

Update on the TransLight / Pacific Wave IRNC Project

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(with a lot of help from my friends)

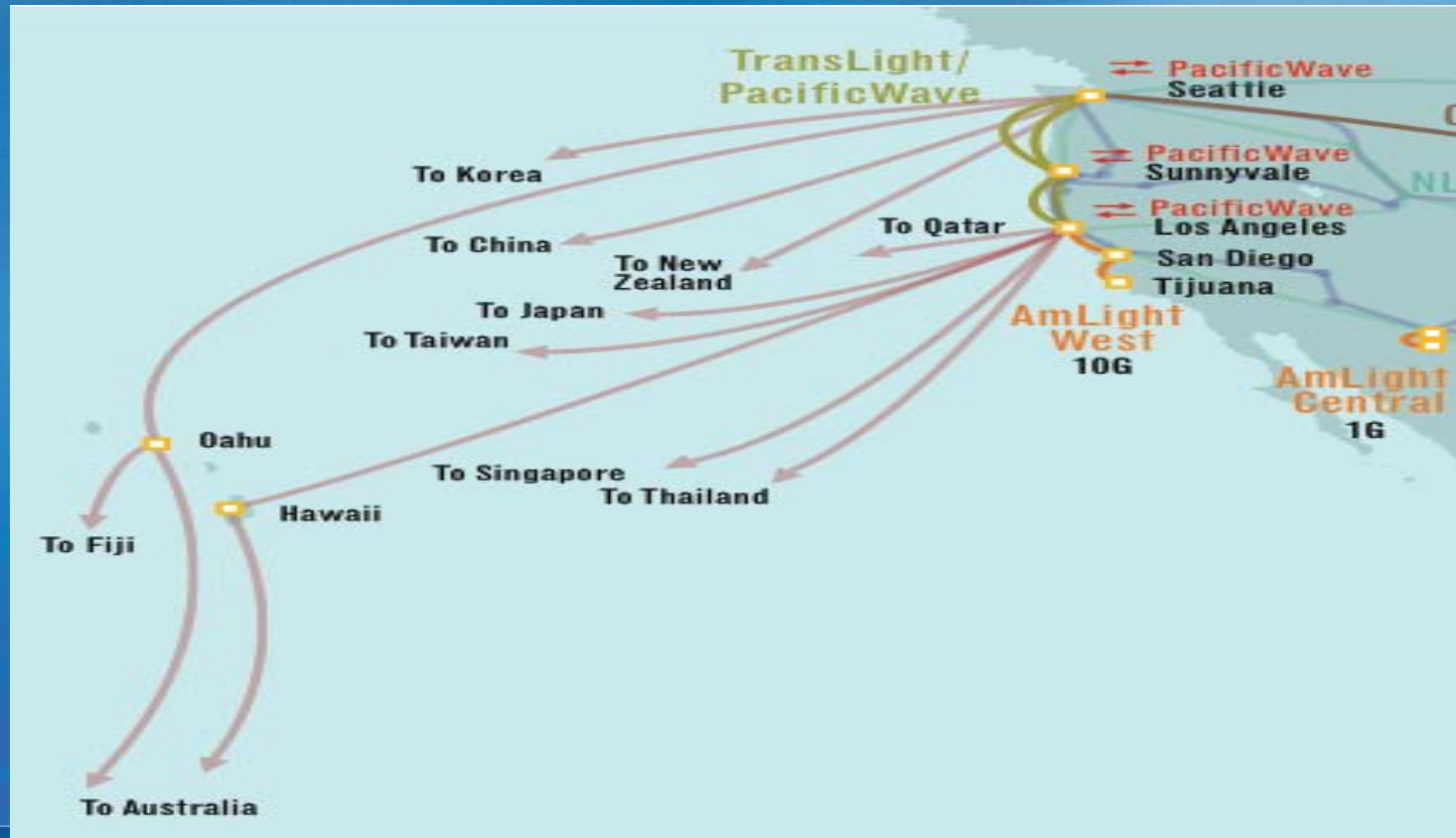
TL/PW Primary Objectives

- Provide full domestic support for AARNET's two 10Gbps circuits from Australia to Hawaii (including Mauna Kea) to the West Coast
- Support the Pacific Wave distributed exchange, which interconnects all international R&E circuits that terminate at U.S. West Coast locations
- Coordinate with partners to ensure network availability and availability of new services as needed and funded, including standardized network monitoring infrastructure and dynamic circuit services
- Install and maintain new international links, including emerging links from Pacific Islands, and bandwidth upgrades to existing links as funding and feasibility permit

