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RÉSEAUX DE COMMUNICATIONS DE DONNÉES

ÉLÉMENT DU SERVICE DE TRANSFERT FIABLE – FORMULAIRE DE DÉCLARATION DE CONFORMITÉ D'UNE INSTANCE DE PROTOCOLE



Recommandation X.248

AVANT-PROPOS

Le CCITT (Comité consultatif international télégraphique et téléphonique) est un organe permanent de l'Union internationale des télécommunications (UIT). Il est chargé de l'étude des questions techniques, d'exploitation et de tarification, et émet à ce sujet des Recommandations en vue de la normalisation des télécommunications à l'échelle mondiale.

L'Assemblée plénière du CCITT, qui se réunit tous les quatre ans, détermine les thèmes d'études et approuve les Recommandations rédigées par ses Commissions d'études. Entre les Assemblées plénières, l'approbation des Recommandations par les membres du CCITT s'effectue selon la procédure définie dans la Résolution n° 2 du CCITT (Melbourne, 1988).

La Recommandation X.248, élaborée par la Commission d'études VII, a été approuvée le 10 septembre 1992 selon la procédure définie dans la Résolution n° 2.

NOTES DU CCITT

- 1) Dans cette Recommandation, l'expression «Administration» est utilisée pour désigner de façon abrégée aussi bien une administration de télécommunications qu'une exploitation privée reconnue de télécommunications.
- 2) La liste des abréviations utilisées dans cette Recommandation se trouve dans l'annexe B.

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**ÉLÉMENT DU SERVICE DE TRANSFERT FIABLE – FORMULAIRE DE
DÉCLARATION DE CONFORMITÉ D'UNE INSTANCE DE PROTOCOLE**

(1992)

Introduction

La présente Recommandation spécifie le formulaire de déclaration de conformité d'une instance de protocole pour les services fournis par un élément du service d'application – l'élément du service de transfert fiable (RTSE) (*reliable transfer service element*) – pour assurer le transfert fiable des unités de données du protocole d'application (APDU) (*application protocol data units*) entre systèmes ouverts. Elle fait partie d'une famille de Recommandations qui spécifie les formulaires de déclaration PICS relatifs à des ensembles d'éléments de service d'application couramment utilisés dans un certain nombre d'applications.

Le transfert fiable fournit un mécanisme indépendant de l'application qui permet la reprise après défaillance de la communication ou du système terminal en minimisant le volume de retransmission.

Pour évaluer la conformité d'une instance particulière de protocole, il est nécessaire de disposer d'une déclaration précisant les capacités et les options qui ont été incluses pour un protocole OSI donné. Cette déclaration est appelée déclaration de conformité d'une instance de protocole (PICS) (*protocol implementation conformance statement*).

La présente Recommandation contient le formulaire de déclaration PICS pour le protocole de l'élément RTSE, tel qu'il est défini dans la Recommandation X.228.

1 Domaine d'application

La présente Recommandation décrit le formulaire de déclaration PICS pour le protocole de l'élément RTSE, tel qu'il est spécifié dans la Recommandation X.228. Ce formulaire est conforme aux spécifications applicables et respecte les directives données dans la Norme ISO/CEI 9646-2 concernant le formulaire de déclaration PICS. On trouvera les détails concernant l'utilisation de ce formulaire dans l'annexe A.

2 Normes associées

- Rec. X.218 du CCITT (1988), *Transfert fiable: modèle et définition du service* (voir aussi ISO/CEI 9066-1).
- Rec. X.228 du CCITT (1988), *Transfert fiable: spécification du protocole* (voir aussi ISO/CEI 9066-2).
- Rec. X.419 du CCITT (1992), *Systèmes de messagerie: spécifications de protocoles* (voir aussi ISO/CEI 10021-6).

ISO/CEI 9646-1 (1991), *Technologies de l'information – Interconnexion de systèmes ouverts – Cadre général et méthodologie des tests de conformité OSI – Partie 1: concepts généraux* [voir aussi la Recommandation X.290 du CCITT (1991)].

ISO/CEI 9646-2 (1991), *Technologies de l'information – Interconnexion de systèmes ouverts – Cadre général et méthodologie des tests de conformité OSI – Partie 2: spécification des suites de test abstraites* [voir aussi la Recommandation X.291 du CCITT (1991)].

3 Définitions

La présente Recommandation utilise les termes définis dans les Recommandations X.218 et X.228.

