School of Computer Science
Ph.D. Final Defense
by

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Protocols for Collaborative Applications on Overlay Networks

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, and peer-to-peer file sharing systems. These types of distributed applications call for efficient group communication which entails determining routes that are independent of the underlying network. To meet the demands of these distributed applications, there have been increased research efforts in the development of network protocols that can be executed at the application layer. These protocols are built for virtual networks named as *overlay networks*. In an overlay network, the nodes are the hosts that participate in the distributed application and the links are paths in the Internet that consist of several routers along the path. Our research is focused on the development of algorithms for the construction of overlay networks that meet the demands of the distributed applications. In addition, we have provided network protocols that can be executed on these overlay networks for a chosen set of collaborative applications: *floor control* and *multicasting*.

Date: Friday, April 28, 2006

Time: 2:00 P.M.

Place: Sarkey's Energy Center (SEC) Plaza Conference Room A

Committee Members: Dr. Sridhar Radhakrishnan (CS), Chair
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