
Extending Emergency Communication For Large Campus Settings

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Contents

Introduction	3
Background.....	4
Challenge.....	5
Solution.....	6
Conclusion	7
References	8
About Code Blue Corporation	9

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Introduction

Ensuring that people have a direct line to request assistance can be a tricky proposition for large campus settings looking to either expand their location with new construction or upgrade their existing infrastructure. Emergency communication products frequently need to be installed great distances from more centralized locations. This can create a number of issues related to connectivity, power, communication and more. In order to ensure that help is available when it's needed most, locations should invest in technology that will extend communication capabilities to the farthest corners of their property for a reliable security solution.

Background

Over the years, a wide range of locations – hospitals, airports, universities, corporations, etc. - have installed emergency communication products like blue light towers equipped with speakerphones in order to establish a safe environment for everyone on site. These sites will frequently grow over time with new properties and assets, and that expansion requires additional tools that can be used by their audience. Additionally, many locations will choose to upgrade their current infrastructure, perhaps making the transition from analog to IP communication, which can require an extensive amount of time and resources. As a result, solutions that are dependable yet economical become vital.

Challenge

There are a number of important factors to examine prior to the installation of an emergency communication product that will have an impact on power and communication, including:

- **Distance:** A normal Ethernet connection over CAT 5 or CAT 6 cables is limited to approximately 328 feet. This factor can limit campus settings that cover multiple acres or span several city blocks.
- **Environment:** Locations that experience extreme temperatures need a solution that will be able to withstand both heat waves and blizzards.
- **Infrastructure:** Replacing existing cabling can be painstakingly slow and expensive. It is far more advantageous to utilize a solution that can capitalize on existing connections that are still in good condition.
- **Flexibility:** Multiple power and mounting features can make it easier to upgrade existing items or expand new construction, while also allowing the option to choose between different network connections.

Solution

Code Blue's industry pioneering emergency communication products have been installed at thousands of locations for nearly three decades, providing people with an easy and efficient way to request assistance. This includes a diverse set of large campus settings with unique requirements that necessitate an effective way to extend communication options. One easily available solution includes combining Code Blue products with media converters or Ethernet extenders from Etherwan, a leading manufacturer of Hardened Ethernet, Power over Ethernet (PoE), and fiber connectivity products specifically designed for harsh and demanding environments.

For example, let's say a customer wants to install one of Code Blue's VoIP speakerphones in a location that has an existing analog connection or is located far from the closest network switch. Etherwan's media converter will serve as a bridge between fiber options and copper media with Ethernet extenders that can provide a link that will reach farther distances than standard lengths, creating a stable, high-speed connection for geographically distant LANs. Additionally, customers can select a Small Form-Factor Pluggable (SFP) on networking hardware to adapt to fiber and copper network connections.

Combining Code Blue products with Etherwan's Ethernet extenders also gives customers the flexibility to connect remote or separated networks, regardless of whether it is using CAT 5/6/7 cables or repurposing single-pair phone wire.

Code Blue, for example, has tested an Etherwan extender that can push Ethernet down a single pair of copper wires more than 7,000 feet. One Megabits per second (Mbps) can be reached at 7,217 feet – enough bandwidth for a VoIP call – while 100Mbps can be achieved nearly 1,000 feet away. There is also an extender that utilizes Power over Link (PoL) technology to deliver both PoE power and Ethernet communications over a single legacy twisted pair cable, such as a telephone line, up to 2,200 feet.

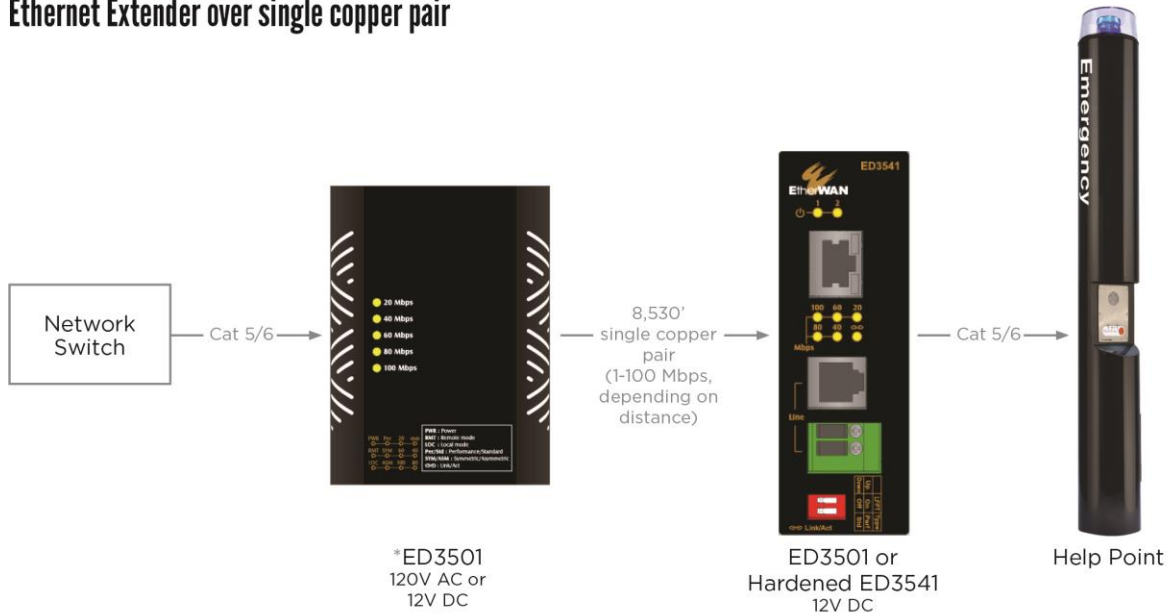
For instance, with just the transmitter connected to power, the extender provides a maximum of 30 watts of power and a bandwidth of 100Mbps to the extender receiver at distances up to 984 feet. Under this setup, transmission over longer distances can be achieved with lower data and power throughput — up to 3,937 feet at a data rate of 20Mbps and 5 watts of power. However, for applications that require even longer distances, the PoL Extender can be connected to power at both the transmitter and the receiver unit, increasing the transmission distance to a remarkable 7,217 feet, with a data rate of 1Mbps and a full 30 watts. This can run Code Blue's CB 1-e Help Point[®], including an IP5000 speakerphone and LED beacon/strobe faceplate lights.

