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INTERNATIONAL STANDARD

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1996-08-01

AMENDMENT 1
2000-12-15

Information technology — Open Systems Interconnection — Connectionless Session protocol: Protocol specification

AMENDMENT 1: Efficiency enhancements

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

AMENDEMENT 1: Améliorations du rendement

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Reference number
ISO/IEC 9548-1:1996/Amd.1:2000(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

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

Amendment 1 to International Standard ISO/IEC 9548-1:1996 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.235/Amd.1.

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Introduction

This amendment is one of a set of amendments to the OSI upper-layers standards produced to facilitate the interconnection of information processing systems in an open environment where efficiency of communications is paramount. Such efficiencies include:

a) reduction in the overhead needed to encode control information for use in bandwidth-limited environments (such as radio links) or processing-limited systems (such as switching systems);

b) reduction in the delay to set up the association between the communicating applications so that data transfer can begin expeditiously;

c) reduction in the support of unneeded functionality in certain environments where the communications requirements of the applications are limited.

This amendment modifies the connectionless Session Protocol to support the "short-encoding" protocol option. The short-encoding option provides alternative and smaller protocol control information for the connectionless-mode session protocol data units.

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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – CONNECTIONLESS SESSION PROTOCOL: PROTOCOL SPECIFICATION

AMENDMENT 1

Efficiency enhancements

1) Subclause 2.1

Add the following reference by numerical order:

– ITU-T Recommendation X.215 (1995)/Amd.1 (1997) | ISO/IEC 8326:1996/Amd.1:1998, *Information technology – Open Systems Interconnection – Session Service Definition – Amendment 1: Efficiency enhancements.*

2) Subclause 3.2

Add the following definitions after 3.2.2:

3.2.3 Long-form SPDU: An SPDU that has the long-form structure defined in 7.2.

3.2.4 Short-form SPDU: An SPDU that has the short-form structure defined in 7.4. All short-form SPDUs have names that begin with the word SHORT and abbreviations beginning with the letter S.

3.2.5 Short-encoding protocol option: An option of the session protocol that permits the use of smaller protocol control information of the Session SPDUs in the data transfer phase.

3.2.6 Parameter indication: A field in the low-order bits of the first octet of a short-form SPDU (the high-order bits will contain the SPDU identifier).

3) Subclause 4.2

Add the following abbreviation by alphabetical order:

SUD SPDU Short Unit Data SPDU

4) Subclause 4.3

Add the following abbreviation by alphabetical order:

SI&P SPDU identifier (for short-form SPDUs) and parameter indication

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5) Subclause 6.1.3

Add the following SPDU at the beginning of the list:

SHORT-UNIT-DATA SUD

6) Subclause 6.2.3

Add the following at the beginning of the list:

SUD SPDU

user data

7) Subclause 6.2.4

Add the following to 6.2.4:

The UNIT-DATA SPDU is transmitted when the initiating SPM has chosen not to use a SHORT-UNIT-DATA SPDU.

8) New subclauses 6.2.6 and 6.2.7

Add the following two new subclauses after 6.2.5:

6.2.6 Sending a SUD SPDU

The initiating SPM can choose to use the SHORT-UNIT-DATA SPDU if in the parameters of the S-UNIT-DATA request the Called Session Address and Calling Session Address have NIL values of the Called and Calling Session Selectors.

The Called and Calling Session Address parameters of the S-UNIT-DATA request service primitive are used to determine the source and destination addresses.

If the length of the SPDU exceeds the maximum TSDU size supported by the transport service, then the S-UNIT-DATA request is discarded and a local report may be made to the SS-user indicating the inability of the session layer to provide the service requested.

A SUD SPDU is constructed with the user data supplied by the SS-user in the S-UNIT-DATA request.

The SHORT-UNIT-DATA SPDU is transmitted on the User-data of a T-UNIT-DATA request primitive.

A T-UNIT-DATA request service primitive is issued with the source and destination addresses determined above, the Quality of Service requested and a TS-user-data parameter containing the SHORT-UNIT-DATA SPDU.

6.2.7 Receiving a SUD SPDU

The SUD SPDU arrives in the TS-user-data field of a T-UNIT-DATA indication.

