# “The OptIPlanet Collaboratory -- a Global CineGrid Testbed”

**Invited Presentation**

**CineGrid International Workshop 2008**

**Calit2@UCSD**

**December 8, 2008**


**Dr. Larry Smarr**

**Director, California Institute for Telecommunications and Information Technology**

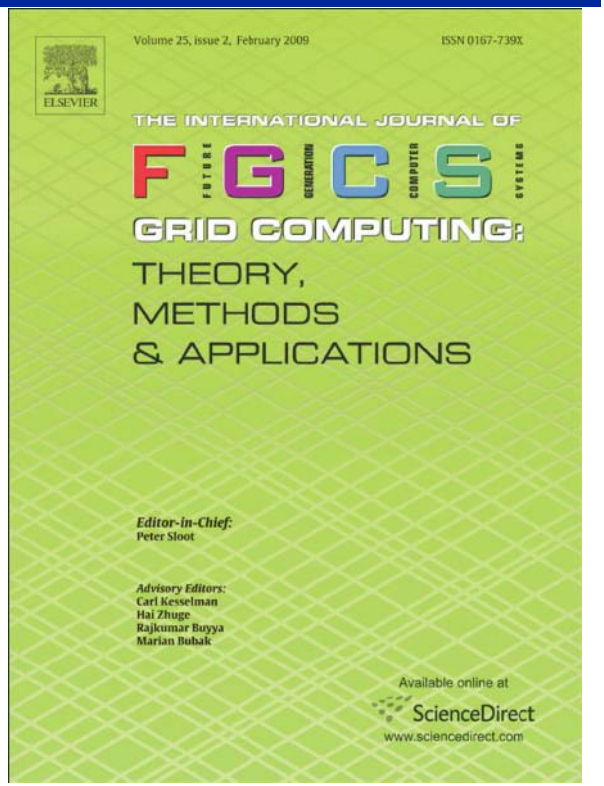
**Harry E. Gruber Professor,**

**Dept. of Computer Science and Engineering**

**Jacobs School of Engineering, UCSD**

# The OptIPuter Creates an OptIPlanet Collaboratory: Enabling Data-Intensive e-Research




***"OptIPlanet: The OptIPuter Global Collaboratory" –***
**Special Section of Future Generations Computer Systems, Volume 25, Issue 2, February 2009**

evl electronic visualization laboratory

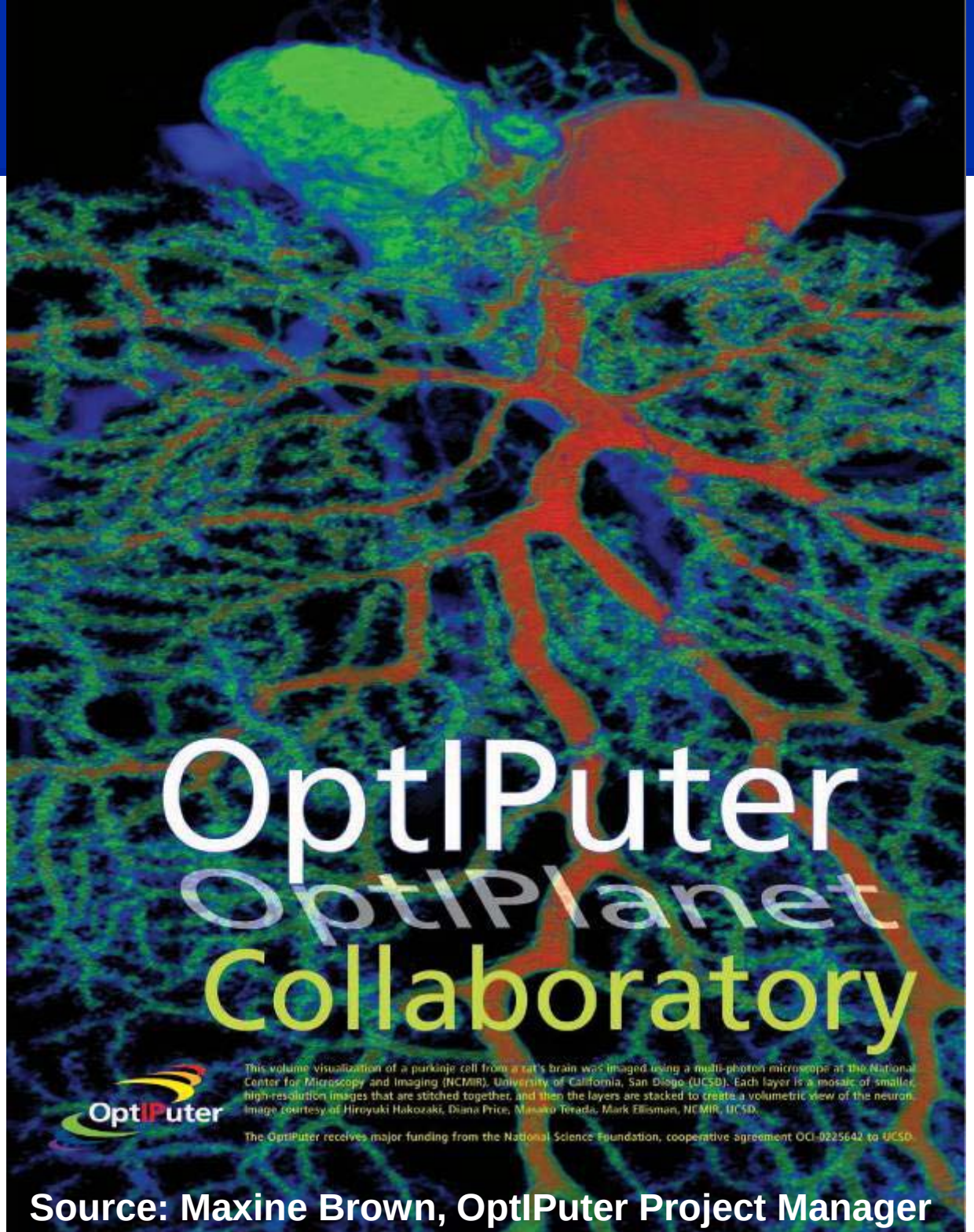
ROCKS www.rocksclusters.org

SAGE

**Calit2 (UCSD, UCI), SDSC, and UIC Leads—Larry Smarr PI**
**Univ. Partners: NCSA, USC, SDSU, NW, TA&M, UvA, SARA, KISTI, AIST**
**Industry: IBM, Sun, Telcordia, Chiaro, Calient, Glimmerglass, Lucent**