Elle utilise également les termes suivants définis dans la Recommandation X.419:

- a) mts-transfer (transfert-du-mts);
- b) mts-transfer-protocol (protocole-de-transfert-du-mts);
- c) mts-transfer-protocol-1984 (protocole-de-transfert-du-mts-1984);

- d) mts-reliable-access (accès-fiable-mts);
- e) mts-forced-reliable-access (accès-fiable-imposé-mts); et
- f) ms-reliable-access (accès-fiable-ms).

La présente Recommandation utilise les termes suivants définis dans la Norme ISO/CEI 9646-1:

- 1) formulaire de déclaration PICS;
- 2) déclaration de conformité d'une instance de protocole (PICS); et
- 3) instance sous test (IUT) (*implementation under test*).

4 Abréviations

Les abréviations définies dans les Recommandations X.218 et X.228 sont utilisées dans la présente Recommandation.

5 Conventions

Le formulaire de déclaration PICS fait l'objet de l'annexe A.

6 Conformité

Le fournisseur d'une instance de protocole qu'il déclare conforme aux spécifications de la Recommandation X.228 doit remplir un exemplaire du formulaire de déclaration PICS reproduit à l'annexe A et fournir les renseignements nécessaires pour permettre d'identifier le fournisseur et l'instance de protocole.

ANNEXE A

(à la Recommandation X.248

(Cette annexe fait partie intégrante de la présente Recommandation)

Élément du service de transfert fiable Formulaire de déclaration de conformité d'une instance de protocole

A.1 *Identification of the implementation*

A.1.1 *Identification of PICS*

Table A-1/X.248 shall be used to identify the actual PICS and its relation with the System Conformance Statement for the system in which the IUT resides.

TABLE A-1/X.248

Identification of PICS

Ref. No.	Question	Response
1	Date of statement (DD/MM/YY)	
2	PICS No.	
3	System Conformance Statement Cross Reference	

Droits de reproduction du formulaire PICS:

Les utilisateurs du présent document sont autorisés à reproduire le formulaire PICS de la présente annexe pour utiliser celui-ci conformément à son objet. Ils sont également autorisés à publier le formulaire une fois celui-ci complété.

A.1.2 *Identification of the IUT*

Table A-2/X.248 shall be used to identify the implementation and the system in which it resides.

TABLE A-2/X.248

Identification of IUT

Ref. No.	Question	Response
1	Implementation	
2	Version	
3	Machine Name	
4	Machine version	
5	Operating System Name	
6	Operating System Version	
7	Special Configuration	
8	Other information	

A.1.3 *Supplier identification*

Table A-3/X.248 shall be used to identify the supplier of the system and/or the client of the test laboratory that is to test the implementation, and the person to contact if there are any queries concerning the content of the PICS.

TABLE A-3/X.248

Supplier Identification

Ref. No.	Question	Response
1	Organization	
2	Contact Name(s)	
3	Address	
4	Telephone	
5	Telex	
6	Fax	
7	E-mail	
8	Other information	

A.2 Identification of protocol

Table A-4/X.248 shall be used to identify the Recommendation to which the PICS applies.

TABLE A-4/X.248
Identification of Protocol

Ref. No.	Question	Response
1	Reference No. and title	Rec. X.228 – Reliable transfer: Protocol specification
2	Protocol version	
3	Implemented Defect Reports (Implementors Guide, Version No.)	

A.3 Global statement of conformance

TABLE A-5/X.248
Global Statement of Conformance

Ref. No.	Question	Response
1	Are all mandatory capabilities implemented?	

Note – Answering “No” to this question indicates non-conformance to the protocol specification. Non-supported mandatory capabilities are to identified in the PICS, with an explanation of why the implementation is non-conformant. Such information shall be provided in § A.6.8, Other information.

A.4 Instructions for completing the PICS proforma

A.4.1 Definition of support

A capability is said to be supported for origination (ORIGINATE) if the Implementation Under Test (IUT) is able

- to generate the corresponding service parameters (either automatically or because the end-user explicitly requires that capability), and receive the corresponding service parameters sent in response from the peer system; and
- to interpret, handle and when required make available to the end user the corresponding service parameters.

A capability is said to be supported for reception (RECEIPT) if the IUT is able

- to receive the corresponding service parameters from the peer system requesting that capability, and respond to the requested capability; and
- to interpret, handle and when required make available to the end user the corresponding service parameters.

A protocol element is said to be supported for origination (ORG) if the IUT is able to generate it under some circumstances (either automatically or because the end-user explicitly requires a related service).