If the receiving SPM does not support the short-encoding protocol option and the SHORT-UNIT-DATA SPDU is received as user data on a T-UNIT-DATA indication primitive, it shall discard the SPDU without any notification.

A valid incoming SHORT-UNIT-DATA SPDU results in an S-UNIT-DATA indication.

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The source address from the T-UNIT-DATA indication and the NIL session selector will be used to determine the calling session address parameter for the S-UNIT-DATA indication. The destination address from the T-UNIT-DATA indication and the NIL session selector will be used to determine the called session address parameter for the S-UNIT-DATA indication.

The user information field of the SUD SPDU will be mapped to the user data parameter of the S-UNIT-DATA indication.

If the data cannot be immediately delivered to a SS-user due to non-existent recipient, recipient not ready to receive, or too large data field size, that unit data is discarded without any notification.

9) Clause 7

Change the title of clause 7 to:

7 Encoding of the unit data SPDUs

10) Subclause 7.2

a) Change title of subclause 7.2 to:

7.2 SPDU structure (long form SPDU)

b) Change the first sentence of 7.2, based on the underlined additions, as follows:

This subclause specifies the general structure of long-form SPDUs in terms of their constituent fields. Long-form SPDUs are all SPDUs whose names do not begin with "SHORT ".

c) Add long-form *in front of* SPDU *throughout the rest of 7.2.*

11) Subclauses 7.2.1 through 7.2.5

Add long-form *in front of* SPDU *wherever it occurs in 7.2.1 through 7.2.5.*

12) Subclause 7.3

Change title of 7.3 to:

7.3 SPDU identifiers and associated parameter fields (long form SPDU)

13) New subclauses 7.4 and 7.5

Add the following two new subclauses after 7.3:

7.4 SPDU structure (short-form SPDUs)

This subclause specifies the general structure of short-form SPDUs in terms of their constituent fields. Short-form SPDUs are all SPDUs whose names begin with "SHORT". The general structure for such SPDUs is illustrated in Table 4.

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Codings and structural requirements specific to particular short-form SPDUs are specified in 7.5.

Examples of valid short-form SPDU structure are illustrated in Table 4.

Table 4 – Short-form SPDU structure

Short-form SPDUs	SI&P field	Parameter field	User-information field
SI&P octet	iiiii000		

7.4.1 Short-form SPDUs

Short-form SPDUs shall contain, in the following order:

a) an SI&P field of one octet;

b) the User-information field, if defined for the SPDU and if present.

The SI&P octet contains the following field:

c) The SI field in bits 4-8, shown as "i" in Table 4. This identifies the type of short-form SPDU; the high-order bit (bit 8 of the SI&P octet) is 1 for all short-form SPDUs.

The overall length of a short-form SPDU is determined by the TSDU length.

7.4.2 User-information fields

Following the SI&P octet and any fixed length parameters, the User-information field of the short-form SPDU shall contain the SSDU. The order of the octets and the order of the bits in the SSDU shall be maintained in the SPDU.

7.5 Short-form SPDU identifiers and associated parameter fields

All short-form SPDUs have SI fields of 5 bits, in which the high-order bit (bit 8 of the SI&P field) is 1.

The short-form SPDUs specified in the remainder of this subclause have SI fields of five bits. These are represented in this subclause as bit strings, using the notation:

"VWXYZ"b

where each of "V", "W", "X", "Y", "Z" is either a "0" or "1". In the SI&P octet of the short-form SPDU:

- The value shown in position V represents bit 8 of the SI&P octet;
- The value shown in position W represents bit 7 of the SI&P octet;
- The value shown in position X represents bit 6 of the SI&P octet;
- The value shown in position Y represents bit 5 of the SI&P octet;
- The value shown in position Z represents bit 4 of the SI&P octet.

NOTE – Bit 8 (V) is 1 for all short-form SPDUs (and bit 8 is always zero in the SI octet of a long-form SPDUs). For most, but not all, short-form SPDUs, WXYZ is the same as the low-order four bits of the SI of the corresponding long-form SPDU.