OptIPuter

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**Source: Maxine Brown, OptIPuter Project Manager**

**Green Initiative:**

**Can Optical Fiber Replace Airline Travel for Continuing Collaborations ?**

# On-Line Resources
# Help You Build Your Own OptIPortal

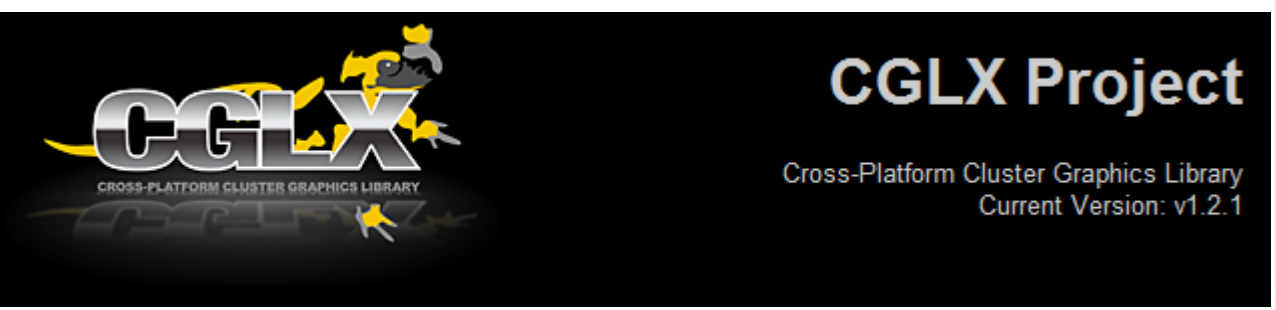
**www.optiputer.net**

**http://wiki.optiputer.net/optiportal**




**www.evl.uic.edu/cavern/sage**





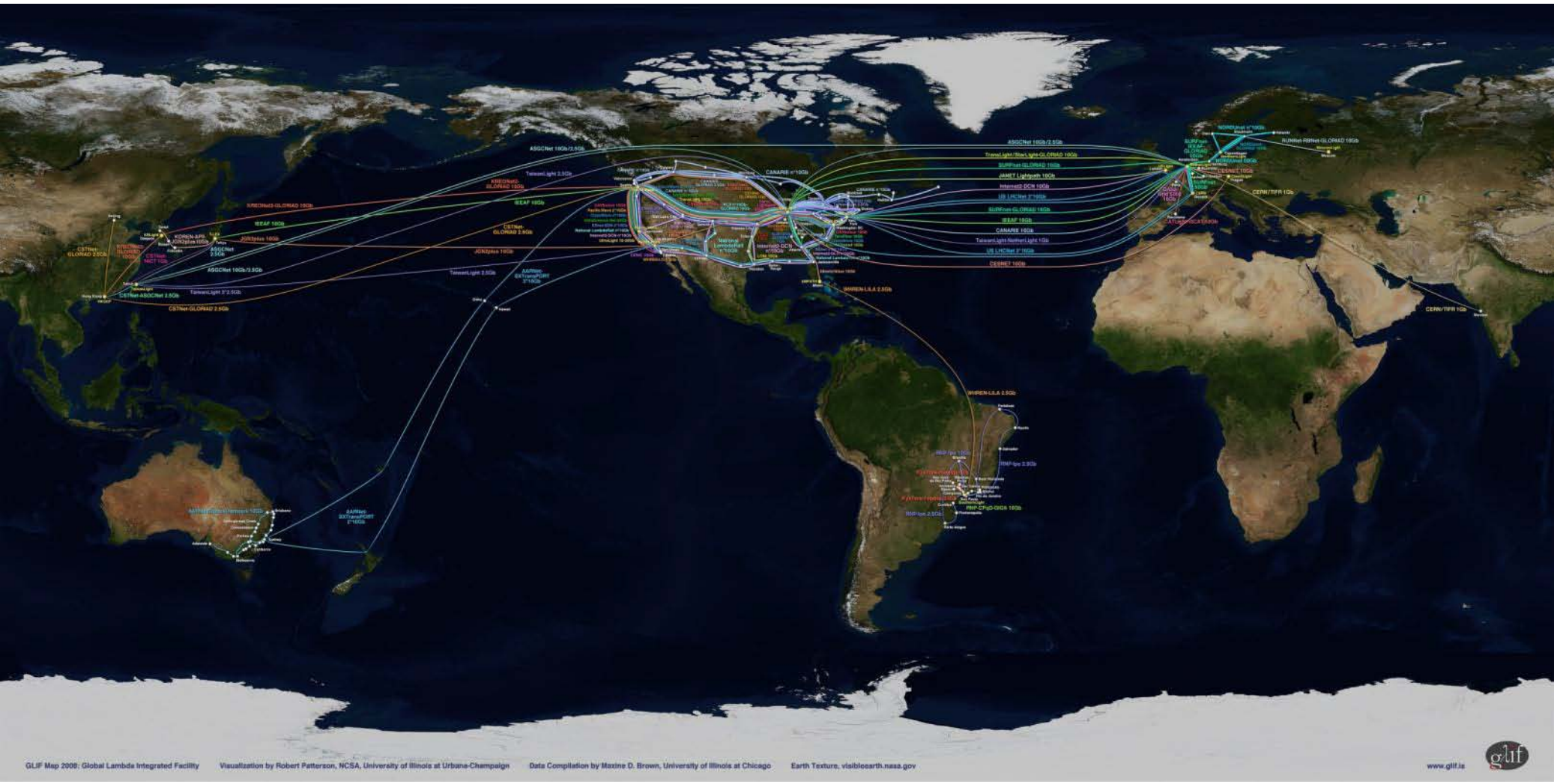

