

Cisco Network Convergence System 5500 Series: Perpetual Software Licenses

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NC55P-BNDL-xxxx or NC55P-BDL-xxxx

NC55P-ADVL3-xxxx or NC55P-ADL3-xxxxx

NC55P-ADVL2-xxxx or NC55P-ADL2-xxxxx

NC55P-CRAGR-xxxx or NC55P-CRCR-xxxxx

NC55P-PEER-xxxx

NC55P-ADVDC-xxxx or NC55P-ADDC-xxxxx

NC55P-MACSEC-xxxx

NC55P-TIMING-x

Product overview

Based on the [Cisco® Global Cloud Index](#), digitalization is projected to grow global data center and public/private cloud network traffic more than 25 percent annually, resulting in a threefold increase by 2019. To help network providers meet these challenges, the Cisco Network Convergence System 5500 Series is built with features such as extremely high port densities, deep packet buffering, and forwarding hardware optimized for these types of deployments.

The Cisco NCS 5500 Series provides a wide variety of combo line cards and chassis to address the customer's need to use flexible interfaces and port densities along with full bandwidth utilization of forwarding Application-Specific Integrated Circuits (ASICs). The Cisco NCS 5500 Series also offers high scaled line card and fixed chassis, which improves Forwarding Information Base (FIB) scale capabilities 8 times or more when compared with the base version of the line card. These line cards are capable of advanced packet forwarding, segment routing, programmable network management, and telemetry along with the robust and mature features already present in 64-bit Cisco IOS® XR Software.

The Cisco NCS 5500 Series software feature licenses are designed to map to specific use cases for their network that have discernible value. The feature sets that differentiate these use cases are notated by command references throughout this document. As new features are added to Cisco IOS XR, they will be specifically added to feature licenses as applicable. Cisco also has given customers the flexibility to purchase as they desire based on their budget situation, using either one initial payment covering all the possible features and capacity that might be required during the product deployment or a pay-as-you-go approach that enables customers to minimize their initial costs and only pay for features and capacity as they use them. The NCS 5500 Series has both software feature licenses and hardware port enablement/bandwidth enablement licenses. This document covers the software feature licenses and the main feature areas they cover. Figure 1 shows NCS-5500 family of products.

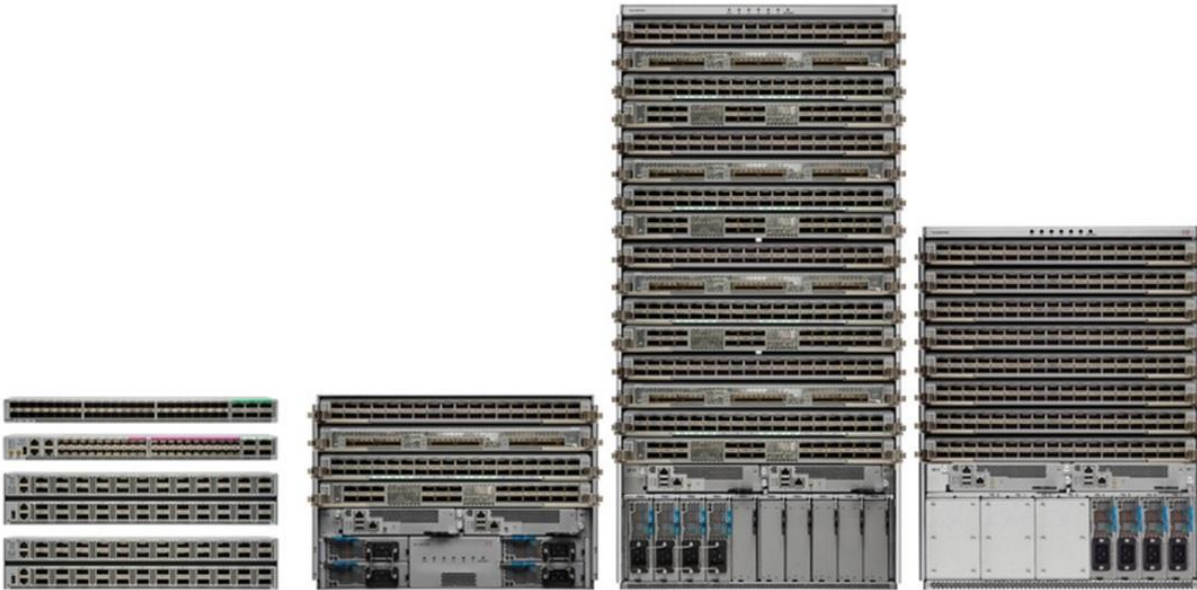


Figure 1.
NCS-5500 family of products

Cisco IOS XR Software overview

The Cisco NCS 5500 Series is powered by the industry-leading carrier-class 64-bit version of Cisco IOS XR Software, designed on operational efficiency, optimized utilization, and service agility ([Evolved Programmable Network](#)). Cisco IOS XR offers rich features such as iPXE boot, autoprovisioning, native support for third-party application hosting, machine-to-machine interface, telemetry, and flexible software package delivery.

License specifications

Table 1. Software feature license grouping. Note that some new features might not have been grouped yet, and some features might be planned features and not have been implemented at the time of the writing of this document. **This document should not be used as a feature availability guide.**

Description	Specification
Layer 2 features ADVL2 or ADL2	<ul style="list-style-type: none"> • L2VPN: Virtual Private LAN Services (VPLS), Virtual Private Wired Service (VPWS), Pseudowire (PW), Pseudowire Headend (PWHE), interdomain (inter-AS) L2VPN <ul style="list-style-type: none"> ◦ Commands described in the following URLs: <ul style="list-style-type: none"> ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/63x/b-l2vpn-cg-ncs5500-63x/b-l2vpn-cg-ncs5500-63x_chapter_010.html ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/63x/b-l2vpn-cg-ncs5500-63x/b-l2vpn-cg-ncs5500-63x_chapter_01001.html • Ethernet and L2 tunnel: Integrated Routing and Bridging (IRB), Bridge Virtual Interface (BVI) <p>Virtual</p> <ul style="list-style-type: none"> • Commands described in the following URL: <ul style="list-style-type: none"> • https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/interfaces/61x/b-ncs5500-interfaces-configuration-guide-61x/b-ncs5500-interfaces-configuration-guide-61x_chapter_01100.html • Exceptions:

Description	Specification
	<ul style="list-style-type: none"> ◦ Local X-Connect is not included. This is included with BASIC-LSR license. ◦ Pushing and popping tags are not included, as shown in the following URL (they are included with the BASIC-LSR license): ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/63x/b-l2vpn-cg-ncs5500-63x/b-l2vpn-cg-ncs5500-63x_chapter_01100.html
Layer 3 features ADVL3 or ADL3	<ul style="list-style-type: none"> • L3VPN (virtual private network): MPLS IPv4/v6 VPN (L3VPN/6VPE), interdomain (inter-AS) L3VPN <ul style="list-style-type: none"> ◦ Commands described in the following URL: ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/63x/b-l3vpn-cg-ncs5500-63x.html • L3 tunnel: IPv6 provider edge (6PE), GRE <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://www.cisco.com/c/en/us/td/docs/routers/ncs6000/software/ncs6k-r6-3/lxvpn/configuration/guide/b-lxvpn-cg-ncs6000-63x/b-lxvpn-cg-ncs6000-63x_chapter_0101.html • Multicast VPN: mVPN, mVPNv6, segment routing v6 VPN (SRv6 VPN) <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://www.cisco.com/c/en/us/support/docs/multiprotocol-label-switching-mpls/multiprotocol-label-switching-vpns-mpls-vpns/118983-configure-mpls-00.html#anc5 • Examples and exceptions: <ul style="list-style-type: none"> ◦ BGP address-family vpnv4 or vpnv6 ◦ Virtual Routing and Forwarding (VRF) instances greater than 8 per system. Up to 8 management VRFs are included with BASIC-LSR license. ◦ Does not include VRF-Lite. This is included with BASIC-LSR license.
Core and aggregation features CRAGR or CRGR	<ul style="list-style-type: none"> • QoS: Modular QoS, Policy-Based Routing (PBR), ePBR, Access list-Based Routing (ABR) <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URLs: ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/qos/63x/b-qos-cg-ncs5500-63x.html ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/qos/60x/b-ncs5500-qos-configuration-guide-60x/b-qos-cg-ncs5500_chapter_00.html ◦ https://supportforums.cisco.com/t5/service-providers-documents/asr9000-xr-abf-acl-based-forwarding/ta-p/3153403 ◦ https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k-r6-3/ip-addresses/configuration/guide/b-ip-addresses-configuration-guide-asr9000-63x/b-ip-addresses-configuration-guide-asr9000-63x_chapter_01111.html?dtd=osscdc000283 • HA: BGP Prefix-Independent Convergence (BGP PIC), Topology-Independent Loop-Free Alternate (TI-LFA), IP Fast Reroute (IP-FRR), RSVP-TE FRR, G.8032, BFD <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URLs: ◦ BGP PIC section of: <ul style="list-style-type: none"> ◦ https://content.cisco.com/chapter.sjs?uri=%2Fsearchable%2Fchapter%2Fcontent%2Fen%2Fus%2Ftd%2Fdocs%2Frouters%2Fasr9000%2Fsoftware%2Fasr9k_r5-3%2Frouting%2Fconfiguration%2Fguide%2Fb_routing_cg53xasr9k%2Fb_routing_cg53xasr9k_chapter_010.html.xml ◦ https://content.cisco.com/chapter.sjs?uri=/searchable/chapter/content/en/us/td/docs/iosxr/ncs5500/segment-routing/63x/b-segment-routing-cg-ncs5500-63x/b-segment-routing-cg-ncs5500-63x_chapter_01001.html.xml&searchurl=https%3A%2F%2Fsearch.cisco.com%2Fsearch%3Fquery%3DConfigure%2520Topology-Independent%2520Loop-Free%2520Alternate%2520(TI-LFA)%26locale%3DenUS%26bizcontext%3D%26cat%3D%26mode%3Dtext%26clktyp%3Dbutton%26autosuggest%3Dfalse&dtd=osscdc000283 ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/routing/61x/b-ncs5500-routing-configuration-guide-61x/b-ncs5500-routing-configuration-guide-61x_chapter_01000.html • Traffic engineering: MPLS-TE, RSVP-TE, SR-TE <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URLs: ◦ https://content.cisco.com/chapter.sjs?uri=%2Fsearchable%2Fchapter%2Fcontent%2Fen%2Fus%2Ftd%2Fdocs%2Fiosxr%2Fncs5500%2Fmpls%2F63x%2Fb-mpls-cg-ncs5500-63x%2Fb-mpls-cg-

Description	Specification
	<p>ncs5500-63x_chapter_0101.html.xml&platform=Cisco%20Network%20Convergence%20System%205500%20Series</p> <ul style="list-style-type: none"> ◦ https://content.cisco.com/chapter.sjs?uri=%2Fsearchable%2Fchapter%2Fcontent%2Fen%2Fus%2Ftd%2Fdocs%2Fiosxr%2Fncs5500%2Fmpls%2F63x%2Fb-mpls-cg-ncs5500-63x%2Fb-mpls-cg-ncs5500-63x_chapter_0100.html.xml&platform=Cisco%20Network%20Convergence%20System%205500%20Series ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/segment-routing/61x/b-segment-routing-cg-ncs5500/b-segment-routing-cg-ncs5500_chapter_0110.html#id_38537 <ul style="list-style-type: none"> • Advance management: telemetry <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/telemetry/63x/b-telemetry-cg-ncs5500-63x.html
<p>Peering features</p> <p>PEER</p>	<ul style="list-style-type: none"> • Peering: BGP attribute-download, BGP policy accounting, BGP Monitoring Protocol (BMP), BGP flowspec, lawful intercept <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/security/63x/b-system-security-cg-ncs5500-63x/b-system-security-cg-ncs5500-63x_chapter_01000.html ◦ Configuring BGP policy accounting section of: <ul style="list-style-type: none"> ◦ https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r4-2/addr_serv/configuration/guide/b_ipaddr_cg42crs/b_ipaddr_cg42crs_chapter_011.html#task_1103947 ◦ https://communities.cisco.com/community/solutions/sp/blog/2015/03/10/observing-bgp-activity-with-bgp-monitoring-protocol ◦ https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k_r5-2/routing/configuration/guide/b_routing_cg52xasr9k/b_routing_cg52xasr9k_chapter_011.html • Hybrid access list: <ul style="list-style-type: none"> ◦ Hybrid ACL, which uses compression to increase ACL ◦ IPv6 packet length filter ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5xx/ipaddress/63x/b-ip-addresses-cg-63x-ncs5xx/b-ip-addresses-cg-63x-ncs5xx_chapter_01.html ◦ Simple ACL is part of basic LSR license
<p>Data center features</p> <p>ADVDC or ADDC</p>	<ul style="list-style-type: none"> • EVPN: Ethernet Virtual Private Network (EVPN): EVPN IRB, EVPN VPWS, EVPN multihoming <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://content.cisco.com/chapter.sjs?uri=%2Fsearchable%2Fchapter%2Fcontent%2Fen%2Fus%2Ftd%2Fdocs%2Fiosxr%2Fncs5500%2Fvpn%2F62x%2Fb-l2vpn-cg-ncs5500-62x%2Fb-l2vpn-cg-ncs5500-62x_chapter_0111.html.xml&platform=Cisco%20Network%20Convergence%20System%205500%20Series • Ethernet: spanning tree (RPVST, MST) <ul style="list-style-type: none"> ◦ Commands described in the following configuration example URL: ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/b-ncs5500-vpn-cli-reference/b-ncs5500-vpn-cli-reference_chapter_0101.html

Description	Specification
MACsec	<ul style="list-style-type: none"> • MACsec features: <ul style="list-style-type: none"> ◦ https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/security/63x/b-system-security-cg-ncs5500-63x/b-system-security-cg-ncs5500-63x_chapter_0101.html
Timing	<ul style="list-style-type: none"> • Timing features: • Commands described in the following configuration example URLs: <ul style="list-style-type: none"> • https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k_r5-1/sysman/configuration/guide/b-sysman-cg51xasr9k/b-sysman-cg51xasr9k_chapter_01100.html • https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k_r5-3/sysman/configuration/guide/b-sysman-cg-53xasr9k/b-sysman-cg-53xasr9k_chapter_01010.html
Basic LSR features BASIC-LSR	<ul style="list-style-type: none"> • All remaining features not listed earlier: <ul style="list-style-type: none"> ◦ But new features developed after the writing of this document are considered uncategorized and reserve the right to place them in the appropriate category of license later.

License usage examples

Table 2. Software license usage/quantity examples

All NCS 5500 licenses are smart license based. There are no PAK licenses.

Type	Example
Bandwidth-based license License ending in 100T, 100S, 50T, or 50S	<ul style="list-style-type: none"> • Example 1: If two ports are inserted with 40G optics, only one 100T or 100S license is needed. • Example 2: If 5 x 40G ports are being used, only 2 x 100T or 100S licenses are needed. • Example 3: If one 50T or 50S license was purchased, users can use the software features on 1 x 40G port and 1 x 10G port or 5 x 10G ports. • Example 4: If one 50T or 50S license was originally purchased for use with a 40G optic but this was later updated it to a 100G optic, then an additional 50T or 50S license will need to be purchased.
Upgradable modular line cards Licenses for modular line cards: NC55-36X100G-U-BA, NC55-18H18F-BA, NC55-24H12F-SB	<ul style="list-style-type: none"> • Example 1: If NC55-18H18F-BA is used and features need to be applied to all 36 ports running at 40G, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 1818T is needed for the entire line card. ◦ Or an equivalent number 50T bandwidth license is needed (29 in this example). • Example 2: If NC55-18H18F-BA is used and 10 of the maximum 18 ports were upgraded to 100G via hardware upgrade license (hardware license not described in this document) and features need to be applied to all 36 ports, which include 26 x 40G ports and 10 x 100G ports, either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 1818T plus 10 x 50T license for the 10 upgraded ports is needed. ◦ Or an equivalent number 50T bandwidth license is needed (41 in this example). • Example 3: If NC55-24H12F-SB is used and features need to be applied to all 36 ports running at 40G, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 2412S is needed. ◦ Or an equivalent number 50S bandwidth license is needed (29 in this example). • Example 4: If NC55-24H12F-SB is used and 24 of the maximum 24 ports were upgraded to 100G via hardware upgrade license (hardware license not described in this document) and features need to be applied to all 36 ports, which include 12 x 40G ports and 24 x 100G ports, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 2412S plus 24 x 50S license for the 24 upgraded ports is needed. ◦ Or an equivalent number 50S bandwidth license is needed (58 in this example). • Example 5: If NC55-36X100G-U-BA is used and features need to be applied to all 36 ports running at 40G, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 36HTU is needed. ◦ Or an equivalent number 50T bandwidth license is needed (29 in this example).