A protocol element is said to be supported for reception (REC) if it is correctly interpreted and handled and also, when required, made available to the end user.

Since the requirements for support may be different for origination and reception of the capabilities and protocol elements, the tables have been divided in the corresponding columns, or two entry lines are provided for the corresponding declarations.

A.4.2 *D column*

This column indicates the level of support required for conformance to the CCITT Recommendation. The values are as follows:

- m Mandatory support is required.
- o Optional support is permitted for conformance to the Recommendation. If implemented it must conform to the specifications and restrictions contained in the Recommendation. These restrictions may affect the optionality of other items.
- o.<n> Options mutually exclusive or selectable among a set (where <n> is a number reference for identification). The criteria is defined at the bottom of the relevant table.
- c<n> The item is conditional (where <n> is the number which identifies the condition which is applicable). The definition of conditional statements used, are given at the bottom of the relevant table.
- d Default value defined in the Recommendation. When absent in the PDU, both Originator and Receiver shall interpret it as having the default value specified in the Recommendation.
- x The item is prohibited, and shall not be supported, or shall be capable of being debarred in this mode of operation.
- The item is not applicable.

A.4.3 *I column*

This column shall be completed by the supplier or implementor to indicate the level of implementation of each feature. The proforma has been designed such that the only entries required in that column are:

- Y Yes, the feature has been implemented.
- N No, the feature has not been implemented.
- The item is not applicable.

In the PICS proforma tables, every leading feature marked 'm' should be supported by the IUT. Sub-features marked 'm' should be supported if the corresponding leading feature is supported by the IUT.

All entries within the PICS proforma shall be made in ink. Alterations to such entries shall be made by crossing out, not erasing nor making the original entry illegible, and writing the new alongside. All such alterations to records shall be initialled by the staff making them.

Recognising that the level of details required may, in some instances, exceed the space available for responses, addition of appendices to the PICS is allowed under these circumstances, when properly referenced.

A.4.4 *Constraints for maximum length*

For each line for which there is a constraint on maximum length, the constraint is defined in the 'STD.' column.

In the 'IMP.' columns the minimum and maximum length shall be entered for origination, and the maximum length shall be entered for reception.

A.4.5 *Constraints for supported values*

For each line for which there is a constraint for supported values, the constraint is defined in the 'STD.' column.

In the 'IMP.' columns the supported values shall be entered for origination and reception.

A.4.6 *Note or Mode column*

The 'Note or Mode' column shall be read as follows:

- NM – The requirements stated in this line applies when the IUT operates in Normal Mode. The declarations shall be made for this mode of operation.
- XM – The requirements stated in this line applies when the IUT operates in X.410-1984 Mode. The declarations shall be made for this mode of operation.
- Nxx – Refers to Note xx.

A.4.7 *Section reference column*

The column 'Section Reference' gives reference to the relevant CCITT Recommendation, and the corresponding section for the requirement of support.

A.4.8 *Item reference numbers*

Each line within the PICS proforma which requires implementation details to be entered is numbered at the left hand edge of the line. This numbering is included as a means of uniquely identifying all possible implementation details within the PICS proforma. This referencing is used both inside the PICS proforma, and for references from other Test Specification documents.

The means of referencing individual responses is done by the following sequence:

- a) reference to the smallest subclause enclosing the relevant item;
- b) a solidus character, ' / ';
- c) the reference number of the row in which the response appears;
- d) if, and only if, more than one response occurs in the row identified by the reference number, then each possible entry is implicitly labelled a, b, c, etc. from left to right, and this letter is appended to the sequence.

An example of the use of this notation would be A.6.2.3/5.1b, which refers to the support for the receipt of Turn-give in Normal Mode.

A.5 *Abbreviations*

Abbreviations used in Recommendations X.218 and X.228 are used in this PICS proforma.

In addition the abbreviations defined in § A.4 of this PICS proforma are used.

A.6 *Capabilities and options*

A.6.1 *Initiator/Responder capability*

Table A-6/X.248 is used to specify whether the implementation is able to initiate communication, respond to communication by another system, or both.

TABLE A-6/X.248

Initiator/Responder Capability

Item reference No.	Capability	Section reference (Rec. X.228)	Note or mode	D	I
1	Initiator	–		o.1	[]
2	Responder	–		o.1	[]

o.1 At least one of these capabilities must be supported.

A.6.2 Major capabilities

A.6.2.1 Protocol mechanisms

Table A-7/X.248 is used to specify whether the implementation supports Normal Mode or X.410-1984 Mode, or both.

