Cisco Carrier Packet Transport (CPT) 200 Series

Product Overview

The Cisco[®] Carrier Packet Transport (CPT) 200 sets the industry benchmark as a compact carrier-class converged access and aggregation platform for Unified Packet Transport architectures. Cisco CPT product family represents an exciting new paradigm in the world of Packet Transport with exceptional pay as you grow scalability, carrier-class reliability, incredible flexibility, and TDM like ease of packet service provisioning, OAM and protection capability.

Figure 1.   Cisco CPT 200 Carrier Packet Transport (with front cover (left), without front cover (right))


The CPT platform has great revenue potential for service providers by providing TDM like Ethernet Private lines as well as multipoint capabilities for Business, Residential, Mobile Backhaul, Data Center, and Video Services. These next generation of services can be readily deployed at low operational costs using the Cisco Transport Controller (CTC) and Cisco PRIME that allow fast and simple network turn up, A to Z provisioning and OAM features.

First to market with advanced standards based MPLS-Transport Profile (TP) management for ethernet aggregation and transport, MPLS-TP combines the feature richness of MPLS with the simplicity of transport operational models. In addition to MPLS-TP, the CPT family can support IP/MPLS and native ethernet based transport solutions, giving the customers data plane and control plane flexibility as the network evolves.

Its small form, simplicity, unique set of integrated features, and low power consumption reduce capital and operational expenditures. The CPT family reduces total cost of ownership based on its innovative satellite architecture that centralizes the management and allows scalable ethernet fan-out. The Cisco CPT 50 series satellite panel can be an extension of the CPT 200 Packet Transport Fabric and Modules thereby extending the service interface up by a factor of 10.

The Cisco CPT architecture is designed to provide a la carte options to deploy Packet Transport, MSTP or OTN switched networks. Allowing the customer to reduce day one costs and grow capabilities as required.
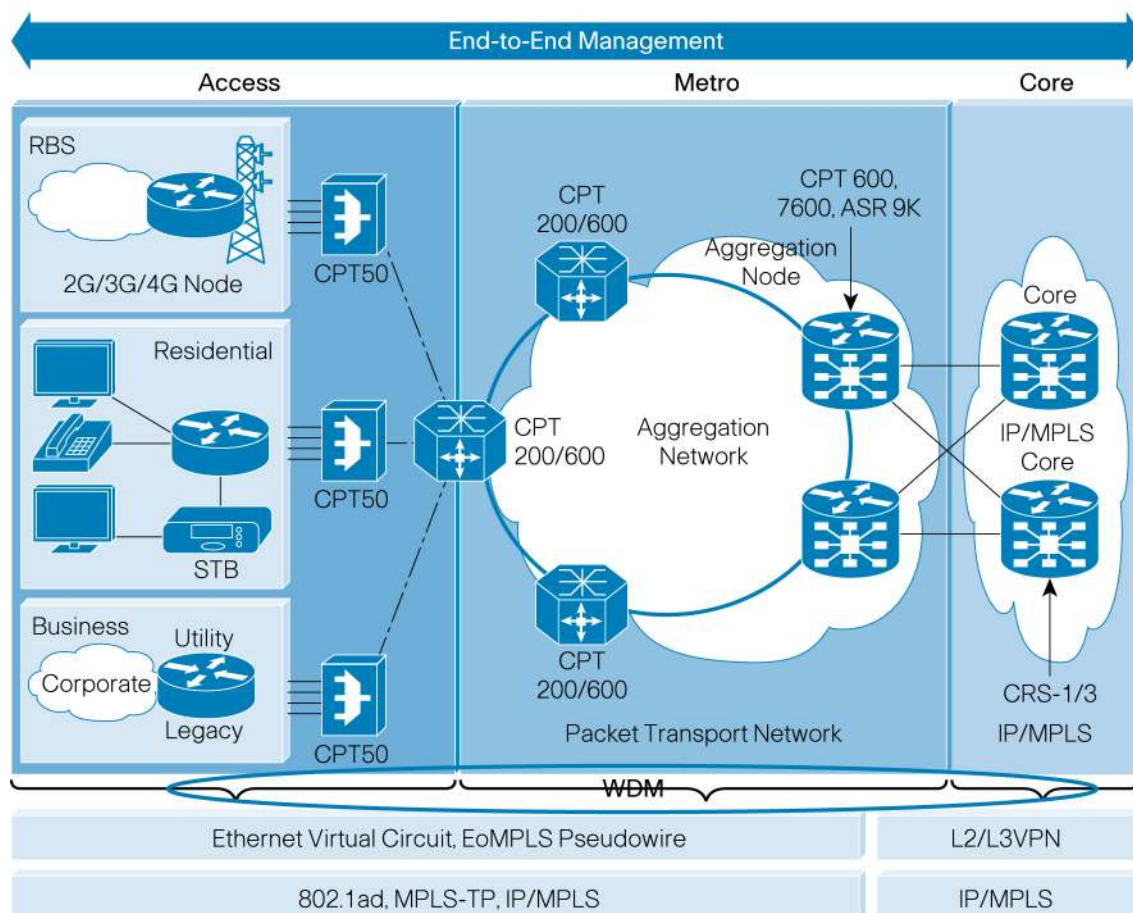
Key Features and Benefits

