(1) GENERIC FUNCTIONAL REQUIREMENTS

1. An IEEE 802.6 MAN shall be compatible with relevant and applicable IEEE 802 standards:

   (a)IEEE 802.1 network management, inter working and bridging.

   (b)IEEE 802.2 logical link control.

2.An IEEE 802.6 MAN shall be compatible with relevant ISO standards- (The relevant standards need to be identified.)

3. An IEEE 802.6 MAN shall provide for the two-way interchange of digital bit streams using shared media between nodes located within an area up to at least 50 kilometers in diameter. The MAN may consist of bridged sub-networks: all data need not pass by every node on the MAN.

4.Any appropriate medium may be used for an IEEE 802.6 MAN. An IEEE 802.6 MAN may operate at selected rates ranging from l Mbps up to a value appropriate for the medium or media used.

5.An IEEE 802.6 MAN shall allow for physical layout flexibility.

6.An IEEE 802.6 NAN shaII be economically attractive from a manufacturing (supplier), installation/operation provider and end user perspective.

7.In addition to the above any proposed IEEE 802.6 MAN eha11 meet with the following criteria.

SELECTION CRITERIA

(i) Broad market potential

- Broad sets of applications
- Multiple vendors, multiple users
- Balanced costs; LAN versus attached stations

(ii) Conformance with IEEE 802 functional requirements as described in Functional Requirements Document, Draft Version 5.4 October 19,1981.

(iii) Distinct Identity

- Substantially different from other approved IEEE 802 or ASC X3 standards or projects
- Unique solution per problem (not two alternatives per problem)
- Easy for document reader to select relevant specification

(iv) Technical Feasibility

- Demonstrated system feasibility:
- Proven technology, reasonable testing
- confidence in reliability

(v) Economic Feasibility

- Cost factors known, reliable data
- Reasonable cost for performance expected
- Total installation cost considered

(2) PUBLIC NETWORK COMPATIBlLITY

1.An IEEE 802.6 MAN shall be compatible with the existing and evolving public network environment. In particular, it shall:

- be capable of supporting both small and large user configurations,
- be capable of using transmissions rates and physical transport scheme which are compatible with the transmission rates and physical transport schemes of public networks such as SONET and ISDN, including Broadband ISDN,

- be capable of carrying low and moderate speed telecommunications services, such as those supported by basic and primary rate IADN and IEEE 802.9 as a payload,
- be capable of being carried as payload by high-speed telecommunications interfaces, such as SONET and Broadband ISDN,
- be capable of carrying a subset of Broadband ISDN as payload, and,
- be capable of inter working with public telecommunications networks by allowing reliable support for relevant signaling and addressing information.

2.An IEEE 802.6 MAN shall provide reliability, availability, maintainability and fault detection and isolation to levels compatible with appropriate public voice and data networks.

3.An IEEE 802.6 MAN shall allow for the provision of normal telecommunications network facilities, incorporating monitoring and network management.

4. An IEEE 802.6 MAN shall be expandable and reconfigurable with a minimum of service disruption.

5. An IEEE 802.6 MAN shall allow for the control of access, by allowing for the remote enabling and disabling of nodes.

6. An IEEE 802.6 MAN shall allow for the provision of access which is protected from attempts to interrupt it.

7. An IEEE 802.6 MAN shall allow for the prevention of the transport of data through locations that cannot be physically secured by the operator of the MAN.

(3) Applications

- The applications an IEEE 802.6 MAN is expected to support include:
- Computer to Computer Communications
- High Speed bulk data transmission
- Medium speed interactive data transmission
- Remote procedure calls
- Remote demand paging
- Digitized video transmission
- Private virtual network (closer user group)
- LAN interconnection

- Digitized voice transmission

Effective LAN interconnection requires LAN performance.

FUNCTIONAL REQUIREMENTS FOR APPLICATIONS

1. An IEEE 802.6 MAN shall include support for data services by means of packet communication capabilities with high throughput potential.
2. An IEEE 802.6 MAN shall include support for isochronous services.
3. An IEEE 802.6 MAN shall provide for the flexible allocation of bandwidth among services 1. and 2. above without requiring network shutdown.
4. An IEEE 802.6 MAN shall allow for the provision of different levels of privacy.
5. An IEEE 802.6 MAN shall provide high performance. In particular, it shall:

- provide support for voice services consistent with the delay requirements of the CCITT.
- provide efficient data transfer, independent of network size and speed,
- provide a robust signaling mechanism for control of bandwidth allocation and for network management.

6. An IEEE 802.6 MAN shall provide support for multicast operation across the entire MAN for the services defined in 1. and 2. above.