WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

H 323 Technology

[1]Chandrakala M.R., [2]Prof. Veena s

[1,2]Department of Electronics and Communication, S J C Institute of Technology, Chickballapur, India

ABSTRACT

H 323 standard compliant video conference system architecture. Both the server side and client side implementations are addressed. Video processing for advanced personal presence features including dynamic rate allocation and video object manipulation are also press The H.323 standard provides a foundation for audio, video, and data communications across IP-based networks, including the Internet. By complying with H.323, multimedia products and applications from multiple vendors can inter operate, allowing users to communicate without concern for compatibility.

Keywords— Ip networking and multimedia Conferencing,Video transcoding with advanced personal presence control

I. Introduction

Video conferencing is a natural extension to voice-only communications. Due to the rapid progress in digital video processing, low-cost video codecs, networking technologies, and international standards, video conferencing is becoming more and more widely used in business and home applications. ITU-T H.323 is the most widely adopted standard for multimedia communications over packet-switched networks worldwide. H.323 video conference systems are thus very attractive in current commercial market, for example, the Microsoft Net meeting is the most popular PC-based point-to-point H.323 video conference system available now. We have developed several advanced techniques in enhancing the video quality in video telephony applications, especially multipoint video conferencing , we will show our implementation of H.323 standard compliant video conference systems incorporating the advance video transcoding techniques proposed in [3-51 which is featured with user friendly personal presence control features such as dynamic bandwidth allocation, object resizing, re-location, and manipulation, etc.

II . Technology

Video Trancoding with Advanced Personal Presence Control

The proposed PPMCU also supports several advanced personal presence control features. As shown in Fig. 4, we have implemented a chroma-key based approach to allow object extraction in the PPMCU server so that the video objects can be manipulated according to the users' need. After extracting the video objects, the server transcodes the video objects using the intelligent bit allocation method described above and inserts a chroma-key background again. The resultant bit-stream still conforms to the H.263/H.263+ standard [2]. The client side subsequently extracts the video objects from the received bit stream and manipulates the 2-D video objects against a 3-D virtual background according to the 3-D location information of each conferee received from the server. The object manipulation functions are implemented using the Open GLTM technologies which are supported by many commercial 3-D display card at the client side. Thus the computation load is shared, thus real-time processing is achievable. shows an example of 2-D video objects compositing in a 3-D virtual background

Support for Other Personal Communication Application

In the SIP case, a considerable effort has been invested in the development of support for third party call control applications. One of the cornerstones for many applications in the SIP network is SIP event notification mechanism. It is specified in Important characteristic of this mechanism is that it is generic, leaving much space for further development and use in different applications. Some examples of the use of this mechanism are session transfer, dissemination of presence and registration state information. In the case of transfer operation, this mechanism is used to convey the information on the success of transfer operation to the initiator of transfer. Request message used for transfer is Refer, which is acknowledged with a 202 Accepted response message. Upon successful completion of transfer operation, Notify request message is sent to inform the initiator of the operation.

III. Benefits of H323 Technology

1.Codec Standards.

H.323 establishes standards for compression and decompression of audio and video data streams, ensuring that equipment from different vendors will have some area of common support.

2. Interoperability.

Users want to conference without worrying about compatibility at the receiving point. Besides ensure that the receiver can decompress the information, H.323 establishes methods for receiving clients to communicate capabilities to the sender. The standard also establishes common call setup and control protocols.

3. Network independence.

H.323 is designed to run on top of common network architectures. As network technology evolves, and as bandwidth-management techniques improve, H.323-based solutions will be able to take advantage of those enhanced capabilities.

4. Platform and Application .

Independence H.323 is not tied to any hardware or operating system. H.323- compliant platforms will be available in many sizes and shapes, including video- enabled personal computers, dedicated platforms, IP-enabled telephone handsets, cable TV set-top boxes and turnkey boxes.

5. Multipoint Support .

Although H.323 can support conferences of three or more endpoints without requiring a specialized multipoint control unit, MCU's provide a more powerful and flexible architecture for hosting multipoint conferences.

Iv. Block Diagram of System

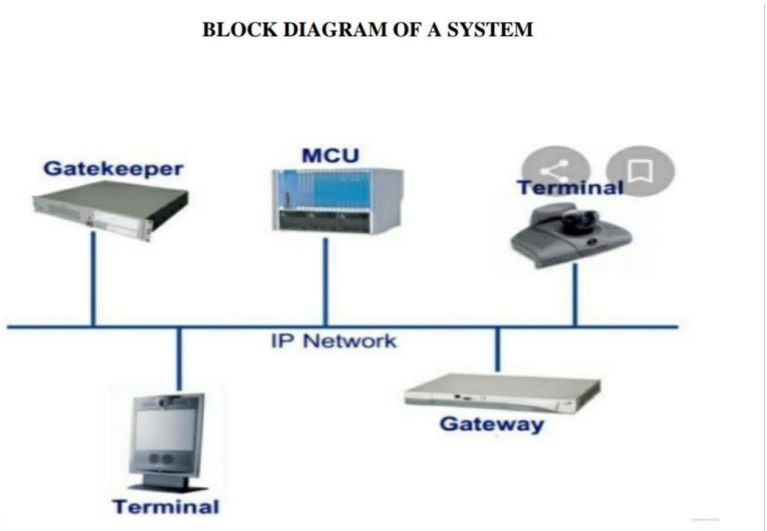

Fig 1: H 323 technology

Figure 1 represents the block diagram of a system. In a general H.323 implementation four logical entities or components are required. These are terminals, gateways, gatekeepers, and multipoint control units (MCU). Terminals, gateways, and MCUs are collectively known as endpoints. Even though an H.323-enabled network can be established with only terminals the other components are essential to provide greater practical usefulness of the services. A terminal, or a client, is an endpoint where H.323 data streams and signaling originate and terminate. It may be a multimedia PC with a H.323 compliant stack or a standalone device such as a USB (universal serial bus) IP telephone. A terminal must support audio communication; video and data communication support is optional. Gateway is an optional component in a H.323-enabled network. However, when communication is required between different networks a gateway is needed at the interface. Through the provision of gateways in H.323 it is possible for H.323 terminals to inter-operate with other H.323 compliant conferencing terminals. For example, it is possible for a H.323 terminal to set up a conference with terminals based on H.320 or H.324 through an appropriate gateway. A gateway provides data format translation, control signaling translation, audio and video codec translation,

