

GENI Rack Deployment

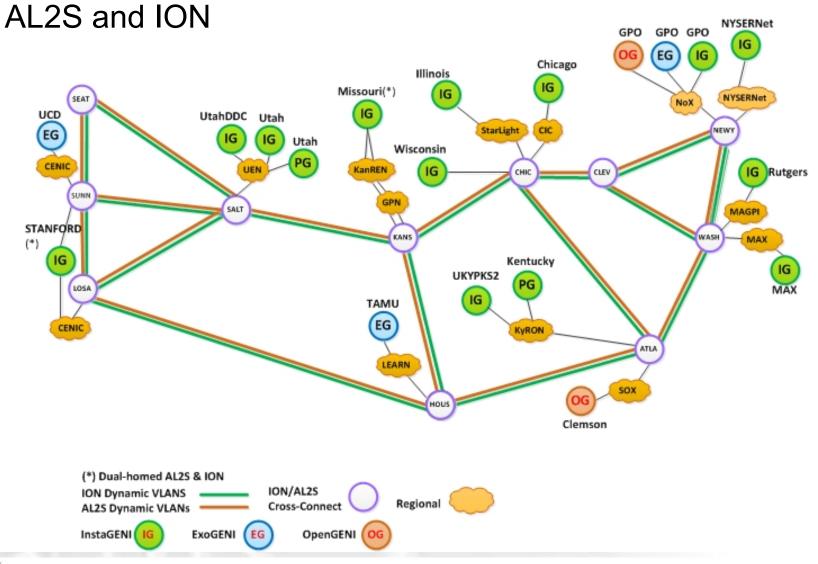
- 60 racks deployed/in progress, +1 on order
 - 13 ExoGENI, 42 InstaGENI
 - 2 OpenGENI (Dell) racks <u>http://groups.geni.net/geni/wiki/GENIRacksHome -</u> <u>OpenGENIRacks</u>
 - 3 Cisco protoype racks (no wiki documentation yet)
- All ExoGENI racks delivered. Congratulations RENCI!
- ExoGENI software rack upgrades for ORCA5, preserving state through resets
- InstaGENI hardware expansion at some sites (10G, more servers, more disk) and Gen9 HP hardware planning
- GENI monitoring deployed on all racks except Cisco



- 5 GENI AL2S sites support GENI stitching:
 - Stanford IG (dual-homed, ION and AL2S)
 - Missouri IG (dual-homed, ION and AL2S)
 - Chicago IG (AL2S)
 - Texas A&M University EG (AL2S)
 - UC Davis EG (AL2S)
- Stitching to/from these AL2S sites to any of the 14 ION Sites that support stitching works under test <u>http://groups.geni.net/geni/wiki/GeniNetworkStitchingSites</u>
- AL2S stitching Aggregate Manager, GENI Stitching Computation Service and ION Aggregate Manager software all updated
- More stitching sites in progress (I2 Brocade blocking issue resolved with firmware update)
- More at Operations session



