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

AMENDMENT 1: Efficiency enhancements

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — Protocole de présentation en mode connexion: Spécification du protocole

AMENDEMENT 1: Améliorations d'efficacité

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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. 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.

Amendment 1 to ISO/IEC 8823-1:1994 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 33, *Distributed application services*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.226/Amd.1.

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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.1:1998, *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.

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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.

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All options apart from short-connect may be negotiated using the fast-associate mechanism (see 6.2.6.9). The short-connect option and the fast-associate mechanism are mutually exclusive. All options may be the subject of *a priori* agreement.

NOTE 1 – The short-encoding and short-connect protocol options are completely separate. Short-encoding applies to the user-data of any PPDU on an established connection. Short-connect applies to the establishment of a connection that will use the null-encoding option.

NOTE 2 – The fast associate mechanism (see 6.2.6.9) is not considered a Presentation protocol option as it is implemented in the Session layer. It can be used to establish a presentation connection that uses any combination of the options, except short-connect.

5.4 *bis*.1 Nominated context protocol option

This protocol option allows each of the protocol machines to choose one of the presentation contexts of the DCS as its nominated context. The nominated context affects the presentation protocol control information that conveys the User-data, in circumstances defined in 8.4. There are independent nominated contexts for each direction – the initiator's nominated context applies to User-data sent by the connection-initiator, the responder's nominated context applies to User-data sent by the connection-responder. Even when the protocol option has been selected, there need not be a nominated context for either or both PPMs.

The nominated context protocol option does not affect the Presentation Service. It has no implications for which session functional units are used.

5.4 *bis*.2 Short encoding protocol option

This protocol option allows use of the Short-encoding form of User-data for any PPDU for which it is defined if the User-data contains only one presentation data value.

This protocol option does not affect the Presentation service. It requires support of the Special User-data parameter of the Session primitive whose User-data is the PPDU.

5.4 *bis*.3 Packed encoding rules protocol option

When this protocol option is selected, the PPDUs that are specified in ASN.1 in 8.2 are encoded using the Packed Encoding Rules. When the protocol option is not selected, these PPDUs are encoded using the Basic Encoding Rules. The negotiation of the Packed Encoding Rules protocol option is described in 6.2.6.8.

5.4 *bis*.4 Null-encoding protocol option

When this protocol option is selected, no presentation protocol control information is conveyed over the established presentation connection. In particular, no PPDUs associated with the normal and abnormal release of the connection are conveyed.

The null-encoding protocol option is used on an established connection. The use of the option restricts support of the Presentation service and is only available if one of the following conditions is applicable:

a) the presentation context definition list contains precisely one item in which the abstract syntax name is known to the responding PPM by bilateral agreement;

b) the presentation context definition list is empty and the default context is known by bilateral agreement;

c) the presentation context definition list is empty and the abstract syntax of the default context is specified in ASN.1 and is known to the responding PPM by bilateral agreement.

The null-encoding does not require particular Session functional units.

NOTE – It is expected that Presentation null-encoding will typically be used with the Session no-orderly-release functional unit, and with the Session null-encoding option, although this is not required.

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5.4 *bis*.5 Short-connect protocol option

The short-connect protocol option is used only in connection establishment to establish a connection on which the null-encoding option will be used, and thus one of the conditions in 5.4 *bis*.4 applies. In addition, it can only be used if both of the following conditions apply:

a) the calling and called presentation selectors are null;

b) the presentation-requirements parameter in the P-CONNECT service includes only the kernel functional unit.

The short-connect protocol option does not require particular Session functional units.

NOTE – It is expected that the Presentation short-connect protocol option will typically be used with the Session short connect mechanism with no upper-layer context identifier present.

8) Subclause 6.2.1

Modify, using the following text, the second paragraph:

The procedure uses the following PPDUs:

If the **short-connect** option is not selected, the connection establishment procedure uses:

a) CP PPDU;

b) CPA PPDU;

c) CPR PPDU.

If the **short-connect** option is selected, the connection establishment procedure uses:

d) SHORT-CP PPDU;

e) SHORT-CPA PPDU;

f) SHORT-CPR PPDU.

9) Subclause 6.2.2

Add the following subclause after 6.2.2.8:

6.2.2.8 *bis* Initiator's nominated context

This shall identify the presentation context from the presentation context definition list that is proposed as the nominated context for the initiating PPM. This parameter shall consist of the presentation context identifier from the appropriate item of the presentation context definition list.

This parameter shall only be present if the nominated context protocol option has been proposed and the presentation context definition list is present.

See also 6.2.6.6.

Add the following subclause after 6.2.2.12:

6.2.2.12 *bis* Protocol options

This shall identify the options of the Presentation protocol selected for use on this connection.

Only options which were proposed in the Protocol options parameter of the CP PPDU shall be selected.

See also 6.2.6.5.

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