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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

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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 3.

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 International Standard 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 11582 was prepared by ECMA (as ECMA-165) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

This second edition cancels and replaces the first edition (ISO/IEC 11582:1995), which has been technically revised.

Annexes A and B form a normative part of this International Standard. Annexes C to L are for information only.

Introduction

This International Standard is one of a series of Standards defining services and signalling protocols applicable to Private Integrated Services Digital Networks (PISNs). The series uses ISDN concepts as developed by ITU-T and conforms to the framework of International Standards on Open Systems Interconnection as defined by ISO/IEC.

This International Standard defines the signalling protocol for use at the Q reference point between two PINXs for the transport of protocol information as part of Supplementary Services and/or Additional Network Features (ANFs) within a PISN. The protocol defined in this International Standard forms part of the PSS1 protocol (informally known as QSIG).

The generic functional procedures provide a flexible and open ended approach to the provision of supplementary service and ANF protocols. These procedures provide:

– generic protocols which may be utilised in the provision of supplementary services and ANFs, both related to existing calls and separate from existing calls where appropriate to the capability required;

– a dialogue identification protocol to enable supplementary service or ANF information flows to be tied together to form a dialogue;

– supplementary service and ANF transparency across a PISN, whereby transit PINXs need have no knowledge of the capability provided to the PISN user or PISN itself unless involved in the provision of that capability; and

– the capability for standardised and manufacturer specific capabilities to coexist in both single and multi-vendor PISNs.

The protocol defined in this International Standard is based upon that described in ITU-T Recommendation Q.932 (1993).

This International Standard is based upon the practical experience of ECMA member companies and the results of their active and continuous participation in the work of ISO/IEC JTC 1, ITU-T, ETSI and other international and national standardization bodies. It represents a pragmatic and widely based consensus.

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1 Scope

This International Standard defines the signalling protocol for the control of Supplementary Services and Additional Network Features (ANFs) at the Q reference point. The protocol is part of Private Signalling System no. 1 (PSS1), known informally as QSIG. The Q reference point exists between Private Integrated services Network eXchanges (PINXs) connected together within a Private Integrated Services Network (PISN) and is defined in ISO/IEC 11579-1. Detailed procedures applicable to individual supplementary services and ANFs are beyond the scope of this International Standard and will be specified by other standards for those services which are standardised and by individual manufacturers for proprietary services using the capabilities defined in this International Standard.

ISO/IEC 11572 defines the Layer 3 protocol for circuit-switched call control at the Q reference point. This International Standard defines additional protocol procedures, to be used in conjunction with those defined in ISO/IEC 11572 for the control of supplementary services and ANFs.

NOTE 1 - Typical examples of the application of these generic functional procedures to some supplementary services are provided in annex C, for explanatory and illustrative purposes only.

NOTE 2 - Specific supplementary services and Additional Network Features may require additional information transfer mechanisms which are service or feature specific and are beyond the scope of this International Standard.

2 Conformance

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

3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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 11574:2000, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Circuit-mode 64 kbit/s bearer services — Service description, functional capabilities and information flows*

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 11571:1998, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Networks — Addressing*

ISO/IEC 15056:1997, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Inter-exchange signalling protocol — Transit counter additional network feature*

ISO/IEC 6523-1:1998, *Information technology — Structure for the identification of organizations and organization parts — Part 1: Identification of organization identification schemes*

ISO/IEC 6523-2:1998, *Information technology — Structure for the identification of organizations and organization parts — Part 2: Registration of organization identification schemes*

ITU-T Rec. I.112:1993, *Vocabulary of terms for ISDNs*

ITU-T Rec. I.210:1993, *Principles of telecommunication services supported by an ISDN and the means to describe them*

ITU-T Rec. Q.932:1998, *Digital subscriber signalling system No. 1 — Generic procedures for the control of ISDN supplementary services*

ITU-T Rec. X.217:1995 | ISO/IEC 8649:1996, *Information technology — Open Systems Interconnection — Service definition for the Association Control Service Element*

ITU-T Rec. X.227:1995 | ISO/IEC 8650-1:1996, *Information technology — Open Systems Interconnection — Connection-oriented protocol for the Association Control Service Element: Protocol specification*

ITU-T Rec. X.680:1997 | ISO/IEC 8824-1:1998, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation*

ITU-T Rec. X.681:1997 | ISO/IEC 8824-2:1998, *Information technology — Abstract Syntax Notation One (ASN.1): Information object specification*

ITU-T Rec. X.682:1997 | ISO/IEC 8824-3:1998, *Information technology — Abstract Syntax Notation One (ASN.1): Constraint specification*

ITU-T Rec. X.683:1997 | ISO/IEC 8824-4:1998, *Information technology — Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications*

ITU-T Rec. X.690:1997 | ISO/IEC 8825-1:1998, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ITU-T Rec. X.880:1994 | ISO/IEC 13712-1:1995, *Information technology — Remote Operations: Concepts, model and notation*

ITU-T Rec. X.881:1994 | ISO/IEC 13712-2:1995, *Information technology — Remote Operations: OSI realizations — Remote Operations Service Element (ROSE) service definition*

ITU-T Rec. X.882:1994 | ISO/IEC 13712-3:1995, *Information technology — Remote Operations: OSI realizations — Remote Operations Service Element (ROSE) protocol specification*