

**ITU** *The Leader in VoIP Recommendations*

ITU Study Group 9 is responsible for ITU-T Recommendations on integrated broadband cable networks and television and sound transmission, including cable modems and delivery of video, voice, and high-speed data.

- J.160** Architectural framework for the delivery of time-critical services over cable television networks using cable modems
- J.161** Audio codec requirements for the provision of bidirectional audio service over cable television networks using cable modems
- J.162** Network call signalling protocol for the delivery of time-critical services over cable television networks using cable modems
- J.163** Dynamic quality of service for the provision of real-time services over cable television networks using cable modems
- J.164** Event message requirements for the support of real-time services over cable television networks using cable modems
- J.165** IPCablecom Internet signalling transport protocol (ISTP)
- J.166** IPCablecom Management Information Base (MIB) framework
- J.167** Media terminal adapter (MTA) device provisioning requirements for the delivery of real-time services over cable television networks using cable modems
- J.168** IPCablecom Media Terminal Adapter (MTA) MIB requirements
- J.169** IPCablecom network call signalling (NCS) MIB requirements
- J.170** IPCablecom security specification
- J.171** IPCablecom Trunking Gateway Control Protocol (TGCP)
- J.172** IPCablecom management event mechanism
- J.173** IPCablecom embedded MTA primary line support
- J.174** IPCablecom interdomain quality of service
- J.175** Audio server protocol
- J.176** IPCablecom management event mechanism MIB
- J.177** IPCablecom CMS subscriber provisioning specification
- J.178** IPCablecom CMS to CMS signalling
- J.179** IPCablecom support for multimedia

**Related Recommendations**

- J.112** Transmission systems for Interactive cable television services
- J.122** Second-generation transmission systems for interactive cable television services – IP cable modems
- Y.1001** IP Framework – A framework for convergence of telecommunication network and IP network technologies
- Y.1540** Internet protocol data communication service – IP packet transfer and availability performance parameters

**VoIP for Cable means**

**Voice communication services over Internet Protocol**

- VoIP uses packet-switched networks running Internet Protocol (IP) to deliver telephony services rather than traditional circuit switching.

**Leveraging the existing cable system architecture**

- VoIP services can be transported over an existing cable modem network infrastructure resulting in affordable, reliable service.

**Sophisticated technology to ensure:**

- Quality of Service (QoS)
- Secure communications
- Product interoperability
- Advanced features and services
- Low-cost solutions

**VoIP Subscribers**

U.S. cable telephony subscribers in millions



Source: 2004, Kagan World Media estimates

**What is IPCablecom?**

IPCablecom is a project on time-critical interactive services over cable television networks using the IP protocol, in particular Voice and Video over IP.

The IPCablecom recommendations enable the delivery of IP-based multimedia services, including voice communications, over the J.112 or J.122 cable high-speed data access network.

For more information about IPCablecom, please check the ITU-T Study Group 9 website at:

<http://www.itu.int/itudoc/itu-t/com9/ipcable/>

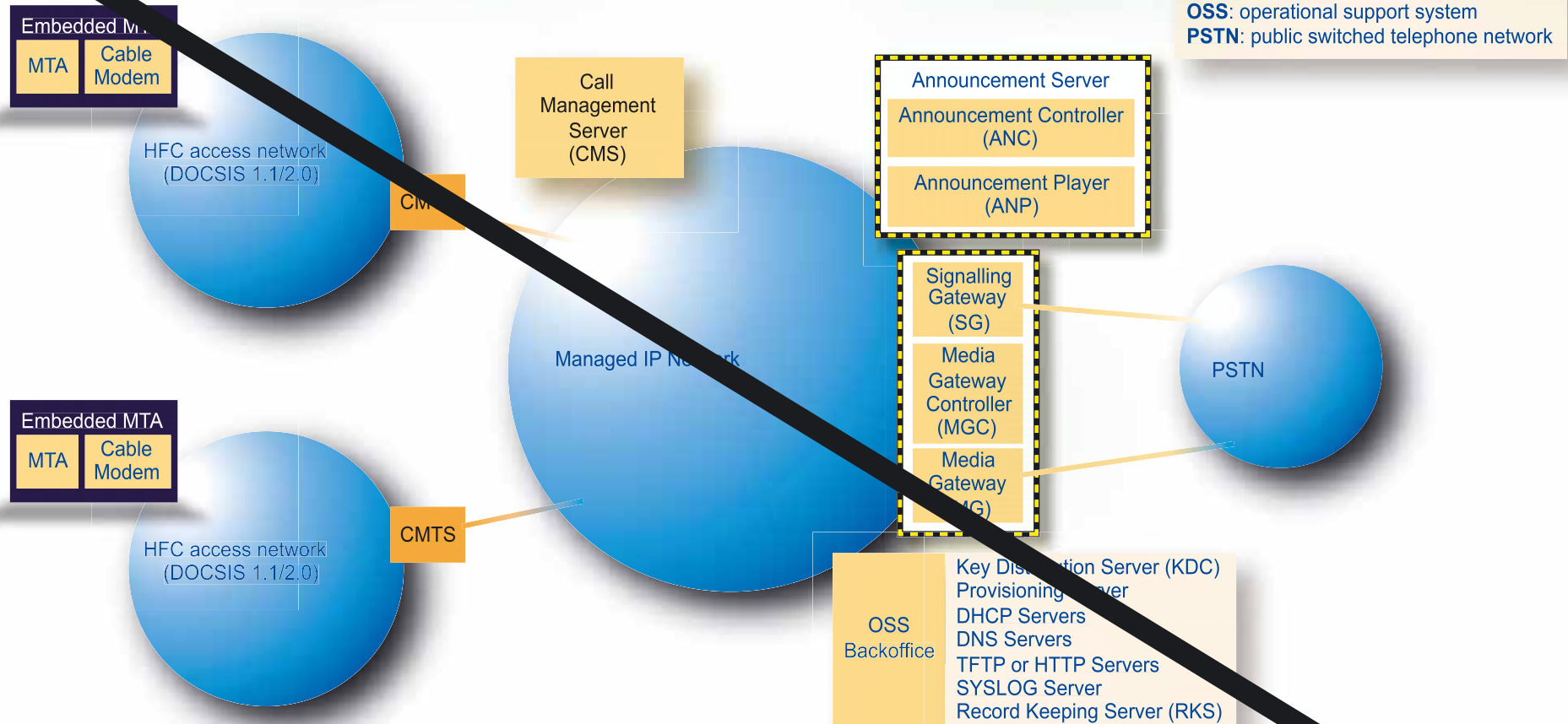
**X.509**

**Enabling e-business**

03.2005 isbprme@itu.int

ITU-T

# VoIP Architecture



**CMTS:** cable modem termination system  
**MTA:** media terminal adapter  
**HFC:** hybrid fibre coaxial  
**OSS:** operational support system  
**PSTN:** public switched telephone network

Source: ITU-T Rec J.160

Voice over IP services are carried over networks being built according to IPCablecom Recommendations and accessed by cable modem systems. These cable modem systems conform to Recommendation J.112 "transmission systems for interactive cable television services", or to its second-generation counterpart Recommendation J.122. The IPCablecom architecture, as specified in Recommendation J.160, consists of three interconnected networks: the HFC access network, the managed IP network and the PSTN. IPCablecom defines a distributed communication system architecture and the functional components and protocol interfaces required to interwork with other communication networks.

For more information, see the ITU-T Study Group 9 at: [www.itu.int/ITU-T/studygroups/com09](http://www.itu.int/ITU-T/studygroups/com09)