Supported Cards and Pluggables

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Supported transponder cards and pluggables

Table 1: Feature History

Feature Name	Release Information	Feature Description
Pluggable Support	Cisco ONP Release 4.1	QSFP-100G-FR-S= pluggable is supported on the QSFP ports of the 400G-XP LC transponder card with 100GE data rate.
QSFP-100G-ERL-S Pluggable	Cisco ONP Release 5.1	The new QSFP-100G-ERL-S pluggable enables you to design and validate topologies for NCS 2000 R11.1.3 networks. This pluggable is supported on the QSFP ports of the 400G-XP-LC transponder card with 100GE data rate. You can select this pluggable from the **Client Interface** drop-down list at trail level properties for the 400G-XP-LC transponder card.

Cisco ONP supports the following transponders and pluggables for NCS 2000 networks:

Table 2: Supported Transponder Cards and Pluggables for NCS 2000 Network

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
200G-CK-LC + MR-MXP (200G MXP mode)	• 100GE • OTU4	SD-FEC_20	• SR-1(CPAK-100G-SR10) • SR-1(CPAK-100G-SR4) • LR-1(CPAK-100G-LR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	Yes (only for 100GE)	No	Auto, TRK_200G
200G-CK-LC + MR-MXP (100G TXP mode)	100GE	SD-FEC_20	• SR-1(CPAK-100G-SR10) • SR-1(CPAK-100G-SR4 • LR-1(CPAK-100G-LR4)	Yes	Yes	Auto, TRK_100G
200G-CK-LC + MR-MXP (100G TXP mode)	100GE	SD-EFEC	• SR-1(CPAK-100G-SR10) • SR-1(CPAK-100G-SR4 • LR-1(CPAK-100G-LR4)	Yes	Yes	Auto, TRK_100G
200G-CK-LC + MR-MXP (100G TXP mode)	100GE	SD-FEC	• SR-1(CPAK-100G-SR10) • SR-1(CPAK-100G-SR4 • LR-1(CPAK-100G-LR4)	Yes	Yes	Auto, TRK_100G
200G-CK-LC + MR-MXP (100G MXP mode)	• 10GE • 10GE LAN PHY • OC192 • OTU2	SD-FEC_20	• LR-1(ONS-QSFP-4*10G-MLR) • LR-1(QSFP-4*10G-MLR) • SR-1(QSFP-40G-SR4) • SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x)	Yes	Yes	Auto, TRK_100G

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
200G-CK-LC + MR-MXP (100G MXP mode)	• 10GE • 10GE LAN PHY • OC192 • OTU2	SD-EFEC	• LR-1(ONS-QSFP-4*10G-MLR) • LR-1(QSFP-4*10G-MLR) • SR-1(QSFP-40G-SR4) • SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxxx)	Yes	Yes	Auto, TRK_100G
200G-CK-LC + MR-MXP (100G MXP mode)	• 10GE LAN PHY • 10GE • OC192 • OTU2	SD-FEC	• LR-1(ONS-QSFP-4*10G-MLR) • LR-1(QSFP-4*10G-MLR) • SR-1(QSFP-40G-SR4) • SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxxx)	Yes	Yes	Auto, TRK_100G
200G-CK-LC + MR-MXP (100G MXP mode 2*10G 2*40G MODE)	• 10GE • 10GE LAN PHY • 40GE	SD-FEC_20	• SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • LR-1(QSFP-40G-LR4) • DWDM(ONS-SC+-10GEPxxx) • SR-1(QSFP-40G-SR4) • SR-1(QSFP-40G-SR-BD)	Yes	Yes	Auto, TRK_100G
200G - CK-LC + MR - MXP (100G MXP mode 2*10G 2*40G MODE)	• 10GE • 40GE	SD-EFEC	• SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxxx) • SR-1(QSFP-40G-SR4) • LR-1(QSFP-40G-LR4) • SR-1(QSFP-40G-SR-BD)	Yes	Yes	Auto, TRK_100G

