

Implementation of  
ENV 41213-2:1992

# Information systems interconnection — Virtual terminal — Basic class — A-mode “Telnet” —

Part 2: Virtual Terminal Protocol check  
list

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## National foreword

This Draft for Development is identical with the European Prestandard ENV 41213-2:1992 *Information systems interconnection — Virtual terminal — Basic class — A-mode “Telnet” — Part 2: Virtual Terminal Protocol 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 queries on interpretation, or proposals for change, and 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 bound to that of the ENV and the Draft for Development will not be reviewed or developed separately.

**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 18 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.

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Descriptors: Data processing, open systems interconnection, data transmission, mode of transmission, start-stop transmission, data terminal equipment, services

English version

## Information systems interconnection — Virtual terminal — Basic class — A-mode “Telnet” — Part 2: Virtual Terminal Protocol check list

Interconnexion de systèmes d'information —  
Terminal virtuel — Classe de base —  
Protocole Telnet en mode asynchrone —  
Partie 2: Protocole de terminal virtuel

Kommunikation von Informationssystemen —  
Virtuelles Terminal Grundklasse — A-Modus  
“Telnet” — Teil 2: Virtuelles Terminal  
Protokoll Checkliste

This European Prestandard (ENV) was approved by CEN/CENELEC on 1992-06-24 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 a European Standard (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 bodies and national electrotechnical committees, respectively, of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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

This European Prestandard (ENV) was elaborated by the EWOS Expert Group Virtual Terminal (EWOS/EG VT).

It was submitted for formal vote by the CEN Central Secretariat to the members of CEN/CENELEC on 1991-05-22 with the deadline of 1991-08-22. The result of the formal vote was positive.

In order to incorporate comments into the adopted ENV a voting/resolution meeting was held during the EWOS Workshop of 1992-01-07, when the comments were accepted by the delegates present.

According to the CEN/CENELEC Common Rules, the following countries are bound to announce the existence of this European Prestandard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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## 1 Scope and Conformity

This part specifies the Virtual Terminal Protocol requirements for the support of the Virtual Terminal Functional Standard A/4117.

### 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 9041-2). To aid cross reference with that document, the table numbering is the same. Since not all VTPDUs are supported some tables contained in the PICS proforma are missing from this part of this Functional Standard.

NOTE this document is based on the version of the ISO VT PICS Proforma current at the time. An update is likely to be necessary when the ISO work reaches full IS status.

## 2 References

ISO 9041-1:1990, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 1: Specification*.

ISO 9041-2, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 2: PICS Proforma (Current status: Committee Draft — June 1990)*.

## 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 VT PDUs shall be implemented for sending implementations as defined in that International 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. However, it is not a requirement that the VT PDU 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

Independently of whether any VT functional units are selected, a kernel set of VT PDUs may be used as listed in the table.

(Table 20 of ISO 9041-2)

| Ref                                                                                                                                                                                                                                      | Name of item          | Ref    | 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  | c#1     | s       | m         | s       |
| 6                                                                                                                                                                                                                                        | DLQ VT-DELIVER        | P 6.8  | c#1     | s       | m         | s       |
| 7                                                                                                                                                                                                                                        | GTQ VT-GIVE-TOKEN     | P 6.11 | c#2     | 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 | c#2     | s       | c         | s       |
| 13                                                                                                                                                                                                                                       | UDQ VT-URGENT-DATA    | P 6.25 | o       | s       | m         | s       |
| NOTES<br>#1 DAQ and DLQ become mandatory when simple and quarantined delivery control are supported.<br>#2 GTQ and RTQ are used in the context of use of this Functional Standard only if Switch Profile functional unit is implemented. |                       |        |         |         |           |         |

### 3.2 Switch Profile Negotiation

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

(Table 21 of ISO 9041-2)

| Ref | Name of item               | Ref    | 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.