# IEEE Draft P802.17a/D0.2

# Information technology—

# Telecommunications and information exchange between systems—

# Local and metropolitan area networks—

# Common specifications—

# Part 3: Media Access Control (MAC) Bridges—

# Supplement ??: 802.17 MAC revisions to IEEE Std 802.1D-1998

EDITORIAL NOTES - This supplement is based on the current edition of IEEE Std 802.1D-1998. The editing instructions define how to merge the material contained here into this base document set to form the new comprehensive standard as created by the addition of P802.17a.

Editing instructions are shown in bold italic. Three editing instructions are used: change, delete, and insert. Change is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using strikethrough (to remove old material) or underscore (to add new material). Delete removes existing material. Insert adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. Editorial notes will not be carried over into future editions

### 6.5.8 Support by IEEE Std 802.17 (RPR)

***Editors' Notes:*** *To be removed prior to final publication.*

*References: This section needs to be inserted into section 6.5 (Support of the Internal Sublayer Service by specific MAC procedures). It include the MAC Protocol and Procedures associated with the IEEE 802.17 MAC specific mapping of the Internal Sublayer Service, and the encoding of the parameters of the service in MAC frames.*

*Definitions:*
*None.*

*Abbreviations:*
*RPR - Resilient Packet Ring*

*Revision History:*
*Draft 0.0, August 27, 2003 Initial draft document for WG review.*

The RPR MAC access method is specified in IEEE Std 802.17. Clause 5 of that standard specifies the MAC service interface and reference model. Clause 6 specifies the MAC transmission and reception procedures. Clause 8 specifies the MAC frame structure.

On receipt of a M_UNITDATA.request primitive, the local MAC entity performs transmit data encapsulation, assembling a MAC frame (IEEE Std 802.17, Clause 8) using the parameters supplied as specified below.

On receipt of a valid MAC frame (IEEE Std 802.17, Clause 8), a M_UNITDATA.indicaiton primitive with parameter values derived from the frame fields as specified below.

The **frame_type** parameter takes only the value user_data_frame and is encoded in the frame type (*ft*) field of the *baseControl* field (IEEE Std 802.17, 8.6.3).

The **mac_action** parameter takes only the value request_with_no_response and is not explicitly encoded in MAC frames.

The **destination_address** parameter is encoded in the *da* field of the MAC frame (IEEE Std 802.17, 8.2.2.3). Frames transmitted by a MAC client (e.g., bridge relay entity), where the source_address parameter does not equal the MAC's address, the destination_address parameter is encoded in both the *da* and *daExtended* fields of the MAC frame (IEEE Std 802.17, 8.2.2.8).

The **source_address** parameter is encoded in the *sa* field of the MAC frame (IEEE Std 802.17, 8.2.2.4) when supplied by a MAC client where the source_address is equal to the MAC's address. When the source_address is supplied by a MAC client (e.g., bridge relay entity) where the source_address is not equal to the MAC's address, then the source_address is encoded in the *saExtended* field of the MAC frame (IEEE Std 802.17, 8.2.2.9).

The **mac_service_data_unit** parameter is the service user data which includes the protocol type and is encoded in the *protocolType* and *serviceDataUnit* fields of the MAC frame (IEEE Std 802.17, 8.2.2.10, 8.2.2.11).

The **user_priority** parameter provided in the data request primitive is encoded in the *sc* field of the baseControl field (IEEE Std 802.17, 8.6.4) of the MAC frame in accordance with user priority request and MAC service class columns of Table 7-3. The user_priority parameter provided in the indication primitive is derived from the service class (*sc*) field of the baseControl field of the MAC frame. The association between service class and user_priority is provided in Table 6-1.

**Table 6-1—MAC service class to user priority indication mapping**

| MAC service class | user_priority |
|---|---|
| classC | 0 |
| classB | 4 |
| classA | 6 |

***Editors' Notes:*** *To be removed prior to final publication.*

*In looking at the other MACs defined in clause 6.5, there are a number of MACs (802.4, 802.5, FDDI, DQDB) which do not mention support of the access priority parameter even though they support the mapping from user to access priority in table 7-3. Need to understand rationale for not including description of the access_priority and whether it makes more sense to include or exclude the access priority description for 802.17.*

The **access_priority** parameter found in the data request primitive is encoded in the service class (sc) field of the MAC frame (IEEE Std 802.17, 8.6.4). The association between access_priority and the service class is illustrated in Table 6-2.

**Table 6-2—Access_priority to MAC service class mapping**

| access_priority | MAC service class |
|---|---|
| 0 | classC |
| 1 | classC |
| 2 | classC |
| 3 | classC |
| 4 | classB |
| 5 | classB |
| 6 | classA |
| 7 | classA |

The **frame_check_sequence** parameter is encoded in the *fcs* field of the MAC frame (IEEE Std 802.17, 8.2.2.12). The fcs is calculated as a 32-bit CRC starting from the first byte following the header checksum field (*HEC*) (IEEE Std 802.17, 8.2.2.7) to the end of the payload (IEEE Std 802.17, 8.2.2.11) in accordance with IEEE Std 802.17, Annex F.2. If a M_UNITDATA.request primitive is not accompanied by this parameter, it is calculated in accordance with IEEE Std 802.17, Annex F.2.

No special action, above that specified in IEEE Std 802.17, is required for the support of the MAC Internal Sublayer Service by the RPR access method.

802.17 MAC service interface supports a number of optional parameters that are specific to the 802.17 MAC. These parameters take on default values in M_UNITDATA.request primitive during transmission, and are ignored by the bridge relay upon reception. The default values and procedures for handling RPR specific parameters are defined in IEEE Std 802.17, 5.4.1.2 and clause 6.

### 7.7.3 Mapping priority

***Editors' Notes:*** *To be removed prior to final publication.*

*References: A new column needs to be inserted in Table 7-3 (Outbound access priorities) found in section 7.7.5 (Mapping priority). The column represents the 802.17 MAC outbound access priority per MAC method.*

*Definitions:*
*None.*

*Abbreviations:*
*None.*

*Revision History:*
*Draft 0.0, August 27, 2003* *Initial draft document for WG review.*

**Table 7-3—Outbound access priorities**

| user_priority | Outbound Access Priority per MAC method |
|---|---|
| | **802.17** |
| **0** | classC |
| **1** | classC |
| **2** | classC |
| **3** | classC |
| **4** | classB |
| **5** | classC |
| **6** | classA |
| **7** | classA |