

## Sponsored Project Work Description

Northeastern University, Boston MA

PI NAME: PROF. A. BRUCE McDONALD, DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING  
Academic and Research Advisor to Daniel Ugarte

PROJECT TITLE: XG ARCHITECTURE AND PROTOCOL (XAP)

*Research Assistantship*

**RA: Daniel Ugarte**

Sponsor: BBN Technologies

Sep. 2003 - Jun. 2004

Project Title: *XG Architecture and Protocol (XAP)*: As part of the XG Architecture and Protocol (XAP) team, the sponsored RA Mr. Daniel Ugarte will be required to develop OPNET models that simulate an XG (Next-Generation Wireless) environment. The precise specification of these models will evolve over time, and require regular collaboration with other XAP team members at BBN. In general the modeling will require the design and coding (in OPNET) of modules that simulate the sharing of wireless transmission spectrum among several classes of communications nodes. In addition, the work requires participation in the running of the simulation models, possible integration with other XAP modules, and performance evaluation of the simulation results. It is also required that all work, including model design, code, results and analysis be fully documented.

FACILITIES: RWIN-LAB

*Computer Equipment and Software*

227 Egan Research Center

(617) 373-3009

The PI is the faculty coordinator of the *Reconfigurable Wireless Networking and Communications Laboratory* (RWIN-Lab) at Northeastern University. The laboratory which is located at 227 Egan Research Center is equipped with two dual-processor Sunblade 1000 workstations, three single processor Sunblade 100 workstations and one Sun Ultra-Sparc 10. Each machine is fully equipped with the software and processing capacity required for the completion of the required work. The PI is also the coordinating faculty member of the Northeastern branch of the *Academic OPNET Research and Education Project*; hence the primary modeling tool required for the project is consistently maintained and available for use in the lab and on this project.

BUDGET:

Number	Description	Months	Funds Requested
1	Senior personnel	0.167	\$1,372
1	Graduate students	8 (2 Semesters)	\$14,300
	Fringe benefits		\$1,382
	Total salaries, wages and fringe		\$17,053
	Total direct costs		\$17,053
	Total indirect costs (F&A 58% of direct costs )		\$9,891
	Total direct and indirect costs (requested funds)		\$26,944

Table 1: Proposed Budget