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# Network Aspects (NA); Metropolitan Area Network (MAN) Media access control layer and physical layer specification

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## Foreword

This European Telecommunication Standard (ETS) has been prepared by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS details the Media Access Control (MAC) and physical layer convergence procedure for a European Metropolitan Area Network (MAN) based on the Distributed Queue Dual Bus (DQDB) access method as defined in IEEE Standard 802.6 [1].

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# 1 Scope

This European Telecommunication Standard (ETS) is an introduction to the series of ETSs specifying the Media Access Control (MAC) layer and the physical layer for a European Metropolitan Area Network (MAN) using the Distributed Queue Dual Bus (DQDB) technique for access to the transmission medium.

Methods of testing will be the subject of separate arrangements.

# 2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] IEEE Standard 802.6 (1990): "Distributed Queue Dual Bus (DQDB) Subnetwork of a Metropolitan Area Network (MAN)".

[2] ETS 300 213 (1992): "Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 2,048 Mbit/s".

[3] ETS 300 214 (1992): "Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 34,368 Mbit/s".

[4] ETS 300 215 (1992): "Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 139,264 Mbit/s".

[5] ETS 300 216 (1992): "Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 155,520 Mbit/s."

# 3 Basic media access control protocol

The basic MAC protocol is specified in IEEE Standard 802.6 [1]. This IEEE Standard has the following sections, which are given here for information.

1. Introduction.
2. Overview.
3. DQDB Layer Service Definition.
4. Physical Layer Service Definition.
5. DQDB Node Functional Description.
6. DQDB Layer Protocol Data Unit Formats.
7. DQDB Layer Facilities.
8. DQDB Layer Operation.
9. DQDB Layer Management Interface.
10. DQDB Layer Management Protocol.
11. Physical Layer Principles of Operation.
12. Physical Layer Convergence Procedure for DS3 Based Systems.
13. Physical Layer Convergence Procedure for CCITT Recommendation G.703.
14. Physical Layer Convergence Procedure for CCITT Recommendations G.707 to G.709.

Sections 13 and 14 have not yet been implemented in the current IEEE Standard 802.6 [1]. Sections 12 to 14 are substituted by the physical layer convergence procedures contained in the ETSs listed in Clause 4.

In situations where more than two IEEE Standard 802.6 [1] nodes are connected to a dual bus, each node shall implement the full DQDB protocol as specified within IEEE Standard 802.6 [1]. However, where only two DQDB nodes are connected to a dual bus (simple point-to-point configuration), a subset of the full IEEE Standard 802.6 [1] protocol may be implemented.

# 4 Physical layer convergence procedures

The following physical layer convergence procedures have been specified for transmission systems belonging to the plesiochronous digital hierarchy:

ETS 300 213 [2]: Physical layer convergence procedure for 2,048 Mbit/s.

ETS 300 214 [3]: Physical layer convergence procedure for 34,368 Mbit/s.

ETS 300 215 [4]: Physical layer convergence procedure for 139,264 Mbit/s.

and for the 155,52 Mbit/s transmission system belonging to the synchronous digital hierarchy:

ETS 300 216 [5]: Physical layer convergence procedure for 155,520 Mbit/s, CCITT Recommendations G.707 to G.709 SDH based systems.

In addition, a physical layer convergence procedure is currently being standardised within ETSI for 622,08 Mbit/s systems based on CCITT Recommendations G.707, G.708 and G.709.

## History

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