INTERNATIONAL STANDARD

ISO/IEC 8473-4

Second edition
1994-mm-dd

Information technology — Protocol for providing the connectionless–mode network service

Part 4 — Provision of the underlying service by a subnetwork that provides the OSI data link service

Reference number
ISO/IEC 8473-4 : 1994 (E)

Contents

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 JTC1. 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.

International Standard ISO/IEC 8473-4 was prepared by the Joint Technical Committee ISO/IEC JTC1, *Information technology*. The identical text is published as ITU-T Recommendation X.623.

ISO/IEC 8473 consists of the following parts, under the general title *Information technology — Protocol for providing the connectionless–mode network service:*

— Part 1: Protocol specification

— Parts 2–*n*: Provision of the underlying service by specific types of subnetwork

Introduction

This is one of a set of Recommendations and International Standards produced to facilitate the interconnection of open systems. The set covers the services and protocols required to achieve such interconnection.

This Recommendation | International Standard is positioned with respect to other related Recommendations and International Standards by the layers defined in ITU-T Rec. X.200 | ISO/IEC 7498-1. In particular, it defines the way in which an X.25 subnetwork may be used within the Network layer to provide the abstract underlying service with respect to which the protocol defined by ITU-T Rec. X.233 | ISO/IEC 8473-1 is specified.

In order to evaluate the conformance of a particular implementation of this protocol, it is necessary to have a statement of which of the protocol's capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS), as defined in CCITT Rec. X.290 | ISO/IEC 9646-1. A PICS proforma, from which a PICS may be prepared for a specific implementation, is included in this Recommendation | International Standard as normative Annex A.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY — PROTOCOL FOR PROVIDING THE CONNECTIONLESS–MODE NETWORK SERVICE: PROVISION OF THE UNDERLYING SERVICE BY A SUBNETWORK THAT PROVIDES THE OSI DATA LINK SERVICE

1 Scope

This Recommendation | International Standard specifies the way in which the underlying service assumed by the protocol defined by ITU-T Rec. X.233 | ISO/IEC 8473-1 is provided by a subnetwork that provides the OSI Data Link service defined by CCITT Rec. X.212 | ISO/IEC 8886, through the operation of a Subnetwork Dependent Convergence Function (SNDCF) as described in ISO/IEC 8648.

This Recommendation | International Standard also provides the PICS proforma for this protocol, in compliance with the relevant requirements, and in accordance with the relevant guidance, given in CCITT Rec. X.290 | ISO/IEC 9646-1.

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 editions of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of the 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 — Reference Model: Basic Reference Model.*

— CCITT Recommendation X.213 (1992) | ISO/IEC 8348 : 1992, *Information technology — Network service definition for Open Systems Interconnection.*

2.2 Paired Recommendations | International Standards identical in technical content

— CCITT Recommendation X.290 (1992), *OSI conformance testing methodology and framework for protocol Recommendations for CCITT applications — General concepts.*

ISO/IEC 9646-1 : 1991, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts.*

— CCITT Recommendation X.212 (1988), *Data link service definition for Open Systems Interconnection for CCITT applications*.

ISO/IEC 8886 : 1992, *Information technology — Telecommunications and information exchange between systems — Data link service definition for Open Systems Interconnection*.

2.3 Additional references

— ISO/IEC 8648 : 1988, *Information processing systems — Open Systems Interconnection — Internal organization of the network layer*.

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) network entity

b) Network layer

c) Data link layer

d) service

e) service data unit

f) data link service

g) protocol control information

3.2 Network layer architecture definitions

This Recommendation | International Standard makes use of the following terms defined in ISO/IEC 8648:

a) subnetwork

b) subnetwork dependent convergence protocol

c) subnetwork dependent convergence function

d) subnetwork access protocol

3.3 Network layer addressing definitions

This Recommendation | International Standard makes use of the following term defined in CCITT Rec. X.213 | ISO/IEC 8348:

a) subnetwork point of attachment

3.4 Data link service definitions

This Recommendation | International Standard makes use of the following terms defined in CCITT X.212 | ISO/IEC 8886:

a) data link service access point address

b) data link connection

4 Abbreviations

CLNP connectionless-mode network protocol

DL data link layer

DLSDU	data link layer service data unit
PDU	protocol data unit
QoS	quality of service
SDU	service data unit
SN	subnetwork
SNDCF	subnetwork dependent convergence function
SNDCP	subnetwork dependent convergence protocol
SNICP	subnetwork independent convergence protocol
SNAcP	subnetwork access protocol
SNPA	subnetwork point of attachment
SNCR	subnetwork connection reference
SNSDU	subnetwork service data unit

5 Subnetwork dependent convergence function

5.1 General model

The general model for providing the underlying service assumed by the protocol in conjunction with a real subnetwork that uses a connectionless subnetwork access protocol is as follows. The generation of an SN-UNITDATA Request by the CLNP results in the generation of a corresponding subnetwork-specific UNITDATA request by the subnetwork dependent convergence function. The receipt of a subnetwork-specific UNITDATA indication associated with delivery of a connectionless data unit to its destination causes the SNDCF to generate an SN-UNITDATA Indication to the CLNP.

The general model for providing the underlying service assumed by the CLNP in conjunction with a real subnetwork that uses a connection-mode subnetwork access protocol is as follows. The generation of an SN-UNITDATA Request by the CLNP causes a connection (logical channel, logical link, or the equivalent) to be made available for the transmission of SN-User-data. If a connection cannot be made available, the SN-UNITDATA Request is discarded. The receipt of subnetwork-specific PDUs containing SN-User-data causes the SNDCF to generate an SN-UNITDATA Indication to the CLNP.

Where a real subnetwork is designed to use either a connectionless-mode or a connection-mode subnetwork access protocol, the provision of the underlying service assumed by the CLNP is achieved by using the connectionless-mode alternative.

5.2 Subnetwork user data

The SN-Userdata is an ordered multiple of octets, and is transferred transparently between the specified subnetwork points of attachment.

The underlying service assumed by the CLNP is required to support a service data unit size of at least 512 octets.

If the minimum service data unit sizes supported by all of the subnetworks involved in the transmission of a particular PDU are known to be large enough that segmentation is not required, then either the full protocol or the non-segmenting protocol subset may be used.

Data received from a subnetwork with protocol identification specifying this protocol (see ITU-T Rec. X.233 | ISO/IEC 8473-1) shall be processed according to this Recommendation | International Standard.

NOTE — Data with other protocol identification should be ignored, since it may have been sent by an implementation supporting additional protocols intended for use with this protocol.

5.3 Subnetwork dependent convergence functions used with subnetworks that provide the OSI data link service

This clause defines a mapping of the OSI Data Link service to the underlying service assumed by ITU-T Rec. X.233 | ISO/IEC 8473-1. The OSI Data Link service definition defines two types of Data Link service: a connectionless service and a connection-mode service. SNDCFs are defined for subnetworks that provide either of these two modes of service.

5.3.1 SNDCF used with the connectionless Data Link service

The primitives defined for provision of the underlying service assumed by the CLNP map directly onto the UNITDATA Request and Indication primitives defined for the connectionless Data Link service. Subnetwork dependent convergence functions perform a mapping of the connectionless Data Link service onto the underlying service assumed by the CLNP. The mapping is as follows. The generation of an SN-UNITDATA request by the CLNP results in the generation of a DL-UNITDATA request (as described in CCITT Rec. X.212 | ISO/IEC 8886) by the subnetwork dependent convergence function. A corresponding DL-UNITDATA indication prompts the SNDCF to generate an SN-UNITDATA indication to the CLNP. No explicit subnetwork dependent convergence protocol control information is exchanged between Network entities to provide this mapping of service.

The parameters of the SN-UNITDATA primitives are mapped onto the DL-UNITDATA primitives as follows. The SN-Destination-Address and SN-Source-Address parameters are conveyed in the DL-Destination-Address and DL-Source-Address parameters, respectively. The addresses used in the SN-UNITDATA request and indication primitives are the Data Link service access point addresses described in CCITT Rec. X.212 | ISO/IEC 8886.

