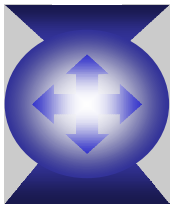


LANTERN
COMMUNICATIONS

RPR MAC Reference Model

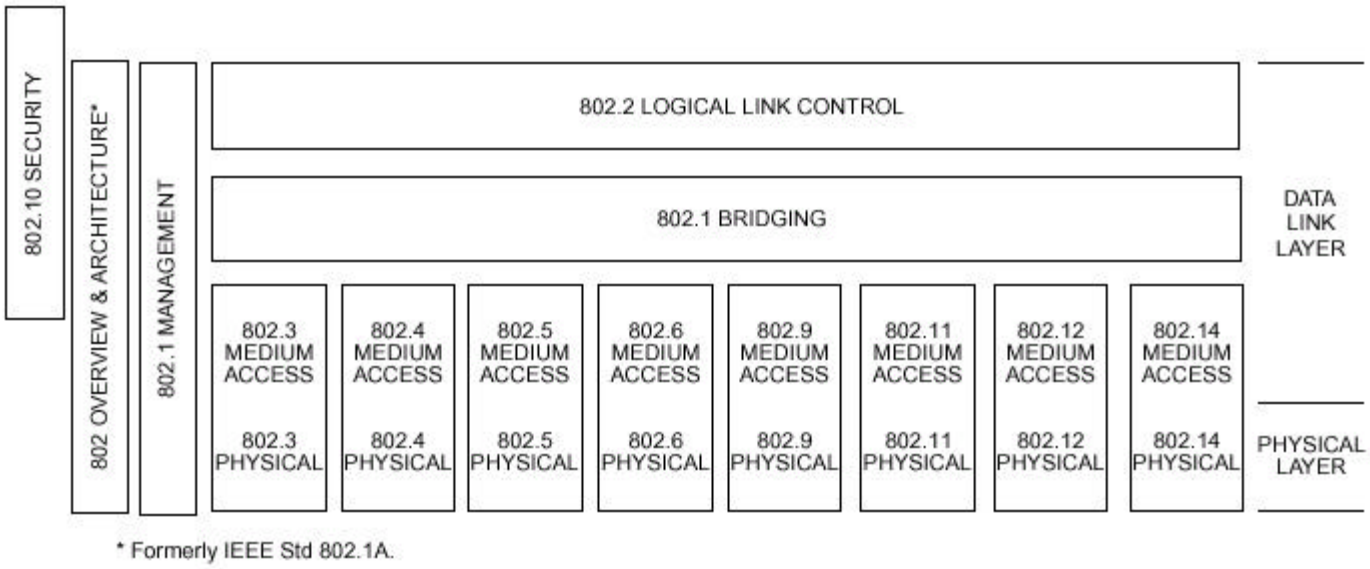
IEEE 802.17

May, 2001

Nader Vijeh
nader@lanterncom.com

802.1 Architecture Model

- 802.1 Architecture Model
  - 802.1 Bridging is a sublayer within the Data Link layer
  - MAC is also a sub-layer within the Data Link Layer



