GENI Meta-Operations Center post-GEC10 report

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Summary

- *Operating within Budget*
- *Milestones completed as planned*
- *Initiation of collaboration with INSTOOLS*
- *Increased data collection from ORCA*
- *Prototyping and deployment of tools for unified measurement data access.*
- *Initiated conversations with BBN for operations data distribution.*
- *Additional NLR Openflow, Internet2 Openflow, and IU Openflow Campus Trials integration*

Major Accomplishments

Milestones Achieved

Milestone S3.c was completed. The operations eco-system table has been released and is available at: https://gmoc-db.grnoc.iu.edu/secure/gmoc_wos.cgi. This table includes data from PlaneLab, ORCA, Openflow (as the core openflow backbone), Internet2 and NLR.

Deliverables Made

Mileston S3.c has been completed as well as the code for initial integration of the GMOC frontend with the SNAPP measurement front end.

Description of Work Performed During Last Quarter

Activities and Findings

Initiation of collaboration with the I&M projects along with development and integration of more user-friendly tools for access to measurement data were both completed during this period.

We have started work with INSTOOLS for using GMOC as a destination for operational data from their users' slices. The data policy and data models have been agreed upon, and part of the data sharing interfaces have also been agreed upon. Work is continuing to implement data exchange.

GMOC has been working on using the SNAPP measurement UI as it's unified front end to operations measurement data collected from all projects.

Project Participants

During this time, key participants in GMOC included:

Jon-Paul Herron, PI
Luke Fowler, Co-PI
Camilo Viecco, Senior GMOC Engineer
Chris Small, Technical Staff
Jeff Catania, GMOC Undergraduate
John Meylor, GMOC Undergraduate

Publications

Outreach Activities

Undergraduate Development Assistance: Jeff Catania and John Meylor, two undergraduates for the IU Computer Science department have assisted with

research activities into GENI projects and existing data sharing options, including assisting with integration with ORCA and Openflow deployments.

Collaborations

GMOC has continued the process of contacting exemplar projects regarding data acquisition and limitations of the current operational data format.

GpENI: GMOC has deployed a GpENI node at Indiana University, has connected this to the larger GpENI environment, and is investigating operational data sharing for GpENI nodes.

ProtoGENI: ProtoGENI has provided SNMP access to the Internet2 Collocated backbone switches. GMOC is collecting data on this system using SNAPP, the GRNOC tool for SNMP data collection.

PlanetLab: GMOC has continued data collection from PlanetLab's CoMon interface and into the GMOC database.

ORCA: GMOC has continued using ORCA's interface for data sharing. The interface is still limited but we have now integrated their link information into the GMOC frontend.

K-GENI: GMOC has worked with K-GENI to have a federated GMOC between GMOC and K-GENI. GMOC has provided soruce code and assistance with now K-GENI running a GMOC-KR instance.

Openflow at Indiana University GMOC is now also collecting data from the Indiana University's openflow switches via SNAPP.

Openflow at National Lamba Rail GMOC is now collecting SNMP data and topology of the Openflow deployments at the Natioal Lamba Rail.

Openflow at Internet2 GMOC is now collecting SNMP data and topology of the Openflow deployments at the Internet2 network.

INSTOOLS GMOC has been collaborating with the INSTOOLS team to enable operational data sharing for GENI experiments instrumented with INSTOOLS software.

Planned Activities for period before GEC11

Complete data sharing with INSTOOLS, initiate work on integration with OnTimeMeasure, initiate data sharing with CRON, and continue working with previously integrated projects to enhance data sharing.

Continue refining procedures for emergency shutdown, and pilot emergency shutdown functions. Continue to build operational contact database.

Work with GPO and other members of the "Monitoring group" which has been formed to integrate additional data into the GMOC data set.