The SN-Quality-of-Service parameter is conveyed. The available QoS is known prior to the issuance of the DL-UNITDATA request. There is no discrimination among DLSDUs.

The SN-Userdata parameter is conveyed in the DL-Userdata parameter. The subnetwork must be able to support the service data unit requirements defined in 5.2.

5.3.2 SNDCF used with the connection-mode Data Link service

The primitives defined for provision of the underlying service assumed by the CLNP are mapped onto the primitives defined for the connection-mode Data Link service. Subnetwork dependent convergence functions perform a mapping of the connection-mode Data Link service onto the underlying service assumed by the CLNP. The mapping is as follows.

On receiving an SN-UNITDATA request from the CLNP machine, the SNDCF determines if a Data Link connection already exists between this source and destination address pair to convey the user data. If so, it issues a DL-DATA request containing the SN-Userdata as the DL-Userdata.

If a Data Link connection does not already exist, a DL-CONNECT request is issued by the local/calling SNDCF with the source and destination Data Link service access point addresses specified in the SN-UNITDATA request and waits for a DL-CONNECT confirm. The SN-Quality-of-Service parameter is conveyed. The available QoS is known prior to the issuance of the DL-CONNECT request. There is no requirement to use expedited data.

When the remote/called SNDCF receives a DL-CONNECT indication from the Data Link layer, it issues a DL-CONNECT response. Once the corresponding DL-CONNECT confirm is received by the local/calling SNDCF, it may issue a DL-DATA request(s) conveying user data. When the remote/called SNDCF receives a DL-DATA indication from the Data Link layer, it issues an SN-DATA indication which conveys the corresponding destination and source addresses as well as the SN-Userdata. The SN-Userdata parameter is conveyed in the DL-Userdata parameter. The subnetwork must be able to support the service data unit requirements defined in 5.2.

The mechanism and timing for opening a Data Link connection prior to the transmission of SN-Userdata are a local matter. The opening of a Data Link connection may be initiated by:

a) the arrival of an SNSDU to be transmitted over a subnetwork at a time when no suitable Data Link connection is available;

b) the local queue of requests waiting for an existing Data Link connection reaching a threshold size at which an additional Data Link connection shall be made available (if possible) to maintain the requested QoS; or

c) the explicit intervention of system management.

Collision detection and correction are resolved within the Data Link layer.

When it has been determined that a Data Link connection shall be cleared, the local/calling SNDCF issues a DL-DISCONNECT request primitive, specifying itself (the local data link service user) as the originator of the release, and a reason code as defined in CCITT Rec. X.212 | ISO/IEC 8886. Once the request primitive has been issued, the local SNDCF considers the Data Link connection released, and resumes idle state processing. When the remote SNDCF receives the corresponding DL-DISCONNECT indication, the Data Link connection release phase is complete and the remote SNDCF resumes idle state processing as well.

Data Link connection release may also be initiated by the Data Link service provider or by the called Data Link service user to refuse a connection. The action taken by the local SNDCF in these circumstances is the same as described above. The mechanism and timing for releasing a Data Link connection following the transmission of SN-Userdata by the SNDCF are also local matters. Examples of circumstances which would cause the SNDCF to clear a Data Link connection are:

a) the expiration of a timeout period following the transmission of one or more PDUs;

b) the need to use a specific interface to open an alternate Data Link connection from the local network entity to a different remote network entity;

c) the explicit intervention of system management; or

d) a provider-initiated clear of a Data Link connection.

NOTE — It is not a requirement that Data Link connections be dynamically opened or closed for the correct operation of the SNDCF herein described. The use of permanent Data Link connections or the maintenance of Data Link connections in a open state from system initialization is not precluded.

Timeout periods may be used to determine when a Data Link connection should be cleared (for example, when a Data Link connection has been idle for a long period of time) or when additional Data Link connections should be opened (for example, when there is an excessively long queue of data units waiting for the initial connection).

