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Cisco NCS 560 Series Router Interface Modules

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Cisco® NCS 560 Series Router Interface modules (Figure 1-6) are designed to support a wide range of services, speeds, temperature ranges, and enhanced capabilities. They provide cost-effective delivery of residential and business Ethernet services.

Product overview

The Cisco® NCS 560 Series Router delivers a cost-effective, modular solution based on a protocol-independent fabric architecture. The Cisco NCS 560 Series Router, as part of the Cisco Evolved Programmable Network (EPN) architecture, is capable of delivering unbounded scale and unmatched capabilities for Carrier Ethernet business services, over redundant and protected packet-based network technologies (IP/MPLS, MPLS-TE, SR, SR-TE, TI-LFA).



Figure 1.
Cisco NCS 560 Series Router Interface Module - 2 x 100GE (QSFP28)



Figure 2.
Cisco NCS 560 Series Router Interface Module - 8 x 10GE (SFP+)



Figure 3.
Cisco NCS 560 Series Router Interface Module - 8/16 x 1GE (SFP/CSFP) + 1 x 10GE (SFP+)



Figure 4.
Cisco NCS 560 Series Router Interface Module - 1 x 100GE/ 200GE CFP2 DCO



Figure 5.
Cisco NCS 560 Series Router Interface Module - 2 x 100GE QSFP28/QSFP-DD



Figure 6.
Cisco NCS 560 Series Router Ethernet Only Interface Module - 8 x 10GE (SFP+)



Figure 7.

Cisco NCS 560 Series Router 8-Port 10GE (SFP+)/ 25GE SFP28 or 4-Port 50 GE (SFP56) Interface Module

Features and benefits

Feature	Benefit
Metro Carrier Ethernet Aggregation	Enables the service flexibility and delivery of Layer 2, Layer 3, IP/MPLS and SR transport for advanced L2VPN, L3VPN, EVPN and Multicast services.
Next generation access network with fully distributed and unique packet capabilities	Supports state-of-the-art Pseudowire scale, Hierarchical Quality of Service (H-QoS), and next generation IP/MPLS, MPLS-TE, SR, SR-TE and TI-LFA technologies. Cisco's SR, SR-TE and TI-LFA technologies guarantee resiliency (sub 50 ms switchover time), fault propagation, connectivity verification, scalability and programmability for SDN functionality support.
Operation Efficiency with End-to-End Network Management	Supported by the Evolved Programmable Network Manager (EPN-M), which enables business agility and operational efficiencies through automated device operations, fast provisioning and proactive assurance.
Comprehensive variety of interfaces and protocols	Ethernet interfaces are available in copper and fiber, with speeds ranging from 10 Mbps to 100 Gbps. In addition, various CWDM/DWDM interfaces are available ranging from 1Gbps to 10Gbps speeds.

Ethernet interface modules

The Cisco NCS 560 Series Router Ethernet interface modules are designed to give customers a high degree of flexibility and value. All Ethernet interface modules share a common core that supports time stamping on the module for Y.1731 Operations, Administration, and Maintenance (OAM) delay measurement functions to achieve precise results for one-way and two-way delay measurement. The modules also provide time-stamping functions for the IEEE 1588-2008 protocol. These time stamps help ensure that NCS 560 Series systems achieve outstanding results when deploying IEEE 1588-2008 protocols for frequency and phase synchronization. Not all customers will deploy IEEE 1588-2008 for synchronization. Therefore, the Ethernet interface modules also support input and output frequency synchronization using synchronous Ethernet (SyncE).

All NCS 560 Series Router Ethernet interface modules support Online Insertion and Removal (OIR), which contributes to a higher uptime for NCS 560 Series systems.

Cisco NCS 560 Series Router 2-Port 40/ 100GE QSFP Interface Module

This 2-port 40/100 Gigabit Ethernet Cisco QSFP28 module delivers the highest performance per slot on Cisco NCS 560 Series systems and provides physical connectivity using two pluggable 100GE QSFP28 optics or 40GE QSFP+ optics. Interface Module Slot compatibility can be found in table 1 and 2.

Cisco NCS 560 Series Router 8-Port 10GE SFP+ Interface Module

This interface module provides eight 10 Gigabit Ethernet ports with physical connectivity, using pluggable 10 Gigabit Ethernet Enhanced Small Form-Factor Pluggable (SFP+) on each port. The module is hardware ready to support 1 Gigabit Ethernet mode per group of four interfaces, and this capability will be provided in future software releases. The interface module supports both the LAN and WAN physical layer (PHY), which allow flexible and versatile deployment models. This module can support OTN (G.709 FEC only) and this capability will be provided in future software releases. Interface Module Slot compatibility can be found in table 1 and 2.

