

PacificWave Update



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***Internet2 - ITF, Philadelphia,
2005.09.16***

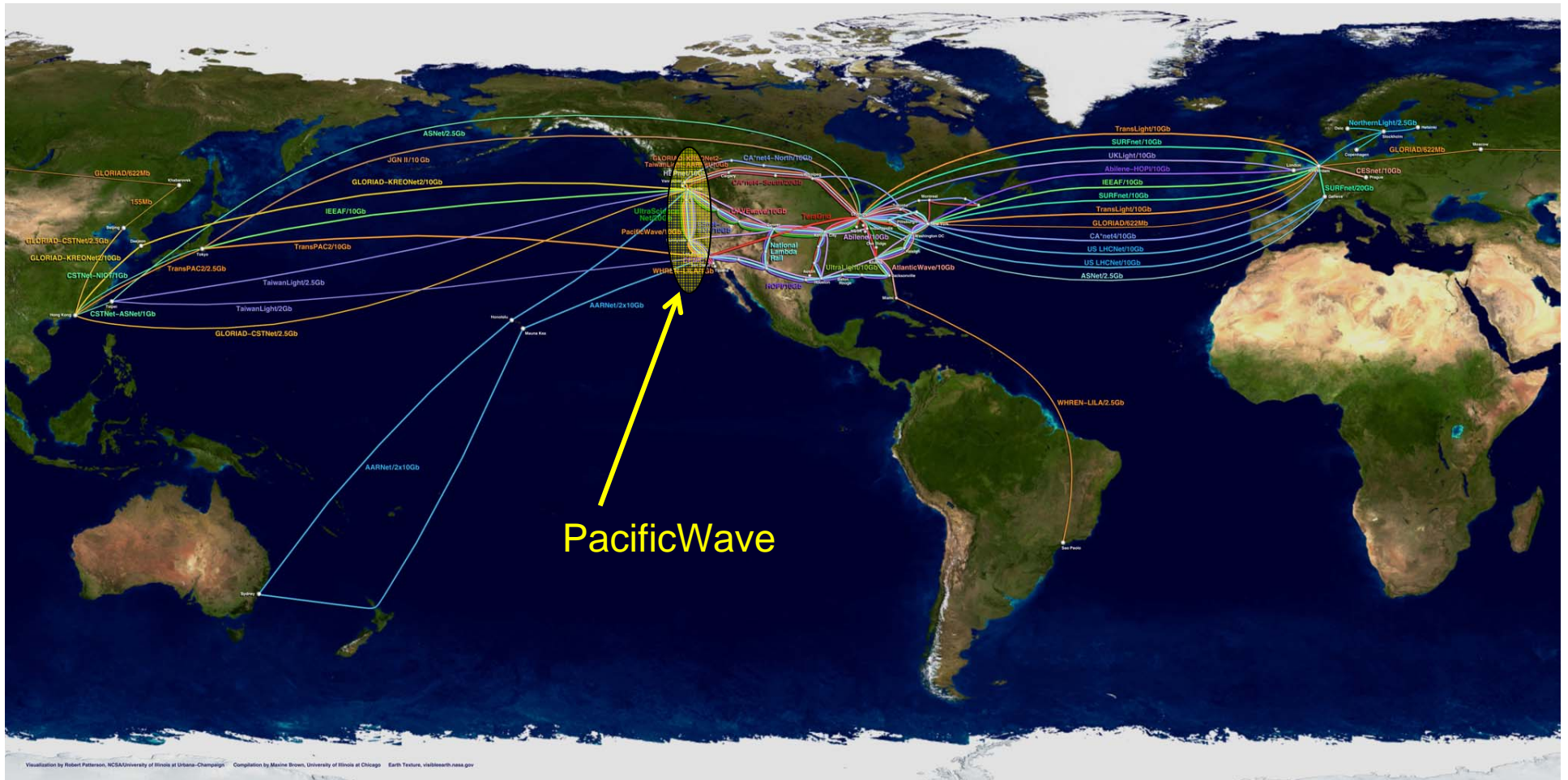
What is Pacific Wave?



