Interpretation Number: 1-03/09
Topic: TX and RX MAC Paths
Relevant Clause: Clauses 2 and 4
Classification: Not a Request for Interpretation

Interpretation Request

This is a request for interpretation of 802.3-2005_section1, Clauses 2.3.2.5 and 4.1.2.

The first paragraph of clause 2.3.2.5 states:

If the local MAC sublayer entity is designated by the destination_address parameter of an MA_DATA.request, the indication primitive will also be invoked by the MAC entity to the MAC client entity. This characteristic of the MAC sublayer may be due to unique functionality within the MAC sublayer or characteristics of the lower layers (for example, all frames transmitted to the broadcast address will invoke MA_DATA.indication at all stations in the network including the station that generated the request).

The last paragraph of clause 4.1.2 states:

Transmit frame operations are independent from the receive frame operations. A transmitted frame addressed to the originating station will be received and passed to the MAC client at that station. This characteristic of the MAC sublayer may be implemented by functionality within the MAC sublayer or full duplex characteristics of portions of the lower layers.

I am re-designing a MAC core (from 1Gb/s to 10 Gb/s) and would like to know if I am interpreting these paragraphs correctly. As I understand it, architecturally, there must exist a "bridge" from the transmit data path to the receive data path such that a transmitting frame can be "copied" over to the receive side in the event that the destination MAC address should match the local MAC entity. It would appear that this could be an individual address match (for some reason the packet was sent to the local MAC), or a group (such as a multicast or broadcast) address match.

Is this interpretation correct?

Interpretation for IEEE Std 802.3-2005_section1, Clauses 2.3.2.5 and 4.1.2

This request is a request for consultation rather than an interpretation request. It also does not meet the requirement of providing at least two possible interpretations.

The functionality required is unambiguously stated in the standard.

The requester's interpretation is not correct as the standard does not specify or limit how the functionality is achieved.

Other standards may affect implementing these functions (e.g. IEEE Std 802.1)