Type	Example
	<ul style="list-style-type: none"> • Example 6: If NC55-36X100G-U-BA is used and 36 of the maximum 36 ports were upgraded to 100G via hardware upgrade license (hardware license not described in this document) and features need to be applied to all 36 ports, which include 36 x 100G ports, then either: <ul style="list-style-type: none"> ◦ Two licenses in each feature area of use ending in 36HTU. ◦ Or one license in each feature area of use ending in 36HTU plus 36 x 50T license for the 36 upgraded ports is needed. ◦ Or an equivalent number 50T bandwidth license is needed (72 in this example).
Upgradable fixed chassis Licenses for fixed chassis: NCS-5501-U, NCS-5501-U-SE, NCS-5502-U40, NCS-5502-U40-SE, NCS-5502-U100, NCS-5502-U100-SE.	<ul style="list-style-type: none"> • Example 1: If the NCS-5501-U is used and features need to be applied to the base level (no additional HW ports activated), then only the license ending in 5501TU is needed. • Example 2: If the NCS-5501-U is used and additional ports are added via hardware license (not described in this document), then there needs to be one 5501TX license for each HW license added. • Example 3: If the NCS-5502-U40 or U100 is used and features need to be applied to the base level (no additional HW ports activated), then only the license ending in 5502TU is needed. • Example 4: If the NCS-5502-U40 or U100 is used and additional ports are added via hardware license (not described in this document), then there needs to be one 5502TX license for each HW license added.
Nonupgradable modular line cards or fixed chassis Licenses not listed earlier and are not system or bundled licenses	<ul style="list-style-type: none"> • Example 1: If NC55-36X100G-BA is used and features need to be applied to all 36 ports running at 100G, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 36HT is needed for the entire line card. ◦ Or an equivalent number 100T bandwidth license is needed (36 in this example). • Example 2: If NC55-36X100G-BA is used and features need to be applied to all 36 ports running at but 10 are with 40G optics and 26 are with 100G, then either: <ul style="list-style-type: none"> ◦ One license in each feature area of use ending in 36HT is needed for the entire line card. ◦ Or an equivalent number 100T bandwidth license is needed (30 in this example).
System license License includes: NC55P-TIMING-F and NC55P-TIMING-M	<ul style="list-style-type: none"> • Example 1: If a modular chassis is used and NC55-RP-E is required along with timing-capable line cards, then only one NC55P-TIMING-M license is need for the entire chassis. • Example 2: If a fixed chassis is used with timing ports, then only one NC55P-TIMING-F license is need for the entire chassis.
MACsec license License includes: NC55P-MSEC-36HT, NC55P-MSEC-6DWMT, NC55P-MSEC-100T, and NC55P-MSEC-50T	<ul style="list-style-type: none"> • Example 1: If NC55-36X100G-BM is used and MACsec features need to be applied to all 36 ports running at 100G, then either: <ul style="list-style-type: none"> ◦ One MACsec license ending in 36HT is needed for the entire line card. ◦ Or an equivalent number 100T bandwidth license is needed (36 in this example). • Example 2: If NC55-6X2H-DWDM-BM is used and MACsec features need to be applied to all 6 ports running at 150G mode, then: <ul style="list-style-type: none"> ◦ One MACsec license ending in 6DWMT is needed for the entire line card, but this is a bit overkill as it is priced at a 6 x 200G level. But it is useful if you don't want to go back to buy additional licenses as your MACsec bandwidth grows. ◦ Or an equivalent number 50T bandwidth licenses is needed (18 in this example). • Example 3: If NCS-55A1-36H-B is used and MACsec features need to be applied to all 10 ports running at 100G, then: <ul style="list-style-type: none"> ◦ One MACsec license of ending in 36HT is needed for the entire line card, but this is a bit overkill as it is priced at a 36 x 100G level. But it is useful if you don't want to go back to buy additional license as your MACsec bandwidth grows. ◦ Or an equivalent number 100T bandwidth licenses is needed (10 in this example).

Type	Example
Bundled licenses License includes NC55P licenses with BDL or BNDL in the middle of the PID name	<ul style="list-style-type: none"> • Example 1: On the per port (bandwidth) bundled license like those ending in BDL-100T, each bundled license contains a bundle of 4 x licenses: <ul style="list-style-type: none"> ◦ ADVL3-100T ◦ ADVL2-100T ◦ CRAGR-100T ◦ PEER-100T ◦ ADVDC-100T is NOT included but implied because it's a subset of CRAGR. • Example 2: On the per fixed chassis or line card bundled license like those with BDL middle but ending in something other than 100T, 100S, 50T and 50S, each bundled license contains a bundle of 4 x licenses (we will use NC55P-BDL-36HT in this example): <ul style="list-style-type: none"> ◦ ADVL3-36HT ◦ ADVL2-36HT ◦ CRAGR-36HT ◦ PEER-36HT ◦ ADVDC-36HT is NOT included but implied because it's a subset of CRAGR.

Ordering information

Table 3. NCS 5500 software license bundles (includes L3VPN, L2VPN, core, aggregation, and peering)

Data center license is implied because it's a subset of the core and aggregation license.

Product ID (PID)	Description
NC55P-BDL-36HT	NCS 5500 SW 4 Lic Bundle for 36X100G Base LC or Chassis Contains: NC55P-ADVL3-36HT=, NC55P-ADVL2-36HT=, NC55P-CRAGR-36HT=, NC55P-PEER-36HT=
NC55P-BDL-36HTU	NCS 5500 SW 4 Lic Bundle for NC55-36X100G-U for 36X50G BW Contains: NC55P-ADVL3-36HTU=, NC55P-ADVL2-36HTU=, NC55P-CRAGR-36HTU=, NC55P-PEER-36HTU=
NC55P-BDL-36HS	NCS 5500 SW 4 Lic Bundle for 36X100G Scale LC or Chassis Contains: NC55P-ADVL3-36HS=, NC55P-ADVL2-36HS=, NC55P-CRAGR-36HS=, NC55P-PEER-36HS=
NC55P-BDL-36HSU	NCS 5500 SW 4 Lic Bundle for NC55-36X100G-U-SE for 36X50G BW Contains: NC55P-ADVL3-36HSU=, NC55P-ADVL2-36HSU=, NC55P-CRAGR-36HSU=, NC55P-PEER-36HSU=
NC55P-BDL-24HT	NCS 5500 SW 4 Lic Bundle for NCS-55A1-24H Contains: NC55P-ADVL3-24HT=, NC55P-ADVL2-24HT=, NC55P-CRAGR-24HT=, NC55P-PEER-24HT=
NC55P-BDL-24HS	NCS 5500 SW 4 Lic Bundle for NC55-24X100G-SE Contains: NC55P-ADVL3-24HS=, NC55P-ADVL2-24HS=, NC55P-CRAGR-24HS=, NC55P-PEER-24HS=
NC55P-BDL-1818T	NCS 5500 SW 4 Lic Bundle for NC55-18H18F Contains: NC55P-ADVL3-1818T=, NC55P-ADVL2-1818T=, NC55P-CRAGR-1818T=, NC55P-PEER-1818T=
NC55P-BDL-2412S	NCS 5500 SW 4 Lic Bundle for NC55-24H12F-SE Contains: NC55P-ADVL3-2412S=, NC55P-ADVL2-2412S=, NC55P-CRAGR-2412S=, NC55P-PEER-2412S=