Pacific Wave is a state-of-the-art international peering and lambda integrated facility designed to serve advanced research, education, development, and high-tech networks throughout the Pacific Rim and the world.

Goal: enhance networking capabilities by increasing network efficiency, reducing latency, increasing throughput, reducing costs and provision point-to-point lambda services to meet the short and long-term needs associated with advanced application and network development and implementation.

Global R&E Network Pathways



http://www.glif.is/gfx/GLIF_2048-03August2005.jpg

DISCLAIMER - This network map was a best estimate of connectivity around August 2005.

Internet2-ITF-PacificWave, 2005.09.16

Pacific Wave Today



- Extensible peering exchange and lambda integrated facility
- Nodes (currently) in Seattle, Sunnyvale, and Los Angeles, connected by a 10GbE wave provisioned over CalREN and National LambdaRail (2,241 kilometers)
- AUP free
- Supports IPv4 and IPv6; multicast enabled
- Based on Layer 2, Ethernet connections (for layer 3 peering)
- Provides 24x7 NOC support.
- Priced consistently from node to node
- Allows participants to self-select their peering
- Allows participants to connect to one-location and access participants at all Pacific Wave nodes
- Supports advance applications
- Welcomes any research or development network that can meet the minimum network configuration requirements (connect with a router; support BGP; support jumbo-frames)

Who Operates Pacific Wave?

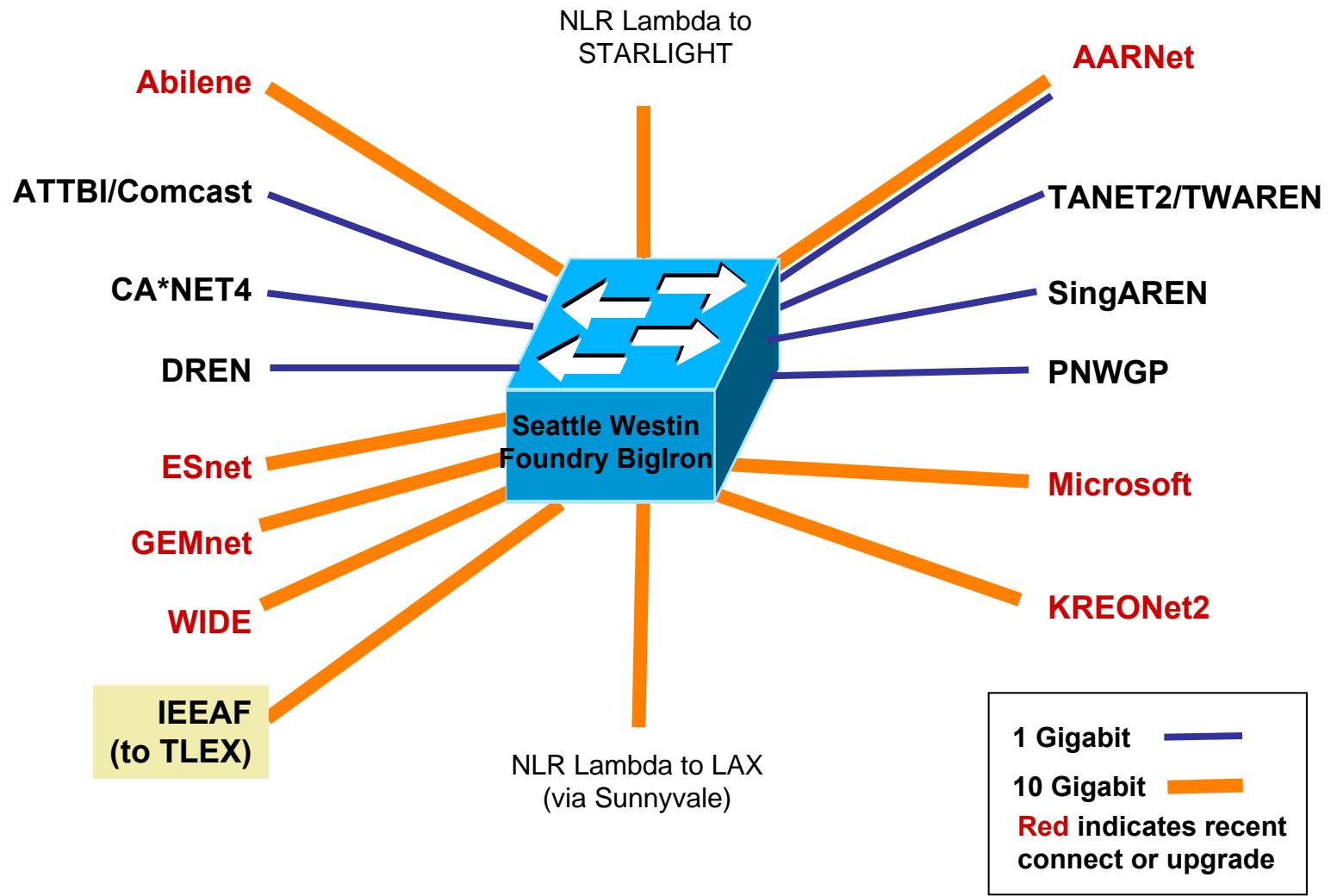
A joint project of CENIC and Pacific Northwest Gigapop