The Cisco CPT 200 chassis has one slot for the control card and two slots for service cards. These two line card slots provide ample power and cooling capability for forward looking applications, and a usable high-speed backplane for traffic manipulation. The CPT 200 can be configured with integrated DC or AC power inputs. The DC power module has inputs for redundant A and B feeds. The integrated AC power module has a single input and is universal in that it accepts a power input ranging from 110 VAC to 240 VAC, 50 Hz to 60 Hz. With its front-facing connections, the CPT 200 is ideal for cabinet installations and ETSI front connection requirements, making this a truly global platform.

A single processor card controls the node, but the CPT 200 has a built-in memory module to back up the software package, IP address, and circuit database. This improves mean time to repair (MTTR) and increases operational simplicity.

The Cisco CPT 200 can be mounted in 19-inch, 21-inch, or 23-inch racks or cabinets and has brackets with integrated air deflectors to support the following options: With 19-inch brackets, the airflow is right to left. With 21-inch brackets, airflow can be selected as right to left, or right front in, and left front out, or left up out, or left back out. With 23-inch brackets, airflow is from right front in to left back out.

The Cisco CPT 200 has a single high-capacity fan tray assembly where the three fans are individually monitored and controlled. In the unlikely event that a single fan fails, the user will receive a fan fail alarm and the other fans will increase in speed to provide sufficient airflow to allow the user time to safely replace the fan tray.

Specifically designed for the new CPT 200 platform are new control cards that consolidate the functions of the control card and designed for support of TDM or Ethernet timing.

Figure 2.   Cisco CPT 200 Modules

The Cisco CPT 200 provides capital and operational efficiency by addressing the increasing demand for bandwidth and multiple services at the edge of the network. It utilizes the existing Cisco Transport Controller management and integrates well with other optical transport platforms. With innovative technology, the Cisco CPT 200 pushes intelligence to the edge of the network, thus allowing the optimization of next-generation networks across multiple layers.

The Cisco CPT 200 carries on the existing features like multilayer graphical network, node, and card visibility; A-to-Z network-based service provisioning; and graphical software wizards to simplify and speed user operations for such tasks as initial network turn-up, service provisioning, and network, node, and bandwidth upgrades.

In addition to the integrated software features, the Cisco CPT 200 is supported by an easy-to-use but powerful network design tool.. This tool is a user-friendly, Java-based application (fully developed and tested by Cisco) for modeling and optimizing MPLS-TP networks based on the user's network parameters.

Topology Flexibility

Cisco CPT 200 platform and cards provide both dense hierarchical QoS and support for Layer 2 services and features, using MPLS-TP, MPLS or Layer 2 Ethernet based technologies. With up to 64K queues per card, 16,000 service interfaces, 256K MAC addresses in a 2 RU NEBS/ETSI compliant chassis. The platform and control card also contain synchronization circuitry, a Stratum-3 clock and dedicated backplane timing traces enabling transport-class network timing, support of network-synchronized services and applications such as mobile backhaul and migration of TDM services.

Product Specifications

Table 1 lists the modules that make up the Cisco CPT 200.

Table 1.   Cisco CPT 200 Modules

Model	Unit Name
COMMON EQUIPMENT Product ID for the Cisco CPT-200	**CPT-200 (Assemble to Order)**
Shelf assembly	Shelf assembly configurable with or without a door
Fan-tray assembly	Fan tray with chassis air filter
Power options	DC Power module with ANSI connectors DC Power module with ETSI connectors AC Power module with universal IEC power connector
Brackets and air deflectors	19-in. version 21-in. version 23-in. version
COMMON CARDS for Cisco CPT 200, CPT 200	
Transport Node Controller card (TNC) Transport Shelf Controller card (TSC) Transport Node Controller card (TNCE) Transport Shelf Controller card (TSCE)	Control, Timing and Synchronization Support for SyncE and IEEE1588 PTP
Slot filler cards	Line card blank Line card slot detectable filler Control card slot detectable filler Power module blank filler

Regulatory Standards Compliance

Table 2 summarizes regulatory standard compliance and agency approvals.