**http://vis.ucsd.edu/~cglx/**




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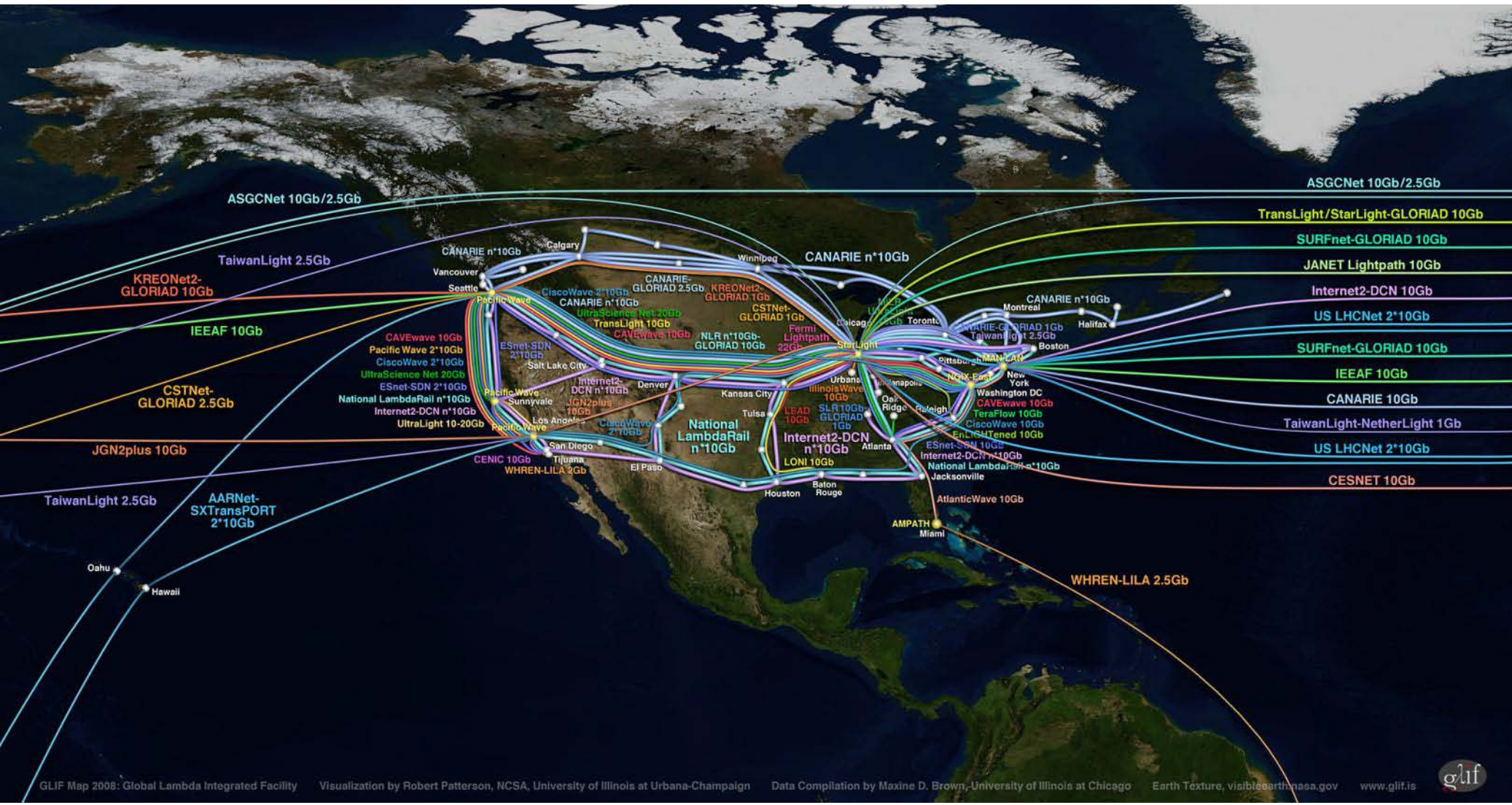
# Global Lambda Integrated Facility
# 1 to 10G Dedicated Lambda Infrastructure




## Interconnects Global OptIPortals at Public Research Innovation Centers

**Source: Maxine Brown, UIC and Robert Patterson, NCSA**

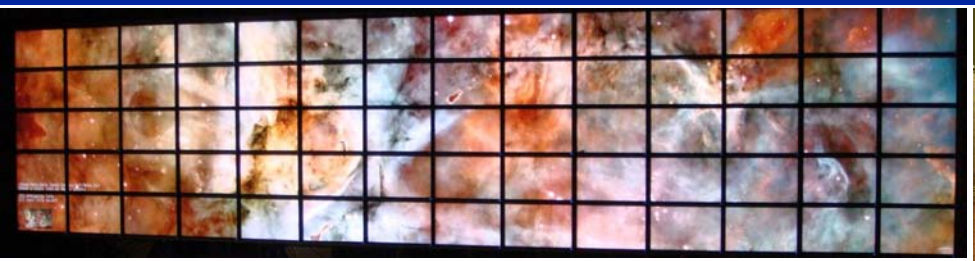
# Global Lambda Integrated Facility
# North America




OptIPuter

it2

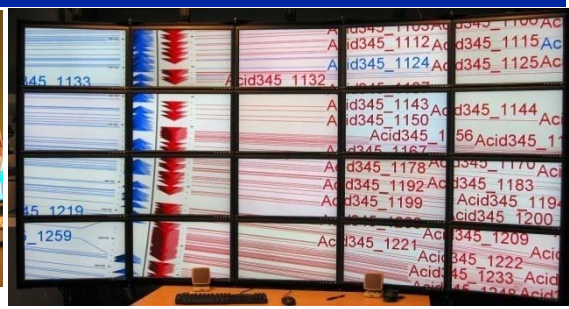
# North American OptIPuter Team OptIPortals



