



Cisco Mobile Transport over Pseudowires

www.cisco.com/go/mobile

What Is MToP?

Mobile Service Providers (MSPs) are implementing high-speed data networks (3G and 4G) to support new revenue-generating services. These new networks require more bandwidth than ever before. Traditional circuit-based bandwidth is constraining and often very expensive. With the growth of packet network availability, the per-bit-cost savings and the added bandwidth flexibility offers a great advantage over traditional circuit networks.

The Cisco® “Circuit Emulation over Packet (CEoP)-Enabled” Mobile Transport over Pseudowires (MToP) solution in the Radio Access Network (RAN) allows the MSP to take advantage of these packet transport networks. CEoP enhances the Cisco Pseudowire portfolio for time-division multiplexing (TDM) and ATM transport over packet.

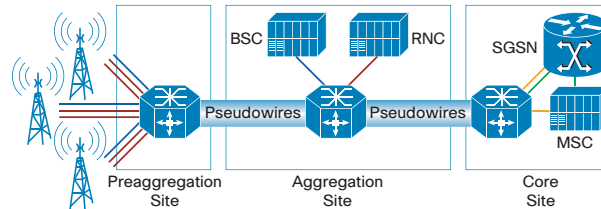
With Cisco CEoP-Enabled MToP, MSPs can reduce operating expenses (OpEx) and enhance flexibility while offering greatly improved performance to their customers.

Why Do We Need Cisco MToP?

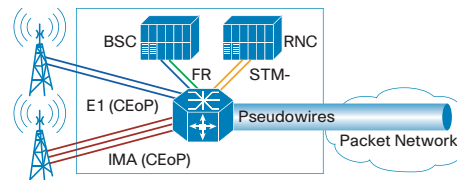
MSPs need to build a robust yet flexible IP transport network that takes advantage of packet economics. They must also support 2G, 3G, and emerging 4G technologies while aligning their network architecture with Third-Generation Partnership Project (3GPP) and Third-Generation Partnership Project 2 (3GPP2) recommendations. Pseudowire technology enables this evolution. To achieve these goals, MSPs must migrate their RAN transport from traditional circuit-based technology to a packet-based solution.

Cisco MToP enables this evolution.

Cisco CEoP-Enabled MToP in the RAN



CEoP Up Close



Cisco CEoP Solution Specifications

Standards-based offering:

- Compliant to G.823/G.824 traffic interface (T1/E1 and T3/E3)
- Meets Mobile Wireless 3GPP requirements (clock accuracy better than 15 ppb)
- Adheres to Circuit Emulation Service over Packet Switched Network (CESoPSN) and RFC 4553: Structure-Agnostic TDM over Packet (SAToP)
- BITS clocking support
- Configurable jitter buffer
- Support for TDM and ATM (including Inverse Multiplexing over ATM [IMA])
- Protection support with automatic protection switching (APS) and MSP

Form factors and density per system:

- 24-port Channelized T1/E1
- 1-port Channelized OC-3/STM-1 down to T1/E1
- Highly scalable architecture with up to 336 T1s and 252 E1 equivalents per Cisco 7600 slot

What Is the Cisco Difference?

With MToP, Cisco extends its IP/Multiprotocol Label Switching (IP/MPLS) leadership from the core to the RAN. The Cisco 7600 Series routers offer the ability to aggregate TDM, Frame Relay, IP, Ethernet, and ATM Pseudowires on the mobile-services platform. The Cisco 7600 supports Layer 2/3 services on a true carrier-class platform. The Cisco MToP is a highly scalable, high-performance platform that provides a common architecture and operations, administration, maintenance, and provisioning (OAM&P) from the core to aggregation nodes. The Cisco MToP solution is designed for ultimate flexibility—supporting 2G, 3G, and 4G cell-site aggregation for Code Division Multiple Access (CDMA), Global System for Mobile Communications (GSM), and WiMax networks simultaneously.

Why Implement the Cisco MToP in the RAN Solution?

The Cisco MToP solution with CEoP simplifies network design and operations, while lowering OpEx and enhancing network flexibility.

Cisco RAN solutions are deployed extensively around the world, providing:

- Extended QoS
- Stateful failover
- Proven 99.999-percent availability
- In Service Software Upgrades
- Platform continuity with the core

Cisco MToP enables MSPs to meet their business and technical objectives.

Extending the benefits of an IP Next-Generation Network into the RAN:

- OpEx efficiency
- Integrated network management system (NMS) and support model with Cisco IP/MPLS core
- Accelerated 3GPP and 3GPP2—R8 compliance for an “all-IP” RAN