Product ID (PID)	Description
NC55P-BDL-6DWMT	NCS 5500 SW 4 Lic Bundle for NC55-6X200-DWDM-S Contains: NC55P-ADVL3-6DWMT=, NC55P-ADVL2-6DWMT=, NC55P-CRAGR-6DWMT=, NC55P-PEER-6DWMT=
NC55P-BDL-5501T	NCS 5500 SW 4 Lic Bundle for NCS-5501 Contains: NC55P-ADVL3-5501T=, NC55P-ADVL2-5501T=, NC55P-CRAGR-5501T=, NC55P-PEER-5501T=
NC55P-BDL-5501TU	NCS 5500 SW 4 Lic Bundle for NCS-5501-U Contains: NC55P-ADL3-5501TU=, NC55P-ADL2-5501TU=, NC55P-CRGR-5501TU=, NC55P-PEER-5501TU=
NC55P-BDL-5501TX	NCS 5500 SW 4 Lic Bundle for NCS-5501-U 100G BW Upg Contains: NC55P-ADL3-5501TX=, NC55P-ADL2-5501TX=, NC55P-CRGR-5501TX=, NC55P-PEER-5501TX=
NC55P-BDL-5501S	NCS 5500 SW 4 Lic Bundle for NCS-5501-SE Contains: NC55P-ADVL3-5502S=, NC55P-ADVL2-5502S=, NC55P-CRAGR-5502S=, NC55P-PEER-5502S=
NC55P-BDL-5501SU	NCS 5500 SW 4 Lic Bundle for NCS-5501-SE-U Contains: NC55P-ADL3-5502SU=, NC55P-ADL2-5502SU=, NC55P-CRGR-5502SU=, NC55P-PEER-5502SU=
NC55P-BDL-5501SX	NCS 5500 SW 4 Lic Bundle for NCS-5501-SE-U 80G/100G BW Upg Contains: NC55P-ADL3-5502SX=, NC55P-ADL2-5502SX=, NC55P-CRGR-5502SX=, NC55P-PEER-5502SX=
NC55P-BDL-5502T	NCS 5500 SW 4 Lic Bundle for NCS-5502 Contains: NC55P-ADVL3-5502T=, NC55P-ADVL2-5502T=, NC55P-CRAGR-5502T=, NC55P-PEER-5502T=
NC55P-BDL-5502TU	NCS 5500 SW 4 Lic Bundle for NCS-NCS-5502-U40/U100 Contains: NC55P-ADL3-5502TU=, NC55P-ADL2-5502TU=, NC55P-CRGR-5502TU=, NC55P-PEER-5502TU=
NC55P-BDL-5502TU=	NCS 5500 SW 4 Lic Bundle for NCS-NCS-5502-U40/U100 (spare)
NC55P-BDL-5502TX	NCS 5500 SW 4 Lic Bundle for NCS-5502-U40/U100 800G Upg Contains: NC55P-ADL3-5502TX=, NC55P-ADL2-5502TX=, NC55P-CRGR-5502TX=, NC55P-PEER-5502TX=
NC55P-BDL-5502S	NCS 5500 SW 4 Lic Bundle for NCS-5502-SE Contains: NC55P-ADVL3-5502S=, NC55P-ADVL2-5502S=, NC55P-CRAGR-5502S=, NC55P-PEER-5502S=
NC55P-BDL-5502SU	NCS 5500 SW 4 Lic Bundle for NCS-NCS-5502-SE-U40/U100 Contains: NC55P-ADL3-5502SU=, NC55P-ADL2-5502SU=, NC55P-CRGR-5502SU=, NC55P-PEER-5502SU=
NC55P-BDL-5502SX	NCS 5500 SW 4 Lic Bundle for NCS-5502-SE-U40/U100 800G Upg Contains: NC55P-ADL3-5502SX=, NC55P-ADL2-5502SX=, NC55P-CRGR-5502SX=, NC55P-PEER-5502SX=
NC55P-BNDL-A2MDT	NCS 5500 SW 4 x Bundle Lic for NCS-55A2-MOD-S/HD-S (base chassis only) Contains: NC55P-ADVL3-A2MDT, NC55P-ADVL2-A2MDT, NC55P-CRAGR-A2MDT, NC55P-PEER-A2MDT

Product ID (PID)	Description
NC55P-BDL-100T	NCS 5500 SW 4 Lic Bundle for NCS 5500 Base Per 100G Bandwidth Contains: NC55P-ADVL3-100T=, NC55P-ADVL2-100T=, NC55P-CRAGR-100T=, NC55P-PEER-100T=
NC55P-BDL-100S	NCS 5500 SW 4 Lic Bundle for NCS 5500 SE Per 100G Bandwidth Contains: NC55P-ADVL3-100S=, NC55P-ADVL2-100S=, NC55P-CRAGR-100S=, NC55P-PEER-100S=
NC55P-BDL-50T	NCS 5500 SW 4 Lic Bundle for NCS 5500 Base Per 50G Bandwidth Contains: NC55P-ADVL3-50T=, NC55P-ADVL2-50T=, NC55P-CRAGR-50T=, NC55P-PEER-50T=
NC55P-BDL-50S	NCS 5500 SW 4 Lic Bundle for NCS 5500 SE Per 50G Bandwidth Contains: NC55P-ADVL3-50S=, NC55P-ADVL2-50S=, NC55P-CRAGR-50S=, NC55P-PEER-50S=

Table 4. NCS 5500 Layer 3 VPN software license

Product ID (PID)	Description
NC55P-ADVL3-36HT	NCS 5500 L3VPN Lic for NC55-36X100G and NC55-36X100G-S
NC55P-ADVL3-36HT=	NCS 5500 L3VPN Lic for NC55-36X100G and NC55-36X100G-S (spare)
NC55P-ADVL3-36HTU	NCS 5500 L3VPN Lic for NC55-36X100G-U for 36X50G Bandwidth
NC55P-ADVL3-36HTU=	NCS 5500 L3VPN Lic for NC55-36X100G-U for 36X50G Bandwidth (spare)
NC55P-ADVL3-36HS	NCS 5500 L3VPN Lic for 36X100G-SE Line Card or Chassis
NC55P-ADVL3-36HS=	NCS 5500 L3VPN Lic for 36X100G-SE Line Card or Chassis (spare)
NC55P-ADVL3-36HSU	NCS 5500 L3VPN Lic for NC55-36X100G-SE-U for 36X50G BW
NC55P-ADVL3-36HSU=	NCS 5500 L3VPN Lic for NC55-36X100G-SE-U for 36X50G BW (spare)
NC55P-ADVL3-24HT	NCS 5500 L3VPN Lic for NCS-55A1-24H
NC55P-ADVL3-24HT=	NCS 5500 L3VPN Lic for NCS-55A1-24H (spare)
NC55P-ADVL3-24HS	NCS 5500 L3VPN Lic for NC55-24X100G-SE
NC55P-ADVL3-24HS=	NCS 5500 L3VPN Lic for NC55-24X100G-SE (spare)
NC55P-ADVL3-1818T	NCS 5500 L3VPN Lic for NC55-18H18F
NC55P-ADVL3-1818T=	NCS 5500 L3VPN Lic for NC55-18H18F (spare)
NC55P-ADVL3-2412S	NCS 5500 L3VPN Lic for NC55-24H12F-SE
NC55P-ADVL3-2412S=	NCS 5500 L3VPN Lic for NC55-24H12F-SE (spare)
NC55P-ADVL3-6DWMT	NCS 5500 L3VPN Lic for NC55-6X200-DWDM-S
NC55P-ADVL3-6DWMT=	NCS 5500 L3VPN Lic for NC55-6X200-DWDM-S (spare)