Calit2@UCSD



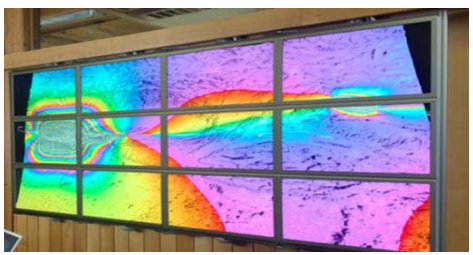
Calit2@UCSD



Calit2@UCSD



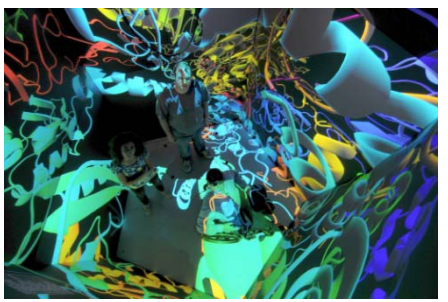
NCMIR-UCSD



SIO-UCSD



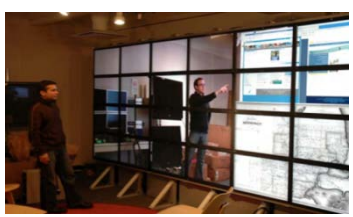
Calit2@UCSD



Calit2@UCSD



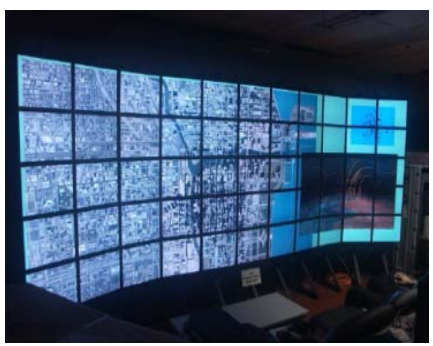

USGS



VISIT-U Michigan



EVL@UIC



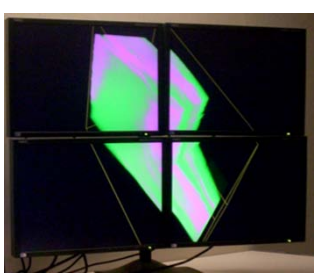
EVL@UIC



Calit2@UCI



iCAIR-
Northwestern U



Texas A&M



EVL@UIC

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# The Calit2 OptIPortals at UCSD and UCI Are Now a Gbit/s HD Collaboratory




OptIPuter

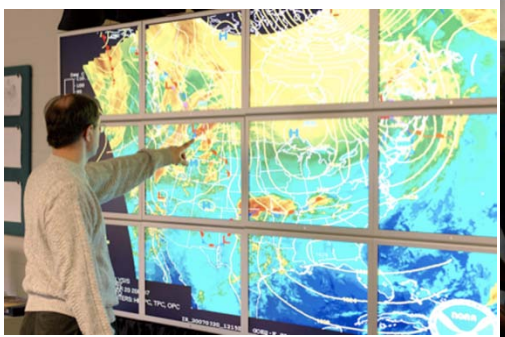
**UCSD cluster: 15 x Quad core Dell XPS with Dual nVIDIA 5600s**
**UCI cluster: 25 x Dual Core Apple G5**

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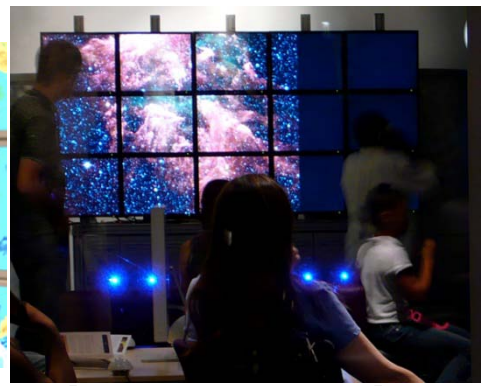
# North American OptIPortals



U Washington



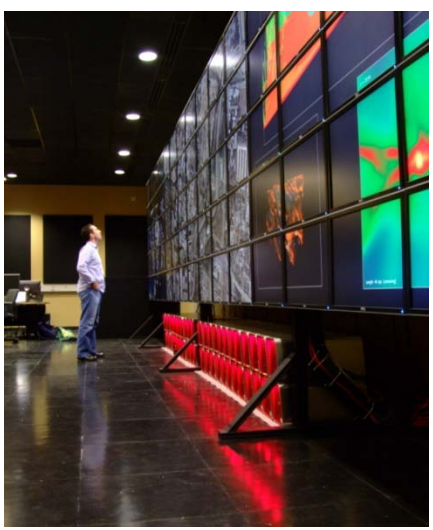
AOSS-U Michigan



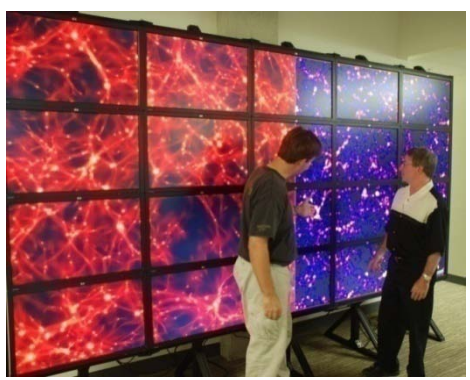
Adler Planetarium - Chicago



TRCC, Chicago



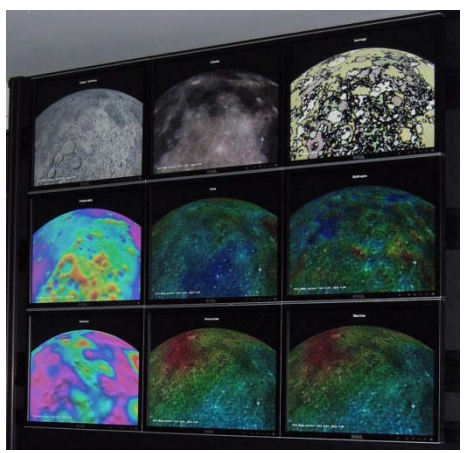
TACC TeraGrid



SDSC - UCSD



DMC-U Michigan



NASA Goddard

OptIPuter

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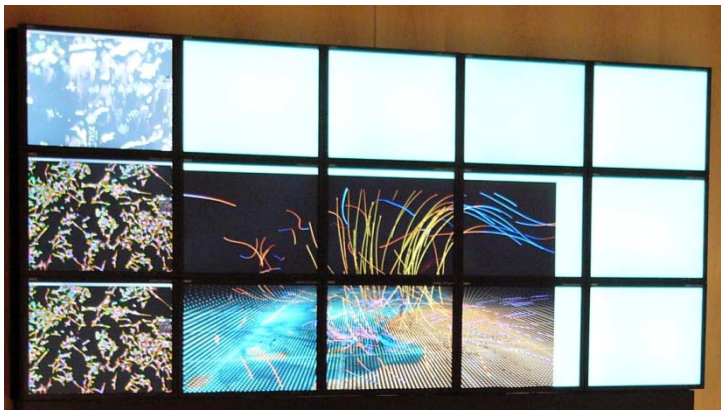
# North American OptIPortals



