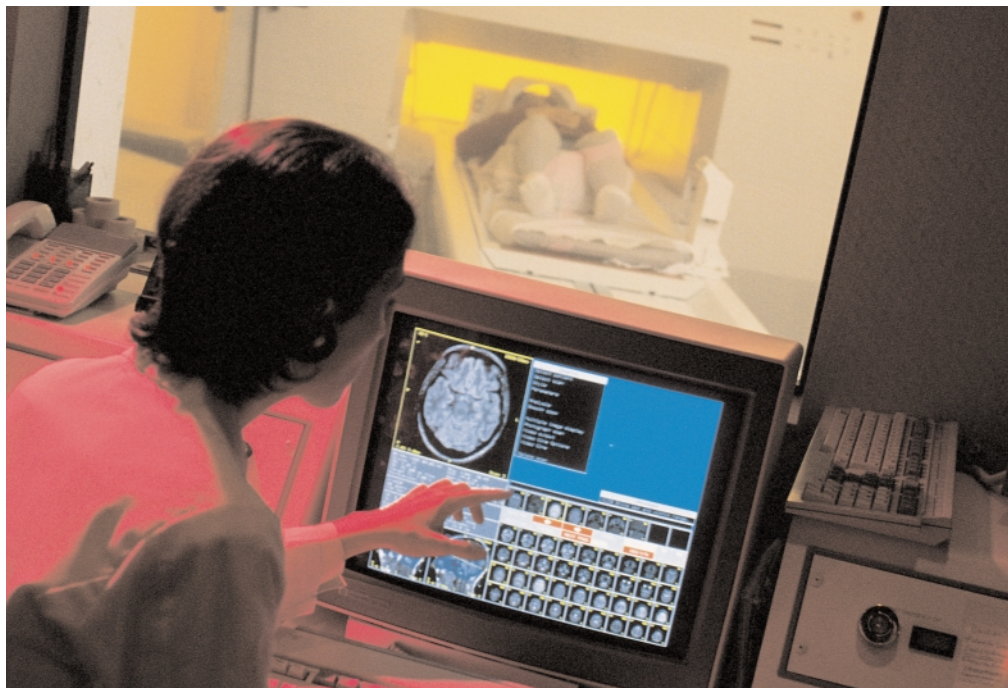


Wolfson Brain Imaging Centre



The Wolfson Brain Imaging Centre chooses EMC DiskXtender

The Wolfson Brain Imaging Centre (WBIC), a research unit based at Cambridge University's Addenbrooke Hospital, is dedicated to patients with acute brain damage. The only organization in the world to provide the latest high-powered brain scanning facilities within an intensive care environment, the centre has been instrumental in the significant reduction of death and severe disability due to brain injury over the past 20 years.

The vital role played by data storage in today's health service is demonstrated at Addenbrooke's Hospital where EMC is helping to store up to 10 gigabytes of data per patient. With more than 20 people seen a week, the amount of information being collected every month is extensive, and all of that information must be safely stored and retrieved on demand.

"As we use state-of-the-art technology to treat our patients, it is also logical to employ the latest knowledge when it comes to the IT infrastructure that administrates the data we generate," says Dr. Adrian Carpenter. "We now have a solution that allows our information to be used effectively."

EMC DiskXtender for UNIX/Linux addresses greatest challenge

On a day-to-day basis, WBIC carries out many different kinds of research such as studying changes in brain volume due to Alzheimer's disease and observing brain recovery following severe head injury or stroke. Regular scans must be performed, often over a period of years, with the resulting data collected and subsequently analyzed. The centre also performs "functional imaging" which allows researchers to see what part of the brain is active when

people think. This process involves brain scans about every 1.3 seconds within a five to ten minute period while individuals perform a series of neuro-cognitive tasks. These intensive trials generate about 10 gigabytes per patient, and some studies are stored for up to 10 years so that they can be accessed for comparison.

Previously, the WBIC used conventional disk, backup, and archive strategies to manage their growing volumes of data, but this system became unworkable at approximately the one terabyte mark. The inaccessibility of information during lengthy backup and restore times, the risk of data loss due to system crashes, and the fact that researchers increasingly wanted easy access to archived information without having to engage IT support, propelled the search for a new solution that allowed for fast, easy, reliable, and cost-efficient storage and retrieval.

“Our HSM provides us with almost infinite storage capabilities without being labor-intensive. Researchers can now access scans that are several years old without having to call in the IT department. And its ease of use is reflected in operation times. Before the implementation, even with much less data, about one day a week was spent archiving and restoring data and moving tapes. This has now been reduced to one or two hours.”

Dr. Adrian Carpenter
The Wolfson Brain Imaging Centre

A hierarchical storage management (HSM) product which has the facility to store, retrieve, and dynamically manage large data volumes while maintaining free disk space, was recognized as the answer. To be cost-effective, the solution needed to run on Linux—the platform already in use at the WBIC data centre. The only HSM solution to meet these demands was EMC® DiskXtender® for UNIX/Linux supported by EMC DiskXtender for UNIX/Linux Disaster Recovery Module, and EMC DiskXtender for UNIX/Linux Distributed File Server.

This comprehensive EMC DiskXtender solution manages the storage process intelligently from one central point by prioritizing data and moving it to the system device most suitable for its use and status. For example, data that is frequently used remains on the disk cache to allow for immediate access, whereas temporarily inactive information is “migrated” away from disk to a robotic tape system until recall is required. In addition, the reliability of DiskXtender for UNIX/Linux technology helps to eliminate the risk that the unique information gathered by WBIC will be lost, for example, due to system failure or human error.

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A speedy deployment leads to rapid ROI

The EMC DiskXtender implementation took about three months to complete. Since then, the storage solution has proved more than capable of handling the vast amount of data generated by the WBIC—a quantity that is currently increasing by about 750 gigabytes per month. Combined with its advanced storage and retrieval capabilities, an additional benefit to the WBIC is the solution’s ability to make visible the storage needs of different departments. This allows each department to put in realistic requests for budget increases.

“DiskXtender was the only way of expanding our existing system to provide the capacity needed for the far-reaching work in brain imaging we are undertaking,” concludes Dr. Carpenter.



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Customer Profile
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