Cisco Catalyst C8300-1N1S-6T

High-Density 6-Port Gigabit Cloud Edge SD-WAN Router (1RU Modular Platform)

Executive Summary: The Cisco Catalyst C8300-1N1S-6T is a 1RU modular enterprise WAN edge router equipped with 6 embedded 1-Gigabit Ethernet ports. Designed for medium-sized branch offices and enterprise WAN environments, it offers flexible WAN/LAN connectivity, high SD-WAN IPsec crypto performance, modular expansion (1 NIM + 1 SM slot), and native multi-cloud security integration.

19.7 Gbps	2.0 Gbps	6,000	6x 1G
MAX CEF THROUGHPUT	SD-WAN IPSEC PERF.	MAX OVERLAY TUNNELS	EMBEDDED ETHERNET PORTS

1. PRIMARY PLATFORM SPECIFICATIONS

PARAMETER	TECHNICAL SPECIFICATION
Model Architecture	Cisco Catalyst C8300-1N1S-6T Edge Router
Form Factor	1 Rack Unit (1RU), Modular Chassis
Integrated Fixed Ports	6x 1-Gigabit Ethernet Layer 3 RJ-45 / Combo Ports
Modular Expansion Slots	1x Network Interface Module (NIM) + 1x Service Module (SM) + 1x PIM
Onboard System Memory	16 GB Default DDR4 (Upgradable to 32 GB or 64 GB)
Flash Storage & NVMe	16 GB eMMC onboard flash; 1x M.2 NVMe SSD slot (Up to 480GB)
Crypto Acceleration Engine	Hardware-based High-Performance Crypto Acceleration (IPsec, MACsec)

2. INTERFACE & SLOT BREAKDOWN

Fixed WAN/LAN Ports:

- **6x 1G Ethernet** 6 embedded 1GbE Layer 3 RJ-45 copper interfaces.
- **Console Ports** 1x RJ-45 & 1x Micro-USB console ports.
- **USB Storage** 1x USB 3.0 Type-A high-speed storage port.
- **PIM Slot** 1x Pluggable Interface Module slot for 4G/5G Cellular.

1RU Modular Capabilities:

- **1x NIM Slot:** Supports high-speed WAN modules, T1/E1, Voice, or Serial interfaces.
- **1x SM Slot:** Supports single-wide high-density Gigabit PoE+ Ethernet switches or application blades.
- **Container Services:** Dedicated compute execution environment for microservices.

3. SCALABILITY & PERFORMANCE METRICS

FEATURE / METRIC	DEFAULT MEMORY (16 GB)	UPGRADED MEMORY (32/64 GB)
Cisco Express Forwarding (CEF)	Up to 19.7 Gbps aggregate (1400 bytes)	Up to 19.7 Gbps aggregate (1400 bytes)
SD-WAN IPsec Throughput (1400B)	Up to 2.0 Gbps aggregate	Up to 2.0 Gbps aggregate
SD-WAN IPsec Throughput (IMIX)	Up to 1.8 Gbps aggregate	Up to 1.8 Gbps aggregate
Maximum Overlay Tunnels	4,000 Tunnels	6,000 Tunnels
IPv4 Route Table Capacity	1,600,000 Routes	4,000,000 Routes
IPv6 Route Table Capacity	1,500,000 Routes	4,000,000 Routes

4. ENTERPRISE SOFTWARE & SASE SECURITY

Cisco IOS XE SD-WAN Architecture:

- Unified binary image supporting autonomous routing or SD-WAN.
- Application-Aware Routing (AAR) for optimal SaaS path selection.
- Zero Touch Provisioning (ZTP) for rapid branch deployment.
- Centralized management via Cisco Catalyst SD-WAN Manager.

Integrated Security Suite:

- Enterprise Zone-Based Firewall (ZBFW) with AVC.
- Snort IPS (Intrusion Prevention System) & URL Filtering.
- Cisco Advanced Malware Protection (AMP) & Threat Grid.
- Cisco Umbrella SASE cloud-delivered security integration.

5. PHYSICAL, POWER & ENVIRONMENTAL SPECIFICATIONS

ATTRIBUTE	SPECIFICATION DETAILS
Physical Dimensions (H x W x D)	1.73 in x 17.50 in x 16.25 in (4.4 cm x 44.5 cm x 41.28 cm)
Rack Space & Weight	1RU (Standard 19-inch rack mount included); Weight: ~20 lbs (9.07 kg)
Power Supply Configuration	Dual Redundant, Hot-Swappable Power Supplies (AC, DC, or PoE models)
Input Power Voltage	AC: 85 to 264 VAC auto-ranging (50–60 Hz) / DC: -40 to -72 VDC
Typical Power Consumption	82 W (Chassis only, no optional module draw)
Operating Temperature	32°F to 104°F (0°C to 40°C) at sea level
Operating Humidity	5% to 85% relative humidity (non-condensing)
Safety & Compliance	UL 60950-1, CAN/CSA C22.2 No. 60950-1, EN 60950-1, FCC Class A, CISPR 32