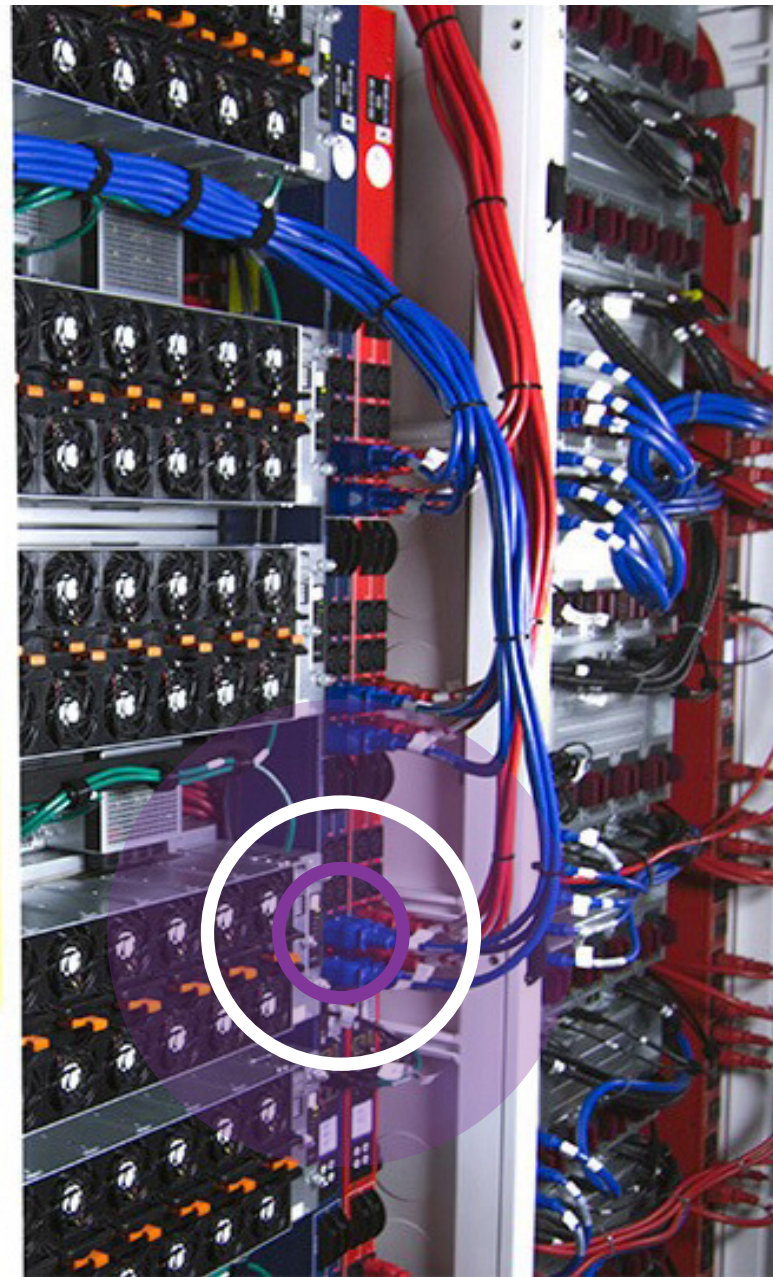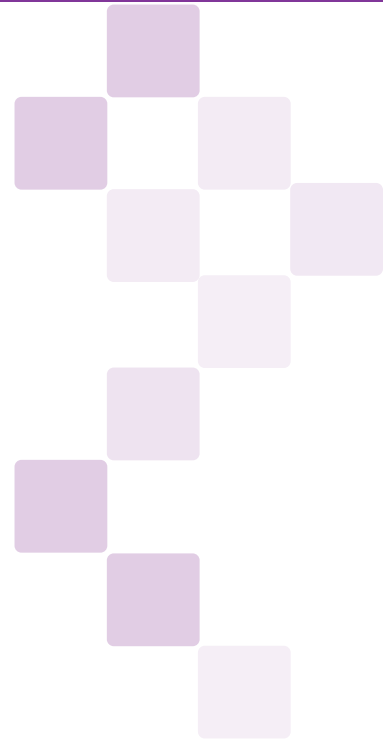# 7 Reasons Why You Need Intelligent Rack PDUs and Sunbird DCIM

Sunbird®

DCIM that's easy, fast, and complete

Introduction

Outlet-metered intelligent rack PDUs enable monitoring and management of power consumption at each outlet, providing device-level data that offers a granular view of power usage and capacity in the data center.

Some even integrate with temperature and humidity sensors to provide environmental information at the rack.

