Application Note

Unified Multi-Technology Backhaul Solutions

Summary

Network Area
- Macro / Small-cell microwave (MW) or E/V Band backhaul

Architecture
- MW PtP / MW PtMP / mmWave PtP

Solution
- CBAN (Converged Backhaul Aggregation Node)

Synergies
- OmniBAS™
- StreetNode™
- OSDR (Outdoor Software-Defined Radio) platform
- UltraLink™
- uni|MS™

The New RAN Backhaul Challenge

LTE/4G Radio Access Networks (RANs) currently evolve to Heterogeneous Networks (HetNets) by seamlessly integrating macro and small cells of various technologies.

Selecting and utilizing the perfect mix of backhaul solutions is a major challenge when deploying a new RAN.

Packet MW technologies are essential elements of HetNets, offering excessive IP capacity and extending the well-appreciated advantages of PtP technology to street-level backhaul by using recent PtMP innovations.

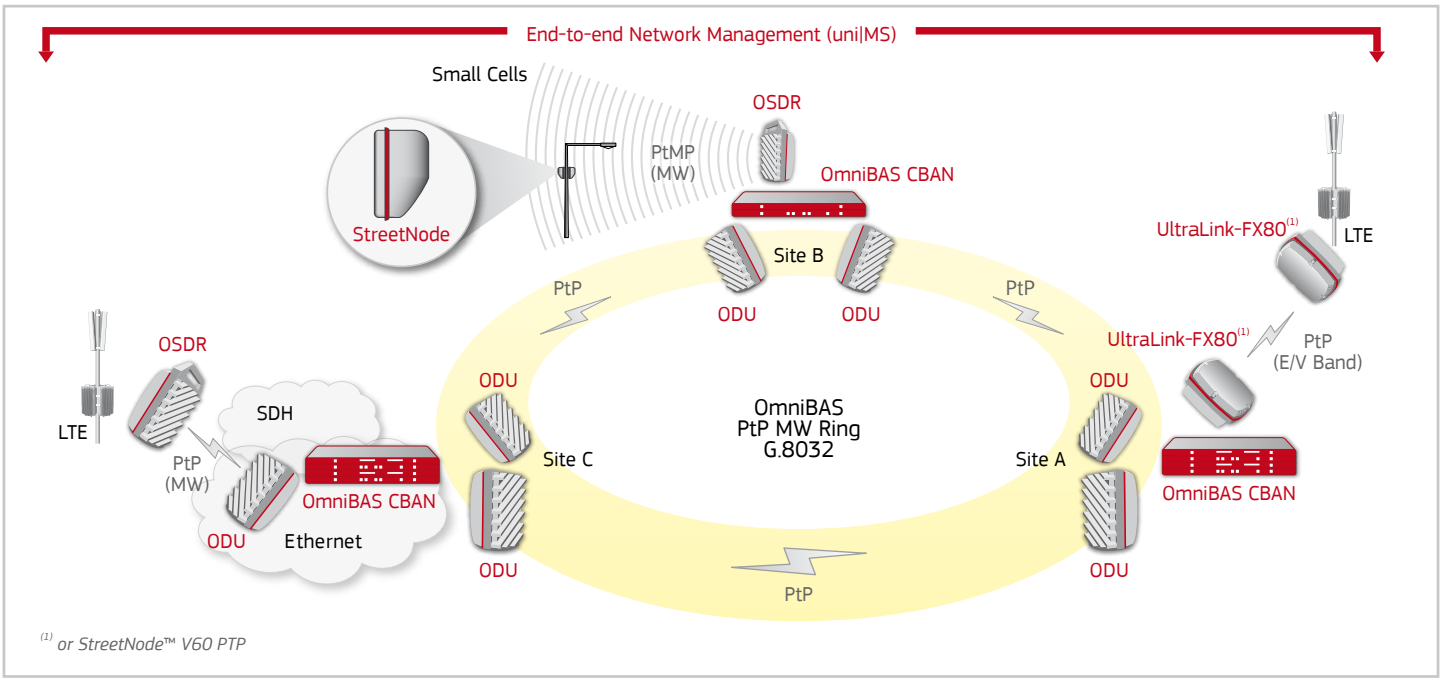
Unifying all available MW and E/V Band technologies into one solution greatly facilitates the mobile operators in accelerating the expansion of their radio networks.

CBAN: Unique & Effective

CBAN is a state-of-the-art solution flexibly leveraging best-of-breed MW technologies to optimally address the HetNet backhaul challenge. It builds upon the design features used in the well-established OmniBAS™ product line providing best synergy with other Intracom Telecom radio offerings (OmniBAS™ MW PtP, OSDR platform, StreetNode™ PtP / PtMP and UltraLink™ mmWave PtP). Operators are now enabled to establish a solid foundation in their macro-cell backhaul network, enrich it, in order to unify the aggregation layer for HetNets, and finally accelerate small-cell deployment.

Figure 1 shows an application example depicting CBAN nodes that coexist with diverse technologies (PtP, E/V Band and PtMP) to provide efficient backhaul in macro-cell and small-cell combined applications. CBAN nodes, being part of a resilient Ethernet ring, constitute the core of this application integrating all peripheral wireless connections.