Implementations may choose to clear a Data Link connection after it has been idle for some period of time. If a timer is selected for this purpose, it is used in the following manner. When a Data Link connection is made available for the transmission of SNSDUs, a timer is initiated with a value representing the maximum period of time this Data Link connection may remain idle. Each time a data unit is transmitted by the underlying service, the timer is reset to this initial value. If no data units are queued for processing and this timer expires, the Data Link connection is cleared.

The selection of timeout values is a local matter.

NOTES

1) Additional Data Link connections may be opened when there is an excessively long queue of data units waiting for the initial connection The timeout periods for determining when such additional Data Link connections are to be cleared may be shorter than the timeout period for the initial Data Link connection. (The timeout period may also be a fixed period of time.) Implementations may choose to close all additional Data Link connections if the queue of data units to be transmitted reaches some threshold (possibly zero).

2) Timeout periods are selected on the basis of economic and implementation-specific criteria. If there is no duration charge imposed by a given subnetwork authority for leaving a Data Link connection open, and if there is a charge for opening Data Link connections, then the timeout period may be selected so that the Data Link connection remains open for a long period of time. Timeout periods may also vary according to the time of day, traffic load (averaged over the recent past), or other factors.

Annex A[1]

PICS proforma

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

A.1 Introduction

The supplier of a protocol implementation which is claimed to conform to this Recommendation | International Standard shall complete the following Protocol Implementation Conformance Statement (PICS) proforma.

A completed PICS proforma is the PICS for the implementation in question. The PICS is a statement of which capabilities and options of the protocol have been implemented. The PICS can have a number of uses, including use

— by the protocol implementor, as a check-list to reduce the risk of failure to conform to the standard through oversight;

— by the supplier and acquirer — or potential acquirer — of the implementation, as a detailed indication of the capabilities of the implementation, stated relative to the common basis for understanding provided by the standard PICS proforma;

— by the user — or potential user — of the implementation, as a basis for initially checking the possibility of interworking with another implementation (note that, while interworking can never be guaranteed, failure to interwork can often be predicted from incompatible PICSs);

— by a protocol tester, as the basis for selecting appropriate tests against which to assess the claim for conformance of the implementation.

A.2 Abbreviations and special symbols

A.2.1 Status symbols

M	mandatory
O	optional
O.<n>	optional, but support of at least one of the group of options labelled by the same numeral <n> is required
X	prohibited
<pred>:	conditional-item symbol, including predicate identification (see A.3.4)
^	logical negation, applied to a conditional item's predicate

A.2.2 Other symbols

<r>	receive aspects of an item
<s>	send aspects of an item

[1] Copyright release for PICS proformas

Users of this Recommendation | International Standard may freely reproduce the PICS proforma in this Annex so that it can be used for its intended purpose and may further publish the completed PICS.

A.3 Instructions for completing the PICS proforma

A.3.1 General structure of the PICS proforma

The first part of the PICS proforma — Implementation Identification and Protocol Summary — is to be completed as indicated with the information necessary to identify fully both the supplier and the implementation.

The main part of the PICS proforma is a fixed-format questionnaire divided into a number of major subclauses; these can be divided into further subclauses each containing a group of individual items. Answers to the questionnaire items are to be provided in the rightmost column, either by simply marking an answer to indicate a restricted choice (usually Yes or No), or by entering a value or a set or range of values.

NOTE — There are some items for which two or more choices from a set of possible answers can apply. All relevant choices are to be marked in these cases.

Each item is identified by an item reference in the first column; the second column contains the question to be answered; and the third column contains the reference or references to the material that specifies the item in the main body of this Recommendation | International Standard. The remaining columns record the status of the item — whether support is mandatory, optional, prohibited, or conditional — and provide space for the answers (see also A.3.4).

A supplier may also provide further information, categorized as either Additional Information or Exception Information. When present, each kind of further information is to be provided in a further subclause of items labelled A<i> or X<i>, respectively, for cross-referencing purposes, where <i> is any unambiguous identification for the item (e.g., a number); there are no other restrictions on its format or presentation.

