FIGHTING THE GOOD FIGHT

Cancer Research UK’s (CRUK) aim is to save lives from cancer. CRUK does this through funding world-class research; providing information for patients, health professionals, and the public; and influencing public policy to keep cancer at the top of the health agenda. The organisation’s groundbreaking work in finding new ways to prevent, diagnose, and treat cancer has saved millions of lives. CRUK’s fundraising operations reach out to thousands of individuals for donations, redirecting money to leading scientists to fight against some of the world’s most debilitating diseases.

CRUK’s IT department is viewed as a strategic weapon in this long-term battle. Its critical infrastructure safeguards vital operating assets including supporter data, scientific research, and mission-critical applications. Should this data be compromised, CRUK marketing, sales, and cancer research fundraising activities would also be compromised.

BUSINESS CHALLENGES

CRUK had outsourced its backup and recovery infrastructure to a third party, but it was becoming too cost prohibitive and wasn’t as flexible as CRUK needed.

"While the service provider offered a very good backup system, this simply wasn’t cost effective. If someone within CRUK asked us for a new IT service, the first thing I worried about was the price of backup. I knew we needed a more cost-effective solution," says Michael Briggs, CRUK Head of Infrastructure.

With high data growth rates, CRUK also required a backup solution that could provide deduplication. In addition, 95 percent of CRUK’s critical applications and data are virtualised with VMware®. These include Siebel, CRM applications, Oracle and SQL databases, science-based databases, and Microsoft Exchange. Therefore, CRUK needed a solution that could backup virtual machines as well as physical servers.

SOLUTIONS: PROTECTING VITAL DATA

CRUK worked closely with EMC partner, CAE, to find a cost-effective backup and recovery solution. "CAE recommended a wide range of EMC solutions. For backup and recovery, CAE suggested EMC® Data Domain® integrated with EMC NetWorker®. Based on CAE’s recommendations, we decided to go with EMC," states Briggs.

CRUK also chose EMC VNX® unified storage, the EMC FAST™ Suite, Flash drives, and related software to replace its legacy storage, which was over-utilised and did not provide the IOPS necessary to support the sales and marketing staff.

CRUK operates two in-house data centres. CRUK has also contracted with an outside company to provide a third data centre to support the organization’s customer-facing websites.
CAE, working with CRUK, deployed Data Domain integrated with NetWorker at CRUK’s primary data centre located near the organisation’s head office and also at a secondary data centre 50 miles away. The primary data centre stores vital operating data, runs mission-critical applications, and supports 1200 thin client terminals operated by the CRUK staff. The secondary data centre provides disaster recovery capabilities and also supports test and development data and applications.

Each Data Domain system backs up data stored in EMC VNX unified storage and replicates the data between data centres to provide disaster recovery.

“Because of its capacity, Data Domain has the ability to back up and protect data for the entire company. Each Data Domain system is replicating to the other—providing us with an almost active-active infrastructure because all data is replicated in both data centres,” Briggs says. “In the event of a failure anywhere in the system we have the peace of mind that an offsite replica is available for recovery without the need to retrieve from a third party, like in the days of tape.”

The EMC solution also helps to provide disaster recovery capabilities for CRUK’s customer-facing, website-related data housed at the third data centre. ”The previous managed IT solutions company presented a costly solution to back up and recover the data stored in its third-party data centre. By using Data Domain, we found a cost-effective method to meet our DR requirements.”

EMC and CAE play a part by providing excellent foresight, knowledge, and technical capabilities. EMC Data Domain, EMC NetWorker, and our EMC infrastructure also contribute to the fight against cancer.”

Michael Briggs
Head of Infrastructure at Cancer Research UK

As well as third-party backup at the third data centre, for recovery capabilities CRUK employs NetWorker and Data Domain. Virtual machines, virtual images, and data related to CRUK’s websites that are stored in the managed company’s data centre are migrated to CRUK’s data centre and backed up in its Data Domain systems.

Briggs says, “Using Data Domain for backup is much more cost effective than using third-party backup processes.”

In total, Data Domain and NetWorker protect close to a petabyte of critical block and file data, including 480 Windows VMs and 300 Linux VMs. “We only deployed the EMC backup solution a few months ago, and it has accurately handled all backups with no failures,” Briggs states. “This is indicative of Data Domain’s inherent reliability.”

He continues, ”Data Domain is designed to support VMware and virtual machine technologies. This is important for us, because we have moved to a private cloud. As we move forward, we now have the confidence that our virtual machine, as well as block, and file data, will be fully protected.”

**ENABLING REDUNDANCY, REDUCING BACKUP TIMES**

Data Domain easily meets CRUK’s need for high rates of data deduplication in order to cost effectively replicate data between data centres for disaster recovery. “With Data Domain, we have achieved an average compression ratio of 9.6 times—or 89 percent. We’re able to transfer data between the data centres located 50 miles apart.
over an existing one GB IP pipe, so it’s not bandwidth intensive,” says Briggs. Data Domain deduplication also minimizes backup windows at CRUK. For example, CRUK’s Siebel and Oracle databases are both more than 600 GB, but have backup windows of only a couple of hours. Prior to the deployment of Data Domain, backup windows for these databases were scheduled between 18:00 hrs and 08:00 hrs, but could sometimes run longer. Now, CRUK can confidently back up within its overnight window without the concern of backups running into the next business day. Backups of incremental changes also reduce IOPS requirements, which preserve processing power and backup storage for CRUK’s critical operating needs.

SCALABILITY AND EASE OF USE AT LOW COST
CRUK has also been satisfied with the ease of use and scalability of Data Domain and NetWorker. "Our staff are delighted with the solution,” states Briggs. "We now have space to expand, and due to Data Domain capacity and scalability, backup storage is no longer an issue. NetWorker provides an easy-to-use GUI interface enabling easy backup scheduling, and gives us ongoing reports and analyses.”

Briggs says that cost effectiveness was a key factor in CRUK’s choice of the integrated Data Domain and NetWorker solution. "The cost of the EMC backup solution means that we will break even within 18 months, compared with the cost of the older managed service. In addition, we can back up all mission-critical applications and data, as well as testing and development data, with a very small footprint. Deciding on the EMC backup solution was a no-brainer.”

RELIABILITY SAVES LIVES
Briggs sums up the importance of EMC backup technologies to CRUK’s mission.

“If data and applications are corrupted or unavailable, and if backups are not accurate, our IT capabilities could be compromised. We are not the scientists doing the research, however everything we do is to ensure funding gets to those scientists to do the research. Their research saves lives. We take that very seriously and work to make our systems as reliable as possible to ensure we deliver the best possible systems for the organisation. EMC and CAE play a part by providing excellent foresight, knowledge and technical capabilities. Our EMC Data Domain, EMC NetWorker, and our EMC infrastructure make that possible.”

CONTACT US
To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.

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