GENI Meta-Operations Center Service Desk

Project Status Report

Spiral 4, 2nd Quarter

Period: 04/01/2012-7/31/2012

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Summary

- *Operating within Budget*
- *On track to complete remaining milestones as planned*
- *Completed remaining Service Desk Statement of Work milestones S4.e, S4.f, S4.g.*
- *Continuing to work on any remaining items for improving support*
- *Implemented various workflows for experimenter support, regionals and racks*

Major Accomplishments

Milestones Achieved

- **S4.e *Conduct dry runs of help desk/GMOC use cases with GPO and other early GENI volunteer participants (ongoing). Document dry run results (July, 2012)***
The GMOC has updated the GENI Emergency Stop procedures for Spiral 4. GMOC then performed 3 dry runs with GPO/BBN Engineers to test the process and iron out any inconsistencies in the process.

Findings learned from the exercises:
    Workflow:

1. If a slice is controllable by its owner, the contact should be to the owner of the slice. If NOT, then each sliver/aggregate operator should be contacted. This distinction wasn't clear in the workflow.

2. GMOC should be more explicit about which contact to use. Is it the principal for a slice, or the primary operator for the operator organization?

Training:

1. GMOC created an internal version of the workflow that splits the GMOC swim lanes into the internal groups (Service Desk, Network Engineering and Systems Engineering)

2. GMOC continued training staff on the processes and procedures.

Software:

1. We need to be able to tell which nodes in a slice are CURRENT

2. We could use a link straight from the nodes list to the orgs responsible for each node. In this case, we looked at the slice, then the list of nodes in it, and if we needed to contact each of these to get their sliver shutdown, a direct link from this list to each org's contact page would help.

- **S4.f** *Complete Version 2 of tools. (August, 2012)*

  GMOC continued to work on tuning and configuring tools that fit the GENI network operational support needs for notification, escalation, assignment and future reporting. (see screenshot below)

  GMOC Reporting Tool is setup and ready to be used for a Weekly GMOC report – sent to GPO for review and suggestions.

- **S4.g** *Complete revisions of processes and documentation and begin production operation of support desk. Plan to report on efforts and successes at subsequent GEC. (August, 2012)*

Continued training for the Service Desk staff of GMOC tools and current support – Emergency Stop, GENI Integrated Backbone Outages/Maintenances, I2/NLR/Indiana/MOXI FOAM workflow, Disruptive Experiments Reservation and Maintenance Freeze workflows, GMOC Database training, etc...

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

Service Desk worked to clean-up operational contacts in the GMOC database for Aggregates in preparation for the Spiral 4 Emergency Stop system. Additionally GMOC SD worked with NLR NOC to transition support and streamline notification, escalation and Emergency Stop procedures for GENI support.

Service Desk worked with GMOC Systems Engineers to tune and improve the tools for GENI support. Screenshots and details were presented to experimenters and other GENI users at GEC14 (GMOC presentation at GEC14)

Deliverables Made

- GENI support processes and documentation updates
- GENI Operations Mailing List and improved notifications for the GENI community
- Implemented various workflows for support of GENI experimenters, regionals and racks
- Updated database of operational aggregate contacts
- Completed second 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 'response-team@geni.net' and 'omis-wg@geni.net' lists for review and comments. Final drafts of the documents are also posted on both the GMOC site and the Meta Ops page on the GENI Wiki.

  During the dry runs of the Emergency Stop exercises that both GMOC and GPO performed in July 2012, we were able to identify areas that needed improvement in the process and allowed us to better document our own internal processes and expectations. GMOC will be working to continue with training for staff to be better prepared on the 24x7 basis and further

development of tools that may help in quicker response to Emergency Stop requests.

- **GENI Integrated OpenFlow Backbone network support:** GMOC Service Desk continued on streamlining processes and procedures to provide 24/7 monitoring and NOC Service Desk support for operational issues on the GENI OpenFlow Backbone. Monitoring slices for the OpenFlow backbone have been transitioned to GMOC under a single service account maintained and managed by GMOC Systems Engineering group with the responsibility of renewing the slices and 24x7 troubleshooting and maintenance of these slices as needed.

- **GENI Operations Mailing list and improved notifications:** GMOC worked with GPO to streamline notifications for the GENI community via a newly created GENI Ops mailing list (GENI-Ops@grnoc.iu.edu). A monthly reminder is being set to the experimenters@geni.net mailing list to invite interested experimenters to the list and update on any other GMOC developments.

- **Disruptive Experiments Reservation Workflow:** GMOC Service Desk with GPO coordination implemented a workflow to handle approval and reservations for potentially disruptive experiments that may negatively affect the GENI OpenFlow Mesoscale VLANs and other GENI resources that are being used by other experimenters across GENI. GMOC will approve and post such events on the GMOC Operations Calendars and notify the GENI community of reservations for any potentially disruptive experiments that are reported to the GMOC.

- **Regionals Turn-up Workflow:** GMOC Service Desk, Network Engineering groups in coordination with GPO have established workflows to properly connect GENI Regionals to the GENI OpenFlow Core by tracking turn-ups, collecting contact information, setting up data collection, monitoring, scheduling turn-up and notifying the GENI community of upcoming connections, as well as engaging appropriate network and systems engineering groups to help troubleshoot any problems with connecting a GENI Regional to the Core backbone.

- **GENI Racks Turn-up Workflow:** Similarly GMOC worked with the InstaGENI and ExoGENI Racks teams to setup a workflow and tools to turn-up as part of the acceptance testing of the GENI Racks for collecting data from the racks and contact information for Emergency Stop.

Project Participants

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

- Marianne Chitwood, PI
- Eldar Urumbaev, GENI SST
- Adam Williamson, GRNOC Service Desk Supervisor
- John Wilson, GRNOC Project Management Team Representative

Outreach Activities

Online community building using web: GENI GMOC web site is continuing to be updated 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 Jon Paul presented a session at GEC14 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. GMOC Service Desk representatives started joining the bi-weekly Regionals call as well as continuing representation on the Friday weekly calls with GPO: Network-Core and Monitoring.

During GEC14 Service Desk representatives made various contacts and working relationships both within GPO and the greater GENI community.

Planned Activities for Spiral 4 Q3

GMOC Service Desk will work on improving all existing tools and processes for the continued support of GENI. 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.
- 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.
- Continue to 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.