Product ID (PID)	Description
NC55P-ADVL3-5501T	NCS 5500 L3VPN Lic for NCS-5501
NC55P-ADVL3-5501T=	NCS 5500 L3VPN Lic for NCS-5501 (spare)
NC55P-ADL3-5501TU	NCS 5500 L3VPN Lic for NCS-5501-U
NC55P-ADL3-5501TU=	NCS 5500 L3VPN Lic for NCS-5501-U (spare)
NC55P-ADL3-5501TX	NCS 5500 L3VPN Lic for NCS-5501-U 100G BW Upg
NC55P-ADL3-5501TX=	NCS 5500 L3VPN Lic for NCS-5501-U 100G BW Upg (spare)
NC55P-ADVL3-5501S	NCS 5500 L3VPN Lic for NCS-5501-SE
NC55P-ADVL3-5501S=	NCS 5500 L3VPN Lic for NCS-5501-SE (spare)
NC55P-ADL3-5501SU	NCS 5500 L3VPN Lic for NCS-5501-SE-U
NC55P-ADL3-5501SU=	NCS 5500 L3VPN Lic for NCS-5501-SE-U (spare)
NC55P-ADL3-5501SX	NCS 5500 L3VPN Lic for NCS-5501-SE-U 80G/100G BW Upg
NC55P-ADL3-5501SX=	NCS 5500 L3VPN Lic for NCS-5501-SE-U 80G/100G BW Upg (spare)
NC55P-ADVL3-5502T	NCS 5500 L3VPN Lic for NCS-5502
NC55P-ADVL3-5502T=	NCS 5500 L3VPN Lic for NCS-5502 (spare)
NC55P-ADL3-5502TU	NCS 5500 L3VPN Lic for NCS-NCS-5502-U40/U100
NC55P-ADL3-5502TU=	NCS 5500 L3VPN Lic for NCS-NCS-5502-U40/U100 (spare)
NC55P-ADL3-5502TX	NCS 5500 L3VPN Lic for NCS-5502-U40/U100 800G Upg
NC55P-ADL3-5502TX=	NCS 5500 L3VPN Lic for NCS-5502-U40/U100 800G Upg (spare)
NC55P-ADVL3-5502S	NCS 5500 L3VPN Lic for NCS-5502-SE
NC55P-ADVL3-5502S=	NCS 5500 L3VPN Lic for NCS-5502-SE (spare)
NC55P-ADL3-5502SU	NCS 5500 L3VPN Lic for NCS-NCS-5502-SE-U40/U100
NC55P-ADL3-5502SU=	NCS 5500 L3VPN Lic for NCS-NCS-5502-SE-U40/U100 (spare)
NC55P-ADL3-5502SX	NCS 5500 L3VPN Lic for NCS-5502-SE-U40/U100 800G Upg
NC55P-ADL3-5502SX=	NCS 5500 L3VPN Lic for NCS-5502-SE-U40/U100 800G Upg (spare)
NC55P-ADVL3-A2MDT	NCS 5500 L3VPN Lic for NCS-55A2-MOD-S/HD-S (base chassis only)
NC55P-ADVL3-A2MDT=	NCS 5500 L3VPN Lic for NCS-55A2-MOD-S/HD-S (base chassis only) (spare)
NC55P-ADVL3-100T	NCS 5500 L3VPN Lic for NCS 5500 Base Per 100G Bandwidth

Product ID (PID)	Description
NC55P-ADVL3-100T=	NCS 5500 L3VPN Lic for NCS 5500 Base Per 100G Bandwidth (spare)
NC55P-ADVL3-100S	NCS 5500 L3VPN Lic for NCS 5500 SE Per 100G Bandwidth
NC55P-ADVL3-100S=	NCS 5500 L3VPN Lic for NCS 5500 SE Per 100G Bandwidth (spare)
NC55P-ADVL3-50T	NCS 5500 L3VPN Lic for NCS 5500 Base Per 50G Bandwidth
NC55P-ADVL3-50T=	NCS 5500 L3VPN Lic for NCS 5500 Base Per 50G Bandwidth (spare)
NC55P-ADVL3-50S	NCS 5500 L3VPN Lic for NCS 5500 SE Per 50G Bandwidth
NC55P-ADVL3-50S=	NCS 5500 L3VPN Lic for NCS 5500 SE Per 50G Bandwidth (spare)

Table 5. NCS 5500 Layer 2 VPN software license

Product ID (PID)	Description
NC55P-ADVL2-36HT	NCS 5500 L2VPN Lic for NC55-36X100G & NC55-36X100G-S
NC55P-ADVL2-36HT=	NCS 5500 L2VPN Lic for NC55-36X100G & NC55-36X100G-S (spare)
NC55P-ADVL2-36HTU	NCS 5500 L2VPN Lic for NC55-36X100G-U for 36X50G Bandwidth
NC55P-ADVL2-36HTU=	NCS 5500 L2VPN Lic for NC55-36X100G-U for 36X50G Bandwidth (spare)
NC55P-ADVL2-36HS	NCS 5500 L2VPN Lic for 36X100G-SE Line Card or Chassis
NC55P-ADVL2-36HS=	NCS 5500 L2VPN Lic for 36X100G-SE Line Card or Chassis (spare)
NC55P-ADVL2-36HSU	NCS 5500 L2VPN Lic for NC55-36X100G-SE-U for 36X50G BW
NC55P-ADVL2-36HSU=	NCS 5500 L2VPN Lic for NC55-36X100G-SE-U for 36X50G BW (spare)
NC55P-ADVL2-24HT	NCS 5500 L2VPN Lic for NCS-55A1-24H
NC55P-ADVL2-24HT=	NCS 5500 L2VPN Lic for NCS-55A1-24H (spare)
NC55P-ADVL2-24HS	NCS 5500 L2VPN Lic for NC55-24X100G-SE
NC55P-ADVL2-24HS=	NCS 5500 L2VPN Lic for NC55-24X100G-SE (spare)
NC55P-ADVL2-1818T	NCS 5500 L2VPN Lic for NC55-18H18F
NC55P-ADVL2-1818T=	NCS 5500 L2VPN Lic for NC55-18H18F (spare)
NC55P-ADVL2-2412S	NCS 5500 L2VPN Lic for NC55-24H12F-SE
NC55P-ADVL2-2412S=	NCS 5500 L2VPN Lic for NC55-24H12F-SE (spare)
NC55P-ADVL2-6DWMT	NCS 5500 L2VPN Lic for NC55-6X200-DWDM-S
NC55P-ADVL2-6DWMT=	NCS 5500 L2VPN Lic for NC55-6X200-DWDM-S (spare)

Product ID (PID)	Description
NC55P-ADVL2-5501T	NCS 5500 L2VPN Lic for NCS-5501
NC55P-ADVL2-5501T=	NCS 5500 L2VPN Lic for NCS-5501 (spare)
NC55P-ADL2-5501TU	NCS 5500 L2VPN Lic for NCS-5501-U
NC55P-ADL2-5501TU=	NCS 5500 L2VPN Lic for NCS-5501-U (spare)
NC55P-ADL2-5501TX	NCS 5500 L2VPN Lic for NCS-5501-U 100G BW Upg
NC55P-ADL2-5501TX=	NCS 5500 L2VPN Lic for NCS-5501-U 100G BW Upg (spare)
NC55P-ADVL2-5501S	NCS 5500 L2VPN Lic for NCS-5501-SE
NC55P-ADVL2-5501S=	NCS 5500 L2VPN Lic for NCS-5501-SE (spare)
NC55P-ADL2-5501SU	NCS 5500 L2VPN Lic for NCS-5501-SE-U
NC55P-ADL2-5501SU=	NCS 5500 L2VPN Lic for NCS-5501-SE-U (spare)
NC55P-ADL2-5501SX	NCS 5500 L2VPN Lic for NCS-5501-SE-U 80G/100G BW Upg
NC55P-ADL2-5501SX=	NCS 5500 L2VPN Lic for NCS-5501-SE-U 80G/100G BW Upg (spare)
NC55P-ADVL2-5502T	NCS 5500 L2VPN Lic for NCS-5502
NC55P-ADVL2-5502T=	NCS 5500 L2VPN Lic for NCS-5502 (spare)
NC55P-ADL2-5502TU	NCS 5500 L2VPN Lic for NCS-NCS-5502-U40/U100
NC55P-ADL2-5502TU=	NCS 5500 L2VPN Lic for NCS-NCS-5502-U40/U100 (spare)
NC55P-ADL2-5502TX	NCS 5500 L2VPN Lic for NCS-5502-U40/U100 800G Upg
NC55P-ADL2-5502TX=	NCS 5500 L2VPN Lic for NCS-5502-U40/U100 800G Upg (spare)
NC55P-ADVL2-5502S	NCS 5500 L2VPN Lic for NCS-5502-SE
NC55P-ADVL2-5502S=	NCS 5500 L2VPN Lic for NCS-5502-SE (spare)
NC55P-ADL2-5502SU	NCS 5500 L2VPN Lic for NCS-NCS-5502-SE-U40/U100
NC55P-ADL2-5502SU=	NCS 5500 L2VPN Lic for NCS-NCS-5502-SE-U40/U100 (spare)
NC55P-ADL2-5502SX	NCS 5500 L2VPN Lic for NCS-5502-SE-U40/U100 800G Upg
NC55P-ADL2-5502SX=	NCS 5500 L2VPN Lic for NCS-5502-SE-U40/U100 800G Upg (spare)
NC55P-ADVL2-A2MDT	NCS 5500 L2VPN Lic for NCS-55A2-MOD-S/HD-S (base chassis only)
NC55P-ADVL2-A2MDT=	NCS 5500 L2VPN Lic for NCS-55A2-MOD-S/HD-S (base chassis only) (spare)
NC55P-ADVL2-100T	NCS 5500 L2VPN Lic for NCS 5500 Base Per 100G Bandwidth

