

Proposal #: 1770

PI: Professor Henning Schulzrinne

Institution: Columbia University

Budget: \$70,000 over 3 years (Y1 \$30,000, Y2 \$20,000, Y3 \$20,000)

Statement of Work

Scope

This proposal will install a GENI WiMax Base Station Kit provided by Rutgers on the Columbia University campus, and operate it with the ORBIT Management Framework (OMF). It will enhance our WORKIT nodes with WiMax clients and GPS capabilities, add remote control and virtualization capabilities, and operate them with OMF. It will also build teaching modules to explore wide area wireless network issues and applications.

Milestones/Deliverables

Year 1

- Prepare site.
- Start software to enhance WORKIT nodes with WiMax clients.
- Begin work on teaching modules to explore wide area wireless network issues and applications.
- Depending on installation schedule for base station, may participate in multi-site demo.

Year 2

- Install WiMax base station kit, and operate using ORBIT Management Framework (OMF). (Might move some deployment to Year 2)
- Complete software for WORKIT nodes, deploy on university vehicles and operate using OMF.
- Try out teaching modules, and refine.

Year 3

- Utilize teaching modules in network labs.
- Upgrade WiMax software kit
- Provide experiment support

Project Management Tasks

The following management and coordination activities will also be required:

- 1) Attend 3 GECs per year (PI or delegate, and any outreach plan students). The PI is expected to report current project status along with poster or demo in person at every GEC.

- 2) Attend up to 3 technical meetings per year, if requested by GPO, on specific subject matter such as control framework interface, cluster integration, cluster annual review, etc. (Budget for one meeting in Cambridge, two in Denver.)
- 3) The PI must submit quarterly and final project reports to the GENI Project Office. The quarterly reports are due at end of the calendar quarterly, i.e. March 31, June 30, September 30 and December 31. The final report is due one month prior to the expiration of a Subcontract.

Each quarterly report and final report must also include copyright-free images and description of work performed (suitable for publication on the web at geni.net, in brochures, etc); proper credit will be given. Other forms of publication material are also encouraged.

Failure to provide the required quarterly project reports may affect any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

The quarterly report will be submitted via email attachment to project manager and your assigned System Engineer. Such reports provide information on activities and findings, project participants (individual and organizational) publications and other specific products and contributions. Report is not complete until the GENI Project Office has reviewed and accepted via electronic email notification. The GPO will notify the PI within 10 days of receiving the report submission confirmation with either "accept" or "additional information is requested."

Submit quarterly reports meeting the requirements in the American Reinvestment and Recovery Act (ARRA) of 2009. See <https://www.federalreporting.gov/federalreporting/home.do> .

- 4) Monthly financial invoice