

7090-60 CEM Packet Transport Platform

Intelligent MPLS-TP and Carrier Ethernet Platform for Next-Generation Networks

TACKLING THE BANDWIDTH CHALLENGE WITH PACKET TRANSPORT INNOVATION

The significant growth in bandwidth demand creates a challenge for network operators. The Coriant® 7090-60 CEM Packet Transport Platform offers an MPLS-TP and MEF CE 2.0 certified transport solution that delivers a robust set of industry-leading features. In a high-capacity, exceptionally compact 1RU chassis, the 7090-60 CEM ensures simplified deployment and operations. With a flexible modular design, the 7090-60 CEM supports broadband services for business, residential, and mobile applications to efficiently and cost effectively manage bandwidth growth in metro networks.

OFFERING FLEXIBLE CONFIGURATIONS FOR DIVERSE APPLICATIONS

The 7090-60 CEM architecture enables numerous configurations that can be tailored to specific network and applications requirements. The system supports 62G of switching capacity with 16 x GbE integrated into the system and three flexible sub slots, which can be equipped with a mixture of FE, 1G, and 10G interfaces as well as E1/T1 with circuit emulation. Supporting a wide range of traffic management, Quality of Service (QoS), OAM, and protection features for both Carrier Ethernet and MPLS-TP environments, the 7090-60 CEM can be easily integrated into virtually any packet network.

With support for numerous Carrier Ethernet and MPLS-TP OAM functionalities, including Y.1731, G.8113.1/8113.2, 802.3ah, 802.3ag, and ITU-T Y.1731 end-to-end OAM, the 7090-60 CEM provides reliable and operationally simplified transport that will ensure Service Level Agreement (SLA) performance. In addition, the 7090-60 CEM offers a comprehensive set of standards-based protection mechanisms, including Ethernet ring protection (G.8032), LSP 1:1 linear protection, LSP ring protection, LAG protection, dual-homing, MSP (1:1/1+1), and SNCP. With flexible system configurations, scalable switching, and sophisticated management, the 7090-60 CEM is the optimal platform for service-aware provisioning and aggregation.

For networks with specific synchronization requirements (such as LTE-A networks), the entire 7090 M Series, including the 7090-60 CEM, supports a wide range of timing features. In addition to various options for external timing sources, such as 2MHz, 2Mbps, and 1PPS, the 7090 M Series supports ITU-T G.8262 Synchronous Ethernet according to IEEE 1588v2, including Boundary Clock (BC), Transparent Clock (TC), and Ordinary Clock (OC), all of which are required to provide the necessary timing accuracy to drive today's networks and support future requirements.

BENEFITS OF THE CORIANT® 7090-60 CEM PACKET TRANSPORT PLATFORM

- **Improve** network efficiency with flexible packet-based transport
- **Support** diverse network applications with a scalable system architecture
- **Ease** migration from TDM to packet-centric services while building an optimized, future-proof infrastructure
- **Ensure** highly reliable services with the end-to-end OAM capability and the network protection attributes of circuit transport technologies
- **Optimize** end-to-end service delivery with a single, unified transport platform ? reducing OpEx via simplified operations, fewer spares, and reduced training needs
- **Simplify** provisioning and troubleshooting with MPLS-TP OAM and fully MEF certified OAM capabilities



MIGRATING EXISTING INFRASTRUCTURES SMOOTHLY AND EFFICIENTLY

The 7090-60 CEM supports integrated pseudowire (PWE3) functionality and physical E1/T1 interfaces enabling the transport of legacy circuit-based services over a packet-based infrastructure. With support for legacy SONET/SDH interfaces, the 7090-60 CEM provides the ideal solution for a smooth migration to a more efficient and flexible packet-based architecture. The 7090-60 CEM offers several flexible evolution models, all with operationally simplified methodologies to ensure consistent network performance.

LEVERAGING AN END-TO-END SOLUTIONS PORTFOLIO

The 7090-60 CEM is an integral component of the Coriant product portfolio and works seamlessly with the Coriant® 7100 Packet Optical Transport Solutions, the Coriant® mTera® Universal Transport Platform, the Coriant® hiT 7300 Multi-Haul Transport Platform, and the Coriant® 8600/8800 Smart Router Series. With end-to-end management via the Coriant® 8000 Intelligent Network Manager (INM) or the Coriant® Transport Network Management System (TNMS), the Coriant portfolio provides flexible and reliable transport solutions that meet a wide variety of service needs through access to metro/regional to the core.

