GENI Meta-Operations Center Service Desk

Project Status Report

Spiral 4, 1st Quarter

Period: 1/1/2012-3/31/2012

Marianne Chitwood – Principal Investigator

Summary

- *Operating within Budget*
- *On track to complete milestones as planned*
- *Completed Service Desk Statement of Work milestones S4.a, S4.b, S4.c, S4.d.*
- *Continuing to work on remaining milestones S4.e-g*

Major Accomplishments

Milestones Achieved

- **S4.a Evaluate production experimenter support needs and develop draft list of GENI processes and documentation needed including notification, escalation and reporting processes for GENI resources to be covered by help desk and GMOC (April, 2012)** Developed and documented all current GENI support procedures. Internally posted on the GMOC Site (need GRNOC credentials to view) GRNOC > GENI: GMOC > Documents Attended GEC13 and presented current and upcoming GENI Meta Operations Service Desk support – see presentation posted on the GMOC website: GRNOC > GENI: GMOC > Presentations > GMOC-Service-Desk-Proposal-2012-GEC13.pdf

- **S4.b Ticketing system, documentation and phones set up and supporting existing GENI users and operators. Specialized GENI support technician(s) designated. (March, 2012)**

  GMOC project was setup in the GRNOC FootPrints ticketing system. The GMOC evaluated and implemented a schema that will fit the GENI network operational support needs for notification, escalation, assignment and future reporting. (see screenshot below)

  Eldar Urumbaev is designated as the GENI SST (Specialized Support Technician). Email: eurumbae@indiana.edu, phone: 812-856-0988.

  Conducted training for the Service Desk staff of GMOC tools and current support – Emergency Shut-down, GENI Integrated Backbone Outages/Maintenances, I2/NLR/Indiana FOAM workflow, GMOC Database training, etc...

  Service Desk SOP Documentation posted internally on the GMOC Site (need GRNOC credentials to view) GRNOC > GENI: GMOC > Documents

  GMOC Phone number setup: 317-274-7783

  GMOC Alerts email setup for I2/NLR/GPO Nagios and FOAM alerts: gmocalrt@iupui.edu

• **S4.c Create/update database of operational contact data and operations status including planned outages, based on existing GMOC database data. Setup listservs, if needed base on S4.a. (March, 2012)**

Service Desk worked to clean-up operational contacts in the GMOC database for Internet2, NLR and other entities. Additionally GMOC SD worked with Internet2 and NLR NOCs to update contacts and notification procedures in their individual databases to streamline GENI support.

- **S4.d Complete version 1 of GENI notification & reporting tools. (March, 2012)**

  Service Desk worked with GMOC Systems Engineers to set up following tools for GENI support. Screenshots and details were presented to experimenters and other GENI users at GEC13 (GMOC-Service-Desk-Proposal-2012-GEC13.pdf)

  - Public Ticket Viewer
  - Operations Calendars (Web, iCal, RSS formats)
  - Notification Tool
  - GENI Resource Approval/Inquiry Form

Deliverables Made

- GENI support processes and documentation
- Ticketing system, documentation and phones
- GENI SST designated
- Updated database of operational contacts
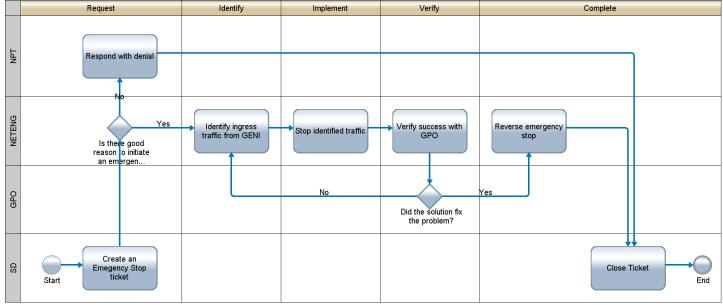- Completed initial set of tools for Service Desk support

