

# A Shadowbox-based ProtoGENI Instrumentation and Measurement Infrastructure University of Kentucky Quarterly GENI Report

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## **1 Major accomplishments**

The following highlights our accomplishments during Q2 2010.

### **1.1 Milestones achieved**

The project is still in the early phases and no milestone are due at this point.

### **1.2 Deliverables made**

None yet.

## **2 Description of work performed during last quarter**

The following provides a description of the progress made this last quarter.

### **2.1 Activities and Findings**

Our primary focus this quarter has been on laying the groundwork needed for the Juniper router deployment. Specifically, we were able to get the funding in place for Internet2 to be able to proceed with purchasing and installing the Juniper routers. We also initiated conversations with Juniper to involve them in the design and specification of the project and to ensure the equipment we purchase will meet the requirements of the project. We also, together with the GPO, held initial discussions regarding ways to make the Juniper SDK available to GENI users. We have arrived at a hardware configuration that we believe meets our requirements and are in the process of ordering the equipment and defining an installation schedule.

In addition to defining the hardware specification, we have had various conference calls among the project participants (Kentucky, AT&T, Internet2, and Utah) to begin designing the GENI Shadownet aggregate manager components of the system. In particular, we have tried to understand what functionality is needed in the GENI Shadownet aggregate manager and what parts will be handled by the clearinghouse and other ProtoGENI aggregate managers. We plan to leverage much of the experience Utah has already gained from incorporating SPP nodes into the ProtoGENI/Internet2 backbone, and our design will use similar ways of assigning IP address space and creating VLANs. AT&T has begun to identify changes that will need to be made to their existing code in order to make it interoperate with the ProtoGENI framework. We plan to continue this parallel development so that we will be well situated to begin testing the new software once the hardware is installed and tested.

## **2.2 Project participants**

The following individuals are involved with the project in one way or another:

- Jim Griffioen - Project PI (Kentucky)
- Zongming Fei - Project Co-PI (Kentucky)
- Kobus van der Merwe - Project Co-PI (AT&T)
- Eric Boyd - Subcontract Lead (Internet2)
- Brian Cashman - Deployment Manager (Internet2)
- Lowell Pike - Network administrator (Kentucky)
- Hussamuddin Nasir - Technician/Programmer (Kentucky)
- Emmanouil Mavrogiorgis - Research Staff (AT&T)

## **2.3 Publications**

None yet

## **2.4 Outreach activities**

Jim Griffioen attended the 2nd GENI Instrumentation and Measurement Workshop June 8-9, 2010 to participate in the design of the instrumentation and measurement plane which will be valuable later when we instrument GENI Shadownet.

## **2.5 Collaborations**

Most of our collaborations have been with the Shadownet team from Kentucky, AT&T, and Internet2, but we have also had conversations with our colleagues at Utah and Delaware, and have had conversation with Juniper and the GPO.

## **2.6 Other Contributions**

None yet.