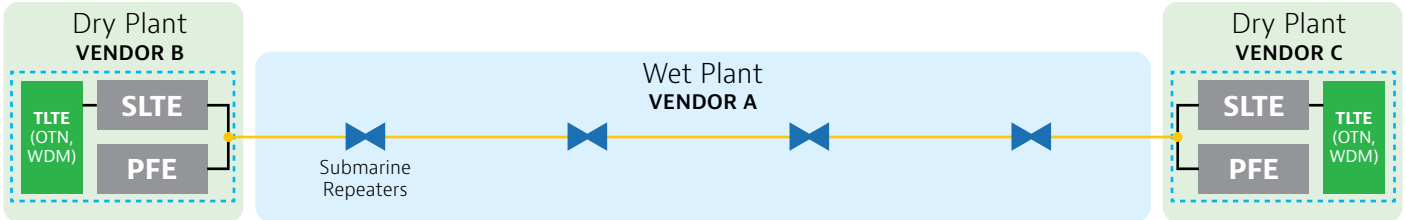


SLTE Emulation

How to Qualify Wetplant when no SLTE is Present?



SLTE Submarine Line terminal Equipment · PFE Power Feed Equipment · TLTE Terrestrial Line Terminal Equipment

Open Submarine Cables

Opportunity

- Open Cables enable independent vendor selection for wet and dry technology
- SLTE technology cycles are faster (5 Y) than a Submarine cable build (~25 Y)
- Open Cables allow the use of preferred SLTE technologies and vendors

Challenge

- Verification of wet-plant without presence of SLTE

Solutions

- SLTE simulator to test wet-plant performance under different conditions
- Use of new performance metrics to qualify wet-plant (independent from SLTE)
- Use of OSNR and G-OSNR is discussed in the industry

Technical challenges

- Power at the amplifiers is not representative; management system may not enable the link
- The wet plant is designed to operate with specific channel plans and spectral densities. Amplifier performance (OSNR, Gain-tilt etc.) will not be accurate if a different load is present.
- It is not practical to have a full SLTE system for certification of dark fiber

Three steps to SLTE Emulation

- 1 Create a cost effective and representative DWDM comb
- 2 Manage comb to insert active test channel
- 3 Adjust (degrade) OSNR to probe end of life specification

Leverage MAP-300 to create dynamic, flexible and cost effective SLTE emulator

- Versions deployed at all wet plant manufacturers – even on cabling ship
- Emulate intended operation conditions or range of condition with simple software interface
- Ensure wet plant amplifiers are running optimally to verify OSNR/GOSNR and gain tilt
- Allow live test channel insertion for Q-measurement and live system soak tests
- Create even more advanced loading schemes to emulate mixed signal operations
- Certify the wet-plant as part of commercial terms



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