Product
Portfolio

FibeAir® IP-20N

Multi-Radio Technology Aggregation Node

FibeAir IP-20N is a modular aggregation node for a wide range of radio technologies, powered by a programmable network processor and optimized for HetNet hauling

Ceragon's new wireless multi-technology aggregation node is designed to meet the demands for high capacity, reliability and quality of experience which are crucial to the success of today's LTE/LTE-A rollouts and operations. Supporting any radio transport technology mix, FibeAir IP-20N offers unmatched functionality and performance while minimizing total network cost of ownership.

FibeAir IP-20N is designed around a powerful software-defined engine and is powered by Ceragon's CeraOS, a unified operating system for all IP-20 platform products. Employing Ceragon's proven radio technology, FibeAir IP-20N provides multi-gigabit capacity across the entire network with high spectral efficiency. Serving a wide range of topologies and network architectures, it is also ideal for emerging HetNet concepts such as small cells, Cloud-RAN and network sharing.

FibeAir IP-20N boosts performance in today's networks while providing a cost-effective path to future requirements such as MPLS-TP and SDN/OpenFlow standards. Supporting multi-service TDM transport and a rich set of Carrier Ethernet advanced switching capabilities, the solution offers a wide range of new capabilities that address the diverse needs of mobile backhaul, ISPs, utilities, large enterprises and private networks.

Multi-Technology Aggregation Node

- **Any wireless transmission technology mix**
  Wireless multi-technology platform optimized for HetNets
- **Multi-gigabits radio capacity with high spectral efficiency**
  Ultra-high capacity over licensed and license-exempt frequency bands (4-86GHz)
- **Future-proof, highly scalable and modular**
  Highest carrier density in the market with up to 10 radio carriers in 2RU
- **Facilitates network modernization**
  Intelligent networking functions - MEF Carrier Ethernet 2.0-compliant, MPLS-TP-ready
- **Common OS & software-defined engine**
  Unified CeraOS software across entire IP-20 platform
  Powered by programmable network processors

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Future-Proofing Networks

Designed around innovative network processor-based architecture, service-centric FibeAir IP-20N addresses the entire range of microwave backhaul applications within a single, versatile platform. Meeting the demands of multi-service networks and hybrid traffic, FibeAir IP-20N boosts the performance of existing infrastructure while smoothing the introduction of all-IP-capable base stations including 4G/Long Term Evolution (LTE).

FibeAir IP-20N operates seamlessly with Ceragon's FibeAir IP-10 product series, Evolution Long Haul series and all IP-20 products creating the industry's most comprehensive portfolio of wireless hauling solutions. Carriers and service providers are able to migrate easily from SDH/SONET to packet technology, and to converge voice and data services – TDM and packet-based – over Ethernet, IP and MPLS networks. A true carrier-grade service platform designed with the customer in mind, FibeAir IP-20N supports point-and-click provisioning and delivers superior and predictable performance with end-to-end SLA assurance.

The FibeAir IP-20N wireless multi-technology aggregation node reduces TCO as it efficiently delivers aggregated traffic from the access network to the core over flexible wireless links. It combines high-capacity, aggregation, carrier-grade performance, small form-factor, and low cost per transported bit, achieving a new level of price-performance.

