

CASE STUDY

CASE STUDY: BRUNEL UNIVERSITY



Keysource gives education a boost at Brunel University

It's entirely unlikely, but if Stanley Kubrick were somehow able to revisit Brunel University today, he would scarcely recognise the campus - the set for his controversial oeuvre, A Clockwork Orange - such is the scale and extent of construction which has recently taken place.

Still of architectural note in places, the filmset for Kubrick's ironic vision of a society riven by violence and a lack of morality, has been infilled with brand new facilities to provide educational possibilities for a new generation. However, the redevelopment of a campus which was already notorious because of the unreliability of its mains power supply presented a real challenge for the team charged with the provision of a robust IT network.

Brunel University celebrates 40 years as a university in 2006, and they have much to celebrate, having quadrupled their student population and become one of the country's leaders in engineering, science, technology, education and social sciences. With this rapid student growth, high availability of scaleable IT services is vital, and many hundreds of computers, on campus and in halls of residence, need 24/7 access to the university's IT network infrastructure.

The challenge

To provide stable and resilient network power, and guarantee IT uptime at a location undergoing heavy redevelopment with an already unstable mains supply.

The solution

APC InfraStruXure Solution
60kW N+1 APC Symmetra UPS
Wall mounted CRAC units
275kW standby diesel generator

The customer says



"I'd say that the system which Keysource provided has paid for itself twice, perhaps three times over. Having installed the systems within two weeks, Keysource constantly exceed our service expectations. I regard them as a professional and permanent partner in the continued development of our data systems".

Simon Furber
Simon Furber, Network Manager,
Brunel University





The preliminary examination

In October 2003 Keysource Ltd were invited to tender for the project of providing a secure power solution for Brunel's network centre. The project was initiated as a result of major network failure, during a two day power outage at the University. Having carried out a full requirements review, Keysource proposed a solution involving small and medium-sized uninterruptible power supplies (UPS) and APC InfraStruXure rack-based systems with associated cooling and back-up generator systems.

Says Simon Furber, network manager at Brunel; "We had a problem: the mains supply in this area is notoriously unreliable and this situation was being amplified by the amount of construction that was going on around the campus. In fact, this whole situation was amazingly disruptive to our data centre. Worse, we knew that in order to connect new buildings being built, the power supply to the whole site was going to need to be cut for upwards of half a day. And we knew that we just didn't have the autonomy in our infrastructure to handle this disruption."

"We challenged Keysource to help us out of this situation. Amazingly, within just four short weeks Keysource had planned, designed, specified, procured, wired-in and commissioned an APC InfraStruXure solution together with standby power generation."

Maximum availability

Due to the importance of the installation Keysource engineers worked multiple shift patterns to ensure that the network remained up and running, whilst the commissioning of the new equipment took place. It is a testament to the teamwork between

Keysource and Brunel, that the project was completed with no downtime. Simon Furber continues: "We were delighted with the response that we got from Keysource. We discussed our present and future requirements with them, produced a detailed specification, and the equipment was installed within four weeks of our initial meeting. This enabled us to assure both students and establishment, that their access to the network would be guaranteed for the future. We now consider that we have a reliable power and cooling system, with a single point of contact to our major supplier. The contract was won against tenders from two other major suppliers, but the intrinsic capability of Keysource, backed up by state-of-the-art products from APC, provided an unbeatable offering."

Increasing cooling capacity

Therefore, when the computer room air conditioning (CRAC) started to show signs of aging, Simon Furber had no hesitation asking Keysource for their recommendations for an upgrade. "We had two 50kW Airedale units in the room which, after some 15 years of service, were starting to become highly unreliable. We knew that we needed an effective replacement scaled up to accommodate future expansion of IT. However, we also needed to have the work done with minimum disruption to operations and no downtime."

The solution recommended and subsequently installed by Keysource consisted of three Denco 54kW DX units with twin circuits. This solution offered N+1 redundancy to the room load as well as providing scalability for the future. In order to ensure full availability during the procedure, Keysource installed the first of the

Denco units before replacing the two Airedale units one at a time. In this way the company was able to ensure that the computer room had two CRAC units in operation at all times.

The recommendation for twin circuitry was made in order to add further fault resilience to the facility. In order to effect this, the pipework was installed within the raised floor cavity in special trays to segregate it from other services.

Planning for the future

With their ever-expanding IT needs, Brunel is now scheduling the implementation of a second computer centre, and Simon Furber says "We will certainly be working closely with Keysource to ensure that the new datacentre is protected as effectively as the existing facility".

Pictures:

1. Brunel University, Uxbridge Campus.
2. External air-conditioning condensing units and standby diesel generator.
- 3,4. 60kW N+1 APC InfraStruXure UPS and PDU.
5. Power distribution monitoring display.
6. Two 54kW low level discharge AHU.



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