

Tutorial on the New Internet Generation

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Overview:

The Internet continues to grow and flourish as a universal vehicle for access to the web content, e-mail, e-commerce, telephony, video and soon high-quality video, television... Delivering QoS to applications and end-users is a challenging task for network planners. New protocols IPv6, RSVP, new management policies of the QoS; new paradigms for multicasting or introducing intelligence in the routers are being introduced to address issues related to scalability and complexity.

Contents:

This tutorial will survey a collection of new emerging and advanced Internet protocols and technologies that will enable the Internet to offer enhanced services and scale in size and performance. The main points are the followings:

- New TCP/IP protocols: IPv6, ICMPv6, DN, routing...
- New signaling solutions: RSVP, COPS, SLA...
- New QoS protocols: IntServ, DiffServ, RAP (Resource Allocation Protocol).
- New technologies: DWDM, lambda switching, Gigarouters, Terarouters, IP over SONET.
- New label switching: MPLS (MultiProtocol Label Switching), MPoS.
- New applications: VoIP (Voice over IP), Video over IP, MPEG-4 over IP, TV over IP, etc.
- New mobility with Mobile IP, Manet, etc.
- New intelligence for controlling the Internet: IP intelligent platform, active IP networks.
- New management: Policies, PIB, SNMPv3, etc.

Presenter biography:

Guy Pujolle received the Ph.D. and "Thèse d'Etat" degrees in Computer Science from the University of Paris IX and Paris XI on 1975 and 1978 respectively. He is currently a professor at the University of Paris 6. Before he was professor at the University of Versailles 1994-2000, Paris 6 and head of the MASI Laboratory, 1981-1993, professor at ENST (Ecole Nationale Supérieure des Télécommunications), 1979-1981, and member of the scientific staff of INRIA (Institut National de la Recherche en Informatique et Automatique), 1974-1979. He is chairman of the IFIP WG 6.2 on "Network architecture and protocol" and member of the IFIP WG 7.3 on "Performance Evaluation". He is also a member of the Scientific Advisory Board of FT (France Telecom), CS (Communication and Systems), GMD (Germany), GET (France)... He is an editor for International Journal of Network Management, WINET, IEEE Communications Survey and Editor-In-Chief of Networking and Information Systems Journal. His research interests include the analysis and modelling of data communication systems, protocols, high performance networking and wireless networks.