

Subject: A tutorial for the IEEE ISCC '98, June 30-July 2, 1998

Title: IP Over ATM With QOS - An Overview

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Abstract: Today's explosion of data in the information age and the World Wide Web is creating a bottleneck in the Internet. This tutorial will review solutions such as the MPOA (Multiprotocol over ATM, defined by the ATM Forum), IP Switching, and Tag Switching which would use Layer 2 switching for high bandwidth/low-delay transfer of IP packets and examine solutions such as RSVP (Resource Reservation Protocol, defined by IETF (Internet Engineering Task Force) which would allow end-to-end control of quality of service for real-time applications over IP.

The major topics covered in this tutorial are as follows:

- The Problem of the Internet - routers are becoming bottleneck
- LAN Emulation (LANE)
- Multi-Protocol Over ATM (including scenarios on data and control packet flows)
- IP Switching, and Label switching
- Comparison between MPOA and IP Switching
- Resource Reservation Protocol (RSVP) for Multimedia Applications

About the Instructor: Ali Kujoory is a Distinguished Member of Technical Staff at AT&T Laboratories in Holmdel, New Jersey and an Adjunct Professor of Electrical Engineering and Computer Science at the Stevens Institute of Technology in New Jersey. He is currently working on a layer 3 VLAN architecture for ATM using Internet protocols and represents AT&T in the LANE/MPOA Working Group at the ATM Forum. He is the AT&T's Principal Representative to the ATM Forum and is the Leader of the AT&T ATM standards effort. Ali is knowledgeable in ATM signaling and distributed call control, expert in protocols and data communications.

He has developed and taught many courses on data networking including Enterprise Networking, Wireless Data Communications, Open Systems Interconnection (OSI) Upper Layers (e.g., X.400, X.500), OSI Network and Transport Layers, Computer Network Architecture, CCITT Recommendation X.25, Data Link Protocols, and Protocol Conformance Testing for AT&T Research and Development Community.

Before joining AT&T (AT&T Bell Laboratories) in 1984, Ali was an Associate Professor of Electrical Engineering at Drexel University in Philadelphia, Pennsylvania, and Department of Electrical Engineering of Shiraz University in Shiraz, Iran. He was involved and taught courses on microprocessors and interfaces, switching theory, digital electronics circuits and systems. He has done research in medical imaging when he was a Visiting Professor at the Optical Sciences Center of University of Arizona in Tucson, Arizona, 1978-79.

He holds a Bachelor's degree in Electrical Engineering (EE) from the American University of Beirut, Beirut, Lebanon, and M.S. and Ph.D. degrees in EE from University of Pennsylvania, Philadelphia, U.S.A.

Ali is a Senior Member of the IEEE and has authored a text book titled "Digital Electronics and Applications (in Persian)" and published and presented several papers in the technical journals and conferences.