

Information technology — Protocol identification in the network layer

ICS 35.100.30; 35.200

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee IST/6, Data communications, which has the responsibility to:

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

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO/IEC TR title page, pages ii to iv, pages 1 to 14 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.

Amendments issued since publication

Amd. No.	Date	Comments

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TECHNICAL REPORT

ISO/IEC TR 9577

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Information technology — Protocol identification in the network layer

*Technologies de l'information — Identification du protocole dans la couche
réseau*



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Descriptors: Data processing, information interchange, network interconnection, open systems interconnection, network layer, data transmission, communication procedure, protocols, identification methods.

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 JTC 1.

The main task of technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard (“state of the art”, for example).

Technical reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/IEC TR 9577, which is a Technical Report of type 3, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.263.

This third edition cancels and replaces the second edition (ISO/IEC TR 9577:1993), which has been technically revised.

Introduction

Identifying protocols by information in a uniform part of the protocol control information fulfils two requirements:

- a) It enables an entity to verify that the protocol received is of the type and kind expected; and
- b) It permits an entity to discriminate among a number of different protocols (both OSI and non-OSI) that might co-exist in a common environment.

This Recommendation | Technical Report contains a description of the means used to identify protocols and where that information is located in a protocol, together with a record of those values of protocol identifiers which have been used by ITU-T and ISO/IEC, and by other authorities. This Recommendation | Technical Report does not attempt to provide any general architectural principles for the functions of protocol identification, nor does it attempt to provide judgements as to whether a protocol might have more than one value of protocol identifier.

By reference to this Recommendation | Technical Report, future protocols can be developed to include a protocol identifier and the values of such protocol identifiers can be chosen on a knowledgeable basis.

1 Scope

This Recommendation | Technical Report provides:

- a) the description of a means to permit a protocol to be identified;
- b) a record of the structure and allowable ranges of protocol identifier(s) which can be assigned by ITU-T, ISO/IEC and other authorities;
- c) a record of the values of protocol identifiers used by OSI Network layer protocols and non-OSI protocols occupying a similar position: in particular, only protocols with protocol control information commencing in octet 1 of the protocol data unit are covered; and
- d) a record of the values that are in use as protocol control information in non-Network layer protocols where they impact on Network layer protocol identification.

The application of this Recommendation | Technical Report is:

- a) in the identification of internationally standardized Network layer protocols operating directly above the Data Link service;
- b) in the identification of protocols used in conjunction with internationally standardized Network layer protocols that operate directly above the Data Link service; and

- c) to distinguish between Internationally standardized Network layer protocols, and other internationally standardized protocols used in conjunction with internationally standardized Network layer protocols.

This Recommendation | Technical Report is for use by ITU-T Study Groups, ISO/IEC Technical Committees and other authorities in applying the principles contained in clause 4, and in selecting an unused value or values from the range of values permitted in clauses 5 or 6, as appropriate. When a new value is selected, that value and its usage should be brought to the attention of ITU-T Study Group 7 or ISO/IEC JTC 1 SC6 so that this Recommendation | Technical Report can be amended.

2 References

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | Technical Report. 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 | Technical Report are encouraged to investigate the possibility of applying the most recent edition 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 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.233 (1993) | ISO/IEC 8473-1:1994, *Information technology — Protocol for providing the connectionless-mode network service: Protocol specification*.
- ITU-T Recommendation X.273 (1994) | ISO/IEC 11577:1995, *Information technology — Open Systems Interconnection — Network layer security protocol*.
- ITU-T Recommendation X.633 (1996) | ISO/IEC 14700:1996, *Open Systems Interconnection — Network fast byte protocol*.
- ITU-T Recommendation X.634 (1996) | ISO/IEC 14699:1996, *Open Systems Interconnection — Transport fast byte protocol*.