ST JOHN AMBULANCE WA
Not-for-profit community emergency service maximizes investment with EMC VNX unified storage

PROVIDING ACTIVE-ACTIVE HIGH AVAILABILITY AND IMPROVED EFFICIENCY

St John Ambulance runs the first Computer Aided Dispatch (CAD) system in Australia that not only provides the ambulance service with comprehensive geographical and incident information, but is also connected to an electronic patient care records system. The system enables paramedics to record patient information electronically, improving access for medical staff as well as allowing paramedics to input critical data in-transit. The CAD runs on Microsoft SQL Server virtualized with VMware® vSphere®.

With mobile data access required for patient records, St John wanted replace its existing EMC storage with an active-active, geographically dispersed storage and infrastructure solution. In addition, the organization wanted to address the growing storage capacity requirements brought about by the demands of its new systems. The system also needed to enable efficient and cost-effective storage. Integration with VMware was another critical decision factor.

St John chose the new EMC® VNX® unified storage series (VNX5200). VNX enabled St John Ambulance to maximize its storage and improve storage management efficiency. In addition, the EMC solution enables the organization to enact an active-active infrastructure, providing high availability and ensuring critical systems are available.

ENVIRONMENT

St John partnered with EMC to design a solution based on EMC VNX unified storage configured with the EMC FAST™ Suite. The organization also chose the EMC Local Protection Suite and EMC Remote Protection Suite for data protection.

Andrew Tucker, Senior Systems Engineer at St John Ambulance says, "We chose the EMC VNX platform because it would enable us to deploy more cost-efficient disks using the Fibre Channel protocol and expand our capacity quickly to meet the growing demands of managing electronic patient records. The overall benefits of VNX combined with automated storage tiering made good economic sense for our organization."

Patient data is stored within a virtualized Microsoft SQL Server database. While previously, patient electrocardiogram (ECG) information had to be scanned and stored within a file share, the EMC VNX deployment now enables that data to be moved directly into the SQL Server database and to be stored efficiently through automated storage tiering.
Stephen Simmons, Infrastructure Manager at St John Ambulance, says, “Our core systems such as patient records and the accounting system for processing patient invoices are running in a virtual server environment. The EMC solution is deeply integrated with VMware, enabling us to expand the value of the storage platform to address further critical data areas such as patient ECG information.”

**MAXIMIZING STORAGE INVESTMENTS**

St John Ambulance Western Australia covers the largest area of any single ambulance service in the world: 2,525,500 square kilometers or 33 percent of the total landmass of Australia. With more than 160 St John Ambulance locations operating in Western Australia and 30 ambulance depots in the Perth metropolitan area, managing patient records is critical to delivering effective patient care.

While its investments in systems are improving the efficiency and effectiveness of its ambulance service, the costs associated with storing the growing data needed to be carefully managed. By utilizing fully automated storage tiering provided by the FAST Suite, St John automates data placement within the VNX system to improve performance while reducing the costs associated with data storage.

“I’m responsible for the operational duties of the SAN and this includes expanding the storage based on demand. By using the storage pools, storage expansion takes only a couple of minutes rather than the several hours of planning previously involved in manually provisioning the storage. I spend less time managing the storage and more on completing my other duties,” says Tucker.

“As a not-for-profit organization, cost effectiveness is the most important criteria for our technology investments. EMC provides us with the performance we need to continue to improve the quality and responsiveness of emergency services in Australia.”

Andrew Tucker
Senior Systems Engineer at St John Ambulance

**PROVIDING FLEXIBILITY TO MEET LONG-TERM PLANS**

St John has plans to migrate its operations to an active-active design in which its two sites will be located approximately 30 kilometers apart and call operators will be stationed at both sites. Emergency call handling and ambulance dispatch will continue to run seamlessly from the secondary site. St John is currently using EMC MirrorView over its own private Fibre to do the SAN replication.

Tucker says, “The new site will have staff actively taking calls in it all the time, specifically active-active as opposed to being active-standby. Due to the increased distance, we may not have the luxury of being able to run Fibre so the EMC Remote Protection Suite provides a huge amount of flexibility in replication options.”

Simmons says, “VNX provides us with more options with regards to the software used to synchronize data between the two sites to ensure continuous uptime. All the tools are included within the Remote Protection Suite license, which give us the flexibility to figure out how best to provide an active-active site in the near future.”
COMPANY OVERVIEW

St John Ambulance Western Australia (St John) is a charitable, non-profit organization responsible for providing the State’s ambulance service, teaching first aid to the community as a nationally accredited training organization, and helping to shape and lead the emergency services sector nationally. The organization’s activities in delivering high-quality first aid services to the community are provided with the support of more than 4,300 volunteers who donate more than three million hours to the community every year under the St John banner.

When St John opens its new site, the connectivity between the two sites will be critical to ensuring high availability for its applications and storage. St John is looking at EMC RecoverPoint® within the VNX Remote Protection Suite to reduce the WAN bandwidth used for replication while providing continuous data protection.

“EMC RecoverPoint enables us to deploy high availability over a WAN link with significantly less bandwidth due to the data compression and deduplication features,” says Tucker.

IMPROVING RESOURCE EFFICIENCY

St John is exploring block deduplication to increase its storage utilization and further improve resource efficiency. Using EMC Unisphere®, provided with VNX, St John can manage block data from a single user interface.

Tucker says, “EMC support has always been quick to respond and follow up on any issues I have logged at all. EMC Secure Remote Services allow EMC engineers to log on remotely to troubleshoot issues as well as proactively monitor the VNX. Another benefit of working with a multinational company like EMC is that engineers are available at all hours of the day to work on service requests.”

“Being able to provide deduplication in our VMware environment will definitely make the storage more cost effective. I can also provide other team members with access for storage monitoring, which makes my job much easier,” adds Tucker.

MEETING THE DEMANDS OF DATA GROWTH

A new call management system is planned in the near future, but the ambulance service is confident in the ability of EMC solutions to meet these demands.

Tucker says, “As a not-for-profit organization, cost-effectiveness is the most important criteria for our technology investments. EMC provides us with the performance we need to continue to improve the quality and responsiveness of emergency services in Australia. With VNX, we have more room in the trays to buy additional disks, and so it allows us to expand our capacity quickly and cost effectively to meet the data demands of the new systems.”