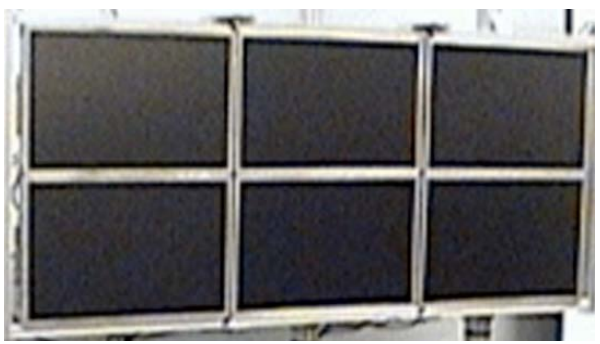
Sharp Corp.



Rincon



Nortel

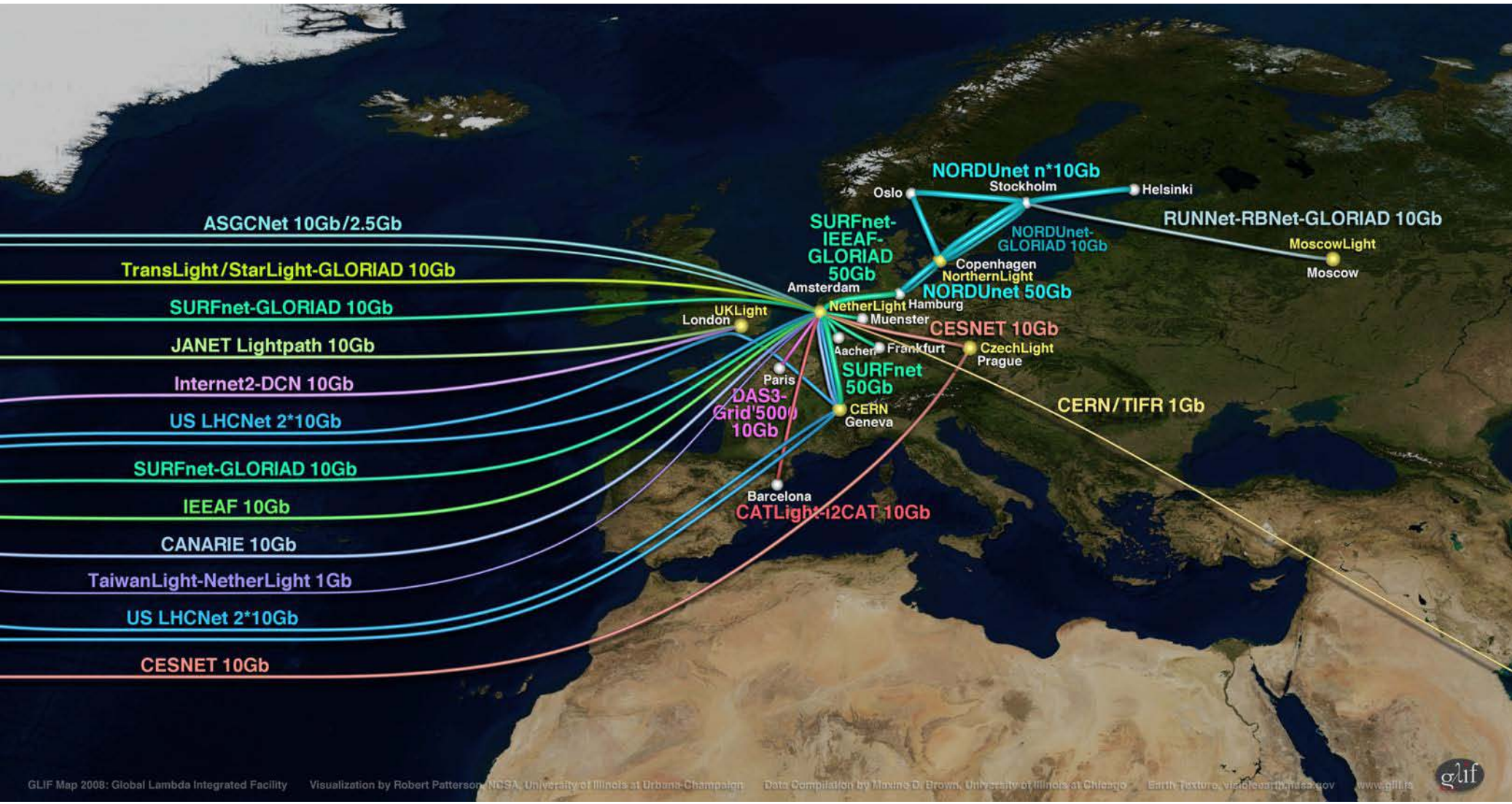


Florida International U



CICESE, Mexico

# Global Lambda Integrated Facility
# Europe




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# European OptIPortals



Space Research Institute-Moscow



Science Innovation Center Chernogolovka, Russia




Masaryk U- Czech Republic



Zurich, Switzerland



SARA- Netherlands

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# Global Lambda Integrated Facility
# Australia / New Zealand




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# Launch of the 100 Megapixel OzIPortal Over Qvidium Compressed HD on 1 Gbps CENIC/PW/AARNet Fiber