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
200G - CK-LC + MR -MXP (100G MXP mode 2*10G 2*40G MODE)	• 10GE • 40GE	SD-FEC	• SR-1(ONS-SC+10G-SR) • LR-1(ONS-SC+10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • SR-1(QSFP-40G-SR4) • LR-1(QSFP-40G-LR4) • SR-1(QSFP-40G-SR-BD)	Yes	Yes	Auto, TRK_100G
200G - CK-LC +10x10G -LC	• 10GE • OC192 • OTU2 • OTU2e	SD-FEC_20	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR (ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	Yes for OTU2e	No	Auto, TRK_100G
200G - CK-LC +10x10G -LC	• 10GE • OC192 • OTU2 • OTU2e	SD-EFEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER (ONS-SC+-10G-ER) • ZR (ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	Yes for OTU2e	No	Auto, TRK_100G
200G-CK-LC + 10x10G -LC	• 10GE • OC192 • OTU2 • OTU2e	SD-FEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	Yes for OTU2e	No	Auto, TRK_100G

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
200G - CK-LC + MR-MXP (200G Mxp 100G+10*10G Mode)	• 100GE • 10GE • OC192 • OTU2	SD-FEC_20	• SR-1(CPAK-100G-SR10) • SR-1(CPAK-100G-SR4) • LR-1(CPAK-100G-LR4) • SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	Yes for 100GE and OTU2	No	Auto, TRK_200G
200G-CK-LC + MR-MXP + MR-MXP (200G Mxp 4*40G + 4*10G Mode)	• 10GE • 10GE LAN PHY • 40GE	SD-FEC_20	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • SR-1(QSFP-40G-SR4) • LR-1(QSFP-40G-LR4) • SR-1(QSFP-40G-SR-BD)	Yes	Yes	Auto, TRK_200G
200G-CK-LC + 10x10G -LC + MR-MXP	• 10GE • OC192 • OTU2	SD-FEC_20	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x) • LR-1(ONS-QSFP-4*10G-MLR) • ZR(ONS-SC+-10G-ZR)	Yes	Yes	Auto, TRK_200G

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
200G-CK-LC + MR-MXP + MR-MXP	• 10GE • OC192 • OTU2	SD-FEC_20	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x) • LR-1(ONS-QSFP-4*10G-MLR) • ZR(ONS-SC+-10G-ZR)	Yes	Yes	Auto, TRK_200G
100GS - CK-LC + 10x10G-LC	• 10GE • OC192	EFEC, SD-FEC_20	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto, TRK_100G
100G - LC-C + 10x10G-LC	• 10GE • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	FEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
100G - LC-C + 10x10G-LC	• 10GE • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	EFEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER (ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto
100G - LC-C + 10x10G-LC	• 10GE • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	HG-FEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER (ONS-SC+-10G-ER) • ZR (ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto
100G - CK-LC-C + 10x10G-LC	• 10GE • 10GE LAN PHY • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	FEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
100G -CK-LC-C + 10x10G-LC	• 10GE • 10GE LAN PHY • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	EFEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto
100G - CK-LC-C + 10x10G-LC	• 10GE • 10GE LAN PHY • OC192 • Fiber Channel 10G • Fiber Channel 8G • OTU2 • OTU2e	HG-FEC	• SR-1(ONS-SC+-10G-SR) • LR-1(ONS-SC+-10G-LR) • DWDM(ONS-SC+-10G-C) • DWDM(ONS-SC+-10GEPxx.x) • ER(ONS-SC+-10G-ER) • ZR(ONS-SC+-10G-ZR) • DWDM(ONS-SC+-10G-xx.x)	No	No	Auto

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
400G-XP-LC	• 100GE • 10GE LAN PHY • 10GE • 40GE • Fiber Channel 10G • Fiber Channel 16G • Fiber Channel 8G • OC192 /STM64 • OTU2 • OTU2e • OTU4	SD-FEC_25-NO_DE	• SR-1(QSFP-100G-SR4-S) • LR-1(QSFP-100G-LR4-S) • LR-1(QSFP-28-LR4) • SR-1(QSFP-100G-SM-SR) • SR-1(QSFP-40/100G-SRBD) • LR-1(ONS-QSFP-4*10G-MLR) • LR-1(QSFP-4*10G-LR) • SR-1(QSFP-40G-SR4) • ER(ONS-QSFP-4*10G-MER) • LR-1(QSFP-40G-LR4) SR-1(QSFP-40G-SR-BD • LR-1(ONS-QC16GFC-LW) • LR-1(ONS-QC16GFC-SW) • LR-1(ONS-QSFP28-LR4) • FR-1 (QSFP-100G-FR-S) (only for 100GE) • ER-1 (QSFP-100G-ERL-S) (only for 100GE)	Yes	Yes	TRK_100G, TRK_200G

