

Cellular Backhaul for Rural Access



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CeBRA

Cellular deployment in the rural areas is very different from that of urban or city areas. Main challenges in a rural deployment are:

- Cost of deployment
- Absence of infrastructure
- Low population density
- Longer distances from COs
- Higher maintenance cost

CeBRA solves this problem by:

- Extending reach of the E1 to beyond the twisted pair limitation
- Using modified and efficient Wi-Fi (TDMA based)
- Circuit Emulation over optimized TDMA Wi-Fi
- Enabling reach to rural areas

Designed, developed, fabricated & assembled in India

Cellular Backhaul for Rural Access is a cost effective and flexible Cellular Backhaul solution which can provide a wired or wireless up-link. It

- Enables Circuit Emulation and other Network applications
- Provides a migration path from TDM to pure packet networks

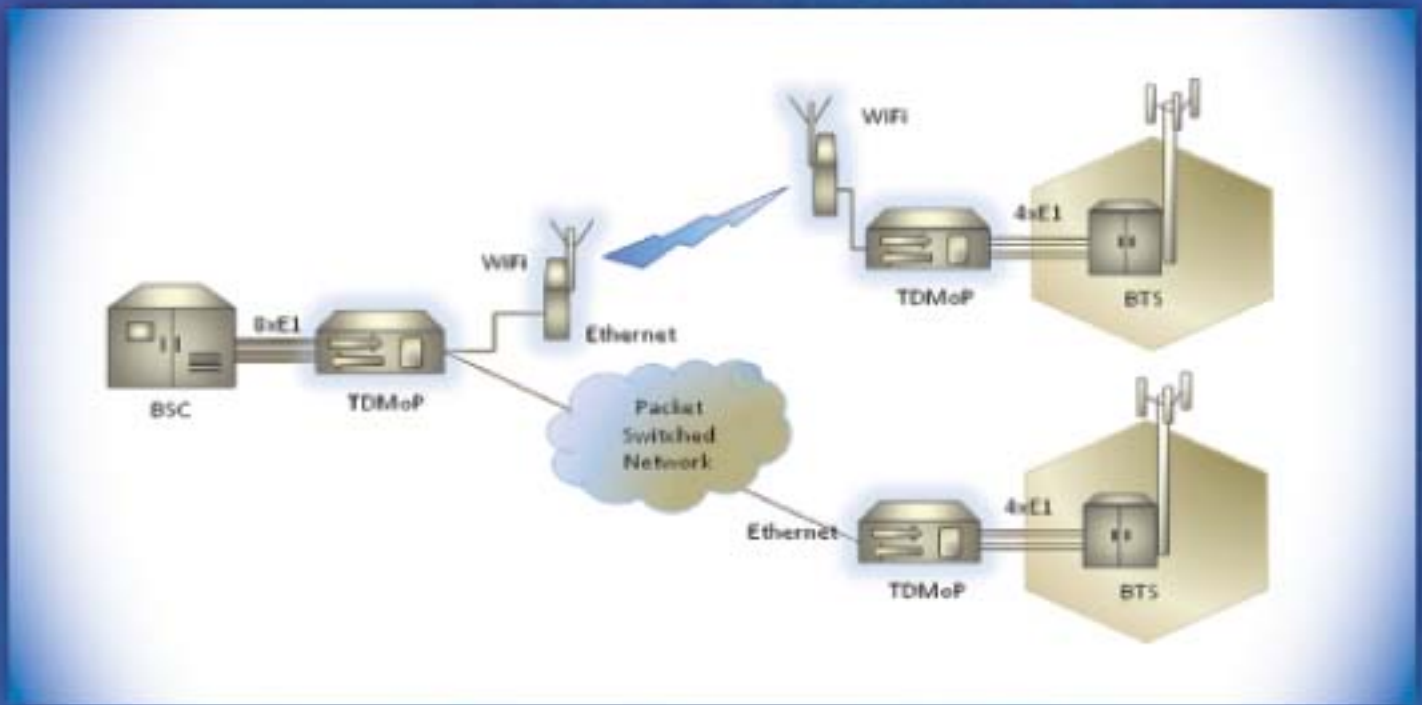
Can aggregate multiple E1 links

Aggregation can be done on disparate uplinks (wired over PSN or wireless over WiFi).

This optimizes the cost of deployment in scenarios when BTSs are not using all 8 E1s.

TDMoP can also support many other applications apart from Cellular Back Haul,

- TDM Circuit Extension Over PSN
- Leased-Line Services Over PSN
- Cellular Backhaul Over PSN
- Multi-service Over Unified PSN
- HDLC-Based Traffic Transport Over PSN



In the given scenario E1 links from two BTSs/NodeBs are carried over packet network and aggregated on one CO side. One of the BTSs/NodeB is connected over WiFi based wireless backhaul using the integrated TDMoP Backhaul Solution with Wireless Up-Link.

Features

- TDM Interface
- Supports up to 8 E1s
- Each interface is configurable for serial operation for V.35 and RS530
- Supports both long-haul and short-haul applications

Ethernet Interface

- 2 10/100 Ethernet ports
- 2 100Base-FX / 100Base-TX combo mode
- Packets up-to 2000 bytes
- VLAN support for 802.1, 802.1Q and stacking (Q-in-Q)
- 1 Port with PoE support

Wireless Interface

- The card accepts PoE
- Can interface with a high gain antenna for extended range
- Supports 802.11 a/b/g/n
- Supports a new TDM based MAC developed by Dr Bhaskaran Raman

Circuit Emulation

- Full support for: CESoPSN, TDMoIP
- For E1/T1 interfaces following modes are supported
- HDLC based traffic
- Ethernet, IPv4/IPv6 and MPLS encapsulation
- Clock recovery handles packet loss, constant delay changes, frequency changes and other impairments
- Enough jitter buffer to avoid packet delay variation (PDV)
- High resilience to packet loss and disordering

Configuration interface

- CLI, SNMP and Web UI support for easy set-up and maintenance
- Display of alarms, counters and status

