

ExptTraining: Project Status Report

Period: Dec 2011 – March 2012

I. Major accomplishments

A. Milestones achieved

Testing of traffic generation tools in our laboratory environment at UNC – Chapel Hill. These tools will be ported to ProtoGENI to be demonstrated in GEC14. We participated in the GEC13 poster and demo session, by presenting two posters titled: “*Description of Realistic Traffic Generation Tools for Network Experiments*” and “*Description of the set of Linux based tools for workload and background traffic generation for GENI experiments*”. The posters achieved our goal of generating interest and discussion about our traffic generation tools to be ported to ProtoGENI and other testbeds.

B. Deliverables made

Posters listed above.

II. Description of work performed during last quarter

A. Activities and findings

- Tested traffic generation tools in UNC’s laboratory, with the goal of porting these tools to the ProtoGENI testbed,
- Presented two posters at the GEC13 poster and demo session at UCLA,
- Participated in the First GENI Research and Education Experiment Workshop (GREE2012) and presented a paper,
- successfully proposed a tutorial session to be held at the ACM SIGMETRICS/Performance 2012 conference in June 2012 in London

B. Project participants

Kevin Jeffay, PI, UNC - Chapel Hill
Jay Aikat, UNC - Chapel Hill

C. Publications (individual and organizational)

J. Aikat, S. Hassan, K. Jeffay, and F. D. Smith, *Discrete-Approximation of Measured Round Trip Time Distributions: A Model for Network Emulation*, GENI Research and Education Experiment Workshop 2012 (GREE2012), Los Angeles, CA, March 2012.

D. Outreach activities

We successfully proposed a tutorial session to be held at the ACM SIGMETRICS/Performance 2012 conference in June 2012 in London. This tutorial, titled “Introduction to Network Experiments using the GENI CyberInfrastructure” will introduce GENI and simple experiments on GENI to the researchers at the conference. SIGMETRICS and Performance are respectively the flagship conferences of the ACM special interest group for the computer systems performance evaluation community and of the IFIP working group WG7.3 on performance modeling and analysis. Every 3 years, the two conferences join, and this is the 12th joint conference.

This tutorial will introduce this community to GENI, and the vast distributed computing resources available on GENI for researchers interested in simulation as well as measurement-based performance evaluation experiments. We will enable the SIGMETRICS researchers to get started on running simple experiments on GENI testbeds.

E. Collaborations

A major part of our immediate future activities will involve direct collaboration with other GENI projects. Hence, we have already reached out and discussed collaborations with the ProtoGENI group, and the ORCA group. We are also already in talks with Jeannie Albrecht, and have volunteered to help her organize their NSF workshop titled “*Designing Tools and Curricula for Undergraduate Courses in Distributed Systems*” to be held at GEC14 in July.

F. Other Contributions

We participated in the First GENI Research and Educational Experiment Workshop (GREE 2012). We presented our paper titled “*Discrete-Approximation of Measured Round Trip Time Distributions: A Model for Network Emulations*” at the workshop. Aikat also served as one of the session chairs.