iGENI: International Global Environment for Network Innovations

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GEC 6
Salt Lake City, Utah
November 16-18, 2009

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iGENI: The International GENI

- The iGENI Initiative Will Design, Develop, Implement, and Operate a Major New National and International Distributed Infrastructure.
- iGENI Will Place the “G” in GENI Making GENI Truly Global.
- iGENI Will Be a Unique Distributed Infrastructure Supporting Research and Development for Next-Generation Network Communication Services and Technologies.
- This Infrastructure Will Be Integrated With Current and Planned GENI Resources, and Operated for Use by GENI Researchers Conducting Experiments that Involve Multiple Aggregates At Multiple Sites.
- iGENI Infrastructure Will Connect Its Resources With Current GENI National Backbone Transport Resources, With Current and Planned GENI Regional Transport Resources, and With International Research Networks and Projects,

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iGENI and StarLight

- iGENI Will Integrate Multiple Network Resources, Including:
  - Resources at the StarLight International Communications Exchange in Chicago - StarLight Current Supports Over 50 Production Network Connections and Over 20 Major Network Research Testbeds, Including National and International Fabrics
  - Segments of National Research and Education Network Infrastructures
  - A National Wide-Area Private Network Operated by Cisco called C-Wave
  - Components of the International Optical-Networking GLIF Fabric.

StarLight – "By Researchers For Researchers"

StarLight is an advanced national and international communication exchange facility optimized for high-performance data intensive applications

World's "Largest" 10G Exchange
Over 100 10 Gbps Channels
Interoperability Services
At All Layers

