ION®-E

Simple, flexible, cost-effective in-building
wireless coverage on standard IT infrastructure

COMMSCOPE®

ION®-E: Indoor wireless coverage made practical

Today, most cellular connections occur indoors, where macro network signals struggle to penetrate. Yet only a tiny fraction of commercial spaces offer a dedicated in-building wireless solution to support those connections. The upcoming evolution to 5G, just a few short years away, will raise the stakes even higher.

For many years, distributed antenna systems (DAS) have filled a critical role in providing coverage to indoor and mixed indoor-outdoor locations. However, they have also traditionally come with complexity and cost thresholds that have limited DAS to large venues like stadiums, airports and the like. On the enterprise level, DAS has remained out of practical reach for many—until now.

True indoor wireless coverage without the RF infrastructure

ION-E is designed from the ground up for cost-effective enterprise deployment. Built to make DAS a viable option for all kinds of enterprise environments, it takes the flexibility of traditional DAS to the next level with:

- Support for the widest possible range of mobile operator services and flexibility to adopt new ones, through frequency-agnostic universal access point (UAP) design

- A simplified solution design and implementation through all-digital fronthaul infrastructure

- Easy setup and ongoing operations through automated hardware detection and drag-and-drop traffic routing

- Reduced material and installation costs through use of Category 6A (or fiber optic cable, rather than coaxial cable

- The ability to share cabling infrastructure with other IP applications such as Wi-Fi and security cameras

Multiple operators, frequencies and technologies

ION®-E supports multiple technologies and networks, including 4G/LTE and legacy 3G and 2G networks, connecting to the macro network through an operator-approved radio frequency (RF) source. ION-E's UAP supports frequencies from 380 MHz to 2.7 GHz to cover virtually every possible operator service band. Frequencies are software-defined; they can be changed in the field without changing the hardware.

CommScope also offers a complete line of high-performance structured Cat6A and fiber cabling solutions—for simplified deployment.

ION-E can be integrated into a single operator's network or multiple networks, as needed. It is also capable of supporting new frequencies, greatly extending its useful life.

ION-E Success Story

Memorial Medical Center, Springfield, IL, USA

To bring reliable cellular coverage to employees, visitors and patients, Memorial Medical Center chose ION-E as its indoor wireless solution to provide service in their administration building.

The hospital worked through RF Connect to design, install, commission and integrate the system. Anixter handled product selection and delivery logistics. Together, they were able to quickly deploy, commission and optimize the ION-E network. The multi-operator, multi-technology, future-ready solution supports all major network operators, and the physical installation was achieved with minimal disruption—critical in the sensitive healthcare environment.

"The ION-E system proved to be everything it was promoted as .... We see this solution as a true game-changer in the distributed antenna system industry."

- Jeff Hipchen, executive vice president, RF Connect.

Operators AND enterprises benefit with ION-E

Wireless operators now have a flexible, cost-effective way to extend in-building wireless deployments that help improve subscriber loyalty and boost revenue.

Enterprise owners can offer powerful indoor wireless coverage without adding a second physical network, increasing employee productivity, customer satisfaction and tenant value.

Distributed coverage and capacity solutions More connections. Better connections.   3

3

Total coverage, Total flexibility

ION®-E allows the connection of other IP devices—such as Wi-Fi access points or IP cameras—directly to the UAPs. This removes the need for installation of a second cable run, saving potentially hundreds of cable runs throughout a large building. ION-E also supports power over category cabling.

ION-E supports public safety

First responders like firefighters, police and paramedics use specific public safety frequencies. When they answer a call, they count on support for those frequencies in every area of the building. In many jurisdictions, this support is required by law or as a prerequisite to obtaining occupancy or building permits.

ION-E offers a special universal access point (UAP), called UAP-X, that supports public safety frequencies including 700, 800 and 400 MHz, through connectionto external antennas that support an extensive range of public safety frequencies.

CommScope also offers guidance on the proper installation and configuration needed to meet public safety requirements.

ION-E Success Story

Princeton University, Princeton, NJ, USA

Princeton University's Lewis Center for the Arts, a new, three-building complex, needed a wireless network solution to serve 139,000 square feet of classrooms, offices, and performance spaces, as well as the courtyards and common areas. The system had to support both ordinary cellular and public safety use.

Princeton's partners, TESSCO Technologies and DAS integrator Longent, LLC, designed and installed the ION-E solution. ION-E allowed Princeton to leverage standard Cat6A infrastructure, greatly simplifying and cost-reducing the project.

"ION-E is designed for projects exactly like this, where fiber and ethernet cabling and their familiarity within IT organizations make it easier for deployment and future requirements,"

- Matt Melester, senior vice president and general manager, CommScope

ION®-E
Easy to optimize and operate

ION-E is designed from the ground up to overcome the cost and complexity traditionally associated with DAS deployments, and that goes beyond simply using IT structured cabling. ION-E also makes is easy to get your indoor coverage up and running, quickly and affordably.