End Station Reference Model

- Overview and Architecture document

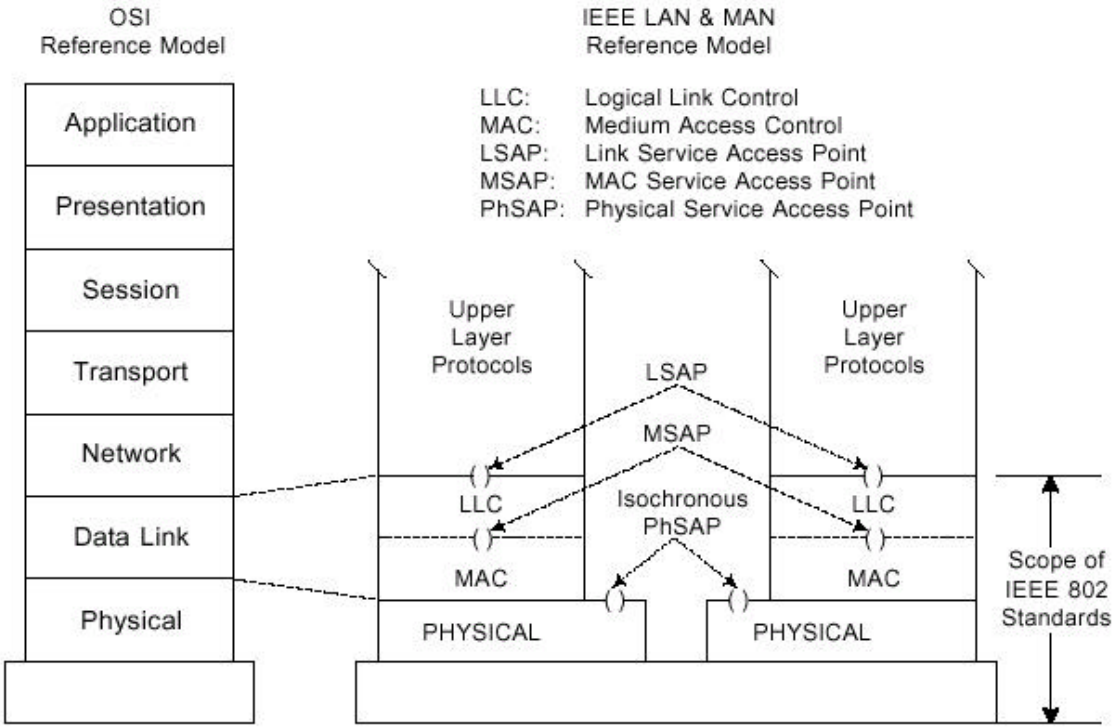
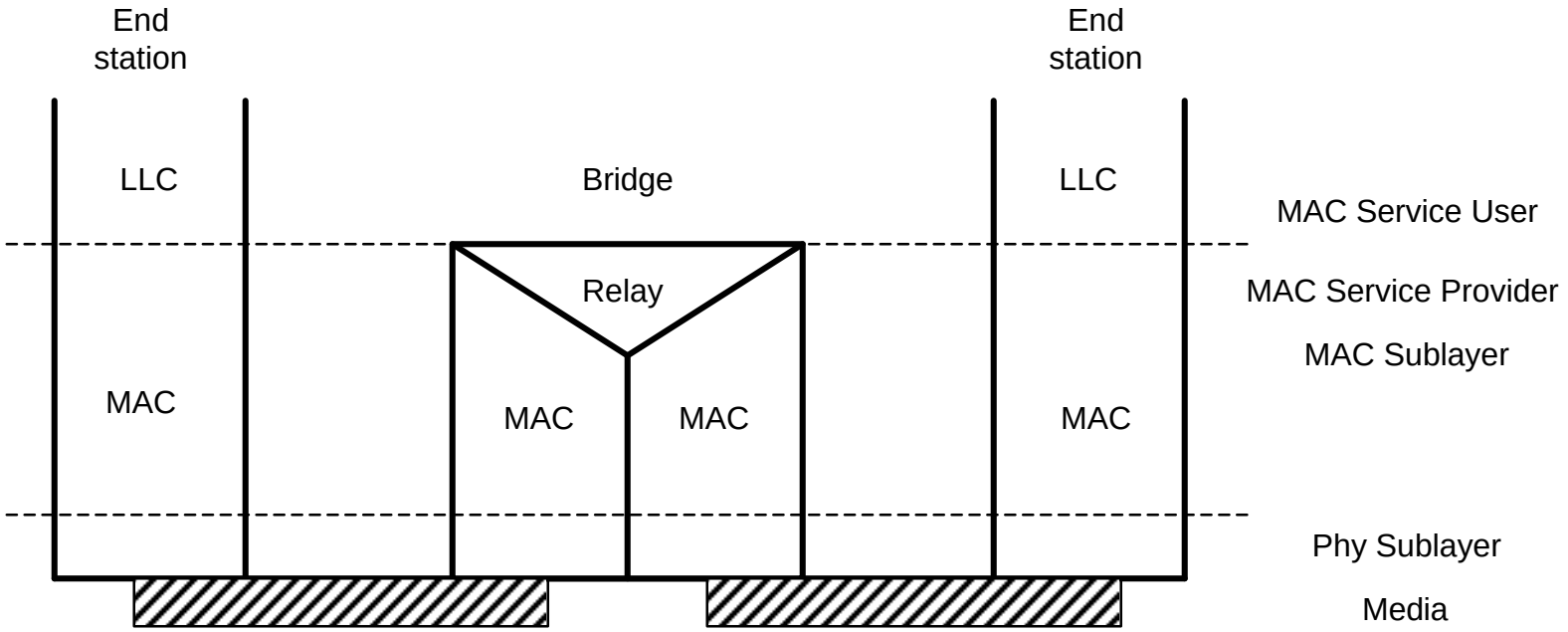
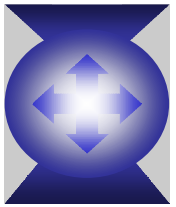


