

WIMXCL Project Status Report
Period: 3/16/2012-7/11/2012 (GEC14)

I. Major accomplishments

This project will plan and deploy a multi-cell/multi-sector WiMAX network (three sectors total) in Greenville, SC, with coverage of highways and commercial district, based on base station kits provided by Rutgers. It will deploy a vehicular mobile station with handover features, and demonstrate multi-cell/multi-sector operation. It will collaborate with commercial WiMAX carrier Digital Bridge Communications (DBC) to explore and demonstrate (if possible) roaming and interoperability between GENI and commercial WiMAX networks. It will demonstrate experiments in automotive research and engineering.

During this period, key achievements include:

- a) Completed installation of one Airspan BS on Clemson campus
- b) Contracted university facilities staff and acquired materials for Greenville installation

A. Milestones achieved

Five milestones were planned for this period:

- Complete installation of WiMAX base stations, plus associated servers and services. (by GEC14)
 - Completed one, two more to go.
 - Delay due to firmware problem on first BS installed, contracting time with university facilities.
- Complete installation of access facilities and switches, to provide connectivity from your WiMAX base stations, through campus OpenFlow switches where available, to the GENI Internet 2 backbone. (by GEC14)
 - Completed tunnel connection to Rutgers, thereby reaching Internet2
 - Confirmed feasibility of direct Internet2 VLAN access as well
- Configure the WiMAX base stations using OMF, and demonstrate connectivity to the GENI Internet 2 backbone. (by GEC14)
 - Waiting for OMF support for Airspan BS.
- Complete basic range and throughput tests of your WiMAX base stations using reference OMF/OML throughput experiment and a reference mobile station. (by GEC14)
 - Problem with getting client to connect with BS – still debugging.
- Complete extended deployment plan for Year 2, including any additional WiMAX base stations, and associated software. (by GEC14)
 - Not available yet – suggest postponing to later time.

No other milestones are due this period.

B. Deliverables made

One installed BS. Connectivity to Rutgers BS configuration server.

II. Description of work performed during last quarter

A. Activities and findings

1. Completed one base station installation. Still debugging client connectivity.

GENI WiMAX at Clemson (1843C)

2. Contracted remaining BS installation. Expected completion in summer.

B. Project participants

The project team members are:

PI: Kuang-Ching Wang (ECE Associate Professor)

Co-PI: James Martin (CS Associate Professor), Jim Pepin (CTO)

IT: Dan Schmiedt (Director of Network Services and Telecommunications), Joseph Bernard (Network Engineer)

ECE graduate research assistant: Reece Johnson (MS)

C. Publications (individual and organizational)

Not available at this time.

D. Outreach activities

Not available at this time.

E. Collaborations

The project is conducted in collaboration with University of Wisconsin, Madison's GENI WiMAX project (PI: Parmesh Ramanathan) on support for mobility (handoff) on GENI WiMAX networks.

F. Other Contributions

None in this reporting period.