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Cisco Network Convergence System 5500 Series: PLE Modular Port Adaptor Data Sheet

Contents

Product overview

The Cisco® Network Convergence System 5500 Series is designed to efficiently scale between data centers and large enterprises, web, and service provider WAN and aggregation networks. Equipping the chassis and the line cards with a variety of interfaces is crucial to cater to a plethora of use cases and services. The Modular Port Adaptors provide the much-needed flexibility and capability to the chassis and the line cards.

The new PLE (Private Line Emulation) Port Adaptor adds the capability that allows the transparent transfer of ODU/SONET/SDH/Eth/FC packets over MPLS networks without changing the characteristics of the original signal. PLE-MPA-capable NCS 5500 end points on both ends will provide native client interfaces as shown below. This is achieved by circuit emulation. Circuit Emulation over Packet is a way to carry any circuits over a packet switched network by placing client bitstreams into packet payload while adding appropriate pseudo-wire emulation headers.
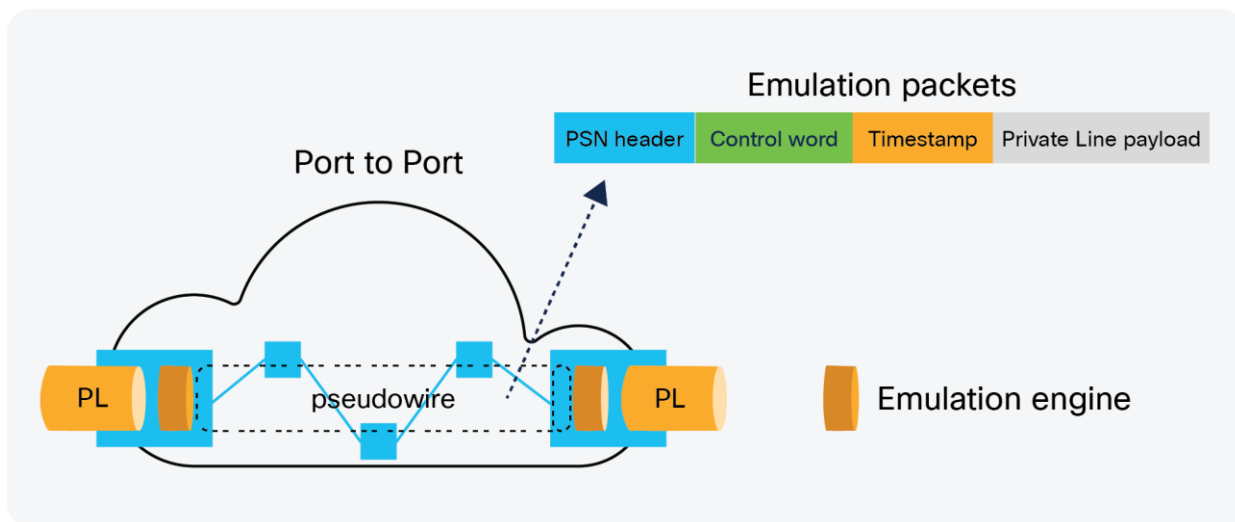

Figure 1.
Principle of Private Line Emulation

Figure 2.
The NC55-OIP-02-FC Modular Port Adaptor

Compatibility

The following table lists HW compatibility of the NCS-5500 PLE MPA and the required minimum Cisco IOS® XR SW release.

Table 1.   HW compatibility matrix

Host platform	NC55-OIP-02-FC
NCS-57C3-MOD versions	7.7.1
NCS-55A2-MOD versions	7.7.1

Specifications

Tables 2 through 8 list key specifications for the NCS 5500 PLE MPA NC55-OIP-02-FC.

Table 2.   Features and specifications of NC55-OIP-02-FC MPA (IOS XR Software Release 7.7.1 and later)

Feature	Specification
Interface	8 ports of SFP+
Operable modes	• OC-48/STM-16 • OC-192/STM-64 • OTU2/2e • 1GE,10GE • 1G-FC, 2G-FC, 4G-FC, 8G-FC, 16G-FC • 32G-FC (only on 4 ports)
Product IDs	**Flexible Consumption Model (FCM):** NC55-OIP-02-FC **Perpetual (BAU):** NC55-OIP-02
Power consumption	Typical (25°C): 85W Maximum (50°C): 100W
Physical specifications	Width – 110.69 mm Height – 34.36 mm Depth – 174.32 mm Weight – 1.5 lbs (0.7 kg)