7.5.1 SHORT-UNIT-DATA (SUD) SPDU

7.5.1.1 The SI field of the SI&P octet shall contain "11000"b.

7.5.1.2 Bit 3 of the SI&P octet shall contain the parameter indication, as specified in 7.4.2.

7.5.1.3 Bits 1 and 2 of the SI&P octet shall be zero.

7.5.1.4 Octet 2 and any following octets shall contain the User-information field.

NOTE – The SUD always has a length greater than one.

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14) Annex A

Make the following changes to Annex A:

a) *Delete the statement* There are no predicates.

b) *Add the following row in Table A.1, Incoming events for the SUD incoming event, and change, as shown by the underlined text, the description of the UD incoming event:*

UD SUD	Long-form SPDU short-form SPDU	Long-form Session Unit Data SPDU Short-form Session Unit Data SPDU

c) *Add the following row in Table A.2, Outgoing events for the SUD outgoing event, and change, as shown by the underlined text, the description of the UD outgoing event:*

UD SUD	Long-form SPDU short-form SPDU	Long-form Session Unit Data SPDU ; sent as TS-user-data on a T-UNIT-DATA request primitive Short-form Session Unit Data SPDU ; sent as TS-user-data on a T-UNIT-DATA request primitive

d) *Add the following entry to Table A.3, Unit Data Transfer State Table for SUD event, and change, as shown by the underlined text, the description of S-UNIT-DATAreq.*

State / Event	Idle
S-UNIT-DATAreq	p1 SUD Idle ¬p1 UD Idle
SUD	S-UNIT-DATAind Idle
p1: local choice and SHORT-UNIT-DATA SPDU can be sent in User-data of T-UNIT-DATA request	

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INTERNATIONAL STANDARD

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Information technology — Open Systems Interconnection — Connectionless Session protocol: Protocol specification

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

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International Standard ISO/IEC 9548-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Open systems interconnection, data management and open distributed processing*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.235.

ISO/IEC 9548 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — Connectionless Session protocol:*

— *Part 1: Protocol specification*

— *Part 2: Protocol Implementation Conformance Statement (PICS) proforma*

Annex A forms an integral part of this part of ISO/IEC 9548.

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Introduction

The connectionless session protocol specification is one of a set of Recommendations | International Standards produced to facilitate the interconnection of computer systems. The set of standards covers the services and protocols required to achieve such interconnection.

The connectionless session protocol specification is positioned with respect to other related standards by the layers defined in the Reference Model for Open Systems Interconnection (see ITU-T Rec. X.200 | ISO/IEC 7498-1). In particular, it is a protocol of the Session Layer. It is most closely related to the Session Service Definition (see ITU-T Rec. X.215 | ISO/IEC 8326) and the Transport Service Definition (see ITU-T Rec. X.214 | ISO/IEC 8072). The interrelationship of these standards is depicted in Figure.

The structure of this Recommendation | International Standard is similar to the structure of the connection mode Session Protocol Specification (see ITU-T Rec. X.225 | ISO/IEC 8327-1) in order to facilitate cross reference between the two standards.

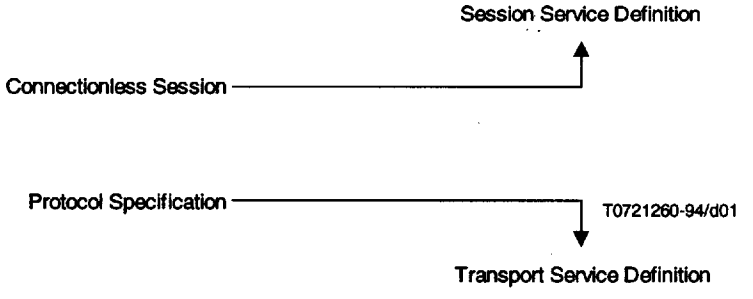


Figure Intro.1 – Relationship between the connectionless session protocol and adjacent services

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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – CONNECTIONLESS SESSION PROTOCOL: PROTOCOL SPECIFICATION

SECTION 1 – GENERAL

1 Scope

This Recommendation | International Standard specifies:

a) procedures for the connectionless transmission of data and protocol control information from one session entity to a peer session entity;

b) the encoding of the session protocol data units used for the transmission of data and control information;

c) procedures for the correct interpretation of session protocol control information; and

d) the functional requirements for implementations claiming conformance to this Recommendation | International Standard.