Cisco NCS 560 Series Router 8/16-port 1GE (SFP/CSFP) + 1-port 10GE (SFP+) / 1/2-port 1GE (SFP/CSFP) Interface Module

This interface module can operate in a number of different modes, using specific Bandwidth subscription or oversubscription configuration, dependent on Interface module slot and optics use. The default mode is delivering one port of 10 Gigabit Ethernet and eight ports of Gigabit Ethernet using regular SFP+ and SFP interfaces respectively on the Cisco NCS 560 Series Router. Optional mode two is delivering one port of 10 Gigabit Ethernet and sixteen ports of Gigabit Ethernet using one regular SFP+ and eight bi-directional Compact SFP interfaces respectively on the Cisco NCS 560 Series Router. The Interface Module mode selection is available through a Command Line Interface command. Interface Module Slot compatibility and subscription modes can be found in table 1 and 2. This module is capable to support MACsec in a future release.

Cisco NCS 560 Series Router 1-Port 100GE/ 1-Port 200GE CFP2 DCO Interface Module

This 1-port 100/200 Gigabit Ethernet CFP2 DCO module delivers the highest performance per slot on Cisco NCS 560 Series systems and provides physical connectivity using a pluggable 100GE CFP2 DCO optics or 200GE CFP2 DCO Optics. Interface Module Slot compatibility can be found in table 1 and 2.

Cisco NCS 560 Series Router 2-Port 100GE QSFP28/ QSFP-DD Interface Module

This 2-port 100 Gigabit Ethernet Cisco QSFP28/ QSFP-DD module delivers the highest performance per slot on Cisco NCS 560 Series systems and provides physical connectivity using two pluggable 100GE QSFP28 optics or 100GE QSFP-DD ZR optics. 100GE QSFP-DD ZR Optic support will be provided in future software release. This Interface module will support temperature of -20°C to 65°C. Interface Module Slot compatibility can be found in table 1 and 2.

Cisco NCS 560 Series Router 8-Port 10GE SFP+ Ethernet only Interface Module

This interface module provides eight 10 Gigabit Ethernet ports with physical connectivity, using pluggable 10 Gigabit Ethernet Enhanced Small Form-Factor Pluggable (SFP+) on each port. This module does not support WAN and OTN mode. Interface Module Slot compatibility can be found in table 1 and 2.

Cisco NCS 560 Series Router 8-Port 10GE (SFP+)/ 25GE SFP28 or 4-Port 50 GE (SFP56) Interface Module

This 8-Port 10GE (SFP+)/ 25GE SFP28 or 4-Port 50 GE (SFP56) Interface Module delivers the highest performance per slot on Cisco NCS 560 Series systems and provides physical connectivity using eight pluggable 10GE SFP+ optics or 25GE SFP28 optics. This module will also bring 50 GE support and can be used

in 4x50GE SFP 56 mode. This module does not support WAN and OTN mode. Interface Module Slot compatibility can be found in table 1 and 2.

Table 1. Cisco NCS 560-4 Series Router Interface Compatibility Matrix

Slot	N560-IMA-2C	A900-IMA-8Z	A900-IMA-8CS1Z	N560-IMA-1W	N560-IMA-2C-DD	A900-IMA-8Z-L	N560-IMA-8Q/4L
Slot 0	6.6.25 ¹	6.6.25	6.6.25	7.2.1 ⁴	7.3.1 ⁵	7.3.1	7.4.1 ⁶
Slot 1	6.6.25 ¹	6.6.25	6.6.25	7.2.1 ⁴	7.3.1 ⁵	7.3.1	7.4.1 ⁶
Slot 2	7.2.1 ²	6.6.25	6.6.25	7.2.1 ³		7.3.1	7.4.1 ⁷
Slot 3	7.2.1 ²	6.6.25	6.6.25	7.2.1 ³		7.3.1	7.4.1 ⁷
Slot 4	-	6.6.25	6.6.25			7.3.1	7.4.1 ⁸
Slot 5	-	6.6.25	6.6.25			7.3.1	7.4.1 ⁸

¹ N560-IMA-2C can be used in slots 0 and 1 in 2 x 100GE/ 2 x 40GE / 1 x 100GE + 1 x 40 GE modes