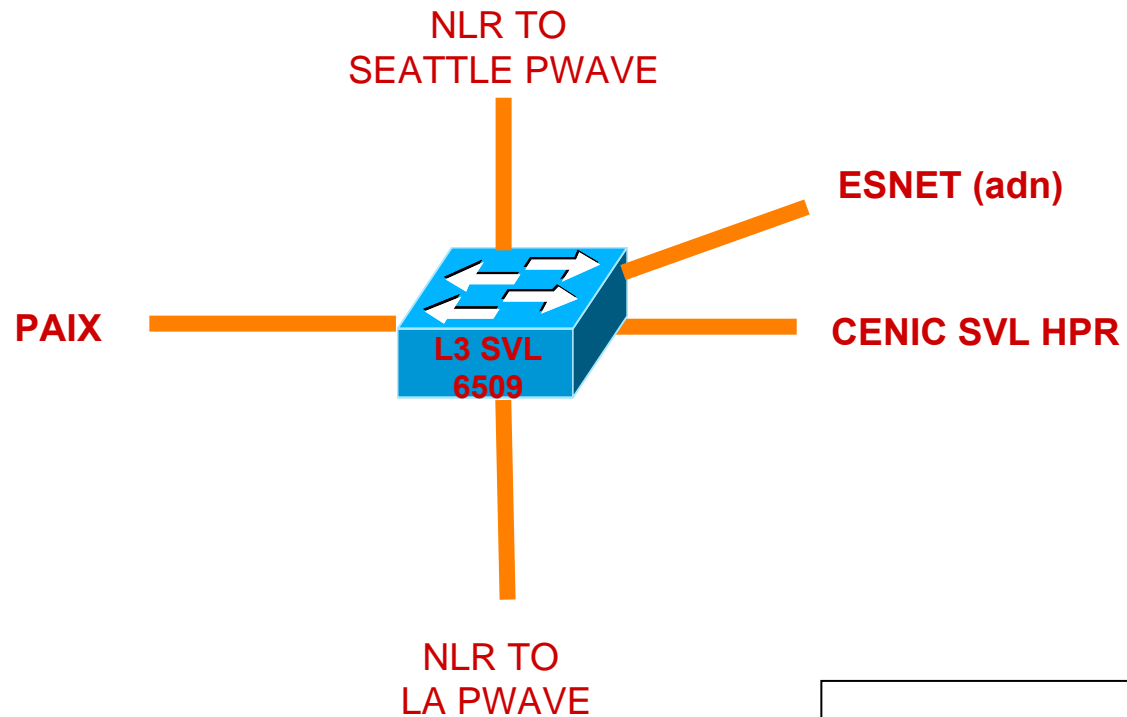
In collaboration with University of Southern California and University of Washington





