The StreetSmart Aerial FDH:

Bringing Efficiency and Deployment Cost-Savings to Aerial Fiber Deployment

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It is generally understood that aerial fiber networks are much less costly to design and build versus an underground network. And as with all fiber networks, fiber distribution hubs (FDH) are an integral part. However, when the network is deployed aerially, bringing fiber cable to the FDH cabinets poses some distinct challenges and costs to the network planner and design engineer. Once the cable leaves the communications space, additional deployment labor and permitting costs may be incurred, as well as the engineering time related to securing rights of way to place mounting pads and splicing vaults. These issues can be resolved by placing the FDH on the cable strand. However, standard industry FDH cabinets do not lend themselves to this type of aerial application. Clearfield utilized the benefits of an aerial network to create the StreetSmart Aerial FDH - expanding upon the costs saving benefits of an aerial deployment by eliminating the traditional costs incurred with permitting, right-of-way and placing mounting pads and splice vaults.

Traditional Deployment Challenges

Despite the general understanding that aerial applications are the least costly type of deployment, running the aerial feeder cables to the FDH cabinets consumes both engineering time and labor, which are accepted costs for securing the cable down a pole and to a place near the ground mounted cabinet, or in the case of a pole mounted cabinet, routing a cable at least part way down the pole. And then there are the time and cost challenges associated with real estate – securing a space where is it safe and legal to place the cabinet. In the case of pole mounted FDH's, the challenge is to find room on the poles where the FDH is safe from vehicular strikes, high enough to allow pedestrians to pass under while low enough to keep out of sight of traffic signals, not to mention recurring pole leasing fees.

Clearfield recognized the opportunity to further reduce the costs of deploying an aerial PON network where an FDH can be easily placed while not interfering with pedestrian or vehicular traffic, all while being accessible by the technician.

A Better Way: the StreetSmart Aerial FDH for Aerial Deployments

Designed from the ground up, and specifically for aerial applications in the outside plant environment, Clearfield's StreetSmart Aerial Fiber Distribution Hub (FDH) eliminates aerial network design and installation challenges while providing a single distribution point to distribute FTTx in both rural and urban neighborhoods. The Aerial FDH is a sealed, free breathing enclosure that provides protection in the harshest OSP environments, and because its small size (approximately the size of a standard splice case), the Aerial FDH can be placed on the strand in the same space as other telecommunications cables, thus eliminating much of the engineering, right of way, construction and material costs associated with ground or pole mounted FDH options.

The StreetSmart Aerial FDH is the complete solution for managing up to 288 ports of distribution fibers for an outside plant PON application. With four side-entrance cable access ports (two on each end), designers can select a single factory terminated 288 fiber cable that eliminates splicing at the terminal and enables the service provider to define feeder and distribution ports. Or if desired, the additional cable access ports can be used for a more traditional, separate distribution and feeder cable design. This cable access feature allows designers to customize each individual deployment.

Designed with craft accessibility in mind, the Aerial FDH includes 4 individual hinged covers that allow the technician to easily access fiber ports by simply releasing 4 latches vs. unsealing and removing a domed cover. The feeder cables that are pre-terminated or spliced on the back side of the Case, are housed separately and securely away from the craft accessible ports located in the front of the enclosure providing for the ideal level of security and separation of craft responsibilities.

The compact design of the case is achieved by including individual blocks of 12 LC/APC adapters that are retained in multiple sized faceplates, thus allowing for maximum configuration capabilities and the symmetrical design reduces splitter leg lengths minimizing cable pile-up while providing left or right access to any port. Excellent fiber management and bend-radius protection is provided throughout the route path.

Splitters

The StreetSmart Aerial FDH has room to hold up to 9 individual compact ruggedized splitter modules, allowing the service provider to add splitters as needed and to grow-as-they-go, minimizing investment in capital equipment related to the turn-up of revenue-generating circuits.

The StreetSmart Aerial FDH:

- Eliminates the need to submit right of way easements
- Eliminates the need to construct concrete pads or install cable vaults
- Separates and secures craft sensitive areas
- Allows for multiple cable entries on either end
- Provides maximum scalability across multiple services classes
- 100% performance tested for insertion loss, return loss and final mechanical inspection
- Compliant to Telcordia GR-3125, GR-326, GR-20 and GR-409

Network planners and engineers no longer need to design and build the network around available PON cabinet locations. With the StreetSmart Aerial FDH, the PON element can be placed exactly where it is needed to create a more efficient and cost-effective network.