



# FibeAir<sup>®</sup> IP-10

## Integrated Wireless Backhaul Solution

FibeAir IP-10 is a high capacity carrier-grade wireless Ethernet backhaul product family. Combining advanced Ethernet and TDM networking functionality with best-in-class microwave radio performance, FibeAir IP-10 facilitates cost effective, risk-free migration to IP/Ethernet and can be integrated in any pure IP/Ethernet, Native<sup>2</sup> (hybrid) or TDM network.

FibeAir IP-10 features a powerful, integrated Ethernet switch for advanced networking functionality and an optional TDM cross-connect for nodal site applications. With advanced service management and Operation Administration & Maintenance (OA&M) tools, the solution simplifies network design, reduces CAPEX and OPEX and improves overall network availability and reliability to support services with stringent SLA.

The FibeAir IP-10 family covers the entire licensed frequency spectrum and offers a wide capacity range, from 5 Mbps to 500 Mbps over a single radio carrier, using a single RF unit. Additional functionality and capacity are enabled via license keys while using the same hardware.

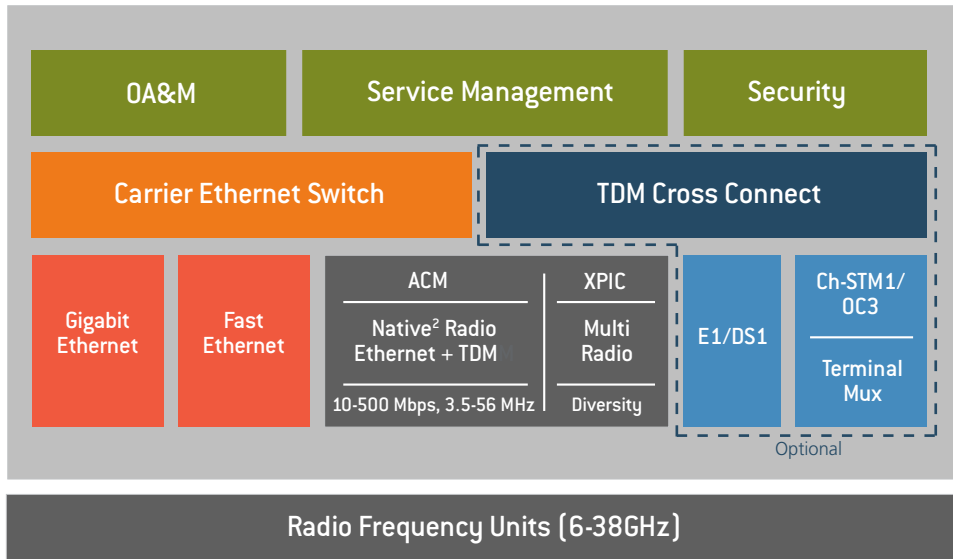
### Highest Economic Value

- **Best utilization of spectrum assets**  
Enhanced radio capacity & spectral efficiency
- **Reduced number of network elements**  
High integration of network and radio functions
- **Improved network uptime**  
Redundancy & resiliency
- **Future proof**  
Software upgradeable, modular and scalable
- **Risk-free solution**  
Smooth migration to All IP





FibeAir IP-10 is Ceragon's next generation carrier-grade wireless Ethernet backhaul product family. Featuring an advanced architecture, FibeAir IP-10 uniquely combines the latest radio technology integrated with TDM and Ethernet networking. FibeAir IP-10 radio core engine is designed to support both native Ethernet and native TDM over the air interface enhanced with Adaptive Power and Adaptive Coding & Modulation for maximum spectral efficiency in any deployment scenario. This versatile solution is equipped with an optional integrated Cross Connect and an SNCP TDM protection engine on top of a MEF certified Ethernet switch. The modular design is easily scalable with the addition of units or license keys.



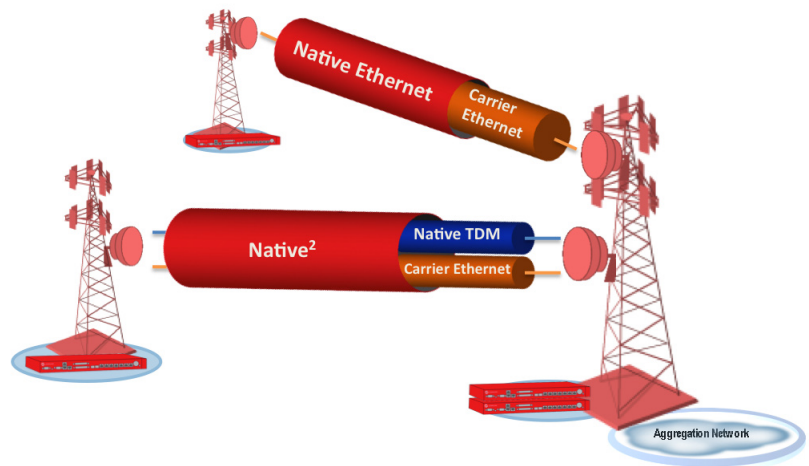
FibeAir IP-10 family system architecture

## From Native<sup>2</sup> (hybrid) to All Packet

FibeAir IP-10 family can be software configured in an all Packet or in a Native<sup>2</sup> mode. The Native<sup>2</sup> concept enables native transport of Ethernet and TDM services over the radio. Traffic handling over the radio link, network management and networking functions are applicable in both the all Packet and Native<sup>2</sup> modes. FibeAir IP-10 networking capabilities include support for ring optimized RSTP for all Packet while in the Native<sup>2</sup> mode it also supports SNCP for TDM traffic.

