

# Cisco Firepower 9300 Series

Enterprise Firewall

Security Gateway

Next-Generation Firewall

Next-Generation IPS

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## Cisco Firepower 9300 Series appliances

The Cisco Firepower® 9300 is a scalable (beyond 1 Tbps when clustered), carrier-grade, modular platform designed for service providers, high-performance computing centers, large data centers, campuses, high-frequency trading environments, and other environments that require low (less than 5-microsecond offload) latency and exceptional throughput. Cisco Firepower 9300 supports flow-offloading, programmatic orchestration, and the management of security services with RESTful APIs. It is also available in Network Equipment Building Standards (NEBS)-compliant configurations. The 9300 Series platforms can run either the Cisco® Adaptive Security Appliance (ASA) Firewall or Cisco Firepower Threat Defense (FTD).

### Model overview



### Cisco Firepower 9300 Series summary

| Model      | Firewall | NGFW | Next-Generation Intrusion Prevention System (NGIPS) | Interfaces          | Optional interfaces         |
|------------|----------|------|---|---------------------|-----------------------------|
| SM-24      | 75G      | 21G  | 30G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-36      | 80G      | 29G  | 37G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-40(New) | 80G      | 48G  | 57G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-44      | 80G      | 43G  | 57G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-44 x 3  | 234G     | 132G | 148G  | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-48(New) | 80G      | 55G  | 65G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-56(New) | 80G      | 64G  | 73G   | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |
| SM-56 x 3  | 235G     | 153G | 175G  | 8 x SFP+ on-chassis | 2 x NM's: 1/10/40/100G, FTW |

### Detailed performance specifications and feature highlights

**Table 1.** Performance specifications and feature highlights for Cisco Firepower 9300 with the Cisco Firepower Threat Defense image

| Features   | SM-24   | SM-36   | SM-40   | SM-44   | 3 x SM-44 | SM-48   | SM-56   | 3 x SM-56 |
|--|---------|---------|---------|---------|-----------|---------|---------|-----------|
| Throughput: Firewall (FW) + Application Visibility and | 25 Gbps | 34 Gbps | 54 Gbps | 50 Gbps | 148 Gbps  | 64 Gbps | 70 Gbps | 168 Gbps  |

| Features   | SM-24  | SM-36      | SM-40      | SM-44      | 3 x SM-44  | SM-48      | SM-56      | 3 x SM-56            |
|--|--|------------|------------|------------|------------|------------|------------|----------------------|
| Control (AVC) (1024B)  |  |            |            |            |            |            |            |                      |
| Throughput: FW + AVC + Intrusion Prevention System (IPS) (1024B)     | 21 Gbps  | 29 Gbps    | 48 Gbps    | 43 Gbps    | 132 Gbps   | 55 Gbps    | 64 Gbps    | 153 Gbps             |
| Maximum concurrent sessions, with AVC                                | 30 million   | 30 million | 35 million | 30 million | 63 million | 35 million | 35 million | 60 million           |
| Maximum new connections per second, with AVC                         | 130K   | 185K       | 380K       | 295K       | 850K       | 450K       | 490K       | 1.1M                 |
| TLS (Hardware Decryption) <sup>2</sup>                               | 7.5 Gbps   | 8.5 Gbps   | 10 Gbps    | 10 Gbps    | 25 Gbps    | 11 Gbps    | 12 Gbps    | 28 Gbps              |
| Throughput: NGIPS (1024B)  | 30 Gbps  | 37 Gbps    | 57 Gbps    | 57 Gbps    | 148 Gbps   | 66 Gbps    | 73 Gbps    | 175 Gbps             |
| IPSec VPN throughput (1024B TCP w/Fastpath)                          | 13.5 Gbps  | 16 Gbps    | 20 Gbps    | 17 Gbps    | 51 Gbps    | 25 Gbps    | 27 Gbps    | 81 Gbps <sup>1</sup> |
| Maximum VPN Peers  | 20,000   | 20,000     | 20,000     | 20,000     | 60,000     | 20,000     | 20,000     | 60,000               |
| Centralized management   | Centralized configuration, logging, monitoring, and reporting are performed by the Management Center or alternatively in the cloud with Cisco Defense Orchestrator   |            |            |            |            |            |            |                      |
| AVC  | Standard, supporting more than 4000 applications, as well as geolocations, users, and websites   |            |            |            |            |            |            |                      |
| AVC: OpenAppID support for custom, open-source application detectors | Standard   |            |            |            |            |            |            |                      |
| Cisco Security Intelligence  | Standard, with IP, URL, and DNS threat intelligence  |            |            |            |            |            |            |                      |
| Cisco Firepower NGIPS  | Available; can passively detect endpoints and infrastructure for threat correlation and Indicators of Compromise (IoC) intelligence  |            |            |            |            |            |            |                      |
| Cisco Advanced Malware Protection (AMP) for Networks                 | Available; enables detection, blocking, tracking, analysis, and containment of targeted and persistent malware, addressing the attack continuum both during and after attacks. Integrated threat correlation with Cisco AMP for Endpoints is also optionally available |            |            |            |            |            |            |                      |
| Cisco AMP Threat Grid sandboxing                                     | Available  |            |            |            |            |            |            |                      |