Product ID (PID)	Description
NC55P-ADVL2-100T=	NCS 5500 L2VPN Lic for NCS 5500 Base Per 100G Bandwidth (spare)
NC55P-ADVL2-100S	NCS 5500 L2VPN Lic for NCS 5500 SE Per 100G Bandwidth
NC55P-ADVL2-100S=	NCS 5500 L2VPN Lic for NCS 5500 SE Per 100G Bandwidth (spare)
NC55P-ADVL2-50T	NCS 5500 L2VPN Lic for NCS 5500 Base Per 50G Bandwidth
NC55P-ADVL2-50T=	NCS 5500 L2VPN Lic for NCS 5500 Base Per 50G Bandwidth (spare)
NC55P-ADVL2-50S	NCS 5500 L2VPN Lic for NCS 5500 SE Per 50G Bandwidth
NC55P-ADVL2-50S=	NCS 5500 L2VPN Lic for NCS 5500 SE Per 50G Bandwidth (spare)

Table 6. NCS 5500 core and aggregation software license

Product ID (PID)	Description
NC55P-CRAGR-36HT	NCS 5500 Core and Agg Lic for NC55-36X100G and NC55-36X100G-S
NC55P-CRAGR-36HT=	NCS 5500 Core and Agg Lic for NC55-36X100G and NC55-36X100G-S (spare)
NC55P-CRAGR-36HTU	NCS 5500 Core and Agg Lic for NC55-36X100G-U for 36X50G BW
NC55P-CRAGR-36HTU=	NCS 5500 Core and Agg Lic for NC55-36X100G-U for 36X50G BW (spare)
NC55P-CRAGR-36HS	NCS 5500 Core and Agg Lic for 36X100G-SE Line Card or Chassis
NC55P-CRAGR-36HS=	NCS 5500 Core and Agg Lic for 36X100G-SE Line Card or Chassis (spare)
NC55P-CRAGR-36HSU	NCS 5500 Core and Agg Lic for NC55-36X100G-SE-U for 36X50G BW
NC55P-CRAGR-36HSU=	NCS 5500 Core and Agg Lic for NC55-36X100G-SE-U for 36X50G BW (spare)
NC55P-CRAGR-24HT	NCS 5500 Core and Aggregation Lic for NCS-55A1-24H
NC55P-CRAGR-24HT=	NCS 5500 Core and Aggregation Lic for NCS-55A1-24H (spare)
NC55P-CRAGR-24HS	NCS 5500 Core and Aggregation Lic for NC55-24X100G-SE
NC55P-CRAGR-24HS=	NCS 5500 Core and Aggregation Lic for NC55-24X100G-SE (spare)
NC55P-CRAGR-1818T	NCS 5500 Core and Aggregation Lic for NC55-18H18F
NC55P-CRAGR-1818T=	NCS 5500 Core and Aggregation Lic for NC55-18H18F (spare)
NC55P-CRAGR-2412S	NCS 5500 Core and Aggregation Lic for NC55-24H12F-SE
NC55P-CRAGR-2412S=	NCS 5500 Core and Aggregation Lic for NC55-24H12F-SE (spare)
NC55P-CRAGR-6DWMT	NCS 5500 Core and Aggregation Lic for NC55-6X200-DWDM-S
NC55P-CRAGR-6DWMT=	NCS 5500 Core and Aggregation Lic for NC55-6X200-DWDM-S (spare)

Product ID (PID)	Description
NC55P-CRAGR-5501T	NCS 5500 Core and Aggregation Lic for NCS-5501
NC55P-CRAGR-5501T=	NCS 5500 Core and Aggregation Lic for NCS-5501 (spare)
NC55P-CRAG-5501TU	NCS 5500 Core and Aggregation Lic for NCS-5501-U
NC55P-CRAG-5501TU=	NCS 5500 Core and Aggregation Lic for NCS-5501-U (spare)
NC55P-CRAG-5501TX	NCS 5500 Core and Aggregation Lic for NCS-5501-U 100G BW Upg
NC55P-CRAG-5501TX=	NCS 5500 Core and Aggregation Lic for NCS-5501-U 100G BW Upg (spare)
NC55P-CRAGR-5501S	NCS 5500 Core and Aggregation Lic for NCS-5501-SE
NC55P-CRAGR-5501S=	NCS 5500 Core and Aggregation Lic for NCS-5501-SE (spare)
NC55P-CRAG-5501SU	NCS 5500 Core and Aggregation Lic for NCS-5501-SE-U
NC55P-CRAG-5501SU=	NCS 5500 Core and Aggregation Lic for NCS-5501-SE-U (spare)
NC55P-CRAG-5501SX	NCS 5500 Core and Agg Lic for NCS-5501-SE-U 80G/100G BW Upg
NC55P-CRAG-5501SX=	NCS 5500 Core and Agg Lic for NCS-5501-SE-U 80G/100G BW Upg (spare)
NC55P-CRAGR-5502T	NCS 5500 Core and Aggregation Lic for NCS-5502
NC55P-CRAGR-5502T=	NCS 5500 Core and Aggregation Lic for NCS-5502 (spare)
NC55P-CRAG-5502TU	NCS 5500 Core and Aggregation Lic for NCS-NCS-5502-U40/U100
NC55P-CRAG-5502TU=	NCS 5500 Core and Aggregation Lic for NCS-NCS-5502-U40/U100 (spare)
NC55P-CRAG-5502TX	NCS 5500 Core and Agg Lic for NCS-5502-U40/U100 800G Upg
NC55P-CRAG-5502TX=	NCS 5500 Core and Agg Lic for NCS-5502-U40/U100 800G Upg (spare)
NC55P-CRAGR-5502S	NCS 5500 Core and Aggregation Lic for NCS-5502-SE
NC55P-CRAGR-5502S=	NCS 5500 Core and Aggregation Lic for NCS-5502-SE (spare)
NC55P-CRAG-5502SU	NCS 5500 Core and Agg Lic for NCS-NCS-5502-SE-U40/U100
NC55P-CRAG-5502SU=	NCS 5500 Core and Agg Lic for NCS-NCS-5502-SE-U40/U100 (spare)
NC55P-CRAG-5502SX	NCS 5500 Core and Agg Lic for NCS-5502-SE-U40/U100 800G Upg
NC55P-CRAG-5502SX=	NCS 5500 Core and Agg Lic for NCS-5502-SE-U40/U100 800G Upg (spare)
NC55P-CRAGR-A2MDT	NCS 5500 Core and Aggregation Lic for NCS-55A2-MOD-S/HD-S (base chassis only)
NC55P-CRAGR-A2MDT=	NCS 5500 Core and Aggregation Lic for NCS-55A2-MOD-S/HD-S (base chassis only) (spare)
NC55P-CRAGR-100T	NCS 5500 Core and Aggr Lic for NCS 5500 Base Per 100G BW

