

Customer Success Story

NHS SOUTH CENTRAL AMBULANCE

South Central Ambulance NHS Trust – Leading the Way in Control Room IT Virtual Infrastructure

Virtustream Designs and Implements a High Availability/Disaster Recovery virtual infrastructure for Accident and Emergency Command and Control

South Central Ambulance NHS Trust was formed in 1993, following the merger of the Buckinghamshire and Northamptonshire ambulance services. The trust provides ambulance services primarily to the 1.3 million people of these two counties. Headquartered in Milton Keynes, the Accident and Emergency Service operates from 17 strategically located ambulance stations and further stand-by points across the two counties and is staffed by some 350 paramedics and ambulance technicians.

Mr. Gareth Vines, IT Manager, was responsible for sourcing a solution to his business challenge of providing an infrastructure that had no time for downtime! He had to provide an infrastructure that was highly available, 24 x 7, 365 days a year and that had inbuilt disaster recovery also.

Investigating the various technologies in the market that could derive a solution for Mr. Vines, he determined that clustering was cost-prohibitive due to the hardware costs alone. Therefore a more creative solution was required, Mr Vines was already familiar with Neverfail's Application Clustering technologies and ESX server from VMware but Mr. Vines needed a consultancy advisor that could demonstrate the benefits of both solutions. Having been recommended to Virtustream by both Neverfail and VMware, Mr. Vines visited Virtustream in Northampton where he attended a technology preview of both solutions.

Having demonstrated that a high availability solution could be delivered, Virtustream embarked on a 4 week proof of concept for South Central. The chosen application for the proof of concept was the most complicated one that Mr. Vines had to support – the Accident and Emergency command and control application, EMS. The complexity of this application in a fail over scenario is due to its add-in executables needing to be monitored and to ensure no SQL server conflicts occur whilst failing over. Therefore, the complete installation needed to be customised by Virtustream to ensure a resilient infrastructure could be deployed.

"Virtustream provided demonstrable return on investment via the initial proof of concept. Their skills in customising the Neverfail environment to ensure we have a 24x7, 365 day a year operation are second to none. They have delivered a virtualised environment that truly makes the difference between life and death due to the nature of our services."

Gareth Vines
IT Manager

Results

- 100% available infrastructure, 365 days a year, 24 x 7
- Disaster recovery with failover
- Reduction in IT estate
- Centralised administration
- Improved customer satisfaction
- Ease of deployment of new servers
- In-built flexibility and resilience for existing and new servers.

The installation is at the operational headquarters at Milton Keynes and is the base of the Service's accident and emergency control room, where between 1 April 2003 and 31 March 2004, staff responded to approximately 88,000 emergency calls, 18,000 urgent patient journeys and 300,000 non-urgent patient journeys. Accident and Emergency services operate from 17 ambulance stations that access the mission critical patient applications across a WAN.

The results to date have delivered on the initial design goal of providing continuous uptime, 365 days a year 24 x 7 and additionally have provided a consolidated platform for flexibility and resilience for new servers. There has been immeasurable time savings by centrally administering the high availability virtual platform and savings associated with performance status monitoring that has also reduced the administration overhead.

The project has delivered a resilient and agile solution on which real mission critical systems are being delivered and South Central Ambulance Service are confident of their ability to deliver uninterrupted service to the public.

With the project now complete, South Central Ambulance Service are now maximising the flexibility of the underlying architecture by retiring older physical servers and replacing them with new virtual machines.

Any requirement for future server provisioning will be based on the available capacity on the consolidated host as the virtualised infrastructure is seen as the cost effective and resilient solution on which South Central Ambulance Service can deliver in the future.

The project makes an important statement as to the maturity of virtualised solutions where the transition from development through to production servers is now complete with even the most absolute mission critical systems in the true sense of the word being delivered on virtual infrastructure.

VMware ESX Server at Work

- SX Server and Heartbeat on 1 x HP ML570, 4 dual core 2.2 GHz Xeon CPU, 6 GB RAM and 650 GB internal storage
- Guest operating systems: Microsoft® Windows® 2000
- Applications running in virtual machines:
- Microsoft SQL server
- Secondary DHCP/DNS Server
- ProQA Priority Dispatch
- PTS (Patient Transport Services)
- EMS (A&E Command and Control)
- Bespoke Neverfail Heartbeat installation to accommodate additional application start ups and replication.

For more information:

South Central Ambulance Service
www.southcentralambulance.nhs.uk

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www.virtustream.com