TABLE A-7/X.248

Supported Modes of Operation

Item reference No.	Capability	Section reference (Rec. X.228)	Note or mode	D	I
1	Normal Mode	–		o.2	[]
2	X.410 – 1984 Mode	–		o.2	[]

o.2 At least one of these Modes of Operation must be supported.

A.6.2.2 Two way alternate dialogue mode

Table A-8/X.248 is used to specify whether the implementation supports Two Way Alternate (TWA) Dialogue Mode.

TABLE A-8/X.248

Supported Dialogue Mode

Item reference No.	Capability	Section reference (Rec. X.228)	Note or mode	ORIGINATE		RECEIPT	
				D	I	D	I
1.1 1.2	Two Way Alternate Dialogue Mode	7.1	NM XM	m o	[] []	m o	[] []

A.6.2.3 Elements of procedure

Table A-9/X.248 is used to specify the Elements of Procedure supported by the IUT.

TABLE A-9/X.248

Elements of Procedure

Item reference No.	Capability	Section reference (Rec. X.228)	Note or mode	ORIGINATE		RECEIPT	
				D	I	D	I
1	Association Establishment	7.1		c1	[]	c2	[]
2	Association Release	7.2		c2	[]	c2	[]
3	Transfer	7.3		m	[]	m	[]
4.1 4.2	Turn-please	7.4	NM XM	m c3	[] []	m c3	[] []
5.1 5.2	Turn-give	7.5	NM XM	m c3	[] []	m c3	[] []
6	User-exception-report	7.6.1		m	[]	m	[]
7	Provider-exception-report	7.6.2		–	–	m	[]
8	Transfer-interrupt	7.7.1		m	[]	m	[]
9	Transfer-discard	7.7.2		m	[]	m	[]
10	Association-abort	7.7.3		m	[]	m	[]
11	Association-provider-abort	7.7.4		–	–	m	[]
12	Transfer-resumption	7.8.1		m	[]	m	[]
13	Transfer-retry	7.8.2		m	[]	m	[]
14	Association-recovery	7.8.3		m	[]	m	[]
15	Transfer-abort	7.9.1		m	[]	m	[]
16.1 16.2	Provider-abort	7.9.2	NM XM	m x	[] []	m –	[] –
17.1 17.2	User-abort	7.9.3	NM XM	m x	[] []	m –	[] –

c1 m if Initiator capability is supported (see § A.6.1 and Table A-6/X.248, item 1).

c2 m if Responder capability is supported (see § A.6.1 and Table A-6/X.248, item 2).

c3 m if Two Way Alternate Dialogue Mode is supported (see § A.6.2.2 and Table A-8/X.248, item 1.1).

A.6.3 Timers and protocol parameters

A.6.3.1 Timers

Table A-10/X.248 is used to specify the support by the IUT of Timers and Protocol parameters used by the Reliable Transfer Protocol Machine.

TABLE A-10/X.248

Timers

Item reference No.	Timer name	Section reference (Rec. X.228)	Note or mode	D	I
1	Transfer Timer	A.4.4		m	[]
2	Recovery Timer	A.4.5		m	[]
3	Time Recover Timer	7.8.3.3.3		m	[]

A.6.3.2 Protocol parameters

Not applicable.

A.6.4 Supported PDUs

Table A-11/X.248 is used to declare the support of the RTSE PDUs for the IUT.

TABLE A-11/X.248

Supported PDUs

Item reference No.	RTSE PDU name	Section reference (Rec. X.228)	Note or mode	ORIGINATE		RECEIPT	
				D	I	D	I
1	RTORQapdu	7.1.2.1		c1	[]	c2	[]
2	RTOACapdu	7.1.2.2		c2	[]	c1	[]
3	RTORJapdu	7.1.2.3		m	[]	m	[]
4.1 4.2	RTTPapdu	7.4.2	NM XM	m c3	[] []	m m	[] []
5	RTTRapdu	7.3.2		m	[]	m	[]
6	RTABapdu	7.7.3.2		m	[]	m	[]

c1 m if Initiator capability is supported (see § A.6.1 and Table A-6/X.248, item 1).

c2 m if Responder capability is supported (see § A.6.1 and Table A-6/X.248, item 2).

c3 m if Two Way Alternate Dialogue Mode is supported (see § A.6.2.2 and Table A-8/X.248, item 1.2).

A.6.5 Supported PDU parameters

Tables A-12/X.248 to A-17/X.248 are used to specify the support by the IUT of the parameters of the RTSE APDUs.

