

ExptsSecurity - Project Status Report

Period: Fourth quarter 2009

Title: GENI Experiments for Traffic Capture Capabilities and Security Requirement Analysis

Authors: Xiaoyan Hong, Fei Hu, Yang Xiao, University of Alabama

I. Major accomplishments

A. Milestones achieved

The first milestone is to document the experiment design to evaluate the security of selected functions. The document is delivered.

B. Deliverables made

The document of experiment design is delivered. It identifies a set of functions for potential security evaluation, which include authentication, experiment execution steps and virtual network components. For the selected functions, the document describes the experiments to be performed in order to explore security flaws.

II. Description of work performed during last quarter

A. Activities and findings

We obtained accesses to Emulab and read various GENI and ProtoGENI documents. We have performed trail experiments in Emulab with different network topologies through both NS scripts and web GUI interfaces. We also tried network traffic monitoring in the experiments.

We were able to create slices using ProtoGENI on Emulab aggregate. This includes going through all the steps provided in the trial scripts and performing a few experiments and obtaining traffic logs.

The participants held meetings to discuss experiment activates and challenges to security related experiments. The experiments design for the selected functions are documented and delivered.

We also interacted with ProtoGENI technical personals to solve a problem in slice creation trial. In generating the design document, we interacted with Robert Ricci and Utah staff for review. One PI attended GEC #6 in Oct 2009, in Salt Lake City, Utah.

B. Project participants

Xiaoyan Hong (PI)
Fei Hu (Co-PI)
Yang Xiao (Co-PI)
Jingcheng Gao (Graduate student)
Anil Garimidi (Graduate student)
Dawei Li (Graduate student)
Yao Wu (Graduate student)

C. Publications (individual and organizational)

D. Outreach activities

E. Collaborations

The project relates to measurement projects in the sense that we need to collect network traffic. In the Sixth GENI Engineering Conference in Oct 2009, we have chances to discuss with people from some of the measurement

projects such as University of Kentucky, Purdue University, and the Ohio State University. We also discussed the project with early experiment teams and programmable network node teams.

F. Other Contributions