

# Winter 2014

## Winter 2014 Netgurus Meeting

NANOG will provide to NetGurus, a room to be set in closed Board style conference seating to support 20-30 R&E Operators on Sunday, February 9, 2014 before [NANOG 60](#) begins. We will have a projector and screen available if needed by participants. The actual room assignment will not be known for a few more weeks. When established, we will share the room location/information.

<b>Location</b>	Atlanta, GA
<b>Room</b>	International F
<b>Meeting Date</b>	February 9, 2014
<b>Meeting Time</b>	11:00am - 5:30pm
<b>Conference Dates</b>	February 10-12, 2013

## Hotel

The NANOG Room Block at the Westin PeachTree will accommodate the early arrival of NetGurus. They will find [hotel reservation information](#) on the web.

## Tentative Agenda

Time	Activity
11:00am	Gurus start
12:15pm	Break for group lunch
1:30pm	Guruing continues
5:30pm	Adjourn
6:00pm	NANOGers and Education Students Reception*

\* NOTE: Reception included for those registered for NANOG 60.

## Attendance

Contact [Jeffry Handal](#) (jhandal@lsu.edu) to RSVP and for topics you wish to discuss during the meeting. Attendance limit is 25.

Name	Email
Michael Sinatra	ms@es.net
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Celeste Anderson	celestea@usc.edu
Jeff Bartig	jeffb@doit.wisc.edu

## Discussion Topics and Notes

- Perfsonar and SRX firewalls
  - Recommended placement: inside and outside network; AL2S network.
  - Bandwidth test: sets up blocks; shuffles bits on memory to NIC; there is no hard drive; almost line rate. Can overrun buffers on routers /firewall.
  - Check out perfclub.org. Group open to all.
  - New patches/upgrades coming for perfsonar.
  - Recommended boxes for using perfsonar: qbox, nerada, udroids, beagle.
  - Uses of perfsonar:
    - Before/after snapshots of performance
    - Data can be used by researchers
    - Jason and Ely working on workshop to help users understand perfsonar. Feel free to provide feedback. Contact Celeste.
  - Web10g coming. People need to comment.
  - LSU using v6sonar used for a sensor network for testing ipv4/ipv6 performance.
  - Lots of Asia pacific members use perfsonar.
    - They do not know the community function and they have it closed. Celeste can hook you up.
    - They create tools that allow cool stuff. Example: create network map from perfsonar connections.
- Creating a telepresence friendly campus.
  - Use an SBC
    - Application based firewall for video and voice
    - It will help identify packet loss.
    - Only telepresence sent through it.
    - Recommend using SIP line from provider and a vlan on the internet as backup.
  - Check out bluejeans from NET+.
  - Examples from campuses:
    - Set QoS and do not place behind campus FW.
    - Allow 1723 in from anywhere so people can dial in/out.
    - Cisco VCS express: inside and outside firewall only applies to tanderg (only video not voice).
- IPv6 measurement sharing
  - Deepfield project to replace portal.internet2.edu.
  - I2 issues with measurement:
    - v6 flows are behind - have to mirror traffic, juniper gear having issues (netflow v9 not available with certain hardware).
    - Atlas project may have some statistics that you can reference.
  - Farmer offers to community colleges the following option:
    - v6 free and v4 has a cost. Ipv6 adoption great!
    - Keeps costs down because he peer with HE for free.
    - Similar model Chinese colleges follow.
  - Security:
    - Tools not keeping up.
    - Traffic is there whether you deploy or not.
  - Issues:
    - Monitor both: v4 and v6 to find problems.
    - Recommend nagios/mrtg/cacti.
    - Monitor health of session for bgp.
    - Peering issues still exist.
- Multicast: test sources, future of ipv4 multicast
  - Negative:
    - Pacific wave: multicast not allowed; only p2p; little requests for ipv6 multicast.
    - Most campuses do not worry about it.
  - Positive:
    - Replication of wireless config with ipv4 multicast; next version may work for ipv6. (Cisco controller)
    - People using it, NOC getting more complaints on ipv4 multicast more in one month than in the last 1.5 years.
    - Netcast for on campus only. They would like digital signage.
    - Voip phones have a paging service over multicast.
  - Issues:
    - iptv with multicast: leaves are an issue; continues streaming and consuming bandwidth.
    - Cisco 3750 with ttl 0 problems arise from flooding.
  - Private industry out pacing us. Example: multicast LTE; financial center. Education missing content to offer.
- Engaging with researchers
  - Begin discussions with researchers. Invite them to technical meetings.
  - HPC tends to lead it. Hard part is people leave by the time the grant comes along. Always find a representative. People interested by what they will do is different.
  - Recommend nanog/geni/I2 provide research forum. Researchers need feedback. Allow publications.
  - Research issues topic of interest: interdomain routing for openflow.
- Long Range Ethernet alternatives
  - phybridge: does poe and Ethernet. Cas provided an example: ip phones work just fine.
  - 2900 module for 4g celular: instead of using as a backup, use as main connection. Check for data plan; they may be cheaper than renting dark fiber.
  - Consider bidirectional transceivers: 10,20, 30 km flavors. 1gig only. (Allied Teleson makes them.)
- Replacement of cacti graphs for a dynamic solution
  - Check out statseeker:
    - Install on a dell server with 8gig.