Figure 1—IEEE 802 reference model for end stations (LAN&MAN/RM)

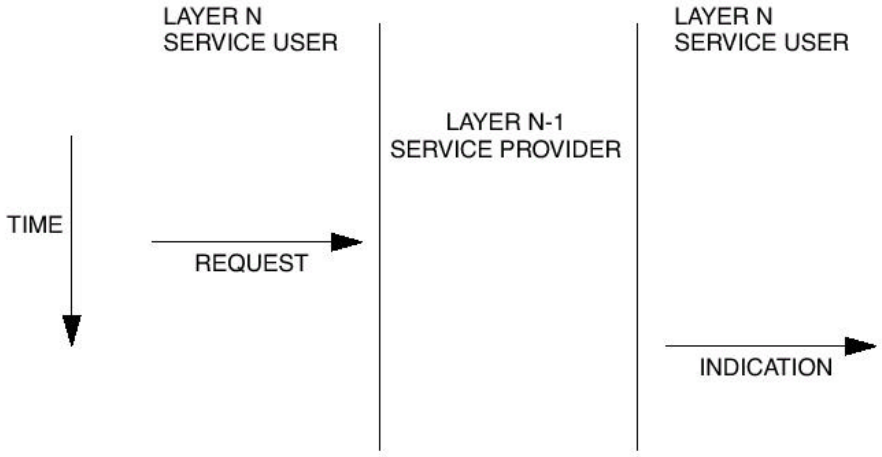
MAC Sublayer with Bridging



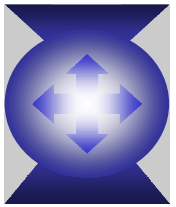
Layer Service Model



- The service of a layer or sublayer is the set of capabilities that it offers to a user in the next higher (sub)layer.
- Abstract services are specified by describing the service primitives and parameters that characterize each service. This definition of service is independent of any particular implementation.



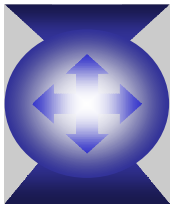
Service Primitives



- Generic types of primitives in 802.2 specifications:
  1) REQUEST: The request primitive is passed from the N-user to the N-layer (or sublayer) to request that a service be initiated.
  2) INDICATION: The indication primitive is passed from the N-layer (or sublayer) to the N-user to indicate an internal N-layer (or sublayer) event that is significant to the N-user. This event may be logically related to a remote service request, or may be caused by an event internal to the N-layer (or sublayer).
  3) RESPONSE: The response primitive is passed from the N-user to the N-layer (or sublayer) to complete a procedure previously invoked by an indication primitive.
  4) CONFIRM: The confirm primitive is passed from the N-layer (or sublayer) to the N-user to convey the results of one or more associated previous service request(s).

