iGrid 2000

Empowering
Global Research
Community Networking

www.startap.net/igrid2000
University of Illinois at Chicago and Indiana University
in collaboration with the University of Tokyo and Keio University

International Grid Application Research Demonstrations
INET 2000 The Internet Global Summit

18-21 July 2000
Yokohama, Japan

INET 2000
The Internet Global Summit
Global Distributed Intelligence for Everyone
The 10th Annual Internet Society Conference
18-21 July 2000
Pacifico Yokohama Conference Center
Yokohama, Japan
www.isoc.org/inet2000

INET is the premier event in the Internet industry, providing an international forum for advancing the development and implementation of Internet networks, technologies, applications, and policies. The world's Internet leaders meet at INET conferences to exchange experiences and shape the future of the Internet. INET attendees examine strategic issues emanating from the Internet's impact on commerce and finance, education, technologies and societies. INET 2000 presents a strong technical program with all papers peer reviewed by industry experts from around the world. The Internet Society (ISOC) hosts the annual INET conference.

Call for Application Demonstrations

The Electronic Visualization Laboratory (EVL) at the University of Illinois at Chicago (UIC) and the Office of the Vice President for Information Technology at Indiana University (IU), in collaboration with University of Tokyo and Keio University, are organizing iGrid 2000 – a major research demonstration at the INET 2000 conference, July 18-21, in Yokohama, Japan – to showcase the ongoing development of an International Grid (iGrid) for global community networking.

We are soliciting demonstrations that feature technological innovations and application advancements requiring high-speed networks, with emphasis on distributed supercomputing, tele-immersion, remote instrumentation, large datasets, collaboration, digital video, streaming media and high-definition television. Interactive applications in computational science and engineering research, health care, manufacturing, education, and climate studies are encouraged. Please review the *Proposal Submission Guidelines* on the next page.

The iGrid 2000 booth will have Silicon Graphics (SGI) Unix workstations and Windows/NT/Linux PCs connected to ImmersaDesk™ display devices that can be run in virtual-reality (stereoscopic) or large-screen (monoscopic) mode. We may also have a CAVE® onsite. The booth will be connected to the Japanese Gigabit Network (JGN), to the APAN network and to the APAN/TransPAC (90Mbps) link to STAR TAP.

Based on the number of demonstrations and the availability of resources, we will schedule demos at specific time intervals throughout the week of the conference. Representatives for each application must attend INET to demonstrate their work. In some instances, funding to help offset travel expenses may be available.

The complementary nature of research being conducted in countries worldwide and the ability to access unique data and computing resources are compelling reasons for constructing and maintaining global interoperable broadband networks. Conversely, the demands that applications put on these networks demonstrate increased expectations for bandwidth, quality of service and interoperability. The iGrid testbed welcomes your participation–and encourages demonstrations of ongoing networked collaborations–to draw attention to the importance and persistence of this evolving Global Information Infrastructure.

Preproposals due February 14, 2000; full proposals due March 14. A jury will review proposals for feasibility, and feedback will be provided to assure successful presentations.

Disclaimer: iGrid 2000 requires funding assistance from sources external to the conference, and may be cancelled if such assistance is not forthcoming. The response to this Call for Participation will help substantiate requests to equipment companies and government agencies for support.

STAR TAP℠

www.startap.net

STAR TAP is a persistent infrastructure to facilitate the long-term interconnection and interoperability of advanced networking in support of applications, performance measuring, and technology evaluations.

STAR TAP is managed by the Electronic Visualization Laboratory at the University of Illinois at Chicago, Argonne National Laboratory and Ameritech Advanced Data Services, with major support from the US National Science Foundation.

Networks connected to STAR TAP:

- Asian Pacific Advanced Network (APAN)
- Canada's CA*net 2/3
- CERN
- France's RENATER2
- Israel's IUCC
- Netherlands' SURFnet
- Nordic countries' NORDUnet
- Russia's MIRnet
- Singapore's SingAREN
- Taiwan's TANet2
- US Internet2's Abilene network
- US Next Generation Internet (NGI) networks: NSF's vBNS, Department of Energy's ESnet, Department of Defense's DREN, and NASA's NISN and NREN

Additional NSF support enables UIC to facilitate European connectivity to STAR TAP through the Euro-Link project, University of Tennessee to facilitate Russian connectivity through MIRnet, and Indiana University to facilitate APAN connectivity through TransPAC.

iGrid 2000 Co-chairs

Tomonori Aoyama, Univ. of Tokyo
Jun Murai, Keio University
Tom DeFanti, Univ. of Illinois, Chicago
Michael A. McRobbie, Indiana Univ.

iGrid 2000 Selection Committee

Steven N. Goldstein, National Science Foundation, USA
Tsuneyoshi Kamae, University of Tokyo, Japan
David O. Williams, CERN, Switzerland

iGrid 2000 Organizing Committee

EVL, UIC
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Telecommunications Advancement Organization of Japan (TAO)
Suzuki Junji
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Shinichi Nakagawa

Pacific Interface
Laurin Herr
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Natalie Van Osdol

Argonne National Lab
Ian Foster
Rick Stevens
Linda Winkler

USC/ISI
Carl Kesselman

VRCO
Jim Costigan
Hiroshi Hayakawa

Internet2
Ted Hanss

For more information, contact:

Electronic Visualization Lab, University of Illinois at Chicago
+1.312.996.3002
+1.312.413.7585 fax
Tom DeFanti, tom@uic.edu
Maxine Brown, maxine@uic.edu

Office of the Vice President for Information Technology, Indiana U
+1.812.855.5752
+1.812.855.3310 fax
M. McRobbie, vpit@indiana.edu
Donald F. McMullen, mcmullen@indiana.edu

Pacific Interface
+1.510.652.7365
+1.510. 595.9310 fax
Laurin Herr, laurin@pacific-interface.com
Natalie Van Osdol, vanosdol@pacific-interface.com

EVL and IU are partners of the National Computational Science Alliance, whose mission is to develop the National Technology Grid, a prototype 21st century computational and information infrastructure. iGrid is the international extension.