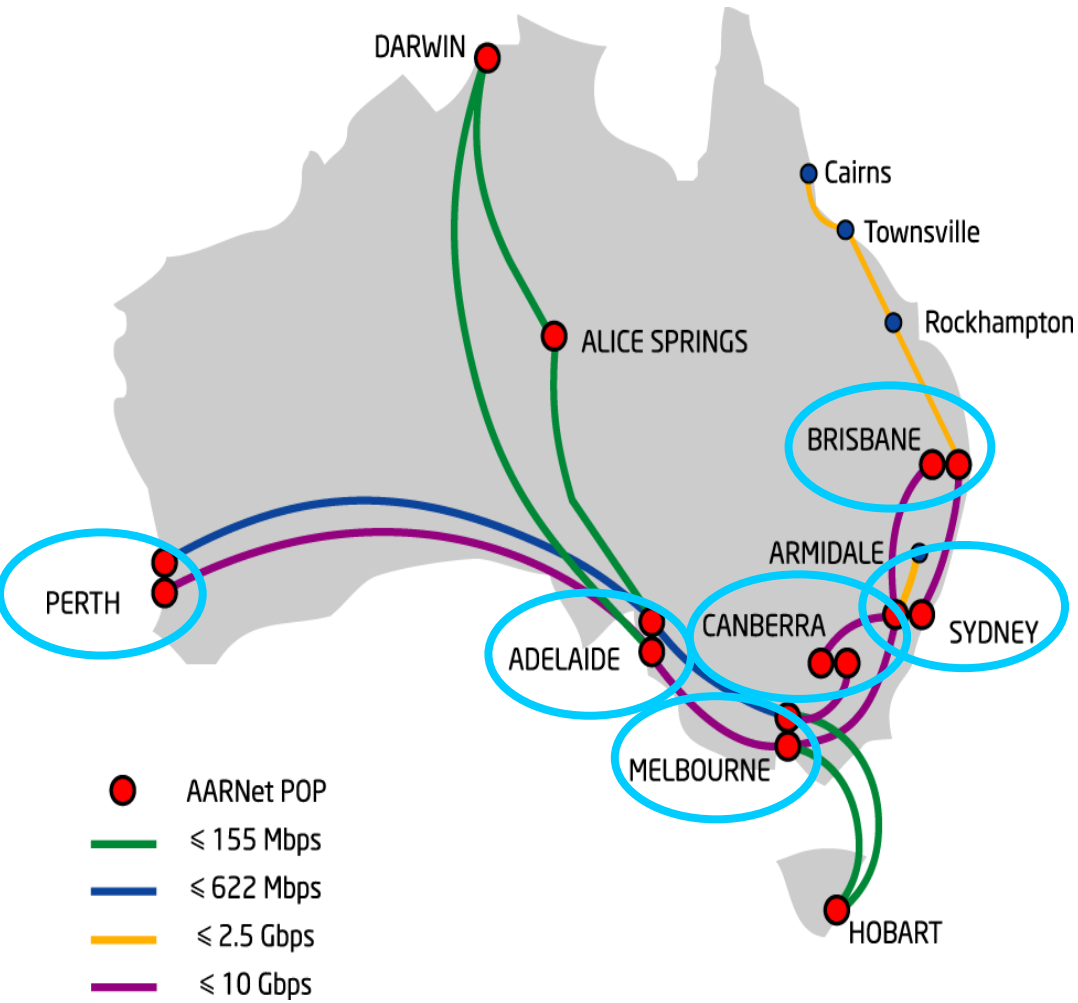



**No Calit2 Person Physically Flew to Australia to Bring This Up!**

**Covise, Phil Weber, Jurgen Schulze, Calit2**
**CGLX, Kai-Uwe Doerr , Calit2**
**www.calit2.net/newsroom/release.php?id=1219**

# Smarr American Australian Leadership Dialogue OptIPlanet Collaboratory Lecture Tour October 2008

## AARNet National Network




- Oct 2—University of Adelaide
- Oct 6—Univ of Western Australia
- Oct 8—Monash Univ.; Swinburne Univ.
- Oct 9—Univ. of Melbourne
- Oct 10—Univ. of Queensland
- Oct 13—Univ. of Technology Sydney
- Oct 14—Univ. of New South Wales
- Oct 15—ANU; AARNet; Leadership Dialogue Scholar Oration, Canberra
- Oct 16—CSIRO, Canberra
- Oct 17—Sydney Univ.

OptIPuter

AUSTRALIAN AMERICAN LEADERSHIP DIALOGUE

aarnet Australia's Academic and Research Network

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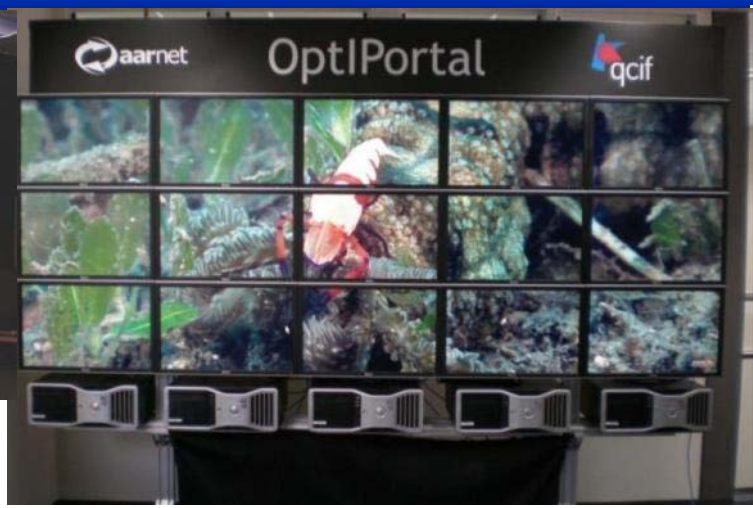
# Australian / New Zealand OptIPortals