Sunbird's DCIM software complements outlet-metered intelligent rack PDUs by collecting, storing, alerting, and reporting on the data they generate, delivering actionable insights and enabling more informed decision-making.

In this eBook, we will explain the practical advantages of deploying intelligent rack PDUs and Sunbird DCIM. By leveraging these tools, you can maximize the value of both investments and dramatically simplify how you manage your data center.
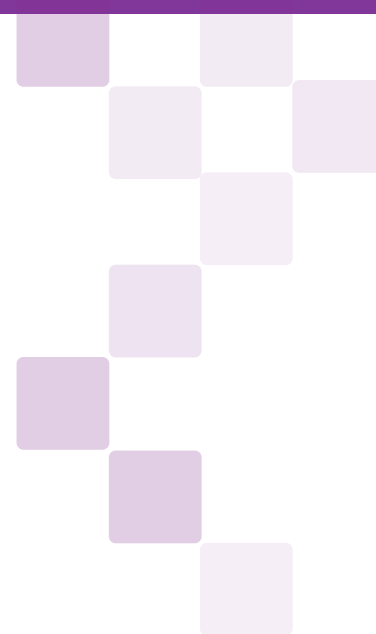
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1. Improved Uptime

For large organizations, downtime can cost around $9,000 per minute.

Data center managers must maintain uptime while competing against increasing rack densities, aging infrastructure, environmental instability, human error, and a lack of detailed information. Intelligent rack PDUs and Sunbird DCIM software offer a solution for more proactive power and environmental monitoring, early problem detection, and real-time information that enables better uptime.

- **Be the first to know of potential issues.** Warning and critical thresholds can be set for rack PDU inlet current, rack PDU circuit breaker state change, rack power capacity, temperature, and humidity. When live measured readings from intelligent rack PDUs or environment sensors exceed a threshold, an event can be generated and you can receive an alert. This lets you know about potential issues so you can investigate and resolve them before they escalate into serious problems that can result in downtime. The software also polls intelligent rack PDUs at an interval you set to ensure that they can be reached on the network. If a rack PDU is down and does not respond, indicating a potential loss of redundancy, the software immediately notifies you so you can address the issue.

- **Maintain redundancy.** A built-in report simulates a failover scenario for each rack to identify at-risk cabinets without impacting your equipment in use. With a click, you can immediately know which cabinets are outside of your redundancy requirements so you won't be caught unaware in the event of a power failure. The Load Shift Detection feature offers a tunable AI copilot that leverages data from outlet-metered intelligent rack PDUs to detect and alert when the load shifts from one power supply on an IT device to another, indicating a potential loss of redundancy. Finally, when planning item deployments, the software validates the planned load from the deployment against circuit breaker ratings.

- **Avoid human error.** Built-in power circuit capacity intelligence budgets power capacity at every point in your power circuits with automatic calculations that eliminate manual effort and the chance of human error. This helps you avoid situations like thinking you have enough power at the rack to support new equipment, but the panel breaker is already near tripping.
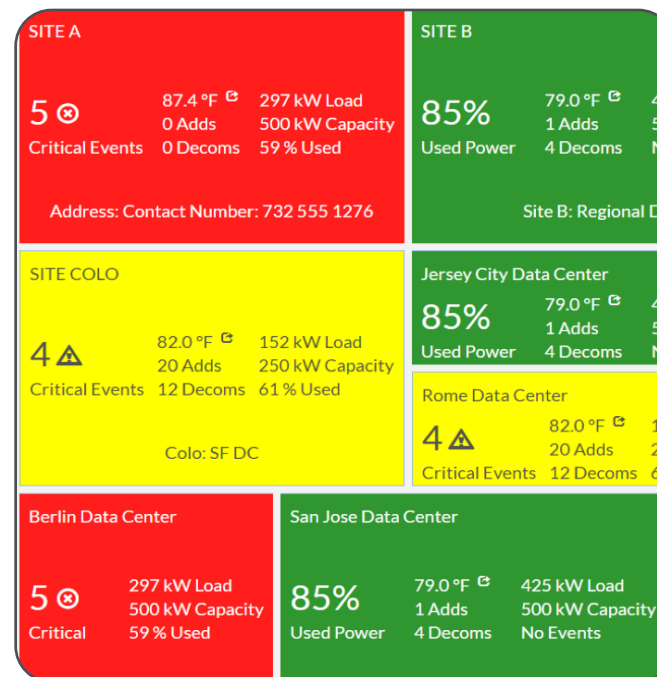
FROM THE EXPERT:

"The greatest benefit [of Sunbird DCIM] is the ability to monitor our power and temperature in a single pane with a single application."

