

Implementation of
ENV 41208-2:1990

Information Systems Interconnection — Basic class virtual terminal — S-mode forms —

Part 2: Check list

Cooperating organizations

The joint European Standards Institution (CEN/CENELEC), under whose supervision this European Prestandard was prepared, comprises the National Committees of the following countries:

Austria	Italy
Belgium	Luxembourg
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Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
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This Draft for Development was published under the authority of the Standards Board and comes into effect on 30 August 1991

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The following BSI reference relates to the work on this Draft for Development: Committee reference IST/21

ISBN 0 580 19820 0

Amendments issued since publication

Amd. No.	Date	Comments

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National foreword

This Draft for Development is identical with the European Prestandard ENV 41208-2:1990 *“Information Systems Interconnection — Basic class virtual terminal — S-mode forms — Part 2: Check list”*, prepared by CEN/CENELEC whose members have committed themselves to making it available in an appropriate form. In the UK the Draft for Development is the form now chosen for ENVs in the information technology area.

This Draft for Development is published under the direction of the Information Systems Technology Standards Policy Committee whose Technical Committee IST/21 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on interpretation, or proposals for change, and to keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE International and European Standards, as well as overseas standards, are available from BSI Sales Department, BSI, Linford Wood, Milton Keynes MK14 6LE.

After two years this ENV will be reviewed by CEN/CENELEC members with a view to its:

- conversion into a European Standard (which would be implemented in the UK as a British Standard);
- extension once for a further two years;
- replacement by a revised ENV (which would be published in the UK as a revised Draft for Development);
- withdrawal.

The future of this Draft for Development is therefore dependent on that of the ENV.

This publication is not to be regarded as a British Standard.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ENV title page, pages 2 to 38 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

UDC 681.327.8:681.327.1:681.3.002

Key words: Data processing, information interchange, data transfer, open systems interconnection, synchronous transmission, files, data terminal equipment, virtual filestores, services, specification

English version

Information systems interconnection — Basic class virtual terminal — S-mode forms — Part 2: Check list

Interconnexion des systèmes
d'informations — Terminal virtuel —
Classe de base — Masques —
Partie 2: Verification

Kommunikation von Informationssystemen
Basisklasse — S-Modus —
Formatorientiert — Teil 2: VT Protoko

This European Prestandard (ENV) was accepted by CEN/CENELEC on 1990-07-02 as a prospective standard for provisional application. The period of validity of this ENV is limited initially to three years. After two years the members of CEN/CENELEC will be requested to submit their comments, particularly on the question whether the ENV can be converted into an EN.

CEN/CENELEC members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

CEN/CENELEC members are the national standards organizations and national committees, respectively, of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN/CENELEC

The Joint European Standards Institution
Organisation Commune Européenne de Normalisation
Die Gemeinsame Europäische Normungsorganisation

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

ENV 41208-2 first appeared as a work item approved in 1988 when it was assigned to EWOS/EGVT.

EWOS delivered the proposed draft standard in October 1989. It was distributed for ballot in December 1989. The result of the ballot was positive. There were however some important comments.

In order to discuss the comments received and if possible incorporate them into the ENV to be published, it was decided to hold a voting meeting on 2 July 1990 with the drafting body, EWOS/EGVT and the CEN/CENELEC members in order to vote on an amended (if any) version.

Some proposed changes were approved and the outcome of the voting meeting was positive.

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Part 2 Virtual terminal protocol check list

This part specifies the Virtual Terminal Protocol requirements for the support of the Virtual Terminal Functional Standard (A/4121).

1 Conformity

1.1 Conformity principles

Part 1 of this Functional Standard states VT service requirements upon systems for the purpose of achieving interworking. Part 3 of this Functional Standard states ACSE, Presentation, syntax and Session requirements upon systems for the purpose of achieving interworking.

This part of this Functional Standard states requirements on the Virtual Terminal Protocol for the purpose of achieving interworking. Section 1.2 states the relationship between these requirements and those of the base standard. In addition, any supplier claiming conformity shall make available a statement of support or non-support of each recommendation identified in the Functional Standard.

1.2 Relationship with base standard

To conform to the VT Protocol used in this Functional Standard, implementations shall implement all the supported (s) features identified the tables of clauses **3 – 5** of this part of this Functional Standard and shall state which optionally supported (os) features are implemented.