Fig. 1: Deployment of a backhaul network incorporating CBAN nodes



(1) or StreetNode™ V60 PTP

Solution Description

CBAN takes shape by configuring an OmniBAS™ Indoor Unit (IDU) with the appropriate cards. The OmniBAS™-8W/-4W IDU, besides the modems for connecting ODUs (used in split-mount node configurations), can be equipped with Power on Ethernet modems to support a wide variety of all-outdoor MW and mmWave radios (see Figure 2). In addition, OmniBAS™-4P provides four Gigabit Ethernet interfaces, PonE enabled, for connection to any outdoor radio of the current Intracom Telecom portfolio.

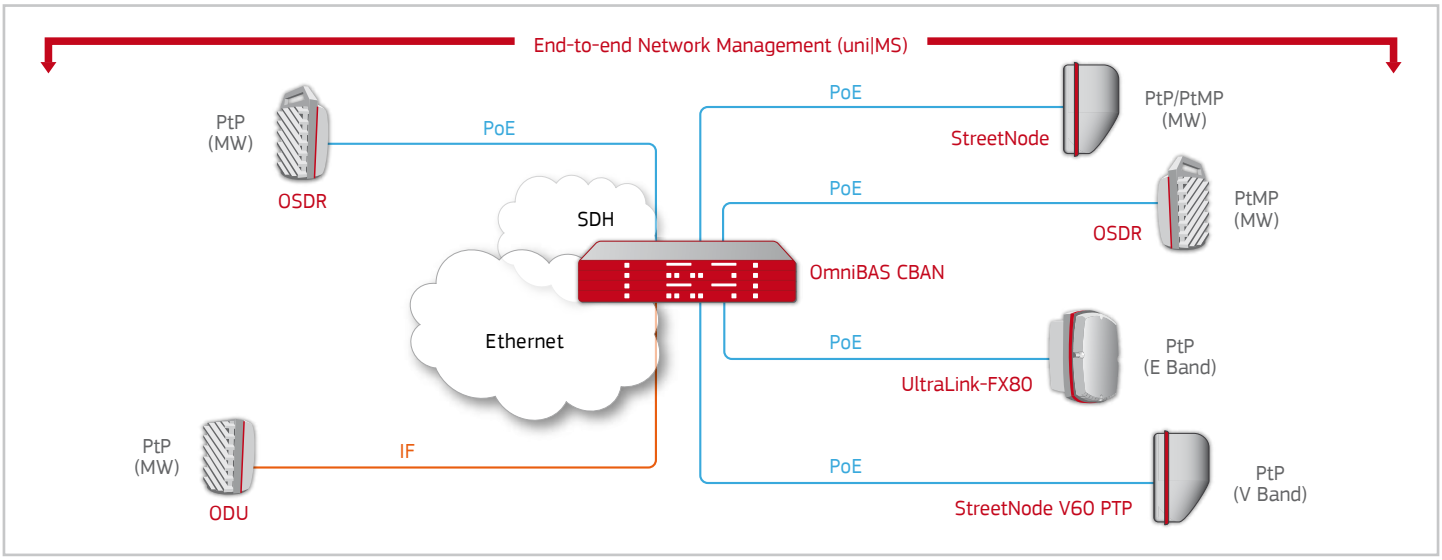
Technologies & Applications

CBAN supports any mix of ODUs / OSDRs (all-outdoor radios / UltraLink™-FX80 / StreetNode™ MW PtP-PtMP / StreetNode™ V60 PTP).

Solution Benefits

- Unified macro and small-cell backhaul
- Flexible deployment of MW technologies, PtP, PtMP and E/V Band PtP solutions
- Optimized backhaul performance end-to-end
- High scalability
- Carrier-grade MW performance & reliability
- Optimum utilization of licensed MW & mmWave radio spectrum
- Plenty of IP capacity (1 Gbit/s per PtP link, 2 Gbit/s per four PtMP sectors)
- Unified management suite (uni|MS™) for network and services
- Simplified network planning, operation and maintenance
- Enabler for network sharing & managed backhaul models
- TCO optimization

Fig. 2: Connection capabilities of a CBAN node



CBAN Connected With	Topology	Application
OmniBAS™ ODUs	PtP links (split-mount)	Macro and/or small-cell backhaul over the licensed MW spectrum.
OSDR (Outdoor Software-Defined Radio) platform	PtP links (all-outdoor)	
	PtMP aggregation hubs (FO-HUBs)	Small-cell backhaul using StreetNode™ PtMP terminals over licensed, area-wide bands (26 / 28 / 32 / 42 GHz).
StreetNode™	PtP / PtMP (all-outdoor)	Small-cell backhaul, microwave.
UltraLink™-FX80	PtP links (all-outdoor)	Small-cell backhaul over E band.
StreetNode™ V60 PTP	PtP links (all-outdoor)	Small-cell backhaul over V band.

About Intracom Telecom

Intracom Telecom is a global telecommunication systems & solutions vendor operating for over 35 years in the market. The company innovates in the areas of small-cell backhaul, wireless transmission and broadband wireless access and has successfully deployed its industry leading point-to-point and point-to-multipoint packet radio systems worldwide. Moreover, Intracom Telecom offers a competitive portfolio of revenue-generating telco software solutions and a complete range of ICT services, focusing on big data analytics, converged networking and cloud computing for operators and private, public and government clouds. The company invests significantly in R&D developing cutting-edge products and integrated solutions that ensure customer satisfaction. Over 100 customers in more than 70 countries choose Intracom Telecom for its state-of-the-art technology. The company employs more than 1,800 people and operates subsidiaries in Europe, Russia and the CIS, the Middle East and Africa, Asia and North America.

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