



Virtus Data Centres works with Eaton to bring power efficiency to state-of-the-art colocation data centres in London

Location:

London, United Kingdom

Segment:

Data Centre

Problem:

Maintain energy efficiency; allow business and customers to scale without significant CAPEX

Solution:

Power Xpert 9395 UPSs

Results:

Low PUE, low CAPEX, infrastructure that grows

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Background

Virtus Data Centres provides modern and flexible colocation space to support London's financial, media, cloud and digital businesses. The company's data centres are designed with both environmental efficiency and high connectivity in mind.

Virtus specialises in high efficiency data centres for hosting and colocation, and has an operational data centre of 3000m² in Enfield, North London, known as LONDON1. Virtus has also commenced work on a second, purpose-built data centre in Hayes, West London – LONDON2.

Challenges

Both data centres are intended to be resilient and efficient, with LONDON1 having a design power usage efficiency (PUE) of 1.5. The second, purpose built facility has an even more aggressive PUE target, less than 1.2. There is significant

focus on reducing parasitic load – the power consumed by the supporting infrastructure – and on reducing total cost of ownership (TCO) for both Virtus and its customers.

The Virtus team was acutely aware that the UK is under incredible energy cost pressure for a number of reasons; coal and nuclear power stations are being phased out, while replacement facilities are not coming on stream quickly enough. As the country becomes more dependent on Liquefied Natural Gas, imported gas and renewable energy, trading in these commodities raises prices.

As a result, the company has had to look at what costs it can control within its own environment. To reduce risks and costs, Virtus needed to maximize PUE, improving electrical efficiency.

As with many commercial data centre colocation providers, Virtus has a roster of customers

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with a wide variety of equipment installed and used from its sites. Predicting load can be very challenging.

Virtus and its engineering consultants, Norman, Disney & Young, adopted a modular approach to the entire data centre project itself. The modular strategy could be constructed and deployed in a manner that was efficient from a capital expenditure point of view, while assuring Virtus' customers uninterrupted service.

Such an approach also allowed the companies to modify the designs depending on changing customer requirements – a significant benefit both for customers and colocation specialists like Virtus.

Solution

Virtus worked with Eaton to build an agile, scalable infrastructure so that it could deliver its services at the optimum efficiency and lowest cost throughout the lifecycle of its data centres. With Eaton's backup power protection solutions, Virtus sought to ensure a steady flow of high-quality power, while optimizing electrical efficiency.

"Combined with the 9395 unit(s) at LONDON1 we use other energy-efficient equipment such as variable speed pumps, fans and chillers with 'free-cooling' functionality to vary the amount of cooling needed according to the load put upon them," says David Watkins. "LONDON2 takes this to a whole new level with indirect air evaporative cooling.

This results in less pumps and fans for LONDON2, simply because we are using ambient air temperature from outside the building to reduce the amount of energy the data centre has to draw from the grid to cool itself."

A low PUE for Virtus and its customers means two things: responsible environmental stewardship, and a lower TCO. The company is paid for two things – rent of the space in the facility, and the power bill for the energy consumed by the customer deployment. This latter metric is increasingly important to buyers as energy prices continue to rise, and as the flexibility that modern IT calls for and delivers makes adaptable, affordable power that responds to unpredictable load more vital. Combining a business approach that looks at data centre services in a holistic manner with hardware and software from Eaton enables efficiency and flexibility.

Results

With 9395 installed, Virtus achieved a PUE of 1.5 for its first retrofit data centre, and deliver a projected PUE of 1.2 for its second facility

- Modular construction allows Virtus to grow capacity with demand
- ESS/VMMS creates most efficient provisioning for customers
- Combined with intelligent cooling provision to reduce parasitic load



Power Xpert 9395

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