Claims of conformity shall be defined in terms of clause **13** of ISO 9041.

1.3 Relationship to the VT PICS Proforma

The tables in this part of this Functional Standard are based upon the tables of the VT PICS proforma (ISO CD 9041-2). To aid cross reference with that document, the table numbering is the same. Since not all VT PDUs are supported some tables contained in the PICS proforma are missing from this part of this Functional Standard.

2 Normative references

ISO 9041:1989, *Information processing systems — Open Systems Interconnection — Virtual Terminal Protocol: Basic Class*.

ISO CD 9041-2, *Information processing systems — Open Systems Interconnection — Virtual Terminal Protocol, Part 2: Basic Class PICS Proforma*.

3 Supported VT PDUs

This clause lists in tables the VT PDUs that are required by this Functional Standard. Throughout this clause to specify the level of support for each VT PDU, the following classification is used:

a) in the “status” column:

m: mandatory	This VT PDU shall be implemented by all implementations claiming conformance to ISO 9041. The syntax and semantics of PDUs shall be implemented for sending implementations as defined in this Functional Standard. For receiving implementations, mandatory support implies support for the syntax but not necessarily for the semantics. However, it is not a requirement that the VT PDU shall be used in all instances of communication, unless stated otherwise in ISO 9041. Where negotiation is available, conformant implementations shall be able to interwork with other implementations not supporting this VT PDU by negotiating out the corresponding features.
o: Optional	Implementations claiming conformance to ISO 9041 may or may not implement this VT PDU. Where negotiation is available, the support for VT PDUs with “o” level of support is determined by negotiation.
c: Conditional	This VT PDU is conditionally supported by implementations claiming conformance with ISO 9041.

b) in the “support” column

s: supported This VT PDU shall be implemented by all implementations claiming conformance to this Functional Standard. The syntax and semantics of VT PDUs shall be implemented, but only for the range of values defined in this Functional Standard. For receiving implementations, supported implies support for the syntax but not necessarily for the semantics. However, it is not a requirement that the VTPDU shall be used in all instances of communication, unless stated otherwise in this Functional Standard. Where negotiation is available, conformant implementations shall be able to interwork with other implementations not supporting this VT PDU by negotiating out the corresponding functional units.

os: optionally supported Implementations claiming conformance to this Functional Standard may or may not implement this VT PDU. If a VT PDU is optionally supported, then the syntax shall be supported in any case, but if the VT PDU is implemented, the semantics shall be supported as well. Where negotiation is available, the support for VT PDUs with “os” level of support is determined by negotiation.

3.1 Kernel

When no functional units are selected, a kernel set of VT PDUs may be used as listed in Table 20.

Table 20 — Kernel

Ref	Name of item	Reference	Sending		Receiving	
			status	support	status	support
1	APQ VT-P-ABORT	P 6.1	m	s	m	s
2	ASQ VT-ASSOCIATE-REQ	P 6.2	o	s	m	s
3	ASR VT-ASSOCIATE-RESP	P 6.3	o	s	m	s
4	AUQ VT-U-ABORT	P 6.4	m	s	m	s
5	DAQ VT-ACK-RECEIPT	P 6.7	m	s	m	s
6	DLQ VT-DELIVER	P 6.8	m	s	m	s
7	GTQ VT-GIVE-TOKEN	P 6.11	m	s	m	s
8	HDQ VT-HIGH-PRI-DATA	P 6.12	o	s	m	s
9	NDQ VT-DATA	P 6.14	m	s	m	s
10	RLQ VT-RELEASE-REQ	P 6.18	m	s	m	s
11	RLR VT-RELEASE-RESP	P 6.19	m	s	m	s
12	RTQ VT-REQUEST-TOKEN	P 6.20	m	s	c	s
13	UDQ VT-URGENT-DATA	P 6.25	o	s	m	s

3.2 Switch Profile Negotiation

When the optional Switch Profile functional unit is selected, the VT PDUs listed in Table 21 may be used in addition to the kernel set and any others brought into use by the selection of other functional units.

