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STANDARDIZATION SECTOR
OF ITU

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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Transmission
multiplexing and synchronization

A real time control protocol for simplex applications using the H.221 LSD/HSD/MLP channels

ITU-T Recommendation H.224

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ITU-T Recommendation H.224

A real time control protocol for simplex applications using the H.221 LSD/HSD/MLP channels

Summary

This Recommendation provides a simple yet flexible protocol for simplex, low delay applications such as far end camera control and text conversation using the LSD, HSD, and MLP channels defined in ITU-T Recs H.221 and H.243.

This 2004 revised version adds a Generic Capability Object Identifier in clause 11, which enables the use of the H.224 protocol with systems according to ITU-T Rec. H.245.

Source

ITU-T Recommendation H.224 was approved on 8 January 2005 by ITU-T Study Group 16 (2005-2008) under the ITU-T Recommendation A.8 procedure.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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ITU-T Recommendation H.224

A real time control protocol for simplex applications using the H.221 LSD/HSD/MLP channels

1 Scope

This Recommendation covers the frame structure, elements of procedure and formats to support a real time control (ITU-T Rec. H.224) protocol primarily used in multipoint videoconference networks using the H.243 broadcast capability of the H.221 LSD/HSD channels or the H.221 MLP data channel. H.224 frames are encapsulated in Q.922 Unnumbered Information (UI) frames, referred to as I mode for the remainder of this Recommendation.

This protocol is intended to be used by Recommendations that describe applications that require the real-time H.224 services, limited at this time to far end camera control but potentially including other real-time applications. This protocol serves to provide low-cost, low-latency and low delay broadcast services for applications that do not require reliable, flow-controlled links. This Recommendation is not intended for use by applications such as those specified in the T-series, e.g., JPEG image distribution that requires reliable links.

This protocol allows for multiplexing of one or more datagram streams over the H.221 LSD, HSD or MLP channels. Data transfer is always by way of Q.922 UI frames using fixed DLCI assignment. The data link protocol contains network layer information using unique source and destination terminal addresses, conveyed to the terminal via the TIA symbol as described in ITU-T Recs H.230 and H.243.

The block diagram in Figure 1 illustrates the location of the data link protocol in H.221 communications architecture. The interface between the client and the data link layer is beyond the scope of this Recommendation, and is left to the discretion of the manufacturers.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- ITU-T Recommendation H.221 (2004), *Frame structure for a 64 to 1920 kbit/s channel in audiovisual teleservices*.
- ITU-T Recommendation H.243 (2000), *Procedures for establishing communication between three or more audiovisual terminals using digital channels up to 1920 kbit/s*.
- ITU-T Recommendation Q.922 (1992), *ISDN data link layer specification for frame mode bearer services*.
- ITU-T Recommendation T.122 (1998), *Multipoint communication service – Service definition*.
- ITU-T Recommendation T.123 (1999), *Networks-specific data protocol stacks for multimedia conferencing*.
- ITU-T Recommendation T.125 (1998), *Multipoint communication service protocol specification*.