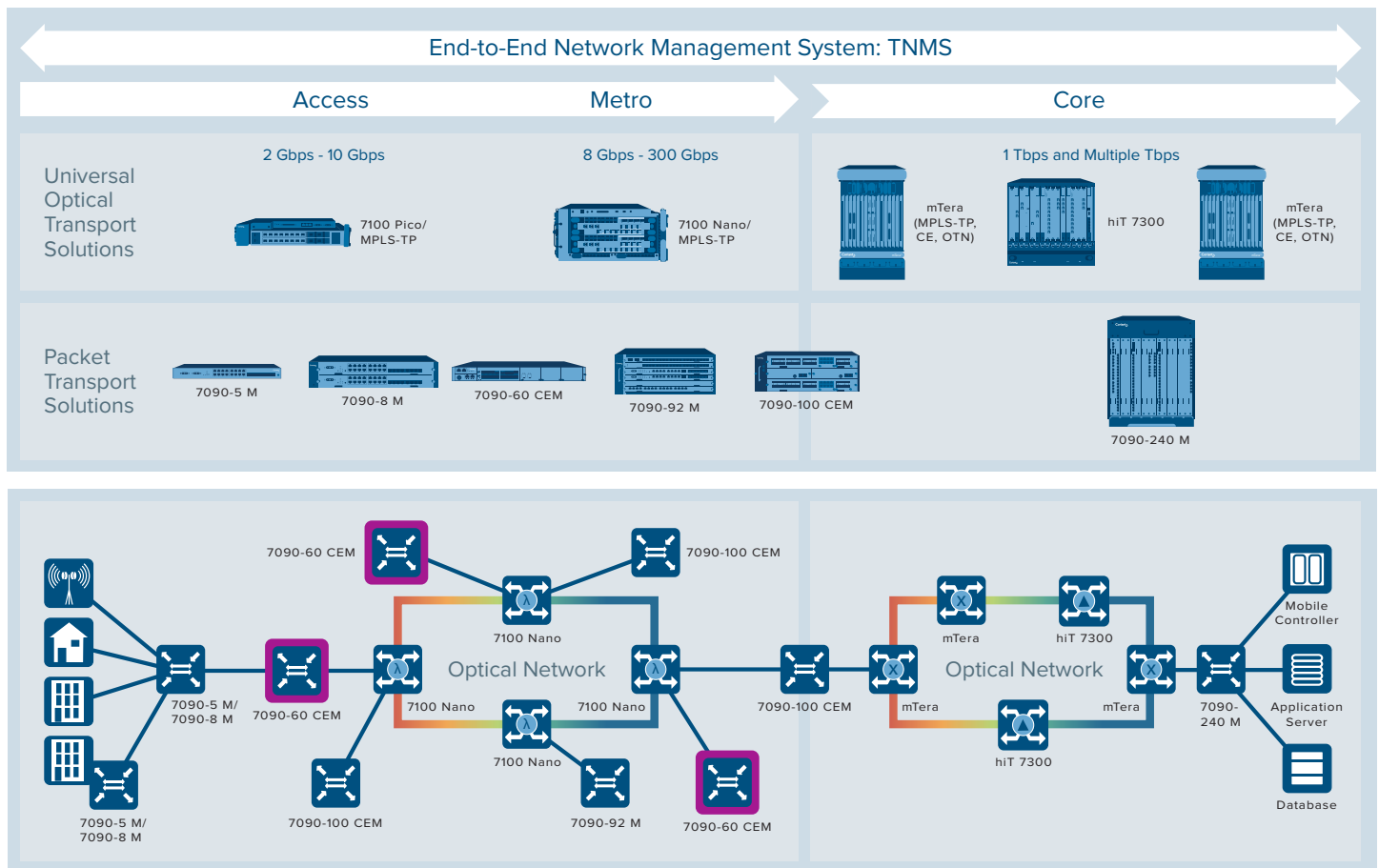


Figure 1: Coriant® 7090 Packet Transport Solutions Portfolio

TECHNICAL SPECIFICATIONS

Dimensions

- 422 mm W x 235 mm D x 44.5 mm H

Interface Types

- Basic configuration: 16x GbE SFP
- Daughter cards:
 - 2 x 10GbE SFP+
 - 6 x GbE + 2 x GbE/STM-1 (SFP)
 - 16 x E1 (75/120 ohm)
 - 16 x T1 (100 ohm)

System Configurations

- 4 x 10GbE
- 30 x GbE
- 30 x FE
- 30 x FX
- 15 x STM-1
- 15 x STM-4
- 32 x E1

Power

- 83W

TDM CES Interface

- E1, STM-1
- Smart SFP STM-1/OC-3
- Smart SFP STM-4/OC-12

Ethernet Functions

- VLAN (IEEE 802.1Q)
- Q-in-Q (IEEE 802.1ad)
- COS (IEEE 802.1P/IEEE 802.1Q)
- 9600 bytes jumbo frame
- VLAN manipulation: stack/switch/strip
- Link aggregation (IEEE 802.3ad)
- Flow control (IEEE 802.3x)
- IGMP snooping (V1/V2/V3)
- RSTP (IEEE 802.1w)
- LPT (Link Pass-Through)

OAM

- Ethernet service OAM (ITU-T Y.1731, IEEE 802.1ag)
- Ethernet link OAM (IEEE 802.3ah)
- MPLS-TP OAM (G.8113.1/G.8113.2)

Quality of Service (QoS) Classification Parameters

- L2: VLAN, PRI, MAC address, TPID
- L3: IP address, DSCP, port number, TOS
- CIR/EIR/CBS/EBS
- WRED
- 8 QoS classes
- Class-based queuing
- SP, DWRR, SP+DWRR
- Color aware and color blind mode

Protection

- LSP 1:1 linear protection
- LSP SNC protection
- LSP ring protection
- Link aggregation (inter and intra board, multi-chassis)
- UNI/NNI LAG 1:1 and load sharing
- Dual-homing/dual-star protection
- STM-1 MSP protection

Synchronization

- External clock 2MHz, 2MBit, 1PPS+TOD
- Synchronization Ethernet (G.8261, G.8262)
- IEEE1588V2 (TC, OC, BC, TC+OC)

DCN

- In-band and out-band DCN
- OSPF Layer 3 DCN

Management

- Transport Network Management System (TNMS)
- 7090 NetManager
- 7090 LCT NE Management System

Environment and Climate

- ETSI 300 019
- Operation temperature:
 - -5° C to +50° C
 - -40° C to +65° C (extended temperature optional)
- Humidity: 5%-90%
- ETSI EN 300 386 V1.6.1/EN 55022(2010)
- EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011

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