



Mid-Atlantic Crossroads
**Advanced Regional Internetworking for
Higher Education and Research**

**8400 Baltimore Avenue
Suite 102
College Park, Maryland 20740**

September 30, 2009

To: GPO
From: Chris Tracy, Jarda Flidr, Peter O'Neil

Re: Quarterly Status Report

Major Accomplishments

- **Milestones achieved**
 - Integrate DRAGON with candidate GENI control framework
 - Integrate DRAGON/GENI control framework with DRAGON test-bed
 - Coordinate with the University of Maryland's Clark School of Engineering Center for Minorities in Science and Engineering to explore involving one or more graduate student interns.
 - Delivery of Aggregate Manager preliminary design document

- **Deliverables made:**
 - Participant in Cluster B Meeting at BBN to review work to date and plan for Spiral 2
 - Continue as co-chair of the Substrate WG
 - Participated in GEC Seattle cluster meetings, demo, poster, and multiple presentations; the demo with PlanetLab/Princeton exposed several bugs in the SFA (GENIwrapper) code that required fixing
 - Provided accounts to MAX research infrastructure GENI resources to other GENI researchers
 - Documented how to create slices on the private MAX GENI page for those provided accounts on the MAX infrastructure for use of GENI resources
 - Integrating functionality and interoperability of layer 2 Ethernet vLANS across ProtoGENI and SPP

Description of work performed during last quarter

- **Activities and findings**
- Primary efforts this quarter focused on the completing MAX Spiral 1 deliverables:

- Coordinate with the University of Maryland's Clark School of Engineering Center for Minorities in Science and Engineering to explore involving one or more graduate student interns
- Delivery of Aggregate Manager preliminary design document
- Upgrading the software, firmware, and MEMS cards on the Movaz/Adva optical equipment serving the research infrastructure used to support GENI
- Commitment to MAX deliverables for Spiral 2
- Managing the transition of Jarda and Chris to other employers and approval to subcontract Spiral 2 effort to Tom Lehman and Xi Yang, long time partners and collaborators at USC's ISI-East

Focus Next Quarter:

- Extend our existing SOAP-based Aggregate Manager component to interoperate with other GENI Cluster participants, i.e, ProtoGENI
- Complete paperwork for subcontract award to USC ISI-East for Spiral 2 support and helping ISI-East staff integrate into GENI community
- GEC Salt Lake City meeting

Project participants

- Chris Tracy, Jarda Flidr, and Peter O'Neil

Publications (individual and organizational)

- None

Outreach activities

• **Collaborations**

- Engaged with USC ISI-East in Arlington, VA to bring up PlanetLab node with FPGA card and enabled ability to reserve Gigabit slices of bandwidth between ISI and MAX PlanetLab nodes.
- Regular communication and ongoing support with GpENI: Great Plains Environment for Network Innovation on installing and running:
 - the DRAGON software suite and configuration support for the Ciena CoreDirector platform
 - a private PlanetLab central deployment
 - interconnecting to the Kansas City ProtoGENI switch
- Helped with the physical interconnection of the ProtoGENI switch and SPP hardware installations in McLean, VA; pictures available here: <http://groups.geni.net/geni/ticket/189>
- Provided testing results and deployment experiences of Princeton geniwrapper code to the planetlab-devel mailing list
- Recommended SOAP Python library to GENI researchers seeking SOAP/WSDL tool support <http://pywebsvcs.sourceforge.net/>
- Support for GUSH demo finding PlanetLab resources across MAX and GpENI

- Considerable time was spent working with Adva to upgrade the software release version and firmware on all of the DRAGON Movaz optical equipment. The MEMS and FPGA/CPLDs cards were brought up to the latest manufacturing standards as well.
- Ongoing discussions with EnterpriseGENI/Stanford discussions for experimentation with OpenFlow and SOAP/WSDL efforts to effectively interoperate with PlanetLab
- **Other Contributions**
 - Updated and further documented our GENI web pages to summarize our efforts, demos (with video), and documentation:
 - <https://geni.maxgigapop.net/twiki/bin/view/GENI/WebHome>
 - <https://geni.maxgigapop.net/twiki/bin/view/GENI/Publications>
 - Detailed information for our GENI AM can now be found on our wiki under the main Software page:
<http://geni.maxgigapop.net/twiki/bin/view/GENI/Software>
 - There are two guides -- the first one explains how to download the code from our repository and compile it via the NetBeans IDE:
<http://geni.maxgigapop.net/twiki/bin/view/GENI/AggMgrCompile>

This guide walks you through setting up the NetBeans IDE to have the correct libraries (Apache Axis2) and explains how to auto-generate the Java skeleton code from the WSDL file.

The next guide explains how to setup the server and deploy the compiled code to it:

<http://geni.maxgigapop.net/twiki/bin/view/GENI/AggMgrDeploy>