Proposal Submission Guidelines

Proposal deadlines and contact information:

Preproposals are due February 14, 2000. Full proposals are due March 14.

Submit preproposals and full proposals via email to:

Maxine Brown
UIC Electronic Visualization Laboratory
maxine@uic.edu

Preproposals: General Information Required

1. Demonstration title.
2. Primary contact person's name, institution, e-mail address.
3. Contact information for all collaborators (name, institution, e-mail address).
4. Project Description
   a. A paragraph summary of your application and its significance.
   b. A paragraph summary of hardware, software, and networking resources utilized by your application. What international networks will you access?
   c. URL address for further project documentation.
   d. Visualizations (graphical output of applications), such as GIF or JPEG files are encouraged.

Full Proposals: Additional Equipment and Network Technical Information Required

5. Onsite Computer System Needs (hardware and software). CHECK ALL THAT APPLY.
We will be providing the following SGI Unix workstations and Windows/NT/Linux PCs connected to ImmersaDesk displays onsite. (Note: It is not yet confirmed whether or not we will have a CAVE onsite. Once this is determined, we will contact participants who are working in virtual reality to see if their applications run on the computer configuration specified.)

____ **SGI Deskside Onyx2**
Hardware: IRIX 6.5, four R10K CPUs, 2GB RAM, Infinite Reality2 graphics (DG4-2 with two RM64s of texture memory)
Software: C/C++ (7.3); F77/90 (7.3); CAVE and pfCAVE Libs (2.7); CAVERNsoft (2.7) and CAVERNsoft G2 (1.0b); MPI; Globus (1.1.1); NCSA vss and sound lib; CaseVision; CosmoPlayer (2.1.1); CosmoWorlds; Java Development environment (SGI's JDK); Inventor (2.1.4); Performer (2.2.6); GNU tools (gmake, gzip, emacs/xemacs); Multicast tools (sdr, vic, vat); Netscape Communicator
Additional hardware/computers needed? _____
Additional software needed? List: _____
Can you provide the software along with suitable licenses, if needed? _____
Does your application require more than 500MB of local disk space? If so, how much local disk space does it need? _____

____ **Windows 98/NT Personal Computer**
Hardware: 600 MHz Pentium III, 256MB RAM, 20GB disk (total), Matrox G400 display card with 32MB video RAM, 10/100 Ethernet card, sound card (such as Creative Labs Soundblaster PCI 128), 21-inch monitor, floppy drive, CD ROM, Zip drive
Software: Office 2000, Internet Explorer (5), Netscape (4.7), Visual C++ (6.0), Adobe Photoshop, Adobe Acrobat, Macromedia Flash (2), Macromedia Director, Quicktime (4), Secure CRT (3), Real Player G2, Eudora
Will you use Windows98 or NT? _____
Additional hardware/computers needed? _____
Additional software needed? List: _____
Can you provide the software along with suitable licenses, if needed? _____
How much local disk space does your application require? _____

____ **Linux (Red Hat 6.1) Personal Computer**
Hardware: 600 MHz Pentium III, 256MB RAM, 20GB disk (total), Matrox G400 display card with 32MB video RAM, 10/100 Ethernet card, sound card (such as Creative Labs Soundblaster PCI 128), 21-inch monitor, floppy drive, CD ROM, Zip drive

Software: Star Office (5.1), Netscape (4.7), gcc and g++, GIMP, Adobe Acrobat, Java Development (JDK), Xanim, ssh (1 and 2), Real Player G2
Additional hardware/computers needed? _____
Additional software needed? List: _____
Can you provide the software along with suitable licenses, if needed? _____
How much local disk space does your application require? _____

____ **Special Computer and Equipment Needs**
Certain projects, such as digital video, streaming media and high-definition television, require special computers and/or equipment, including cameras, storage devices, etc. that are not listed above.
What additional computers/equipment do you need (items not specified above)?

_____
Additional software needed? List: _____
Can you provide this hardware/software? _____
(Note: You are responsible for all shipping and related insurance costs, as well as setup and maintenance.)

6. Networking
All computers will have 100 Mbps individually switched IP connectivity to INET's core network, and from there to the JGN, to the APAN network and to the APAN/TransPAC (90Mbps) link to STAR TAP. Multicast will be provided.
a. Is this sufficient for your application's networking needs?
b. If your application does point-to-point communication, what sites will you connect to?
c. Does your application require multicast? If so, what sites will you connect to?

7. Additional Input/Output Devices
Beyond the standard computer configurations listed above, does your application require any additional input/output devices (e.g., Phantom arm, camera, microphone, etc.)? If so, what are they? Can you provide them? What is needed to connect them to the computer/ImmersaDesk?

8. Audio
a. Does your application use the NCSA 'vss' sound server software?
b. Does your application require the use of a dedicated workstation as a sound server?
c. Does your application do ImmersaDesk-to-ImmersaDesk communication and require a corresponding voice connection?
d. If your application is a non-VR presentation, does it need amplification?
e. What other audio requirements do you have?

9. Virtual Reality Applications Only
a. Does your application use the standard ImmersaDesk VR tracker daemon? If not, which tracker daemon does it use?
b. The coordinate system's origin in the ImmersaDesk environment will be set to be on the floor, directly beneath the center of the lower edge of the screen. Will this be adequate for your application?