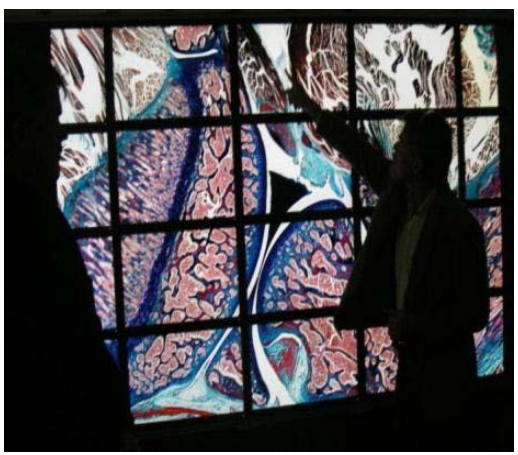
ANU



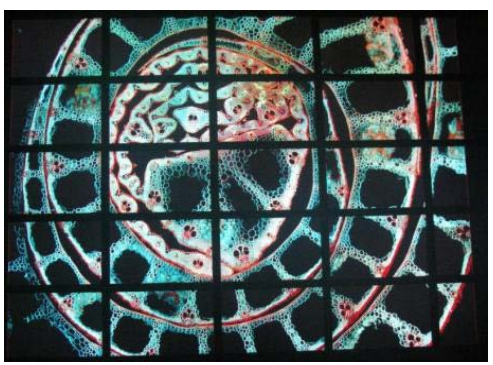
U Queensland




AARNet



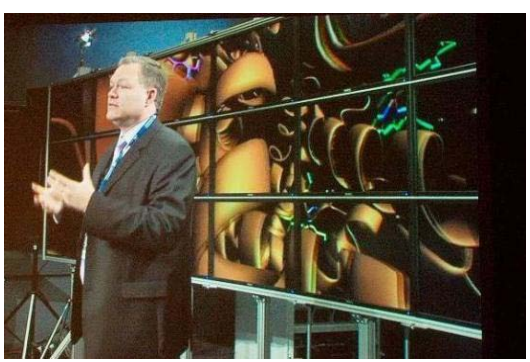
Monash U



CSIRO



U Wellington, NZ



U Melbourne

OptIPuter

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# Linking Melbourne and Canberra OptIPortals with HD over AARNet

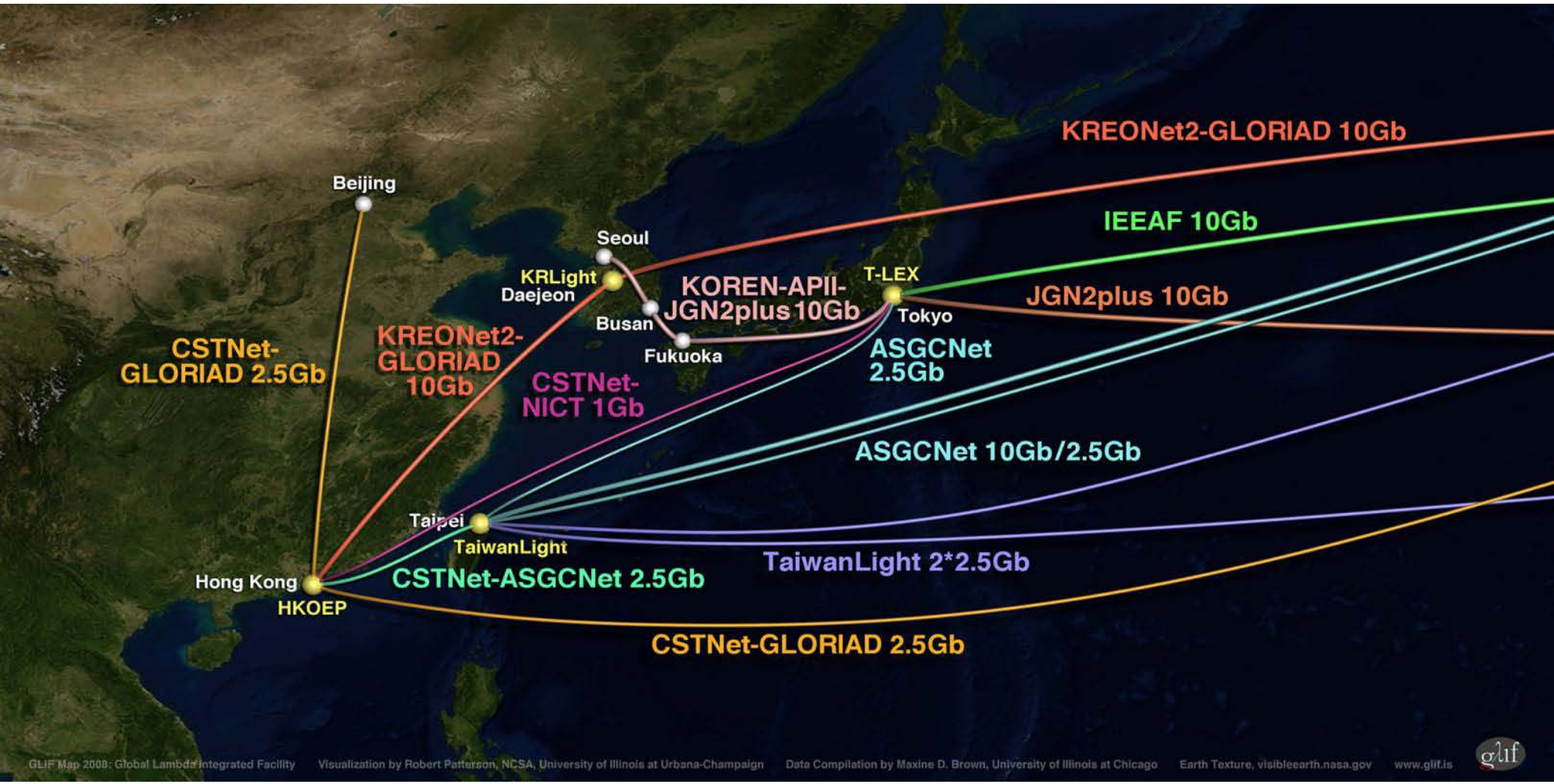



October 15, 2008

OptIPuter

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# Global Lambda Integrated Facility
# Northeast Asia




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# Northeast Asia OptIPortals



