Allied Telesis™

Secure, Fast Real-Time Access to Patient Care Details at Osaka Red Cross Hospital

大阪赤十字病院

Osaka Red Cross Hospital, in Japan, transforms the quality and reliability of their network, and adds high-speed wireless access to streamline services, with an Allied Telesis solution.

Overview

After experiencing ongoing problems with network unreliability, uneven quality and maintenance shortcomings, Osaka Red Cross Hospital have upgraded their network with an Allied Telesis solution. The new network features reliability and high performance, and is easy to manage. It also has seamless wireless network access, to support nursing and other services using the hospital's newly introduced electronic patient record system.

Established in 1912 as an affiliate hospital of the Japanese Red Cross Society, Osaka Red Cross Hospital is the largest in the group, with over 1000 beds. The hospital is also certified as an emergency care center, regional cancer center and perinatal care center for the Osaka prefecture.

Based on the Red Cross spirit of humanity and philanthropy, Osaka Red Cross Hospital has adopted "preserving the dignity of all people and striving to perform advanced healthcare in a heartfelt manner" as its mission statement, and works to enhance its medical care structure as a core regional hospital. With a staff of specialists at the forefront of their fields across 26 departments, the hospital develops new doctors, and conducts training and coordination with regional medical institutions.

Osaka Red Cross Hospital is also involved in disaster relief, providing training and dispatching doctors and nurses to areas of need, including Japan, Haiti and Uganda. The Healthcare Information System (HIS) supports these activities.

Customer profile

- **Name:** Osaka Red Cross Hospital
- **Location:** 5-30 Fudegasaki-cho, Tennoji-ku, Osaka-shi, Osaka Prefecture, Japan
- **Established:** May 1912
- **Number of Beds:** 1,000
- **Hospital Site Area:** 35,207 m2
- **Building Floor Area:** 86,493 m2
- **Number of Staff:** 1,548 (as of March 31, 2012)
- **Number of Specialty Departments:** 26

The network requirements

Osaka Red Cross Hospital had experienced ongoing network problems with inconsistent communication, and low performance due to the many departmental systems that were sharing the HIS network.

> "We operate many departmental systems in tandem with the hospital ordering system, which has caused a wide range of reliability problems on the HIS network".
>
> Mr. Nobuhiro Mitsushima
> Section head of the Healthcare Information Section of the hospital's Operation Department

As well as wanting to improve their network performance, the hospital was also in the process of introducing a new electronic patient record system, which would make use of new wireless connectivity to allow nurses and doctors to update patient records in real-time — right at the bedside. The HIS network was upgraded to support the new system.