Partners

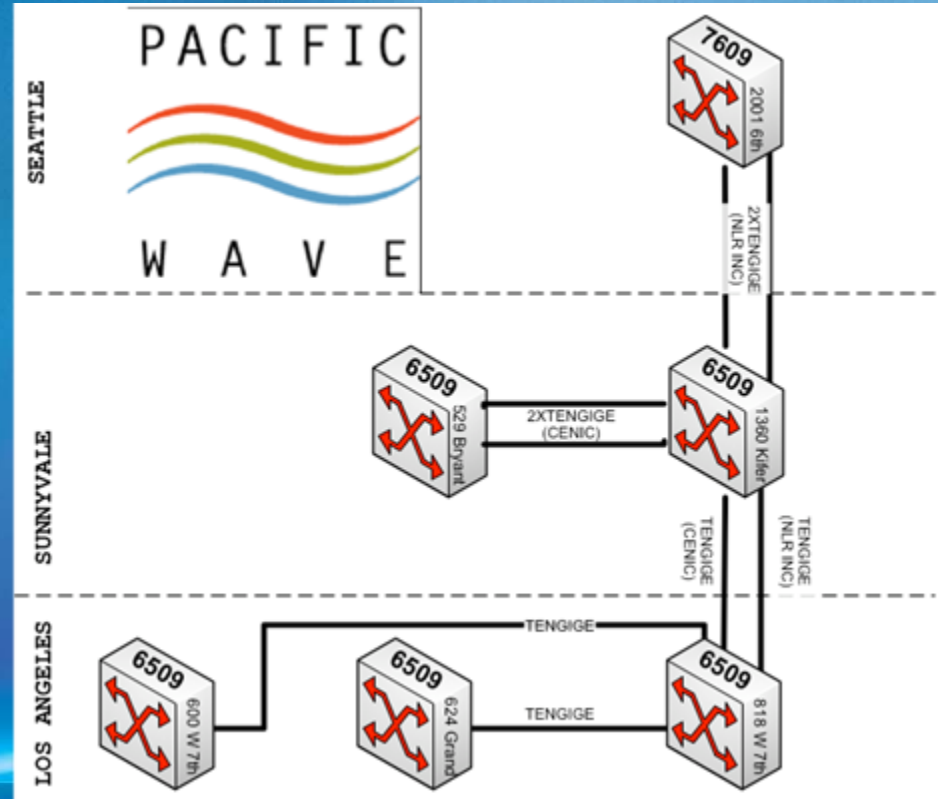
- PI : David Lassner, University of Hawaii
- Co-PIs : Ron Johnson & Ed Lazowska, PNWGP & UW
Jim Dolgonas, CENIC
- AARNet & many international network collaborators

TL/PW International Connectivity



Pacific Wave: Flexible International Connectivity

- Pacific Wave is a joint project between CENIC and the Pacific Northwest Gigapop (PNWGP)
- Pacific Wave developed and pioneered a new architecture: the open distributed exchange
- Participants at any Pacific Wave connection point (LA, Sunnyvale, Seattle) can interconnect in multiple transparent ways of their own choosing



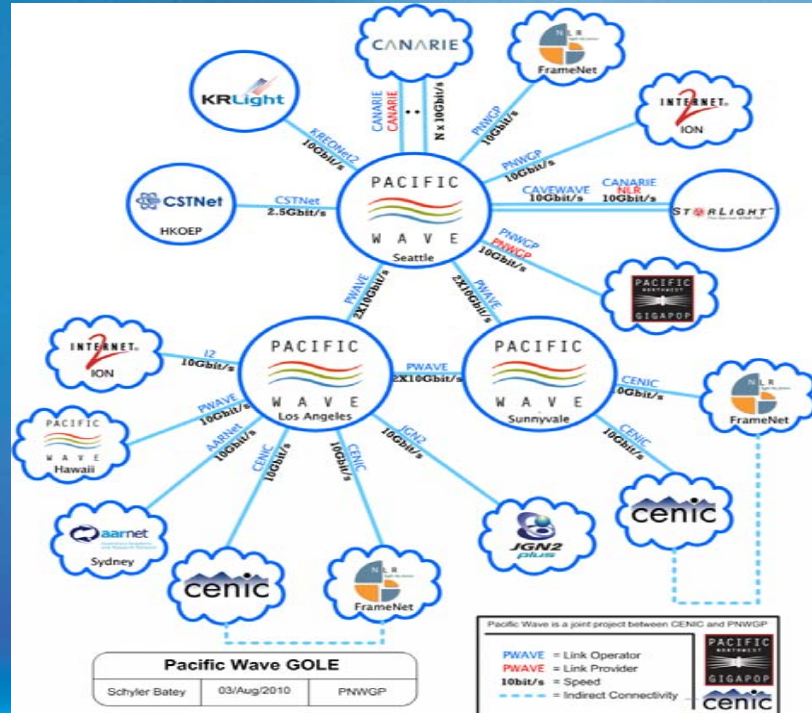
More than just a Layer 2 exchange

- Pacific Wave supports:
 - Network-to-network Layer 3 peering across regional and inter-regional public VLANs.
 - Dedicated VLANs between participants for traffic exchange at Layer 2.
 - Access to Dynamic Circuit Networks (Internet2 ION, NLR Framenet).