Description of Work Performed During Last Quarter

Activities and Findings

The GMOC Service Desk has been operating in full operational mode providing 3 major areas of support for the GENI Community:
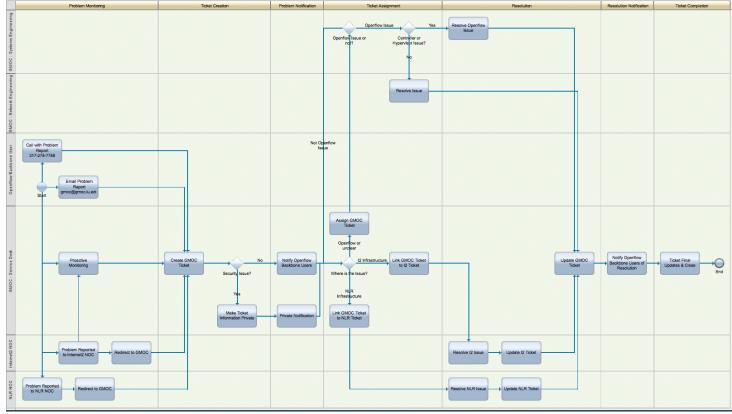
- **GENI Emergency Stop:** Service Desk and Network Engineering groups have continued to streamline the workflows as well as train staff to perform an Emergency Stop. The latest workflow diagram and detailed procedure has been sent to hdempsey@bbn.com and posted on both the GMOC site and the Meta Ops page on the GENI Wiki.

The flowchart contains the following swimlanes and phases:

	Request	Identify	Implement	Verify	Complete
NPT	Respond with denial				
NETENG	Is there good reason to initiate an emergen… (Yes / No)	Identify ingress traffic from GENI	Stop identified traffic	Verify success with GPO	Reverse emergency stop
GPO				Did the solution fix the problem? (No / Yes)	
SD	Start → Create an Emegency Stop ticket				Close Ticket → End

- **GENI Integrated OpenFlow Backbone network support:** GMOC Service Desk worked on streamlining processes and procedures to provide 24/7 monitoring and NOC Service Desk support for operational issues on the GENI OpenFlow Backbone. This includes proactively monitoring all the Internet2 and NLR OpenFLow switches, providing notifications for outages and upcoming maintenances for the I2/NLR OpenFlow Backbones and OF Core Nodes.

- **Aggregation Managers resource approval Workflow on Internet2/NLR/Indiana FOAM:** Service Desk and GMOC Systems Engineers implemented a workflow to handle resource approval on the FOAM servers. (details in the GEC13 SD Presentation)
- **Intermittent GENI Core instability and various connectivity issues:** Service Desk has also been working on various connectivity issues on the GENI OpenFlow Core by tracking issues and engaging appropriate network and systems engineering groups.

Project Participants

During this time, key participants in GMOC Service Desk included:

- Marianne Chitwood, PI
- Eldar Urumbaev, GENI SST
- Mike Booher, GRNOC Service Desk Manager
- John Wilson, GRNOC Project Management Team Representative

Outreach Activities

Online community building using web: GENI GMOC web site was modified to provide up-to-date information on GENI Service Desk support including ticketing system and tools, operations calendars and GENI Resource Approval/Inquiry form. Marianne Chitwood and Eldar Urumbaev presented a session at GEC13 on the GENI GMOC Service Desk, providing operations and status updates.

Collaborations

GMOC Service Desk continued work with Internet2 NOC and NLR NOCs to provide an "umbrella" support for the GENI Integrated Backbone. This includes creating a GMOC Alerts email inbox that is monitored 24/7 and sending alarms for all I2 and NLR OpenFlow switches to catch any outages and tracking maintenances on these switches.

GMOC Service Desk representatives started joining Friday weekly calls with GPO: Network-Core and Monitoring.

During GEC13 Service Desk representatives made various contacts and working relationships both within GPO and the greater GENI community.

Planned Activities for Spiral 4 Q2

GMOC Service Desk will continue to work on the rest of the planned milestones and provide the planned deliverables for Q2 of Spiral 4. This includes:

- Continue to work with GPO to conduct and document results of dry runs of Service Desk/GMOC uses cases with GPO and other early GENI volunteer participants. This includes a revised Concept of Operations document, and continued expansion of data sharing and the GMOC operations portal.
- Continue to work on tools for the GMOC Service Desk for experimenter support and any upcoming changes in the GENI Core. This will most likely include:
  1. Working on improvements of GMOC Database contacts structure and integration with the ticketing system.
  2. Experimenter trouble submission web-form – form for experimenters to report a

problem they're having. Form is to ensure GMOC has all pertinent information to either direct them to their Campus Operator or GMOC Engineering.

- Work on setting up a GENI Ops mailing list – Put together a single mailing list to expand the mailing lists in the Notification Tool to include GENI Experimenters, GMOC Engineers, Service Desk staff and any other entities. Post information on the GMOC site and/or GENI Wiki to provide information for joining the list.

- Create GMOC specific GENI User (Experimenter) Impact Guidelines – based on GlobalNOC's standard Customer Impact Guidelines. Helps Experimenters and other GENI users to set the severity level of the problem that they are reporting.

- Update the GMOC website home page and the GENI Meta Ops page on GENI Wiki to include current support features for experimenters and the GENI community as a whole. Work on updating any existing documents such as the GENI Concept of Operations document.