² N560-IMA-2C can be used in slots 2 and 3 in 1 x 100GE or 2 x 40GE modes

³ N560-IMA-1W can be used in slots 2 and 3 in 1 x 100GE mode

⁴ N560-IMA-1W can be used in slots 0 and 1 in 1 x 100GE/1 x 200GE modes

⁵ N560-IMA-2C-DD can be used in slots 0 and 1 in 2 x 100GE/1 x 100GE QSFP28 mode

⁶ N560-IMA-8Q/4L can be used in slots 0 and 1 in 8 x 25GE/ 8 x 10GE/ 4 x 50GE/ 4 x 25GE + 4 x 10GE/ 2 x 50 GE + 4 x 10GE/ 4 x 25GE + 2 x 50GE modes

⁷ N560-IMA-8Q/4L can be used in slots 2 and 3 in 8 x 10GE/ 4 x 25GE + 4 x 10GE/ 2 x 50 GE + 4 x 10GE modes

⁸ N560-IMA-8Q/4L can be used in slots 4 and 5 in 8 x 10GE mode

Table 2. Cisco NCS 560-7 Series Router Interface Compatibility Matrix

Slot	N560-IMA-2C	A900-IMA-8Z	A900-IMA-8CS1Z ¹	N560-IMA-1W	N560-IMA-2C-DD	A900-IMA-8Z-L	N560-IMA-8Q/4L
Slot 0	-	-	6.6.25 ⁵				
Slot 1	-	-	6.6.25 ⁵				
Slot 2	-	-	6.6.25 ⁶				
Slot 3	-	-	6.6.25 ⁶				
Slot 4	-	6.6.25 ⁷	6.6.25 ⁶			7.3.1 ¹¹	7.4.1 ¹³

Slot	N560-IMA-2C	A900-IMA-8Z	A900-IMA-8CS1Z ¹	N560-IMA-1W	N560-IMA-2C-DD	A900-IMA-8Z-L	N560-IMA-8Q/4L
Slot 5	-	6.6.25 ⁷	6.6.25 ⁶			7.3.1 ¹¹	7.4.1 ¹³
Slot 6	-		6.6.25 ³				
Slot 7	6.6.25 ²	6.6.25	6.6.25 ⁶	7.2.1 ⁹	7.3.1 ¹⁰	7.3.1	7.4.1 ¹⁴
Slot 8	-		6.6.25 ⁴				
Slot 9	6.6.25 ²	6.6.25	6.6.25 ⁶	7.2.1 ⁹	7.3.1 ¹⁰	7.3.1	7.4.1 ¹⁴
Slot 10	-	6.6.25 ⁸	6.6.25 ⁶			7.3.1 ¹²	7.4.1 ¹³
Slot 11	-	6.6.25 ⁸	6.6.25 ⁶			7.3.1 ¹²	7.4.1 ¹³
Slot 12	-	-	6.6.25 ⁶				
Slot 13	-	-	6.6.25 ⁶				
Slot 14	-	-	6.6.25 ⁵				
Slot 15	-	-	6.6.25 ⁵				

¹ NCS560-7 can support a maximum of 6xA900-IMA-8CS1Zs between slots 0-7 if no other IM is configured between slots 0-7 and 6xA900-IMA-8CS1Zs can be supported between slots 8-15 if no other IM is configured between slots 0-7. Maximum 12xA900-IMA-8CS1Zs can be supported on the chassis

² N560-IMA-2C can only be used in slots 7 and 9 in 2 x 100GE/ 2 x 40GE / 1 x 100GE + 1 x 40 GE modes

³ If A900-IMA-8Z used on slot 0/4 or 0/5, A900-IMA-8CS1Z cannot be used in slot 0/6

⁴ If A900-IMA-8Z used on slot 0/10 or 0/11, A900-IMA-8CS1Z cannot be used in slot 0/8

⁵ A900-IMA-8CS1Z in slots 14,15, 0 and 1 can only be used in 8 x 1 Gigabit Ethernet (SFP) + 1 x 10 Gigabit Ethernet (SFP+) mode

⁶ A900-IMA-8CS1Z in slots 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 can be used in 8 x 1 Gigabit Ethernet (SFP) + 1 x 10 Gigabit Ethernet (SFP+) or 16 x 1 Gigabit Ethernet (CSFP) + 1 x 10 Gigabit Ethernet (SFP+) mode

⁷ If A900-IMA-8CS1Z used on slot 0/6, A900-IMA-8Z or A900-IMA-8Z-L cannot be used in slot 0/4 or 0/5