Table 2.   Regulatory Standard Compliance and Agency Approvals

ANSI System	ETSI System
Supported Countries	
• Canada • United States • Korea	• Europe • Latin America • Japan • Asia Pacific • Middle-East and Africa
EMC (Class A)	

• ICES-003 Issue 4 (2004)
• GR-1089-CORE, Issue 4
  (Type 2 and Type 4 equipment)
• GR-1089-CORE – Issue 03 (Oct 2002)
  (Objective O3-2 – Section 3.2.1 – Radiated Emissions
  requirements with all doors open)
• FCC 47CFR15, Class A subpart B (2006)
	• EN 300 386 v1.3.3 (2005) and v1.4.1 (2007)
	• CISPR 22 – Fifth edition (2005-04) Class A and the amendment 1 (2005-07)
	• CISPR 24 – First edition (1997-09) and amendment 1 (2001-07) and
	  amendment 2 (2002-10).
	• EN 55022:1998 Class A – CENELEC Amendment A2:2003
	• EN 55024:1998 – CENELEC Amendment A1:2001 and Amendment A2:2003
	• Resolution 237 (Brazil)
	• VCCI V-3/2006.04
	• EN 61000-6-1:2001
	• EN 61000-6-2:1999

Safety	

• UL/CSA 60950 -1 First Edition (2003)
• GR-1089-CORE , Issue 4
  (Type 2 and Type 4 equipment)
	• UL/CSA 60950 -1 First Edition (2003)
	• IEC 60950-1 (2001/10)/Amendment 11:2004 to EN 60950-1:2001, 1st Edition
	  (with all country deviations)

ANSI System	ETSI System
Environmental	
• GR-63-CORE, Issue 3 (2006)	• ETS 300-019-2-1 V2.1.2 (Storage, Class 1.1) • ETS 300-019-2-2 V2.1.2 (Transportation, Class 2.3) • ETS 300-019-2-3 V2.1.2 (Operational, Class 3.1E) • EU WEEE regulation • EU RoHS regulation
Power & Grounding	
• GR-1089-CORE, Issue 4	• ETS 300 132-2
Optical Safety	
• EN or IEC-60825-2 Third edition (2004-06) • EN or IEC 60825-1 Consol. Ed. 1.2 – incl. am1+am2 (2001-08) • 21CFR1040 (2004/04) (Accession Letter and CDRH Report) • IEC-60825-2 Third edition (2004-06) • ITU-T G.664 (2006)	
Miscellaneous	

• Acoustic Noise
  ◦ GR-63-CORE, Issue 3 (2006)
  ◦ ETS 300 753 ed.1 (1997-10)
• Rain, Sand, Dust and Moisture Proofing
  ◦ AS 1939-1990, 4.2, IP 53
• Mechanical Shock & Bumps
  ◦ AS1099- 2.27
• Customer specific requirements
  ◦ AT&T Network Equipment Development Standards (NEDS) Generic Requirements, AT&T 802-900-260
  ◦ SBC TP76200MP
  ◦ Verizon SIT.NEBS.NPI.2002.010	

Ordering Information

To place an order, visit the Cisco Ordering home page. To download software, visit the Cisco Software Center.

Table 3 provides ordering information.

Table 3.   CPT 200

Product ID	Description
CPT-200	Carrier Packet Transport 200 Platform

Warranty

The following are warranty terms that apply to the Cisco CPT 200 as well as services you may use during the warranty period. Your formal Warranty Statement appears in the Cisco Information Packet that accompanies your Cisco product.

- Hardware Warranty Duration: One (1) Year

- Software Warranty Duration: One (1) Year

- Hardware Replacement, Repair, or Refund Procedure: Cisco or its service center will use commercially reasonable efforts to ship a replacement part for delivery within fifteen (15) working days after receipt of the defective product at Cisco's site. Actual delivery times of replacement products may vary depending on Customer location.

Product warranty terms and other information applicable to Cisco products are available at:
http://www.cisco.com/go/warranty.

Service and Support

Cisco Services make networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration between people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

The unique Cisco Lifecycle approach to services defines the requisite activities at each phase of the network lifecycle to help ensure service excellence. With a collaborative delivery methodology that joins the forces of Cisco, our skilled network of partners, and our customers, we achieve the best results.

For More Information

For more information about the Cisco CPT 200, contact your local account representative or visit Cisco at: www.cisco.com/go/optical or www.cisco.com/go/IPoDWDM.

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Printed in USA

C78-633747-01   05/11