The PHARE network: a first implementation of the “network of the future”

Abstract - The first full implementation of a “Network of the Future” architecture is under realization within the PHARE team of the University Pierre et Marie Curie University-Paris 6. This PHARE network is based on several paradigms:
A new five-plane architecture
Full virtualization of all network equipment
Automatic Piloting
Very high level security
Fountain code transmission
Wireless virtualization.

This presentation is decomposed into a description of the global architecture and of the six paradigms that are at the basis of this architecture.

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 Pierre et Marie Curie University (Paris 6) and a member of the Scientific Advisory Board of Orange/France Telecom. He spent the period 1994-2000 as Professor and Head of the computer science department of Versailles University. He was also Professor and Head of the MASI Laboratory (Pierre et Marie Curie University), 1981-1993, Professor at ENST (Ecole Nationale Supérieure des Télécommunications), 1979-1981, and member of the scientific staff of INRIA, 1974-1979.
Dr. Pujolle is the French representative at the Technical Committee on Networking at IFIP. He is an editor for International Journal of Network Management, WINET, Telecommunication Systems and Editor in Chief of the indexed Springer Journal “Annals of Telecommunications”. He was an editor for Computer Networks (until 2000), Operations Research (until 2000), Editor-In-Chief of Networking and Information Systems Journal (until 2000), Ad Hoc Journal and several other journals. Guy Pujolle is a pioneer in high-speed networking having led the development of the first Gbit/s network to be tested in 1980.