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
400G-XP-LC	• 100GE • 10GE LAN PHY • 10GE • 40GE • Fiber Channel 10G • Fiber Channel 16G • Fiber Channel 8G • OC192 /STM64 • OTU2 • OTU2e • OTU4	SD-FEC_15 -NO_DE	• SR-1(QSFP-100G-SR4-S) • LR-1(QSFP-100G-LR4-S) • LR-1(QSFP-28-LR4) • SR-1(QSFP-100G-SM-SR) • SR-1 (QSFP-40/100G-SRBD) • LR-1(ONS-QSFP-4*10G-MLR) • LR-1(QSFP-4*10G-LR) • SR-1(QSFP-40G-SR4) • ER(ONS-QSFP-4*10G-MER) • LR-1(QSFP-40G-LR4) • SR-1(QSFP-40G-SR-BD • LR-1(ONS-QC16GFC-LW) • LR-1(ONS-QC16GFC-SW) • LR-1(ONS-QSFP28-LR4) • FR-1 (QSFP-100G-FR-S) (only for 100GE) • LR-1 (QSFP-100G-ERL-S) (only for 100GE)	Yes	Yes	TRK_100G, TRK_200G
100G-LC-C	• 100GE • OTU4	FEC	SR-1(CPAK-100G-SR10)	No	No	Auto
100G-LC-C	• 100GE • OTU4	EFEC	SR-1(CPAK-100G-SR10)	No	No	Auto
100G-LC-C	• 100GE • OTU4	HGFEC	SR-1(CPAK-100G-SR10)	No	No	Auto
100G - CK-LC-C	• 100GE • 40GE • OTU4	FEC	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	No	No	Auto

Transponder/ Muxponder	Traffic Type	FEC mode	Pluggables Supported	Encryption SSON	Encryption Non-SSON	Trunk Mode
100G - CK-LC-C	• 100GE • 40GE • OTU4	EFEC	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	No	No	Auto
100G - CK-LC-C	• 100GE • 40GE • OTU4	HGFEC	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	No	No	Auto
100GS - CK-LC	100GE	FEC	SR-1(CPAK-100G-SR10)	Yes	No	Auto, TRK_100G
100GS - CK-LC	100GE	EFEC	LR-1(CPAK-100G-LR4)	YEs	No	Auto, TRK_100G
100GS - CK-LC	100GE	SD-FEC_20	SR-1(CPAK-100G-SR10)	Yes	No	Auto, TRK_100G
200G - CK-LC (100G Mode only)	• 100GE • OTU4	FEC	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	Yes (for 100GE)	No	Auto, TRK_100G
200G - CK-LC (100G Mode only)	• 100GE • OTU4	EFEC	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	Yes (for 100GE)	No	Auto, TRK_100G
200G-CK-LC (100G Mode only)	• 100GE • OTU4	SD-FEC_20	• SR-1(CPAK-100G-SR4) • SR-1(CPAK-100G-SR10) • LR-1(CPAK-100G-LR4)	Yes (for 100GE)	No	Auto, TRK_100G

Cisco ONP supports the following transponders and pluggables for NCS 1010 networks:

Table 3: Supported Transponder Cards and Pluggables for NCS 1010 Network

Transponder / Muxponder	Traffic Type	FEC mode	Pluggables Supported		Encryption	Trunk Mode
			Client Pluggables	Trunk Pluggables		
NCS1K14-2.4T-K9	100GE 400GE	SD_FEC_15	• Auto • QDD-400G-FR4-S • QDD-400-AOC1M • QDD-400G-DR4-S • QDD-4x100G-LR-S	• Auto • CIM8-C-K9 • CIM8-CE-K9 • CIM8-LE-K9	No	• Auto • 400G • 500G • 600G • 700G • 800G • 900G • 1000G • 1100G • 1200G
NCS1K14-2.4T-X-K9	100GE 400GE	SD_FEC_15	• Auto • QDD-400G-FR4-S • QDD-400-AOC1M • QDD-400G-DR4-S • QDD-400G-LR4-S • QDD-4x100G-LR-S • QDD-4x100G-FR-S • QDD-2X100-LR4-S • QDD-2X100-CWDM4-S	• Auto • CIM8-LE-K9 • CIM8-C-K9 • CIM8-CE-K9	Yes	• Auto • 400G • 500G • 600G • 700G • 800G • 900G • 1000G • 1100G • 1200G