Table 21 — Switch Profile Negotiation

Ref	Name of item	Reference	Sending		Receiving	
			status	support	status	support
1	SPQ VT-SWITCH-PROFILE-REQ	P 6.23	m	s	m	s
2	SPR VT-SWITCH-PROFILE-RESP	P 6.24	m	s	m	s

3.3 Urgent Data

The selection of this functional unit does not imply the use of any VT PDU over and above those in the kernel set.

3.4 Break

When the mandatory Break functional unit is selected, the VT PDUs listed in Table 24 may be used in addition to the kernel set and any others brought into use by the selection of other functional units.

Table 24 — Break

Ref	Name of item	Reference	Sending		Receiving	
			status	support	status	support
1	BKQ VT-BREAK-REQ	P 6.5	m	s	m	s
2	BKR VT-BREAK-RESP	P 6.6	m	s	m	s

3.5 Enhanced Access-rules

The selection of this functional unit does not imply the use of any VT PDU over and above those in the kernel set.

3.6 Structured Control Objects

The selection of this functional unit does not imply the use of any VT PDU over and above those in the kernel set.

3.7 Fields

The selection of this functional unit does not imply the use of any VT PDU over and above those in the kernel set.

3.8 Reference Information Objects

The selection of this functional unit does not imply the use of any VT PDU over and above those in the kernel set.

4 VT PDU Parameters

The tables are organised in a similar way to the structure of the ASN.1 text in ISO 9041. The ASN.1 text separates out certain lower level productions which may be referenced by different upper level ASN.1 text. This avoids the need to duplicate ASN.1 text. In a similar way, the tables in the remainder of this part of this Functional Standard may be referenced by higher level tables more than once. The assumption is made that an implementation will provide the same level of support for a given piece of ASN.1 no matter how it is referenced.

References to the base text of ISO 9041 are modal. Thus to obtain a reference for a particular entry, either take the reference as specified or take the previous reference in the table.

The tables are organised in a tree structure. In traversing the tree, decisions are made at the nodes as to whether a parameter at that node is mandatory, optional or conditional. If the parameter at the node is supported by an implementation, then the classification below that node comes into force.

Example: It is possible, therefore, to indicate that a parameter is mandatory even though its parent parameter is optional. If the parent parameter is supported by the implementation, then the offspring mandatory parameters shall be supported also.

The remainder of this part of this Functional Standard lists in tables the VT PDU parameters required by this Functional Standard. Any given table may contain requirements in relation to more than one level in the tree structure. In this case, indentation of the text is used to identify the various levels. Throughout the tables, to specify the level of support for each VT PDU, the following classification is used:

a) in the “status” column:

- m: mandatory This VTE-parameter is mandatory within the context of the table at this point and shall be supported by implementations claiming to conform with ISO 9041.
- o: Optional This VTE-parameter is optional within the context of the table at this point and may be supported by implementations claiming to conform with ISO 9041.
- c: Conditional This VTE-parameter is conditional within the context of the table at this point and support is conditional on the value(s) of other VTE-parameter(s) in ISO 9040 and shall be supported wherever those conditions are met by implementations claiming to conform with ISO 9041.

- b) in the “support” column

s: supported	This VT PDU parameter shall be implemented by all implementations claiming conformance to this Functional Standard. The syntax and semantics of VT PDU parameters shall be implemented, but only for the range of values defined in this Functional Standard. However, it is not a requirement that the VT PDU parameter shall be used in all instances of communication, unless stated otherwise in this Functional Standard. Where negotiation is available, conformant implementations shall be able to interwork with other implementations not supporting this VT PDU parameter by negotiating out the corresponding facilities.
s-: syntax only supported	The full semantics for this parameter need not be supported by implementations claiming conformance to this Functional Standard but syntax checking shall be supported to the extent that the parameter can be recognised and ignored. This classification is used only in the “support” column for “receiving”.
os: optionally supported	Implementations claiming conformance to this Functional Standard may or may not implement this VT PDU parameter. If a VT PDU parameter is optionally supported, then the syntax shall be supported in any case, but if the VT PDU parameter is implemented, the semantics shall be supported as well. Where negotiation is available, the support for VT PDUs with “os” level of support is determined by negotiation.
—: not required	This VT PDU parameter is not required for implementations claiming conformance to this Functional Standard.
- c) The “type/length/value support” columns and the “extra info ref” columns are present in the VT PICS proforma but are not intended to be filled in here since the document is a check list only.