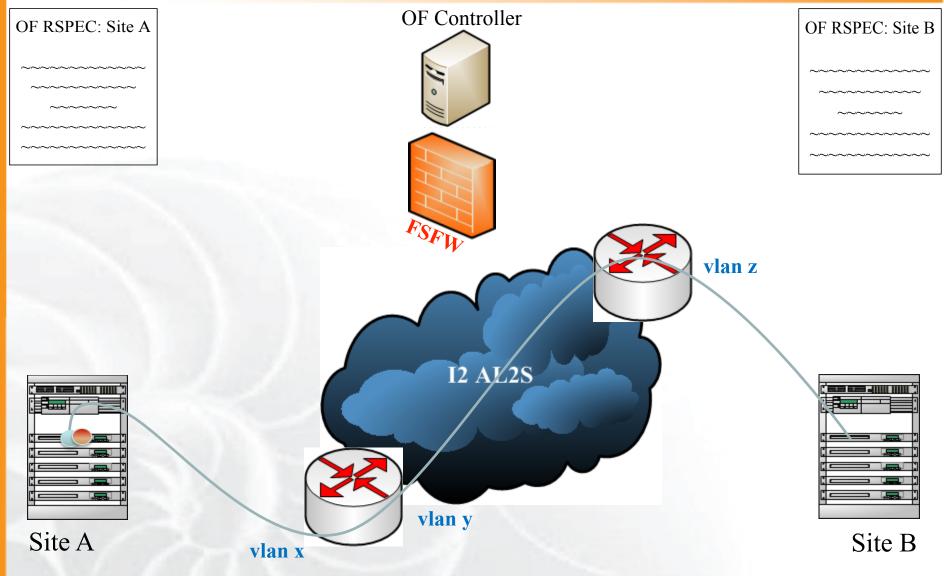
GENI Network Stitching



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October 22, 2014

Connecting GENI Racks with OpenFlow





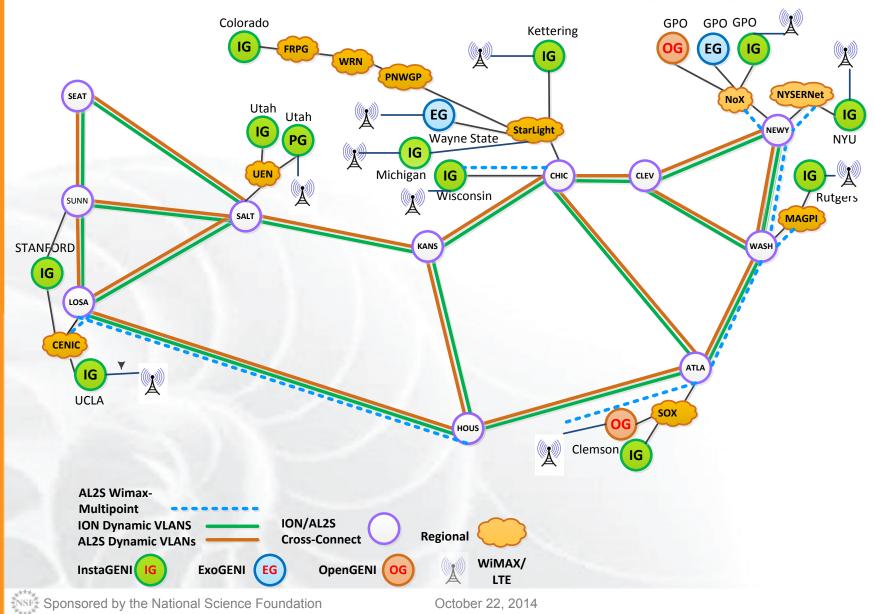
- GENI migrating from prototype GENI meso-scale with ION to Internet2 Advanced Layer2 Service (AL2S) infrastructure
- AL2S upgraded FlowSpace Firewall (FSFW) and Brocade switch firmware
- Internet2 deployed GPO reference learning switch controller, and revised review and approvals processes: first OpenFlow controller not from I2 operating on AL2S
- Plan to replace FlowVisor in GENI with a simpler slicer supporting OpenFlow service abstraction