The hospital also runs a Picture Archiving and Communication (PACs) network to support X-ray, CT scan and other imaging storage and retrieval, and wanted to integrate this with the HIS network.
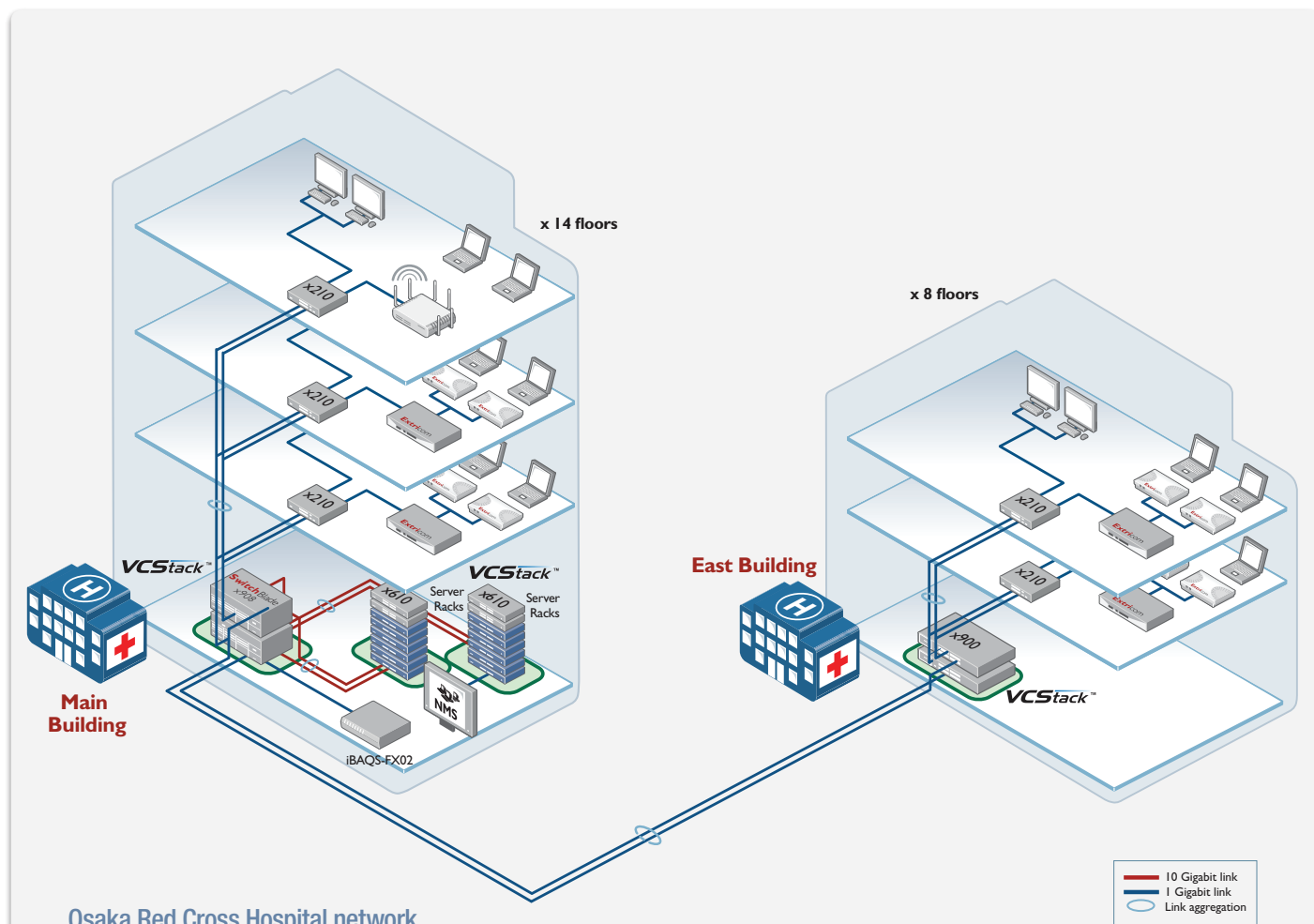
With around 1300 terminals connecting to the HIS network, the network upgrade had to support the hospital's modern and complex environment. To do this effectively, it needed to provide:

- improved network performance and reliability
- uninterrupted network access
- new seamless wireless connectivity
- support for the new electronic patient record system
- ease of management

Osaka Red Cross Hospital choose Allied Telesis

Due to their good performance during a previous upgrade, the Tsuzuki Denki Group was chosen to manage the 2013 network rebuild. They in turn selected Allied Telesis switches, for their reliability and cost-effectiveness, having used them in the old Osaka Red Cross Hospital network.

The solution

x 14 floors

x 8 floors

East Building

Main Building

iBAQS-FX02

Server Racks

Server Racks

NMS

VCStack™

VCStack™

VCStack™

SwitchBlade x908

x610

x610

x900

x210

x210

x210

x210

x210

10 Gigabit link
1 Gigabit link
Link aggregation

Osaka Red Cross Hospital network

The new network has SwitchBlade x908 core switches, which utilize Allied Telesis Virtual Chassis Stacking (VCStack™) technology, creating a single virtual unit out of the two individual switches to increase resilience.

Servers are connected to x610 Series switches, which also use VCStack to provide high availability. Two x900 Series switches, which were re-used from the previous generation network, provide distribution for the East building, and again use the power and reliability of VCStack. Allied Telesis x210 Series switches are used for access connectivity.

New wireless network access has been provided using Extricom™ Series wireless technology from Allied Telesis, for seamless roaming between hospital wards, and the easy real-time entry of patient data. Cost-effective Allied Telesis TQ Series wireless access points were used in smaller areas which did not require roaming capabilities.

The AlliedView NMS network manager centralizes provisioning and monitoring of the entire network. An iBAQS network authentication appliance was installed to ensure the security of data held in HIS, by preventing access from unauthorized devices.

Benefits of the new network

High Performance for uninterrupted network access

The SwitchBlade x908 core switches have dual load-sharing power supplies which are hot-swappable along with the fans and network expansion modules, to maximize network uptime.

VCStack on the SwitchBlade network core, as well as on the distribution and server switches, provides a resilient solution with no single point of failure, ensuring high availability with access to information when required. Hospital staff can be confident of connecting to online resources anytime.

The hospital's new network is now high performing, and provides stable and reliable access.