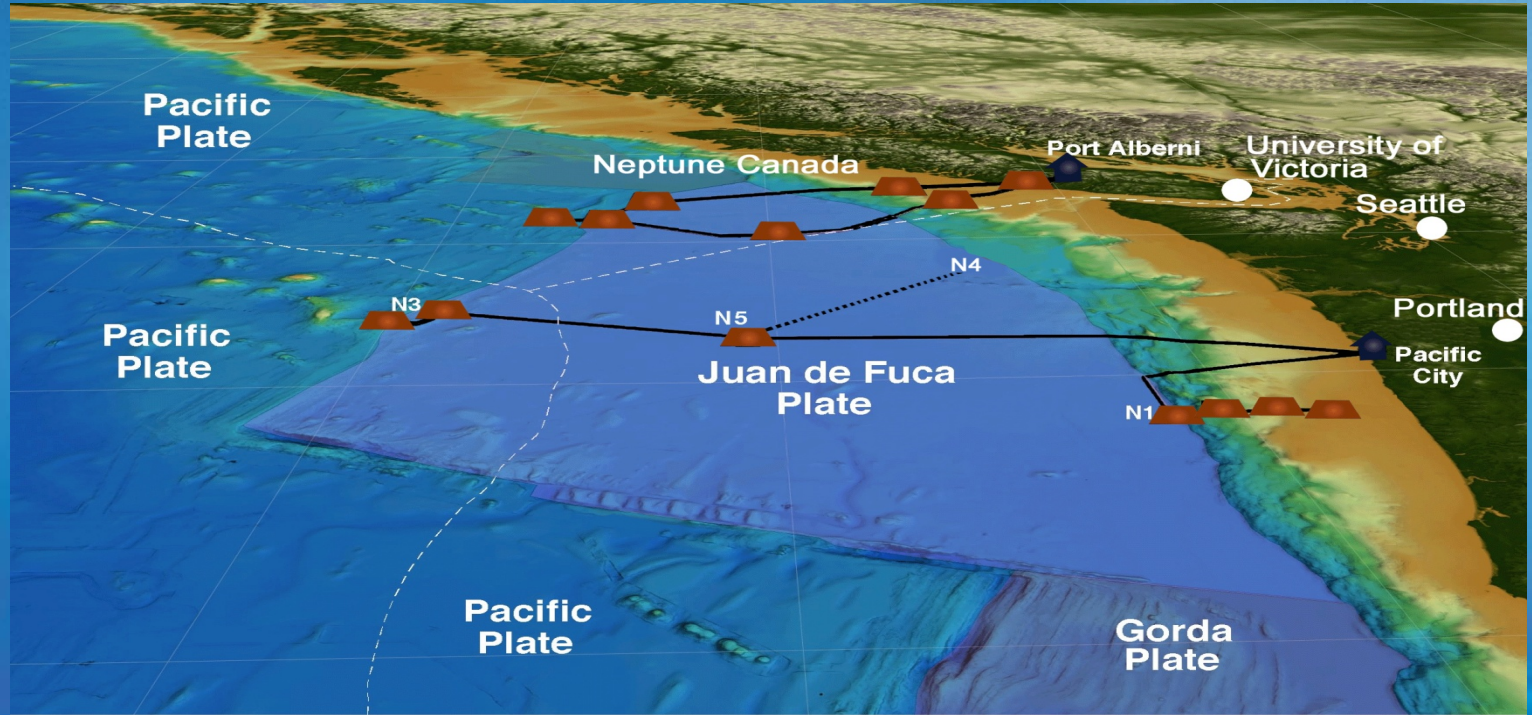
GLIF Open Lambda Exchange (GOLE)

Pacific Wave is a participant in the Global Lambda Integrated Facility (GLIF) – an international virtual organization.

Pacific Wave operates three GOLEs, one in each of its three points of presence.



TL/PW Signature Application 1 – Ocean Observing



TL/PW Signature Application 2 - Astronomy



Joint Engineering Plans

- Capacity
 - New links, Faster links, Backbone upgrades
- Improving our understanding of exchanges in engineering advances
- Performance monitoring
 - In collaboration with domestic and international partners
- Dynamic capacity assignment
 - In collaboration with domestic and international partners
- Participation in Future Internet developments
 - GENI, etc.
- Connecting the Pacific Islands

Questions? Suggestions? Ideas?

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