

## 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

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.”



“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.”

Kjell Skjølås  
IT Manager  
Innlandet Hospital Trust

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 CO<sup>2</sup> emissions.

## Looking to the Future

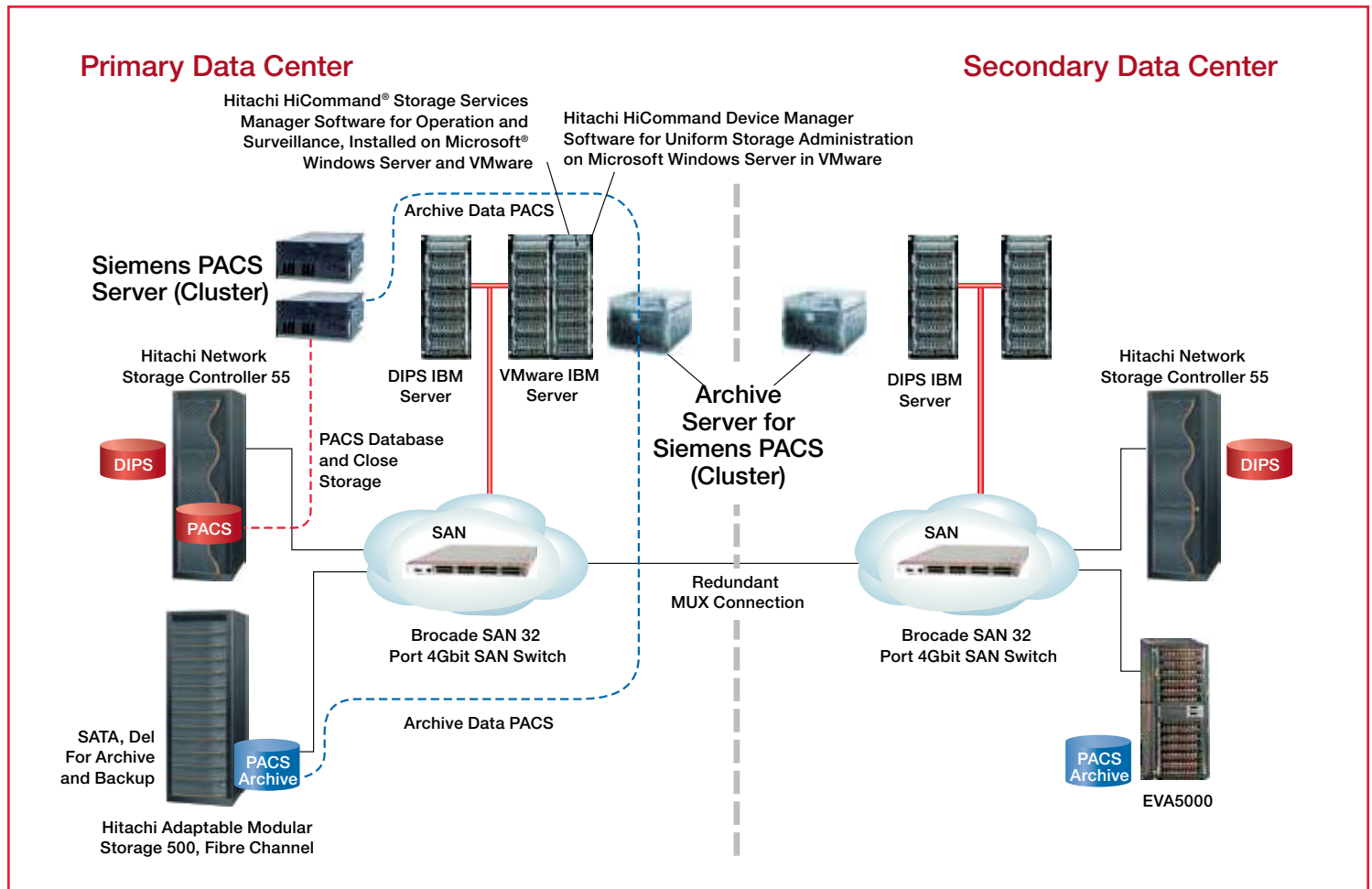
The South/East Health Region will establish a competency and test centre for testing new versions of today’s software applications. The test centre will be equipped with sufficient storage capacity for hospitals in the region to perform tests on their applications with their own data. Storage systems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

## 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.

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

“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.



By consolidating with a SAN based on Hitachi storage, Innlandet avoided downtime and ensured constant access to critical data.

**Corporate Headquarters** 750 Central Expressway, Santa Clara, California 95050-2627 USA  
Contact Information: + 1 408 970 1000 [www.hds.com](http://www.hds.com) / [info@hds.com](mailto:info@hds.com)

**Asia Pacific and Americas** 750 Central Expressway, Santa Clara, California 95050-2627 USA  
Contact Information: + 1 408 970 1000 [www.hds.com](http://www.hds.com) / [info@hds.com](mailto:info@hds.com)

**Europe Headquarters** Sefton Park, Stoke Poges, Buckinghamshire SL2 4HD United Kingdom  
Contact Information: + 44 (0) 1753 618000 [www.hds.com](http://www.hds.com) / [info.uk@hds.com](mailto:info.uk@hds.com)

Hitachi is a registered trademark of Hitachi, Ltd., and/or its affiliates in the United States and other countries. Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd., in the United States and other countries. HiCommand is a registered trademark of Hitachi, Ltd.

IBM is a registered trademark of International Business Machines.

Microsoft is a registered trademark of Microsoft Corporation.

All other trademarks, service marks and company names are properties of their respective owners.

Notice: This document is for informational purposes only, and does not set forth any warranty, express or implied, concerning any equipment or service offered or to be offered by Hitachi Data Systems. This document describes some capabilities that are conditioned on a maintenance contract with Hitachi Data Systems being in effect, and that may be configuration-dependent, and features that may not be currently available. Contact your local Hitachi Data Systems sales office for information on feature and product availability.

Hitachi Data Systems sells and licenses its products subject to certain terms and conditions, including limited warranties. To see a copy of these terms and conditions prior to purchase or license, please go to <http://www.hds.com/corporate/legal/index.html> or call your local sales representative to obtain a printed copy. If you purchase or license the product, you are deemed to have accepted these terms and conditions.

© Hitachi Data Systems Corporation 2008. All Rights Reserved.  
SS-117-00 DG March 2008