PacificWave Seattle



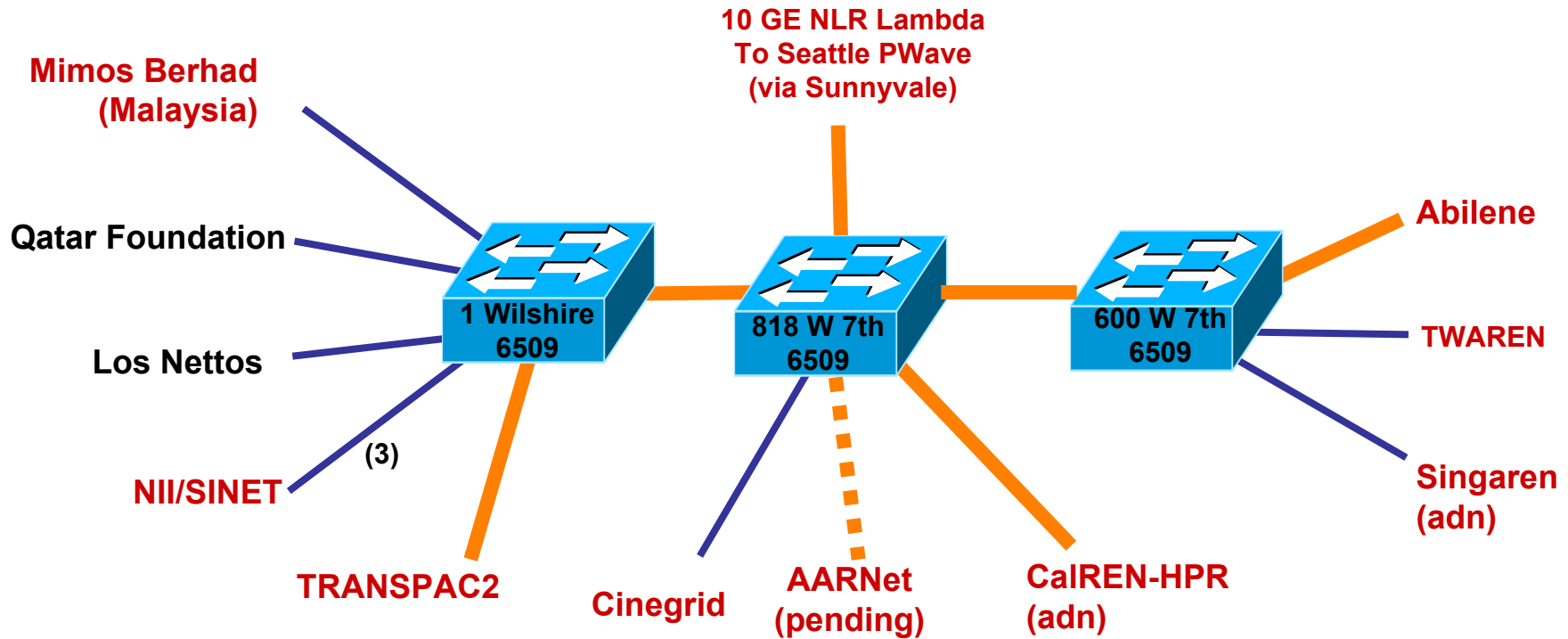
Pacific Wave - Sunnyvale



adn – indicates “any day now”

