

Tokuda Hospital chooses key NEC technologies to improve performances of their medical services

Cyprus 2nd Jun 2009: Tokuda Hospital Sofia, the first international venture of the Tokushukai Medical Corporation and the world's largest private medical service provider has chosen NEC Flex Power, NEC Servers, NEC Storage and NEC SFF PCs to develop their IT infrastructure, in order to realise high performance and develop a dependable data storage system.

The challenge

Tokuda Hospital has always focused on developing and improving the level of medical care and medical service towards their patients. Hence, they were looking for a solution that could offer a good amount of data storage space, that could allow the hospital employees to update their patients' medical reports, through use of high performance servers and a more flexible and reliable IT infrastructure.

Because the hospital's rooms were already furnished, the hospital wanted to use small form factor desktop computers. In addition, the IT department had to consider the complexity of their IT infrastructure. The hospital has installed Microsoft active directory with two domain controllers. Hospital Information System and Picture Archiving and Communication System (PACS) are configured with two server clusters, each of them connected to SAN. While MS Exchange is installed for e-mail functionality, the main switch is fully redundant. Information archiving is performed by means of automated archiving system, while internet connectivity is maintained through a router, with anti-spam and anti-virus applications installed. Cable routes pass through designated steel cable grids, fitted above the corridors' suspended ceiling. Vertical connections in the rooms are placed in previously laid in the walls corrugated PVC pipes. Connectors are mounted in wall embedded two ports sockets. Communication racks (one per level) are located on the same place for the first and ninth floors. A communication centre is located in the basement, which incorporates the rack, servicing the floor, PACS and server racks. Four big (42U) racks are installed (three for communication – on the second, first and basement level, and one server), as well as seven wall racks (21U) – on floors from third to ninth. There are 491 terminals and 18 uplinks. Two wireless Access Points are present on each floor. Additionally, a video system is also installed, designated for remote recording at the operating rooms.

Considering all that, the IT department needed a solution that could provide two server clusters with common storage for the HIS and PACS databases, several application servers and small form factor desktop computers.

The solution

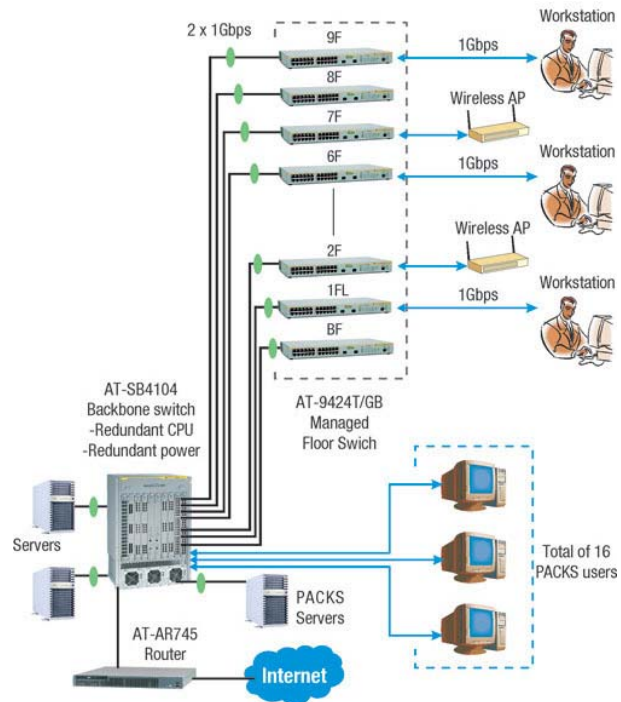
After six months of research, Tokuda Hospital selected a set of NEC solutions to meet their needs. Tokuda realised that the NEC servers, storage units and desktop computers could deliver the best value for money, when compared with their competitors. Furthermore, the NEC FlexPower solution could offer several other advantages that Tokuda considered in their decision. The server could deliver unique flexibility and expansion possibilities, which combined with the rest of the NEC equipments, could drastically reduce the TCO of the IT infrastructure.

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The solution deployed at Tokuda Hospital consisted of NEC PowerMate VL350 and VL280 small form factor desktop computers, NEC Express 5800 120/Rh-2 two way rack servers, NEC Express 5800 140/Rf-4 four way rack servers (one server cluster for the HIS DB, which replaced the previously used two way server cluster after opening of the second hospital building), NEC FlexPower Server, NEC S1400 storage with DEUs, and NEC D3-10 storage with DEUs.

The project for establishment of information and communication system in the hospital started in July 2006 and was completed after five months. Within that period, Kontrax, the NEC Computers partner in Bulgaria, delivered and installed computer equipment, printers /laser, matrix and fiscal/, server set, constructed structural cable system, supplied and adjusted active network equipment.

In November 2008 the system was extended after opening of the second hospital building.



Plan illustrating the IT infrastructure

Other advantages of using NEC Flex Power:

- Simplicity: Avail one integrated system with point and click management with maximum security and high availability.
- High performance and density with built in servers, SAS drives, and shared storage.
- Flexibility: Increase capacity on demand with hot swappable computer storage and network capabilities.
- An exceptional value. Lower your costs with a server designed to fit your budget with many high-end features accessible to your business.

Plans for the future:

Mr. Dimitar Georgiev – CIO of Tokuda Hospital in Bulgaria:

“The hospital information system is in use in all of the hospital departments. From history of the disease to the last examination – all that information is stored on the computer system. As a result, there is no need of deliveries of radiographs and sheets to different consulting rooms. If the patient has been in several diagnostic rooms, the relevant physician or specialist may examine the whole documentation on a computer. Data on the computer system includes X-ray photographs, scanners, nuclear-magnetic resonances, and much more. These files can be stored for years to come, which in turn allows availability of a health file, which is a valuable material for next hospitalisation and examination needs. Part of the consultations can be performed remotely in the hospital or in cooperation with specialists from other well-known hospitals around the world. The hospital managers or the consultants may monitor on their screens, surgeries or examinations, to

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give their opinion and to arrive at specific conclusions. For rare or confusing cases there is a possibility for online consultations with foreign experts. The information and communication system is invaluable in regard to trainees and new physicians' training as they can monitor surgeries, different invasion manipulations, and other procedures."

About Tokuda Hospital Sofia:

Tokuda Hospital Sofia is the first international venture of the Tokushukai Medical Corporation, which incorporated in 1975 and today is the world's largest private medical service provider with over 280 medical facilities operating in Japan and one general hospital in the capital city of Bulgaria, Sofia.

Sofia won the hospital project despite strong competition from other cosmopolitan cities such as Moscow, Seoul, Warsaw, Belgrade, and Bucharest.

Today, Tokuda Hospital Sofia has 300 people medical staff, more than 500 stationary beds and is one of the best known providers in healthcare and multi profile hospital for Active Treatment.

About NEC Computers

As a subsidiary of the Japanese group NEC Corporation, NEC Computers offers complete and innovative solutions associated with a vast range of professional services for personalized infrastructures for businesses and administration.

NEC Computers addresses the professional markets in Europe, the Middle East and Africa.

The Japanese group NEC, is one of the world leaders in the domains of; Information Technology, networks and electronic components, and achieved a turnover of \$40 billion (figures at 31-05-2008).

As illustrated by its slogan 'Empowered by Innovation', and dedicating more than 6.5% of its turnover to Research and Development, and bioplasts to make super computers; the NEC group puts technological innovation at the service of its clients.

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