



## DCIM Power Solution Helps British Cloud and Networking Provider Exponential-e enhance its SLAs and Gain Competitive Edge

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 (1,625m<sup>2</sup>) 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," says Anderson. "Based on my success with the Raritan solution, 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 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 Raritan's Power IQ DCIM monitoring software to analyze power information that is automatically gathered by the rack iPDU -- including data on voltage, amperage, kilowatts, kilowatt-hours, and power factor. The combined Power IQ-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 centre levels.

"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 also can see drill down to data about individual cabinets to determine exactly how much power each customer is drawing.

### Customer

Exponential-e, the leading U.K. provider of networking and cloud services.

### Challenge

To support its new 71,500-square-foot (1,625m<sup>2</sup>) 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 1700+ customers advanced monitoring tools for managing their data centre equipment and cabinets remotely.

### Solution

Power IQ® DCIM Monitoring Software and PX® 5000 Series Intelligent PDUs

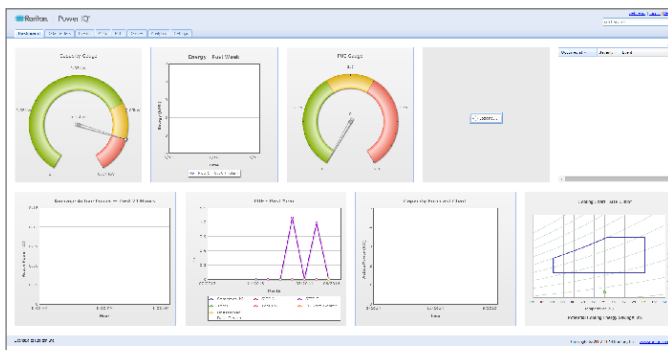
### Results

- Improved data centre 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.

So, if a customer goes over the power amount stated in their colocation contract, Power IQ notifies us. We also are able to set energy limits." Power IQ also can 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 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 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.



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

"Power IQ 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 also can see on the screen power statistics on individual servers, and if thresholds are exceeded."

Power IQ also 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.



Visit [www.raritan.eu](http://www.raritan.eu) or call +31 (0)10-284 40 40 for more information

## An Energy Monitoring Tool for Customers

The Raritan 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 Power IQ," 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 also 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 easily can look at different measurements over time on a graph or diagram. If customers are planning to add more equipment to a cabinet, Power IQ gives them the ability to see how much contractual power remains. Our customers are really excited about our power monitoring offering," says Anderson.

## Energy PUE

The Raritan Power IQ solution calculates and tracks the data centre's PUE, which is used to calculate the efficiency of data centre energy utilization. The dashboard's PUE gauges and charts visually track the data centre's real-time PUE and trends over time. To achieve the desired low PUE rating, the 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; highly efficient (99%) static UPS unit; and hot and cold aisle containment.

The new advanced remote management capabilities from Raritan'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 Raritan, from the actual product itself and all the global support that goes with it. Raritan's solution gives us more insight and control of our data centre operations."