⁸ If A900-IMA-8CS1Z used on slot 0/8, A900-IMA-8Z or A900-IMA-8Z-L cannot be used in slot 0/10 or 0/11

⁹ N560-IMA-1W can be used in slots 7 and 9 in 1 x 100GE/ 1 x 200GE modes

¹⁰ N560-IMA-2C-DD can only be used in slots 7 and 9 in 2 x 100GE/ 1 x 100GE QSFP28 mode

¹¹ If A900-IMA-8Z-L used on slot 0/4 or 0/5, A900-IMA-8CS1Z cannot be used in slot 0/6

¹² If A900-IMA-8Z-L used on slot 0/10 or 0/11, A900-IMA-8CS1Z cannot be used in slot 0/8

¹³ N560-IMA-8Q/4L can be used on slot 0/4, 0/5, 0/10, 0/11 in 8 x 10GE mode

¹⁴ N560-IMA-8Q/4L can be used in slots 0/7 and 0/9 in 8 x 25GE/ 8 x 10GE/ 4 x 50GE/ 4 x 25GE + 4 x 10GE/ 2 x 50 GE + 4 x 10GE/ 4 x 25GE + 2 x 50GE modes

Table 3. NCS 560 Series Router Interface Module Specifications

Features	Description
Port density	<ul style="list-style-type: none"> • 8/16-port GE SFP/CSFP + 1-port 10 GE SFP+ / 1/2-port GE SFP/CSFP • 8-port 10 GE, SFP+ • 2-port 40/100 GE, QSFP28 • 1-port 100/ 200 GE, CFP2 DCO • 2-port 100 GE, QSFP28/ QSFP-DD • 8-port 10 GE, SFP+ Ethernet Only • 8-port 10GE (SFP+)/25 GE (SFP28) or 4-port 50 GE (SFP 56)
Power draw	<ul style="list-style-type: none"> • 8/16-port GE SFP/CSFP + 1-port 10GE SFP+ / 1/2-port GE SFP/CSFP: 37W typical, 40W maximum • 8-port 10 GE SFP+: 47W typical, 51W maximum • 2-port 40/ 100 GE QSFP28: 52W typical, 59W maximum • 1-port 100/ 200 GE, CFP2 DCO, 50W typical, 60W maximum • 2-port 100 GE, QSFP28/ QSFP-DD, 38W typical. 44W maximum (With QSFP 28 Optics) • 8-port 10 GE, SFP+ Ethernet Only: 18W typical, 24W maximum • 8-port 10GE (SFP+)/25 GE (SFP28) or 4-port 50 GE (SFP 56), 42W typical, 50W maximum
Module shipment weight	<ul style="list-style-type: none"> • 8/16-port GE SFP/CSFP + 1-port 10 GE SFP+ / 1/2-port GE SFP/ CSFP: 3.5 lbs • 8-port 10 Gigabit Ethernet SFP+: 3.8 lbs • 2-port 40/100 Gigabit Ethernet QSFP28: 2.55 lbs • 1-port 100/ 200 Gigabit Ethernet CFP2 DCO: 2.48 lbs • 2-port 100 Gigabit Ethernet, QSFP28/ QSFP-DD: 2.14 lbs • 8-port 10 GE, SFP+ Ethernet Only: 1.82 lbs • 8-port 10GE (SFP+)/25 GE (SFP28) or 4-port 50 GE (SFP 56): 2.18 lbs
Module shipment package size (LxWxH)	<ul style="list-style-type: none"> • 15.44 x 9.44 x 4.31 inches
Environmental specifications¹	<p>Side-to-Side Airflow:</p> <p>-40 to 65°C (-40° to 149°F) operating temperature (using Industrial temperature SFP, SFP+, QSFP+ and QSFP28 optics) at altitude up to 1800m (6000 ft.)</p> <p>0 to 50°C (32° to 122°F) operating temperature (using Commercial temperature SFP, SFP+, QSFP+, QSFP28 and CFP2 DCO optics) at altitude up to 1800m (6000 ft.)</p> <p>Up to +40°C (104°F) operating temperature (using Industrial temperature SFP, SFP+, QSFP+ and QSFP28 optics) at altitude up to 4000m (13000 ft.)</p> <p>With F2B Plenum:</p> <p>-40 to 55°C (-40° to 131°F) operating temperature (using Industrial temperature SFP, SFP+, QSFP+ and QSFP28 optics) at altitude up to 1800m (6000 ft.)</p>
Relative humidity	5 to 95%, noncondensing
Storage environment	Temperature: -40 to 70°C (-40 to 158°F) altitude: 4570 m (15,000 ft)
MTBF at 40° C (104° F) operating temperature. (25° C / 77° F ambient temperature)	<ul style="list-style-type: none"> • 8/16-port GE SFP/CSFP + 1-port 10 GE SFP+ / 1/2-port GE SFP/C-FP: 1,340,000 hours • 8-port 10 GE SFP+: 1,897,000 hours • 2-port 40/100 GE QSFP28: 1,608,000 hours • 1-port 100/ 200GE, CFP2 DCO: 2,170,310 hours • 2-port 100 GE, QSFP28/ QSFP-DD: 2,087,160 hours