A.6.5.1 RTORQapdu

TABLE A-12/X.248
RTORQapdu parameters

RTSE PDU: RTORQapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2	checkpointSize	7.1.4.1		ORG REC	d m	[] []				
2.1 2.2	windowSize	7.1.4.2		ORG REC	d m	[] []				
3.1 3.2 3.3 3.4	dialogueMode	7.1.4.3	NM XM	ORG REC ORG REC	m m d m	[] [] [] []			1 1 0, 1 0, 1	
4.1 4.2	connectionDataRQ	–		ORG REC	m m	[] []				
4.1.1 4.2.1	open	7.1.4.4	N1	ORG REC	m m	[] []				
4.1.2 4.2.2	recover	7.8.3.4.5	N2	ORG REC	m m	[] []				
4.1.2.1 4.2.2.1	CallingSSuser-Reference	–		ORG REC	m m	[] []	64 64			
4.1.2.2 4.2.2.2	CommonReference	–		ORG REC	m m	[] []	17 17			
4.1.2.3 4.2.2.3	AdditionalReferenceInformation	–		ORG REC	o m	[] []	4 4			
5.1 5.2 5.3 5.4	applicationProtocol	7.1.4.6	NM XM	ORG REC ORG REC	x – m m	[] – [] []			1, 12 1, 12	

Note 1 – Not used in Association – recovery procedure (See Rec. X.228, § 7.8.3.4.4).

Note 2 – Not used in Association – establishment procedure (See Rec. X.228, § 7.1.4.5).

TABLE A-13/X.248

RTOACapdu parameters

RTSE PDU: RTOACapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2	checkpointSize	7.1.5.1		ORG REC	d m	[] []				
2.1 2.2	windowSize	7.1.5.2		ORG REC	d m	[] []				
3.1 3.2	connectionDataAC	–		ORG REC	m m	[] []				
3.1.1 3.2.1	open	7.1.5.3	N1	ORG REC	m m	[] []				
3.1.2 3.2.2	recover	7.8.3.5.4	N2	ORG REC	m m	[] []				
3.1.2.1 3.2.2.1	CalledSSuser-Reference	–		ORG REC	m m	[] []	64 64			
3.1.2.2 3.2.2.2	CommonReference	–		ORG REC	m m	[] []	17 17			
3.1.2.3 3.2.2.3	AdditionalReferenceInformation	–		ORG REC	o m	[] []	4 4			

Note 1 – Not used in Association – recovery procedure (See Rec. X.228, § 7.8.3.5.3).

Note 2 – Not used used in Association – establishment procedure (See Rec. X.228, § 7.1.5.4).

A.6.5.3 RTORJapdu

TABLE A-14/X.248
RTORJapdu parameters

RTSE PDU: RTORJapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2 1.3 1.4	refuseReason	7.1.6.1	NM XM, N3	ORG REC ORG REC	x – o m	[] – [] []			0:3 0:3	
2.1 2.2 2.3 2.4	userDataRJ	7.1.6.2	NM, N1 XM	ORG REC ORG REC	o o x –	[] [] [] –				

Note 1 – Not used in Association – recovery procedure (See Rec. X.228, § 7.8.3.6.4).

Note 2 – In the Association – recovery procedure, the “refuseReason” can only have the values “1” (rtsBusy) and “2” (cannotRecover) (See Rec. X.228, § 7.8.3.6.1).

A.6.5.4 RTTPapdu

TABLE A-15/X.248
RTTPapdu parameters

RTSE PDU: RTTPapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2	Priority	7.4.4.1		ORG REC	m m	[] []			0:3 0:3	

A.6.5.5 RTTRapdu

TABLE A-16/X.248
RTTRapdu parameters

RTSE PDU: RTTRapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2	User Data Part	7.3.2		ORG REC	m m	[] []				

A.6.5.6 RTABapdu

TABLE A-17/X.248

RTABapdu parameters

RTSE PDU: RTABapdu										
Item reference No.	Parameter name	Section reference (Rec. X.228)	Note or mode	ORG or REC	D	I	Maximum octets length		Value	
							STD.	IMP.	STD.	IMP.
1.1 1.2 1.3 1.4	abortReason	7.7.3.4.1	NM, N4 XM	ORG REC ORG REC	o m o m	[] [] [] []			0:7 0:7 0:4, 7 0:4, 7	
2.1 2.2	reflectedParameter	7.7.3.4.2	N5	ORG REC	o o	[] []	1 1			
3.1 3.2 3.3 3.4	userdataAB	7.9.3.4.3	NM, N6 XM	ORG REC ORG REC	o o x –	[] [] [] –				

Note 1 – The “abortReason” can only have the value “5” (permanentProblem) in the Provider Abort procedure, and the value “6” (userError) in the User abort procedure (See Rec. X.228, §§ 7.9.2.4.1 and 7.9.3.4.1).

