

## **Osiris network at Strasbourg University is upgraded with NextiraOne**

**Ultra high performance network handles exceptional traffic from CERN's Large Hadron Collider**

The grid computing facility at the Hubert Curien Multi-disciplinary Institute of the University of Strasbourg in France is a major user of the University's ultra high performance network. It works closely with the Large Hadron Collider (LHC) particle accelerator at CERN in Geneva, generating enormous peaks in data traffic and demanding a very high level of reliability.

**Paris, 01 February, 2011** – NextiraOne, Europe's leading expert in communications services, has won a contract with the University of Strasbourg in France to provide the equipment needed for the complete upgrade of the university's metropolitan area network infrastructure (MAN). This will help to simplify the network and reduce costs.

The three Strasbourg universities (Louis Pasteur, Robert Schumann and Marc Bloch) have been merged into one single university, the University of Strasbourg since January 2009. The new University has more than 420,000 students in around 120 buildings. Osiris is the network infrastructure linking the 13 higher education and research establishments of the University of Strasbourg. The equipment at the heart of the network infrastructure was outdated and had to be replaced with high performance, highly reliable equipment.

This led to the launch, in June 2008, of the University's Osiris 3 project with the aim of providing a new network infrastructure and access services to support the development of digital applications for both higher education and for research. Osiris 3's main objectives were to replace the core equipment in order to improve the performance of the network and to deploy an architecture providing redundancy within the network and connectivity in the University's 100+ buildings.

The Osiris network is seen as a critical resource within the University. It supports research studies, including high performance grid computing, underpins applications

and teaching aids (such as podcasts and video transmission of courses) and also enables knowledge sharing and IP telephony. All these applications must be able to rely on an effective, high performance network to ensure quality and continuity of service, according to Jérôme Pansanel, Director of the Hubert Curien Multi-disciplinary Institute's grid computing facility and Philippe Portelli, Director for Digital Applications (Direction des Usages Numériques - DUN) of the University of Strasbourg.

The grid computing facility at the Hubert Curien Multi-disciplinary Institute is a vast computer resource encompassing 1500 computing cores and 600 terabytes of storage. It works in conjunction with the Large Hadron Collider (LHC), the world's largest and highest energy particle accelerator at CERN in Geneva, for which it handles some of the data. [CERN: "The Large Hadron Collider (LHC) is a giant scientific instrument located near Geneva on the Franco-Swiss border, about 100 metres underground. It is a particle accelerator which will be used by physicists to study the smallest known particles: the fundamental components of matter"]].

"The launch of the LHC in spring 2010 has greatly increased the amount of data traffic between our computer room and the rest of the world," says Jerome Pansanel, Director of the Hubert Curien Multi-disciplinary Institute's grid computing facility. "We regularly see peaks of data transfer of 4-5 gigabits per second. The grid computing activity requires absolute network reliability – if data is not available the calculations would fail. With around 1200 calculations going on in a 24 hour period, we could potentially lose 28,800 hours of calculations per day - recurring incidents of this kind could endanger the sustainability of our site. This would be even more regrettable since the Hubert Curien computer centre is one of the only sites on the French grid that is on a par with our American counterparts, and it is the only one of its kind in the north-east of France."

"Increasingly we are moving towards bandwidth-hungry usage of the network, notably as a result of the increasing number of images and video images traversing the network," explains Philippe Portelli, Director for Digital Applications (Direction des usages numériques - DUN) of the University of Strasbourg. "Performance and reliability are necessities if we are to develop new applications and tools. These include the simultaneous transmission of courses to remote lecture halls, as in the case of first year medical studies and web TV. These are only possible via a high quality network."

Philippe Portelli adds: "Next spring the DUN and the IT Department will implement a new system of instant audio and video communication (similar to "Skype") in a deployment which is planned for the whole university from September 2011. This would not be possible without a powerful, efficient network."

NextiraOne was chosen to provide the new equipment for the network architecture defined by the IT department of the University, which was also responsible for the configuring and deployment of the 10 Gbps MAN architecture that connects the various sites and within the 120 buildings. The NextiraOne contract also includes the technical support and an operational service agreement for the management of incidents.

The university implementation is the first full Juniper network in France and is based on full Juniper LAN and MAN equipment (2 MX480, 15 EX8208 and eventually around 100 EX4200 stacks).

Simplifying the architecture has allowed the University of Strasbourg to reduce its operating costs and significantly improve the performance of its network. The scalability of the solution is also a major benefit to the university which is considering the integration of new applications such as video and desktop tools. The convergence of various communications networks has presented a powerful opportunity for both educators and students in terms of knowledge and information sharing.

"The University of Strasbourg is aiming towards becoming a centre of excellence, so we needed an infrastructure that matched our aspirations – an efficient, effective, powerful network which would enable us to offer innovative digital services to students and educators," says Christophe Saillard, Head of Project Osiris 3 in the University of Strasbourg's IT Department. "Our network must perform perfectly and NextiraOne understood our issues and our needs."

Thierry Sanson, Business Developer for Education and Research at NextiraOne comments: "Following our experience with the University of Strasbourg we will be addressing the needs of France's 46 universities in order to help them make the most of their transformation plans. Our understanding of and experience in the Higher Education and Research sector is fully aligned with this 'Campus of Excellence'

development. The harnessing of new technologies for the benefit of researchers, teachers and students can only serve to strengthen their standing world-wide.”

#### **About NextiraOne**

Headquartered in Paris, NextiraOne is Europe’s leading expert in communications services. The company designs, installs, maintains and supports all of its customers’ communications needs from voice to mobility, security and applications. NextiraOne provides seamless, end-to-end communications solutions working with the leading technology vendors in the industry to deliver maximum business benefit to customers.

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