Supported transceivers modules

Check the Cisco NCS 5500 Series supported transceivers module matrix: https://tmgmatrix.cisco.com

Environment

Table 3.   Environmental properties for NC55-OIP-02-FC MPA

Property	Specifications	
Normal operating temperature (at 1800 m)	**Chassis supported**	
	NCS-57C3-MOD-SYS/MODS-SYS	0–50°C
	NCS-55A2-MOD-SYS/MODS-SYS	0–50°C
Non-operating (storage) temperature	–40 to 158°F (–40 to 70°C)	
Operating humidity	Normal: 5% RH to 85% RH	
	Short term: 5% to 95% RH	
	Should not exceed 0.026 kg water/kg of dry air	
Storage (relative) humidity	5% to 95% at 40°C per NEBS GR-63-Core	
Altitude	0 to 9842 ft (0 to 3000 m)	
Air flow	Front to back	

Regulatory standards compliance

Table 4.   Regulatory standards compliance: Safety and EMC for NC55-OIP-02-FC MPA

Specification	Description
Regulatory compliance	Products should comply with CE Markings according to directives 2014/30/EU and 2014/35/EU.
Network Equipment Building Standards (NEBS)	Designed to meet: • GR-63-CORE • GR-1089-CORE
Safety	UL 62368-1 Third Edition CAN/CSA-C22.2 No. 62368-1, Third Edition EN 60950-1 Second Edition IEC 60950-1 Second Edition IEC 62368-1: 2018, Third Edition EN 62368-1: 2020, Third Edition AS/NZS 62368.1

Specification	Description	
EMC standards	FCC 47CFR15 AS/NZS CISPR 32 EN55032 CISPR 32/CISPR 22 ICES-003 VCCI KN32 CNS-13438	EN61000-3-2 Power Line Harmonics EN61000-3-3 Voltage Changes, Fluctuations, and Flicker
EMC immunity	IEC/EN61000-4-2 IEC/EN61000-4-3 IEC/EN61000-4-4 IEC/EN61000-4-5 IEC/EN61000-4-6 IEC/EN61000-4-8 IEC/EN61000-4-11	EN 300 386 (C-4) EN55035/CISPR 35 EN61000-6-1 KN35
Restriction of Hazardous Substances (RoHS)	The product is RoHS-6 compliant with exceptions for leaded-ball grid-array (BGA) balls and lead press-fit connectors.	

Additional information related to NC55-OIP-02-FC regulatory compliance and safety standards.

Ordering information

Table 5.   Ordering information – Flexible Consumption Model Hardware

Part number	Description
NC55-OIP-02-FC	NCS 5500, 8 ports OTU2/2e/OC192/OC48/FC MPA
NC55-OIP-02-FC=	NCS 5500, 8 ports OTU2/2e/OC192/OC48/FC MPA

Table 6.   Ordering information – Perpetual Hardware

Part number	Description
NC55-OIP-02	NCS 5500, 8 ports OTU2/2e/OC192/OC48/FC MPA
NC55-OIP-02=	NCS 5500, 8 ports OTU2/2e/OC192/OC48/FC MPA

Product sustainability

Sustainability topic		Reference
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
	Countries and regions supported	Table 4: Regulatory Compliance
	Predicted MTBF	NC55-OIP-02-FC 1,383,030 hours
Power	Power consumption	See Table 2 of this datasheet
Material	Product packaging weight and materials	Contact: environment@cisco.com
	Weight	See Table 2 of this datasheet

Warranty

The Cisco NCS 5500 Series has a one-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA).

Service and support

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing the Cisco NCS 5500 Series. 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 data center network. Cisco Advanced Services uses an architecture-led approach to help you align your data center infrastructure with your business goals and achieve long-term value. Cisco SMARTnet™ Service helps you resolve mission-critical problems with direct access at any time to Cisco network experts and award-winning resources. With this service, you can take advantage of the Cisco Smart Call Home service, which offers proactive diagnostics and real-time alerts on your Cisco NCS 5500 Series. Spanning the entire network lifecycle, Cisco Services offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise.

Cisco Capital

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.

For more information

Learn more about the NCS 5700 Series.

Learn more about the NCS 5500 Series.

Our experts recommend

Cisco NCS 5500 Fixed Platform Architecture White Paper

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