  Ref: p12 ISO/IEC 8802-2

Example MSAP Primitives



- The following services are required by LLC Client from MAC

MAC-DATA.request (source_address, destination_address,
routing_information, data,
priority, service_class)

MAC-DATA.indication (source_address, destination_address,
routing_information, data,
reception_status, priority,
service_class**)**

MAC-STATUS.indication (…)

- MAC Control Sublayer provides services to a MAC Control Sublayer which in turn provides services to MAC Control Client (Bridge Relay Entity)

The MAC Sublayer (802.3 example)

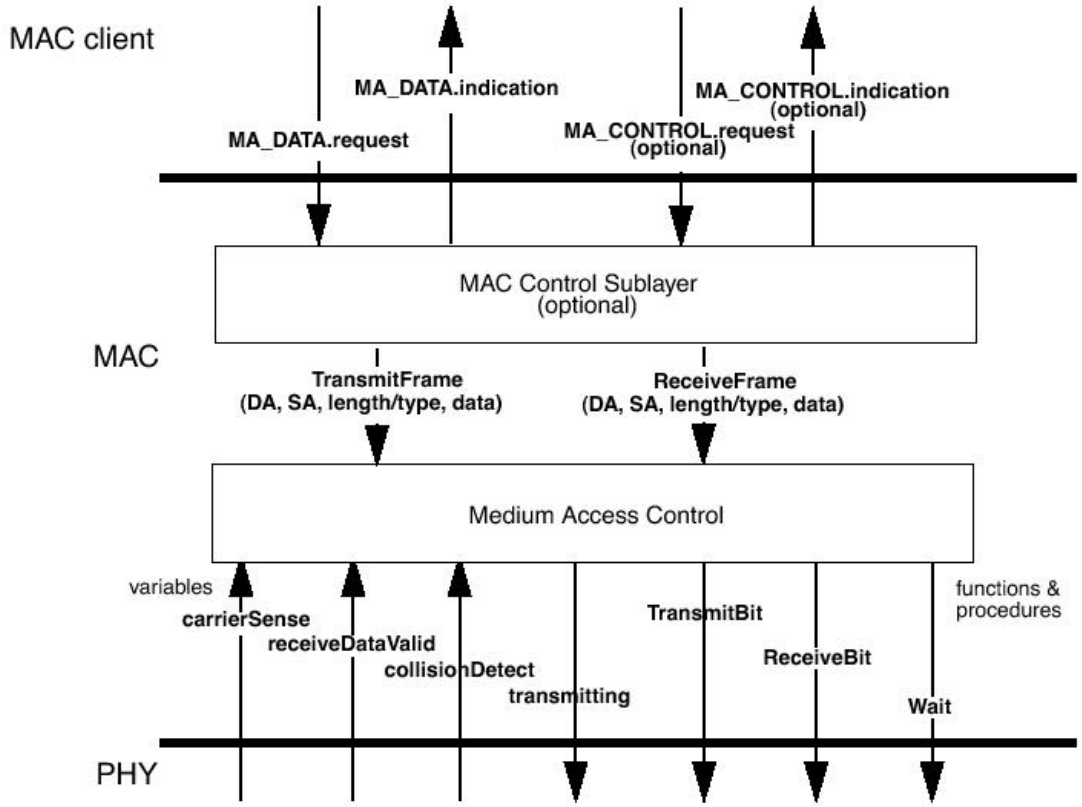
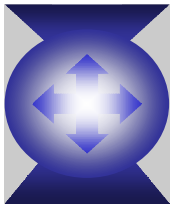


Figure 2–2—Service specification primitive relationships (optional MAC control sublayer implemented)

RPR MAC Layered Model



MAC Control Sublayer Primitives