D-Link®

Case Study

Business Class Switching

Ospedale di Circolo

Fondazione Macchi

Ospedale Hospital Accelerates Transmission of Diagnostic Images with D-Link Business Class Switching Solution

Customer Profile:
Ospedale di Circolo e Fondazione Macchi Varese
Viale Borri, 57 21100 Varese, Italy

Constituted by law on 1 January 1998, the Ospedale di Circolo e Fondazione Macchi di Varese is a structured hospital for high specialization and national relief since 1995. Prior to being a hospital, it was a center of two university faculties since 1975 for Medicine, and Surgery of the University of the Studies of Pavia, subsequently recognized independent with the institution of the University of the Studies of the Insubria.

Challenge

In November 2006, the hospital Ospedale di Circolo e Fondazione Macchi Varese in Italy constructed a new structure to the hospital, located a kilometer away from the original. The widening of the structure has therefore raised the necessity to widen the means of communication between the hospitals.

Of particular attention required for the new structure is the need to have a LAN dedicated to the transportation of diagnostic images between the departments of radiology and nuclear medicine, the health clinic, the A&E and the filing system within two hospital premises. These include images from computed tomography (CT) scans and magnetic resonance imaging (MRI). In addition to connectivity between the two main hospital buildings, the LAN also has to connect to remote hospital structures located throughout the province, which were previously connected to the former structure via a star-centre system.

The operating difficulties being faced during the designing stage of the new LAN were linked primarily to the need for the redundancy of network equipment to avoid service interruptions, an aspect which is quintessential in a hospital environment. In addition, there was also the need to program the network devices and software packages to ensure the correct routing to and from the various existing networks, and the network in the new hospital structure.

Solution

In order to meet the challenges mentioned above, a study was made to deploy a plan necessary for realizing the adaptation of the equipment and devices programming with the existing networks between the two hospital structures and the remote hospitals. This plan includes the need to adopt a solution that can ensure the ongoing continuity of connections, hence D-Link Layer3 Switches (DGS-3312SR) with redundant power supply were chosen for the star centers, along with D-Link Layer 2 Switches (DGS-3024) with subdivision of the traffic on devices for the distribution of connectivity in the critical areas of Radiology and A&E. The diagnostic images of the old hospital structure is carried out using fiber optic 50/125 (DEM-311GT) with a double connection, which guarantees 2 Gigabit of effective band for the exchange of the diagnostic images between the existing network of class C and that new of class B having carried out via a trunk of 2 channels to 1 Gigabit.

"In planning an adequate solution for the customer, we have to take into account that while installing the new network, the old has to continue to work, therefore we have decided to use VLAN that can co-exist between the routines of the two hospitals' networks," said Franco Banfi, Product Marketing Manager of D-Link Southern Europe. "In this way, we were in a position to supply to all the hospitals the stability, safety, and capacity of expansion to those who needs it most."

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DGS-3312SR
24-Port L3 Gigabit Switch

DGS-3024
24-Port Gigabit Switch

CASE OBJECTIVE AND REQUIREMENTS:

1. Communication between new hospital structure with the old
2. Transportation of diagnostic images between departments
3. Connection to remote hospital structures located throughout the province
4. Adaptation of equipment and devices with existing network

PRODUCT FEATURES:

DGS-3312SR

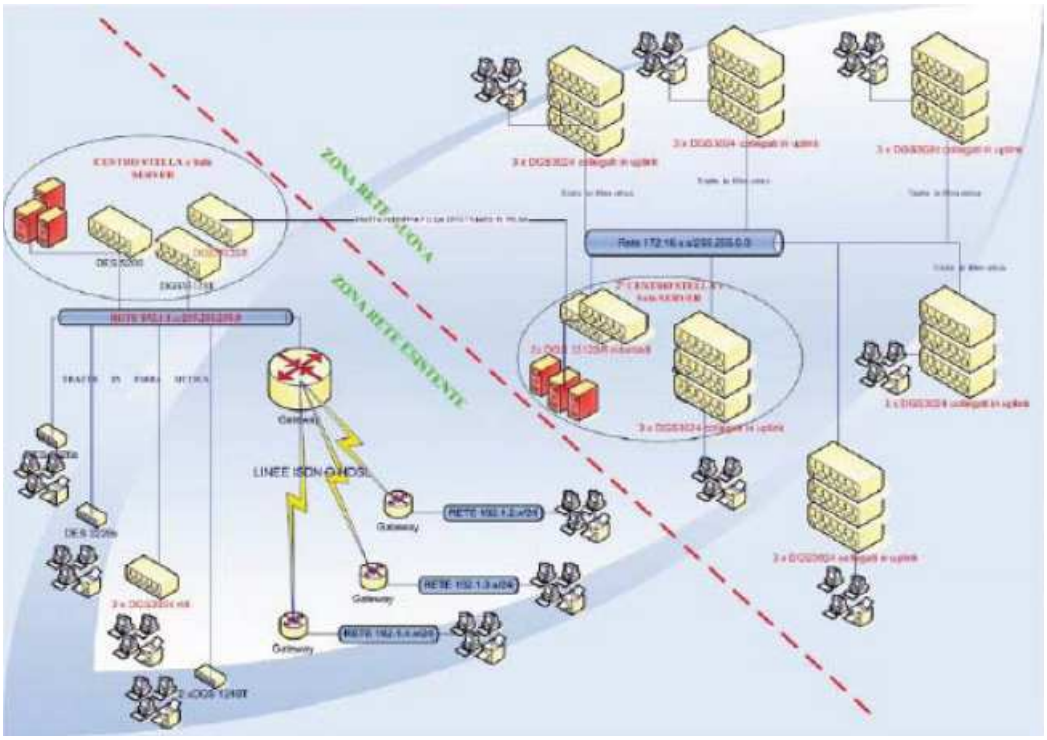
- Switching Capacity Up To 24Gbps
- Forward Capacity Up to 17Mbps
- Optional Redundant Power Unit
- 802.3ad (Link Aggregation)
- 802.1w (Rapid Spanning Tree)
- 802.1p Priority Tagging
- DiffServ QoS

DGS-3024

- Switching Capacity Up to 48Gbps
- 24 x 1000Mbps ports
- 4 Combo SFP Ports
- IEEE 802.3x Flow Control
- Auto-negotiation for Full-Duplex flow control operations
- 9KB Jumbo Frame Support

Conclusion

The implementation of VLAN using D-Link devices provides many advantages. These include the routing of logical networks above mere sufficient speed, the configuration of dynamic Link Aggregation, widening of bandwidth available for Server and Workstation, and the guaranteed availability of connectivity in the case of failover. Together with the employment of D-View software, active monitoring, centralization of control, management, backup and programming of beyond 300 active doors are also possible. All these were accomplished within two months from the date the new network was implemented and ready in January 2007.



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