Note 2 – Only used in the Association Abort procedure, and only when “abortReason” has the value “1” (invalidParameter) (See Rec. X.228, §§ 7.7.3.4.1, 7.9.2.4.2 and 7.9.3.4.2).

Note 3 – Only used in the User Abort procedure (See Rec. X.228, §§ 7.7.4.3 and 7.9.2.4.3).

A.6.6 Negotiation capabilities

For negotiations of checkpointsize and window size, refer to the declarations of implemented values for corresponding parameters of the RTORQapdu (see § A.6.5.1) and the RTOACapdu (§ A.6.5.2).

A.6.7 Protocol error handling

Table A-18/X.248 is used to specify the actions performed by the IUT in the case of protocol error.

TABLE A-18/X.248

Protocol Error Handling

Protocol error handling						
Item reference No.	Error type	Section reference (Rec. X.228)	Note or mode	Action	D	I
1	Undefined PDU parameter	7.10		Ignore parameter	m	[]
2	Undefined incoming event from RTSE-user or internal to RTPM	A.3.1.a)		(Local matter)	o	[]
3.1 3.2	Undefined incoming event from APDU, PS-provider or ACSE-provider	A.3.1.b)		Appropriate internal event, or Issue RT-PAind and RTAB outgoing event	o.3 o.3	[] []

o.3 One of these Protocol Error Handling procedures must be supported.

A.6.8 *Other information*

Table A-19/X.248 can be used to provide any other relevant information.

TABLE A-19/X.248

Other Information

--

A.7 *Multi-layer dependencies*

A.7.1 *Upper layers*

The Application Context in which the RTSE Implementation is used imposes some additional requirements to some of the elements of this PICS proforma. The following table gives the reference to the appropriate PICS, which imposes some additional requirements for each Application Context, where RTSE can be used.

Table A-20/X.248 shall be filled in with the Application Context in which the IUT operates.

TABLE A-20/X.248

Application Context

Item reference No.	Application context	PICs reference	I
1	mts-transfer-protocol-1984	X.482: A.7.2.1	[]
2	mts-transfer-protocol	X.482: A.7.2.1	[]
3	mts-transfer	X.482: A.7.2.1	[]
4	mts-reliable-access (UA)	X.483: A.7.2.2	[]
5	mts-reliable-access (MTA)	X.483: A.7.2.2	[]
6	mts-forced-reliable-access (UA)	X.483: A.7.2.2	[]
7	mts-forced-reliable-access (MTA)	X.483: A.7.2.2	[]
8	ms-reliable-access (UA)	X.484: A.7.2.2	[]
9	ms-reliable-access (MS)	X.484: A.7.2.2	[]

A.7.2 Lower layers

The RTSE imposes the following modifications on the lower layers:

A.7.2.1 ACSE (ISO/IEC DIS 8650-2)

The modifications imposed on the ACSE implementation are imposed by the Application Context.

A.7.2.2 Presentation (ISO/IEC DIS 8823-2)

The modifications imposed on the Presentation implementation are imposed by the Application Context.

A.7.2.3 Session

Table A-21/X.248 shows the requirements RTSE implies on the Session implementation.

TABLE A-21/X.248
Requirements to Session

Functional unit	D	I
Half-duplex	m	[]
Exceptions	m	[]
Minor Synchronize	m	[]
Activity Management	m	[]

ANNEXE B
(à la Recommandation X.248)
**Liste alphabétique des abréviations utilisées
dans la présente Recommandation**

ACSE	Association control service element
APDU	Unité de données du protocole d'application (<i>application protocol data unit</i>)
IMP	Implemented
IUT	Instance sous test (<i>implementation under test</i>)
NM	Normal mode
ORG	Origination
PDU	Protocol data unit
PICS	Déclaration de conformité d'une instance de protocole (<i>protocol implementation conformance statement</i>)
REC	Reception
RTPM	Reliable transfer protocol machine
RTSE	Élément du service de transfert fiable (<i>reliable transfer service element</i>)
STD	Standard (<i>standard</i>)
TWA	Two way alternate
XM	X.410 mode

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