- Nexus does like it on the fabric extenders.
    - v6 support coming.
    - Focuses on statistics only.
    - Very fast.
  - Consider mrtg instead of cacti.
    - Create scripts to scan periodically.
    - Clemson uses it mostly core devices.
    - Can be used for weather maps.
    - Script maker allows flexibility.
  - Check out router stud.cgi by steve shipway. Has book.
  - Check out snapp used by the I2 noc.
    - Dynamic front end. Very slick.
    - Free!
  - Other:
    - php weather map
    - draw used for creating maps from same data.
    - whatsapp
- Backbone upgrade plans (e.g. speeds, multi-vendor)
  - Examples of campuses:
    - Penn state: Moved from 6500 to Brocade mlx-E; 10gig to start with a few 100gig to computer routers; deployed 2 weeks ago and waiting to see what they will learn.
    - USF: looking at same decision as Penn but with 100gig only.
    - Georgia Tech: VSS at the core; Nexus bug for creating a multicast storm; dual 10gig, planning for 100gig. Also considering a 6904 with adapter for 10gig interfaces; OSI tend to work when keyed for Cisco.
    - Clemson: on their CCNIE, went with 40gig interfaces.
    - Other campuses: everyone seem to be happy with Nexus 7k but not happy with 100gig support.
  - Brocade fears:
    - Firmware upgrade
    - Documentation not great.
    - Forward error correction issue still pending.
- Data Center Interconnects (e.g. HA, L2 or L3)
  - Campus stories:
    - Clemson: L2 connectivity but may move all to L3 to avoid broadcast storms.
    - USF: L3 between data centers; recommend GLSB to move stuff around.
  - Recommendation:
    - Hit vendors with not allowing L2 movement of traffic.
    - Do not vmotion L2; DCs should be independent.
    - General consensus: kill L2 and do not let server guys say otherwise.
    - Use load balancers.
    - Check outL gtm = global traffic manager.
  - Kevin Miller has document showing why L2 is bad. (Sent to list)
- Other topics
  - Everyone buying 3rd party optics.
  - In Data Center: openstack applications dominating.
  - CCNIE grant results: Clemson created one flat L2 network and using big switch as controller. Have learned lessons; they were encouraged to share in the near future.
  - Outage notification systems:
    - Email notifications when network is down is dumb. A better notification system needed.
    - Example: blackboard connect. Clients decide how to get contacted.
  - Servers people use:
    - DHCP servers dominated by ISC (failover and load balancers are common deployment scenarios).
    - Radius servers: Free radius mostly. Some considering going to radiator. (Radiator written in perl but scales.)
  - eduroam:
    - Service expanding.
    - Campuses like Clemson and LSU using it as the only network to offer. Clients must get used to setting usernames as xxxx@xxx.edu.
    - Suggest eduroam for nanog
    - Question asked: Does eduroam use tls? Ideal when AD changes passwords.
- Future venue for Netgurus
  - Nanog and GENI still welcomes us.
  - Another possibility is the Technology Exchange in Indianapolis.
  - Quarterly call with one topic in mind.
  - Future still uncertain.

## Lunch Options

Meehan's Public House (Properly poured pint and bar food) <--- **Selected by the group**  
 Rays in the City (Seafood)  
 Sweet Georgia's Juke Joint (Southern Food)

## Thanks for the Support

Many thanks to our sponsors who have made this meeting possible:

Michael Sinatra

Betty Burke

Internet2

Nanog