## Risk-Free Migration from TDM to all Packet Architecture

FibeAir IP-10 provides seamless migration enabling operators to gradually evolve their network from an all TDM and hybrid concept to all packet. FibeAir IP-10 can be easily adapted and configured to any applied network migration concept whether hybrid, pseudowire based or native packet using the same hardware. Operators benefit from highly flexible deployment scenarios options as well as multiple architectures and topologies.



## FibeAir IP-10 Applications

### Mobile Backhaul

Designing LTE-ready backhaul networks is not just about simple transport capacity upgrade. With FibeAir IP-10 operators are able to manage the entire lifecycle of the network's migration to 4G, while keeping revenue generating 2G and 3G profitable throughout the process. FibeAir IP-10 incorporates Ceragon's proven Native<sup>2</sup> concept and synchronization tools to support hybrid network topologies, as well as all-IP and pseudowire based migration architectures.

### Private Networks

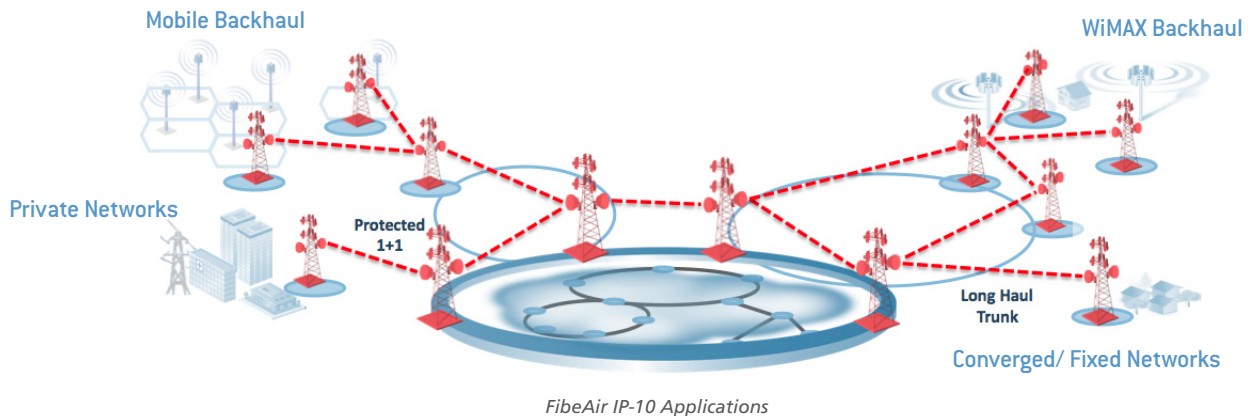
FibeAir IP-10 enables government agencies, enterprises and utilities of all kinds to rapidly deploy a cost effective, self owned private network. Meeting the utmost service availability requirements, FibeAir IP-10 integrated Ethernet and TDM functions deliver high capacity, wherever it is needed. FibeAir IP-10 is available in easy split-mount or all-indoor installation.

### WiMAX Backhaul

FibeAir IP-10 enables high-speed connectivity between WiMAX base stations, facilitating the expansion and reach of emerging 4G networks. FibeAir IP-10 provides a robust and cost-efficient solution combining unmatched radio features with advanced Ethernet networking capabilities. Covering all deployment scenarios, FibeAir IP-10 integrated Ethernet switch enables operators to lower overall costs without compromising on service quality or performance.

### Converged/ Fixed Networks

Ceragon's FibeAir IP-10 delivers integrated high speed data, video and voice traffic in the most optimum and cost-effective manner. Operators can build an ultra high capacity converged network to support multiple types of services utilizing FibeAir IP-10 scalable capacity.



## Seamless Scalability for Nodal Applications

The FibeAir IP-10 family features a modular nodal concept to enable carriers to cost-effectively scale their backhaul networks. Multiple FibeAir IP-10 indoor units (IDUs) can be combined in a modular way to form highly integrated and fully redundant nodal configurations.

## Any Configuration or Installation Scenario

FibeAir IP-10 is available in any radio configuration including 1+1, 2+2 and N+0/N+N, with exceptionally high system gain or with extra power for long haul applications. FibeAir IP-10 system and its radios are ideal for split, all out door or all indoor installations. FibeAir IP-10 is offered with a range of advanced radio options such as multi radio or cross polarization.



## Key Features

Highest possible capacity and efficiency at any given channel bandwidth

- 10 - 500 Mbps (1 Gbps with XPIC)
- 3.5 MHz - 56 MHz (ETSI & FCC)
- 6 GHz - 38 GHz licensed bands
- Hitless and Errorless Adaptive Coding & Modulation (ACM) QPSK - 256 QAM
- Adaptive power and exceptionally high system gain
- Native Ethernet or Native<sup>2</sup> technology (native Ethernet and native TDM)

Simplified network design and maintenance – reducing Capex and Opex

- Integrated Carrier Ethernet switching and TDM cross-connect
- Network Management System (NMS) with full FCAPS including End-to-End trails
- Integrated Web based element management system (EMS)
- Enhanced user access control for increased security
- Comprehensive Service OA&M tools

Flexible synchronization solution

- Synchronization using native E1/DS1 trails
- ITU-T G.8262 Synchronous Ethernet
- Timing-over-packet optimized transport

Enabling support for services with stringent SLA

- Full hardware / interface redundancy and network level resiliency
- Fully MEF-9 and MEF-14 certified

Optimized for today's deployments without compromising on upgradeability

- Pay-as-you-grow concept to reduce network costs
- Future capacity growth and additional functionality enabled with license keys and innovative stackable nodal solution using the same hardware

## Ceragon Comprehensive Network Offering:



## Ceragon Networks

### Ceragon Europe

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