Cochlear discovers new levels of energy efficiency, resilience and scalability with Art of Computing and IBM Express Advantage

Overview

- ***Customer challenge***
  Growing rapidly, Cochlear's European organisation was struggling with an increasingly power hungry, dispersed and non-standardised IT infrastructure. Managing and maintaining vital servers was costly and time consuming while disaster recovery depended on risky tape back-ups.
- ***Solution***
  IBM Business Partner Art of Computing worked with Cochlear to design, test and implement a virtualised environment based on a standardised and scalable IBM Express Advantage infrastructure. Managed centrally, the environment is already delivering a step change in energy efficiency, productivity and resilience.
- ***Customer benefits***
  - *Reduced carbon footprint – significant fall in power usage*
  - *Lower costs – 80 servers reduced to 15*
  - *Greater flexibility and scalability*
  - *Robust disaster recovery capabilities*
  - *Virtualisation strategy will enable further benefits.*

Cochlear Limited is a fast growing, world leading medical device company providing hearing solutions for people with moderate to profound hearing loss. Since launching the world's first cochlear implant system over 25 years ago, the company's products have helped more than 180,000 hearing impaired individuals across the globe.

Products are developed, designed and manufactured in Sydney, Australia and Gothenburg, Sweden. With some 500 permanent employees, Cochlear's European operation is active in more than 50 markets and has direct sales organisations in the Benelux, Finland, France, Germany, Italy, Sweden, Switzerland, Turkey and the United Kingdom. The Cochlear Technology Centre in Mechelen, Belgium is a key centre of innovation for the company's technologies, products and processes.

Cochlear relies on its IT infrastructure to support a wide range of business processes from research and development through to manufacturing, repair and logistics. Although nine of Cochlear's European offices house vital servers, only four have IT staff permanently based on site.

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>
> *– Mark Ferrari, European Server Administrator at Cochlear*

Built on IBM express advantage offerings

With growing demand for computing power, managing, maintaining and running this energy hungry, dispersed infrastructure was becoming costly and time consuming. IT staff often had to travel across Europe at short notice when an IT problem occurred. There were also individual "silos" of information dotted around the organisation and disaster recovery relied on risky tape backups.

Mark Ferrari, European Server Administrator at Cochlear says: "I started looking for ways to standardise our IT infrastructure across Europe to make it easier to manage, more energy efficient and to help introduce a more robust business continuity plan. Art of Computing has worked with Cochlear for some time so its people understand our set-up. I knew the company was an early adopter of virtualisation and also felt its consultants understood the needs of a mid sized company."

A tailored solution

"The best thing about working with Art of Computing was that we collaborated to deliver what was right for Cochlear. I never felt I was being sold a 'one-size fits all' solution," continues Ferrari. "There was some initial scepticism about virtualisation within our business so we started slowly with a pilot involving just three servers."

Virtualising the Lotus Notes server caused some early concern. Used not just for email but also for business planning, collaborative working and document management, Lotus Notes® is critical to the business.

Costas Galonis, Managing Director at Art of Computing says: "It was important to prove that putting Lotus Notes into a virtualised environment would successfully provide regular replication of the live servers to safeguard against the loss of business capability and information. We were also able to improve the performance of Lotus Notes."

Art of Computing helped Cochlear design a virtualised environment based on IBM System x® Express servers connected to IBM System Storage™ DS3400 Express SAN units. To keep the solution as cost-effective as possible, slightly slower but lower priced storage is used for the replica servers, which mirror the live servers for business continuity.

The pilot went so smoothly that Ferrari pushed ahead with plans far faster than originally scheduled: "We quickly became confident with the reliability of the IBM Express Advantage technology and our ability to manage it. The business is now fully behind virtualisation. In fact business people are pushing us to expand its use."

Ready for growth

Servers in the UK were the first to be virtualised followed by a rollout to the rest of Europe.

As the rollout started, Ferrari began to appreciate one of the benefits of IBM Express Advantage solutions: "IBM Express Advantage products are readily available 'off-the-shelf'. We buy everything in the UK, configure it here and ship it throughout Europe.

We never have to wait long for delivery and everything is designed to be modular. When we open new offices, our standardised VM environment allows us to order our remote office set-up with just one call to Art of Computing. When there's a need to increase storage or performance levels it's easy. Virtualisation and the IBM Express Advantage products work well together because they're both designed to deliver simply implemented scalability."

Cochlear opened an office in Istanbul recently and the provision of the new server environment went without a hitch.

Cost and carbon reduction

Thanks to virtualisation, Cochlear has seen the number of servers across its European operations reduce from around 80 to 15. Fewer servers means reduced energy, support and maintenance costs. "It's early days but we expect to see a dramatic drop in our energy usage" says Ferrari. "If a carbon audit is performed I'm confident it will show that we're running a very carbon efficient server environment."

The changes that have occurred at Cochlear are very obvious in the UK server room. At one time it was constantly expanding to accommodate growing numbers of servers as demands for computing power increased. Now there is plenty of space and far less stress on the air conditioning system.

Step change in server provision

Provisioning a server now takes about five hours rather than days because all the virtualised servers are controlled centrally from the UK. Staff no longer have to travel at a moment's notice to deal with IT problems and the company's systems are far more reliable and resilient.

"We're able to use the time saved more productively for other business-orientated projects. Virtualisation has also increased our flexibility, we can respond to application or storage requests from the business very quickly," confirms Ferrari.

The virtualised environment has enabled the introduction of regular, reliable data backup procedures. And standardisation coupled with the ease with which virtualised servers can be moved around or replicated brings improvements not only to business continuity but also to the creation of test environments for new IT solutions.

"When I talk to our business people it's the improved disaster recovery offered through virtualisation that really catches their attention," says Ferrari. "The fact that servers can be replicated on site with no disruption to day-to-day business and the fact that we can buy a LAN extension to another site and replicate our servers there. We're planning to move away from tape backup entirely this year in Cochlear Europe, except where it's required for compliance purposes. This will greatly reduce our business continuity risk."

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Full virtualisation strategy

Cochlear Europe is already exploring the next steps of virtualisation; Art of Computing is involved in a pilot of virtual desktops. This will use thin client terminals connected to the IBM Express Advantage virtual server environment. Software will be held centrally rather than on individual desktops making management and maintenance of the environment far more efficient and cost-effective. Data will also be held on central servers making it easier to recover in the event of a disaster. And a reduced need for IT staff to travel to carry out desktop maintenance and support work will further reduce Cochlear's carbon footprint.

"We aim to help our clients think strategically about virtualisation because it works best if you think about where projects interact and influence each other, " says Galonis. "Cochlear understands this and so virtualisation is leading, not only to a better server environment, but also to improved disaster recovery and, eventually, to a more efficient desktop environment."

"I'd advise anyone considering a move to virtualisation not to be afraid to embrace it. System performance will improve, energy efficiency, reliability and resilience will increase and you can relax knowing that if you have a blip with a server you have an extra line of defence. Ultimately the business will love it," concludes Ferrari.

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