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

Corey Schofield
Technical Product Manager

2. Increased Energy Efficiency

Data centers currently account for 2.5% to 3.7% of global greenhouse gas emissions, and the demand for data center services is growing so fast that that number is expected to reach 8% by 2030.

This trend comes with increased pressure from regulators and customers to limit the environmental impact of data centers worldwide.

Intelligent rack PDUs and Sunbird DCIM provide the information you need to make more informed energy management decisions to reduce wasted energy, save money, and support corporate sustainability initiatives.

- **Avoid overcooling and over-humidifying.** Intelligent PDUs instrumented with environment sensors and Sunbird DCIM provide temperature monitoring to maintain optimal operating conditions. Tunable thresholds and alerts enable quick corrective actions if the temperature or humidity are outside of your typical ranges. Thermal map visualizations make it easy to understand temperatures across your data center floor and patented electronic ASHRAE psychrometric charts map your cabinets' to ASHRAE's recommended and allowable environmental ranges so you can easily identify where you are wasting energy. Learn how Vodafone dramatically improved their sustainability by leveraging temperature monitoring to raise temperatures in their data centers.
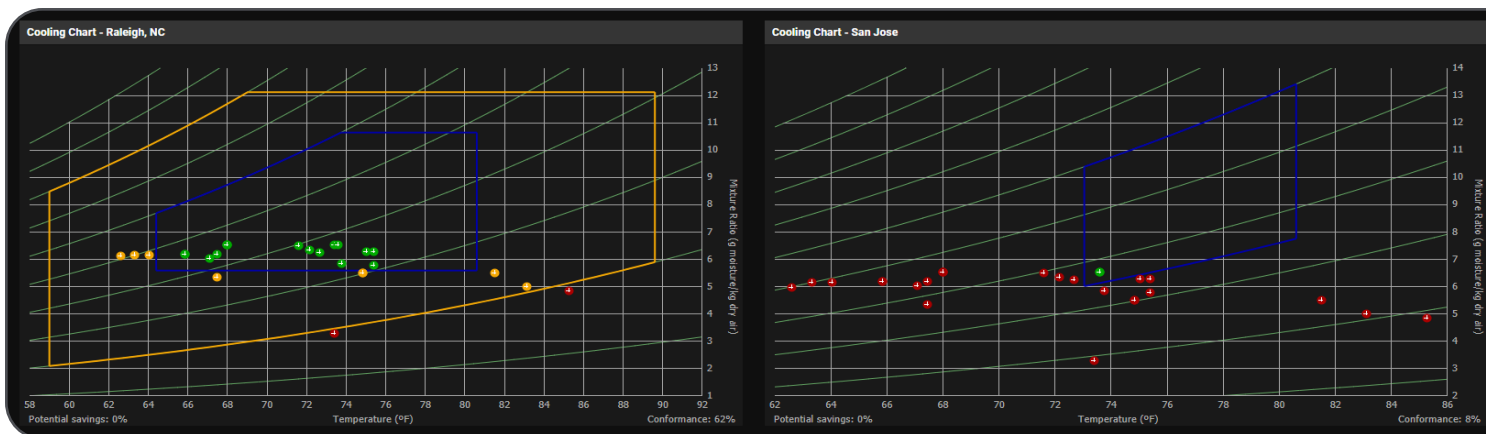
(continued)

2. Increased Energy Efficiency (continued)

- **Find ghost servers.** A built-in report lists all your potential ghost servers based on the power they draw. Adding up their total energy consumption provides an estimate of the energy you can save by shutting them down. Removing ghost servers also frees up space which can be used to consolidate racks or to improve airflow for other equipment.
- **Understand energy costs any way you like.** Generate energy cost reports by data center, business unit, or customer. This information can be used to inform customers of the energy they use and encourage them to seek out ways to minimize their energy usage. Evaluating the energy consumption of your teams and devices may also uncover power hogs and areas where efficiency can be improved.
- **Easily report on energy KPIs.** Automatically track the Power Usage Effectiveness (PUE) of all your sites and trend your PUE to see the impact of your efficiency initiatives over time. Other preconfigured cooling-related charts include temperature/humidity per cabinet, Delta T/Delta H per cabinet, and temperature/humidity sensor trends.

FROM THE EXPERT:

"Sunbird provides the ability to measure, monitor, and document what is actually happening in our data centers. Then, we can implement things to keep the costs down. We can actually measure the individual temperatures in a cold aisle so we can see the Delta-T. That allows us to raise the temperatures in the cold aisle which saves us a large amount of money."

vodafone

Andrew Marsh
Senior Manager for Infrastructure and Data Centers

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