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ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.226

Amendment 1
(08/97)

SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATION

Open System Interconnection – Connection-mode
protocol specifications

Information technology – Open Systems
Interconnection – Connection-oriented presentation
protocol: Protocol specification

Amendment 1: Efficiency enhancements

ITU-T Recommendation X.226 – Amendment 1

(Previously CCITT Recommendation)

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INTERNATIONAL STANDARD 8823-1

ITU-T RECOMMENDATION X.226

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – CONNECTION-ORIENTED PRESENTATION PROTOCOL: PROTOCOL SPECIFICATION

AMENDMENT 1 Efficiency enhancements

Summary

This amendment defines several efficiency options.

The fast associate mechanism defines the construction of the User Summary parameter of the S-CONNECT primitives from the semantics of the presentation CP-PPDU fields.

This amendment describes a protocol option which defines an alternative header encoding for the user-data of most presentation primitives when this contains only one presentation data value. When used in combination with the session short-encoding option, it minimizes the overhead for this common case, without loss of overall function, as the short encoding can be freely mixed with the non-compressed encodings.

The nominated context presentation protocol option allows for the “simple-encoding” CHOICE for the presentation user-data to be used for one of the presentation contexts of the Defined Context Set (DCS) even when there are many elements in the DCS. This allows a significant reduction in the presentation Protocol Control Information (PCI) overhead for any application that sends most of its data in the same presentation context without any loss of functionality.

In another efficiency option, the use of the Packed Encoding Rules (PER) for the presentation protocol allows the full range of values for the presentation protocol to be conveyed with a smaller overhead in terms of the bits to be sent.

Source

The ITU-T Recommendation X.226, Amendment 1 was approved on the 9th of August 1997. The identical text is also published as ISO/IEC International Standard 8823-1.

FOREWORD

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The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 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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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
CONNECTION-ORIENTED PRESENTATION PROTOCOL:
PROTOCOL SPECIFICATION****AMENDMENT 1
Efficiency enhancements****1) Subclause 2.1**

Add the following references by numerical order:

- ITU-T Recommendation X.691 (1995) | ISO/IEC 8825-2:1995, *Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)*.
- ITU-T Recommendation X.217 (1995)/Amd.1 (1996) | ISO/IEC 8649:1996/Amd.1:1997, *Information technology – Open Systems Interconnection – Service definition for the Association Control Service Element – Amendment 1: Support of authentication mechanisms for the connectionless mode*.
- ITU-T Recommendation X.227 (1995)/Amd.1 (1996) | ISO/IEC 8650-1:1996/Amd.1:1997, *Information technology – Open Systems Interconnection – Connection-oriented protocol for the Association Control Service Element: Protocol specification – Amendment 1: Incorporation of extensibility markers*.
- ITU-T Recommendation X.216 (1994)/Amd.1 (1997) | ISO/IEC 8822:1994/Amd.1:1997, *Information technology – Open Systems Interconnection – Presentation service definition – Amendment 1: Efficiency enhancements*.

2) Subclause 2.3

Add the following references by numerical order:

- ITU-T Recommendation X.216 (1994)/Addendum 1 (1995), *Service definition for Presentation layer efficiency enhancements*.
- ITU-T Recommendation X.225 (1995)/Addendum 1 (1995), *Protocol specification for Session layer efficiency enhancements*.

3) Subclause 3.4

Add the following new item at the end of the list:

- l) Upper-layer context specification.

Consequently, item k) should have, at the end, a semi-colon instead of a period.

ISO/IEC 8823-1 : 1994/Amd.1 : 1998 (E)

4) Subclause 3.5*Insert the following definition by numerical order:*

3.5.3 bis nominated context: A member of the Defined Context Set can be nominated by either PPM as its nominated context. There are independent nominated contexts for each direction of communication. There are no nominated contexts unless the nominated context protocol option is selected on the connection. If all the presentation data values in the User-data of PPDU are in the nominated context of the sender, alternative presentation PCI may be used to convey the User-data.

Add the following definitions after 3.5.14:

3.5.15 nominated context protocol option: An option of the presentation protocol that uses an efficient identification of the presentation context of user data when a single presentation data value is present in the user data of a primitive.

3.5.16 short-encoding protocol option: An option of the presentation protocol that uses efficient encoding of a PPDU containing a single presentation data value.

3.5.17 packed encoding protocol option: An option of the presentation protocol under which the Presentation PPDUs are encoded using the ASN.1 Packed Encoding Rules.

3.5.18 null-encoding protocol option: An option of the presentation protocol, negotiated during connection establishment, that permits a data transfer phase with zero presentation protocol control information.

3.5.19 short-connect protocol option: An option of the presentation protocol that permits an efficient negotiation, during connection establishment, of the null-encoding protocol option.

5) Subclause 4.2*Add the following PPDUs at the end of the list:*

SHORT-CP PPDU	Short Connect PPDU
SHORT-CPA PPDU	Short Connect Accept PPDU
SHORT-CPR PPDU	Short Connect Reject PPDU

6) Subclause 4.3*Insert the following abbreviations by alphabetical order:*

BER	Basic Encoding Rules
PER	Packed Encoding Rules

7) Subclause 5.4*Insert the following new subclauses after 5.4:***5.4 bis Protocol options**

Protocol options are elements of procedure defined in the Protocol Specification. Some have no effect on the support of the Presentation Service; others imply restrictions on the support of Presentation Service or can only be used with other options that restrict the service.

The options that do not affect support of the Presentation Service can be negotiated at presentation-connection establishment by the Presentation protocol itself. These include the nominated context, short-encoding and packed encoding options.

The null-encoding option supports a restricted subset of the Presentation Service. It can be negotiated at presentation connection establishment.

The short-connect option can only be used to establish a connection that will use the null-encoding option.