View from StarLight

Abbott Hall, Northwestern University's Chicago downtown campus

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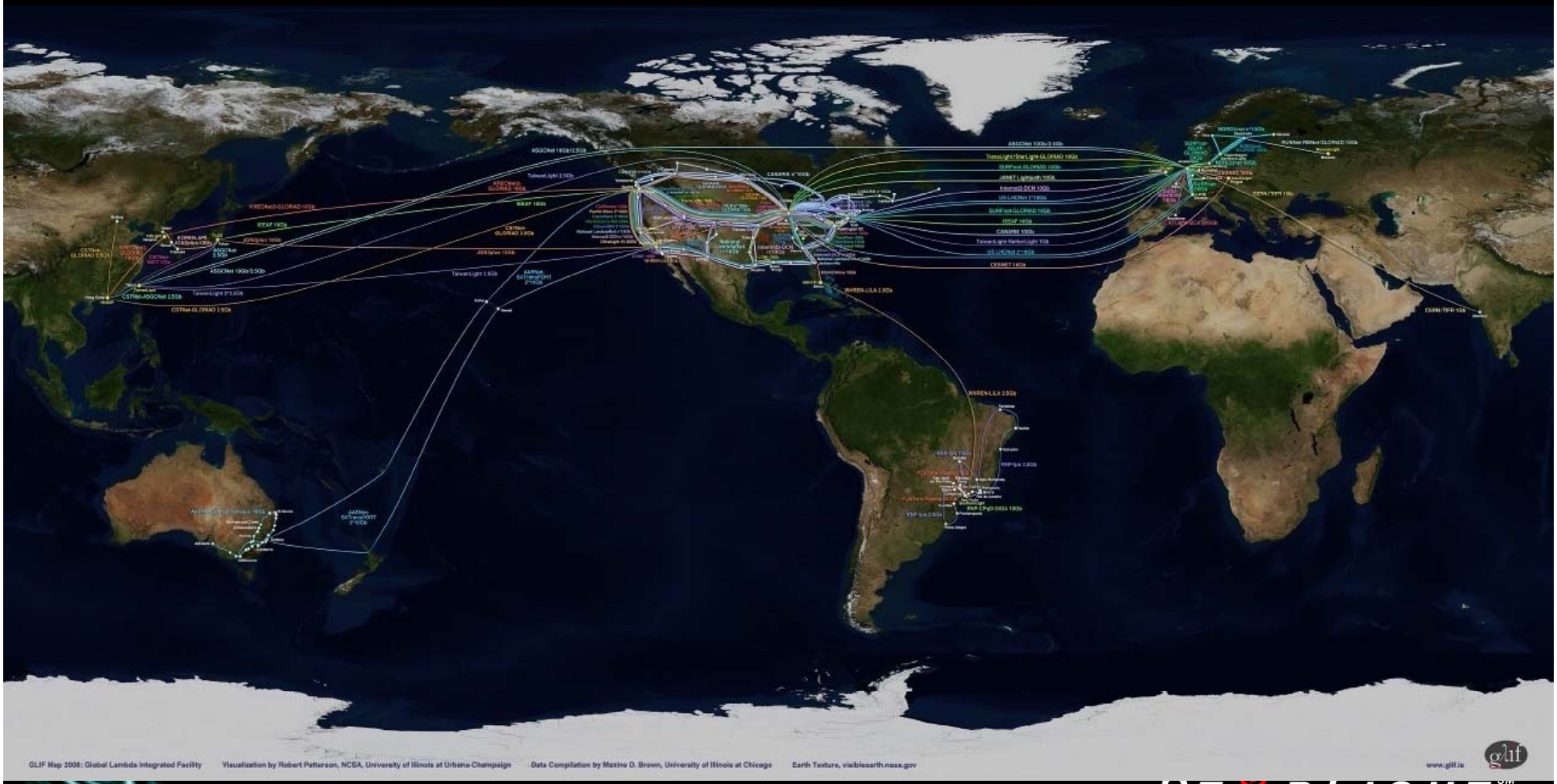
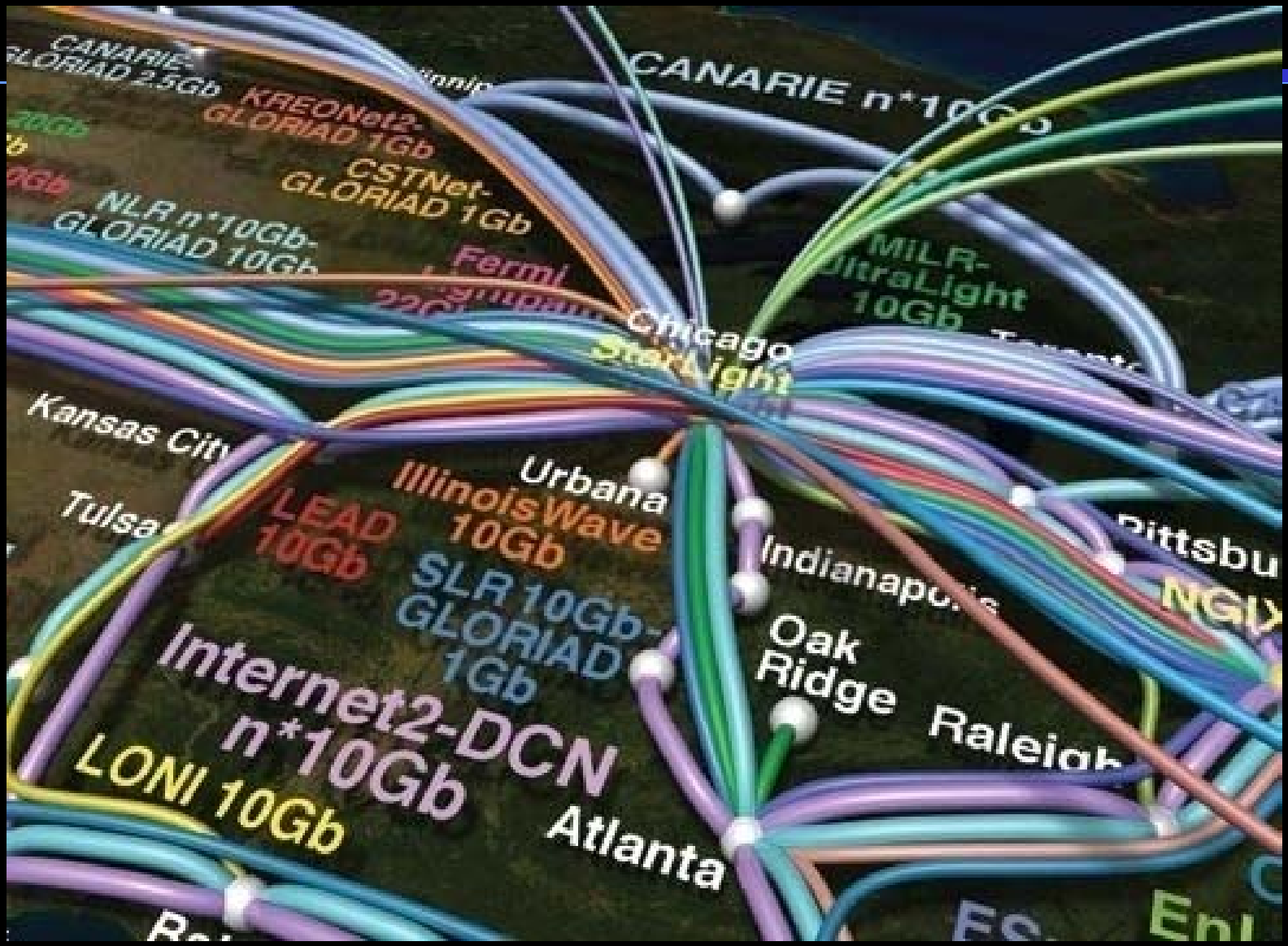
iGENI and GLIF