The procedures are defined in terms of:

e) the interactions among peer session entities through the exchange of session protocol data units;

f) the interactions between a session entity and a session service user through the exchange of session service primitives; and

g) the interactions between a session entity and a transport provider through the exchange of transport service primitives.

This Recommendation | International Standard specifies a connectionless session protocol. A connection-oriented session protocol is specified in ITU-T Rec. X.225 | ISO/IEC 8327-1.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of ISO and IEC maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation X.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model.*
- ITU-T Recommendation X.214 (1993) | ISO/IEC 8072:1994, *Information technology – Open Systems Interconnection – Transport service definition.*

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- ITU-T Recommendation X.215 (1994) | ISO/IEC 8326:...[1], *Information technology – Open Systems Interconnection – Session service definition.*
- ITU-T Recommendation X.225 (1994) | ISO/IEC 8327-1:...[1], *Information technology – Open Systems Interconnection – Connection-oriented Session Protocol: Protocol specification.*

3 Definitions

3.1 Reference model definitions

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.200 | ISO/IEC 7498-1:

a) Transport Layer;

b) Session Layer;

c) session service access point;

d) session service access point address;

e) session entity;

f) protocol;

g) service.

3.2 Additional definitions

For the purposes of this Recommendation | International Standard, the following definitions apply:

3.2.1 calling session address: Identifies the session service user that acts as the source of data during a particular instance of session connectionless mode transmission.

3.2.2 called session address: Identifies the session service user that acts as the sink of data during a particular instance of session connectionless mode transmission.

4 Abbreviations

4.1 Data Units

For the purposes of this Recommendation | International Standard, the following abbreviations apply:

SPDU	Session Protocol Data Unit
SDU	Service Data Unit
TSDU	Transport Service Data Unit

4.2 Session protocol data units

UD SPDU	Unit Data SPDU

4.3 SPDU fields

SI	SPDU Identifier
LI	Length Indicator
PI	Parameter Indicator
PV	Parameter Value

[1] To be published.

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4.4 Parameters

- calling session selector;
- called session selector.

4.5 Miscellaneous

SPM	Session Protocol Machine
SS	Session Service
SS-user	Session Service User
SSAP	Session Service Access Point
TSAP	Transport Service Access Point

5 Overview of the connectionless session protocol

5.1 Service provided by the session layer

The service provided by the protocol described in this Recommendation | International Standard is a connectionless session service. The connectionless session service is described in ITU-T Rec. X.215 | ISO/IEC 8326. The session service primitives provided are summarized in Table 1.

Table 1 – Connectionless session service primitives

Primitive	Parameters
S-UNIT-DATA request	Calling session address Called session address Quality of Service SS-User-Data
S-UNIT-DATA indication	Calling session address Called session address SS-User-Data

5.2 Service assumed from the transport layer

The session protocol described in this Recommendation | International Standard can operate only over the connectionless transport service defined in ITU-T Rec. X.214 | ISO/IEC 8072. When operating over that service, the service primitives summarized in Table 2 are used.

Table 2 – Connectionless transport service primitives

Primitive	Parameters
T-UNIT-DATA request	Source address Destination address Quality of Service TS-User-Data
T-UNIT-DATA indication	Source address Destination address TS-User-Data
NOTE – Only those parameters pertinent to this session protocol are included in the above tables.	

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5.3 Functions of the session layer

The functions of the session layer are:

a) to map session addresses onto transport addresses;

b) to select transport Quality of Service parameters needed;

c) to transfer session selectors; and

d) to transfer an SSDU.

5.4 Model of the session layer

A session protocol entity is comprised of one or more session protocol machines (SPMs). A SPM may be connection oriented or connectionless. The connectionless session protocol machine communicates with the SS-user through one or more SSAPs by means of the connectionless session service primitives (defined in ITU-T Rec. X.215 | ISO/IEC 8326). These session service primitives cause or result from the exchange of SPDUs between peer session entities engaged in connectionless mode transmission. These protocol exchanges are effected by making use of the services of the transport layer, as defined in the transport service definition.