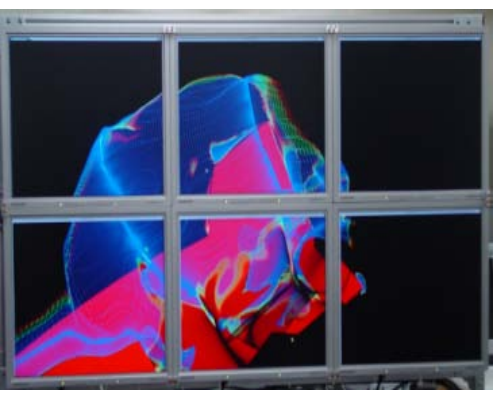
AIST-Japan



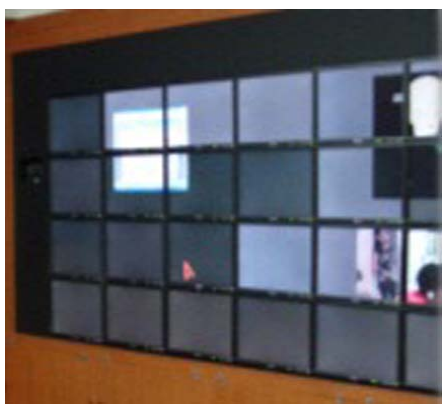
Osaka U-Japan



Kyoto-Japan



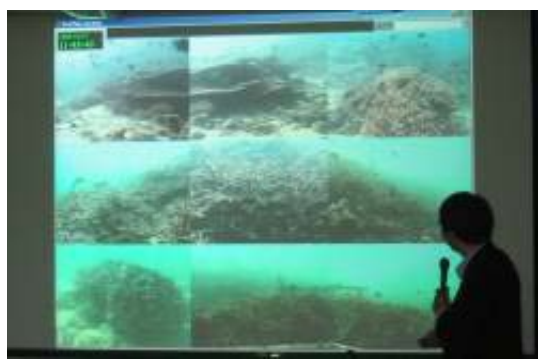
KISTI-Korea



GIST-Korea



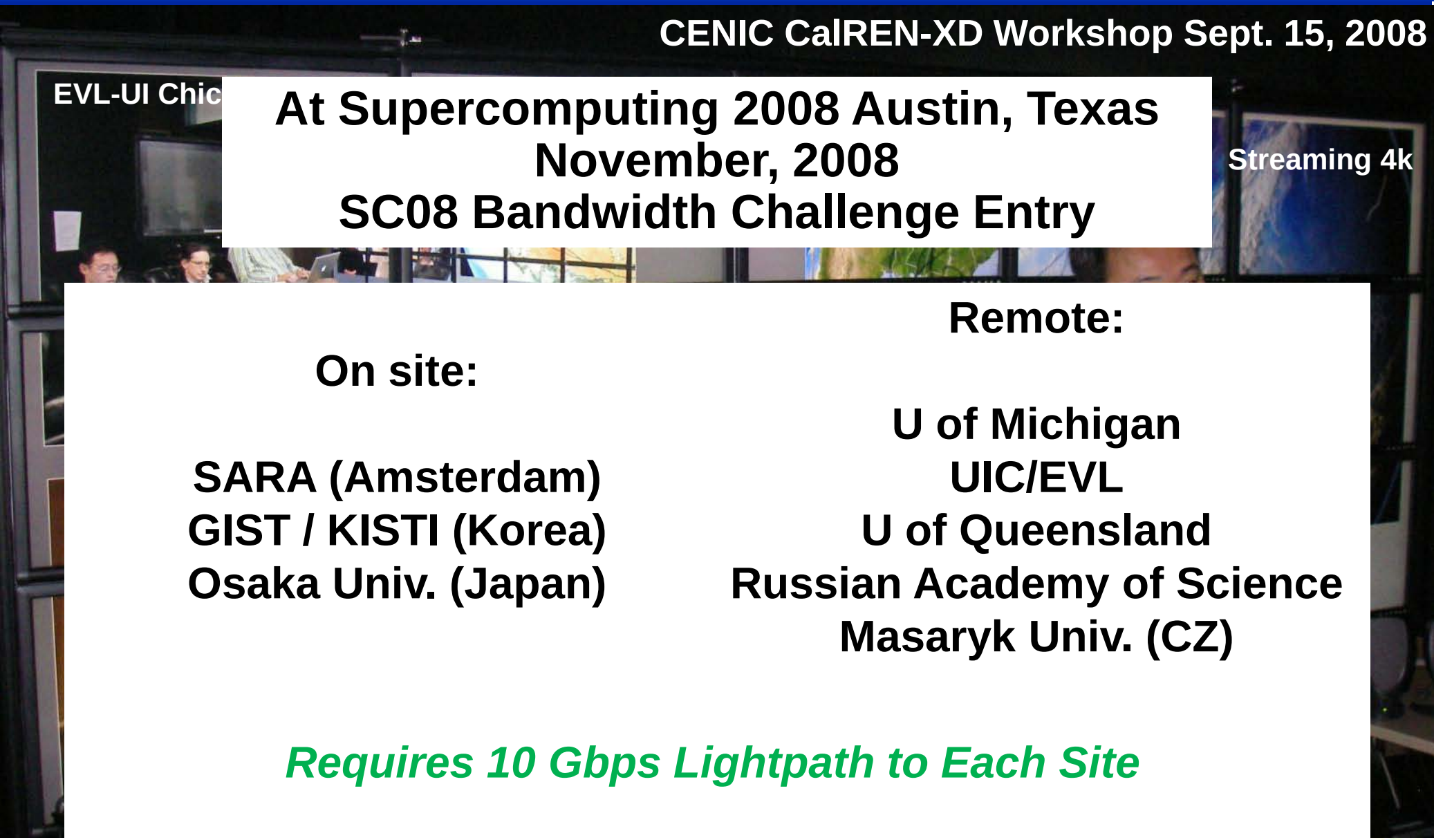
Chinese
Academy of Sciences
CNIC-China



NCHC-Taiwan

# EVL's SAGE OptIPortal VisualCasting Multi-Site OptIPuter Collaboratory

CENIC CalREN-XD Workshop Sept. 15, 2008




## At Supercomputing 2008 Austin, Texas November, 2008 SC08 Bandwidth Challenge Entry

**On site:**

SARA (Amsterdam)
GIST / KISTI (Korea)
Osaka Univ. (Japan)

**Remote:**

U of Michigan
UIC/EVL
U of Queensland
Russian Academy of Science
Masaryk Univ. (CZ)

***Requires 10 Gbps Lightpath to Each Site***

Source: Jason Leigh, Luc Renambot, EVL, UI Chicago