

## **Computer Science Seminar Series, 2012**

### **National Capital Region**

#### **User Quality-of-Experience Delivery through Context-aware Resource Adaptation**

**Speaker: Dr. Prasad Calyam  
Ohio State University**

**Friday, February 24, 2012  
1:00PM- 2:00PM, NVC 325**

#### **Abstract**

With the increased prevalence of high-speed networks, end-users are relying on a variety of application services (e.g. telephony, videoconferencing, IPTV, data clouds) to be delivered via the Internet. The application services cater to end-users' needs that range from social communications/entertainment to virtual organizations/classrooms in science and engineering. However, the Internet was originally built on best-effort principles that make it susceptible to events such as multi-domain performance bottlenecks and cyber-attacks. Hence, there are serious challenges in delivering, securing and managing the Internet Quality of Service (QoS) levels in order to satisfy user Quality-of-Experience (QoE) expectations within applications. In my talk, I will describe our R&D efforts for improving user QoE through context-aware resource adaptation to deliver application services such as videoconferencing, IPTV and virtual desktop clouds in a scalable, reliable and secure manner. More specifically, I will present our innovations in application behavior modeling under different network-health and system-load contexts, and the use of these models in adaptations at 'end-user clients' as well as 'application service clouds'. I will conclude my talk with case studies of how our R&D outcomes are being adopted in "Future Internet" programs such as NSF GENI and DOE Next-generation Networking.

#### **Biography**

Prasad Calyam received his M.S. and Ph.D. degrees from the Department of Electrical and Computer Engineering at The Ohio State University in 2002 and 2007, respectively. He is currently a Senior Research Engineer at Ohio Supercomputer Center/OARnet, The Ohio State University. His research and development areas of interest include: Distributed Computing, Computer Networking, Cyber Security, and Cloud Computing. As the Principal Investigator, he has successfully led teams of graduate, undergraduate and postdoctoral fellows in numerous Federal, State and Industry sponsored research and development projects. Dr. Calyam's research sponsors include: DOE, NSF, VMware, Dell, IBM, Huawei Technologies, Apparent Networks, Polycom, Ohio Board of Regents, and Internet2. He has also given technical presentations on a regular basis at undergraduate/graduate classrooms as well as regional/national/international forums.