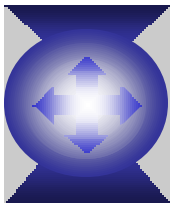

LANTERN COMMUNICATIONS

IEEE 802.17 Interoperability Requirements

IEEE 802.17

March 12-15, 2001

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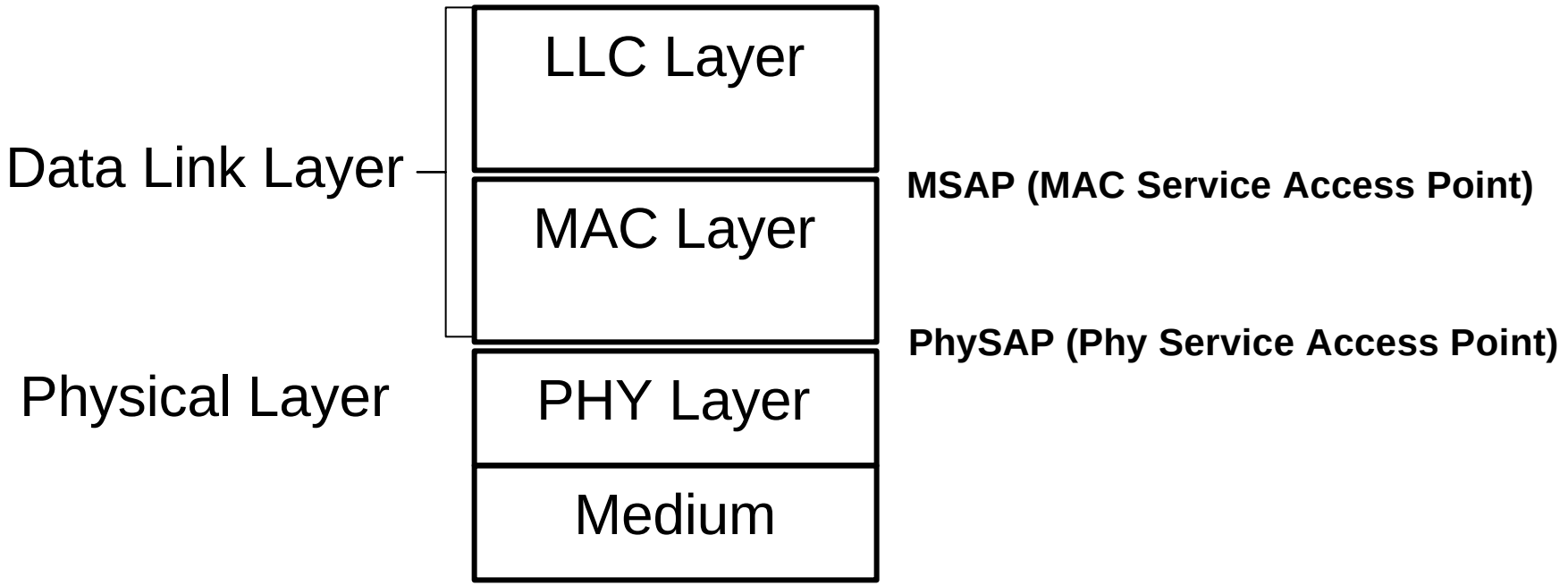
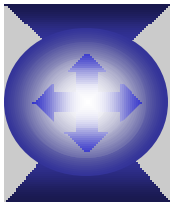
Reference Model



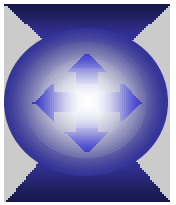
IEEE 802 reference model for end stations (LAN&MAN)

MAC Interfaces



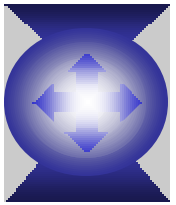
- MSAP
  - MAC/LLC Service Access Point (middle of Data Link Layer)
  - MSAP messages
- PhSAP
  - Physical Layer interface
- Management Interface
  - FCAPS
    - Fault, Configuration, Accounting, Performance and Security

MAC Sublayer Functions



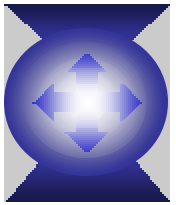
- Frame delimiting and recognition
- Addressing of destination stations (both as individual stations and as groups of stations)
- Conveyance of source-station addressing information
- Transparent data transfer of LLC protocol data units (PDUs), or of equivalent information in the Ethernet sublayer
- Protection against errors
- Control of access to the physical transmission medium
- Flow control
- Filtering of frames according to their destination addresses to reduce the extent of propagation of frames in parts of a LAN or MAN that do not contain communication paths leading to the intended destination end station(s).

