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**HEAnet Ireland's National Education and Research Network,
CTVR and Catalan's i2CAT Demonstrate First-Ever
User-Controlled Provisioning of Pure Optical links On-Demand
using Network Virtualization**

Networks Dynamically Reconfigure Themselves to
Economically Connect Large Data Flows

Dublin, Ireland/Hayward, CA – February 21, 2007 – A consortium of network innovators proved today that a user, without prior knowledge of a network or an understanding of how to configure it, could create their own private optical network on demand, via a web page and Web Services interface. Additionally, the consortium's members demonstrated the ability to automatically detect and re-route large data flows between countries along more optimal paths to improve customer service and provide greater network efficiency.

This series of announcements were made today by HEAnet, Ireland's National Research and Education Network (NREN); Trinity College Dublin's Centre for Telecommunications Value Chain Research (CTVR); Barcelona's i2CAT, a non-profit organization that promotes research and innovation for advanced Internet technology and Glimmerglass, developer of optical switching solutions at the core of the new optical Internet.

Using User Controlled LightPath (UCLP) software to control two Glimmerglass Intelligent Optical Switches via a web interface, a HEAnet user created a Gigabit Ethernet circuit from the i2CAT facility in Barcelona to Trinity College in Dublin, using a link from GÉANT over a L2 MPLS Virtual Leased Line network. In this way, the group demonstrated an agile optical Internet in which users and communities can define and determine network connections and desired bandwidth on demand as needed.

"This is the first successful demonstration of using optical switches and UCLPv1.5 software" said Eoin Kenny, project manager, HEAnet. "It's important because, previous to this UCLPv1.5 software had

only been used with traditional SDH/SONET transmission or Ethernet equipment. This demonstration enabled a user to automatically request an optical link as part of complete end to end Gigabit Ethernet circuit from i2CAT in Barcelona to CTVR in Dublin.”

In addition to i2CAT developing UCLPv1.5 software to control Glimmerglass all optical switches, CTVR were able to demonstrate how their IP flow software was able to create on demand pure optical links using UCLP’s Web Services and the Glimmerglass switches based on detecting IP flows which were then switched to alternative optical paths. This technique is often referred to as optical IP switching (OIS).

Optical IP switching is a pioneering technique developed at CTVR that can be embedded in IP routers. It analyzes and correlates IP packets, and if IP flows appear with specific characteristics the router establishes an optical cut-through path between its upstream and downstream neighbors, requesting the upstream node to place all the packets belonging to the flow into the new path. The newly generated trail bypasses the IP layer of the router, as the packets transparently flow from the upstream to the downstream neighbor.

About HEAnet

HEAnet is Ireland’s national education and research network, providing high quality Internet services to students and staff in Irish Universities, Institutes of Technology and educational community including primary and post primary schools. HEAnet today is one of the largest Internet Service Providers in the country providing high-speed national network with direct connectivity to other networks in Ireland, Europe the USA and the rest of the world in the academic and research communities.

About CTVR

The Centre for Telecommunications Value-Chain Research (CTVR) is an Irish government initiative established in 2004. It brings together a team of 100 researchers operating in 8 Universities and third level institutes working on key problems in wireless and optical networking. The centre aims to carve out an international leadership position in industry-guided research, which redefines key elements of telecommunications systems, architectures and networks, and the value chains used to design, build, market and service them.

About i2CAT

i2CAT is a non-profit Foundation aimed at fostering research and innovation supporting advanced Internet technology. Based in Barcelona, Spain, i2CAT promotes deployment of services and wideband applications from private and public research companies supporting the Catalunya region. The i2CAT model aims to make Internet research and innovation accessible to the whole of society through collaboration between the public sector, businesses and research groups within universities and the educational world.

About Glimmerglass

Glimmerglass is developing solutions at the core of the new optical Internet. The company's Intelligent Optical Switches cost-effectively create, monitor and protect advanced communication services. Glimmerglass products manage physical-layer fiber connections that carry IP over DWDM, 10 Gigabit Ethernet, 40 Gigabit SONET/SDH, FTTx, video, RF over fiber and more. System operators of commercial networks, mission-critical defense systems, advanced optical testing facilities and high-performance research networks worldwide rely on Glimmerglass to remotely and automatically configure optical fiber. Visit www.glimmerglass.com.

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