

Super-PON PCS Options

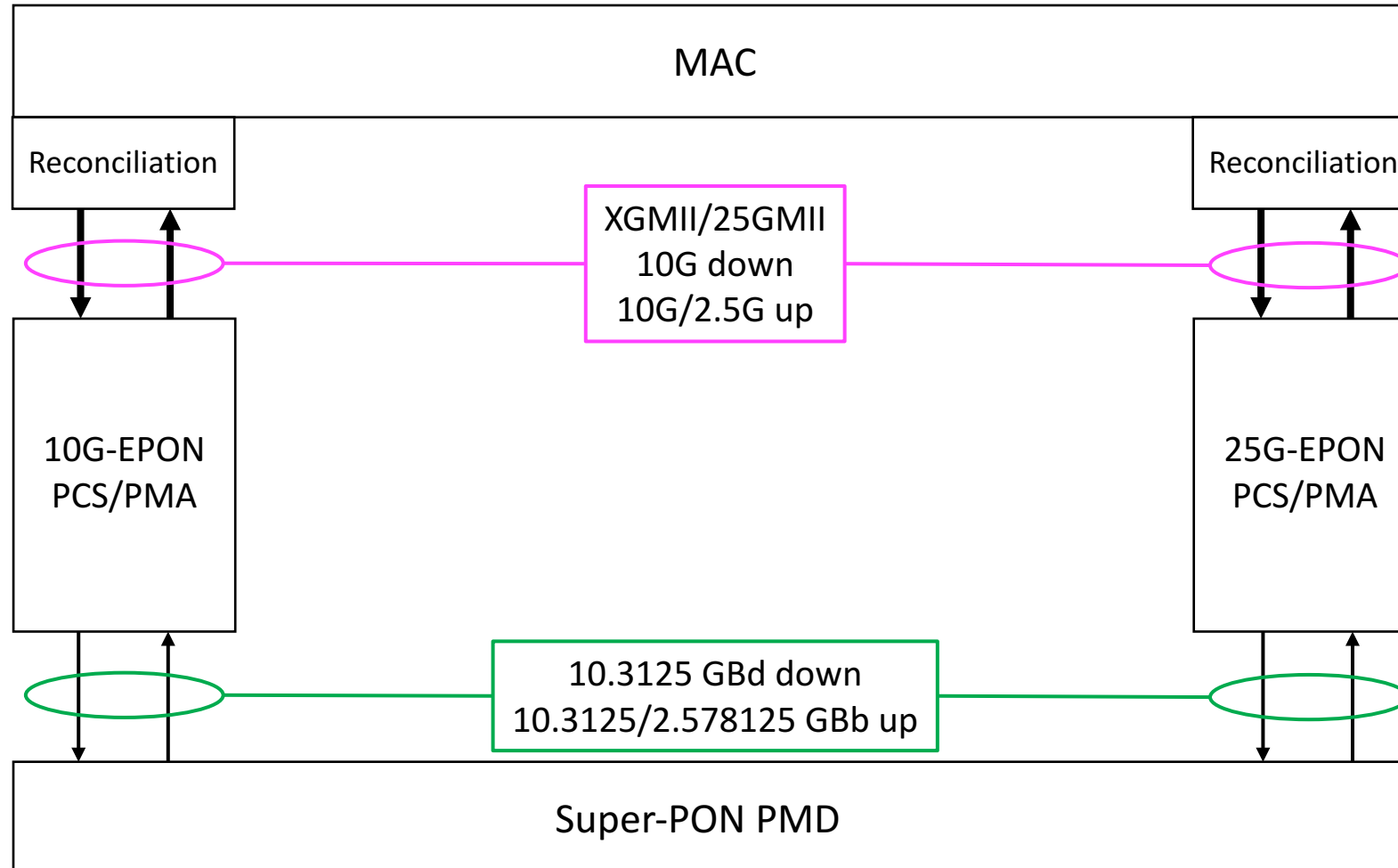
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Claudio DeSanti (Google)