- ION-E design follows well-established Wi-Fi rules that are already familiar to most in-house IT support staff and system integrators.

- The intuitive, browser-based management platform delivers a simple visual representation of the network, streamlining the commissioning process.

- The modular design makes it easy to handle network changes, additions and upgrades.

- Intelligent service level alarms provide precise location information to expedite IT response.

A seamless combination of hardware and software

ION-E's power and simplicity is rooted in its powerful union of hardware and software that automates much of the process.

- Once installed, the ION-E headend automatically detects input signals for assignment to individual UAPs.

- While operating, ION-E dynamically adjusts signal transport levels to optimize signal output power.

- New transport cards are automatically detected and integrated within the simple drag-and-drop management interface.
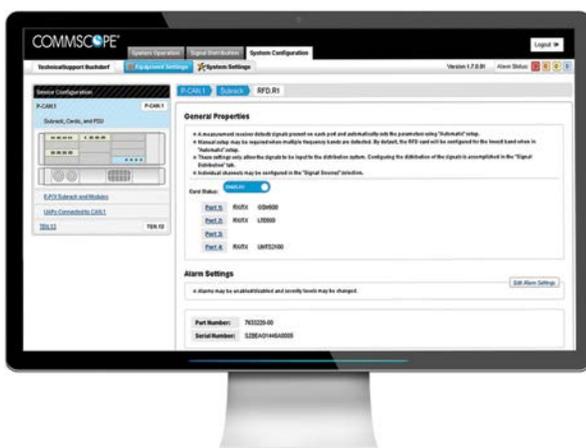
ION®-E
Simpler, faster, more flexible

ION-E is a game-changer because it removes so much of the complexity and cost from implementing a world-class in-building wireless solution. ION-E delivers better value:

Installation

- Standard installation materials utilizing Cat6A and singlemode or multimode fiber, and field-replaceable SFP (small form-factor pluggable) connectors

- No need for expensive, hard-to-install coaxial RF cable

- Fast, expert installation using CommScope's extensive network of certified PartnerPRO® Network partners.

Flexibility

- Frequency and technology independence supporting 380-2700 MHz, including public safety bands, all in one system

- Software-defined remote sectorization control

- Automated hardware detection and optimization

- Dynamic transport scales to meet changing demand in different locations

Key features

- Mobile Country Code (MCC), Mobile Network Code (MNC) and cell ID detection for ease of signal distribution

- Gigabit ethernet fronthaul over common infrastructure

- Power over category cable to UAPs and connected ethernet devices

- Compact head-end equipment conserves rack space

ION-E also features a reduced SKU count that simplifies provisioning and inventory. The key elements are:
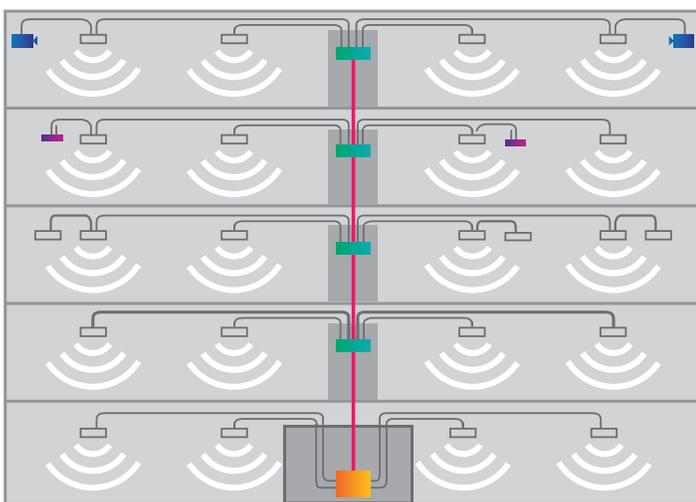
Legend:
- CAN
- TEN
- UAP
- WiFi
- IP camera
- MM/SM fiber
- Cat 6A

Central area node (CAN):
This unit offers server-level control and primary signal distribution.

Transport expansion node (TEN):
The secondary distribution point connected to a CAN.

Universal access point (UAP):
Sleek and unobtrusive, the UAP blends into office, retail and hospitality environments. Interfaces allow sharing of infrastructure with Wi-Fi, IP cameras or other devices.

Indoor coverage has never been easier

Simply put, ION®-E represents an in-building wireless revolution. Delivering power, flexibility and easy installation, it overcomes many of the cost barriers that have traditionally prevented enterprises, mobile operators and system integrators from bringing robust wireless coverage indoors, where it's needed most.

ION-E is coverage, simplified. In your fast-evolving network environment, it only makes sense to get ahead of the challenge with an in-building wireless solution that deploys quickly and affordably.

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement.
We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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