1 Gigabit	
10 Gigabit	
Red indicates recent connect or upgrade	

Pacific Wave - Los Angeles



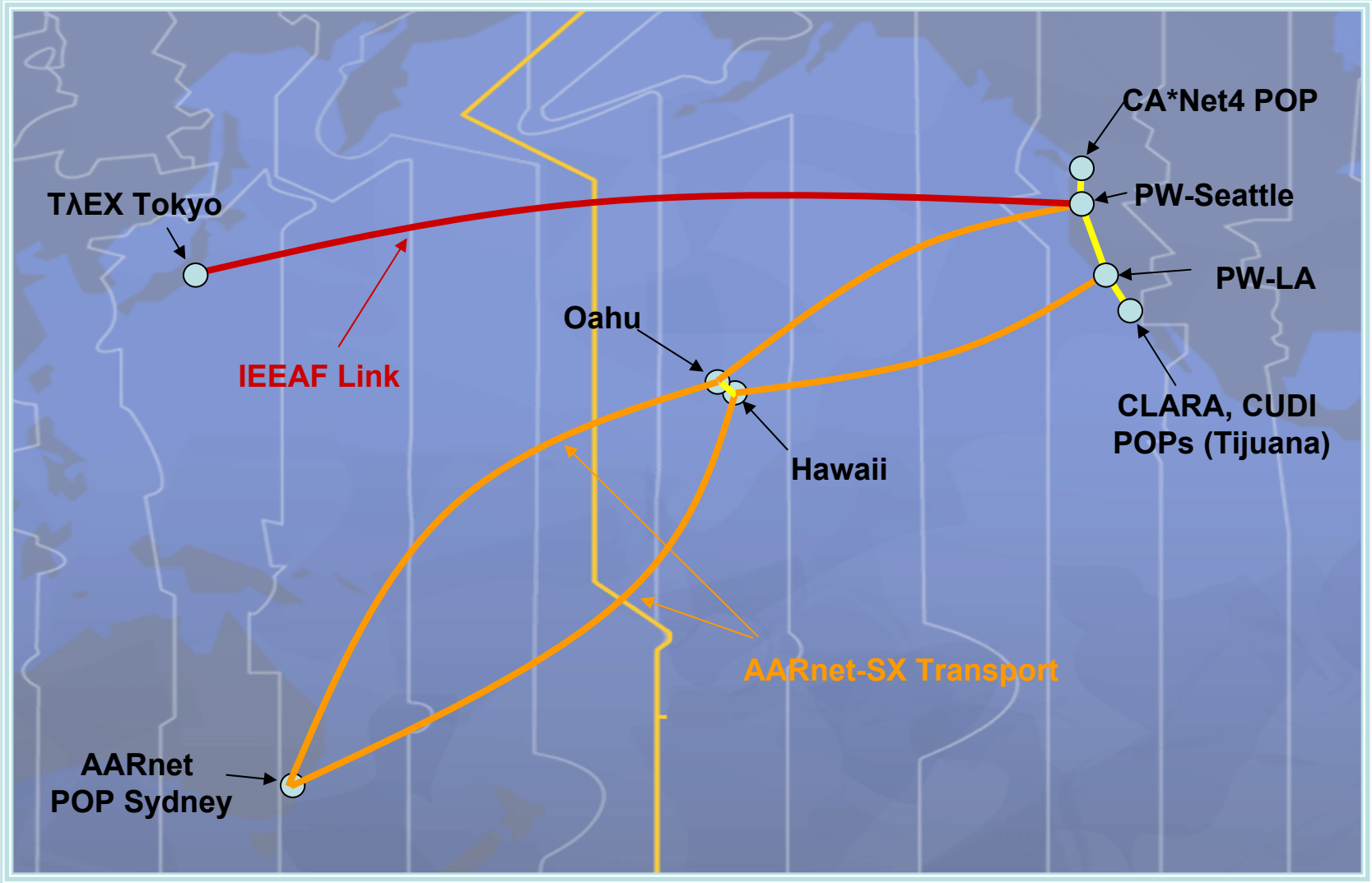
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Translight/PacificWave (TL/PW)

- NSF/SCI/IRNC Award #0441119
 - PI John Silvester (USC)
 - Co-PI Ron Johnson (UW)
- Objectives
 - Build out PacificWave exchange capabilities to facilitate international R&E connections on US Pacific Coast
 - Assist in the termination of AARnet SXTransport links to SEA and LAX
 - Assist in buildout of Hawaii connectivity
 - Assist in operation of IEEAF link Tokyo-Seattle
 - Provide ongoing engineering and technical support to international networks landing at PacificWave nodes
 - Develop and operate advanced capabilities to support optical interconnect and exchange needs of R&E networks

