Broward County Convention Center Ensures Code Compliance and Reliable Critical Communication with Nextivity SHIELD EXTEND ERCES

Case Study courtesy of
Conti Corporation
Pompano Beach, FL

Challenge
Bring convention center's new and renovated areas up to local public safety codes and equip facility with dependable LMR connectivity across approximately 1.1M ft²

Solution
Nextivity SHIELD EXTEND Integrated Public Safety DAS for LMR and FirstNet

Installation
Off-air solution with Power-over-Ethernet (PoE) distribution, easy-to-install category cable architecture, and fiber extension

Results
- The system's scalability ensured reliable, end-to-end coverage
- Class A configuration met local regulation
- Real-time system monitoring

Challenge

The Broward County Convention Center (BCCC) in Ft. Lauderdale, FL is home to some of the largest conferences, trade shows, and corporate events each year. With so many people passing through the doors on a daily basis, ensuring reliable connectivity inside the convention center for first responders is critical, especially if an emergency situation occurs. To make sure public safety personnel stay connected, new legislation in Florida doesn't leave connectivity inside commercial properties up to chance.

All commercial buildings in the state are required to be equipped with an Emergency Responder Communication Enhancement System (ERCES) that delivers reliable in-building Land Mobile Radio (LMR) coverage. To meet the new codes and regulations, BCCC needed an ERCES that could deliver signals throughout its new and renovated areas, which total approximately 1.1M ft². In addition to improving coverage, the system needed to meet regional power requirements, be configured as Class A based on jurisdictional requirements, and be approved by the local AHJ.
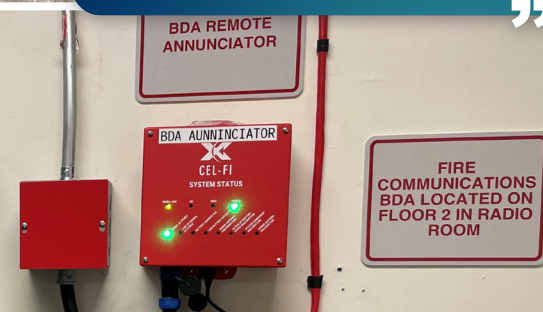
Solution

Contracted to install the ERCES, system integrator Conti Corporation worked directly with BCCC and the Broward County Communication Division to get the system up and running. Conti Corporation recommended the Nextivity SHIELD EXTEND integrated public safety DAS. Because the solution needed to cover such a large area, SHIELD EXTEND's category cabling architecture, fiber capabilities, and the scalability it enables allowed Conti Corporation to easily equip the entire property with coverage.

The SHIELD EXTEND system includes the Monitoring and Battery Backup Unit (MBBU), Network Unit (NU), and Coverage Units (CUs) – remote units that rebroadcast the donor signal. In addition to monitoring alarms and all system components, the MBBU distributes power to system components via Power over Ethernet (PoE) and provides backup power to keep the system operational in case of power outages. The NU is the head-end of the system, as it processes and distributes the LMR donor signals to the CUs. To cover distant locations, Conti Corporation installed SHIELD EXTEND Fiber Range Extenders (FRE), which allow the NU to deliver signal to CUs nearly a mile away. The system also features remote backup power for the FREs and CUs.

Beyond system components, SHIELD EXTEND can be configured as a Class A or Class B device. To meet the requirements for BCCC, Conti Corporation configured the solution for Class A, which provides the system's unique 28 ms delay and up to 56 relay channels.

"From a scalability perspective, SHIELD EXTEND made sense and brought value," said Dan Stenderowicz of Conti Corporation. "Because of the nature of the buildout, going from half the building to the entire building, we were able to easily scale the active components with our re-engineering or re-pulling cable.

The Integration

"This installation was a challenge because of the sprawl of the space. The head end was on the west side of the West Exhibit Hall, so we needed fiber to transport the signal from the head end to multiple CU locations," Stenderowicz said. "We utilized the FRE option and also 2-hour rated fiber transport per AHJ requirements. The FREs made the install that much more appealing because it didn't change the hardware needed. We simply added another item in the connectivity chain."

Results

Following the installation, the solution met all local system power requirements and received approval from the AHJ. With its built-in Nextivity proprietary IntelliBoost software, SHIELD EXTEND automatically sets uplink transmit power as well as calculates and sets isolation and downlink gain according to local parameters. The software also allows BCCC and Conti Corporation to monitor and manage the system remotely via the Nextivity WAVE Portal. These software features combined with the PoE architecture allow system integrators and building owners to deploy SHIELD EXTEND and get AHJ approval faster than any other ERCES.

"We went with SHIELD EXTEND for its PoE capabilities and advanced technology features. The plug-and-play applications and system automation made the installation much easier," Stenderowicz said."

> ❝ **We went with SHIELD EXTEND for its PoE capabilities and advanced technology features** ❞

BDA REMOTE ANNUNCIATOR

BDA AUNNINCIATOR
CEL-FI
SYSTEM STATUS

FIRE COMMUNICATIONS BDA LOCATED ON FLOOR 2 IN RADIO ROOM

NEXTIVITY
Smarter by Design

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