

## Global Crossing Supports World's First Trans-European 10-Gigabit Ethernet Connection

- Provides interface choice for connecting to Global Crossing's worldwide IP backbone.
- Furthers the development of the Ethernet technology in wide area network (WAN) environment.
- Demonstrates Global Crossing's leadership in network advancement for research and education networks worldwide.

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**Amsterdam, The Netherlands** – Global Crossing, a leader in providing innovative high bandwidth broadband services to research and education networks worldwide, announced today that it is supporting the world's first trans-European 10 Gigabit Ethernet (10 GigE) connection between the Dutch national research network (SURFnet) in Amsterdam and the European Organization for Nuclear Research (CERN) in Geneva.

10 GigE connectivity represents a breakthrough in wide area networking using Ethernet technology, which had once been the sole domain of corporate local area networks (LANs). Global Crossing's 10 GigE connection support allows customers to choose between an interface that supports native Ethernet, SONET or SDH, depending on the region. With Ethernet technology, Global Crossing customers can use a standard interface to connect to the Global Crossing worldwide IP network.

The connection crosses four countries and spans 1,700 km. The network uses the new 10 GigE WAN transmission technology capable of transmitting the equivalent of 1.5 complete data CDs per second and is deployed over a Global Crossing OC-192 lambda between Amsterdam and Geneva.

This is significant in that it allows customers that require high bandwidth connectivity to use standard Ethernet interfaces to run data traffic across existing SDH/SONET infrastructure, effectively extending the span of an Ethernet network and providing a more cost effective solution than traditional alternatives. Previously, SONET or SDH interfaces were the only choice for such a connection. Ethernet connectivity is generally supported in the majority of standard Global Crossing point of presence worldwide.

The CERN to Amsterdam connection was used by researchers from the ATLAS experiment, which is building the Large Hadron Collider, and the University of Amsterdam to transfer a single TCP data stream between a pair of high-end server PCs at 5.4 Gbps, a rate limited only by the PC's hardware and software. Using two PC's at each end, it was shown possible to utilize the full data bandwidth (9.2 Gbps) of the CERN to Amsterdam connection. The results are an important milestone in exploring the high-speed distribution of data from CERN's new Large Hadron Collider, scheduled to come into operation in 2007.

The connection helps advance Global Crossing's leadership in global network advancement, according to Phil Metcalf, managing director of Global Crossing Europe. "It's another example of Global Crossing's continued innovation and commitment to providing outstanding customer service to the research and education community. The project underlines how the strength of our network positions Global Crossing as a leading provider of regional and global high-speed computing and for next generation networking."

Kees Neggens, managing director of SURFnet, applauds the results. "SURFnet has pioneered 'hybrid' networking since early 2002 via the NL GigaPort project. This work is an excellent

demonstration of the potential of lambda services for science applications and yet another step in the development of GLIF, the emerging Global Lambda Integrated Facility.”

Bob Dobinson, senior physicist at CERN, said: “Over the last decades we have seen Ethernet become the predominant local area network standard. Now we see the use of Ethernet at the Trans European level. ‘Ethernet Everywhere’ may well be an appropriate slogan for the future world of networking. This could be a significant development for the ATLAS experiment.”

Global Crossing’s support of this Ethernet connection helps meet universal demand, said Rob de Ruig, Global Crossing director of data services in Europe. “The stability, reach and vast transmission capabilities of Global Crossing’s IP network, coupled with our technical leadership, allows research networks to meet an almost insatiable demand for bandwidth. The growing mesh of research and academic networks worldwide is consuming ever more bandwidth as international collaboration grows and the scale and scope of scientific broadband applications reach new frontiers.”

**Note to Editors:**

The network consisted of a SURFnet OC-192 lambda between Amsterdam and Geneva delivered by Global Crossing. The set-up was first tested for 90 hours using IXIA network testers. This equipment proved the stability and raw performance of the network by transporting 365 TBytes of raw data without any bit error or packet loss. In subsequent tests Force10 switch/routers were connected directly to the DWDM equipment using two 10 Gbps WAN PHY interfaces. Another set-up included Cisco ONS 15454 Multiservice Optical Platforms in the path. For test purposes several HP Itanium and Xeon systems were connected on both sides and equipped with Intel 10 Gbps Ethernet network interface cards.

**Global Crossing and Research and Educational Networks**

A premier network provider to the international academic and research communities, Global Crossing recently joined Internet2, a consortium of 200 North American universities working in partnership with industry and government to develop and deploy advanced network applications and technologies, accelerating the creation of tomorrow’s Internet. Network technology innovation is also at the heart of Internet2, which in addition to its university members includes more than 70 companies and some 40 affiliated organizations, including US government research laboratories. Internet2 members are working with more than 30 additional research and education networking organizations in countries around the world, pushing the limits of cross-continental high bandwidth collaboration.

