



Pay As You Grow Licensing

The Pay As You Grow (PAYG) licensing enables you to implement a cost effective solution when the wavelength requirements are comparatively less than the maximum capacity of the network. For more information about the Pay As You Grow feature, see the “1.8 Understanding the Pay As You Grow Feature” section on page 1-46.

F.1 Pay As You Grow

On enabling the Pay As You Grow licensing, the CTP algorithm decides on whether to use a PAYG instead of a standard capacity card based on the lower implementation cost. [Table F-1](#) lists PAYG licenses.

F.1.1 PAYG Licenses

Each PAYG license consists of cards or units, and a base license as listed in [Table F-1](#).

Table F-1 **PAYG Licenses**


PAYG Licenses	Description
15454-SMR1-LIC	License restricted to the 40-SMR1-C card.
15454-SMR2-LIC	License restricted to the 40-SMR2-C card.
15216-MD-ODD-LIC	License restricted to the Cisco ONS 15216 MD-40-ODD unit.
15454-WXC-LIC	License restricted to the 80-WXC-C card.
15454-LIC-CH-10	Capacity Expansion—License for ten additional add/drop or express channels.
15216-EF-ODD-LIC	License for 10 channel exposed faceplate mux/demux ODD patch panel.
L-NCS2K-CH-10	NCS 2K/MSTP LIC ROADM add/drop or express 10 channel e-Delivery.
SMR-9	
NCS-2K-9-SMR17FS-L=	Three licensable HW PIDs are provided (one for each PRE gain range).
NCS-2K-9-SMR24FS-L=	
NCS-2K-9-SMR34FS-L=	

PAYG Licenses	Description
L-NCS2K-SMR-2P=	Number of ports EXP-TX/RX can be expanded in steps of 2 using this license.
20-SMR-FS	
NCS-2K-20SMRFS-L=	License restricted to 20-SMR-FS card. Four ports are enabled (Entry configuration) and no Flex Spectrum capability.
L-NCS2K-SMR-4P=	Number of ports EXP-TX/RX can be expanded in steps of 4 using this license.

F.2 PAYG for Client Cards

Table F-2 lists PAYG licenses for AR-MXP, AR-XP, 100G-LC-C, 10X10G-LC, and WSE cards.

Table F-2 PAYG for Client Cards

PAYG Licenses	Description
15454-AR-MXP-LIC=	ONS 15454 Any-Rate Muxponder—Software license, upgradeable.
15454-AR-XP-LIC=	ONS 15454 Any-Rate Xponder—Software license, upgradeable.
15454-LIC-TXP-8G=	ONS 15454 Any-Rate Muxponder—8G FC TXP software license.
15454-LIC-MXP-4x2.5=	ONS 15454 Any-Rate Muxponder—4xOC48 or 4xSTM16 software license.
15454-LIC-10G-DM=	ONS 15454 Any-Rate Muxponder—Data Muxponder software license.
15454-LIC-MXP-AR=	ONS 15454 Any-Rate Muxponder—Any Rate Muxponder software license.
15454-LIC-REG-10G=	ONS 15454 Any-Rate Muxponder—10GE over OTN Regen software license.
15454-M-100GC-LIC=	ONS 15454 100G-LC-C—Muxponder license.
15454-M-LIC-100G=	ONS 15454 100G-LC-C—Transponder and Regeneration license.
15454-M-10X10-LIC=	ONS 15454 10X10G-LC—Muxponder license.
15454-M-LIC-10G=	ONS 15454 10X10G-LC—Muxponder license.
15454-M-WSE-L-K9=	ONS 15454 WSE—Transponder license for one encryption stream and Regeneration license.
L-NCS2K-WSE-1=	ONS 15454 WSE—Upgrade license for additional encryption streams.
L-NCS2K-100G-FFU=	NCS 2K / MSTP License 100G LC—Full Feature Upgrade e-Delivery.
L-NCS2K-100G-10G=	NCS 2K / MSTP License 100G MXP—1x10G MR Port e-Delivery
L-NCS2K-CK-CL=	Enables the CPAK client and allows to configure the TXP-100G operating mode.
L-NCS2K-SFEC-16Q	Enables 20% SD-FEC and 200G 16-QAM on the trunk port allowing the MXP_10x10G_100G, MXP_CK_100G and MXP_200G operating modes. This licence also enables CD range for the 200G application (+/- 20000 ps/nm). <div style="display: flex; align-items: center;">  <div> <p>Note Two licenses, L-NCS2K-CK-CL=and L-NCS2K-SFEC-16Q, are required to configure the MXP_CK_100G operating mode.</p> </div> </div>
L-NCS2K-FS=	Enables Flex Spectrum tunability on the trunk port. NCS Flex package is required to use this license.
L-NCS2K-SD-FEC=	Enables wide CD range (+/- 70000 ps/nm) on standard FEC or enables 20% SD-FEC and wide CD range (+/- 92000 ps/nm) for 100G operating modes.

PAYG Licenses	Description
L-NCS2K-MRE100GK9=	The High Speed Encryption license supports encryption in 100G-B2B and TXP-100G operating modes. This license is used when the 100G CPAK ports are used as clients.
L-NCS2K-MRELRGK9=	The Low Speed Encryption license supports encryption in MXP-200G, MXP-100G, 100G-B2B, and MXP_10x10G_100G operating modes. This license is used when the 10G SFP and QSFP+ ports are used as the client ports.