CalREN Performance Measurement

September 27, 2018
Quilt Fall Member Meeting

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Broader Impacts

Among the goals of the Pacific Research Platform (PRP) is to share the experience, knowledge, and technological advances with the larger Research and Education (R&E) community. As part of on-going education and outreach efforts the PRP has given a series of hands-on, interactive workshops to help participants develop expertise in data-intensive performance analysis, measurement, and visualization. We are proposing a pilot program to explore extending performance measurement cyberinfrastructure (CI), engagement, and training opportunities to more segments of the CENIC CalREN community.

The pilot will involve a phased deployment of a number of low-cost computing devices to explore three potential use-cases: network performance measurement nodes (perfSONAR nodes); Data Transfer Nodes (DTNs); and, security sensors.

Training and Engagement

As part of the pilot CENIC would coordinate a series of workshops similar to the PRP FIONA Workshops. The PRP FIONA Workshops incorporate curriculum and an interactive, hands-on format from the U. Oregon's Network Startup Resource Center (NSRC). As with NSRC's mission, among the goals for the workshops would be to provide opportunities to further develop expertise for the local and intra-regional IT resources among the participating segments. Workshop sessions would include basic system administration, network analysis tools (perfSONAR), data-movement toolsets (GridFTP), as well as performance measurement and visualization. Advanced workshop sessions would include integrating such tools into existing Network Operation Center environments.

As with other CENIC efforts, community engagement will be critical to the success of the pilot. The pilot would seek participation from the community to drive and inform the requirements, develop the success criteria for the pilot, and help determine priorities for scaling.

Participants

The initial phase of the pilot will seek participation from a small number of sites from within each of three segments:

California K-12 schools (K12HSN)

> 1,000 district offices

> 10,000 schools

California Public Libraries (Califa)

> 200 libraries

California Community Colleges (CCC Chancellor's Office).

> 100 colleges

Pilot scope

The initial deployment would consist of the following:

Qty	use-case	candidate platform
100	perfSONAR node	ARM SoC (Odroid C2)
25	DTN w/250GB SSD	x86 IoT (Gigabyte EL-20-3700)*
5	security sensor	x86 IoT (Gigabyte EL-20-3700)*

* The Pacific Research Platform has graciously donated 30 Gigabyte EL-20-3700's.