TECHNICAL REPORT

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Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 1: Overview of Local Area Network Standards

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Exigences spécifiques —

Partie 1: Vue d'ensemble des normes de réseaux locaux

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of the joint technical committee is to prepare International Standards. 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.

In exceptional circumstances, the joint 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 the joint 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.

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 8802 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC TR 8802-1, which is a Technical Report of type 3, was prepared by ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This third edition cancels and replaces the second edition (ISO/IEC TR 8802-1:1997), which has been technically revised.

ISO/IEC 8802 consists of the following parts, under the general title *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements*:

— *Part 1: Overview of Local Area Network Standards* [Technical Report]

— *Part 2: Logical link control*

— *Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications*

— *Part 4: Token-passing bus access method and physical layer specifications*

— *Part 5: Token ring access method and physical layer specifications*

— *Part 6: Distributed Queue Dual Bus (DQDB) access method and physical layer specifications*

— *Part 9: Integrated Services (IS) LAN Interface at the Medium Access Control (MAC) and Physical (PHY) Layers*

— *Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications*

— *Part 12: Demand-Priority access method, physical layer and repeater specifications*

Introduction

This technical report introduces the set of International Standards produced to facilitate the interconnection of information processing systems connected to a Local Area Network (LAN). The LAN is a peer-to-peer communications network provided by a single broadcast domain that enables all end stations to exchange information. As a consequence it does not inherently provide privacy. A LAN is in general owned, used, and operated by a single organisation and falls within a single administrative domain.

In November 1999 a Category C liaison was established between ISO/IEC JTC 1 SC 6 WG 1 and WG 3, and the IEEE 802 LMSC to foster closer collaboration in the standards making process. To that end cooperative working practices have been established such that, both parties are able to contribute their particular and unique strengths to the standards making process without introducing time delays into the other's procedures; and, each has output for which they are responsible which records their involvement in that process.

There are two distinct elements to the cooperative working practice. The first provides the means whereby ISO/IEC JTC 1 National Bodies are able to contribute to the technical work of the IEEE 802 standards developments; and the second, via the IEEE Sponsor ballot process, provides the more formal mechanism whereby ISO/IEC JTC 1 National Bodies can review IEEE 802 work which is nearing completion of the standards process. It is this latter element of procedure which provides input into the revision of this technical report providing the record of ISO/IEC JTC 1 National Body participation in the standards making process.

This technical report therefore provides a source of reference to all International Standards that relate to local area networks; specifically the ISO/IEC 8802 technologies and FDDI; and in addition is the location where ISO/IEC JTC 1 SC 6 involvement in IEEE 802 standards development is recorded and any endorsements to particular IEEE 802 standards are noted.

Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 1:
Overview of Local Area Network Standards

1 Scope

This technical report provides an introduction to the set of International Standards which describe local area networks, specifically those which make use of the 48-bit MAC address format.

The MAC technologies described in this technical report have in common the ability to provide sufficient capability to support the MAC Service which is defined in ISO/IEC 15802-1.

The scope of this Technical Report is therefore limited to those International Standards which describe processes and procedures resident in the Data Link and Physical Layers of the OSI Basic Reference Model and can be said to relate to local area networks.

This technical report does not itself describe new Service or Protocol definitions. Its intent is to set the context for local area networks which include both the International Standards describing FDDI and the technologies described by the set of ISO/IEC 8802 International Standards.

Additionally this technical report provides the record of cooperative work between ISO/IEC JTC 1 SC 6 WG 1 and the IEEE 802 LMSC as a part of the Category C liaison established in November 1999 either through the usual Fast Track procedures or via the cooperative working procedures described in this technical report.

2 References

NOTE A revised numbering scheme was introduced in 1993 to provide alignment with the numbering scheme used by the IEEE for their LAN/MAN Standards and the basis for this numbering scheme is shown in Annex A.

ISO 7498-3:1997, *Information technology — Open Systems Interconnection — Basic Reference Model: Naming and addressing*

ISO/IEC 8802-2:1998, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 2: Logical link control*

ISO/IEC 8802-3:2000, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications*

ISO/IEC 8802-5:1998, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 5: Token ring access method and physical layer specifications*

ISO/IEC 8802-6:1994, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 6: Distributed Queue Dual Bus (DQDB) access method and physical layer specifications*

ISO/IEC 8802-11:1999, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications*

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ISO/IEC 8802-12:1998, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements — Part 12: Demand-Priority access method, physical layer and repeater specifications*

ISO/IEC 8886:1996 | ITU-T Recommendation X.212, *Information technology — Open Systems Interconnection — Data link service definition*

ISO 9314-1:1989, *Information processing systems — Fibre Distributed Data Interface (FDDI) — Part 1: Token Ring Physical Layer Protocol (PHY)*

ISO 9314-2:1989, *Information processing systems — Fibre Distributed Data Interface (FDDI) — Part 2: Token Ring Media Access Control (MAC)*

ISO/IEC 9314-3:1990, *Information processing systems — Fibre Distributed Data Interface (FDDI) — Part 3: Physical Layer Medium Dependent (PMD)*

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ISO/IEC 10165-4:1992, *Information technology — Open Systems Interconnection — Structure of management information — Part 4: Guidelines for the definition of managed objects*

ISO/IEC 10742:1994, *Information technology — Telecommunications and information exchange between systems — Elements of management information related to OSI Data Link Layer standards*

ISO/IEC 11575:1995, *Information technology — Telecommunications and information exchange between systems — Protocol mappings for the OSI Data Link service*

ISO/IEC 11801:2000, *Information technology — Generic cabling for customer premises*

ISO/IEC TR 11802-1:1997, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Technical reports and guidelines — Part 1: The structure and coding of Logical Link Control addresses in Local Area Networks*

ISO/IEC TR 11802-2:1999, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Part 2: Standard Group MAC Addresses*

ISO/IEC TR 11802-5:1997, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Technical reports and guidelines — Part 5: Media Access Control (MAC) Bridging of Ethernet V2.0 in Local Area Networks*

ISO/IEC 15802-1:1995, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Common specifications — Part 1: Medium Access Control (MAC) service definition*

ISO/IEC 15802-3:1998, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Common specifications — Part 3: Media Access Control (MAC) Bridges*

ISO/IEC 15802-4:1994, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Common specifications — Part 4: System load protocol*

ISO/IEC 15802-5:1998, *Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Common specifications — Part 5: Remote Media Access Control (MAC) bridging*