Feature History

The following table lists the new and modified features supported in the 1 port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4 port T3/E3 CEM Interface Module Configuration Guide in Cisco IOS XE 17 releases.

Feature	Description
Cisco IOS XE Cupertino 17.8.1	
Frame Relay Support for IP Interworking	Support for frame relay encapsulation on iMSG serial interface for the following interface modules: • 1-port OC-48/STM-16 or 4-port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4-port T3/E3 CEM interface module Frame Relay being a streamlined protocol facilitates higher performance and greater efficiency.
Cisco IOS XE Bengaluru 17.5.1	
Unframed Framing Support on E1 and Channel STM links	In this release, a new framing mode unframed is supported for the 1 port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4 port T3/E3 CEM Interface Module. With the unframed mode, you can create serial interfaces under the electrical E1 mode.
Cisco IOS XE Bengaluru 17.4.1	
STS1E Framed SAToP Support on IMA3G	Support on clock recovery on STS-1e controller for framed SAToP on the following modes: • T3 • CT3 • VT-15
Cisco IOS XE Amsterdam 17.3.1	

Feature	Description
IMA3G 1+1 OC3/12 Single Card APS Support	Automatic protection switching (APS) is a protection mechanism for SONET networks that enables SONET connections to switch to another SONET circuit when a circuit failure occurs. This protection schemes allows a pair of SONET lines or paths to be configured for line or path redundancy. In the event of a fiber cut, the active line or path switches automatically to the standby line or path. In the 1+1 architecture, there is one working interface (circuit) and one protection interface, and the same payload from the transmitting end is sent to both the receiving ends. The receiving end decides which interface to use.
Interworking Support for nxDS0	Interworking function (IWF) for PPP/HDLC is supported on Ethernet for E1/STM1 ports. This support is extended at nxDS0 level to speed up the GSR TDM migration.