Features	Description
	<ul style="list-style-type: none"> 8-port 10 GE, SFP+ Ethernet Only: 2,385,540 hours 8-port 10GE (SFP+)/25 GE (SFP28) or 4-port 50 GE (SFP 56): 2,193,700 hours
Reliability and availability	OIR field-replaceable SFP optics modules Single interface module software reset Rolling software upgrade, interface module by interface module

¹ N560-IMA-2C-DD will support temperature range from -20° C to 65° C.

¹ Optics used may limit the temperature range

Table 4. Safety and compliance

Type	Standards
Safety	<ul style="list-style-type: none"> UL 60950-1, 2nd edition CAN/CSA C22.2 No. 60950-1-07 2nd edition IEC 60950-1, 2nd edition EN 60950-1, 2nd edition AS/NZS 60950.1:2003
Electromagnetic	<ul style="list-style-type: none"> FCC CFR47 Part 15, Class A
Emissions compliance	<ul style="list-style-type: none"> EN55022, class A CISPR22, class A ICES-003, class A EN 300 386, class A VCCI, class A KN22, class A EN61000-3-2 to EN61000-3-3
Immunity compliance	<ul style="list-style-type: none"> EN 300 386 EN 61000-6-1 EN 50082-1 CISPR24 EN 55024 KN 24 EN 50121-4 EN/KN 61000-4-2 to EN/KN 61000-4-6 EN/KN 61000-4-8 EN/KN 61000-4-11
Network Equipment-Building Systems (NEBS)¹	This product is designed to meet the following requirements (qualification in progress) <ul style="list-style-type: none"> GR-63-CORE¹ GR-1089-CORE¹
ETSI	<ul style="list-style-type: none"> ETS/EN 300 119 Part 4 ETS/EN 300 019 - Storage: Class 1.2, Transportation: Class 2.3, In-Use/Operational: Class 3.2 ETS/EN 300 753
Telecom	Ethernet:

Type	Standards
	<ul style="list-style-type: none"> • DSPR Technical Conditions • RRA 2009-38 (RRL 2005-96) • IEEE 802.3-2005 • IEEE 802.3z • IEEE 802.3ab • IEEE 802.3ae
Network synchronization	<ul style="list-style-type: none"> • GR-1244-CORE • GR-253-CORE • ANSI T1.101 • ITU-T G.813 • ITU-T G.703 clause 5 • ITU-T G.703 clause 9 • ITU-T G.823 • ITU-T G.824 • ITU-T G.8261/Y.1361 • ITU-T G.781 • ITU-T G.8262 • ITU-T G.8264 • ITU-T G.8265.1 • ITU-T G.8275.1 • ITU-T G.8275.2 • IEEE1588-2008

¹ Contact your local Cisco Sales and Marketing for the NEBS report

Ordering information

Table 5. Cisco IOS XR software packages for Cisco NCS 560 Interface Modules support

Interface Module	FCS Software
N560-IMA-2C	XR 6.6.25
A900-IMA-8Z	XR 6.6.25
A900-IMA-8CS1Z	XR 6.6.25
N560-IMA-1W	XR 7.2.1
N560-IMA-2C-DD	XR 7.3.1
A900-IMA-8Z-L	XR 7.3.1
N560-IMA-8Q/4L	XR 7.4.1

