

# Teleconference notes June 20, 2013

Thursday, June 20, 2013

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## Attending:

Dan Schmiedt - willys@clemson.edu  
Chris Small - chsmall@indiana.edu  
Glenn Ricart - Glenn.Ricart@us-ignite.org  
Michael Van Norman -- mvn@ucla.edu  
Deniz Gurkan - dgurkan@uh.edu  
Dale W. Carder - dwcarder@wisc.edu  
Scott Brim  
Charles Chambers - chambers@uh.edu  
John Moore - jhm@mcnc.org

## Agenda:

- 1) Agenda Bash
  - 2) OpenDaylight update and discussion
  - 2.5) OpenDaylight REST API (Dale Carder)
  - 3) I2 AL2S: How to integrate with campus and RON SDN implementations?
  - 4) GEC17 meeting: Agenda? Speakers? etc.
- 4) GEC17: some network engineers, some academics, list will be available from Heidi once the list is somewhat final.  
Campus session (not many domain scientists show up at GENI meetings):
- 1 - panel on success/horror stories on SDN
  - 2 - pre-cursor to FTW - discuss and coordinate future meetings
  - 3 - operations supporting researchers: applications/experiments that improve operations interfaces (e.g., Clemson GENI ideas applied to operations for production networking benefit; e.g., GeorgiaTech another example with industry partnerships; e.g., multipath, multidomain SDN, very applicable/interesting for this community). Multilayer SDN e.g. integration of the photonic control plane.
  - 4 - interdomain stuff for SDN in campus/I2/RON: OESS, OSCARS, SDN exchange point, etc.
  - 5 - Brent's spanning tree - OF

Come up with an agenda, share with Heidi, and then bring it to GENI architects attention to add to/revise.

Brent: spanning tree - turn off spanning tree and enable OF?  
OF VLAN, hurts multipathing - add to GEC17 agenda

## 2) OpenDaylight:

e.g.: XMPP in southbound for Juniper  
Southbound interface: may be OpenFlow or otherwise  
Different versions of OF can be southbound as well  
Java interfaces on SAL so any protocol can be hooked into  
Open source  
OpenStack uses OVSDb to provision/configure  
Project submission: have a working code and then submit

Dale: Cisco controller and OpenDaylight (possibly Floodlight later), API using python, anybody with any such API already available? Use case is on firewall + OpenFlow switch to shunt traffic around the firewall. Think ScienceDMZ sort of environment.

Chris: OESS can handle multiple controllers, abstraction between controllers

Application development process: pick a controller, the controller location, and then develop according to the API provided by the controller, mostly static flow push may handle most situations  
DBUS(?) interface on OESS

Internet2 AL2S: useful link for 3) <http://www.nitrd.gov/nitrdgroups/images/6/61/1,15,13Internet2-GENI.pdf> Slide number 17 has the software architecture.

OESS - OSCARS: OSCARS protocol, build circuits by OESS by OF OR through OSCARS

OSCARS - MPLS

OESS - VLANs

end point selection done through OSCARS

federated system - coordination between OSCARS & OESS

OESS - OSCARS: independent systems but coordinate

OESS can signal IDC - Clemson 100G network, some OESS UI input from Dan

Clemson campus controller? Couple instances of FloodLight, beta test with commercial controller, campus Science DMZ (CC-NIE)

regional controller instances, campus controller instances - how do they coordinate?

SDN Exchange Point: one step at a time, first build and figure out as we go, particularly the interdomain issues, couple some security functions at the exchange point to strengthen such an inter-domain exchange point.

See <https://www.nanog.org/meetings/nanog57/presentations/Wednesday/wed.lightning3.whyte.sdn.controlled.exchange.fabric.pdf> (Google Project Cardigan)

OS3E Demo - <http://www.internet2.edu/network/ose/> linked off the ose page but now uses Shib so I don't know if you can actually do a demo anymore.

Dan & Brent: Cisco Nexus: cannot turn off spanning tree (HP - cannot turn off anything!)

Cumulus (James Hamilton blog) announcement: linux dist network operating system (<http://cumulusnetworks.com/>) ODM hardware <http://perspectives.mvdirona.com/2013/06/18/CumulusNetworksASneakPreviewOfOneOfMyFavoriteStartups.aspx>

Dale: Not clear how this is different than Pica8 or even Arista. Brent claims it may be just the linux-ness of it (such as apt-get / yum).

GEC17: send your travel grant application!