Workspace Technology Limited

Case Study Host Europe Group

HOST EUROPE GROUP

Host Europe Group Creates Low Carbon 4MVA Managed Services Data Centre Facility Delivered by Workspace Technology

Founded in 1997, Host Europe Group recently acquired by GoDaddy Inc., with over one million customers, provides domain registration, mass hosting, customised managed hosting, cloud hosting and software-as-a-service (SaaS) offerings. Host Europe Group's core business includes the delivery of highly secure infrastructure as well as individually managed hosted solutions for demanding internet applications.

Challenge

Host Europe Group were looking to invest in 'next generation' data centre infrastructure to support its ongoing customer expansion programme and to help consolidate data centre real-estate. This new investment would enable Host Europe to concentrate customer services within a single exceptionally robust, resilient and energy efficient DC facility reducing operational costs and delivering enhanced value and service to their customers. The project brief was both complex and challenging pushing conventional boundaries associated with Tier III architecture.

Solution

In response to the design brief, Workspace Technology, were able to design and deliver World-Class levels of resilience beyond that of a typical Tier III solution. A 'modular' architecture consisting of four independent 1MVA cooling and power paths supporting N+1 concurrently maintainable solution was developed. Each sub module delivers internal N+1 resilience combined with cross module connectivity via static switch arrangements.

Typical PUE figures associated with perimeter based cooling are <1.4. Workspace Technology was able to challenge this barrier by selecting highly efficient chilled water based Computer Room Air Conditioning (CRAC) units manufactured in the UK by GEA Denco. Careful sizing and selection of coils meant that cooling duties under normal mode operation could be achieved

Project Brief Requirements

- To design a cost effective Tier III data centre solution
- To deliver world-class levels of resilience beyond that of a typical 'out-of-the-box' M&E designed Tier III installation
- Provide industry leading levels of infrastructure monitoring
- Creation of a modular, resilient and interconnected data centre architecture
- Transparent multi sub-systems to provide a granular level of resilience against system failure and instant diagnosis should a fault occur.

Standards & Accreditations

ECA REGISTERED MEMBER

SSIP

ACS REGISTERED ISO 9001

ACS REGISTERED ISO 14001

at 21ºC chilled water flow temperatures. By combining CRACs with Cooling Tower Technology (CTT), low energy pumps, high performance heat exchange modules and EU fan technology Workspace Technology were able to ensure minimum energy and maximum free cooling was obtained. With a measured PUE reading of <1.2 the design goals were easily achieved.

All switchgear equipment provided was designed by our in-house team. Schneider Electric switchgear was used throughout incorporating ION7650 and PM750 meter technology combined with EGX100 Modbus over TCP gateway technology to allow integration with energy management systems.

One of the key challenges was to deliver modular architecture within a very limited space whilst ensuring ongoing system maintainability. The deployment of external containerised double stacked power modules was the key to solving this design challenge. With 1MVA transformers and mains intake power modules on the lower deck combined with UPS and battery power modules on the upper deck, Workspace Technology maximised the use of compound space.

Mechanical services were also deployed within a containerised solution with challenging engineering to ensure all subsystems including buffer tanks could be accommodated. Every centimetre was used with perimeter support frames for chilled water pipework and cantilever arms to support interconnecting power cables. A total of 4 x 1MVA double stacked power modules, generator sets, chillers and mechanical housings were all supported in less than 400m^2.

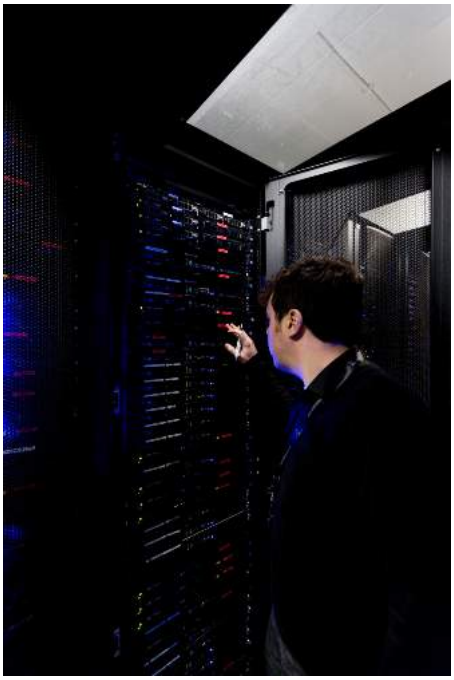
An additional challenge was to split an existing live data hall into two halves whilst maintaining all customer services throughout the duration of this major construction project. Workspace Technology's team ensured all live power and I.T services were fully protected throughout the project with zero hours downtime reported after a 12 month programme.

Forced draft counter-flow cooling tower technology manufactured in the UK by Carter Engineering was deployed. This technology delivers energy performance in closed loop chilled water based cooling solutions. Power generation consists of 4x1MVA generator sets designed with MTU low emission engine Stamford Alternator and Deep Sea Controls, along with a shared 48 hour fuel and associated components fuel system.

In total 120 Schneider Electric APC Netshelter SX Multivendor equipment racks, APC intelligent metered rack PDUs and Connectix Cat 6A I/O rack-to-rack cabling links.

Benefits

The complete data centre infrastructure boasts world-class resilience beyond the initial requirements of Tier III and delivers a PUE of <1.2. The available space has been used effectively in a cost effective modular construction method. A full maintenance and planned preventative plan has been integrated ensuring optimisation and preventing unplanned downtime. To provide complete peace of mind a monitoring system has been integrated alerting staff to potential problems with the added reassurance of high-tech security throughout the data centre facility.



Interested in finding out more?

Our friendly team are on hand to take your call on **0121 354 4894** or send us an email at **sales@workspace-technology.com**

www.workspace-technology.com

Workspace Technology Limited
Data Centre Solutions Expertly Engineered