Sunbird's DCIM Power Solution Helps British Cloud and Networking Provider Exponential-e Enhance its SLAs and Gain Competitive Edge

exponential-e
applied innovation

Case Study

Exponential-e's full-service CloudNet platform serves a diversity of industries, which include Media, Technology, Finance, Insurance, Professional Services, Leisure, and Public Sectors. Its 1700+ UK and Global customers trust Exponential-e to deliver technology to the heart of their business.

Exponential-e's ethos of excellence and innovation meant that the data centre infrastructure specification for the new colocation business had to be as solid and reliable as its 100 gigE network. Leveraging its core competencies in networking, security and high availability, the 71,500-square-foot (1,625m2) data centre facility has been designed for enterprise-class connectivity up to 10Gbps, N+N redundancy on UPS, and N+1 on all other critical services.

Rob Anderson joined Exponential-e as data centre manager during the planning stage for building the Tier III data centre in North London. His role is to support Exponential-e's expanding colocation business.

"I had used Raritan's intelligent rack PDUs in other data centre operations, based on my success with the Raritan solution," says Anderson. I advised the Exponential-e team that this was the solution to help us manage our new data centre and to enable our customers to manage their own equipment and power. We wanted to give our customers more visibility and remote hands-on access to their own dedicated data centre cabinets."

Every cabinet in Exponential-e's new colocation data centre is now equipped with redundant intelligent PDUs (iPDU) from Raritan. By adding processors and network connections to the PDU, Raritan created the industry's first intelligent rack PDU, which not only powers sequence equipment over a network, but also gathers information about the power usage at the device level and at the rack level. Real-time power information can be easily read at the rack or from any web browser.

Using Power IQ® DCIM Monitoring Software to Manage Capacity

Exponential-e also selected Sunbird's Power IQ® DCIM monitoring software to analyze power information that is automatically gathered by the rack iPDUs -- including data on voltage, amperage, kilowatts, kilowatt-hours, and power factor. The combined Sunbird Power IQ - Raritain iPDU solution helps the firm monitor the power in customer cabinets and capacity based on actual loads. The solution can also monitor power consumption at the device, row, and data center levels.

Customer	Exponential-e, the leading U.K. provider of networking and cloud services.
Challenges	To support its new 71,500-square-foot (1,625m2) colocation data centre business, Exponential-e needed a responsive and efficient way to monitor the health of the entire data centre and the individual equipment cabinets used by its enterprise customers. Exponential-e also wanted to provide its 1,700+ customers advanced monitoring tools for managing their data centre equipment and cabinets remotely.
Solutions	Sunbird Power IQ® DCIM Monitoring Software and Raritain PX® 5000 Series Intelligent PDUs
Results	■ Improved data center management by keeping accurate track of power usage and capacity. ■ Early-warning alerts of potential power issues. ■ Access to real-time energy information to help meet SLAs and plan for future power needs. ■ Provide customers with easy-to-use power management and monitoring tools. ■ One of the industry's lowest Power Usage Effectiveness (PUE) ratings.

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Exponential-e's colocation customers are able to remotely access their iPDUs to turn their equipment on or off. They can do it themselves without needing to call engineers in the middle of the night to reboot the servers.

"From day one we could monitor the Power IQ dashboard to determine the overall power utilization in the data centre, and track future requirements for the remainder of that year," says Anderson. "With (+/- 1%) billing-grade accuracy, it is a great monitoring tool for us. We can also drill down to data about individual cabinets to determine exactly how much power each customer is drawing. So, if a customer goes over the power amount stated in their colocation contract, the Power IQ alerts notifies us. We are also able to set energy limits." Power IQ software can also be programmed to generate energy bill reports by individual customers.

In addition to real-time charts on active power, energy capacity and consumption, the user-configurable Power IQ dashboard also shows PUE weather maps, cooling charts, and the carbon footprint of the building. Power IQ software also supports "what-if" analysis and identifies under-utilized or idle servers.