The model of session connectionless mode transmission is presented in 6.2 of the session service definition covering connectionless mode transmission. The model of the session layer is illustrated in Figure 1.

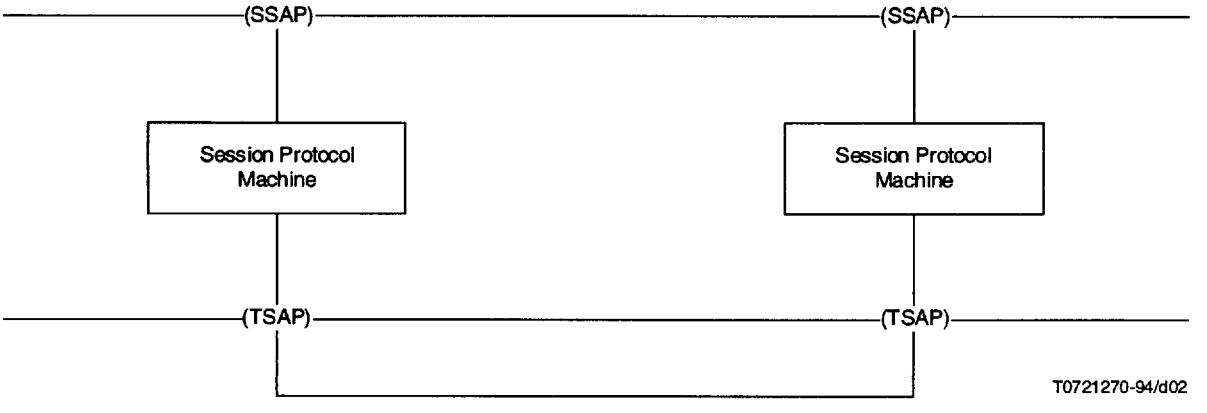


Figure 1 – Model of the connectionless session layer

SECTION 2 – CONNECTIONLESS SESSION PROTOCOL SPECIFICATION

6 Protocol mechanisms

The protocol mechanisms described below are those used for the connectionless session protocol.

6.1 Session protocol data unit (SPDU) transfer

6.1.1 Purpose

To convey session protocol data units in user data fields of transport service primitives.

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6.1.2 Transport service primitives

The procedure uses the following transport service primitives:

T-UNIT-DATA request
T-UNIT-DATA indication

6.1.3 SPDUs used

The SPDUs defined for the connectionless protocol are listed below:

SPDU Name	Abbreviation
UNITDATA	UD

6.2 Connectionless mode transfer

6.2.1 Purpose

To transfer one SSDU from one SS-user to another SS-user without session connection establishment or release.

6.2.2 Transport service primitives

T-UNIT-DATA request
T-UNIT-DATA indication

6.2.3 SPDUs and fields used

UD SPDU
- version number
- calling session selector
- called session selector
- user data

6.2.4 Sending a UD SPDU

The called and calling session address parameters of the S-UNIT-DATA request service primitive are used to determine the source address, calling session selector, destination address, and called session selector.

If the length of the SPDU exceeds the maximum TSDU size supported by the transport service, then the S-UNIT-DATA request is discarded and a local report may be made to the SS-user indicating the inability of the session layer to provide the service requested.

A UD SPDU is constructed with a calling session selector, a called session selector, and user data supplied by the SS-user in the S-UNITDATA request. It also contains a protocol version number provided by the SPM.

A T-UNIT-DATA request service primitive is issued with the source and destination addresses determined above, the Quality of Service requested and a TS-user-data parameter containing the UD SPDU.

6.2.5 Receiving a UD SPDU

The UD SPDU arrives in the TS-user-data field of a T-UNIT-DATA indication.

A valid incoming UD SPDU results in an S-UNIT-DATA indication, provided that the version number parameter in the incoming UD SPDU indicates at least one protocol version which is supported by the receiving SPM. Parameters corresponding to the highest common protocol version are supplied in the S-UNIT-DATA indication.

