

Cisco Catalyst 8300 Series Edge Universal CPE

Platform

Q: What is the Cisco Catalyst™ 8300 Series Edge Universal CPE (uCPE)?

A: The Cisco Catalyst 8300 Series Edge uCPE is an evolution of the Cisco® 5400 Enterprise Network Compute System (ENCS 5400), designed for Secure Access Service Edge (SASE), Software-Defined WAN (SD-WAN), and 5G-based architectures. It's a new, highly scalable compute appliance with flexible centralized management for virtual applications at the WAN edge. Offered with the Cisco Catalyst 8000V Edge Software and Cisco Enterprise NFV Infrastructure Software (NFVIS) as the hosting layer, this platform delivers a new standard of software-defined flexibility and offers a lower Total Cost of Ownership (TCO).

Q: What is the Product ID (PID) and description of the Cisco Catalyst 8300 Series Edge uCPE?

A: C8300-UCPE-1N20: Catalyst 8300 uCPE with 20 cores, 1 NIM slot, 1 PIM slot, 3x 1G ports, and 4x 10G ports.



Q: What are the key capabilities of the Catalyst 8300 Series Edge uCPE?

A: The Catalyst 8300 Series Edge uCPE offers SD-WAN capabilities along with the ability to service-chain other rich network and security services such as firewall, wireless LAN controller, and other virtualized applications. With 20 CPU cores, up to eight services can be hosted on the platform.

Q: What is the naming convention for the Cisco Catalyst 8300 Series Edge uCPE?

A: Each part of the product ID is outlined as follows:

- C = standard PID prefix.
- 8300 = platform series.
- uCPE = universal Customer Premises Equipment (uCPE).
- 1N20 = number of Network Interface Module (NIM) slots and CPU cores supported. 1N20 supports 1 NIM on a 20-core platform.

Q: Where do I position the Catalyst 8300 Series Edge uCPE in comparison to the Cisco ENCS 5400 platform?

A: The Catalyst 8300 Series Edge uCPE is positioned for medium-sized to large enterprise branch offices with an aggregate performance requirement of up to 6 Gbps bidirectional IPsec performance. It supports a rich set of branch-optimized services that encompass routing, security, application hosting, and edge compute.

The ENCS 5400 platform offers up to 12 cores that allow for hosting more applications at a higher performance level and is suited for medium-sized branches.

Q: What are the different memory configuration options for the Catalyst 8300 Series Edge uCPE?

A: Total default DRAM is 32 GB, upgradable to 128 GB. NFVIS uses 8 GB, and the remaining memory can be allocated to Virtual Network Functions (VNF) services.

Q: What external storage options are available on the Catalyst 8300 Series Edge uCPE?

A: There is one M.2 storage slot that supports a 75-GB M.2 USB, 600GB 2-TB M.2 NVMe SSD card. In addition, there is an SFF drive slot where SSD or SATA drives can be used, providing up to 8 TB of storage.

Q: What are the available onboard Ethernet options (front panel Gigabit Ethernet)?

A: The onboard Ethernet ports are outlined in the following table:

Table 1. Onboard Ethernet options

Platform	Gigabit Ethernet ports (RJ-45)	10 Gigabit Ethernet ports (SFP+)
C8300-UCPE-1N20	3	4

Q: Is Online Insertion and Removal (OIR) supported on the Catalyst 8300 Series Edge uCPE?

A: Yes, OIR is supported for any Pluggable Interface Module (PIM) or NIM in the expansion slot.

Q: What different types of modules are supported on the Catalyst 8300 Series Edge uCPE?

A: All the NIMs supported on the ENCS 5400 are supported on the Catalyst 8300 Series. Analog and Time-Division Multiplexing (TDM) voice termination are not supported.

CAT7 LTE PIMs are supported. Refer to the Catalyst 8300 Series Edge uCPE data sheet for a complete list of modules.

Q: Is the SSD card field-upgradable or replaceable?

A: Yes, the NVMe and the SFF drive slot SSD card are field-replaceable. The M.2 is an external slot that is accessible without having to unrack the platform or open the chassis.

Q: Is LTE supported?

A: The CAT6 LTE NIMs supported on the 4000 Series ISRs are compatible with the Catalyst 8300 Series Edge uCPE. Also, a PIM slot can enable cellular support for LTE CAT7. In addition,

new Catalyst cellular gateway devices will be supported on these platforms, providing deployment flexibility.

NFVIS

Q: What are the key capabilities of the host OS on the Catalyst 8300 Series Edge uCPE?

A: NFVIS is the Linux/KVM-based host OS. In addition to hypervisor capabilities, NFVIS offers network-appliance-like lifecycle management. Key capabilities include:

- Zero-touch deployment (ZTP), Plug and Play (PnP), Secure Overlay, Datagram Transport Layer Security (DTLS).
- VNF lifecycle management, snapshot backup and restore for faster service restoration.
- Open vSwitch (OVS) with Data Plane Development Kit (DPDK) and single-root I/O virtualization (SR-IOV) to accelerate network traffic.
- Role-based access control.
- Infrastructure security, access security, VNF resource segmentation and security.
- Software upgrade and rollback.
- Streaming telemetry for management; Simple Network Management Protocol (SNMP) v2 and v3 are also supported.

Q: Are third-party VNFs supported in the Catalyst 8300 Series Edge uCPE?

A: Yes, third-party VNFs that are proven to work in a KVM environment can be supported on the platform. There is a third-party VNF certification program that helps with solution-level Technical Assistance Center (TAC) support.

<https://www.cisco.com/c/en/us/solutions/collateral/enterprise-networks/enterprise-network-functions-virtualization-nfv/nfv-open-ecosystem-qualified-vnf-vendors.html>.

