

on365 installs APC InfraStruXure® architecture to top the world's most famous retail brand



Harrods of Knightsbridge selected an APC InfraStruXure® solution from on365 to provision the growth of IT services for the next decade. Their new datacentre enjoys the best views of London from the roof of the Brompton Road store.

The illuminated façade of Harrods of Knightsbridge is as instantly recognisable as the gold lettering and green background of its logo. Considered by people the world over to be the best department store bar none, Harrods' fundamental ethos of selling quality goods while offering exemplary customer service is never compromised.

Harrods is a huge enterprise by any measure; the Brompton Road store covers 4.5 acres, it has over 1 million square feet of retail space with in excess of 900 tills and over 2500 staff. A busy day will see as many 300,000 shoppers through its doors in the space of 12 hours, and on many sales days the store takes over £10m.

Harrods has a progressive attitude to IT especially where it relates to an improved customer experience. In 2003, for example, it upgraded from a 3-Com to a Cisco network Infrastructure environment live, whilst the store was open. More recently the need had emerged to implement a vigorous IT consolidation project and introduce HP blades to replace the end-of-life and legacy servers which were preventing the company from moving forward.

In addition, the Knightsbridge store had increased its opening hours and although Harrods.com is hosted elsewhere, the EPOS systems at Harrods presence at

Heathrow and Gatwick airports are also integrated. These outlets may be the last opportunity for visitors to the UK to experience the Harrods brand and the company makes it a priority to ensure they are open to the public from the first flight in to the last flight out each day.

Due to changing business needs their two existing server rooms had reached their maximum capacity in terms of space, power and cooling. In considering how to address the situation, two options were explored to either try to create additional space within their existing facilities, or otherwise to locate a brand new facility within the store.

According to John Dilkes, Network and Security Infrastructure Manager at Harrods "There were considerable challenges to both options. In considering a new facility we had the problem that floor space is at a premium for retail operations. The geography of the store is not really conducive to a new room as there are physical access and height restrictions."

John Dilkes continues "We had a unique opportunity to redesign our data centre operations and create a facility that would address every conceivable issue and offer us the adaptability and flexibility to build our IT into the future for a ten to fifteen year operating life. We wanted a standardised solution to ensure availability, ease of maintenance and reduce human error. For that reason we settled upon a modular building – a pod coupled with APC's InfraStruXure® architecture for physical infrastructure."

Ctd Pg.2

Founded in 1984, originally as Universal Power Systems Ltd, on365 is an independent company specialising in the implementation and operation of the complete physical infrastructure of business IT and communication systems. This covers everything from power to cooling and can ultimately be a total datacentre build.

Providing total packaged solutions from concept to after-sales service, on365 has steadily grown to the position of market leader in this field, with an established reputation for innovative power protection design, supply and application. Expansion has been achieved through a commitment to providing customers with the highest level and quality of service.

on365 has the people and the tools to understand both the technical and practical issues involved for your business, its people and its IT infrastructure requirements. This understanding extends beyond taking care of design, safety, principles of operation, future growth and after-sales services. More importantly, it looks at value and basic business principles such as 'return on investment' to ensure that the customer is furnished with a complete solution for their current business needs. Wasting expenditure worrying about the tomorrow's possible growth is practically eliminated by designing on-line expansion facilities, without the need for system downtime.

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The whole installation was required to be carried out in the shortest possible time without closing the store or inconveniencing Harrods customers. The company also wanted to minimise disruption to both its residential and commercial neighbours.

on365, an APC Gold Partner, was selected to carry out the works. Extensive structural work was carried out to strengthen the roof, where a steel frame was mounted to provide a firm foundation for the new datacentre. The pod was pre-constructed in six separate components and then craned into place. To minimise the interruption this work took place on Sundays when both road and store traffic was lightest. The pod comprises 25.3 m² office space, a 10 m² plant room and a 73.2 m² server room.

This fully integrated IT/data centre solution is of guaranteed quality and together with the InfraStruXure® solution it contains is re-locatable, allowing Harrods to protect their investment. The Server Room is separated from the office space by a fully de-mountable dividing wall allowing it to be extended if required. The Plant Room is accessed separately to the office and Server Room for increased security and has been designed to accommodate the main switchgear panel and BMS interface.

In designing the network-critical physical infrastructure within the Server Room, it was important that the facility offer capability for future expansion and permit preventative maintenance – a major source of downtime – without powering down equipment cabinets. The APC InfraStruXure® architecture met these criteria through the installation of 2x APC InfraStruXure® 80kW UPS in a 2N+1 configuration which guarantees 99.999% availability (equating to approximately 5 minutes per annum of planned or unplanned downtime).

The UPS arrangement provides 5 minutes autonomy and true parallel redundancy in the event of a single UPS failure or if service works are required. Harrods is able generate up to 75% of the electricity it requires to operate via a sub-station in its basement. The two primary datacentre power supplies are supported by a remote automatic standby diesel generator.

The server room is designed to accommodate three UPS racks, three battery racks, three PDU racks and 22 equipment racks. The solution may be upgraded by the addition of a further 70kW N+1 UPS to the 2N+1 system. The architecture also offers total scalability of runtime through the addition of further in-row battery cabinets.

The UPS and associated components are housed within a 42U high Netshelter VX rack. The use of Netshelter VX racks is core to the design methodology as it permits the incorporation of higher density data and power cabling through integrated rear cabling channels. A mix of 600mm and 750mm-wide racks were installed to house a mix of IT manufacturers' equipment. The system is completed with an External Maintenance Bypass Arrangement (EMBA) enclosed within the Power Distribution Unit Rack.

The server room was fitted with four air conditioning units operating in an N+1 configuration with the facility to upgrade to nine units. The environment within the server room is monitored via APC's InfraStruXure® Manager software, protected with an Inergen fire suppression system and a secondary switchgear panel.

Commenting on the solution, John Dilkes said "APC's InfraStruXure® architecture enables our IT applications to grow with our business. We can scale our IT and increase the density of our servers with complete peace of mind. We tested the whole installation, simulating a complete power failure and the server room continued to operate without missing a beat."

The whole design and installation process took three months: John Dilkes concludes, "The whole process was deliberate and careful. We were able to work on the facility while the store was open, even throughout the Christmas and Sales periods. It all went very smoothly the only thing that some customers may have noticed was the presence of a crane outside the building. And with the help of on365, the whole installation took place with an absolute minimum of inconvenience to our customers and without upsetting local residents".