- iGENI Consortium Members Have Partnered with Many Other Participants of the Global Lambda Integrated Facility (GLIF) To Undertake Multiple Experimental Network Research Projects
- The iGENI Initiative Will Build On That Experience To Create and Exploring New Prototypes of Innovative Communication Services and Technologies.

StarLight: Founding Partner of the Global Lambda Integrated Facility
Available Advanced Network Resources

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GLORIAD 2.5Gb
KREONet2-
GLORIAD 1Gb
CSTNet-
GLORIAD 1Gb
NLR n*10Gb-
GLORIAD 10Gb
Fermi
CANARIE n*10Gb
MiLR-
UltraLight
10Gb
Chicago
StarLight
Kansas City
Urbana
IllinoisWave
10Gb
LEAD
10Gb
SLR 10Gb-
GLORIAD
1Gb
Internet2-DCN
n*10Gb
LONI 10Gb
Atlanta
Oak
Ridge
Raleigh

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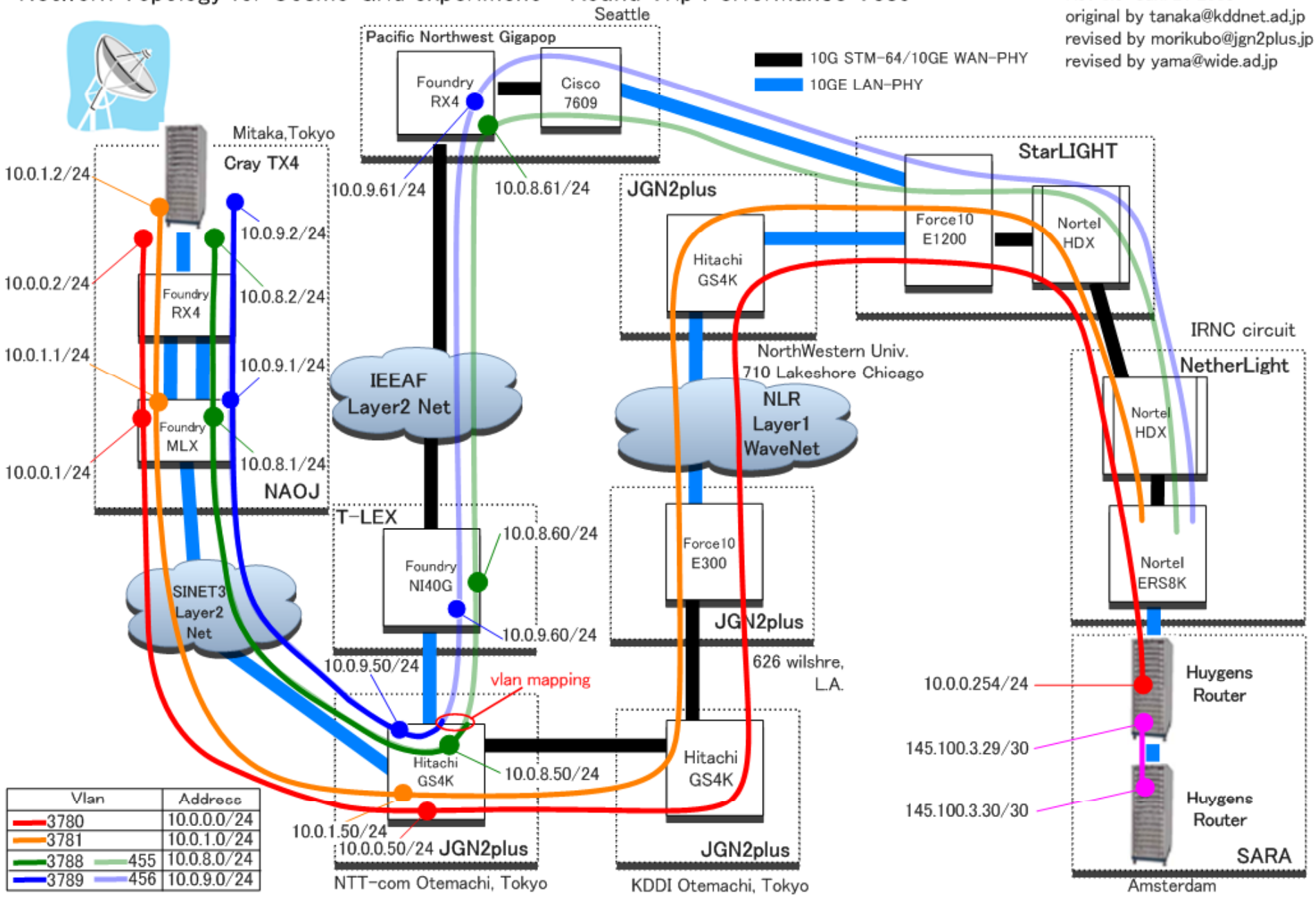
Network Topology for Cosmo Grid experiment – Round Trip Performance Test –

Rev 0.8 Jan. 21 2008
original by tanaka@kddnet.ad.jp
revised by morikubo@jgn2plus.jp
revised by yama@wide.ad.jp



