



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.226

Amendment 2

(12/97)

SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

Open System Interconnection – Connection-mode
protocol specifications

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

**Amendment 2: Nested connections
functional unit**

ITU-T Recommendation X.226 – Amendment 2

(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 2
Nested connections functional unit**

Summary

The Presentation protocol specification defined in ITU-T Rec. X.226 | ISO/IEC 8823-1 is enhanced to support the establishment of additional, independent, nested presentation connections within an existing presentation connection. This enhancement will support the reusability of existing application layer standards (each making full, and possibly incompatible, use of the session synchronization services) as components of new application layer standards.

Source

The ITU-T Recommendation X.226, Amendment 2 was approved on the 12th of December 1997. The identical text is also published as ISO/IEC International Standard 8823-1.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The 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 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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As of the date of approval of this Recommendation, the 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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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

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

**AMENDMENT 2
Nested connections functional unit**

1) Subclause 2.1

Insert the following to this subclause, by numerical order:

- ITU-T Recommendation X.215 (1995)/Amd.2 (1997) | ISO/IEC 8326:1996/Amd.2:1998, *Information technology – Open Systems Interconnection — Session service definition – Amendment 2: Nested connections functional unit.*
- ITU-T Recommendation X.216 (1994)/Amd.2 (1997) | ISO/IEC 8822:1994/Amd.2:1998, *Information technology – Open Systems Interconnection – Presentation service definition – Amendment 2: Nested connections functional unit.*

2) Subclause 3.4

Add a new item:

- 1) nested presentation connection.

3) Subclause 5.1

In this subclause, add and ITU-T Rec. X.216/Amd.2 | ISO/IEC 8822/Amd.2 after reference to ITU-T Rec. X.216 | ISO/IEC 8822.

4) Subclause 5.2

In this subclause, add and ITU-T Rec. X.215/Amd.2 | ISO/IEC 8326/Amd.2 after reference to ITU-T Rec. X.215 | ISO/IEC 8326.

5) Subclause 5.5

Add two new paragraphs after paragraph one:

Presentation connections can be established nested within existing presentation connections. Such connections are entirely independent in relation to services provided directly by the presentation layer, but have some dependencies (specified in ITU-T Rec. X.215 | ISO/IEC 8326) in relation to services passed through from the session layer.

The PPM maintains a one-to-one correspondence between presentation connection end-points and session connection end-points, and the nesting structure (if any) within an outer-level session connection end-point is identical to the nesting structure within the corresponding presentation end-point.

6) Subclauses 6.2.2.3 through 6.2.2.6

Add a new sentence to the end of each subclause 6.2.2.3 through 6.2.2.6:

This parameter shall be absent on a CP that is issued on an S-CONNECT that is seeking to establish a nested session connection.

7) Subclause 8.2

In this subclause, add the following ASN.1 comment:

*after the **X.410-mode parameters** elements in **CP-type**, **CPA-PPDU** and **CPR-PPDU** (the parameter is erroneously named *x400-mode-parameters* in some places in the original printing):*

- This OPTIONAL element shall be absent for a*
- nested presentation connection.*

8) Subclause A.1

Add at the end of this subclause:

A request or response primitive on a nested presentation connection (including a P-CONNECT request) can occur only if both the following apply:

- it is permitted by the state table for the PPM for that connection;
- the state tables for the PPM for all enclosing presentation connections permit a P-DTreq event.

A PPDU event can only occur on the nested session connection supporting a nested presentation connection, if both the following apply:

- it is permitted by the state table for the PPM for that presentation connection;
- the state tables for the PPM for all enclosing presentation connections permit a TD event.

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