Product ID (PID)	Description
NC55P-CRAGR-100T=	NCS 5500 Core and Aggr Lic for NCS 5500 Base Per 100G BW (spare)
NC55P-CRAGR-100S	NCS 5500 Core and Aggr Lic for NCS 5500 SE Per 100G BW
NC55P-CRAGR-100S=	NCS 5500 Core and Aggr Lic for NCS 5500 SE Per 100G BW (spare)
NC55P-CRAGR-50T	NCS 5500 Core and Aggr Lic for NCS 5500 Base Per 50G BW
NC55P-CRAGR-50T=	NCS 5500 Core and Aggr Lic for NCS 5500 Base Per 50G BW (spare)
NC55P-CRAGR-50S	NCS 5500 Core and Aggr Lic for NCS 5500 SE Per 50G BW
NC55P-CRAGR-50S=	NCS 5500 Core and Aggr Lic for NCS 5500 SE Per 50G BW (spare)

Table 7. NCS 5500 peering software license

Product ID (PID)	Description
NC55P-PEER-36HT	NCS 5500 Peering Lic for NC55-36X100G & NC55-36X100G-S
NC55P-PEER-36HT=	NCS 5500 Peering Lic for NC55-36X100G & NC55-36X100G-S (spare)
NC55P-PEER-36HTU	NCS 5500 Peering Lic for NC55-36X100G-U for 36X50G Bandwidth
NC55P-PEER-36HTU=	NCS 5500 Peering Lic for NC55-36X100G-U for 36X50G Bandwidth (spare)
NC55P-PEER-36HS	NCS 5500 Peering Lic for 36X100G-SE Line Card or Chassis
NC55P-PEER-36HS=	NCS 5500 Peering Lic for 36X100G-SE Line Card or Chassis (spare)
NC55P-PEER-36HSU	NCS 5500 Peering Lic for NC55-36X100G-SE-U for 36X50G BW
NC55P-PEER-36HSU=	NCS 5500 Peering Lic for NC55-36X100G-SE-U for 36X50G BW (spare)
NC55P-PEER-24HT	NCS 5500 Peering Lic for NCS-55A1-24H
NC55P-PEER-24HT=	NCS 5500 Peering Lic for NCS-55A1-24H (spare)
NC55P-PEER-24HS	NCS 5500 Peering Lic for NC55-24X100G-SE
NC55P-PEER-24HS=	NCS 5500 Peering Lic for NC55-24X100G-SE (spare)
NC55P-PEER-1818T	NCS 5500 Peering Lic for NC55-18H18F
NC55P-PEER-1818T=	NCS 5500 Peering Lic for NC55-18H18F (spare)
NC55P-PEER-2412S	NCS 5500 Peering Lic for NC55-24H12F-SE
NC55P-PEER-2412S=	NCS 5500 Peering Lic for NC55-24H12F-SE (spare)
NC55P-PEER-6DWMT	NCS 5500 Peering Lic for NC55-6X200-DWDM-S
NC55P-PEER-6DWMT=	NCS 5500 Peering Lic for NC55-6X200-DWDM-S (spare)

Product ID (PID)	Description
NC55P-PEER-5501T	NCS 5500 Peering Lic for NCS-5501
NC55P-PEER-5501T=	NCS 5500 Peering Lic for NCS-5501 (spare)
NC55P-PEER-5501TU	NCS 5500 Peering Lic for NCS-5501-U
NC55P-PEER-5501TU=	NCS 5500 Peering Lic for NCS-5501-U (spare)
NC55P-PEER-5501TX	NCS 5500 Peering Lic for NCS-5501-U 100G BW Upg
NC55P-PEER-5501TX=	NCS 5500 Peering Lic for NCS-5501-U 100G BW Upg (spare)
NC55P-PEER-5501S	NCS 5500 Peering Lic for NCS-5501-SE
NC55P-PEER-5501S=	NCS 5500 Peering Lic for NCS-5501-SE (spare)
NC55P-PEER-5501SU	NCS 5500 Peering Lic for NCS-5501-SE-U
NC55P-PEER-5501SU=	NCS 5500 Peering Lic for NCS-5501-SE-U (spare)
NC55P-PEER-5501SX	NCS 5500 Peering Lic for NCS-5501-SE-U 80G/100G BW Upg
NC55P-PEER-5501SX=	NCS 5500 Peering Lic for NCS-5501-SE-U 80G/100G BW Upg (spare)
NC55P-PEER-5502T	NCS 5500 Peering Lic for NCS-5502
NC55P-PEER-5502T=	NCS 5500 Peering Lic for NCS-5502 (spare)
NC55P-PEER-5502TU	NCS 5500 Peering Lic for NCS-NCS-5502-U40/U100
NC55P-PEER-5502TU=	NCS 5500 Peering Lic for NCS-NCS-5502-U40/U100 (spare)
NC55P-PEER-5502TX	NCS 5500 Peering Lic for NCS-5502-U40/U100 800G Upg
NC55P-PEER-5502TX=	NCS 5500 Peering Lic for NCS-5502-U40/U100 800G Upg (spare)
NC55P-PEER-5502S	NCS 5500 Peering Lic for NCS-5502-SE
NC55P-PEER-5502S=	NCS 5500 Peering Lic for NCS-5502-SE (spare)
NC55P-PEER-5502SU	NCS 5500 Peering Lic for NCS-NCS-5502-SE-U40/U100
NC55P-PEER-5502SU=	NCS 5500 Peering Lic for NCS-NCS-5502-SE-U40/U100 (spare)
NC55P-PEER-5502SX	NCS 5500 Peering Lic for NCS-5502-SE-U40/U100 800G Upg
NC55P-PEER-5502SX=	NCS 5500 Peering Lic for NCS-5502-SE-U40/U100 800G Upg (spare)
NC55P-PEER-A2MDT	NCS 5500 Peering Lic for NCS-55A2-MOD-S/HD-S (base chassis only)
NC55P-PEER-A2MDT=	NCS 5500 Peering Lic for NCS-55A2-MOD-S/HD-S (base chassis only) (spare)
NC55P-PEER-100T	NCS 5500 Peering Lic for NCS 5500 Base Per 100G Bandwidth

Product ID (PID)	Description
NC55P-PEER-100T=	NCS 5500 Peering Lic for NCS 5500 Base Per 100G Bandwidth (spare)
NC55P-PEER-100S	NCS 5500 Peering Lic for NCS 5500 SE Per 100G Bandwidth
NC55P-PEER-100S=	NCS 5500 Peering Lic for NCS 5500 SE Per 100G Bandwidth (spare)
NC55P-PEER-50T	NCS 5500 Peering Lic for NCS 5500 Base Per 50G Bandwidth
NC55P-PEER-50T=	NCS 5500 Peering Lic for NCS 5500 Base Per 50G Bandwidth (spare)
NC55P-PEER-50S	NCS 5500 Peering Lic for NCS 5500 SE Per 50G Bandwidth
NC55P-PEER-50S=	NCS 5500 Peering Lic for NCS 5500 SE Per 50G Bandwidth (spare)