Global Crossing has provided SURFnet transatlantic and transcontinental connectivity since October 2001. In July 2002, SURFnet signed a 15-year contract with Global Crossing for a link with ASTRON, the Netherlands foundation for research in astronomy. Additionally, in October 2002, Global Crossing was commissioned for a multi-Gigabit wavelength connection between Amsterdam’s NetherLight and CERN in Geneva for use in tests that optimize how research networks are used. In April 2003, Global Crossing was again selected for a multiple fiber connection to pass terabyte traffic streams between ASTRON and its radio telescopes. Global Crossing also supplies SURFnet with global Internet connectivity via two Gigabit Ethernet Internet ports in Amsterdam. In May 2003 Global Crossing was selected by SURFnet to provide a 10 Gbps lambda between NetherLight in Amsterdam and StarLight in Chicago. This connection was financed with a grant from the US National Science Foundation.

Global Crossing supports DANTE, the organization responsible for managing the world’s largest academic and research network, GÉANT. Global Crossing has been commissioned for multi-gigabit IP Transit Service to DANTE, which operates a 10 Gbps European IP backbone to connect approximately 3,500 research and educational establishments in more than 30 countries around Europe. In Ireland, Global Crossing has a contract with the research network HEAnet to provide fast Internet access to more than 150,000 students, academics and researchers. Global

Crossing also supports the Brazilian National Research and Education Network (RNP) the largest academic and research network in Latin America and the Brazilian state network, ANSP/FAPESP (Academic Network from São Paulo Fundação de Amparo à Pesquisa do Estado de São Paulo).

#### **ABOUT SURFNET**

SURFnet operates the national research network to which 150 institutions in higher education and research in the Netherlands are connected. To remain in the lead, SURFnet strives to improve the infrastructure and to develop new applications to give users faster and better access to new Internet services. One of SURFnet's latest initiatives is NetherLight, an experimental optical Internet interconnection point in Amsterdam. Research networks and institutes in the Netherlands and abroad can connect their lambdas in order to research models and techniques for future generations of optical Internet exchanges. For more information please visit [www.surfnet.nl](http://www.surfnet.nl) and [www.netherlight.net](http://www.netherlight.net).

#### **ABOUT CERN**

CERN is the European Laboratory for Particle Physics, one of the world's most prestigious centres for fundamental research. The Atlas Experiment for the Large Hadron Collider is under construction at CERN. The Large Hadron Collider is an accelerator that brings protons and ions into head-on collisions at higher energies than ever achieved before. This will allow scientists to penetrate still further into the structure of matter and recreate the conditions prevailing in the early universe, just after the "Big Bang." It is the largest collaborative effort ever attempted in the physical sciences and some 7,000 scientists from universities and laboratories all around the world will use it to answer some of the most fundamental questions of science.

#### **ABOUT GLOBAL CROSSING**

Global Crossing provides telecommunications solutions over the world's first integrated global IP-based network, which reaches 27 countries and more than 200 major cities around the globe. Global Crossing serves many of the world's largest corporations, providing a full range of managed data and voice products and services.

On January 28, 2002, Global Crossing Ltd. and certain of its subsidiaries (excluding Asia Global Crossing and its subsidiaries) commenced Chapter 11 cases in the United States Bankruptcy Court for the Southern District of New York (Bankruptcy Court) and coordinated proceedings in the Supreme Court of Bermuda (Bermuda Court). On the same date, the Bermuda Court granted an order appointing joint provisional liquidators with the power to oversee the continuation and reorganization of the Bermuda-incorporated companies' businesses under the control of their boards of directors and under the supervision of the Bankruptcy Court and the Bermuda Court. Additional Global Crossing subsidiaries commenced Chapter 11 cases on April 23, August 4 and August 30, 2002, with the Bermuda incorporated subsidiaries filing coordinated insolvency proceedings in the Bermuda Court. The administration of all the cases filed subsequent to Global Crossing's initial filing on January 28, 2002 has been consolidated with that of the cases commenced on January 28, 2002. Global Crossing's Plan of Reorganization, which was confirmed by the Bankruptcy Court on December 26, 2002, does not include a capital structure in which existing common or preferred equity will retain any value.

On November 18, 2002, Asia Global Crossing Ltd., a majority-owned subsidiary of Global Crossing, and its subsidiary, Asia Global Crossing Development Co., commenced Chapter 11 cases in the United States Bankruptcy Court for the Southern District of New York and coordinated proceedings in the Supreme Court of Bermuda, both of which are separate from the cases of Global Crossing. Asia Global Crossing has announced that no recovery is expected for Asia Global Crossing's shareholders. Asia Netcom, a company organized by China Netcom Corporation (Hong Kong) on behalf of a consortium of investors, has acquired substantially all of Asia Global Crossing's operating subsidiaries except Pacific Crossing Ltd., a majority-owned subsidiary of Asia Global Crossing that filed separate bankruptcy proceedings on July 19, 2002. Global Crossing no longer has control of or effective ownership in any of the assets formerly operated by Asia Global Crossing.

Please visit [www.globalcrossing.com](http://www.globalcrossing.com) for more information about Global Crossing.

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