

143.2 Summary of major concepts

The following are the major concepts of the MCRS:

- a) The MCRS transmission is controlled by a higher layer (e.g., Multipoint MAC Control sublayer defined in Clause 144) via the use of MCRS_CTRL primitives.
- b) The MCRS establishes a temporary binding of a single MAC instance to one or more xMII instances with all xMIIs operating at the same rate.
- c) In the transmit direction, the MCRS converts the MAC serial data stream into the parallel data paths of multiple xMIIs servicing separate PHYs.
- d) In the receive direction, the MCRS maps the signal sets provided by the xMIIs to the PLS service primitives of individual MACs.
- e) Each direction of data transfer is independent and serviced by data, control, and clock signals.
- f) The MCRS generates continuous data or control characters in the transmit path and expects continuous data or control characters in the receive path.
- g) If MCRS_CTRL primitive carries GLID bandwidth, the scheduler in MCRS schedules data from member LLIDs of GLID, based on the policy configured by OAM.

143.3.1.2.1 MCRS_CTRL[ch].request(link_id, epam, **grant**_length) primitive

The MPCP requests the MCRS to transmit the next envelope(s) using the MCRS_CTRL[ch].request(link_id, epam, **grant**_length) primitive. This opens an envelope transmission window on channel ch for the LLID specified by link_id with a length (in EQs) of **grant**_length. If link_id represents a GLID, multiple LLIDs, which are members of the GLID, share the same envelope transmission window. See 144.2.3.4 for the definition of GLID. If all channels are idle, the EnvPam variable (see 143.3.3.4) is set to the value of epam (see EnvStartHeader() function definition in 143.3.3.5).

144.2.3.4 Group Link ID (GLID)

To assist in traffic management the Nx25G-EPON system supports consolidation of several LLIDs into arbitrary groups using the Group Link ID (GLID). For example, all LLIDs for a specific subscriber hosted on an ONU servicing numerous subscribers could be grouped together into a single GLID; in another example all LLIDs supporting a specific traffic class (e.g., best-effort traffic) on a multi-subscriber ONU could be grouped together. GLID values are used only for the purposes of bandwidth granting from OLT and reporting to OLT. The GLID report includes the grant requests from all member LLIDs. The bandwidth granted to a GLID is shared by all its member LLIDs. The actual transmission is identified by a PLID, an MLID, or a ULID value.