

Welcome

Seminar Series of the Department of Computer Science Electrical Engineering
Presents

IP-over-Optical: Resilient Lightpath Topology Design with Unique Shortest Path-Based IP Networks

February 1, 2008. Time 2:00-3:00PM. FH 557.



Deep Medhi
Professor

Computer Science Electrical Engineering
School of Computing and Engineering
University of Missouri-Kansas City

Abstract

We will discuss the problem of designing resilient lightpath topologies for wavelength-routed networks to serve shortest path-based IP networks. The objective is to design a lightpath topology that remains connected in the event of any single physical link failure while providing the IP network with unique shortest paths for all node-pairs. We have developed an optimization model and a 2-phase heuristic approach to solve this problem. This novel approach encompasses the three cross-layers of IP, lightpaths, and the physical topology in an integrated survivable design framework.

Bio: Dr. Deep Medhi is Professor in the Computer Science & Electrical Engineering (CSEE) Department, School of Computing and Engineering (SCE) at the University of Missouri-Kansas City (UMKC). Prior to joining UMKC in 1989, he was a member of the technical staff in the traffic network routing and design department at the AT&T Bell Laboratories, Holmdel, New Jersey from 1987 to 1989. He has published over eighty peer-reviewed papers, and has developed and taught eight different graduate (regular and topics) courses in networking. He's co-author of the following books: "Routing, Flow, and Capacity Design in Communication and Computer Networks," (2004) and "Network Routing: Algorithms, Protocols, and Architectures," (2007), both published by Morgan Kaufmann Publishers.