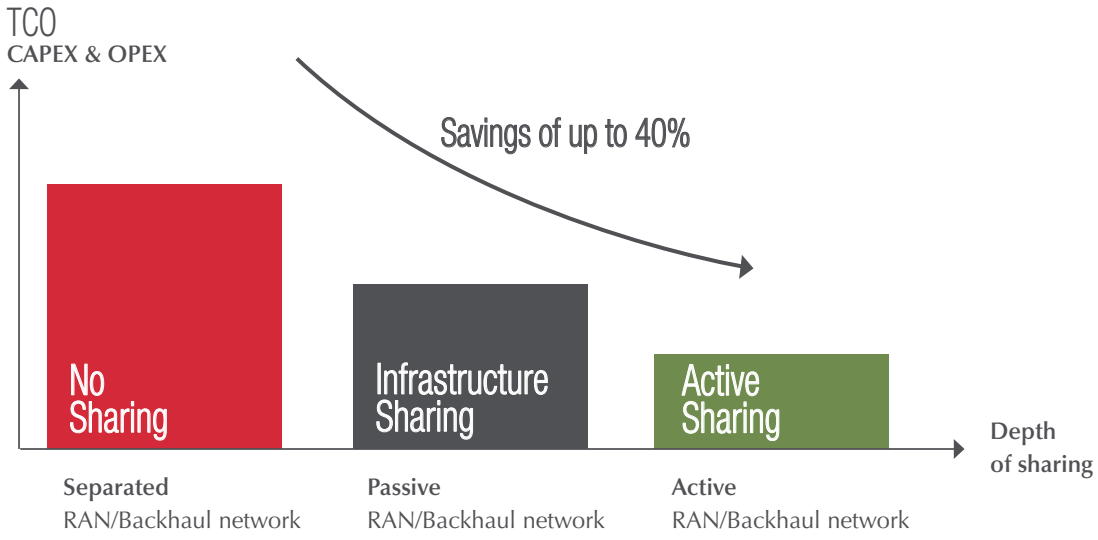
Programmable and Modular Architecture

FibeAir IP-20N meets the capacity and networking requirements of growing aggregation nodes. The form-factor and number of operational modules are configurable: The 1RU configuration supports up to 5 modular cards while the 2RU configuration supports up to 10 modular cards. In either configuration, FibeAir IP-20N can connect to Ceragon's current and next-generation radio units. It supports multiple capacity-boosting techniques achieving ultra-high capacity.

Network sharing and HetNets

The accelerating demand for mobile data and applications drives mobile network operators (MNOs) to seek technologies, topologies and methods for coping with the capacity pressure in their networks. Small cells, indoor coverage, all-packet networks, LTE, deeper fiber, long-haul microwave, C-RAN, fronthaul and other HetNet technologies dot the landscape of mobile networks in their unceasing effort to cope with demand for affordable capacity.

Network sharing increases capacity to all partners at a lower outlay of capital by each. By sharing wider aspects of their networks, operators can deliver increased capacities at far lower costs than they can achieve alone.



Sharing your backhaul with IP-20N

Today, a typical mobile operator requires aggregate capacity of 50Mbps to its own 3G sites. AS LTE spreads, these sites will soon require more than 100Mbps. Adding in requirements for small cells, minimum capacity may soon reach 400Mbps. In network sharing arrangements, where aggregation serves more than one operator, a single shared site will soon require capacity in excess of 1Gbps.

FibeAir IP-20N is designed to supply multi-Gbps radio capacities, perfect for network sharing and other ultra-high capacity environments. With its no-single-point-of-failure design and industry-leading carrier density, IP-20N delivers the required savings in cost-conscious, capacity-demanding scenarios.

Service granularity for SLAs

For service level agreements between sharing operators to function properly, they need to be visible at the service-granularity level by each operator. Essential traffic-engineering tools like CeraOS's Hierarchical QoS (H-QoS), running in the FibeAir IP-20N, maximize capacity cost-effectively and satisfy sharing requirements. Each service of each operator gets its own personalized treatment providing full per-service visibility and control.

Key Features

Any wireless transmission technology mix

- Aggregation of a wide range of wireless solutions from 4GHz to 86 GHz
- Hybrid traffic transport: TDM and/or packet
- E1/FE/GbE/STM-1 interfaces

Multi-gigabits radio capacity with high spectral efficiency

- QPSK – 2048QAM with full range of hitless and errorless Adaptive Coding & Modulation (ACM)
- Additional capacity using innovative Header De-duplication and Payload De-duplication

Future-proof, highly scalable and modular

- Modular architecture for easy configuration customization
- Highest carrier density in the market - up to 10 radio carriers in 2RU
- Full redundancy - no single point of failure (SPoF) design

Facilitates network modernization

- Multi-service support (hybrid)
- Interoperable with Ceragon installed units
- Hybrid Multi-carrier Adaptive Bandwidth Control (ABC)
- Intelligent networking capabilities - MEF Carrier Ethernet 2.0-compliant, MPLS-TP-ready

Common OS & software-defined engine

- Powered by programmable networking processor future-proofing CAPEX investment
- Unified operating system (CeraOS) across the entire IP-20 platform
- Integrated synchronization solutions Native/SyncE/IEEE1588
- Integrated Carrier Ethernet switching, MEF Carrier Ethernet 2.0 compliant
- MPLS-TP and SDN-ready

Ceragon Comprehensive Network Offering:

Product **Portfolio**

Network **Management**

Professional **Services**

Strategic **Partnerships**

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ref: **FibeAir IP-20N_ETSI**, Rev 1.0