measures Current

• Provides rack current draw in order to monitor thresholds and available capacity.

• Helps visualize available capacity
Measures Average Energy

• Roughly provides the cost to operate a rack on a kW/h basis.

• Creates power charge back reports
Monitors Redundant Power

- Provides monitoring reports, simplifying three-phase system management
- A/B power feed and whether there is sufficient power for failover
- Simplifies the comparison of available redundancy
Measures Environmentals

- Reports for the specified range of operating condition at the rack level.

- Reports all the values for the site against a particular operating condition (ASHRAE).
Measures Active Power

- Allows trending of power use by rack, while minimum and maximum measurements provide visualization of peaks and valleys.
Use Case: Colocation

Problem
- Need a way to confirm, verify or track power and environmental at the rack/device level

Solution
- Implementing intelligent PDUs with rack and outlet metering
- Deploy a DCIM to collect all the data and present it in one place.

Advantages
- Intelligent PDU that is easy to install and configure
- Tracking automation of key metrics on power that affect their cost on business
- Share the data with internal and external customers
Use Case: Managed Services

Problem
• Lack of remote monitoring and switching capability is one of the most costly challenges (man hour: $100 or more)

Solution
• Implement switched intelligent PDUs for device control and outlet-grouping capability
• Implement DCIM software to see all devices in one place

Advantages
• Reduced charges for service on remote equipment
Use Case: Regulatory Compliance

**Problem**
- Lack of automated logging reports for regulatory compliance
- Complexity of managing physical access to the site different systems

**Solution**
- Implement switched intelligent PDUs for device control
- Implement DCIM software to see all devices in one place

**Advantages**
- An intelligent PDU is needed for compliance-related factors and when clients request cabinet access reports. Also important for accountability if errors occur during equipment maintenance
- Extending the record
Conclusion

✓ Intelligent PDUs provide instrumentation, consolidate hardware and simplify networking complexities while automating collection of data

✓ The DCIM tool provides data visualization through dashboards, trend charts and reports, giving insight of patterns

✓ Both solutions should be easy to use, secure and easily integrated with each other

✓ Decisions made simple
Thank you!

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