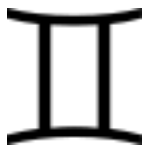


GEMINI: A GENI Measurement and Instrumentation Infrastructure

Martin Swany and Chris Small, Indiana University
Eric Boyd, Internet2
James Griffioen and Zongming Fei , University of
Kentucky



Overview

- GEMINI will integrate and extend the work from the LAMP and INSTTOOLS efforts
 - As well as other Solicitation 1 and 2 projects
- Unified gathering and presentation of intra-slice and infrastructure measurements
- Form a comprehensive GENI I&M platform that implements all the components in the emerging reference model

perfSONAR and Periscope

- perfSONAR
 - Extensible framework for performance data
 - Existing tools
 - Some of which formed the basis for LAMP
 - Deployment
 - the perfSONAR deployment on Internet2 and campuses provides valuable infrastructure measurement data
- Periscope
 - Caching, aggregation, visualization and control of perfSONAR infrastructure
 - RESTful interfaces to perfSONAR protocols and data models

LAMP and INSTTOOLS

- Have configuration and reporting portals
- Can install a range of different I&M tools
- LAMP supports more measurement sources
- INSTTOOLS has more flexibility in dynamic instrumentation
- Merge and take the best components

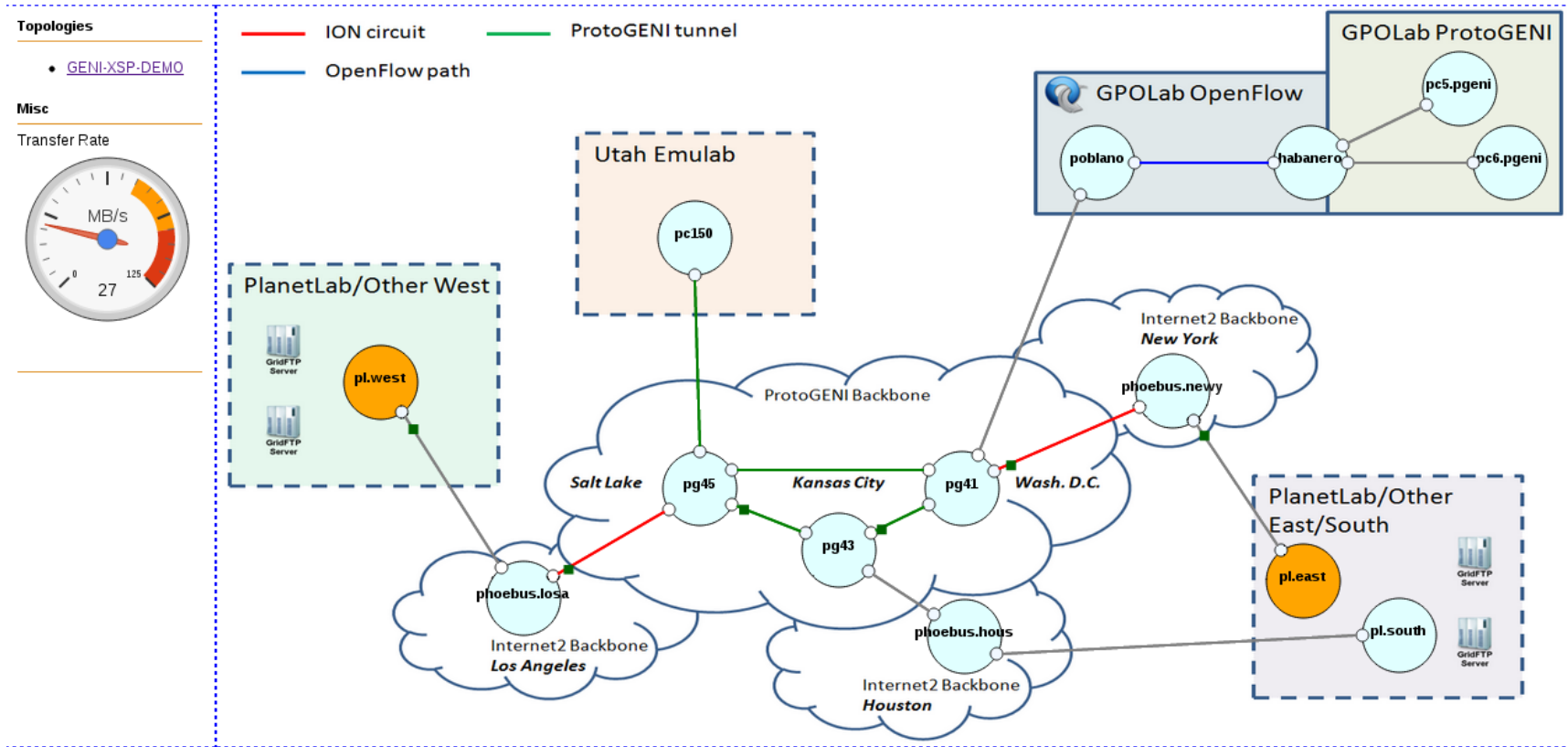
New work

- GEMINI Global Registry
 - Extending UNIS
 - LAMP Y3 will extend and deploy UNIS (hierarchy)
- Pub/Sub functionality
 - Prototype in perfSONAR using AMQP
- More comprehensive measurements (data sources)
 - Persistent infrastructure measurement slice, data available alongside slice measurements
 - Host and application monitoring support, building on Periscope

New work

- OpenFlow integration
 - Chris Small and company have a prototype
 - Leverage other circuit monitoring efforts
- Visualization with WorldView
 - Usability and friendliness are key
 - General enhancements to the user portal
- Extension of archival interaction
 - INSTTOOLS supports this
 - Investigate iRODS
- Refine and adapt to the GENI I&M measurement architecture

Periscope



Delete selected paths
 Save topology locations

GRI	Status	Source	Destination	Start Time	Duration (s)	Misc
pl-test3	UP	pl.west	pl.east	2011-10-28 14:07:28
XSP-netPath-0	DOWN	pc5.pgeni	pc150	2011-10-28 18:40:15