Blackpool Teaching Hospitals NHS Foundation Trust improves healthcare delivery through continued digitisation and doubles application speeds.

 Organisation

The trust wanted to upgrade its virtualized infrastructure to support the continued digitisation of hospital services for improved patient care.

Solutions at a glance

- Enterprise Deployment
- Modular Infrastructure
- Enterprise Support
- Storage
- Networking

 Organisation results

- Enhances healthcare by enabling greater digitisation
- Supports switch to digital prescriptions
- Improves clinician effectiveness by doubling application speeds

80% reduction in IT footprint with modular infrastructure

90% cut in cabling to boost IT efficiency
Healthcare worldwide continues on its path towards digitisation. In the U.K., the government has committed £4 billion (US$5.3 billion) to the National Health Service (NHS) to deliver its digitisation goals. Blackpool Teaching Hospitals NHS Foundation Trust is just one example of an NHS provider moving towards paperless healthcare. It is already far down the digitisation road, taking advantage of new technology such as electronic patient records (EPRs). But with more work required, the trust was keen to extend the digitisation process, including a switch from paper-based to electronic prescriptions.

Chris Westwell, IT technical specialist at Blackpool Teaching Hospitals NHS Foundation Trust, explains why digitisation is so important: “Workloads across our hospitals are increasing and through digitisation we can deliver services more efficiently and cost effectively. Our IT infrastructure is helping clinicians improve patient care.”

Prepares for the future

To ensure the infrastructure is fit for purpose, Blackpool Teaching Hospitals regularly updates its solutions. With the existing Dell EMC PowerEdge blade server infrastructure and Dell EMC Storage PS Series arrays approaching the end of their lifecycles, Westwell and his colleagues looked for replacements. “Scalability and performance were key for us because workloads will continue to increase as a result of digitisation. In addition, we didn’t want latency issues to reduce the effectiveness of our applications,” he says.

Identifies a solution for continued growth

Westwell identified the Dell EMC PowerEdge FX architecture as a natural next step for the trust in moving from the existing Dell EMC-based infrastructure. Likewise, he thought the Dell EMC Storage SC Series arrays would help build on the success of the PS Series solution, offering greater levels of automation. He says: “Because of the space saving qualities of the Dell EMC PowerEdge FX architecture, it fits perfectly with our aim to reduce power and cooling. It has incredible scalability and offers high performance.” Westwell likes the fact that the FX architecture uses the same management tools as the Dell EMC blades, including the Dell EMC Chassis Management Controller and integrated Dell EMC Remote Access Controller.

Completes deployment with the support of experts

The Blackpool Teaching Hospitals IT team sized and installed a Dell EMC PowerEdge FX2 chassis with Dell EMC PowerEdge FC630 server modules running Intel® Xeon® processors E5-2600. The team also deployed a Dell EMC Networking S4810 top-of-rack switch to provide 10 Gigabit Ethernet (GbE) connectivity to the Dell EMC PowerEdge FX2 chassis. The chassis is then connected to the core via FN2210 I/O (input/output) aggregators with two ports of 10GbE small form-factor pluggable (SFP+) connections per aggregator. “I don’t worry about bottlenecks occurring with our Dell EMC PowerEdge FX2 chassis because we have 10GbE connectivity to the network with our ultra-low latency Dell EMC Networking S4810 switches,” says Westwell.

The IT team used the ProDeploy service during the installation of two Dell EMC Storage SC8000 arrays at its primary and secondary sites. A Dell EMC team completed a site readiness review before installation of the storage and prepared a deployment plan. “We successfully engaged the ProDeploy service to implement our Dell EMC Storage solution across two sites,” says Westwell. “Because of the pre-planning stage, we knew we had the right cooling and power in place for our storage. ProDeploy took a lot of the risk out of the project.” Westwell also adds that an advantage of a service like ProDeploy is the knowledge transfer during the implementation. “The IT team got a lot of insight into operating the storage just by working alongside Dell EMC deployment experts. We gained a complete solution from Dell EMC for our EPR system. The combination of Dell EMC services and hardware reduced the risk of delays,” he says.

