

7090-100 CEM Packet Transport Platform

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

DEPLOYING A HIGH-DENSITY METRO EDGE SOLUTION

The significant growth in bandwidth demand creates a challenge for network operators. To address the challenge, the Coriant® 7090-100 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. Purpose-built for a high-capacity metro edge network environment in an exceptionally compact 3.5RU chassis, the 7090-100 CEM ensures simplified deployment and operations. With a flexible modular design, the 7090-100 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 7090-100 CEM architecture enables numerous configurations that can be tailored to specific network and applications requirements. The system supports 220G of switching capacity and can be equipped with up to two motherboards. Each motherboard provides a basic configuration of 8 x 10 GbE and 16 x GbE ports and two flexible sub slots, which can be equipped with a mixture of FE, 1 GbE, and E1/STM-1 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 7090-100 CEM can be easily integrated into virtually any packet network.

With support for 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 7090-100 CEM provides reliable and operationally simplified transport that will ensure Service Level Agreement (SLA) performance. In addition, the 7090-100 CEM offers a comprehensive set of standards-based protection mechanisms, LSP 1:1 linear protection, LSP ring protection, LAG protection, dual-homing, and SDH MSP (1:1/1+1) and SNCP by circuit emulation port. With flexible system configurations, scalable switching, and sophisticated management, the 7090-100 CEM is the optimal platform for service-aware provisioning and aggregation.

For networks with specific synchronization requirements (such as LTE-TDD networks), the entire 7090 M Series, including the 7090-100 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 for LTE-A and 5G.

BENEFITS OF THE CORIANT® 7090-100 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 7090-100 CEM supports integrated pseudowire (PWE3) functionality and physical E1/STM-1 interfaces enabling the transport of legacy circuit-based services over a packet-based infrastructure. Additional types of interfaces including DS3 and STM-16 will be supported in a future release. With support for legacy SONET/SDH interfaces, the 7090-100 CEM provides the ideal solution for a smooth migration to a more efficient and flexible packet-based architecture. The 7090-100 CEM offers several flexible evolution models, all with operationally simplified methodologies to ensure consistent network performance.

LEVERAGING AN END-TO-END SOLUTIONS PORTFOLIO

The 7090-100 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® Transport Network Management System (TNMS), the Coriant portfolio provides flexible and reliable transport solutions that meet a wide variety of service needs from access to metro/regional to the core.

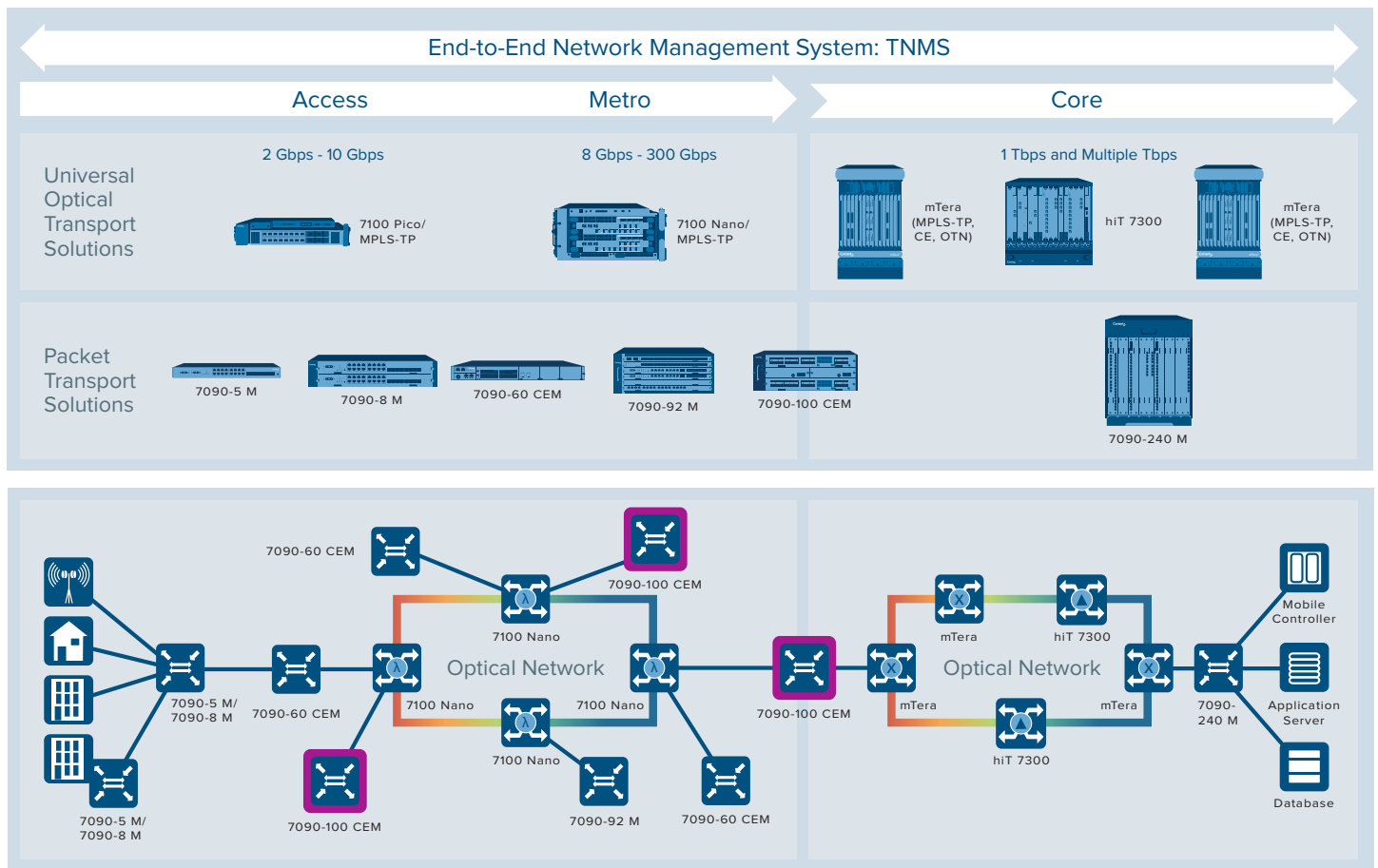


Figure 1: Coriant® 7090 Packet Transport Solutions Portfolio

TECHNICAL SPECIFICATIONS

Dimensions

- 422 x 235 x 150 mm / 16.6 x 9.3 x 5.9 in (W x D x H)

Interface Types

- Basic configuration: 8 x 10 GbE, 16 x GbE SFP
- Daughter cards:
 - 8 x GbE (SFP)
 - 16 x E1 (75/120ohm)
 - 4 x STM-1 (channelized)

System Configurations

- 16 x 10 GbE
- 64 x GbE (optical/electrical)
- 64 x FE
- 64 x FX
- 32 x STM-1/4 Ports (smart SFP) (SATO P)
- 64 x E1

Power

- 210W

TDM CES Interface

- E1

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)
- 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, 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 UNI load sharing
- Dual-homing/dual-star protection

Synchronization

- External clock 2MHz, 2MBit, 1PPS+TOD
- Synchronization Ethernet (G.8261, G.8262)
- IEEE 1588v2 (TC, OC, BC, TC+OC, TC+BC)

DCN

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

Management

- Coriant® 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
- 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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