A completed PICS proforma, including any Additional Information and Exception Information, is the Protocol Implementation Conformance Statement for the implementation in question.

NOTE — Where an implementation is capable of being configured in more than one way, a single PICS may be able to describe all such configurations. However, the supplier has the choice of providing more than one PICS, each covering some subset of the implementation's configuration capabilities, in cases where this makes for easier and clearer presentation of the information.

A.3.2 Additional information

Items of Additional Information allow a supplier to provide further information intended to assist in the interpretation of the PICS. It is not intended or expected that a large quantity will be supplied, and a PICS can be considered complete without any such information. Examples might be an outline of the ways in which a (single) implementation can be set up to operate in a variety of environments and configurations, or a brief rationale — based perhaps upon specific application needs — for the exclusion of features which, although optional, are nonetheless commonly present in implementations of this protocol.

References to items of Additional Information may be entered next to any answer in the questionnaire, and may be included in items of Exception Information.

A.3.3 Exception information

It may occasionally happen that a supplier will wish to answer an item with mandatory or prohibited status (after any conditions have been applied) in a way that conflicts with the indicated requirement. No pre-printed answer will be found in the support column for this; instead, the supplier shall write the missing answer into the Support column, together with an X<i> reference to an item of Exception Information, and shall provide the appropriate rationale in the Exception Information item itself.

An implementation for which an Exception Information item is required in this way does not conform to this Recommendation | International Standard.

NOTE — A possible reason for the situation described above is that a defect in the standard has been reported, a correction for which is expected to change the requirement not met by the implementation.

A.3.4 Conditional status

A.3.4.1 Conditional items

The PICS proforma contains a number of conditional items. These are items for which the status — mandatory, optional, or prohibited — that applies is dependent upon whether or not certain other items are supported, or upon the values supported for other items.

In many cases, whether or not the item applies at all is conditional in this way, as well as the status when the item does apply.

Where a group of items is subject to the same condition for applicability, a separate preliminary question about the condition appears at the head of the group, with an instruction to skip to a later point in the questionnaire if the “Not Applicable” answer is selected. Otherwise, individual conditional items are indicated by one or more conditional symbols (on separate lines) in the status column.

A conditional symbol is of the form “<pred>:<x>” where “<pred>” is a predicate as described in A.3.4.2, and “<x>” is one of the status symbols M, O, O.<n>, or X.

If the value of the predicate in any line of a conditional item is true (see A.3.4.2), then the conditional item is applicable, and its status is that indicated by the status symbol following the predicate; the answer column is to be marked in the usual way. If the value of a predicate is false, the Not Applicable (N/A) answer is to be marked in the relevant line. Each line in a multi-line conditional item should be marked: at most one line will require an answer other than N/A.

A.3.4.2 Predicates

A predicate is one of the following:

a) an item-reference for an item in the PICS proforma: the value of the predicate is true if the item is marked as supported, and is false otherwise;

b) a predicate name, for a predicate defined elsewhere in the PICS proforma (usually in the Major Capabilities section or at the end of the section containing the conditional item): see below; or

c) the logical negation symbol “^” prefixed to an item-reference or predicate name: the value of the predicate is true if the value of the predicate formed by omitting the “^” is false, and vice versa.

The definition for a predicate name is one of the following

a) an item-reference, evaluated as at (a) above;

b) a relation containing a comparison operator (=, < , etc.) with at least one of its operands being an item-reference for an item taking numerical values as its answer; the predicate is true if the relation holds when each item-reference is replaced by the value entered in the Support column as an answer to the item referred to; or

c) a boolean expression constructed by combining simple predicates, as in (a) and (b), using the boolean operators AND, OR, and NOT, and parentheses, in the usual way; the value of such a predicate is true if the boolean expression evaluates to true when the simple predicates are interpreted as described above.

Each item whose reference is used in a predicate or predicate definition is indicated by an asterisk in the Item column.