Enhances healthcare with the capacity for greater digitisation

Blackpool Teaching Hospitals can improve patient care by continuing to eliminate paper-based processes. In addition, it can enhance already digitised processes by upgrading to new solutions secure in the knowledge it has the scalability and performance for constant advances. Says Westwell: “Technology is clearly helping hospitals to deliver better healthcare to patients. We can keep pace with the digitisation of our systems with the scalable performance of our Dell EMC PowerEdge FX architecture and Dell EMC Storage SC8000 arrays.”
Supports EPR upgrade

The trust will deliver better patient care thanks to the Dell EMC solution. It is upgrading the EPR system and will roll out an electronic prescribing and medicines administration (ePMA) system from CSC. The technology is designed to reduce the risk of administration errors. Furthermore, it improves audit trails while removing paper from the prescription process.

Reduces IT footprint by 80 per cent with modular architecture

The trust has also significantly consolidated the size of its virtualized infrastructure as a result of the Dell EMC PowerEdge FX architecture. In the past, the IT team ran a single 10U-sized Dell EMC PowerEdge M1000e chassis supporting Dell EMC PowerEdge blade servers with Intel® Xeon® processors. “The virtualized chassis supported almost all of our hospital systems,” comments Westwell. Now the organisation is supporting the same systems as well as the new medicine management system in just a 2U Dell EMC PowerEdge FX2 chassis. “In one move, we’ve reduced our IT footprint by 80 per cent through our adoption of the Dell EMC PowerEdge FX architecture. That’s less space, less power and less cooling. A great solution,” comments Westwell.

Improves clinician effectiveness by doubling application speeds

Clinicians at the trust gain faster access to data thanks to the Dell EMC solution. The performance of the Dell EMC PowerEdge FC630 server modules and the fact that the Dell EMC Storage solution includes significant amounts of flash storage helps ensure greater application efficiency. Westwell says: “Staff can be more productive, delivering better patient care thanks to quicker data access. The performance of our virtualized systems has doubled since we implemented the Dell EMC PowerEdge FX architecture and Dell EMC SC8000 storage.”

To maximise storage performance, the IT team is using Dell EMC Storage Data Progression. The software automatically moves data between the solution’s tiers, which consist of both flash and 10,000 rpm Serial Attached SCSI (SAS) disks. Combined, they deliver...
100 terabytes of capacity. A second Dell EMC SC8000 solution at the disaster recovery site features 15,000 rpm SAS and 7,200 rpm nearline SAS disks. “We’re getting much better application performance because the Dell EMC storage is locating the most frequently used data on the flash tier,” comments Westwell.

Delivers savings to the trust with 25 per cent greater cost-effectiveness

The trust continues to enhance the performance of its IT without a corresponding increase in IT costs. Westwell says the solution demonstrates how Dell EMC is delivering the latest technology at a price point to meet a large spectrum of budgets. For example, organisations such as Blackpool Teaching Hospitals gain the benefits of flash-based storage while reducing expenditure. “We’re seeing that companies such as Dell EMC are coming up with solutions to the high cost of flash storage. We’ve gained the advantages of flash-based storage at a price that’s 25 per cent lower than in the past,” he says.

Simplifies IT and boosts efficiency by reducing cabling by 90 per cent

Westwell is confident the IT team will be able to enhance the level of IT services across the trust still further. He points to the energy efficiency of the Intel® Xeon® processor in the Dell EMC PowerEdge server modules and the significant reduction in cabling due to the Dell EMC PowerEdge FX2 chassis. “We’re meeting greater demand for IT services without a corresponding increase in energy consumption with the support of our Intel technology,” he says. “What’s more, we’ve reduced server cabling by around 90 per cent by moving to the Dell EMC PowerEdge FX architecture. That makes it much easier for us to manage the server stack and resolve any issues, thereby maximising uptime.”

The IT technical specialist is also confident about the uptime of the Dell EMC solution because of ProSupport Plus. The IT team uses ProSupport Plus with a four-hour on-site response to help resolve any issues. The service ensures rapid assistance and proactive support, particularly for the Dell EMC Storage SC8000 array. Westwell says: “We’ve found that ProSupport Plus is excellent. We like the proactivity that has helped identify potential issues before they become problems.”