AROONA

AROONA serves factory network

The customer's issue

The customer would like to upgrade video surveillance networks in the guardhouses at the main site gates. This upgrade requires 10 Gb/s on each link to the main gates in order to support video data feed; however, existing links use OM1 multimode fibers, which are longer than 550 m [1800 ft]. As a result, these fibers do not support bit rates of more than a few hundred Mb/s.

The AROONA solution

Cailabs' AROONA-STAR solution guarantees a capacity > 10 Gb/s (as opposed to switching to LRM transceivers combined with mode conditioning patchcords as was initially tried by the customer). The short time it takes to install AROONA (less than 4 hours) allows for a minimally disruptive upgrade. Neither work nor traffic is interrupted in the factory. AROONA is therefore the more favorable solution compared to a new fiber deployment.

The benefits of the solution

- **10 Gb/s** enabled, with an easy upgrade path to 100 Gb/s using WDM
- **4 hours of installation** to upgrade 4 multimode fibers rather than several days as is the case with a new fiber roll-out
- **Neither the construction work** nor the **production line on-site is interrupted**

Deploying advanced services over legacy infrastructure

The customer happens to be one of the largest manufacturers of automobile parts in North America, recognized for their innovative technology and manufacturing processes.

The company operates a network which is primarily composed of OM1 (62.5/125 μm) multimode fibers deployed in the mid 1980s. Some of them are a few hundred meters long and thus, cannot support data rates of more than a few hundred Mb/s.

Today, the company is grappling with the increasing needs for higher bandwidth. The deployment of new services, such as an advanced video surveillance system, requires up to 10 Gb/s of bandwidth. The long OM1 fibers therefore constitute bottlenecks in the network.

Several alternative solutions tested leading to AROONA

As a way to overcome the existing infrastructure's bandwidth limitation, a project involving the deployment of OM4 fibers is set to take place across the factory campus, completed by a renewal of the network active core.

From the interior of buildings and warehouses, fiber deployment is fairly feasible; however, when it involves two links between the network core and the guardhouse, the process is far more complex being that the fiber paths go through roads and parking lots.

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New fiber deployment for these two links, with lengths of 570 m [1870 ft] and 710 m [2330 ft], would require a large investment and also be disruptive.

Due to constant, heavy truck traffic on-site, the factory site cannot afford to have construction work throughout the campus.

The solution was brought up by Cisco, who supports Cailabs through their Country Digitization Acceleration program.

The company tried several of Cisco's solutions in order to upgrade the bandwidth to 10 Gb/s, such as switching from 850 nm to 1310 nm transceivers and using LRM transceivers and mode conditioning patchcords. However, neither was successful.

Cisco's Transceiver Module group therefore recommended Cailabs' solution to the company.

Link A to B: 570 m [1870 ft] - Link A to C: 710 m [2330 ft]

High-resolution video surveillance for guardhouses

Cailabs' AROONA-STAR solution guarantees a capacity of 10 Gb/s, which is necessary for the main purposes of video surveillance systems and high bit rate network communications. The short time it takes to install AROONA-STAR (under 4 hours) allows for a minimally disruptive upgrade of two multimode fiber links of 570 m and 710 m, without interrupting work or traffic in the factory.

AROONA-STAR is compatible with WDM and provides a seamless upgrade to 100 Gb/s. The customer thus has future-proofed the fibers and can upgrade the path to a higher bandwidth in the event they need to deploy more services.

In addition, AROONA's passive solution could benefit other branches of the company and be of use to many other factories with similar facilities and site configurations.

Upgrade your network infrastructure through our partner

FONEX data systems is an innovative telecom equipment supplier focused on network infrastructure design solutions. They offer the best performance/price ratio, optimally adapted to their customers' needs. Thanks to a strategic partnership between Cailabs and FONEX data systems, FONEX was able

to upgrade the customer's Local Area Network from 1 Gb/s to 10 Gb/s in less than 4 hours. Due to regulations, the customer had to upgrade their network and were able to utilize the extra bandwidth immediately after the installation of AROONA-STAR.

Cailabs: harness the full potential of optical fibers

Cailabs is a leading provider of innovative solutions designed to increase the capacity of optical fibers. We develop and manufacture a large range of light shaping components based on our patented, efficient and flexible Multi-Plane Light Conversion (MPLC) technology.

Worldwide telecommunication manufacturers and providers, such as Nokia, Cisco, Tellabs, Huawei and KDDI, trust our products to upgrade today's network infrastructure and create the networks of tomorrow.

At Cailabs, we help you make the most of your optical fibers!

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