GLOBECOM 2004

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Emerging Technologies, Applications and Services

CALL FOR PAPERS
IEEE Workshop
On the Quest to Control Next-Generation Transport Networks:
The Role of Generalized Multi-Protocol Label Switching (GMPLS)
(Part of the Globecom 2004 Program, Dallas, Texas)

Date and Duration:
Dec. 3, 2004, Half day

Chair:
Tarek S. El-Bawab, Ph.D., telbawab@ieee.org

Background:
GMPLS (Generalized Multi-Protocol Label Switching) emerged in the late 1990's as a candidate technology to control the optical transport infrastructure. It is an extension of MPLS (Multi-Protocol Label Switching), which has been widely recognized as the technology of choice for future IP networks. MPLS uses a technique of label swapping to forward packets across the network. GMPLS is a suite of IP-centric protocols, which extends MPLS Traffic Engineering (MPLS-TE) from supporting only Packet Switching Capable (PSC) interfaces, for which MPLS was designed, to supporting other classes of interfaces, namely, Layer-2 Switching Capable (L2SC), Time-Division Multiplex (TDM) Capable, Lambda (λ) Switching Capable (LSC) and Fiber Switching Capable (FSC). GMPLS aims at allowing the IP network and the optical transport network to inter-operate while reducing network complexity. It brings the promise of a common control plane across organizational and domain boundaries. This is important for handling data-traffic growth and fluctuations, reducing provisioning time, cutting operation cost, and enhancing network flexibility, efficiency and utilization. Although the standards are not entirely finished, equipment vendors are already riding the GMPLS bandwagon and are marketing products that support it.

The GMPLS paradigm was born in a time when the telecommunications industry was enjoying historical growth. It grew during the bubble years and kept going on as the industry went through difficult time of depression. The visibility of future during times of excessive growth and sharp downturns is usually unclear. Today, some analysts argue that telecom is already stepping out of its difficult time. Therefore, there is a need for a fresh look at GMPLS as an important deployment candidate apart from the optimism/pessimism of the bubble/depression times.

Format of the workshop:

This workshop is the fifth in a series that have been associated with the IEEE ICC and Globecom conferences (2000-2004). The Globecom'04 Workshop will be formatted as a half-day mixture of submitted and invited papers, from both academia and industry.

Call for Papers:

The workshop shall examine a number of issues concerning GMPLS including, but not limited to, the following:

- Centralized management versus distributed control
- Motivations of IP-based control of transport networks
- GMPLS concepts and mechanisms
- The GMPLS overlay, augmented and peer models
- Routing, Signaling and link-management protocols
- Scalability in GMPLS based networks
- GMPLS-based protection and restoration
- GMPLS-based VPN's and bandwidth on demand
- The business case for GMPLS
- Migration scenarios to GMPLS
- Deployment/implementation issues, and the current deployment status
- The future of GMPLS.

Interested authors may submit their papers of all types (R&D innovations, progress in standardization effort, tutorials, etc.) to considered for this workshop. Papers must cover technical and strategic areas, present work that is not previously published and captures the theme of this workshop (as described above). Submission instructions are specified below.

Submission Instructions:

Papers are to be submitted electronically, no later than July 15, 2004, to telbawab@ieee.org (Attention: Tarek S. El-Bawab, Organizer and Chair). Notification of acceptance is tentatively scheduled to take place on August 5, 2004 and final Camera-ready manuscripts will be due on August 16, 2004. **Papers will be published in special proceedings and will be archived in IEEE Xplore.**

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