This solution allows customers to install Code Blue speakerphones and enclosures in locations that may not have been feasible previously due to power and distance concerns.

Ethernet Extender with PoL (Power over Link) on single copper pair

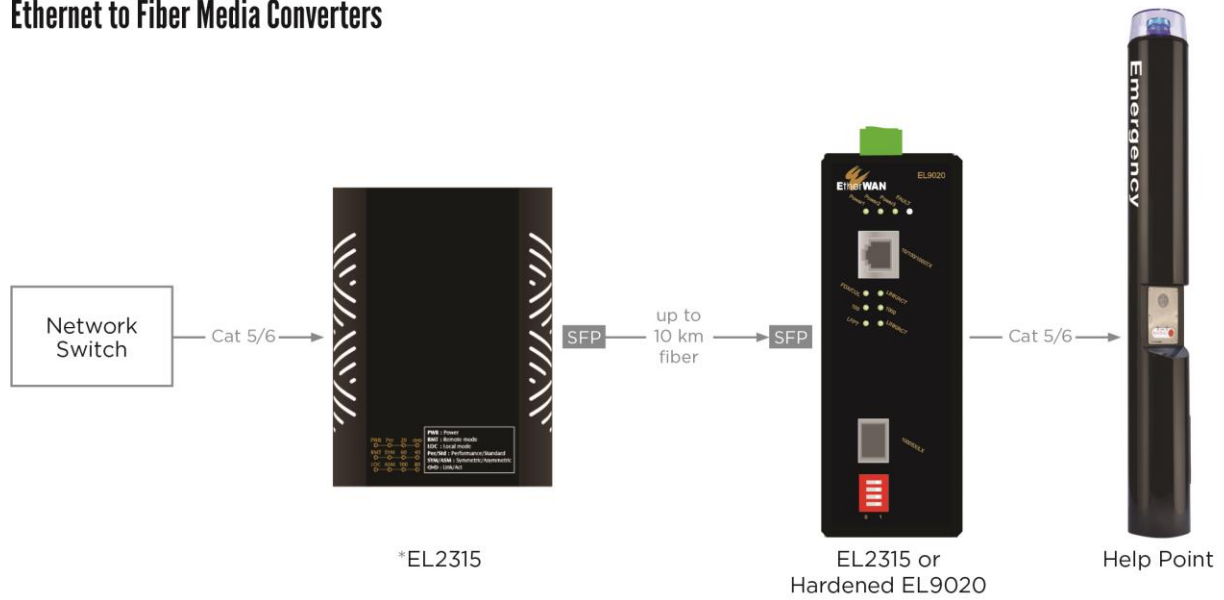


Ethernet Extender over single copper pair



*If using multiple ED3501 units inside a building, 4-and 16-channel chassis are available.

Ethernet to Fiber Media Converters



*If using multiple EL2315 units inside a building, 4-and 16-channel chassis are available.

Conclusion

The flexibility to place emergency communication solutions virtually anywhere is essential for locations striving to create a safe atmosphere for people throughout large campus settings. Combining Code Blue products with Ethernet extenders and media converters like those offered by Etherwan provides a flexible solution that can boost security and customer service regardless of distance and existing infrastructure.

References

Third Party Product Examples

- Hardened Ethernet Extenders with POE: <https://www.etherwan.com/products/ed3538>
- Ethernet Extender: <https://www.etherwan.com/products/ed3501-series>
- Hardened Ethernet Extender: <https://www.etherwan.com/products/ed3541-series>
- Fiber to Ethernet Media Converter w/SFP slot:
<https://www.etherwan.com/products/el2315-series>
- Hardened Fiber to Ethernet Media Converter w/SFP slot:
<https://www.etherwan.com/products/el9020-series>
- Cisco Equivilent GLC-LX-SM-RGD:
<http://www.industrialnetworking.com/Manufacturers/Cisco-Industrial-SFP-Modules/Cisco-GLC-LX-SM-RGD-SFP-Module>

About Code Blue Corporation

Safety has always been the No. 1 priority for Code Blue Corporation. Located in Holland, Michigan, the industry pioneering manufacturer of emergency communication solutions provides assistance to people by handcrafting products that are reliable and accessible. From our iconic blue light phone pedestals to our award-winning software, we help people feel safe by offering durable and visible security solutions that provide help at the touch of a button, while assisting first responders before, during and after an incident with a complete end-to-end system that utilizes alerting, managing, archiving and responding technology.