

INSIDE AN INTERNET ROUTER

COURSE DATE: Tuesday to Thursday, 9-11 June 2009

COURSE TIME: TBC

VENUE: Room 343, Electrical Engineering & Telecommunications, UNSW

INSTRUCTOR: Vijay Sivaraman

INSTRUCTOR: Vijay Sivaraman. Vijay received his B. Tech. in Computer Science and Engineering from the Indian Institute of Technology in Delhi, India, in 1994, his M.S from North Carolina State University in 1996, and his PhD from the University of California at Los Angeles in 2000. He has worked at Bell-Labs and a Silicon Valley start-up manufacturing optical switch-routers. He is now a Senior Lecturer at the University of New South Wales in Sydney, Australia. His research interests include sensor and optical networking, packet switching and routing, network design, and QoS.

COURSE DESCRIPTION: This advanced course will give PhD students an understanding of the internals of an Internet router, and provide hands-on experience in building/modifying one. The course is inspired by the course “CS344: Building an Internet Router” offered at Stanford university. We will use the reference router implementation on Stanford's NetFPGA platform to study the various internal modules that perform operations for packet parsing, classification, route-lookups, queuing, etc., and make modifications during the course to build a URL extraction engine that operates at Gigabit line-rate. It is expected the short course will give PhD students at NICTA working in the research theme of “Networking Systems” confidence in undertaking prototyping of their research ideas on a hardware platform and to demonstrate validity in realistic networks.

PRE-REQUISITE KNOWLEDGE: Good knowledge of data networking architectures and protocols, and some familiarity/experience with software/hardware development languages.

ASSESSMENT

FOR NICTA ENHANCED STUDENTS AND OTHER STUDENT ENROLLED IN NICTA'S MEMBER AND PARTNER UNIVERSITIES

Students who successfully complete all assessment requirements for this module may be eligible for advanced standing/credit toward the coursework requirements of their PhD, subject to the approval of their university and or Head of School. The Credit Point Value of this module is 2 credit points of a 24 credit point total load (or equivalent). Students are also welcome to participate in this course without credit entitlement. It is a requirement that you participate in a total of 50hours, with 18hours being of contact time and 32 hours of coursework. A commitment to attend all sessions is required and an attendance sheet must be signed during each course day.

FOR STUDENTS ENROLLED IN UNIVERSITIES THAT ARE NOT MEMBERS OR PARTNERS OF NICTA

Students are welcome to participate in this course with or without completing the assessment requirements, but a commitment to attend all sessions is required. Students seeking academic credit for attendance at the course and completion of all assessment requirements would need to negotiate any such arrangement with their university.

Minimum class size is 5 students. We will contact you if your class is cancelled. To ensure minimum number of students, suggest this course to friend!

Course registrations close 14days prior to course commencement date.

To register or for further information please email AdvancedICT.Modules@nicta.com.au