OFCLEM Project Status Report
Period: 3/18/2011-7/28/2011 (GEC11)

I. Major accomplishments

The project will deploy an OpenFlow (OF) testbed on the Clemson University campus and connect with wireless mesh access points and mobile terminals. This trial will conduct OF experimentation focused on OF enabled network operation solutions as a precursor to deployment into Clemson research and production networks.

During this period, key achievements include:
   a) Completed and continued running Plastic Slices, Pathlet experiments
   b) 2nd phase OF campus wireless mesh network in progress (acquired and assembled equipment, awaiting campus facility deployment)
   c) Poster at GEC11: "Steroid OpenFlow Service: An OpenFlow Service for Seamless Enhancement of Data Transport Throughput"
   d) Signed aggregate provider agreement document v3
   e) Completed aggregate provider web pages for Clemson OpenFlow and MyPLC aggregates

A. Milestones achieved

Four milestones were planned for this period. To our understanding, all are considered completed given the conditions specified below:

   1. OFCLEM: S3.a Expand Clemson OF deployment (Due 03/31/11): We scaled up the network to 9 active OF switches; 2 more are configured and will be deployed. The switches support both production traffic, graduate student research, and IT use cases.
   2. OFCLEM: S3.b.1 Initial integration with AM and other campuses (Due 03/31/11): Plastic Slices completed.
   3. OFCLEM: S3.b.2 Second integration with AM and other campuses (Due 07/31/11): Plastic Slices completed.
   4. OFCLEM: S3.c.1 Complete documentation and procedures for operational support (Due 04/30/11): Aggregate provider pages completed.

No other milestones are due this period.

B. Deliverables made

   a) Plastic Slices operation configurations
   b) Added OpenFlow switches for IT use case and EAGER experiments

II. Description of work performed during last quarter

A. Activities and findings

   a) Completed and continued running Plastic Slices; supported Pathlet experiments. Supported deployment and debugging on Plastic Slices. Summarized lessons learned and provided suggestions for improved operation (ref: GEC11 experimenter roundtable slides). Supported Pathlet experiments.

   b) 2nd phase OF campus wireless mesh network in progress (acquired and assembled equipment, awaiting campus facility deployment)

Equipment for 12 additional mesh APs are ready for physical deployment on an extended stretch of campus roads. University facility had a exceptionally busy summer and may postpone deployment till early fall.

c) Poster at GEC11: Steroid OpenFlow Service: An OpenFlow Service for Seamless Enhancement of Data Transport Throughput.
The poster describes a multi-site experiment we are running across the GENI core. The experiment is expected to be demonstrated at GEC12 and SC11.

d) Signed aggregate provider agreement document v3.

e) Completed aggregate provider web pages for Clemson OpenFlow and MyPLC aggregates.

B. Project participants

The project team members are:
PI: Kuang-Ching Wang (ECE Associate Professor)
Co-PI: Jim Pepin (CTO)
IT: Dan Schmiedt (Director of Network Services and Telecommunications), Wayne Ficklin (Network Engineer)
ECE graduate research assistant: Aaron Rosen (MS)
ECE undergraduate student: Benjamin Ujcich (freshman), Jeff Heider (senior)

C. Publications (individual and organizational)

Not available at this time.

D. Outreach activities

a) Gave GENI talks to National Taiwan University, National Chiao-Tung University, and National Taiwan University of Science and Technology to stimulate international collaboration opportunities.

E. Collaborations

The project is conducted in collaboration with campuses and backbone providers on the OpenFlow trial. We have so far worked more closely with:
a) Nick McKeown, Guru Parulkar, and the Stanford OpenFlow group, assisting us in the acquisition, installation, configuration, and testing of OpenFlow software.

F. Other Contributions

None in this reporting period.