Table 8. NCS 5500 data center software license

Product ID (PID)	Description
NC55P-ADVDC-36HT	NCS 5500 Advance Data Center Lic for NC55-36X100G-S
NC55P-ADVDC-36HT=	NCS 5500 Advance Data Center Lic for NC55-36X100G-S (spare)
NC55P-ADVDC-36HTU	NCS 5500 Advance DC Lic for NC55-36X100G-U for 36X50G BW
NC55P-ADVDC-36HTU=	NCS 5500 Advance DC Lic for NC55-36X100G-U for 36X50G BW (spare)
NC55P-ADVDC-36HS	NCS 5500 Adv Data Center Lic for 36X100G-SE LC or Chassis
NC55P-ADVDC-36HS=	NCS 5500 Adv Data Center Lic for 36X100G-SE LC or Chassis (spare)
NC55P-ADVDC-36HSU	NCS 5500 Adv DC Lic for NC55-36X100G-SE-U for 36X50G BW
NC55P-ADVDC-36HSU=	NCS 5500 Adv DC Lic for NC55-36X100G-SE-U for 36X50G BW (spare)
NC55P-ADVDC-24HT	NCS 5500 Advance Data Center Lic for NCS-55A1-24H
NC55P-ADVDC-24HT=	NCS 5500 Advance Data Center Lic for NCS-55A1-24H (spare)
NC55P-ADVDC-24HS	NCS 5500 Advance Data Center Lic for NC55-24X100G-SE
NC55P-ADVDC-24HS=	NCS 5500 Advance Data Center Lic for NC55-24X100G-SE (spare)
NC55P-ADVDC-1818T	NCS 5500 Advance Data Center Lic for NCS-18H18F
NC55P-ADVDC-1818T=	NCS 5500 Advance Data Center Lic for NCS-18H18F (spare)
NC55P-ADVDC-2412S	NCS 5500 Advance Data Center Lic for NC55-24H12F-SE
NC55P-ADVDC-2412S=	NCS 5500 Advance Data Center Lic for NC55-24H12F-SE (spare)
NC55P-ADVDC-5501T	NCS 5500 Advance Data Center Lic for NCS-5501
NC55P-ADVDC-5501T=	NCS 5500 Advance Data Center Lic for NCS-5501 (spare)

Product ID (PID)	Description
NC55P-ADDC-5501TU	NCS 5500 Advance Data Center Lic for NCS-5501-U
NC55P-ADDC-5501TU=	NCS 5500 Advance Data Center Lic for NCS-5501-U (spare)
NC55P-ADDC-5501TX	NCS 5500 Advance Data Center Lic for NCS-5501-U 100G BW Upg
NC55P-ADDC-5501TX=	NCS 5500 Advance Data Center Lic for NCS-5501-U 100G BW Upg (spare)
NC55P-ADVDC-5501S	NCS 5500 Advance Data Center Lic for NCS-5501-SE
NC55P-ADVDC-5501S=	NCS 5500 Advance Data Center Lic for NCS-5501-SE (spare)
NC55P-ADDC-5501SU	NCS 5500 Advance Data Center Lic for NCS-5501-SE-U
NC55P-ADDC-5501SU=	NCS 5500 Advance Data Center Lic for NCS-5501-SE-U (spare)
NC55P-ADDC-5501SX	NCS 5500 Adv DC Lic for NCS-5501-SE-U 80G/100G BW Upg
NC55P-ADDC-5501SX=	NCS 5500 Adv DC Lic for NCS-5501-SE-U 80G/100G BW Upg (spare)
NC55P-ADVDC-5502T	NCS 5500 Advance Data Center Lic for NCS-5502
NC55P-ADVDC-5502T=	NCS 5500 Advance Data Center Lic for NCS-5502 (spare)
NC55P-ADDC-5502TU	NCS 5500 Advance Data Center Lic for NCS-NCS-5502-U40/U100
NC55P-ADDC-5502TU=	NCS 5500 Advance Data Center Lic for NCS-NCS-5502-U40/U100 (spare)
NC55P-ADDC-5502TX	NCS 5500 Adv Data Center Lic for NCS-5502-U40/U100 800G Upg
NC55P-ADDC-5502TX=	NCS 5500 Adv Data Center Lic for NCS-5502-U40/U100 800G Upg (spare)
NC55P-ADVDC-5502S	NCS 5500 Advance Data Center Lic for NCS-5502-SE
NC55P-ADVDC-5502S=	NCS 5500 Advance Data Center Lic for NCS-5502-SE (spare)
NC55P-ADDC-5502SU	NCS 5500 Adv Data Center Lic for NCS-NCS-5502-SE-U40/U100
NC55P-ADDC-5502SU=	NCS 5500 Adv Data Center Lic for NCS-NCS-5502-SE-U40/U100 (spare)
NC55P-ADDC-5502SX	NCS 5500 Adv DC Lic for NCS-5502-SE-U40/U100 800G Upg
NC55P-ADDC-5502SX=	NCS 5500 Adv DC Lic for NCS-5502-SE-U40/U100 800G Upg (spare)
NC55P-ADVDC-100T	NCS 5500 Adv Data Center Lic for NCS 5500 Base Per 100G BW
NC55P-ADVDC-A2MDT	NCS 5500 Advance Data Center Lic for NCS-55A2-MOD-S/HD-S (base chassis only)

Product ID (PID)	Description
NC55P-ADVDC-A2MDT=	NCS 5500 Advance Data Center Lic for NCS-55A2-MOD-S/HD-S (base chassis only) (spare)
NC55P-ADVDC-100T=	NCS 5500 Adv Data Center Lic for NCS 5500 Base Per 100G BW (spare)
NC55P-ADVDC-100S	NCS 5500 Adv Data Center Lic for NCS 5500 SE Per 100G BW
NC55P-ADVDC-100S=	NCS 5500 Adv Data Center Lic for NCS 5500 SE Per 100G BW (spare)
NC55P-ADVDC-50T	NCS 5500 Adv Data Center Lic for NCS 5500 Base Per 50G BW
NC55P-ADVDC-50T=	NCS 5500 Adv Data Center Lic for NCS 5500 Base Per 50G BW (spare)
NC55P-ADVDC-50S	NCS 5500 Adv Data Center Lic for NCS 5500 SE Per 50G BW
NC55P-ADVDC-50S=	NCS 5500 Adv Data Center Lic for NCS 5500 SE Per 50G BW (spare)

Table 9. NCS 5500 timing software license

Product ID (PID)	Description
NC55P-TIMING-F	NCS 5500 Timing and Mobility Lic for Fixed Chassis
NC55P-TIMING-F=	NCS 5500 Timing and Mobility Lic for Fixed Chassis (spare)
NC55P-TIMING-M	NCS 5500 Timing and Mobility Lic for Modular Chassis
NC55P-TIMING-M=	NCS 5500 Timing and Mobility Lic for Modular Chassis (spare)

Table 10. NCS 5500 MACsec software license

Product ID (PID)	Description
NC55P-MSEC-36HT	NCS 5500 MACsec Lic for NC55-36X100G-S
NC55P-MSEC-36HT=	NCS 5500 MACsec Lic for NC55-36X100G-S (spare)
NC55P-MSEC-6DWMT	NCS 5500 MACsec Lic for NC55-6X200-DWDM-S
NC55P-MSEC-6DWMT=	NCS 5500 MACsec Lic for NC55-6X200-DWDM-S (spare)
NC55P-MSEC-100T	NCS 5500 MACSec Lic for NCS 5500 Per 100G BW
NC55P-MSEC-100T=	NCS 5500 MACSec Lic for NCS 5500 Per 100G BW (spare)
NC55P-MSEC-50T	NCS 5500 MACSec Lic for NCS 5500 Per 50G BW
NC55P-MSEC-50T=	NCS 5500 MACSec Lic for NCS 5500 Per 50G BW (spare)

The details on the flexible consumption model for the NCS 5500 Series are available in the [data sheet](#) for the IOS XR Software flexible consumption model.

Warranty

The Cisco NCS 5500 Series has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA).

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's [Corporate Social Responsibility](#) (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

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Service and support

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing the Cisco NCS 5500 Series. These innovative Cisco Services offerings are delivered through a unique combination of people, processes, tools, and partners, and they are focused on helping you increase operating efficiency and improve your data center network. Cisco Advanced Services use an architecture-led approach to help you align your data center infrastructure with your business goals and achieve long-term value. Cisco SMARTnet™ Service helps you resolve mission-critical problems with direct access at any time to Cisco network experts and award-winning resources. With this service, you can take advantage of the Cisco Smart Call Home service, which offers proactive diagnostics and real-time alerts on your Cisco NCS 5500 Series. Spanning the entire network lifecycle, Cisco Services offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise.

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For more information

For more information about the Cisco NCS 5500 Series, visit [Cisco Network Convergence System 5500 Series](#).

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