Call for Papers and Participation

High Speed Networking Workshop: The Terabits Challenge

In Conjunction with IEEE INFOCOM 2006
Barcelona, Spain, April 24, 2006

The purpose of this workshop is to provide a forum for presenting and discussing recent advances in ultra high-speed and high-performance networks. With the continued technological advances, these new generation networks are expected to deliver unprecedented bandwidths, ranging from terabits/sec in the core to multiple gigabits/sec to the edge. This workshop will focus on various aspects of ultra high-speed network infrastructures including their role in enabling distributed large-scale science applications. In particular, the e-science applications have already demonstrated the need for agile networks operating well beyond 100 Gbps now, and will require sustained terabits/sec throughputs by the end of decade. Furthermore, the need for ultra high-speed networks is also emerging in a wide spectrum of application domains as diverse as entertainment, energy, banking, defense and medicine. In the past, there have been several attempts to address the bandwidth-intensive applications by deploying larger capacities in the core networks. However, experience indicates that simply scaling the core capacity does not necessarily result in a commensurate increase in end-to-end application throughputs. Indeed, the ability of existing network technologies, especially transport protocols, routing, traffic engineering and network provisioning to scale to the terabits/sec range remains a challenge. It is here that the emerging ultra high-speed networking technologies offer great opportunities along with unprecedented challenges. A key goal of this workshop is to explore approaches for meeting these challenges, particularly within the context of broader e-science applications.

These topics covered by the workshop include, but are not limited to, the following:

Group A: Ultra High-Speed Networks

- Innovative and agile terabits network architectures
- End-to-end performance issues
- Host systems issues including bus and OS
- Switching technologies including packet, burst and circuit switching
- Ultra high-speed transport protocols
- Ultra high-speed cyber security systems
- Dynamic provisioning in ultra high-speed optical networks
- Control and signaling plane technologies (GMPLS, UNI, NNI, etc.)
- High-performance network middleware

- Experimental deployment of high-capacity optical networks
- Traffic engineering for ultra high-speed networks
- Free-space high-capacity optical networks

Group B: Ultra High-Speed Applications

- Prototyping high-end applications for ultra high-speed environments
- Data transfers over long distances
- High-speed I/O and storage systems
- Remote visualizations and tele-instrumentations
- Distributed access to supercomputing facilities
- Remote computational monitoring and steering

Sessions

Presentations are planned to be grouped into the following topical sessions:

- Ultra high-speed transport protocols
- Terabits network provisioning
- Ultra high-speed traffic engineering/resource management
- Control and management planes
- Distributed high-end e-science applications
- Applications requiring terabit networks
- Cyber-security aspects of terabit networks

Submission Guidelines

Authors are encouraged to submit a one-page abstract by February 17, 2006. Abstracts must be in PDF format and should be uploaded at the submissions website (click here). All submissions will be quickly acknowledged, and if such notification is not received, please contact the program chairs. Notification of the final selected abstracts will be made by February 26, 2006.

Submission of electronic versions of the presentation slides is due on March 14, 2006. These slides will be included in the on-line proceedings of the workshop, which will be compiled in advance of the event.

Additionally, the selected authors are also encouraged to provide by extended versions of their abstract by March 14, 2006. These extended abstracts will be published in workshop proceedings. These submissions should follow the IEEE INFOCOM formatting guidelines, a sample template for which is available at:
http://www.ieee.org/organizations/pubs/confpub/auxfiles/sample_manuscript.pdf.

Important Dates

- One page abstract due: February 17, 2006
- Notification of acceptance: February 26, 2006
- Slides and extended abstracts due: March 14, 2006
- Workshop date: April 24, 2006

Registration

Workshop registration will be handled as part of the main INFOCOM 2005 registration. Further information on registration is available on the web at http://www.ieee-infocom.org/2006. The workshop CFP and additional information is also available on the workshop website at http://www.ece.tntech.edu/nghani/infocom. Online proceedings of the workshop (including abstracts and presentations) will also be made available at this website at a later date.

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