The source address from the T-UNIT-DATA indication and the calling session selector from the UD SPDU will be used to determine the calling session address parameter for the S-UNIT-DATA indication. The destination address from the T-UNIT-DATA indication and the called session selector from the UD SPDU will be used to determine the called session address parameter for the S-UNIT-DATA indication.

The user information field of the UD SPDU will be mapped to the user data parameter of the S-UNIT-DATA indication.

If the data cannot be immediately delivered to a SS-user due to non-existent recipient, recipient not ready to receive, or too large data field size, that unit data is discarded without any notification.

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7 Encoding of the unit data (UD) SPDU

7.1 TSDU structure

Each UD SPDU is contained within a single TSDU and consists of octets that are numbered sequentially starting from 1.

Each octet within an SPDU consists of eight bits numbered 8 to 1 where 1 is the low ordered bit.

The sequence of octets within an SPDU and the sequence of data within an octet are defined for each SPDU in 7.3, with the additional convention that where the text refers to bits within a two octet field and the bits are numbered 16 to 1, then 1 is the low order bit and the octet containing bits 16 to 9 precedes the octet containing bits 8 to 1 in the SPDU.

Within each TSDU:

a) the ordering of the octets is maintained to the same order as in the SPDU;

b) the ordering of bits within each TSDU is maintained in the same order as in the SPDU (i.e. the low order bit is mapped onto the low order bit and the high order bit is mapped onto the high order bit).

NOTES

1 The TSDU structure is illustrated in Figure 2. The integrity of this structure is maintained over a transport service. This Recommendation | International Standard does not define the way in which the TSDU is transmitted.

2 When the structure of an SPDU is illustrated in this Recommendation | International Standard, the following convention is used:

a) octets are shown with the lowest numbered octet to the left, higher numbered octets being shown further to the right;

b) within an octet, bits are shown with bit 8 to the left and bit 1 to the right.

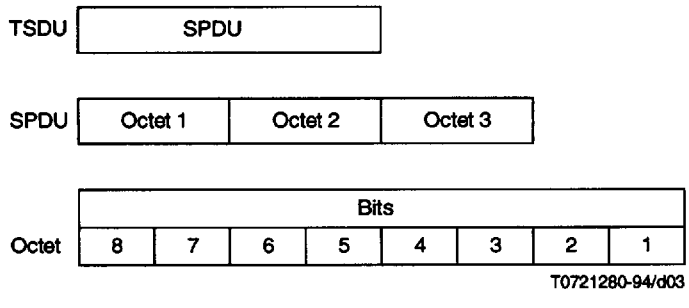


Figure 2 – Illustration of definition of TSDU structure

7.2 SPDU structure

This subclause specifies the general structure of SPDUs in terms of their constituent fields. This structure is illustrated in Figure 3.

Codings and structural requirements specific to particular SPDUs are specified in 7.3.

Examples of valid SPDU structure are illustrated in Figure 4.

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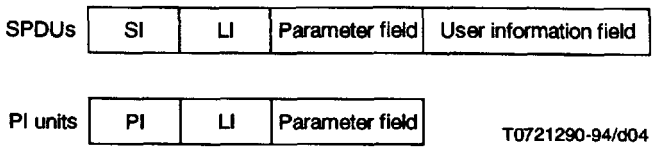


Figure 3 – Illustration of structure of SPDUs and PI units

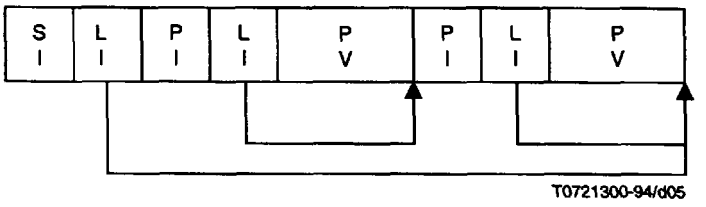


Figure 4 – Examples of SPDU structure

7.2.1 SPDUs

SPDUs shall contain, in the following order:

a) the SI field that identifies the type of SPDU;

b) the LI field that indicates the length of the associated parameter field defined in c);

c) the parameter field which, if present, consists of the PI units (see 7.2.2) defined for the SPDU;

d) the user information field, if defined for the SPDU and if present.