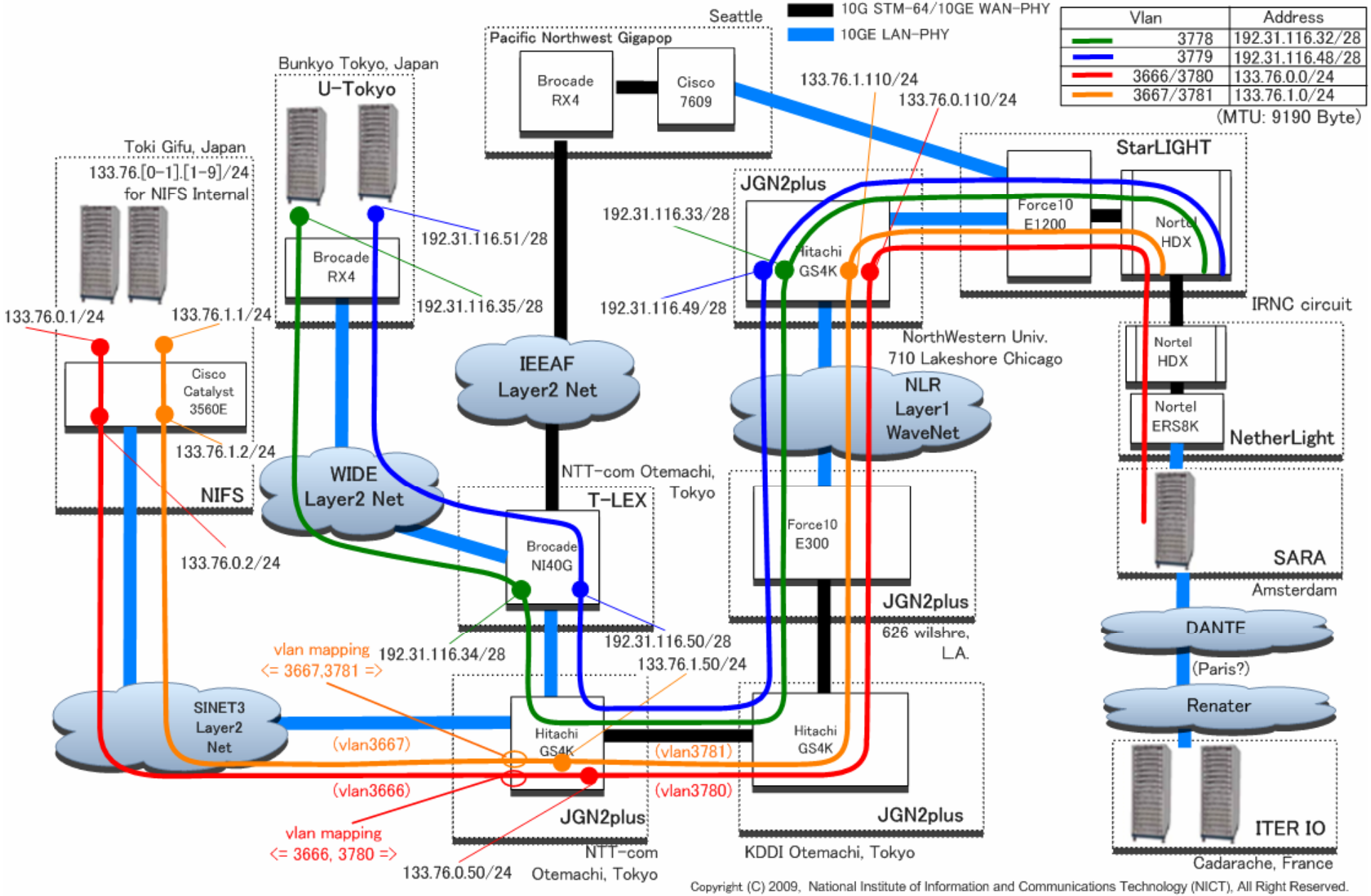
Vlan	Address
3780	10.0.0.0/24
3781	10.0.1.0/24
3788 455	10.0.8.0/24
3789 456	10.0.9.0/24

