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SOLUTIONS

All-Gigabit Connections for New IT Building at WIT

Waterford Institute of Technology uses SYSTIMAX® GigaSPEED® XL cabling to serve systems including its virtual supercomputer

The new IT building providing computing resources to 10,000 students and 1200 staff at Waterford Institute of Technology (WIT) in Ireland, has one of the first all-gigabit Local Area Networks (LANs) in Ireland. Connected via SYSTIMAX® GigaSPEED® XL cabling, the LAN supports a wide range of systems that will soon include a virtual super computer comprising 600 interconnected PCs forming a Beowulf Cluster.



WIT's first such cluster, using multiple PCs running an open source operating system, was connected via a 100 Mb/s network in an older building. The limitations imposed by this LAN were found to be the performance bottleneck for the cluster. The college, which offers education to doctorate level students in science, engineering, business and humanities, is now planning to implement a cluster using 600 computers interconnected at 1 Gb/s. It is expected that then, the true power of the 600 computer cluster will be realized.

The SYSTIMAX cabling in the new building serves 620 PCs and 50 servers together with WIT's storage area network (SAN). Reliable throughput from end-to-end at 1 Gb/s lets users benefit from the performance of their systems that will be virtually free from network delays and with a minimum of downtime.

"There are many projects and programs underway at the Institute that make heavy demands on IT resources," said Aidan McGrath, Information Technology (IT) Manager at WIT. "To meet their needs we must have fast LAN connections that we can rely on to give trouble-free service for many years. That was our aim when we designed the network and chose SYSTIMAX cabling – and now that the network is in service, it is meeting all our expectations."

Since GigaSPEED XL cabling exceeds specifications of the Category 6 cabling standard, it maintains gigabit performance even under most adverse conditions such as the presence of electro-magnetic noise from electrical equipment.

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New techniques for system performance modeling, developed at SYSTIMAX Labs, are used in the design of the GigaSPEED XL Solution. These ensure that it can meet its specifications by virtually eliminating the risk of performance degradation from effects such as resonance in short links and multiple connections within short distances.

SYSTIMAX BusinessPartner, Kedington, based in Dublin, Cork and Limerick, installed the cabling. Since the company first became a SYSTIMAX Systems Integrator in 1989, it has installed more than 25,000 kms of SYSTIMAX UTP copper cable and 3,000 kms of fiber cable.

Working with consultants, J.V. Tierney, the Kedington team planned the cable routing and layout of patching hardware. The GigaSPEED cabling was then laid under the floors to connect outlets throughout the building with SYSTIMAX VisiPatch™ patching hardware in the main computer room.

“The wall-mounted VisiPatch panels have the advantage of saving space in the computer room where floor area is always at a premium,” noted McGrath. “The cordless front appearance also helps to keep the place looking neat and tidy, and its design makes patching much easier and quicker to manage.”

High network throughput is already delivering benefits to the IT department, including the ability to install standard software on groups of PCs up to ten times faster than before. In addition to the virtual super computer, other LAN-intensive applications on the drawing board include video streaming of lectures across the campus.

Commenting on the installation, Wally Blennerhasset, Sales Director of SYSTIMAX® Solutions Ireland said: “The higher education sector needs to distribute a growing amount of computer resources to large numbers of students and staff. With a very high performance network, institutes and universities can enjoy the opportunities that IT offers in education and research - as well as meeting the growing expectations of today’s students.”

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