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## Network Interface Cards

The Cloud Services Gateway (CSG) 700 series appliances offer field configurability using the network interface card (NIC) slot.

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## NIC Types

Tables 1, 2, and 3 describe the NICs and the Versa Operating System™ (VOS™) software releases in which the NIC is supported.

**Table 1: CSG730 NIC Support**

NIC Type and Model	NIC Options	Description	VOS Support
<b>Gigabit Ethernet</b>			
<ul style="list-style-type: none"> <li>NIC-4GP</li> </ul>	4-port RJ45 copper Gigabit Ethernet PoE/PoE+NIC, 60 W	<ul style="list-style-type: none"> <li>Supports IEEE 802.3af Type 1 PoE and IEEE 802.3at Type 2 PoE+ devices over CAT 5e.</li> <li>Each port can supply up to 30 W of power, with a maximum of 60 W for the module</li> </ul>	Releases 21.2.1 and later
<ul style="list-style-type: none"> <li>NIC-4GP-120 W</li> </ul>	4-port RJ45 copper Gigabit Ethernet PoE/PoE+NIC, 120 W	<ul style="list-style-type: none"> <li>Supports IEEE 802.3af Type 1 PoE and IEEE 802.3at Type 2 PoE+ devices 802.3at-2009 over CAT 5e.</li> <li>Each port can supply up to 30 W of power, with a maximum of 120 W for the module</li> </ul>	Releases 21.2.1 and later
<b>ADSL+/VDSL</b>			
<ul style="list-style-type: none"> <li>NIC-1VA</li> </ul>	1 RJ45 port ADSL+/VDSL, Annex A	<ul style="list-style-type: none"> <li>Single-port ADSL+/VDSL module that supports Annex A (POTS)</li> </ul>	Releases 21.2.1 and later
<ul style="list-style-type: none"> <li>NIC-1VB</li> </ul>	1 RJ45 port ADSL+/VDSL, Annex B	<ul style="list-style-type: none"> <li>Single-port ADSL+/VDSL module that supports Annex B (ISDN)</li> </ul>	Releases 21.2.1 and later
<b>T1/E1</b>			
<ul style="list-style-type: none"> <li>NIC-4DS</li> </ul>	4-ports RJ45 T1/E1	<ul style="list-style-type: none"> <li>Supports T1/E1 framing</li> </ul>	Releases 21.2.1 and later

		<ul style="list-style-type: none"><li>• Supports all common formats</li><li>• Supports PPP, HDLC, and Frame Relay encapsulations</li></ul>	
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**Table 2: CSG750, CSG750R, CSG770, and CSG770R NIC Support**

NIC Type and Model	NIC Options	Description	VOS Support
<b>Gigabit Ethernet</b>			
• NIC-4GP	4-port RJ45 copper Gigabit Ethernet PoE/PoE+ NIC, 60 W	<ul style="list-style-type: none"> <li>Supports IEEE 802.3af Type 1 PoE and IEEE 802.3at Type 2 PoE+ devices over CAT 5e.</li> <li>Each port can supply up to 30 W of power, with a maximum of 60 W for the module.</li> </ul>	Releases 21.2.1 and later
• NIC-4GP-120 W	4-port RJ45 copper Gigabit Ethernet PoE/PoE+NIC, 120 W	<ul style="list-style-type: none"> <li>Supports IEEE 802.3af Type 1 PoE and IEEE 802.3at Type 2 Class 4 PoE+ devices 802.3at-2009 over CAT 5e.</li> <li>Each port can supply up to 30 W of power, with a maximum of 120 W for the module.</li> </ul>	Releases 21.2.1 and Releases 22.1.4 and later
• NIC-8GE	8-port RJ45 copper Gigabit Ethernet copper	<ul style="list-style-type: none"> <li>Supports 10/100/1000BASE-T over CAT 5e</li> </ul>	Release 21.1.3, Releases 21.2.2, and Releases 22.1.4 and later
<b>ADSL+/VDSL</b>			
• NIC-1VA	1 RJ45 port ADSL+/VDSL, Annex A	<ul style="list-style-type: none"> <li>Single-port ADSL+/VDSL module that supports Annex A (POTS)</li> </ul>	Releases 21.2.1, Releases 22.1.4 and later
• NIC-1VB	1 RJ45 port ADSL+/VDSL, Annex B	<ul style="list-style-type: none"> <li>Single-port ADSL+/VDSL module that supports Annex B (ISDN)</li> </ul>	Releases 21.2.1, Releases 22.1.4 and later