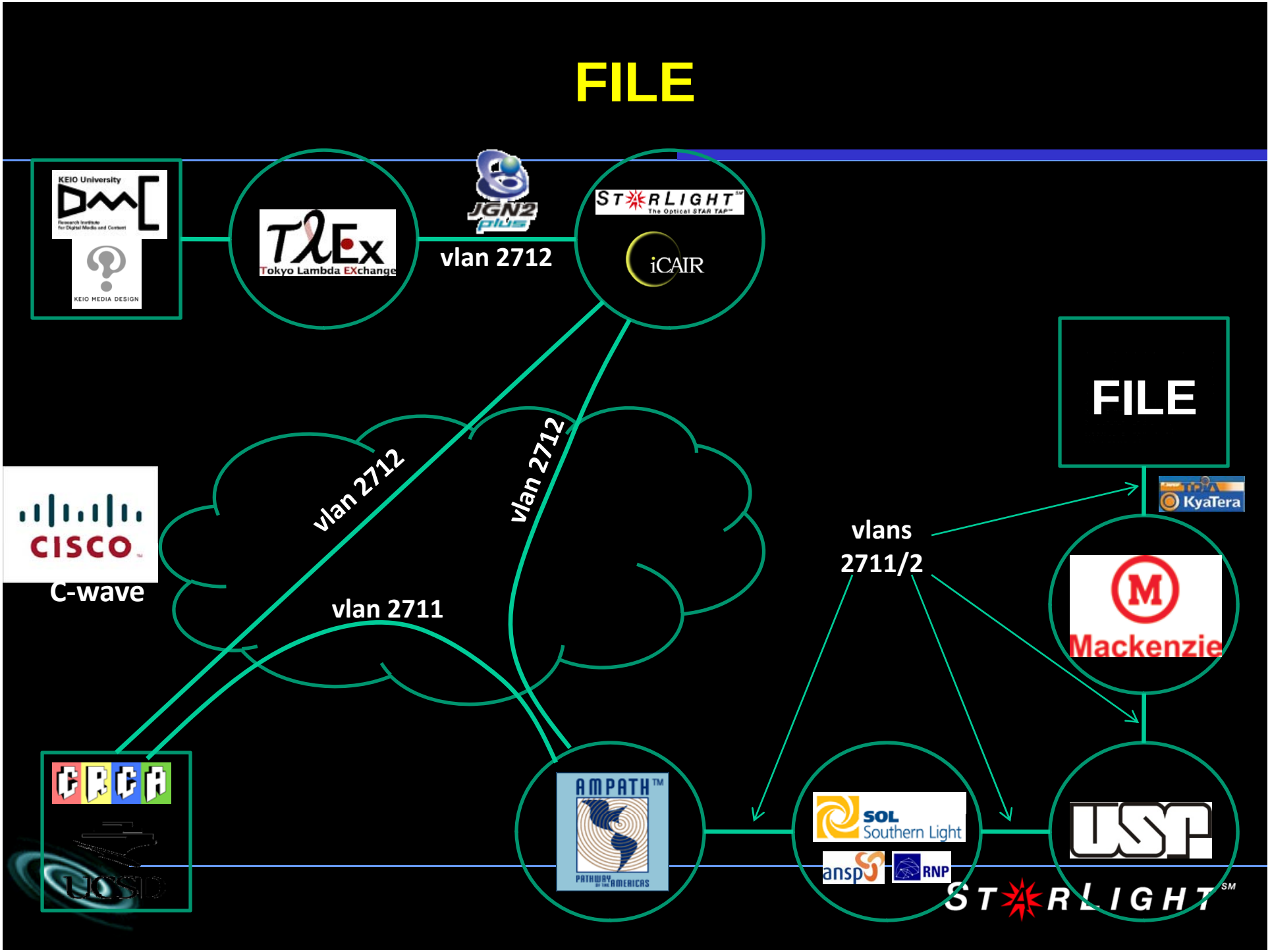
Network Topology for Japan-France High-Speed Data Transfer Experiment

Rev 0.4 Sep. 21 2009
original format by tanaka@kddnet.ad.jp
revised by yama@wide.ad.jp

Vlan	Address
3778	192.31.116.32/28
3779	192.31.116.48/28
3666/3780	133.76.0.0/24
3667/3781	133.76.1.0/24

(MTU: 9190 Byte)




FILE
KEIO University
KEIO MEDIA DESIGN
TLEx
Tokyo Lambda EXchange
JGN2 plus
vlan 2712
STARLIGHT
The Optical STAR TAP
iCAIR
vlan 2712
vlan 2712
vlan 2711
CISCO
C-wave
FILE
KyaTera
vlans
2711/2
Mackenzie
CENIC
UCSD
AMPATH
PATHWAY OF THE AMERICAS
SOL
Southern Light
ansp
RNP
USP
STARLIGHT

