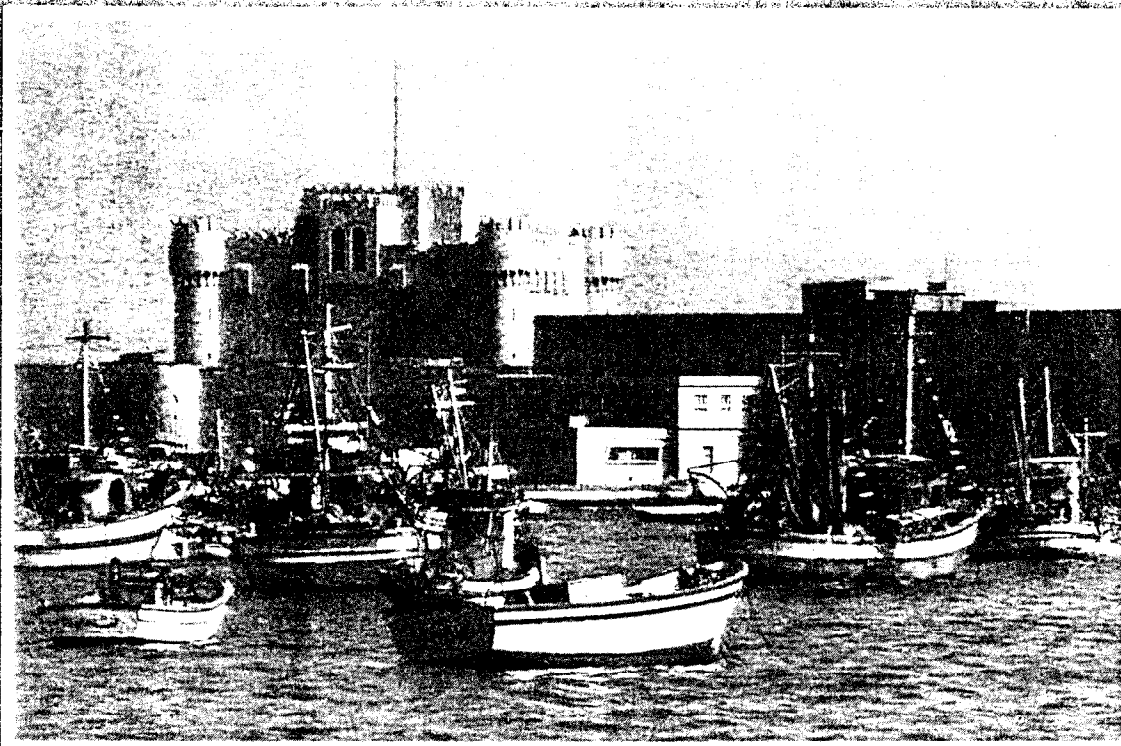


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# Hybrid Communication Networks for Video and Broadband Data Services

John S. Baras, University of Maryland, College Park, Maryland, USA

Recent advances in wireless communications have created tremendous opportunities for the design and deployment of broadband information infrastructures, rapidly and inexpensively. These new infrastructures can be deployed even in parts of the world where currently there exist very poor information or telephone networks. The relevant technologies include Direct Broadcast Systems (DBS), Local Multipoint Distribution Systems (LMDS), and Multichannel Multipoint Distribution Systems (MMDS). These technologies couple in a synergistic way with wireline technologies such as Hybrid Fiber Coaxial (HFC) networks and Fiber Optic (FO) networks, as well as Wireless Local Area Networks (WLAN).

In this talk we describe several network architectures that combine these technologies and evaluate their promise from the point of view of providing high quality video distribution and fast broadband Internet services through the same physical network. We then present several technical developments which describe Asymmetric Internet Services that we have developed for these networks. In particular we present several results on Network Operations Center algorithms for interactive and broadcast Internet services. Finally we present results for the Integrated Network management of these innovative hybrid communication networks.