7.2.2 PI units

PI Units shall contain, in the following order:

a) the PI field that identifies the parameter;

b) the LI field that indicates the length of the associated parameter field defined in 7.2.3;

c) the parameter field which, if present, consists of the parameter value.

7.2.3 Length indicator field

The value of the LI field is expressed as a binary number representing the length, in octets, of the associated field (see Note). A value of zero indicates that the associated parameter field is absent.

LI fields indicating lengths within the range 0-254 shall comprise one octet.

LI fields indicating lengths within the range 255-65 555 shall comprise three octets. The first octet shall be coded 1111 1111 and the second and third octets shall contain the length of the associated parameter field with the high order bits in the first of these two octets.

NOTE – The LI field does not include either itself or any subsequent user information.

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7.2.4 Parameter fields

PI units defined as mandatory in Table 3 shall contain a parameter field of one or more octets.

Any PI units defined as non-mandatory in Table 3 may be omitted if it is not required for conveying information (i.e. a parameter value). If a PI unit contains on LI field with the value zero, the associated parameter field is absent (see Note) and the value of the parameter field shall be considered as its default value.

NOTE – It is recommended that if a non-mandatory parameter is absent, the associated PI and LI fields should not be included in the SPDU.

PI units within the same nesting level shall be ordered in increasing value of their PI codes.

PI units containing a PI code that is not specified in 7.3 shall be ignored.

PI codes are expressed as decimal numbers in Table 3 and shall be encoded as binary numbers.

7.2.5 User information fields

An SSDU shall be contained in the User Information Field of a single SPDU. The order of the octets and the order of the bits in the SSDU shall be maintained in the SPDU.

7.3 SPDU identifiers and associated parameter fields

7.3.1 Unit data (UD) SPDU

7.3.1.1 The SI field shall contain the value 64.

7.3.1.2 The parameter fields shall be as specified in Table 3.

7.3.1.3 In the Version Number PV field, bit 1 shall have the value 1, indicating that this version of the Recommendation | International Standard is implemented. All other bits are reserved. If this PI unit or PV field is absent, the default shall be protocol version 1.

7.3.1.4 The Calling Session Selector, if present, shall be derived from the Calling Session Address supplied by the calling SS-user.

7.3.1.5 The Called Session Selector, if present, shall be derived from the Called Session Address supplied by the calling SS-user.

7.3.1.6 The User Information Field shall contain user data supplied by the SS-user. The length of this field is restricted to the maximum TSDU size (specified in ITU-T Rec. X.214 | ISO/IEC 8072) minus the size of the UD header.

Table 3 – Parameters of the UNIT DATA SPDU

PI	m/nm	Code	Length	Reference and PV
Version Number	nm	22	1 octet	7.3.1.3
Calling session selector	nm	51	16 octets maximum	7.3.1.4
Called session selector	nm	52	16 octets maximum	7.3.1.5
User Information Field			7.3.1.6	7.3.1.6

m Mandatory (7.2.4)
nm Not mandatory (7.2.4)

8 Conformance

The implementations claiming conformance shall meet the elements of procedure described in clause 6.

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Annex A

State table

(This annex forms an integral part of this Recommendation | International Standard)

This annex describes the connectionless session protocol in terms of a state table.

Table A.1 specifies the incoming event list.

Table A.2 specifies the outgoing event list.

Table A.3 specifies the state table.

There are no predicates.

There are no actions.

Table A.1 – Incoming Event List

Abbreviated name	Category	Name and description
S-UNIT-DATAreq UD	SS-user SPDU	S-UNIT-DATA request primitive Session Unit Data SPDU

Table A.2 – Outgoing Event List

Abbreviated name	Category	Name and description
S-UNIT-DATAind UD	SS-provider SPDU	S-UNIT-DATA indication primitive Session Unit Data; sent as TS-user-data on a T-UNIT-DATA request primitive

Table A.3 – Unit Data Transfer State Table

State Event	Idle
S-UNIT-DATAreq	UD Idle
UD	S-UNIT-DATAind Idle

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