# Meeting Minutes from 2012 Joint Techs in Stanford

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July 16, 2012

Welcome  from Ken Miller, Co-Chair of Performance Working Group

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**Wireless Broadband Measurement in California**
YoungJoon Byun, Cal State, Monterey Bay

See Slides

Overview of the Wireless Broadband Measurement Project

- sponsor is CPUC (California public utilities commission)
- part of ARRA grant, administered by NTIA
- state-wide testing 2x/yr through 2014
- tool developed to measure wireless performance
- goal is to objectively evaluate major providers of mobile wireless across state of California
- currently analyzing results
- updating software for second field test in fall.
- all data available
- see http://calbroadbanddrivetest.blogspot.com/

Comments / Questions

Q: Are there any issues with server placement?

A:  We used EC2, with placement in east and west coast

- final results could be averaged
- when experience server congestion, in virtual environment, spin up another one.
- looking for more in second field trial.

Q: Are you doing anything to control who can access testers?
A: No protection today

Q:  Are you looking at any server data?
A:  No, just client data

- curious to see if you need to do east/west thing
- Could speed up by factor of 2 if only do one.

- Any suggestions, comments, please contact
  ybyun@csumb.edu

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**ESnet - Simple Lookup Service (for perfSONAR and beyond)**

Sowmya Balasubramanian, ESnet

see slides

 Simple Lookup Service Goals:

- meet needs of growing perfSONAR community
- Simple API
- Extend to non-perfSONAR services
- Security

Design:

- REST/JSON API
- Backend: MongoDB
- Flexible Architecture

Q: Assume one query?
A: No, but want to make sure simple query < 1sec

http://odev-vm-7.es.net/lookup-service-examples

- new Lookup Service and older one are on same host
- new Lookup Service ls is 95% faster than old one
- 1min-> under 1sec

- ESnet is using the new Lookup Service
- watch for alpha http://ps4.es.net:8085/lookup/services

Q: What is needed to do to move current installation?

A: Stores the same data, different format

- How it works today:
- index servers pulls from lookup servers, create csv
- and use csv for initial location finding
- can modify script to talk to both
- (or convert index servers to new)
- old approach is SOAP, new approach is JSON
- GENI doing it the same way
- new pushes to new; old ones pull old one
- Have compatible API for GENI uses

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**SFLOW Data Network Visibility and Control**

Neil McKee, InMon Corporation

See Slides

http://www.sflow.org/

http://blog.sflow.com/

- sFlow: widely supported industry standard
- based on virtual network and switches
- monitors all protocols
- captures packet path
- senders all open source & free
- replaces counter polling
- allows you to do lots of things
- IP address, URLs, app  attributes...
- things impossible to get all together, but needed for situational analysis

sFlow now monitors more than just packets; there is also server instrumentation and it can be extended to applications

Why monitor everything with sFlow?
1. troubleshooting - always have context
2. putting network and server teams on same page
   (cloud services)
3. full observability required for automated control
     control theory 101.
     to automate closed loop, have to report all

- sFlow and OpenFlow are complementary.
- OpenFlow can control
- if you have viz at same time, opportunity to close loop, research topic, but looks promising

Q: Is there any danger using OpenFlow features for accounting and control?
A: Better to use wildcards when possible instead of OpenFlow controls.

- open standards that work well
- netconf xmpl standards to set up / configure
- forwarding OpenFlow controls make sense

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 The Challenge

Ken reminded the group of the challenge regarding needs for next-generation tools:

https://spaces.at.internet2.edu/display/PerformanceWG/Challenge+of+January+2012+re+Needs+for+Next+Gen+NOC+and+End+User+tools

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Pennsylvania State University WAN Metrics Project

see slides

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**Next meeting of Performance Working Group**

Internet2 Fall Member Meeting

Thursday, Oct 4, 7:30am - 8:30am

http://events.internet2.edu/2012/fall-mm/agenda.cfm?go=session&id=10002569&event=1149