Vertiv™ SmartMod™ Solution Enables Government Department to Scale Up New Edge Site Within Two Months

A Vertiv Case Study

VERTIV

Background

Brexit has resulted in an increase in red tape for many government departments, especially when it comes to border controls. This has led to a demand for additional compute power to enable the processing of sensitive data at new office locations across the country.

One of the UK's largest public sector organisations came to Vertiv in early 2021 with a requirement to rapidly scale up data processing capacity at its Kent border site, which called for a new edge facility. Key considerations included resilience and reliability to enable the handling of vast volumes of information quickly, easily and securely.

Challenge

The customer needed available compute capacity within an exceptionally short time frame to meet new, Brexit-related obligations. However, the existing Kent facility lacked the space to house the additional infrastructure, and building a traditional, stick-built data centre was not an option due to the demanding time frame. Therefore, the organisation was looking for a prefabricated, plug-and-play data centre.

Given the critical and sensitive nature of the data being processed, resilience was an important consideration, as was having a service provider with a high first-time fix rate, ensuring any issues were tackled at pace. These needs necessitated an experienced partner with local service engineers and a track record of excellence in customer service. Physical and cybersecurity were also important factors when considering infrastructure for this mission-critical facility.

Over the last few years, data centres have gained utility-like status — becoming necessities for most business operations. However, with increased criticality comes increased responsibility. Reducing environmental impact through sustainable operations is now a core concern, especially for government organisations. This edge facility needed to be designed for efficiency with low levels of energy waste.

Challenge:

Add computing capacity in just two months to support Brexit-related border control

Solution:

Vertiv™ SmartMod™ prefabricated modular data centre including:

- Vertiv™ VR racks

- Vertiv™ Liebert® CRV in-row coolers

- Vertiv™ Liebert® APM modular UPS system

- Fire suppression system

- Service and maintenance

Results:

- Secure data centre infrastructure that was operational in just two months

- Energy efficient, sustainable operations at the network edge

- High reliability for peace of mind

- Simplified service and support and rapid issue resolution when needed

Solution

After looking at a number of providers, the customer opted for the Vertiv™ SmartMod™ solution. This prefabricated, standalone data centre was able to deliver on all the customer's IT objectives. It provided high levels of availability, energy efficiency, and control in a self-contained unit that was deployed as an add-on to the existing Kent site.

The Vertiv SmartMod enclosure is customisable to support a range of capacity needs, redundancy levels, and types of heat rejection. For this project, Vertiv deployed a system and batteries for the kilowatt per rack load specified by the customer.

A hot aisle/cold aisle configuration was used to separate the cold intake airflow from the warm exhaust airflow to make the unit operate more efficiently. Pre-cut, environmentally friendly cableways were also installed to deliver plug-and-play functionality.

The Vertiv SmartMod unit is also fitted with energy-efficient equipment. For example, as part of the thermal management system, the Vertiv™ Liebert® iCOM™ controls match cooling to the IT load to reduce energy consumption and cost. Cutting-edge power management systems are also used to optimise availability and efficiency.

Given the security concerns, the unit was fitted with video cameras and access-triggered alarms.

After the Vertiv SmartMod order was placed in March, the development and customisation of the unit took place remotely while the customer prepared the foundation for the new facility. Testing and quality control was also conducted off site in line with COVID-19 restrictions.

Explore Vertiv™ SmartMod™ in Augmented Reality with Vertiv™ XR app

Results

The customer's new data centre was ready to put into operation just two short months from the time the order was placed. The company's need for a rapid implementation was completely fulfilled.

The prefabricated data centre gives the company's IT team peace of mind, removing fears of equipment or application failure and the stress of having to deal with the consequences of that downtime. The solution is backed by ongoing support and equipment maintenance from Vertiv. And given that the majority of components came from Vertiv, the site is serviceable by just one team.

Looking to the future, should the business case for the new edge site change, the organisation has the potential to move this prefabricated unit to another site to support different compute requirements. This flexibility makes investment in a Vertiv SmartMod unit a strategic choice for businesses with temporary sites or changing computing requirements.

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