By delivering visual information on real-time power load, rate of change and usage trends, Power IQ software helps Exponential-e plan for the power needs of each server cabinet and the overall data centre. The forecasting tool came in handy when the firm was moving to a new electricity provider from the national grid. "Power IQ software helped us calculate how much power we think we're going to be drawing over the next year, which was useful information in our negotiations with the provider," says Anderson.

24x7x365 Fully Managed On-site NOC

The Power IQ dashboard was added to the large screen on the wall of Exponential-e's UK-based Network Operations Center (NOC), which is staffed 24x7. Power usage for the entire data centre is centrally monitored on the screen. All iPDUs that are live are also being monitored; if a PDU goes down, an alert appears on the screen. "For any forecasts that we require, we can easily obtain the relevant power information straight from that NOC screen," adds Anderson. "We can also see on the screen power statistics on individual servers, and if thresholds are exceeded."

Power IQ monitoring is being used to remotely manage Exponential-e iPDUs. It enables the data centre team to perform bulk firmware updates and configure the iPDUs conveniently from the web dashboard.

To protect the business from unauthorized power cycling, the Raritan iPDU is encrypted with 256-bit AES (Advanced Encryption Standard) at the hardware level. Also standard is stringent password support and built-in firewall.

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An Energy Monitoring Tool for Customers

The Sunbird solution enables Exponential-e to provide their enterprise customers with remote access to power monitoring. Colocation customers are given access to their equipment cabinets through the Power IQ dashboard. "We've set up a secure portal for customers on the Power IQ Virtual Machine," says Anderson. "Each of our customers receives an individual dashboard with a secure login. On the dashboard they can see their power usage and individual iPDUs. Customers like to know exactly what is going on in their cabinets; not just with their equipment, but also with their entire power usage. They want to know their power headroom and how much is available to support future growth."

"Customers like the ability to control and oversee the equipment within their rack; our intelligent PDU solution gives them that. On their dashboards they can see how much power they're drawing not just on a daily basis, but by week, month, year. They can easily look at different measurements over time on a graph or diagram. If customers are planning to add more equipment to a cabinet, the Power IQ dashboard gives them the ability to see how much contractual power remains. Our customers are really excited about our power monitoring offering,"

Energy PUE

The Sunbird Power IQ solution calculates and tracks the data centre's PUE, which is used to calculate the efficiency of data centre energy utlization. The dashboard's PUE gauges and charts visually track the data center's real-time PUE and trends over time. To achieve the desired low PUE rating, Exponential-e's data centre uses a number of innovative, energy-efficient measures, some of these include: 'free-cooling'; chilled water system with N+1 air-cooled chillers and pumps; a highly efficient (99%) static UPS unit; and hot and cold aisle containment.

The advanced remote management capabilities from Sunbird's solutions are helping Exponential-e to respond swiftly to the company's growth and changing business requirements. The data centre team can now access and manage any piece of equipment from anywhere, as well as monitor energy usage and power capacity. "I'm very happy with Sunbird, from the actual product itself and all the global support that goes with it. Sunbird's solution gives us more insight and control of our data centre operations."

Call 732.993.4476 or visit **SunbirdDCIM.com**

Sunbird Software is changing the way data centers are being managed. With a focus on real user scenarios for real customer problems, we help data center operators manage tasks and processes faster and more efficient than ever before, while saving costs and improving availability. We strive to eliminate the complexity they have been forced to accept from point tools and home grown applications, removing the dependency on emails and spreadsheets to transform the delivery of data center services. Sunbird delivers on this commitment with unexpected simplicity through products that are easy to find, buy, deploy, use, and maintain. Our solutions are rooted in our deep connections with our customers who share best practices and participate in our user groups and product development process.

Based in Piscataway, NJ, Sunbird serves over 1,850 DCIM customers worldwide. For more information, please visit SunbirdDCIM.com.