> "For a hospital operating around the clock and every day of the year, an uninterrupted network is required. Since the new network began operation we haven't received a single complaint from staff, and this is testament to its stable operation".
>
> Mr. Nobuhiro Mitsushima

Seamless wireless connectivity

Extricom Series wireless technology from Allied Telesis utilizes Channel Blanket™ architecture. This minimizes interference from wireless access points that are in close proximity to each other, allows seamless roaming across the whole wireless infrastructure, and increases the resilience of the entire system.

For Osaka Red Cross Hospital staff, who move between wards and departments, this seamless wireless connectivity is an ideal solution. With 20 access points on each hospital floor, Channel Blanket technology made installation easy, and is proving a perfect solution for highly mobile users.

Previously, nurses used paper-based recordings for patient checks such as blood pressure, or changes to drips and other medical devices. These had to be manually entered into a PC back at the nurse's station. With the introduction of the new electronic patient record system, wireless network access now allows real-time updates of patient records on mobile devices during patient checks and doctors' rounds. This streamlines the nursing workload, and provides safe and effective medical care.

Ease of management

The new Osaka Red Cross Hospital network provides a highly available solution with ready access to online systems, yet remains easy to manage.

The Command Line Interface (CLI) of the Allied Telesis switches is industry standard, reducing training costs and network configuration errors. There is also a Graphical User Interface (GUI) available to simplify common management tasks.

Using VCStack on the core, distribution and server switches further simplifies management, as each stack is managed as a single virtual device.

On top of the easy management of Allied Telesis devices, the AlliedView NMS network manager centralizes provisioning and monitoring of the entire network.

Future plans

The next stage of the hospital's drive to improve diagnostics and patient treatment is to integrate their PACs system with the HIS system, which will be well supported by the future-proof new Allied Telesis network.

Featured products
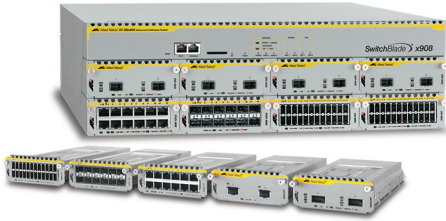
SwitchBlade® x908

ADVANCED LAYER 3+ MODULAR SWITCH

The Allied Telesis SwitchBlade x908 industry leading modular switch is an ideal network solution with powerful features packed into a compact 3RU chassis.

x610 Series

ADVANCED LAYER 3 GIGABIT ETHERNET STACKABLE SWITCHES

The Allied Telesis x610 Series is the high performing and scalable solution for today's networks, providing an extensive range of port-density and uplink-connectivity options. 24-port and 48-port versions are available with optional 10 Gigabit uplinks and PoE+ ports. The ability to stack up to eight units includes using fiber for long distance stacking. The x610 Series can connect anything from a small workgroup to a large business.

x210 Series

ENTERPRISE EDGE SWITCHES

The Allied Telesis x210 Series Layer 2+ switches offer an impressive set of features in an affordable package, ideal for applications at the network edge.

AT-TQ2450

IEEE 802.11N WIRELESS ACCESS POINTS

The Allied Telesis AT-TQ2450 Enterprise-grade access point features two concurrent IEEE 802.11n dual-band radios. The AT-TQ2450 offers two-spatial-stream Multiple Input and Multiple Output (MIMO) technology and antenna diversity, improving wireless bandwidth, efficiency, and robustness.

Extricom™ Series

WIRELESS LAN SYSTEM

The Allied Telesis Extricom™ Series WLAN system incorporates multiple breakthrough innovations that raise the bar for WLAN performance, flexibility, and ease of ownership. Based on Channel Blanket,™ a groundbreaking architectural design, it delivers a solution that is fully IEEE 802.11a/b/g/n/ac-compliant, but changes all of the paradigms about the Wi-Fi experience.

About Allied Telesis

Founded in Japan in 1987 and with offices worldwide, Allied Telesis is a leading provider of networking infrastructure and flexible, interoperable network solutions. The Company provides reliable video, voice and data network solutions to clients in multiple markets including government, healthcare, defense, education, retail, hospitality, and network service providers.

Allied Telesis is committed to innovating the way in which services and applications are delivered and managed, resulting in increased value and lower operating costs.

Visit us online at **alliedtelesis**.com

Allied Telesis

the **solution** : the **network**

North America Headquarters | 19800 North Creek Parkway | Suite 100 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895
Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830
EMEA & CSA Operations | Incheonweg 7 | 1437 EK Rozenburg | The Netherlands | T: +31 20 7950020 | F: +31 20 7950021

alliedtelesis.com