Transponder / Muxponder	Traffic Type	FEC mode	Pluggables Supported		Encryption	Trunk Mode
			Client Pluggables	Trunk Pluggables		
NCS1K14-24T-A-K9	100GE 400GE	SD_FEC_15	• Auto • QDD-4x100G-LR-S • QDD-4x100G-FR-S • QDD-400G-FR4-S • QDD-400G-AOCxM • QDD-400G-DR4-S • QDD-400G-LR4-S	• Auto • CIM8-C-K9 • CIM8-CE-K9 • CIM8-LE-K9	Yes	• Auto • 400G • 500G • 600G • 700G • 800G • 900G • 1000G • 1100G • 1200G
NCS1K4-QXP-K9	100GE	OFEC CFEC	• Auto	• Auto • QDD-400G-ZR-S • DP04QSDD-HK9 • DP04QSDD-LK9 • DP04QSDD-HE0	Yes	• Auto
			• QSFP-100G-DR-S • QSFP-100G-LR4-S • QSFP-100G-LR-S • ONS-QSFP-28-LR4 • QSFP-100G-CWDM4-S • QSFP-100G-FR-S • QSFP-100G-SR4-S			• 100G
			• QDD-4x100G-LR-S			• 100G • 200G • 300G • 400G
	400GE		• QDD-400G-FR4-S • QDD-400-AOC1M • QDD-400G-DR4-S	• Auto • QDD-400G-ZRP-S • DP04QSDD-HK9 • DP04QSDD-LK9 • DP04QSDD-HE0		• 400G

Transponder / Muxponder	Traffic Type	FEC mode	Pluggables Supported		Encryption	Trunk Mode
			Client Pluggables	Trunk Pluggables		
NCS1K4-1.2T-K9 and NCS1K4-1.2TL-K9	100GE OTU4	SD_FEC_15 (600G) SD_FEC_27	• QSFP-100G-SR4-S • QSFP-100GCWDM4S • QSFP-100G-SM-SR • QSFP-100G-AOC-1M • QSFP-100G-LR4-S • QSFP-100G-CU1M • QSFP-100G-DR-S • QSFP-100G-FR-S • QSFP-100G-LR-S • ONS-QSFP28-LR4 • QSFP-40/100-SRBD • QSFP-100G-ER4L-S	Same as client pluggables Aot applicable for these cards: NCS1K4-1.2T-K9, NCS1K4-1.2TL-K9, NCS1K4-2-QDD-C-K9	Yes	• Auto • Bundle: 50G – 550G • Slice: 100G – 600G • Muxponder: 100G – 600G
NCS1K4-2-QDD-C-K9	100GE 400GE OTU4	SD_FEC_15 (600G) SD_FEC_27	• QSFP-100G-DR-S • QSFP-100G-SM-SR • QSFP-100GCWDM4S • QSFP-100G-LR4-S • QSFP-100G-SR4-S • ONS-QSFP28-LR4 • QSFP-100G-AOC1M		No	• Auto • 50G • 150G • 250G • 350G • 400G • 450G • 500G • 550G

Transponder / Muxponder	Traffic Type	FEC mode	Pluggables Supported		Encryption	Trunk Mode
			Client Pluggables	Trunk Pluggables		
NCS1K4-OTN-XP	100GE 400GE	CFEC OFEC	• QSFP-100G-DR-S • QSFP-100G-SM-SR • QSFP-100G-CWDM4-S • QSFP-100G-LR4-S • QSFP-100G-SR4-S • ONS-QSFP28-LR4 • QSFP-100G-AOC1M • QSFP-100G-ERL-S • ONS-QSFP28-LR4 • QSFP-100G-LR-S • QSFP-100G-FR-S • QSFP-100G-LR-S • QSFP-400G-DR4-S • QSFP-400G-AOC1M • QSFP-400G-FR4-S • QSFP-400G-LR8-S	QDD-400G-ZRP	No	• Auto • 200G • 300G • 400G