



UMass Lowell Computer Science Colloquium Announcement

Speaker: Prof. Tilman Wolf, UMass Amherst
Date & Time: Wednesday, Sept. 26, 2007, 3:00pm--4:00pm
Place: Olsen 311, Refreshments are served at 2:45pm

Router Architectures for the Next-Generation Internet

In this talk, I try to illustrate how the network architecture of the next-generation Internet is governed by the need for flexibility. Heterogeneous end-systems, novel communication abstractions, and next-generation Internet is governed by the need for flexibility. Heterogeneous end-systems, novel communication abstractions, and security and manageability challenges require the network to provide a broad range of services that go beyond the simple store-and-forward capabilities of today's Internet. Routers are the key components that can implement these capabilities through advanced packet processing systems. I present an overview of my group's research on router designs and how this work fits into the recent efforts by NSF to design the next-generation Internet. In particular, I focus on our work on network processor systems and their use to implement novel packet processing functions inside the data path of networks. I also present our recent effort to use "network service" concept in end-to-end communication abstractions to describe and implement interactions that involve end-system and packet processing engines. I conclude the talk with a brief overview on emerging research challenges in this area.

Bio:

Tilman Wolf received a Diploma in informatics from the University of Stuttgart, Germany, in 1998. He also received a M.S. in computer science in 1998, a M.S. in computer engineering in 2000, and a D.Sc. in computer science in 2002, all from Washington University in St. Louis. Currently, he is an associate professor in the Department of Electrical and Computer Engineering at the University of Massachusetts Amherst. Dr. Wolf is engaged in research and teaching in the areas of computer networks, computer architecture, and embedded systems. His research interests include network processors, their application in next-generation Internet architectures, and embedded system security. His research has attracted substantial funding from both industry and the federal government, including an NSF CAREER award. Dr. Wolf is a senior member of the IEEE and member of the ACM. He has been active as program committee member and organizing committee member of several professional conferences, including IEEE INFOCOM and ACM SIGCOMM. He is currently serving as treasurer for the ACM SIGCOMM society. In 2004, he received the College of Engineering Outstanding Junior Faculty Award at the University of Massachusetts.