

GLIF, the Global Lambda Integrated Facility



WELCOME TO THE GLIF
JOINT TECH AND CTRL SESSION

Erik-Jan Bos

Honolulu, HI, USA
January 19, 2008



Welcome to GLIF WGs in Honolulu, Hawaii



- Aloha to all and Mahalo for participating
- A big Thank You to Internet2 and ESnet for their hospitality
- Introducing your chairs and secretaries:
 - Technical Issues WG:
 - Chair: Erik-Jan Bos (SURFnet)
 - Secretary: Kevin Meynell (TERENA)
 - Control Plane WG:
 - Chair: Gigi Karmous-Edwards (MCNC)
 - Secretary: Licia Florio (TERENA)



Joint Session of Tech and Ctrl Working Groups



- 13:00 hrs: Welcome and Introductions
- 13:10 hrs: Agenda Bashing
- 13:20 hrs: GLIF Vision – Erik-Jan Bos
- 13:30 hrs: Control Plane Directions – Gigi Karmous-Edwards
- 13:30 hrs: Management and Monitoring Issues in Optical Networks - *John Graham, GlobalNOC*
- 14:30 hrs: Experiences from the LHCOPN – *David Foster, CERN*
- 15:00 hrs - Break
- 15:30 hrs: Global ID – *Ronald van der Pol, SARA*
- 16:00 hrs: Supercomputing demos experiences - *TBC*
- 16:30 hrs: Introduction to Sunday sessions
- 17:00 hrs: End of Joint Session



R&E Network Challenge

- How to accommodate needs of scientific users for higher speed, higher quality networking, e.g.:
 - Astronomy: eVLBI and LOFAR
 - Particle Physics: Large Hadron Collider
 - Medical imaging & research
 - Media streaming, such as HDTV and 4K
- While protecting the performance of the network for current users
- And keeping the successful end-to-end model of the Internet



Hybrid networking

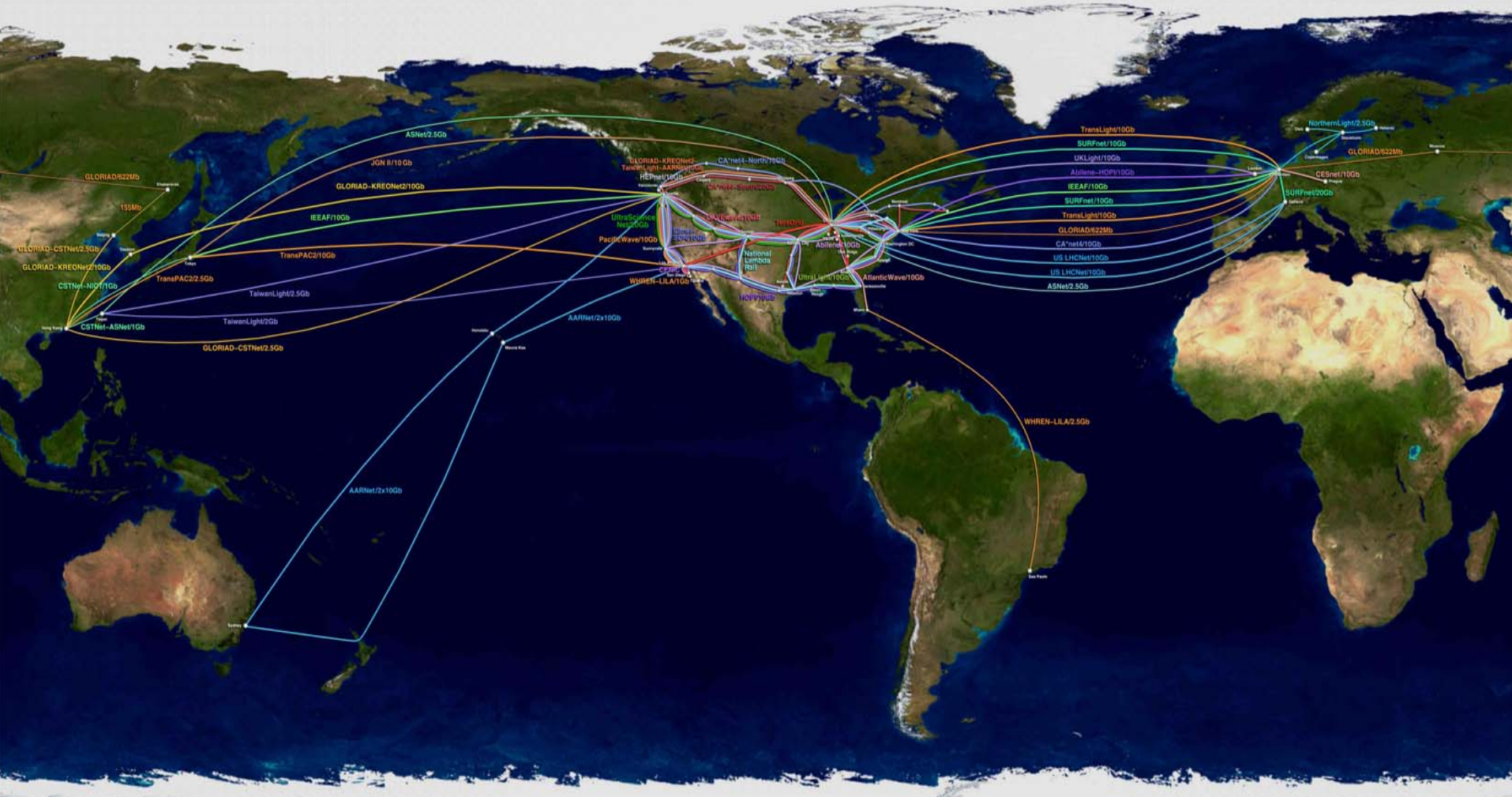
- Hybrid Networking concept has evolved since 2001 in a global context, with yearly LambdaGrid Workshops.

