

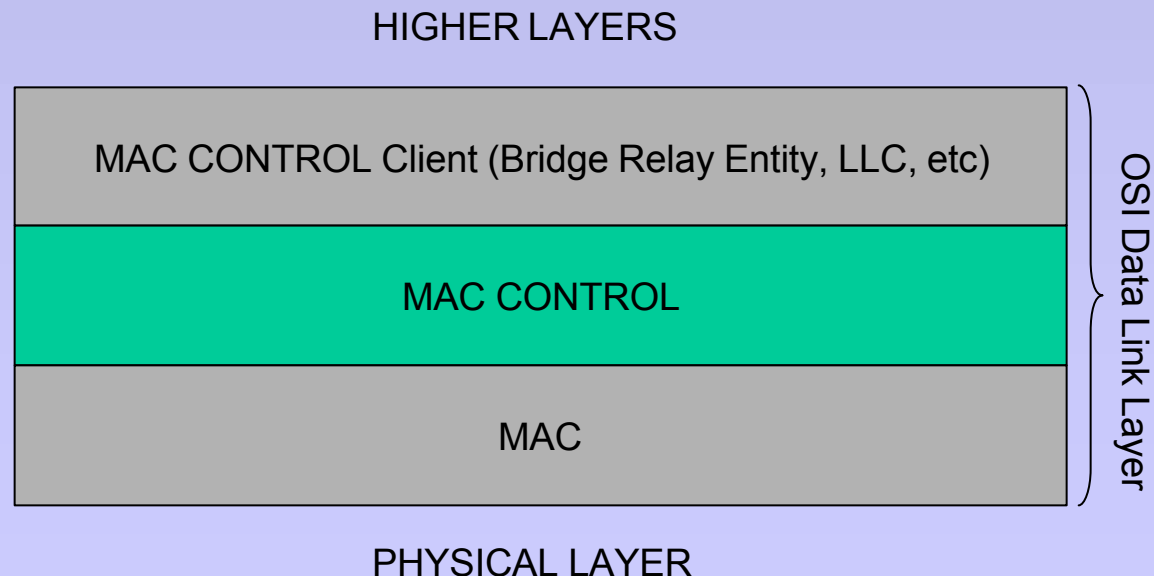
MPCP General Description

MPCP

- **The Multi-Point Control Protocol (MPCP)** specifies a control mechanism between a Master unit and Slaves units connected through a Point-to-Multi-Point (P2MP) segment to allow efficient transmission of data
- **Functions performed are:**
 - Controlled network boot process
 - Ranging
 - Bandwidth assignment to end-stations
 - Bandwidth polling from end-stations

MAC Control

- **MPCP is implemented in MAC Control layer**
- **Clause 31:** “MAC Control provides for real-time control and manipulation of MAC sublayer operation”



MAC Control

- **New control messages are introduced:**
 - assign and request bandwidth:
 - **GATE**
 - **REPORT**
 - control the boot process:
 - **REGISTER_REQ**
 - **REGISTER**
 - **REGISTER_ACK**

Considerations for Optimization

- **MPCP provides 'hooks' for network resource optimization:**
 - Ranging is performed to determine ONU distance, and reduce slack
 - Reporting of bandwidth requirements by ONUs for dynamic bandwidth allocation (DBA)
 - Optical parameters are negotiated to optimize performance
 - Others TBD...

Scalability & Extensibility

- Fast granting cycles possible
- Dynamic granting capability allows fast bandwidth assignment
- Protocol has ability to add future fields
- Vendor-specific enhancements possible without compromising interoperability
- Split ratio and reach not limited by MPCP

Details in separate presentations...

- Layering
- Timing Model
- Message Formats
- ONU Auto-Discovery
 - Also includes P2PE initialization

P2MP Motion: MPCP General

P2MP Track Motion:

Use proposal <[maislos_1_0312.pdf](#)> as a basis for the first P2MP draft.

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P2MP Chair Note: proposal was modified from posted maislos_1_0302.pdf. Revised presentation maislos_1_0312.pdf posted on EFM reflector.