and call setup and termination functionality on both sides of the network. Depending on the type of network to which translation is required a gateway may support H.310, H.320, H.321, H.322, or H.324 endpoints. A gatekeeper is a very useful, but optional, component of an H.323- enabled network. Gatekeepers are needed to ensure reliable, commercially feasible communications. A gatekeeper is often referred to as the brain of the H.323 enabled network because of the central management and control services it provides. When a gatekeeper exists all endpoints (terminals, gateways, and MCUs) must be registered with it. Registered endpoints' control messages are routed through the gatekeeper. The gatekeeper and the endpoints it administers form a management zone. A multipoint control unit enables conferencing between three or more endpoints. It consists of a mandatory multipoint controller (MC) and zero or more multipoint processors (MP). Although the MCU is a separate logical unit it may be combined into a terminal, gateway, or gatekeeper. The MCU is an optional component of an H.323-enabled network.

V. Advantages of H 323 Technology

1. Binary representation for its messages.
2. Large share market.
3. Format based command.
4. Mcu required for conferencing.

VI. Applications of H323 Technology

1. Point to point and multipoint conferencing support.
2. Internetwork interoperability
3. Security.
4. Supplementary services.
5. Audio and video codecs.

VII. Conclusion

H.323 and SIP are two competing protocols for multimedia communications over packet networks. In the last years, SIP gained significant momentum and plethora of extensions for different applications has already been proposed. Both protocols are influenced by accumulated knowledge and traditions of organizations that have proposed them. SIP is more flexible in the sense that it covers intentionally only subset of functionality needed for VoIP telephony and is characterized with the ability to be used with different transport and other protocols, while designers of H.323 tried to cover all aspects of VoIP functionality and have left less space for combination with other protocols. SIP has a text syntax based on HTTP, and its extensions are in most cases based on XML, while H.323 uses binary syntax based on ASN.1. Most important reason for actual domination of the SIP protocol is that SIP architecture and characteristics of the protocol fit naturally in the Internet environment – which is today the most important packet telephony environment, while H.323 inherits some characteristics of protocols of fixed telephony.

VIII. Future scope

The proposed PPMCU also supports several advanced personal presence control features. we have implemented a chroma-key based approach to allow object extraction in the PPMCU server so that the video objects can be manipulated according to the users' need. After extracting the video objects, the server transcodes the video objects using the intelligent bit allocation method described above and inserts a chroma-key background again. The resultant bit-stream still conforms to the H.263/H.263+ standard [2]. The client side subsequently extracts the video objects from the received bit stream and manipulates the 2-D video objects against a 3-D virtual background according to the 3-D location information of each conferee received from the server. The object manipulation functions are implemented using the Open GLTM technologies which are supported by many commercial 3-D display card at the client side. Thus the computation load is shared, thus real-time processing is achievable.

Reference

[1]. H. Sugano, S. Fujimoto, G. Klyne, A. Bateman, W. Carr, & J. Peterson, Presence information data format (PIDF), RFC 3863, internet Engineering Task Force, August 2017.

[2]. A. B. Roach, SIP-Specific event notification, RFC 3265, Internet Engineering Task Force, June 2002 Engineering Task Force, June 2019.

[3]. IP Multimedia Subsystem (IMS), 3GP TS 23.228 v 8.0.0, 3rd Generation Partnership Project, March 2007rce, August 2004.

[4]. J. Rosenberg, H. Schulzrinne, G. Camarillo, A.Johnston,J. Peterson, R. Sparks et al., SIP: Session Initiation Protocol, RFC 3261, Internet Engineering Task Force, June 2018.

[5]. A. B. Roach, SIP-Specific event notification, RFC 3265, Internet Engineering Task Force, June 2006.

[6]. J. Rosenberg, A presence event package for the SIP protocol, RFC 3856, Internet Engineering Task Force, August 2014.

[7]. J. Rosenberg, A session initiation protocol (SIP) event package for registrations, RFC 3680, Internet Engineering Task Force, March 2005.

[8]. www.gnu.org/software/osip/

[9]. www.resiprocate.org

[10]. www.iptel.org/ser/

[11]. K. Singh and H. Schulzrinne, Interworking Between SIP/SDP and H.323, Proceedings of the 1st IP-Telephony Workshop (IPTel'2000), April 2015.

[12]. Jiann-Min Ho, Jia-Cheng Hu, P. Steenkiste, A conference gateway supporting interoperability between SIP and H.323, Proceedings of the ninth ACM international conference on Multimedia, Otta

[13]. Boaz Michaely: H.323 Overview, November 2000.http://www.packetizer.com/iptel/h323/papers/

[14]. Chan-Hwa Wu ja J. David Irvin: Emerging Multimedia Computer CommunicationTechnologies, Prentice Hall, 1998, ISBN 0-13- 079967-X

[15]. Databeam Corporation: A Primer on the H.323 Series Standard, 1999. http://www.packetizer.com/iptel/h323/primer/