http://groups.geni.net/geni/wiki/OpenFlow/Slicer/Requirements

- OpenFlow 1.3 planning
- More at Operations session

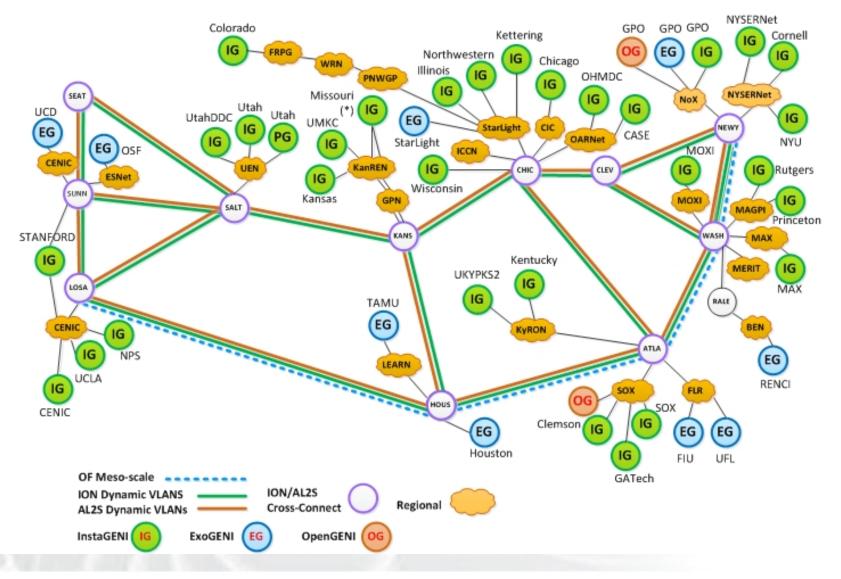


WiMAX Network Integration





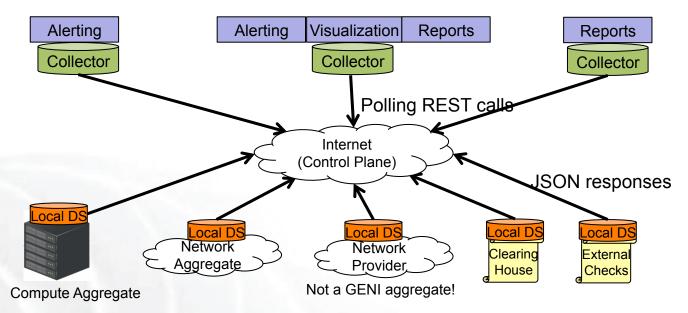
GENI Network Integration



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GENI Monitoring



- Version 2.0 released on 08/28/14
 - JSON schema update for clarification and more detail, WiMAX stats support
 - Reference implementation update for new schema and added robustness.
- Internet2, ION, MAX, InstaGENI, ExoGENI data stores updated
- GPO external check store reporting on additional aggregate availability (FOAM aggregates)
- First WIMAX data store at Rutgers reporting with v2.0 schema.

Monitoring Updates



GENI - Monitoring Collect ×	L X	
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GEN MONITORING COLLECTOR	Administration	
Certify Articexes Confection Config Stores	geni-prod Info ID: geni-prod SoftRet: https://popconfig/datastore.gpolab.bbn.com/info/opsconfig/geni-prod Schema Version: v1 Report Aggregates Authorities External Check Stores Source Report External Check Stores Source Report All From Oct 15, 2014 To Oct 16, 2014 Photomics 64, 510 Authorities Authorities Source S	Report (Packets) E From Oct 19, 2014 To Oct 20, 2014 * *
		Report (WiMAX)
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	16. Oct 12:00 17. Oct 12:00	18. Oct 12:00 19. Oct 12:00 20. Oct 12:00

- Rack teams deployed monitoring v2.0 at all sites, including WiMAX
- UKY collector and web tool supports v2.0 and v1.0 data stores.
- Early operations use in GPO e.g. detecting traffic loops
- Alerts, reports in progress

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Monitoring Collector

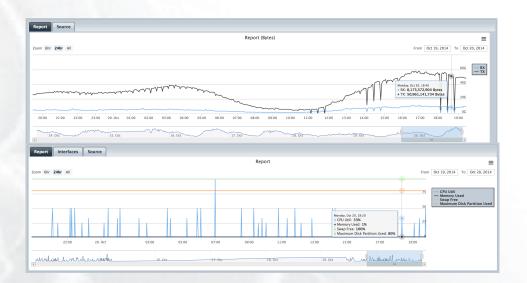
- Improved overview of slice topology
- Expanding to include usage history as schema changes and more metrics are available

Info		
URN: urn:publicid:IDN+ch.geni.net:gpo-infra+slice+tuptystitch		Updated: Oct 20 2014 18:15:15
ID: ch.geni.net_gpo-infra_slice_tuptystitch		
UUID: ch.geni.net_gpo-infra_slice_tuptystitch		
URL: https://ch.geni.net/info/slice/ch.geni.net_gpo-infra_slice_tuptystitch		
Created: Oct 10 2014 17:17:43		
Expires: Oct 23 2014 04:00:00		
Schema Version: v1		
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Monitoring Collection and Analysis

- Historical data from aggregates available through UK web tool, programmed ops interfaces coming
- Working through enhancements for operations use cases
- More at Ops session





- Deployed and tested WiMAX AM and WiMAX monitoring.
- Added more types of data to GENI rack and network monitoring in v2.0 of monitoring collector and web analysis tool. Preparing to open to all operators.
- Prepare to bring up production Stitching Computation Service at GMOC. (MAX dev SCS continues).
- Built and ran (offline) GENI clearinghouse/portal at RENCI

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