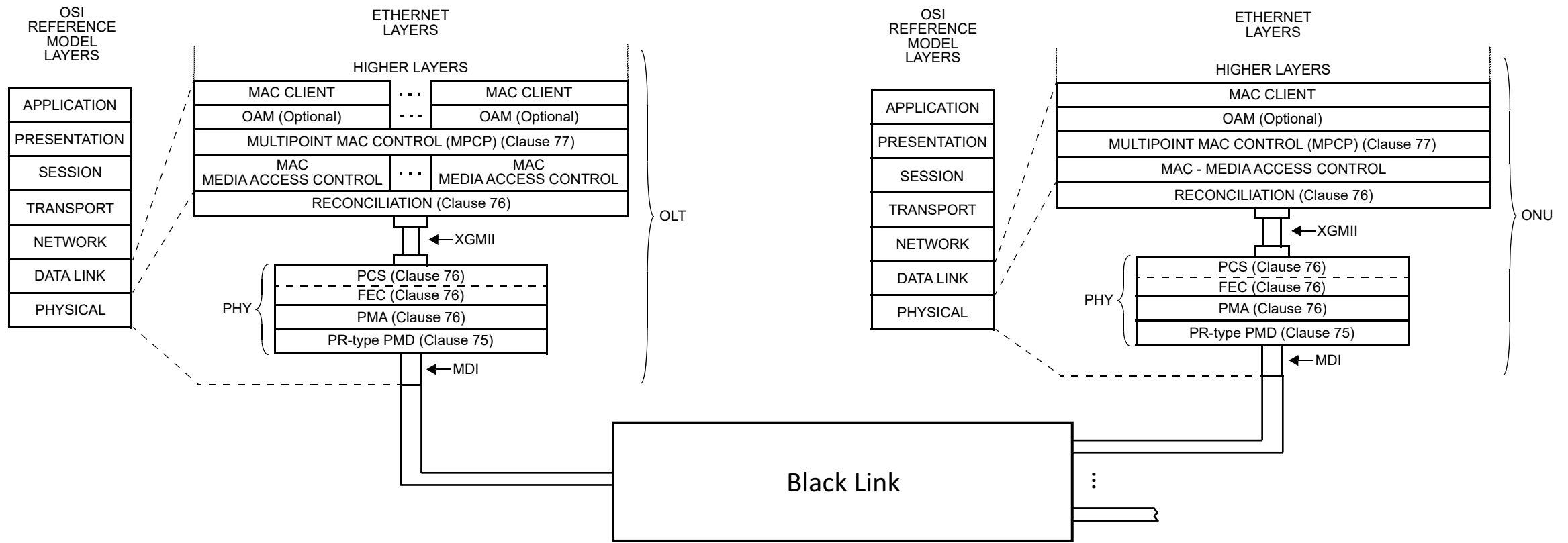
Summary from Last Meeting

- Two PCS options are possible to support Super-PON:
 - Leverage the 10G-EPON PCS
 - Leverage the 25G-EPON PCS
- The changes to the discovery protocols are straightforward
- A proposal was made to base Super-PON on the 10G-EPON PCS and allow the option to leverage the improved margin of the 25G-EPON PCS for the 10G/10G symmetric mode of operation
 - The task force prefers to pick a single option

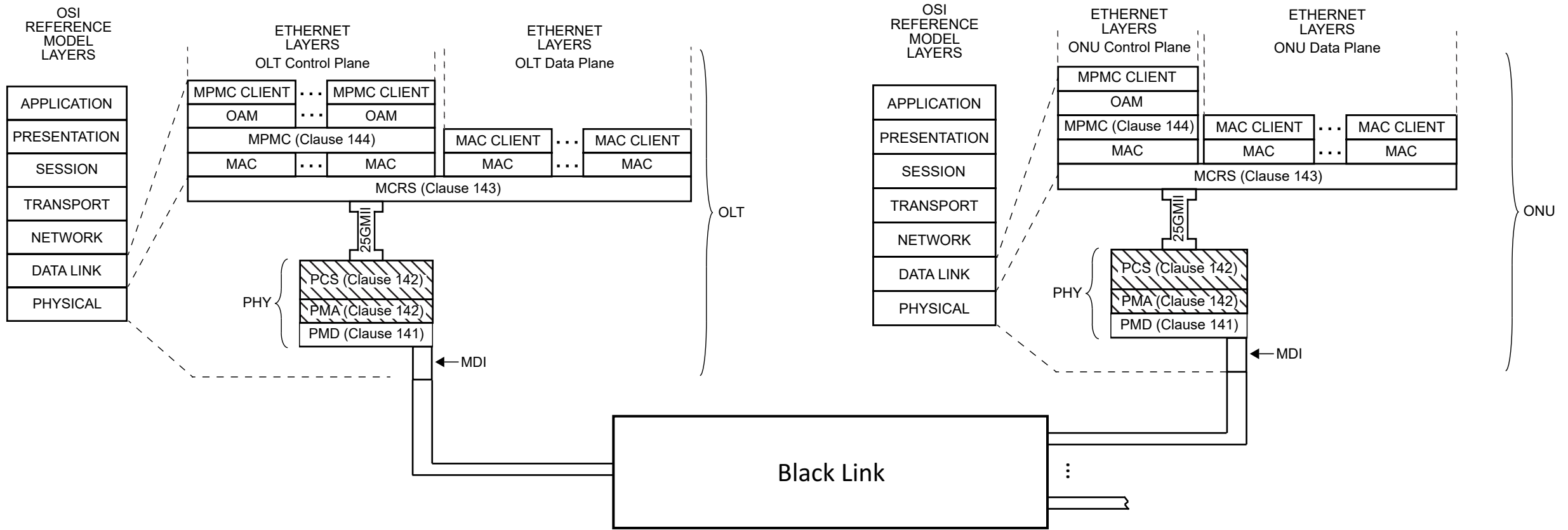
PCS Options



Super-PON PCS from 10G-EPON



Super-PON PCS from 25G-EPON



Options Comparison

| Property | 10G-EPON PCS | 25G-EPON PCS |
|-----------------------|---|---|
| Implementation effort | <ul style="list-style-type: none"> - Existing implementations are able to support the 10G/10G symmetric mode of operation with just discovery updates - A silicon respin may be required to support the 2.5G upstream speed | <ul style="list-style-type: none"> - No commercial implementations available yet - Silicon updates required to support both the 10G downstream speed and the 2.5G upstream speed |
| FEC | <ul style="list-style-type: none"> - Same FEC of XGS-PON - Straightforward sharing of PMDs between IEEE P802.3cs and ITU-T G.9807.3 - Tighter link budget | <ul style="list-style-type: none"> - Improved FEC (1 to 2 dB more margin) - Helps to close the link budget - An IEEE P802.3cs PMD might not work as well with ITU-T G.9807 |
| Framing | <ul style="list-style-type: none"> - Frame based (no fragmentation) | <ul style="list-style-type: none"> - Envelope based (supports fragmentation) |
| Encoding/bandwidth | <ul style="list-style-type: none"> - 64B/66B based | <ul style="list-style-type: none"> - 256B/257B based - Same effective bandwidth (the more efficient encoding compensates the additional FEC overhead) |
| Identifiers | <ul style="list-style-type: none"> - LLIDs | <ul style="list-style-type: none"> - LLIDs, MLIDs, ULIDs, PLIDs |

Comments?

Thank you!