IP + lambdas

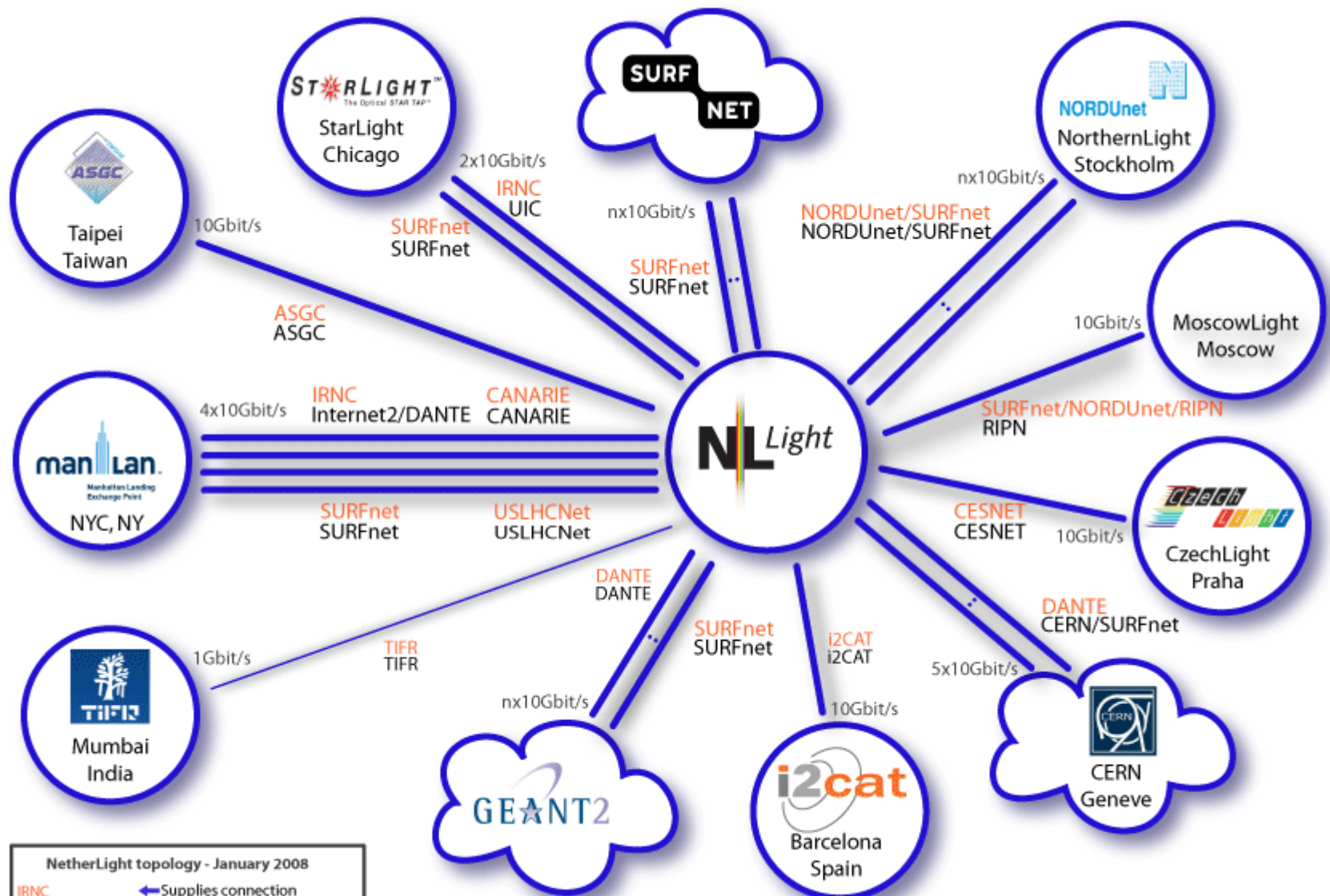
- Packet switched internet for regular many-to-many usage
- Light Paths for new high speed few-to-few usage



GLIF resources: lambdas



GLIF Resources: GOLEs (NetherLight Topology)



NetherLight technical

- Centered around a Nortel Optical Cross Connect "HDXc":
 - Up to 640 Gbit/s cross connect capability - i.e. up to 64 x 10G lambdas!
 - Generic Framing Procedure (GFP-F)
 - Partitionable on port basis for management (operator vs. control plane)
- Also: OME6500 for GE grooming and GE switch for apps & LAN/WAN Phy





GLIF vision



Linking the World with Light

- It is no longer sufficient to connect researchers to the Internet, they have to be connected to each other.
- GLIF community shares a common vision of building a new grid-computing paradigm, in which the central architectural element is optical networks, not computers, to support this decade's most demanding e-science applications.



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GLIF Tech agenda for Sunday, Jan 20, 2008



Morning Session:

- This is GLIF Tech
- Actions from last meeting
- GOLE Updates

Afternoon Session:

- GOLE Teleconferences - Kevin Meynell, TERENA
- VLAN-based Lightpaths - Alan Verlo, UIC
- Management of Inter-Domain Dynamic Lightpaths - Ronald van der Pol, SARA
- Coordinated Ticketing - Erik-Jan Bos, SURFnet
- Debugging Procedures - Erik-Jan Bos, SURFnet



8th Annual Global LambdaGrid Workshop



The 2008 GLIF Workshop has been scheduled:

- Place: Seattle, WA, USA
- Dates: October 1-2, 2008
- Host: PNWGP and U of Washington



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Mahalo!