Collaborators

National Center for Data Mining

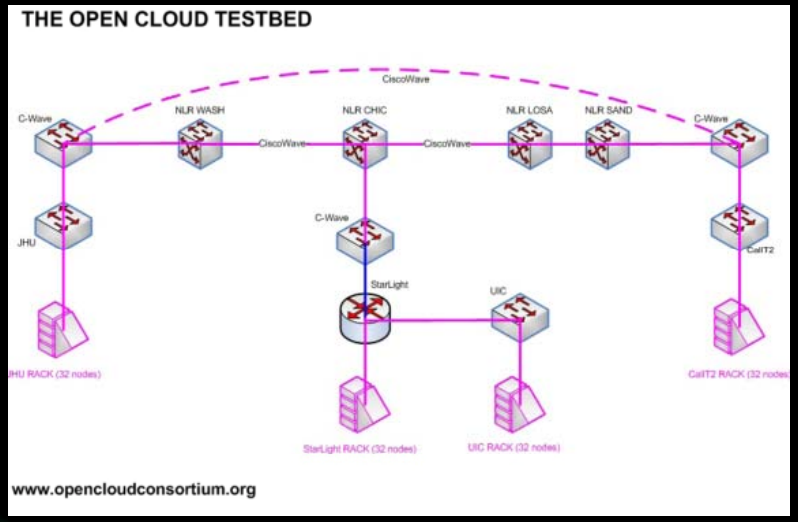
Expanding TeraFlow and OpenCloud Testbeds

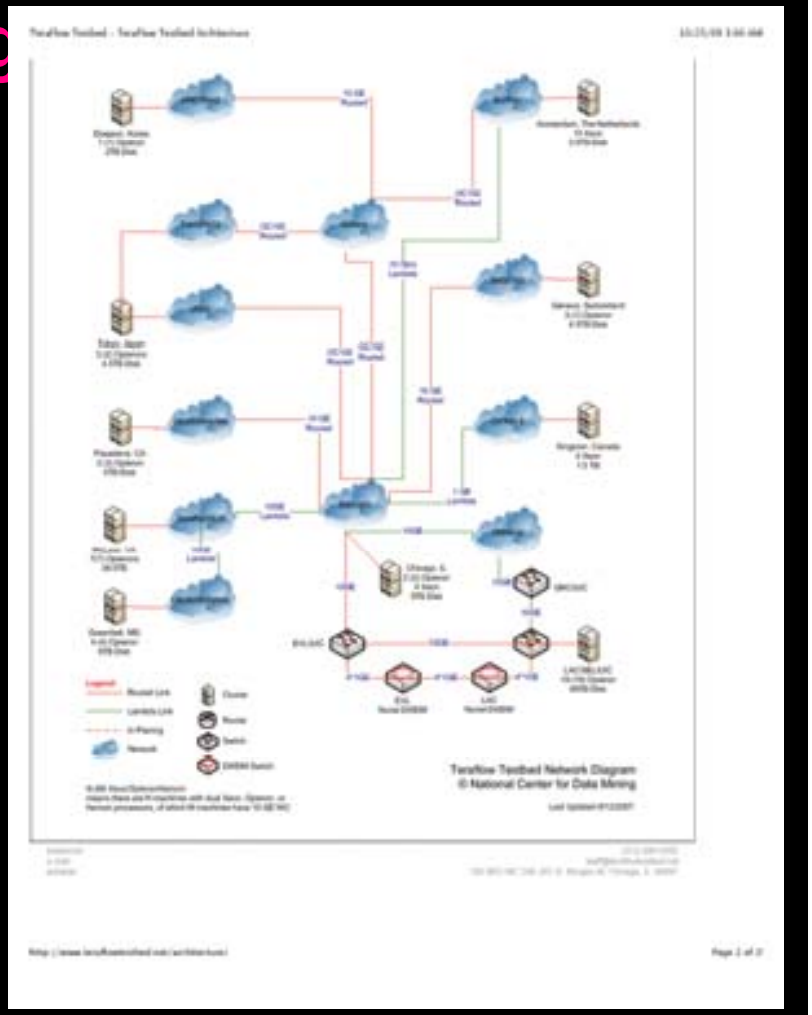
- TeraFlow: analyze 1-10 Gbps streaming data

http://www.teraflowtestbed.net/

- OpenCloud: develop standards and benchmarks for cloud computing

http://opencloudconsortium.org/





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