

AtlanticWave, CANet 4 and StarLight Improve International Research Collaboration

Washington, D.C. – The new AtlanticWave high performance digital communications service has been interconnected with two additional international networking facilities – CANet 4 and StarLight – to complete linking up the North American international exchange points. AtlanticWave, officially launched by the Southeastern Universities Research Association (SURA) and a group of collaborating not-for-profit organizations, is a 10 Gigabit per second (Gbps) distributed international research network exchange and peering facility along the Atlantic coast of North and South America. The main goal of AtlanticWave is to facilitate research and education (R&E) collaborations between U.S. and Latin American institutions.

CANet, Canada's advanced national research and education network, with facilities in the US, has established a 10 Gbps connection to the AtlanticWave in New York City from the StarLight Global Optical Lambda Exchange (GOLE), an international communications exchange in Chicago. The CANet 4 and StarLight organizations manage the StarLight GOLE to provide interconnection services with advanced research networks world-wide. AtlanticWave, CANet 4, and StarLight support the GLIF (Global Lambda Integrated Facility - www.glif.is) GOLE architectural and service model. These GOLEs are implementing hybrid network multilayer services, instead of the traditional single layer model based on packet routing.

StarLight has also connected to the AtlanticWave in Washington DC through the CAVEwave, a specialized national 10 Gbps network designed and implemented for advanced research managed by the Electronic Visualization Laboratory of the University of Illinois at Chicago. At StarLight, both CANet 4 and CAVEwave also provide AtlanticWave traffic with connectivity to the TransLight circuit that connects StarLight to a GOLE in Seattle (the Pacific Northwest Gigapop). This TransLight circuit is a 10 Gbps Cisco Research Wave deployed on the National LambdaRail that interconnects two National Science Foundation-funded International Research Network Connection (IRNC) initiatives: TransLight/Pacific West and TransLight/StarLight. Through the Seattle GOLE, this facility has extensions that reach Asia-Pacific through the PacificWave, 2 x 10Gbps lightpaths in operation between LA and Seattle. From LA to Tijuana, two additional circuits are provided by the NSF IRNC Translight/PacificWave and WHREN-LILA projects. From Tijuana, connections exist to other Latin American and South American research network connections.

The advanced networking services to South America are made possible, in part, through a third NSF IRNC funded project – the Western Hemisphere Research and Education Networks - Links Interconnecting Latin America (WHREN-LILA). Collectively, these projects are creating an integrated exchange infrastructure that includes high performance circuits that link the eastern coast of South America, the Atlantic coast of North America, across the US and Canada through the Chicago StarLight, the Pacific coast of North American, and the western coast of Mexico and South America. This unique combined and leveraged infrastructure facilitates US, Canadian, European, Pacific Rim and Latin

American high performance network connections, especially for large-scale global science.

AtlanticWave, CANet 4, StarLight and PacificWave are supporting a large number of advanced technology demonstrations at the SC06, a national supercomputing and high performance communications conference being held in Tampa, Florida, November 13-17.

About AtlanticWave

AtlanticWave provides R&E network exchange and peering services for multiple advanced networks that interconnect at key exchange points along the Atlantic Coast of North and South America. AtlanticWave was proposed as an integral component of the successful proposal submitted to the National Science Foundation International Research Network Connections (IRNC) program by Florida International University (FIU) and the Corporation for Education Network Initiatives in California (CENIC). SURA has played a vital role in the actual creation of AtlanticWave, by providing the initial funds needed to purchase a 10-Gigabit Ethernet wave on the National LambdaRail (NLR) and the Florida LambdaRail (FLR) to interconnect the four east coast U.S. exchange points, as well as facilitating the formation of the collaboration. The organizations collaborating in establishing and operating AtlanticWave include SURA, FIU, FLR, Southern Light Rail (SLR), MAX, Internet2, and the International Educational Equal Access Foundation (IEEAF). For more information, visit www.atlanticwave.net.

About CANARIE and CANet 4

CANARIE, Canada's advanced Internet development organization, is a not-for-profit corporation supported by its members, project partners and the Federal Government. Since 1993, CANARIE has received more than \$350 million from the Government of Canada. That funding has been used for the research and implementation of advanced networks and applications that stimulate economic growth and increase Canada's international competitiveness. CANet 4 is the fourth generation of Canada's research and education network. CANARIE's mission is to accelerate Canada's advanced Internet development and use by facilitating the widespread adoption of faster, more efficient networks and by enabling the next generation of advanced products, applications and services to run on them. For more information, visit www.canarie.ca.

About StarLight^(sm)

StarLight is an advanced optical infrastructure and proving ground for network services optimized for high-performance, large scale national and global applications. Operational since summer 2001, StarLight has 1GE and 10GE switch/router facilities and true optical switching for wavelengths. StarLight is being developed by the Electronic Visualization Laboratory (EVL) at the University of Illinois at Chicago (UIC), the International Center for Advanced Internet Research (iCAIR) at Northwestern University, and the Mathematics and Computer Science Division at Argonne National Laboratory, in partnership with Canada's CANARIE and the Netherlands' SURFnet. StarLight receives major funding from the National Science Foundation. For more information, visit www.startap.net/starlight.

About Pacific Wave and TransLight/Pacific Wave

Pacific Wave is a joint project between the Corporation for Education Network Initiatives in California (CENIC) and the Pacific Northwest Gigapop (PNWGP), and is operated in collaboration with the University of Southern California and the University of Washington. Pacific Wave enhances research and education network capabilities by increasing network efficiency, reducing latency, increasing throughput, and reducing costs. The USA National Science Foundation provides support for Pacific Wave and research connectivity from the U.S. West Coast to Australia through Hawaii in the "TransLight/PacificWave" award to the University of Southern California.

For more information, visit <http://www.pacificwave.net> and <http://www.pacificwave.net/participants/irnc>.

About AMPATH and WHREN-LILA

Florida International University's Center for Internet Augmented Research and Assessment (CIARA) has developed the AMPATH (AMericasPATH) international, high-performance research exchange point in Miami, Florida. AMPATH's goal is to enable a variety of U.S. research programs in the region by acting as the major international exchange point (IXP) between the U.S. and the international research and education networks in South America, Central America, Mexico, and the Caribbean. The AMPATH IXP is home to the WHREN-LILA high-performance network link connecting Latin America to the U.S., funded by the NSF (award #0441095) and the Academic Network of São Paulo, Brazil (award #2003/13708-0).

For more information, visit www.ampath.fiu.edu.

About SURA

The Southeastern Universities Research Association (SURA) is a consortium of over 60 leading research institutions in the southern United States and the District of Columbia established in 1980 as a non-stock, non-profit corporation. SURA serves as an entity through which colleges, universities, and other organizations may cooperate with one another, and with government and industry in acquiring, developing, and using laboratories and other research facilities, and in furthering knowledge and the application of that knowledge in the physical, biological, and other natural sciences and engineering. For more information, visit www.sura.org.