SUCCESS STORY

Hitachi Storage Solutions at Work

Innlandet Hospital Trust

INDUSTRY  Health Care
SOLUTIONS  Business Continuity and Consolidation

Hardware — Hitachi Adaptable Modular Storage 500 (soon to add Adaptable Modular Storage 1000) and Hitachi Network Storage Controller 55 (2)
Software — Hitachi HiCommand® Device Manager software
Services — Provided by Hitachi Data Systems partner Ementor and Hitachi Data Systems Global Solution Services

“You need to rely 100 percent on your IT infrastructure to deliver mission critical data around the clock, 365 days a year. Hitachi Data Systems fulfills that requirement!”

Frode Finne
CIO
Innlandet Hospital Trust
Innlandet Hospital Trust Chooses Hitachi Solution to Safeguard and Support Access to Patient Records

When Norway’s Innlandet Hospital Trust started its massive IT consolidation programme two years ago, they knew that avoiding downtime and loss of data access would be critical to the 8,000 connected users. They chose to consolidate with a Hitachi storage solution to ensure constant operations. The solution passed the uptime exam. The process ran with no downtime, and user access to critical data was never interrupted.

Service Breadth and IT Environment

The Innlandet Hospital Trust consists of six hospitals, two psychiatric hospitals, one rheumatic hospital and one rehabilitation unit. It has a total of 1,300 beds in 45 different locations. The Innlandet Hospital Trust is located in the central part of eastern Norway and covers 49 local communities in Hedmark and Oppland counties, serving around 390,000 inhabitants in a geographic area larger than Denmark.

During 2006 the Innlandet Hospital Trust carried out 508,000 patient contacts and had more than 62,000 patients staying in the hospitals.

The IT department is concentrated around two centres in Gjøvik, one in the Gjøvik Hospital and the other located in the so-called mountain hall (where several Olympic sports events took place during the 1994 Lillehammer Olympic Winter games). These two sites are connected via dark fibre lines and MUX solutions for SAN and LAN. The IT environment consists of around 250 physical and 60 virtual servers from HP, IBM and Fujitsu Siemens Computers (FSC). The IBM® servers are used for virtualisation and the FSC servers are used for the picture archival or PACS systems (X-rays). Total storage volume is currently approximately 50TB on SAN disks from Hitachi, HP and FSC. The IT environment runs volume manager applications from Oracle (ASMLIB) and Veritas, in addition to Microsoft® VDM; however, the Veritas product is most dominating.

The Tender

Already in the tender documents the IT decision-making team noticed that the storage solution proposed by Hitachi Data Systems offered more than the competitors — both in terms of the IT solution and the total service concept. “The total system and service offering was what convinced us in the end,” says CIO Frode Finne.

The Hitachi equipment was offered and installed by Hitachi Data Systems partner Ementor, one of Norway’s leading system integrators, in close cooperation with the Hitachi Data Systems Global Solution Services team.

Consolidation

Norway is divided into four Health Care Regions, and the Innlandet Hospital Trust is part of the East/South Region under the Ministry of Health. As the main supplier of health care services to more than 390,000 people, The Innlandet Hospital Trust is a regional cornerstone with important community obligations. In 2005, the hospital began a strategy of centralising its total IT resources, hardware and software. They chose a strategy of no compromise. The strategy was to be implemented in three phases.

- Phase one: migrate existing patient record systems to the new patient record system, DIPS, in all wards of the hospital trust
- Phase two: consolidate from old HP EVA SAN to new Hitachi SAN
- Phase three: install archive solution

IT Manager Kjell Skjølås explains, “During all these phases, all mission critical systems needed to be up and running and with full availability to the users on a 24 hour basis. In this business, downtime could be fatal. You need to rely on your systems, and thanks to the Hitachi systems we were able to hot swap all systems — without any downtime. In one week the new Hitachi SAN was up and running.”

An organisation like the Innlandet Hospital Trust depends on a reliable IT infrastructure, and Finne emphasizes the stability of the installed Hitachi systems: “We have had no
By consolidating with a SAN based on Hitachi storage, Innlandet avoided downtime and ensured constant access to critical data.

More than 30 Windows and Fujitsu Siemens servers support the PACS installation, with 14 of the Fujitsu Siemens servers running Sun Solaris and six of them installed outside the computer center as distributed servers. Taking into account serious issues like future power shortages and CO₂ emissions.

Looking to the Future

Restructuring to Meet Future Demands

Virtualisation is a key word in the current operation of the data centre, with 250 physical and about 60 virtual servers running VMware in a Microsoft Windows environment. Virtualisation is a key word in the current operation of the data centre, with 250 physical and about 60 virtual servers running VMware in a Microsoft Windows environment.

Downtime situations, and in fact we have experienced that our old legacy systems give much better response times and faster operation on the Hitachi systems that on the previous storage system.”

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Kjell Skjølås
IT Manager
Innlandet Hospital Trust

Web 2.0 will accelerate the demand for storage capacity in the future, and with a current total storage utilisation of 50TB on SAN disks and the current storage growth rate of 15 percent, the Innlandet Hospital Trust anticipates and plans for increased use of virtualisation, also taking into account serious issues like future power shortages and CO₂ emissions.

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Looking to the Future

The South/East Health Region will establish a competency and test centre for testing new versions of today’s software applications. The test centre will be equipped with sufficient storage capacity for hospitals in the region to perform tests on their applications with their own data. Storage systems from Hitachi Data Systems will be installed thanks to the positive experiences from the Sykehuset Innlandet Hospitall Trust.

“We will gradually see improvements in TCO [total cost of ownership] as the new electronic patient record system is introduced and all data transferred to the Hitachi storage platform,” says Finne, who reveals that an order for a new Hitachi Adaptable Modular Storage 1000 system has already been placed.

DIPS

PACS

Primary Data Center

Secondary Data Center

Hitachi HiCommand® Storage Services Manager Software for Operation and Surveillance, Installed on Microsoft® Windows Server and VMware

Hitachi HiCommand Device Manager Software for Uniform Storage Administration on Microsoft Windows Server in VMware

Siemens PACS Server (Cluster)

DIPS IBM Server

PACS Database and Close Storage

SAN

Redundant MUX Connection

Brocade SAN 32 Port 4Gbit SAN Switch

Archive Server for Siemens PACS (Cluster)

Hitachi Network Storage Controller 55

PACS

SATA, Del For Archive and Backup

Hitachi Adaptable Modular Storage 500, Fibre Channel

Archive Data PACS

EVA5000

EVA5000

Hitachi Network Storage Controller 55

DIPS IBM Server

PACS

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Archive Data PACS

DIPS IBM Server

PACS

SATA, Del For Archive and Backup

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Archive Data PACS

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