

November 3, 2006

Kyoto University Joins the Global Lambda Visualization Facility

CHICAGO, Ill. and IWATE, Japan – University of Illinois at Chicago (UIC) Electronic Visualization Laboratory (EVL) director Jason Leigh formally welcomed Kyoto University to the Global Lambda Visualization Facility (GLVF) community of high-performance networking and visualization researchers during his presentation on Friday, October 27, 2006, at the JGN 2 Workshop #8 in Iwate, Japan. Japan's National Institute of Information and Communications Technology (NICT) and Iwate Prefecture University sponsored the workshop.

Leigh's presentation, "The SAGE System over JGN 2 and StarLight," given via two-way teleconferencing between Chicago and Kyoto, and then multicast to Iwate and several other locations throughout Japan, focused on how Kyoto University will work with EVL and other GLVF participants on scientific visualization and collaboration technology development using the Japanese Advanced Testbed Network for Research and Development, or the JGN 2 network, including an international component from Tokyo to Chicago's StarLight.

Leigh is the primary organizer of the GLVF, a group of computer-graphics experts, social scientists, and network engineers from approximately 20 institutions worldwide who work on complementary distributed visualization and collaboration tools and technologies to benefit large-scale science. Prior to the iGrid 2005 Workshop last year, these experts self-organized to make their tools interoperable and to develop a common platform for advanced, real-time, interactive visualization and distance collaboration.

GLVF sites are equipped with a wide range of visualization technologies and are connected to high-speed international networks that are part of a worldwide network fabric called the Global Lambda Integrated Facility (GLIF). One of the key collaboration technologies being used by the GLVF community is EVL's Scalable Adaptive Graphics Environment (SAGE). SAGE is specialized middleware that enables real-time streaming of extremely high-resolution graphics and high-definition (HD) video from remote HD cameras and distributed rendering and storage clusters to scalable display walls over high-speed networks. Kyoto University researchers already have SAGE installed on their tiled display and are developing SAGE-enabled high-definition-video-streaming and point-based rendering applications for the GLVF community. Kyoto University is connected to Japan's JGN 2 optical network testbed, which is funded by NICT, a participant in GLIF.

Leigh is pleased to work with Kyoto researcher Kukimoto Nobuyuki, whom he has collaborated with for over 10 years. “GLVF welcomes Kyoto University for its expertise and its desire to share technologies and best practices,” said Leigh. “GLVF is focused on the fusion of advanced digital technology into a unique end-to-end persistent infrastructure. Its participants have opportunities to work with computer scientists and domain scientists worldwide to harden, deploy and evaluate tools and techniques, tighten the feedback loop, integrate new ideas from many different cultures and backgrounds, and leverage international networking testbeds to create persistent environments. Everyone benefits.”

In August 2004, JGN 2 connected a 10Gbps transpacific link between Tokyo and StarLight, a National Science Foundation-funded advanced Internet switching facility located at Northwestern University's (NU) downtown Chicago campus and managed by UIC, NU and Argonne National Laboratory. Last July, NICT signed a memorandum of understanding with UIC, formalizing a collaboration with Japanese research and education organizations including universities and institutions, and recognizing Chicago as a major hub for ultra-high-speed advanced optical network research and development exchanges.

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About Scalable Adaptive Graphics Environment (SAGE) <www.evl.uic.edu/cavern/sage>

The Scalable Adaptive Graphics Environment (SAGE) is an integrated system used to simultaneously display multiple networked applications on high-resolution tiled displays. The SAGE architecture uses distributed rendering clusters connected by high-bandwidth networks to stream multiple applications to a class of scalable tiled displays that are fast becoming a standard for scientific distance collaboration. Using SAGE, several applications—including high-resolution 2D imagery, 3D computer graphics and high definition video—can be streamed and viewed simultaneously. SAGE is being developed by the Electronic Visualization Laboratory at the University of Illinois at Chicago as part of the NSF-funded OptIPuter project.

Related Links:

UIC Electronic Visualization Laboratory <www.evl.uic.edu>

Kyoto University <www.kyoto-u.ac.jp/index-e.html>

Global Lambda Visualization Facility <www.evl.uic.edu/cavern/glvf>

Global Lambda Integrated Facility <www.glif.is>

StarLight <www.startap.net/starlight>

JGN 2 <<http://www.jgn.nict.go.jp/e/>>

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