



Optical Splitters for Enterprise and MDU/MTU PON Networks:

Rack Them But Don't Stack Them

Published By OJ Johnston (4/09/13)

Currently, one of the challenges in deploying new, higher speed services to both enterprise customers as well as MDU/MTU customers is how to deliver these services using the least amount of space possible, while maintaining network flexibility and service quality. M2 Optics' recent release of the **SplitLight High-Density Platform (HDP)** enables unprecedented space savings and enhanced flexibility without sacrificing performance.

Size Matters!

As previously introduced in [a recent article](#), the SplitLight form-factor offers the most density available in a single RU for optical combiners/splitters (up to 192 each 1x2 or 1x3, 128 each 1x4, or 16 each 1x32) through its patent-pending, 3D architecture. In addition to splitters, the SplitLight HDP can also house passive optical wavelength multiplexers (mux), demultiplexers (demux), and AWGs. Furthermore, the SplitLight HDP can be configured to support all of these applications simultaneously within a single chassis. **As a result, in just 1RU of space, GPON, 10G GPON, WDM-PON, and network monitoring applications can all be supported from a single chassis.** Typically, this scenario would have required the following:

- A patch panel with integrated tap for monitoring at the service demarcation point
- GPON splitter shelf (3 or 4RUs) or wall mount cabinet combiners/splitters to split the signal from the feeder fiber onto the distribution fibers
- WDM mux/demux, which may fit in the splitter shelf or may be a separate shelf (another 3 or 4 RUs)

By using the SplitLight HDP, all of these functions can be accomplished in a single chassis, reducing the required rack space from as many as 4-6 RUs or more, down to just 1RU. M2 accomplishes this by integrating MTP connectors to reduce the front panel space needed for connectors and the proprietary architecture of the system.

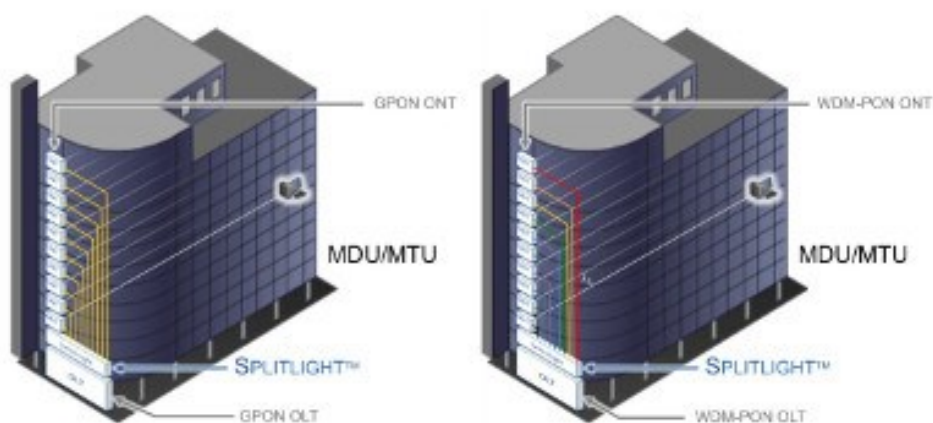


Figure 1: GPON or WDM-PON Using SplitLight



Doing More with Less – Future Proofing The Network

In today's business environment, companies are being forced to do more with less. As previously mentioned, the SplitLight HDP allows companies to simultaneously tap signals for network monitoring, split signals to provide access via the GPON, and/or demux the wavelengths to provide access via the WDM-PON. Combining the functionality of multiple passive network elements into a single network element decreases the size without limiting flexibility. In addition, the SplitLight HDP can provide front panel, rear panel, or both, connectivity with customized labeling. The connectivity flexibility coupled with the 3D architecture of the SplitLight HDP, enables companies and service providers to have even more flexibility in future-proofing their networks.

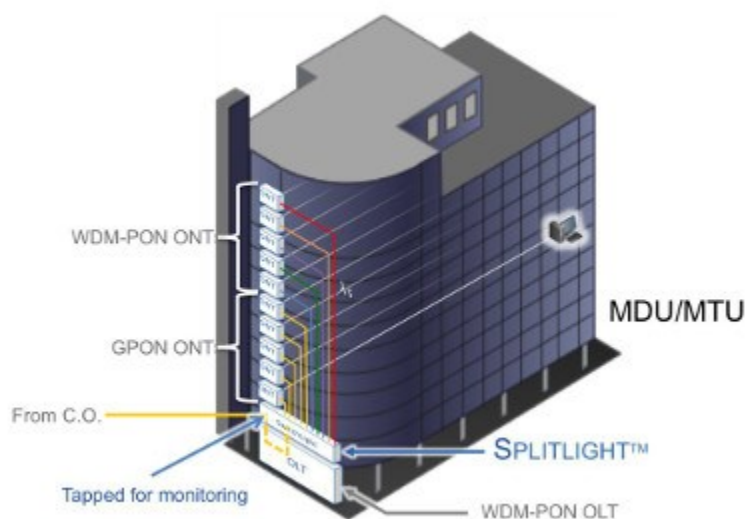


Figure 2: Both GPON & WDM-PON Using SplitLight

Optimum Performance

SplitLight HDP uses low-loss components, including MTP Elite connectors. Using bend-insensitive fiber and MTP Elite connectors coupled with M2 Optic's comprehensive testing ensures the lowest possible loss across all connections while providing the size and functionality benefits previously mentioned. As a result, the SplitLight HDP surpasses the capabilities of all other solutions in the market.

The Ultimate Solution

Using a single HDP chassis with the integrated taps for network monitoring, GPON combiners/splitters, and WDM-PON mux/demux provides unmatched flexibility and density in a single 1RU platform. Couple these attributes with high performance components and the SplitLight HDP delivers the ultimate solution for today's high-bandwidth, enterprise and MDU/MTU PON networks.