Interoperable Packet Format



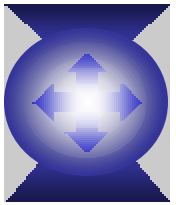
- Packet format and delineation (delimiting)
  - Compatibility with the Phy chosen
  - Using an existing or accepted encoding scheme can minimize maintenance cost
- Interoperable L2 messaging protocol for
  - Auto-discovery of Nodes (Addresses and Topology)
  - Protection
  - Inter-node messages (Fairness Messaging)
- Multicast handling

Resiliency (Protection Scheme)



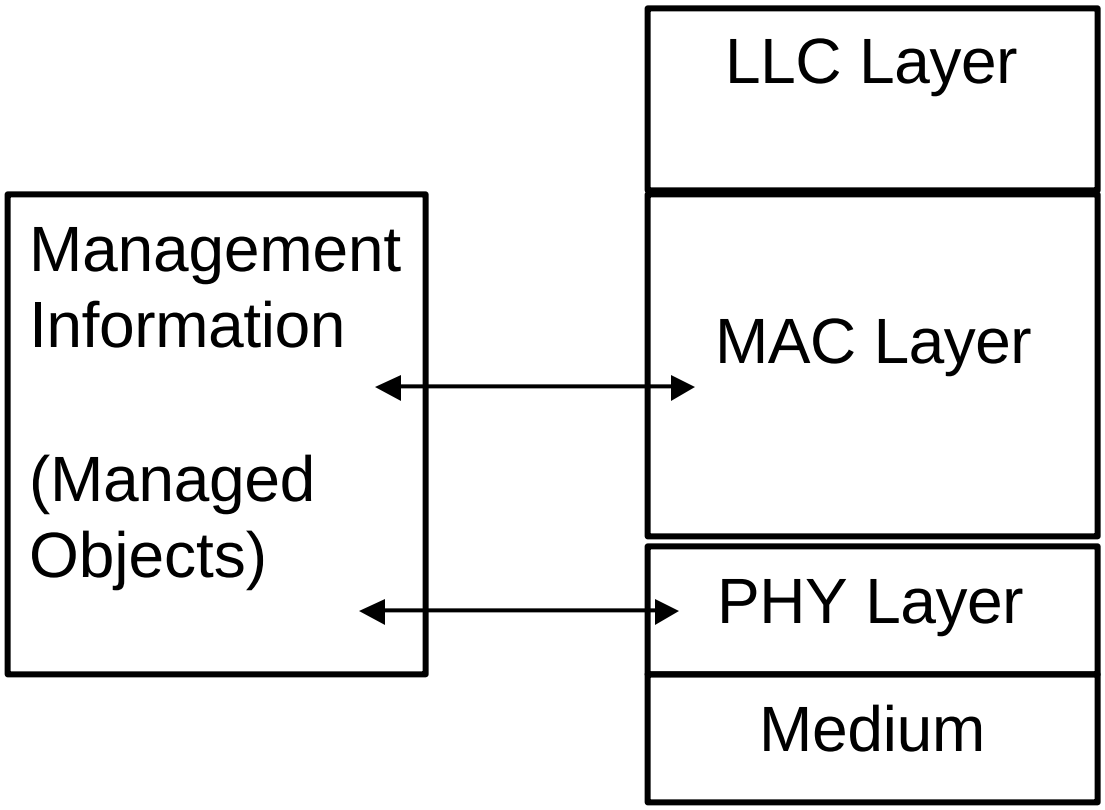
- L0 (e.g. LOS, BER)
- L1 (e.g. LOF, RF, LF)
- L2 (Inter node messaging)
  - Failure detect and Source Redirect within 50 ms
  - Discovery Protocol
    - Node insertion and removal
- Transit path is transparent when node is inserted (Plug & Play)

Fairness Algorithm

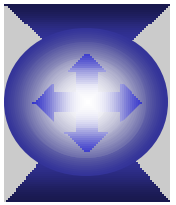


- Rate update message format
- Bandwidth allocation algorithm

Management


LLC Layer
Management Information
(Managed Objects)
MAC Layer
PHY Layer
Medium

Layer Management



- Statistics
- Alarms
- Events
- Management Information for
  - Bandwidth allocation
  - Security
  - MAC Layer
  - Physical Layer