

## OpenFlow Campus Trials at Clemson University (1833A)

OFCLEM Project Status Report  
Period: 10/26/2012-3/21/2013 (GEC16)

### 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) Performed software upgrades: tango-monitor-foam (0.5.0), FOAM 0.10.3
- b) Completed Dell GENI rack base installation with GPO: OpenStack, Quantum, GRAM
- c) Supported InstaGENI rack setup at Clemson
- d) Continued meso-scale support for GENI experiments
- e) One graduate student and Two REU students conducted two demos at GEC 16: 1) Network coding over ProtoGENI for vehicular networks; 2) data analysis network and IPv6

#### A. Milestones achieved

No milestones are due this period.

#### B. Deliverables made

- a) Floodlight and network coding code for ProtoGENI network coding demo
- b) Floodlight IPv6 parsing code for data analysis network demo

### II. Description of work performed during last quarter

#### A. Activities and findings

- a) Performed software upgrades: tango-monitor-foam (0.5.0), FOAM 0.10.3
- b) Completed Dell GENI rack base installation with GPO: OpenStack, Quantum, GRAM. Pending Dell rack for GPO conformance testing.
- c) Supported InstaGENI rack setup at Clemson
- d) Continued meso-scale support for GENI experiments
- e) One graduate student and Two REU students conducted two demos at GEC 16: 1) Network coding over ProtoGENI for vehicular networks; 2) data analysis network and IPv6

#### 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), Brian Parker (Network Engineer)

ECE graduate research assistant: Ke Xu (PhD)

ECE undergraduate student: Benjamin Ujcich (junior), Scott Groel (junior), Matthew Tingen (junior), Kyle Srimoungchanh (junior)

#### C. Publications (individual and organizational)

Not available in this period.

## **OpenFlow Campus Trials at Clemson University (1833A)**

### **D. Outreach activities**

- a) Internet2 Spring Joint Tech meeting
- b) NSF Condo-of-condos workshop

### **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.
- b) GENI Project Office

### **F. Other Contributions**

None in this reporting period.