Table 6. Cisco NCS 560 Series Router interface modules

Part Number	Description
N560-IMA-2C	NCS 560 2 port QSFP28 100 Gigabit Ethernet Interface Module, Flexible Consumption
N560-IMA-2C=	NCS 560 2 port QSFP28 100 Gigabit Ethernet Interface Module, Flexible Consumption, Spare
A900-IMA-8Z	NCS 560 8 port SFP+ 10 Gigabit Ethernet Interface Module, Flexible Consumption
A900-IMA-8Z=	NCS 560 8 port SFP+ 10 Gigabit Ethernet Interface Module, Flexible Consumption, Spare
A900-IMA-8CS1Z	NCS 560 Combo 8/16 port GE SFP/C-SFP and 1 port 10GE SFP+ / 2 port 1GE C-SFP Interface Module, Flexible Consumption
A900-IMA-8CS1Z=	NCS 560 Combo 8/16 port GE SFP/C-SFP and 1 port 10GE SFP+ / 2 port 1GE C-SFP Interface Module, Flexible Consumption, Spare
N560-IMA-1W	NCS 560 1 port CFP2 DCO 100/200 Gigabit Ethernet Interface Module, Flexible Consumption
N560-IMA-1W=	NCS 560 1 port CFP2 DCO 100/200 Gigabit Ethernet Interface Module, Flexible Consumption Spare
N560-IMA-2C-DD	NCS 560 2 port QSFP28/ QSFP-DD 100 Gigabit Ethernet Interface Module, Flexible Consumption
N560-IMA-2C-DD=	NCS 560 2 port QSFP28/ QSFP-DD 100 Gigabit Ethernet Interface Module, Flexible Consumption, Spare
A900-IMA-8Z-L	NCS 560 8 port SFP+ 10 GE Ethernet only Interface Module, Flexible Consumption
A900-IMA-8Z-L=	NCS 560 8 port SFP+ 10 Gigabit Ethernet only Interface Module, Flexible Consumption, Spare
N560-IMA-8Q/4L	NCS 560 8 x 10/25G SFP+/SFP28 Or 4x50G SFP56 Module, Flexible Consumption
N560-IMA-8Q/4L=	NCS 560 8 x 10/25G SFP+/SFP28 Or 4x50G SFP56 Module, Flexible Consumption, Spare

Supported Transceiver Modules

Please refer to [Transceiver Module Group \(TMG\) Compatibility Matrix](#) for the NCS 560 Series supported transceivers.

Warranty information

Warranty information is available on Cisco.com at the [Product Warranties](#) page.

Product 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 "Environment Sustainability" section of Cisco's [Corporate Social Responsibility](#) (CSR) Report.

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

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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Service and Support

Cisco offers a wide range of services programs to help accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, promoting high levels of customer satisfaction. Cisco Services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, refer to Cisco Technical Support Services or Cisco Advanced Services.

Cisco is committed to reducing your total cost of ownership. Cisco offers a portfolio of technical support services to help ensure that Cisco products operate efficiently, remain highly available, and benefit from the most up-to-date system software. The services and support programs described in Table 9 are available as part of the Cisco Carrier Ethernet Switching Service and Support solution and are available directly from Cisco and through resellers.

Table 7. Service and Support

Advanced Services	Features	Benefits
<p>Cisco Total Implementation Solutions (TIS), available directly from Cisco</p> <p>Cisco Packaged TIS, available through resellers</p>	<ul style="list-style-type: none"> • Project management • Site survey, configuration, and deployment • Installation, test, and cutover • Training • Major moves, adds, and changes • Design review and product staging 	<ul style="list-style-type: none"> • Supplement existing staff • Help ensure functions meet needs • Mitigate risk
<p>Cisco SP Base Support and Service Provider-Based Onsite Support, available directly from Cisco</p> <p>Cisco Packaged Service Provider-Based Support, available through resellers</p>	<ul style="list-style-type: none"> • 24-hour access to software updates • Web access to technical repositories • Telephone support through the Cisco Technical Assistance Center (TAC) • Advance replacement of hardware parts 	<ul style="list-style-type: none"> • Facilitate proactive or expedited problem resolution • Lower total cost of ownership by taking advantage of Cisco expertise and knowledge • Reduce network downtime

Cisco Capital

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acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more](#).

Document history

New or revised topic	Described in	Date
Updated data sheet with details of new Interface Modules Cisco NCS 560 Series Router 1-Port 100GE/ 1-Port 200GECFP2DCO Interface Module Cisco NCS 560 Series Router 2-Port 100GE QSFP28/ QSFP-DD Interface Module Cisco NCS 560 Series Router 8-Port 10GE SFP+ Ethernet only Interface Module Cisco NCS 560 Series Router 8-Port 10GE (SFP+)/ 25GE SFP28or 4-Port 50 GE (SFP56) Interface Module	Ethernet Interface Modules	Mar. 5, 2021
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