4.1 VT-P-Abort (APQ)

Table 25 — VT-P-Abort

Ref	Name of Item	Base Reference	Sending					Receiving				
			Status	Support	Type/Length/Value		Extra Info Ref	Status	Support	Type/Length/Value		Extra Info Ref
					Allowed	Support				Allowed	Support	
1	PrintableString	P 12.1	m	s	Any			m	s	Any		

4.2 VT-Associate-Req (ASQ)

Table 26 — VT-Associate-Req

Ref	Name of Item	Base Reference	Sending					Receiving				
			Status	Support	Type/Length/Value		Extra Info Ref	Status	Support	Type/Length/Value		Extra Info Ref
					Allowed	Support				Allowed	Support	
1	class	P 12.1	m	s	1			m	s	1		
2	ImplementationIdent		o	s				m	s			
3	implementation-Identifier	P 12.2	o	s	Any			m	s	Any		
4	implementationName		o	s	Any			m	s	Any		
5	implementationVersion		o	s	Any			m	s	Any		
6	FunctionalUnits	P 12.1	o	s	Bits 0–9 any			m	s	Bits 0–9 any		
7	Profile		o	s				m	s			
8	name	P 12.1	o	s	Any			m	s	Any		
9	ProfileArgumOfferList		o	s	Table 55 — A			m	s	Table 55 — A		
10	ProtocolVersion	P 12.1	m	s	Bit 0 on			m	s	Bit 0 on		
11	mode	P 11.1.1	c#1	c#2	0,1			m	os	0,1		

NOTE 1 If the implementation supports mode switching (PICS proforma Table 11) this status should be “m” otherwise it should be “–”.

NOTE 2 This functional standard does not require mode switching to be supported.

The VT PDU parameters called and calling AE-title (actually the set of 4 addressing parameters defined in ISO 8649), VT-mode and VT-Wavar-owner are carried in ACSE parameters other than user data. They are therefore not listed here. See ENV 41208-3 AARQ, AARE APDU and CP, CPA PPDU tables.

4.3 VT-Associate-Resp (ASR)

Table 27 — VT-Associate-Resp

Ref	Name of Item	Base Reference	Sending					Receiving				
			Status	Support	Type/Length/Value		Extra Info Ref	Status	Support	Type/Length/Value		Extra Info Ref
					Allowed	Support				Allowed	Support	
1	Result3	P 12.2	c	s	Null			m	s	Null		
2	success		c	s				m	s			
3	fail											
4	Reason											
5	userA		o	s	Any			m	s	Any		
6	userB		o	s	0–6			m	s	0–6		
7	provider	P 12.1	o	s	0–6			m	s	0–6		
8	success-with-warning		c	s				m	s			
9	Reason											
10	userA		o	s	Any			m	s	Any		
11	userB		o	s	0–6			m	s	0–6		
12	provider		o	s	0–6			m	s	0–6		
13	ImplementationIdent	P 12.1	o	s				m	s			
14	implementation-Identifier	P 12.2	o	s	Any			m	s	Any		
15	implementationName	P 12.1	o	s	Any			m	s	Any		
16	implementationVersion		o	s	Any			m	s	Any		
17	ProtocolVersion		m	s	Bit 0 on			m	s	Bit 0 on		
18	ProfileArgumValueList		c#1	s	Table 56 — A			m	s	Table 56 — A		
19	FunctionalUnits		o	s	Bits 0–9 any			m	s	Bits 0–9 any		

NOTE 1 See S 28.1.3 for detailed conditions on this item.

The VT PDU parameters called and calling AE-title (actually the set of 4 addressing parameters defined in ISO 8649), VT-mode and VT-Wavar-owner are carried in ACSE parameters other than user data. They are therefore not listed here. See ENV 41208-3 AARQ, AARE APDU and CP, CPA PPDU tables.

4.4 VT-U-Abort (AUQ)

Table 28 — VT-U-Abort

Ref	Name of Item	Base Reference	Sending					Receiving				
			Status	Support	Type/Length/Value		Extra Info Ref	Status	Support	Type/Length/Value		Extra Info Ref
					Allowed	Support				Allowed	Support	
1	PrintableString	P 12.1	m	s	Any			m	s	Any		