



MACSec

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MACSec

MACSec (IEEE 802.1AE) is a Layer 2 security standard that provides point-to-point data encryption, integrity, and authenticity for traffic between network devices.

By securing data at the hardware level, it protects Ethernet links against common threats such as eavesdropping, tampering, and man-in-the-middle attacks.

For configuration details of MACSec/MKA, see [WAN MACSEC and MKA Support Enhancements](#). For C8455-G2 and C8475-G2, all onboard front panel interfaces support MACSec.

MACSec scale support

This table outlines the maximum number of MACSec peers supported at the system level and across different interfaces.

Table 1: MACSec scale support

Device/Max Peers	System Level	1G Interface	10G Interface	25G Interface
C8455-G2	52	52	52	52
C8475-G2	484 divided into two groups: Group1: 242 (Ge0-7, Te8-13) Group2: 242 (Te14-15, Twe16-19)	242	242	242

For the C8455-G2, the system supports a maximum of 52 peers. This is a shared resource pool; any individual interface can utilize the full capacity of these resources. Once the limit is reached, no additional peers can be configured on any other interface.

For the C8475-G2, peer capacity is managed per group. Interfaces within a specific group share the total resource pool assigned to that group (242 for both Group1, Group2). An interface can utilize the full capacity of its assigned group. Once the limit is reached, other interfaces within that same group will be unable to establish further peer connections.

XPN support

An Extended Packet Numbering (XPN) mechanism is a packet-numbering capability that

- provides a significantly larger sequence space,
- ensures continuous, secure communication, and
- prevents packet number rollover to maintain data integrity and confidentiality in high-bandwidth network environments.

XPN is supported on 10G and 25G front panel interfaces.

SD-WAN support

MACSec supports CLI template configuration for SD-WAN, see [Enable MACsec Using Cisco Catalyst SD-WAN Manager](#).