A.4 Identification

A.4.1 Implementation identification

Supplier	
Contact point for queries about the PICS	
Implementation name(s) and version(s)	
Other information necessary for full identification (e.g., name(s) and version(s) of machines and/or operating systems, system name(s))	

NOTES

1 Only the first three items are required for all implementations; other information may be completed as appropriate in meeting the requirement for full identification.

2 The terms Name and Version should be interpreted appropriately to correspond with a supplier's terminology (e.g., Type, Series, Model).

A.4.2 Protocol summary

Identification of protocol specification	ITU-T Recommendation X.623 (1994) | ISO/IEC 8473-4 : 1994
Identification of corrigenda and amendments to the PICS proforma	
Protocol version(s) supported	
Have any Exception Information items been required (see A.3.3)? YES [ ] NO [ ] (The answer YES means that the implementation does not conform to this Recommendation | International Standard)	

Date of statement	

A.5 Major capabilities

Item	Capability	Reference	Status	Support
SCLL	Connectionless Data Link service	5.3.1	O.1	YES [ ] NO [ ]
SCOL	Connection-mode Data Link service	5.3.2	O.1	YES [ ] NO [ ]

A.6 Subnetwork dependent convergence functions for use with subnetworks that provide the OSI connectionless Data Link service

A.6.1 Applicability

Clause A.6 is applicable only to implementations in which A.5/SCLL is supported.

A.6.2 Connectionless Data Link service SNDCF functions

Item	Function	Reference	Status	Support
SCLLSNUD	Is Subnetwork User Data of at least 512 octets transfered transparently by the SNDCF?	5.2	M	Yes[]
SCLLSNTD	Is Transit Delay determined by the			

	SNDCF prior to the processing of user data?	5.3.1	M	Yes[]

A.6.3 Connectionless Data Link service SNDCF multilayer dependencies

Item	Dependency	Reference	Requirement	Values Supported
SCLLSSg-r	<r>Maximum SN data unit size (Rx)	8.3	>= 512	
SCLLSSg-t	<s>Maximum SN data unit size (Tx)	8.3	>= 512	

A.7 Subnetwork dependent convergence functions for use with subnetworks that provide the OSI connection-mode Data Link service

A.7.1 Applicability

Clause A.7 is applicable only to implementations in which A.5/SCOL is supported.

A.7.2 Connection-mode Data Link SNDCF functions

Item	Function	Reference	Status	Support
SCOLSNUD	Is Subnetwork User Data of at least 512 octets transfered transparently by the SNDCF?	5.2	M	Yes[]
SCOLSNTD	Is Trasit Delay determined by the SNDCF prior to the processing of user data?	5.3.2	M	Yes[]
	Connection Setup Considerations – Is a new connection setup :	5.3.2		
SCOCona	a) when no suitable connection exists?		O.4	Yes[] No[]
SCOConb	b) when queue threshold reached?		O.4	Yes[] No[]
SCOConc	c) by systems management?		O.4	Yes[] No[]
SCOCond	d) by other local means?		O.4	Yes[] No[]
	Disconnection Considerations – Does disconnection occur::	5.3.2		
*SCODisca	a) when idle timer expires?		O	Yes[] No[]
SCODiscb	b) when need to re-use circuit?		O	Yes[] No[]
SCODiscc	c) by systems management?		O	Yes[] No[]
SCODiscd	d) by provider?		M	Yes[]
SCODisce	e) by other local means?		O	Yes[] No[]

A.7.3 Connection-mode Data Link service SNDCF timers

Item	Timer	Reference	Status	Values	support	Values Supported
LIDL	link release	5.3.2	SCOLDisca:O	Any	Yes[] No[]	
LNC	additional link	5.3.2	O	Any	Yes[] No[]	

A.7.4 Connection-mode Data Link service SNDCF multilayer dependencies

Item	Dependency	Reference	Requirement	Values Supported
SCOLSSg-r	<r>Maximum SN data unit size (Rx)	5.2	>= 512	
SCOLSSg-t	<s>Maximum SN data unit size (Tx)	5.2	>= 512	