

Proposed PAR

- Title:

Standard for —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—**Media Access Control Parameters, Physical Layers and Management Parameters for subscriber access networks**

Proposed PAR

- **Scope:**

Define 802.3 Media Access Control (MAC) parameters and minimal augmentation of the MAC operation, physical layer specifications, and management parameters for the transfer of 802.3 format frames in subscriber access networks at operating speeds within the scope of the current IEEE Std 802.3 and approved new projects.

Proposed PAR

- **Purpose:**
To expand the Ethernet application space to include subscriber access networks in order to provide a significant increase in bandwidth in that space while lowering equipment, operation, and maintenance costs.

Broad Market Potential

- a) **Broad sets of applicability**
 - b) **Multiple vendors and numerous users**
 - c) **Balanced costs (LAN versus attached stations)**
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Residential and business access networks represent a new and very broad application space for Ethernet. The available market is estimated at greater than 40 million nodes by 2005 in the US alone. The technology developed for access networks will have applications in other markets as well.

At the first EFM study group meeting, XXX individuals from YY companies representing both vendors and users expressed their support for the project.

Ethernet vendors and users are able to achieve an optimal cost balance between the network infrastructure components and the attached stations.

Compatibility

- a) Conformance with 802 Overview and Architecture**
 - b) Conformance with 802.1D, 802.1Q, 802.1f**
 - c) Compatible managed object definitions**
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As a supplement to IEEE Std 802.3, the proposed project will remain in conformance with the 802 Overview and Architecture.

As a supplement to IEEE Std 802.3, the proposed project will remain in conformance with 802.1D, 802.1Q and 802.1f, though extensions to these standards may be proposed as additional work items.

As a supplement to IEEE Std 802.3, the proposed project will follow the existing format and structure of 802.3 MIB definitions.

Distinct Identity

- a) Substantially different from other IEEE 802 standards.**
 - b) One unique solution per problem (not two solutions to a problem).**
 - c) Easy for the document reader to select the relevant specification.**
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There is no existing 802 standard or approved project appropriate for wire line access using the Ethernet access protocol and frame format, with the exception of certain combinations of operating speed and media defined in various supplements to IEEE Std 802.3. This project will expand that set to include new media.

While the proposed project includes a choice of physical media and operating speeds, it will specify only one solution for each media at a given operating speed.

The proposed project will be formatted as a supplement to IEEE Std 802.3, making it easy for the document reader to select the EFM specification

Technical Feasibility

- a) Demonstrated system feasibility.**
 - b) Proven technology, reasonable testing.**
 - c) Confidence in reliability.**
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Ethernet systems (comprising interface controllers, bridges, routers, management systems, and other devices) represent the most widely deployed networking technology in history. The proposed project will build on the vast array of Ethernet component and system design experience, and the broad knowledge base of Ethernet network operation.

The proposed project will re-use specifications developed by other standards bodies and develop new specifications in accordance with the rigorous standards of proof applied to 802.3 projects.

The reliability of Ethernet components and systems can be extrapolated in the target environments with a high degree of confidence.

Economic Feasibility

- a) Known cost factors, reliable data.**
 - b) Reasonable cost for performance.**
 - c) Consideration of installation costs.**
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The cost factors for Ethernet components and systems are well known. The proposed project may introduce new cost factors which can be quantified.

Ethernet consistently demonstrates the most attractive cost/performance ratio of any networking technology, at any operating speed. This fact is well established in the enterprise networking application space, and the goal of this project is to extend the same cost/performance advantage to the access application space.

Installation costs, as well as maintenance and operations costs will be reduced when compared to competing technologies through a combination of higher manufacturing volume, broader competition, a broader labor pool, and a more optimal system architecture.