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Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network (PISN) — Mapping functions for the tunnelling of QSIG through H.323 networks

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseau privé avec intégration de services (PISN) — Fonctions d'application pour l'emploi de l'action tunnel de QSIG à travers les réseaux H.323

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 23290 was prepared by Ecma International (as ECMA-333) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in parallel with its approval by national bodies of ISO and IEC.

This second edition cancels and replaces the first edition (ISO/IEC 23290:2002), which has been technically revised.

Introduction

This International Standard is one of a series of standards defining mapping functions in exchanges of Private Integrated Services Networks required for the utilization of intervening network scenarios. The series uses the ISDN concepts as developed by ITU-T (formerly CCITT) and is also within the framework of standards for open systems interconnection as defined by ISO.

This particular Standard specifies mapping functions for the type of scenarios where two or more PINXs are interconnected via on-demand connections using an H.323 packet network as the IVN.

The Standard is based upon the practical experience of member companies and the results of their active and continuous participation in the work of ISO/IEC JTC1, ITU-T, ETSI and other international and national standardization bodies. It represents a pragmatic and widely based consensus.

The second edition is fully compatible with the first edition. It specifies one part of the procedures of the optional semi-permanent scenario in more detail.

Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network (PISN) — Mapping functions for the tunnelling of QSIG through H.323 networks

1 Scope

This International Standard specifies functions for using an H.323 packet network in order to interconnect two Private Integrated services Network eXchanges (PINXs) forming part of a Private Integrated Services Network (PISN). Interconnection is achieved by carrying the inter-PINX signalling protocol over the H.323 call signalling channel, making use of the protocol tunnelling facilities of H.323, and inter-PINX user information (e.g., voice) over logical channels established through H.323. Each logical channel usually represents a unidirectional media stream conveyed by means of the Real-time Transport Protocol (RTP). The inter-PINX signalling protocol is assumed to be QSIG, as specified in ISO/IEC 11572, ISO/IEC 11582 and other standards.

This International Standard provides for an on-demand type of interconnection, where a separate H.323 call is established at the start of each PISN call and cleared down at the end of that call. A semi-permanent scenario where a single H.323 call with an indefinite lifetime carries QSIG on behalf of many PISN calls is described as an additional option.

In the scenarios covered in this International Standard, the PINXs participating in a call are not necessarily aware of the H.323 network providing the interconnection, and the features available are those of the QSIG network. This is different from a scenario where true interworking between QSIG and H.323 (i.e. QSIG–H.323–QSIG) is used to connect two PISNs or two parts of the same PISN. In this latter case all networks participate in a call on equal terms, and features are limited to those available in all networks and supported by the gateways. This latter scenario is outside the scope of this International Standard.

This International Standard is applicable to PINXs that can be interconnected to form a PISN using QSIG as the inter-PINX signalling protocol.

2 Conformance

In order to conform to this International Standard, a PINX shall satisfy the requirements identified in the Implementation Conformance Statement (ICS) proforma in Annex A.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 11579-1:1994, *Information technology — Telecommunications and information exchange between systems — Private integrated services network — Part 1: Reference configuration for PISN Exchanges (PINX)*

ISO/IEC 11572:2000, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Circuit mode bearer services — Inter-exchange signalling procedures and protocol*

ISO/IEC 11582:2002, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Generic functional protocol for the support of supplementary services – Inter-exchange signalling procedures and protocol*

ITU-T Rec. H.225.0, *Call signalling protocols and media stream packetization for packet based multimedia communications systems (2000 or later)*

ITU-T Rec. H.245, *Control protocol for multimedia communication (2000 or later)*

ITU-T Rec. H.323, *Packet based multimedia communications systems (2000 or later)*

ITU-T H.323 Annex M.1, *Tunnelling of signalling protocols (QSIG) in H.323*

4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

4.1 External definitions

For the purpose of this International Standard the following definitions apply:

— Call independent signalling connection (ISO/IEC 11582)

— C reference point (ISO/IEC 11579-1)

— Gatekeeper (ITU-T Rec. H.323)

— Gateway, Trunking Gateway (ITU-T Rec. H.323)

— Intervening network (ISO/IEC 11579-1)

— Logical channel (ITU-T Rec. H.323)

— Preceding PINX (ISO/IEC 11582)

— Private Integrated Services Network (ISO/IEC 11579-1)

— Private Integrated services Network eXchange (ISO/IEC 11579-1)

— Q reference point (ISO/IEC 11579-1)

— Subsequent PINX (ISO/IEC 11582)

4.2 Other definitions

4.2.1 Call

4.2.1.1 H.323 call

A call as defined in ITU-T Rec. H.323, i.e. a point-to-point communication between two H.323 endpoints. Here specifically a call in the H.323 network between two gateways.

4.2.1.2 PISN call

A call as defined in ISO/IEC 11572 and ISO/IEC 11582.