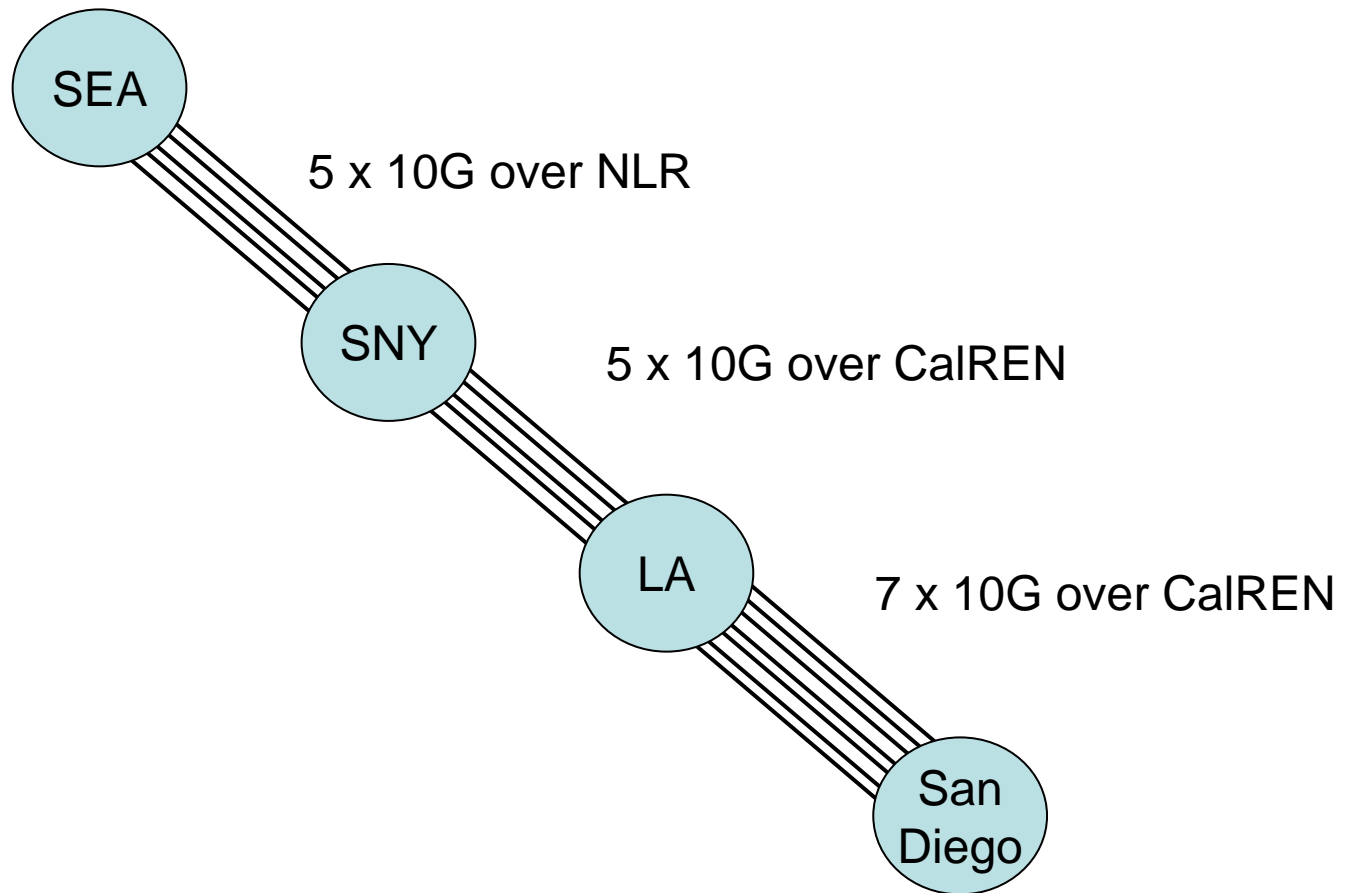
TL/PW Pacific Connections



iGRID

- Focus on applications demanding advanced networking
- To be held at CALIT2 at University of California San Diego, September 2005
- Many experimental demos

iGRID 2005



Supercomputing 2005

- The Annual Supercomputing event
- Last year in Pittsburgh there were 17x10G connections coming into the show floor
- This year there are ~50, several supported by PacificWave

Supercomputing 2005 (not final)

