Cisco 8800 Series P200 Based Line Cards

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Cisco 8000 overview

The Cisco® 8000 Series Routers combines the revolutionary Cisco Silicon One™ processor, Cisco IOS® XR software, and a set of clean-sheet chassis to deliver a breakthrough in high-performance routers. In particular, the Cisco 8000 modular systems portfolio, ranging from 4 slots to 18 slots, provides the benefits of a flexible deployment size and can be tailored to multiple use cases ranging from high-speed performance core to metro aggregation while providing high system density with up to 648x 800 Gigabit Ethernet (GbE) ports in the 18-slot chassis. The performance of the Cisco 8000 distributed systems goes hand in hand with the evolution of the line cards.

The latest fourth-generation P200 processor pushes the performance to 51.2 Tbps in 5-nm technology and delivers high-scale routing with deep buffering. P200 processor innovation helps the Cisco 8000 Series to expand the addressable use cases from core, peering to DCI, collapsed core in the network including scale out and scale across architecture in the data center.

This data sheet introduces our new P200-based line card and their capabilities. This line card deliver an industry-leading high density of 36x 800GbE per slot in the distributed systems.

For more information regarding the Cisco Silicon One P200 processor, please visit the P200 data sheet.

Key benefits of Cisco 8000 Series modular systems powered by the Cisco Silicon One P200

Architectural innovation

Advanced 100GbE serializer/deserializer (SerDes) technology allows customers to double current 400GbE port densities supporting 36x800GbE, fully compliant with IEEE 802.3df or 72x 400GbE.

Sustainability

Distributed systems have up to twice the space efficiency of other 400GbE chassis systems, with double the capacity in the same chassis footprint, the 800GbE systems can help customers meet their sustainability goals.

Business agility

Pay-as-you-grow flexible consumption model helps customers prepare their deployments for the future by right-sizing the network, adding capacity over time to better align to business outcomes (FCM 2.0 data sheet) ; or Perpetual model benefits customers who prefer a one-time capital investment, seek simplicity in license management, want to avoid ongoing subscription fees, and may gain financial advantages through depreciation and financing options.

Operational simplicity

With the latest enhancements in Cisco Crosswork® Network Automation, along with advanced visualization dashboards, services monitoring with actionable insights, and closed-loop network optimization, customers can enjoy consistent quality of experience in their services.

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Features and benefits

Table 1. Features and benefits

Feature	Details
Industry-leading, carrier-class Cisco IOS XR Software	Modular, patchable, scalable, highly available, carrier-class proven operating system
Cisco pluggable interface	Support for Octal Small Form-Factor Pluggable (OSFP)
Encryption	Supports line rate MACSec and IPSec* on all ports
Integrated interfaces	Supports native for 800GbE Breakout support: 8x 100GbE, 2x 400GbE Routed optical network architecture ready, supporting 800GbE OSFP ZR/ZR+

Line card types

88-LC2-36EF-M

The Cisco 88-LC2-36EF-M P200-based line card (Figure 1) provides 36 ports of OSFP-DD800, aggregating a total bandwidth of 28.8 Tbps.



Figure 1. The 88-LC2-36EF-M, a 36x OSFP-DD800 P200-based line card

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Product specifications

Table 2. Key specifications for the 88-LC2-36EF-M

Feature	Specifications
Product ID (PID)	88-LC2-36EF-M
Specifications	• 36 ports of OSFP-DD800 • 28.8 Tbps capacity • 8-core x86 CPU, 64-GB DRAM, 240-GB SSD • Supports Precision Time Protocol (PTP) timing with Class C performance • Routed Optical Network (RON) architecture ready, supporting 800G DCO optics.
Physical specifications	• Height: 5.33 cm/2.10 in. • Width: 45.97 cm/18.10 in. • Length: 45.24 cm/17.81 in. • Weight: 14 kg/31 lb

Compatibility

P200 line card require a new generation of router processors (8800-RP2) and 3rd generation fabric cards (88xx-FC1) to operate in 8800 distributed systems. P200 line card can interop with Q200/P100/K100 line card in the same chassis.*

Table 3. System requirements

Hardware PIDs	Product description
8800-RP2	Cisco 8800 Router Processor 2
8800-FC1	Cisco 88xx 3rd Gen Fabric Card for 8800 modular chassis

*** Check with your account representative for line card interop**

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Environmental properties

Table 4. Environmental properties

Property	Specification
Operating temperature	0° to 40°C (32° to 104°F)
Nonoperating (storage) temperature	-40° to 70°C (-40° to 158°F)
Operating humidity	5% to 95% +- 2%
Storage (relative) humidity	5% to 95% +- 2%
Altitude	0 to 3000 m