<b>T1/E1</b>			
<ul style="list-style-type: none"> <li>NIC-4DS</li> </ul>	4-port RJ45 T1/E1	<ul style="list-style-type: none"> <li>Supports T1/E1 framing</li> <li>Supports all common formats</li> <li>Supports PPP, HDLC, and Frame Relay encapsulations.</li> </ul>	Releases 21.2.1, Releases 22.1.4 and later

**Table 3: CSG780R NIC Support**

NIC Type and Model	NIC Options	Description	VOS Support
NIC-8GE	8-port RJ45 copper Gigabit Ethernet	<ul style="list-style-type: none"> <li>Supports 10/100/1000BASE-T over CAT 5e</li> </ul>	Releases 22.1.4 and later
NIC-4GP-120 W	4-port Gigabit Ethernet PoE-120 W NIC	<ul style="list-style-type: none"> <li>Supports IEEE 802.3af Type 1 PoE and IEEE 802.3at Type 2 Class 4 PoE+ devices 802.3at-2009 over CAT 5e.</li> <li>Each port can supply up to 30 W of power, with a maximum of 120 W for the module.</li> </ul>	Releases 22.1.4 and later
NIC-4GF	4-port Gigabit Ethernet SFP	Supports fiber Gigabit Ethernet	Releases 22.1.4 and later

The four Ethernet ports on the NIC are labeled Port 6 through Port 9.

The CSG700 series appliance NICs are not field installable.

Figure 1 shows the four RJ-45 connectors for the four Ethernet ports. (1 GbE port and for the 1 GbE with PoE port.)

**Figure 1: RJ-45 Connectors for 1 GbE Port with or without PoE Port**

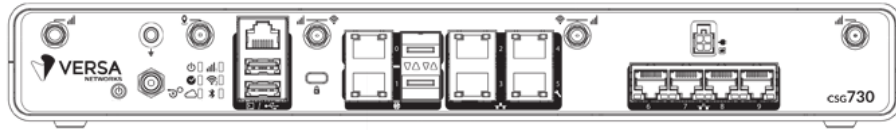
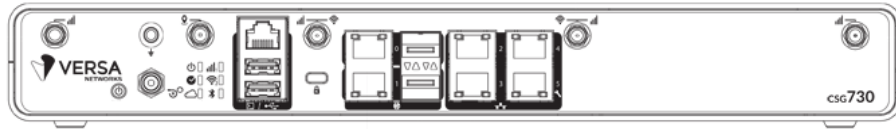


Figure 2 shows the four RJ-45 connectors/SFP slots for the 1 GbE /SFP combination port.

**Figure 2: RJ-45 Connectors or SFP Slots for 1 GbE /SFP Combination Port**



## NIC Specifications

Table 4 lists the NIC specifications for CSG700 series chassis.

**Table 4: CSG700 Series NIC Specifications**

Item	Specification
<b>Item Specification</b>	
Typical power consumption	10 Watts
System power input	3.3 VDC @ 3A
PoE power adapter input	54 VDC @ 2.78 A, 100-240 VAC @ 2A, 50-60 Hz
<b>Physical Specifications</b>	
Height	1.54" (39 mm)
Width	3.25" (82.5 mm)
Depth	5.52" (140 mm)
Weight	
<ul style="list-style-type: none"> <li>NIC-8GE</li> </ul>	0.33 lb (150 gm)

Item	Specification
• NIC-4GP-120 W	0.44 lb (200 gm)
• NIC-1VA/1VB	0.33 lb (150 gm)
• NIC-4DS	0.44 lb (200 gm)
• NIC-4GF	0.33 lb (150 gm)
<b>Package Specifications</b>	
Package height	3.25" (82.55 mm)
Package width	6" (152.4 mm)
Package depth	9" (228.6 mm)
Package weight	0.77 lb (350 gm)
<b>Operating Conditions</b>	
Temperature	0 to 40°C (32 to 104°F)
Humidity	10 to 85% relative humidity
Altitude	Maximum 3000 m (10000 ft)
Noise level	0 dBm
<b>Storage Conditions</b>	
Temperature	–20 to 70°C (–4 to 158°F) at sea level
Humidity	10 to 85% relative humidity