Features Introduced in Cisco IOS XR Products and Releases

This table summarizes the features enhanced and introduced for Timing and Synchronization.

Feature, Release, and Platform Matrix for Timing and Synchronization

Table 1: Feature, Release, and Platform Matrix

Feature Name	8000 Series Routers	Other IOS XR Routing Platforms
NTP-PTP Interworking	8000, R7.11.1	NCS 5500, R24.1.1 NCS 560, R24.1.1 NCS 5500, R24.1.1
Synchronous Ethernet (SyncE) on Cisco 8011-2X2XP4L PLE Service Endpoint Routers	8000, R7.11.1	—
Precision Time Protocol (PTP) on Cisco 8011-2X2XP4L PLE Service Endpoint Routers	8000, R7.11.1	—
FQDN for NTP Server on Nondefault VRF	8000, R7.9.1	ASR 9000, R7.9.1 NCS 5500, R7.9.1
Synchronous Ethernet (SyncE) on 8202-32FH-M Routers and 88-LC0-36FH-M Line cards	8000, R7.5.2	—
Precision Time Protocol (PTP) on 8202-32FH-M Routers and 88-LC0-36FH-M Line cards	8000, R7.5.2	—

Feature Name	8000 Series Routers	Other IOS XR Routing Platforms
PTP Delay Asymmetry	8000, R7.3.2	NCS 560, R7.6.1 NCS 5500, R7.6.1 ASR 9000, R7.3.1 NCS 560, R7.3.1 NCS 5500, R7.3.1
Frequency Synchronization	8000, R7.3.1	—
Ethernet Synchronization Message Channel (ESMC)	8000, R7.3.1	—
Precision Time Protocol (PTP)	8000, R7.3.1	—
ITU-T G.8263 standard for secondary clock with ITU-T G.8265.1 profile	8000, R7.3.1	—
ITU-T G.8275.1 profile	8000, R7.3.1	—
ITU-T G.8275.2 and Default PTP profiles over IPv6	—	NCS 5500, R7.8.1 NCS 540, R7.7.1
PTP Double Failure Clock Class	—	NCS 5500, R7.7.1 ASR 9000, R7.7.1
Use PTP Virtual Port to Select Timing Source	—	NCS 5500, R7.7.1
Use APTS to Select Timing Source	—	NCS 5500, R7.7.1
PTP Holdover Traceability Suppression	—	NCS 5500, R7.4.1 ASR 9000, R7.3.1 NCS 540, R7.4.1 NCS 560, R7.4.1
SyncE Support on 5th Generation 10-Port 400 Gigabit Ethernet Line Cards: • A99-10X400GE-X-SE • A99-10X400GE-X-TR	—	ASR 9000, R7.3.2
Class C Timing Mode	—	ASR 9000, R7.6.2

Feature Name	8000 Series Routers	Other IOS XR Routing Platforms
Precision Time Protocol on 12-port 100 Gigabit Ethernet line cards, ASR 9000 5th generation 400G line cards, ASR 9902 Series Routers, and 0.8T PEC	—	ASR 9000, R7.4.1
PTP support on 5th Generation 10-Port 400 Gigabit Ethernet Line Cards: • A99-10X400GE-X-SE • A99-10X400GE-X-TR	—	ASR 9000, R7.3.2
Enhanced SyncE and extended ESMC	—	NCS 540, R7.11.1 NCS 560, R7.8.1
Synchronous Ethernet ESMC and SSM on N540X-16Z4G8Q2C-A/D	—	NCS 540, R7.7.1
Synchronous Ethernet ESMC and SSM on N540-6Z14S-SYS-D	—	NCS 540, R7.5.2
Synchronous Ethernet ESMC and SSM, and ITU-T G.8262.1	—	NCS 540, R7.6.1
Frequency Synchronization on the N540X-4Z14G2Q-SYS-A/D routers.	—	NCS 540, R7.4.1
TSoP Smart SFP for SDH and SONET Encapsulation	—	NCS 540, R7.11.1
PTP and SyncE support on breakout ports for N540-24Q8L2DD-SYS and N540X-16Z4G8Q2C-A/D Routers	—	NCS 540, R7.11.1
PTP Profiles Support for N540-6Z14S-SYS-D	—	NCS 540, R7.5.2
PTP Profiles Support for N540-24Q8L2DD-SYS	—	NCS 540, R7.4.1
PTP Profiles Support for N540X-16Z4G8Q2C-A/D	—	NCS 540, R7.0.1
Assisted Partial Timing Support	—	NCS 540, R7.7.1
PTP Holdover Traceability Suppression for T-GM and T-GM with VP/APTS modes	—	NCS 540, R7.8.1

Feature Name	8000 Series Routers	Other IOS XR Routing Platforms
Support for Frequency Synchronization on the Cisco N560-IMA8Q interface module	—	NCS 560, R7.4.1
Assisted Partial Timing Support on this routers	—	NCS 560, R7.9.1