Regulatory and safety compliance

Table 5. Regulatory and safety compliance

Regulatory compliance	Regulatory compliance statement: Products comply with CE Markings according to directives 2014/30/EU and 2014/35/EU
Safety	AS/NZS 62368-1, 3rd edition CAN/CSA C22.2 No. 62368-1, 3rd edition EN 62368-1, 3rd edition GB 4943-2022 (IEC 62368-1, 3rd edition) EC 62368-1, 3rd edition with all country deviations UL 62368-1, 3rd edition UL 60950-1, 2nd edition (NRTL only)
EMC standards (emissions)	FCC 47CFR15, Class A AS/NZS CISPR 32, Class A EN55032, Class A CISPR 32, Class A ICES-003, Class A VCCI-CISPR 32, Class A KS C 9832, Class A CNS-15936, Class A EN/IEC 61000-3-3/3-11 EN/IEC 61000-3-2/3-12
EMC standards (immunity)	IEC/EN61000-4-2 Electrostatic Discharge Immunity IEC/EN61000-4-3 Radiated Immunity IEC/EN61000-4-4 EFT-B Immunity IEC/EN61000-4-5 Surge IEC/EN61000-4-6 Immunity to Conducted Disturbances IEC/EN61000-4-11 Voltage Dips, Short Interruptions, and Voltage Variations KS C 9835

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Regulatory compliance	Regulatory compliance statement: Products comply with CE Markings according to directives 2014/30/EU and 2014/35/EU
EN standards (EMC)	EN 300 386 Telecommunications Network Equipment (EMC) EN55032 Multimedia Equipment (Emissions) EN55035/CISPR 35 Multimedia Equipment (Immunity) EN61000-6-1 Generic Immunity Standard (Residential, Commercial, Light-Industrial) EN61000-6-2 Generic Immunity Standard (Industrial)
Restriction of hazardous substances	The product is RoHS 6 compliant with exceptions for leaded Ball Grid Array (BGA) balls and lead press fit connectors.

Line card ordering Information

Table 6. 88-LC2-36EF-M ordering information

PIDs	Product Description
88-LC2-36EF-M	Cisco 8800 36x QSFP-DD800; 28.8 Tbps line card
8KSW-ESS-D-P	Essential Perpetual SW for 8000 Type D Device
8KSW-ADN-D-P	Advantage Perpetual SW for 8000 Type D Device
8KSW-PRM-D-P	Premium Perpetual SW for 8000 Type D Device
8KSW-D-SIA-3	8000 Type D Device SIA for 3 to 5 year term FCM 2.0
8KSW-D-SIA-5	8000 Type D Device SIA for 5 to 7 year term FCM 2.0
ESS-8KE-400G-RTU	Essentials Right-to-Use 100G for Cisco 8000 Series
ADN-8KE-400G-RTU	Advantage Right-to-Use 100G for Cisco 8000 Series
PRM-8KE-400G-RTU	Premium Right-to-Use 100G for Cisco 8000 Series
8000-OSFP-DCAP	OSFP Port Dust Cap

*** Check with your account representative for availability**

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Warranty information

Cisco hardware is backed by a limited warranty. For details on the warranty, please visit the Cisco Warranty Finder.

Cisco Licensing

Cisco Licensing is a flexible and secure licensing model that provides you with an easier, faster, and more consistent way to purchase, activate, manage, renew, and upgrade software products across the Cisco portfolio and across your organization.

In order to retrieve your licenses, you will first need to set up an account on Cisco Software Central.

For a more detailed overview of Cisco Licensing, go to the Cisco Software Licensing Guide at https://www.cisco.com/c/en/us/buy/licensing/licensing-guide.html.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environmental Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environmental Sustainability" section of the CSR Report) are provided in the following table.

Table 7. Links to environmental sustainability topics

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

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Product sustainability

Information about Cisco's Environmental, Social, and Governance (ESG) initiatives and performance is provided in Cisco's CSR and sustainability reporting.

Table 8. Links to product sustainability topics

Sustainability topic		
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	WEEE Compliance
	Information on product takeback and reuse program	Cisco Takeback and Reuse Program
	Sustainability inquiries	Contact: csr_inquiries@cisco.com
Material	Product packaging weight and materials	Contact: environment@cisco.com

Service and support

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing the Cisco P200 line card. These innovative Cisco Services offerings are delivered through a unique combination of people, processes, tools, and partners, and they are focused on helping you increase operating efficiency and improve your network.

Cisco Advanced Services uses an architecture-led approach to help you align your network infrastructure with your business goals and achieve long-term value.

Cisco Software Support offers the Cisco Smart Net Total Care® service to help you resolve mission-critical problems with direct access at any time to Cisco network experts and award-winning technical support coverage and maintenance releases for the Essentials and Advantage software suites, helping to keep your systems and your business running smoothly. Software Support is a required purchase with the Software Innovation Access (SIA) feature upgrade licenses.

Cisco SP Base provides device-level support and helps reduce downtime with fast, expert technical support and flexible hardware coverage provided by the Cisco Technical Assistance Center (TAC). With this service, you can take advantage of the Cisco Smart Call Home service, which offers proactive diagnostics and real-time alerts on your hardware.

Spanning the entire network lifecycle, Cisco Services offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise.

For information on services for the Cisco 8800 Series P200 line card, contact your Cisco sales representative. For an overview of all offers, visit Cisco Services for Service Providers.

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Flexible payment solutions to help you achieve your objectives

Cisco Capital® makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.

Documentation history

New or revised topic	Described in	Date
Cisco P200 Line card Datasheet	Details regarding Cisco 8800 P200 based line card	January 9, 2026
Cisco P200 Line card Datasheet	Fixed corrections	April 6, 2026

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