

Title: Protocols for Collaborative Applications on Overlay Networks

Speaker: Shankar M Banik
University of Oklahoma

Abstract:

Computer supported collaborative applications are gaining popularity among Internet users who are geographically dispersed. Examples of this kind of application range from video conferencing, video-on-demand, distributed database replication, distributed interactive simulations, online multiplayer games to peer-to-peer file sharing system. These types of applications demand efficient group communication by requiring a route which is not dictated by the underlying network. Since it is very difficult to deploy a new protocol or add a new service at the network layer of the Internet, recent research trend is to develop and implement network layer protocols at the application layer. In addition, this gives the flexibility to the users to develop network protocols that suit their application needs. Taking a note of this, network applications build virtual networks named *overlay networks*. An overlay network is a virtual network deployed over an existing network. In an overlay network, each individual link which connects two nodes can comprise of several routers and hosts in the underlying physical network. Overlay networks provide a flexible and deployable approach for applications. When a better routing or a control protocol is demanded by an application, it can be easily deployed in the application level without changing the lower level Internet protocols. In this talk, I will present my research work on designing and developing network protocols to support collaborative applications on overlay networks.