Q: Is Docker supported in the Catalyst 8300 Series Edge uCPE?

A: Yes, Linux based Docker applications are natively supported in the Catalyst 8300 Series Edge uCPE. Docker containers can also be hosted in a Linux VM provisioned on NFVIS.

Catalyst 8000V Edge Software

Q: What Cisco IOS® Software is available for the Cisco Catalyst 8300 Series Edge uCPE?

A: Catalyst 8000V Edge Software is supported on the Catalyst 8300 Series Edge uCPE. Catalyst 8000V is a single Cisco IOS XE binary file that can operate in either autonomous mode (Cisco IOS XE) or controller mode (XE SD-WAN).

Q: Does Catalyst 8000V on the Catalyst 8300 Series Edge uCPE support Cisco Umbrella®?

A: Yes, Catalyst 8000V supports Cisco Umbrella on the platform.

Q: Is quality of service (QoS) supported on the Catalyst 8300 Series Edge uCPE?

A: Yes, comprehensive and flexible QoS models are supported on Catalyst 8000V for traffic classification, shaping and policing, marking, queueing, and scheduling on both egress and ingress. NFVIS does not have support for QoS natively.

Q: Does the platform support NETCONF and YANG?

A: Yes, Catalyst 8000V on the Catalyst 8300 Series Edge uCPE supports NETCONF operations and YANG modeling using a combination of industrywide common models and Cisco specific models.

Security

Q: What features from the Cisco trustworthy solutions are offered on the Catalyst 8300 Series Edge uCPE?

A: The security features of Cisco trustworthy solutions include:

Secure Boot with signed images and hardware anchoring with Secure Unique Device Identifier (SUDI)

- Secure storage.
- Run-time defenses.
- Authentication and integrity verification.
- Recovery mechanisms.
- Management plane protections.

Q: Does the Catalyst 8300 Series Edge uCPE have separate hardware to accelerate VPN operations?

A: Yes, this platform has a dedicated Intel® QuickAssist Technology (QAT) chip to offload the crypto processing in the data plane. All the encryption and decryption of the crypto packet with Catalyst 8000V happens in the QAT chip.

Q: Is Cisco Intrusion Prevention System (IPS) supported on the Catalyst 8300 Series Edge uCPE?

A: Yes, signature-based IPS is supported on the Catalyst 8300 Series Edge uCPE through Catalyst 8000V and the Snort® engine. The Catalyst 8300 Series Edge uCPE supports Next-Generation IPS (NGIPS) through Cisco Firepower® hosted as a VNF instance.

Q: What embedded Cisco IOS XE security solutions are offered on the Catalyst 8300 Series Edge uCPE?

A: Catalyst 8000V natively supports the Enterprise Firewall with Application Awareness and DNS web-layer security using Cisco Umbrella.

Q: What other security solutions are offered on the Catalyst 8300 Series Edge uCPE?

A: Catalyst 8000V on the Catalyst 8300 Series Edge uCPE supports:

- Zone-based firewall.
- Network Address Translation (NAT).
- Virtual Route Forwarding (VRF)-aware security.
- Anomaly detection and machine learning.
- Cisco TrustSec®.
- Identity-based networking (802.1X).
- Access Control Lists (ACLs).
- Control Plane Policing (CoPP).
- Role-based Command-Line Interface (CLI) access.
- Source-based Remotely Triggered Black Hole (RTBH) filtering.
- Secure Shell (SSH) v2.
- Unicast Reverse Path Forwarding (RPF).

Licensing

Q: What is the software packaging and traditional licensing model for Catalyst 8000V on the Catalyst 8300 Series Edge uCPE?

A: One of the following Cisco DNA license packages must be chosen with Catalyst 8000V on the Catalyst 8300 Series Edge uCPE:

- Cisco DNA Essentials with Perpetual Network Essentials.
- Cisco DNA Advantage with Perpetual Network Advantage.
- Cisco DNA Premier with Perpetual Network Advantage.

Q: What are the Cisco DNA subscription offers for Cisco Catalyst SD-WAN?

A: The subscription licensing offers are Cisco DNA Essentials, Cisco DNA Advantage, and Cisco DNA Premier for SD-WAN. Similar to the subscription offers for switching and wireless, these are nested SKUs and represent good, better, and best offers. They are available as 3-year or 5-year subscriptions.

For further details on the Cisco DNA for SD-WAN and Routing subscription offer, review the SD-WAN and Routing Feature Matrix: https://www.cisco.com/c/m/en_us/products/software/sd-wan-routing-matrix.html.

Management

Q: What management options are available for the Catalyst 8300 Series Edge uCPE for centralized orchestration, management, and monitoring?

A: The Catalyst 8300 Series Edge uCPE can be managed and monitored via either Cisco Catalyst SD-WAN Manager or Cisco Managed Services Accelerator (MSX), as well as an NFVIS-based local WebUI. For disaster recovery and basic bring-up, a CLI can be used.

Q: What programmability capabilities are available on the Catalyst 8300 Series Edge uCPE?

A: The Catalyst 8300 Series Edge uCPE opens a completely new paradigm in network configuration, operation, and monitoring through network automation. The Cisco automation solution is open, standards-based, and extensible and includes:

- Device provisioning: Through PnP, ZTP, and Preboot Execution (PXE).
- Configuration: Model-driven operation through open APIs over NETCONF/RESTCONF and Python scripting.
- Customization and monitoring: Streaming telemetry.

Q: Is the Catalyst 8300 Series Edge uCPE supported on Cisco DNA Center?

A: No. Catalyst SD-WAN Manager is the orchestration and management systems for the Catalyst 8300 Series Edge uCPE.