

Hywel Dda NHS Trust

Supporting healthcare in Wales with improved information access

Hywel Dda NHS Trust is responsible for delivering healthcare to over 372,000 people in mid and west Wales. The Carmarthenshire Division urgently needed to address its information management and technology infrastructure to meet the needs of its employees and patients. Working at 80 per cent capacity after only one year, the existing data centre was a drain on power, space and cooling resources and also had a significant lack of disaster recovery.



The Carmarthenshire technical staff recognised its utilisation of resources could be greatly improved and, after selecting systems integrator Esteem Systems, the Division has:

- Achieved ongoing cost and power consumption savings – calculated at £40,000 per year
- Reduced its carbon footprint with the introduction of virtualisation technology
- Consolidated 35 physical servers down to 5
- Improved uptime and centralised management
- Implemented failover mechanisms for business continuity
- Created an agile Information Management & Technology (IM&T) infrastructure, suitable for supporting growth and future changes

The Trust

Hywel Dda NHS Trust has 7,200 employees located across 45 sites and provides healthcare for the citizens of Carmarthenshire, Ceredigion and Pembrokeshire. The Trust has responsibility for four acute hospitals - Bronllys General Hospital, Prince Philip General Hospital, West Wales General Hospital and Withybush General Hospital - as well as acute, community, mental health and learning disabilities services across the mid and south west Wales area. It was officially formed on April 1st 2008 following the merger of the former Carmarthenshire, Ceredigion & Mid Wales and Pembrokeshire & Derwen NHS Trusts.

The Challenges

With over 1,800 desktops and 200 laptops spread across 10 locations, the Carmarthenshire Division of Hywel Dda NHS Trust has a significant IT infrastructure to manage and maintain. An important factor for any mission critical system, especially one responsible for patient welfare, is zero downtime and effective disaster recovery.

Working with only one data centre, which was already operating at 80 per cent capacity and was only a year old, the Trust had no back-up site for replication and failover. The existing SAN (storage area network) had limited storage available, was out dated and difficult to expand upon. Hywel Dda recognised that this infrastructure would prove a barrier to future growth and productivity and would fail to function properly with the increasing amount of electronic data and applications being used in the NHS and the standards it is setting for IT.

The existing IT infrastructure was a significant drain on the Trust's resources. Power consumption was high, physical space was running out and cooling requirements were costly. In addition, the Trust's in-house IT department was spending the majority of its time fire fighting the day to day issues of keeping the outdated system running.

Paul Solloway, Information Management & Technology Services Manager at the Carmarthenshire Division of Hywel Dda NHS Trust explains, "Our medical and clerical staff need to have a system that they can rely upon and access quickly so that they can deliver effective patient care. The way our infrastructure was set up meant our utilisation of resources was very poor and staff were suffering as a result of the inefficient technology."

The Partner

Hywel Dda approached long standing partner Esteem Systems to help address these issues and design an agile infrastructure for the Trust. "Esteem understands our business needs and is technology independent which we feel is important in terms of getting a solution that's right for our individual organisation," comments Solloway. "We knew from working with Esteem previously that the quality of their consultants is second to none. This gave us confidence that the solution they designed would give our employees the best tools to work with whilst also building the foundations for future IM&T projects."

By working with Esteem, Hywel Dda gained a strategic partner with a successful track record in infrastructure delivery for the NHS. As Esteem provides end-to-end solutions, it is not only cost effective for the Trust, but also provides a single point of contact for all the Trust's needs.



System Details:

Services

Lifecycle services provided by Esteem include capacity planning consultancy, design, implementation.

Software

- VMware Enterprise Server (ESX)
- NetApp Snapshot

Hardware

- 5 x Sun Microsystems x64 Servers
- 2 x NetApp SANs
- NetApp 3020HA Cluster (FC Disks)
- NetApp 270 (SATA)

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Paul Solloway
Information Management & Technology
Services Manager

case study



The Planning

Hywel Dda's immediate objectives were to virtualise and consolidate its server estate and move data away from the existing SAN which was causing problems. In the longer term, the Trust also required an infrastructure that would support their internal growth and meet future external regulations for green computing, business continuity and disaster recovery.

Before implementing or upgrading anything, Esteem and Hywel Dda worked through a capacity planning exercise to evaluate the existing hardware and software infrastructure. Consolidation and cost savings were top priorities, so the analysis ensured the Trust's business proposal for a new centralised and virtualised infrastructure was as efficient and cost effective as possible.

The Solution

To ensure the security and availability of vital clinical information, Esteem designed and implemented a consolidated infrastructure to include real time operation and data replication, providing a resilient platform for efficient data storage, full virtualisation and disaster recovery.

The primary site at West Wales General Hospital now operates a NetApp SAN (storage area network) with 4.8 terabytes of usable data. This is mirrored to a NetApp SAN at the Trust's secondary data centre Prince Phillip General Hospital in Llanelli. The function of the SAN is to hold the data for the virtualised servers and file data.

Hywel Dda's IT infrastructure is now supported by an automated disaster recovery system, replicating data to the disaster recovery site and utilising snapshot technology for almost instantaneous recovery in the event of a system failure.

Solloway explains, “The solution Esteem has created gives us a base for all our data storage requirements and is now replicated at our Llanelli site. It is a totally scalable system which can be added to at little capital cost in the future.”

Esteem has also enabled Hywel Dda to consolidate 35 physical servers down to just five Sun servers using VMware technology.

The Benefits

Hywel Dda NHS Trust is now able to give its doctors, nurses and clerical staff faster access to electronic and online resources through the new centralised and virtualised IM&T infrastructure provided. The Trust will achieve ongoing cost and power consumption savings with the new solution and these have already been calculated as a saving of approximately £40,000 per year. Hywel Dda's carbon footprint has also plummeted as a result of a virtualised server and storage environment.

IT performance has improved dramatically, reducing the time it takes users to login and access the patient administration and clinical systems. With secure, reliable and fast access to clinical information, medical and clerical staff are able to provide improved levels of service to the Trust's patients.

Solloway continues, “Our in-house IM&T department is benefiting greatly from seamless, rapid deployment and upgrading of servers, which can now be done centrally and with zero downtime. This saves us time and makes upgrade management easier. It also means that there are no disruptions to clerical and medical staff using our systems.”

Hywel Dda now has no single point of failover. If there are any issues with servers or storage there are failover mechanisms in place to ensure business continuity. The new infrastructure is agile, suitable for supporting any growth and future IT changes the Trust requires.

The Future

Esteem and Hywel Dda continue to work together to virtualise and centralise other areas of the Trust's IT infrastructure. Solloway is keen to explore the use of virtual desktops and the potential to expand the back up and disaster recovery facilities.