| Features  | SM-24  | SM-36 | SM-40 | SM-44 | 3 x SM-44 | SM-48 | SM-56 | 3 x SM-56 |
|---|--|-------|-------|-------|-----------|-------|-------|-----------|
| URL filtering: number of categories             | More than 80   |       |       |       |           |       |       |           |
| URL filtering: number of URLs categorized       | More than 280 million  |       |       |       |           |       |       |           |
| Automated threat feed and IPS signature updates | Yes: class-leading Collective Security Intelligence (CSI) from the Cisco Talos® group                                      |       |       |       |           |       |       |           |
| Third-party and open-source ecosystem           | Open API for integrations with third-party products; Snort® and OpenAppID community resources for new and specific threats |       |       |       |           |       |       |           |
| High availability and clustering                | Active/standby; for Cisco Firepower 9300 intrachassis clustering of up to 5 chassis is allowed                             |       |       |       |           |       |       |           |
| Cisco Trust Anchor Technologies                 | Cisco Firepower 9300 Series platforms include Trust Anchor Technologies for supply chain and software image assurance.     |       |       |       |           |       |       |           |

**Note:** Performance will vary depending on features activated, and network traffic protocol mix, and packet size characteristics. Performance is subject to change with new software releases. Consult your Cisco representative for detailed sizing guidance.

<sup>1</sup> In unclustered configuration.

<sup>2</sup> Throughput measured with 50% TLS 1.2 traffic with AES256-SHA with RSA 2048B keys.

**Table 2.** ASA performance and capabilities on Cisco Firepower 9300

| Features   | SM-24      | SM-36       | SM-40       | SM-44       | 3 x SM-44  | SM-48       | SM-56      | 3 x SM-56    |
|--|------------|-------------|-------------|-------------|------------|-------------|------------|--------------|
| Stateful inspection firewall throughput <sup>1</sup>                 | 75 Gbps    | 80 Gbps     | 80 Gbps     | 80 Gbps     | 234 Gbps   | 80 Gbps     | 80 Gbps    | 235 Gbps     |
| Stateful inspection firewall throughput (multiprotocol) <sup>2</sup> | 50 Gbps    | 60 Gbps     | 55 Gbps     | 60 Gbps     | 130 Gbps   | 60 Gbps     | 64 Gbps    | 172 Gbps     |
| Concurrent firewall connections                                      | 55 million | 60 million  | 55 million  | 60 million  | 70 million | 60 million  | 60 million | 195 million  |
| Firewall latency (UDP 64B microseconds)                              | 3.5        | 3.5         | 3.5         | 3.5         | 3.5        | 3.5         | 3.5        | 3.5          |
| New connections per second   | 800,000    | 1.2 million | 1.6 million | 1.8 million | 4 million  | 1.8 million | 2 million  | 4.75 million |

| Features                                 | SM-24   | SM-36   | SM-40   | SM-44   | 3 x SM-44            | SM-48   | SM-56   | 3 x SM-56 |
|--|---|---------|---------|---------|----------------------|---------|---------|-----------|
| IPsec VPN throughput (450B UDP L2L test) | 15 Gbps   | 18 Gbps | 25 Gbps | 20 Gbps | 60 Gbps <sup>3</sup> | 27 Gbps | 30 Gbps | 74 Gbps   |
| Maximum VPN Peers                        | 20,000  | 20,000  | 20,000  | 20,000  | 60,000               | 20,000  | 20,000  | 60,000    |
| Security contexts (included; maximum)    | 10; 250   |         |         |         |                      |         |         |           |
| High availability                        | Active/active and active/standby  |         |         |         |                      |         |         |           |
| Clustering                               | Up to 5 appliances with 3 security modules each   |         |         |         |                      |         |         |           |
| Scalability                              | VPN load balancing, firewall clustering   |         |         |         |                      |         |         |           |
| Centralized management                   | Centralized configuration, logging, monitoring, and reporting are performed by Cisco Security Manager or alternatively in the cloud with Cisco Defense Orchestrator |         |         |         |                      |         |         |           |
| Adaptive Security Device Manager         | Web-based, local management for small-scale deployments   |         |         |         |                      |         |         |           |

<sup>1</sup> Throughput measured with 1500B User Datagram Protocol (UDP) traffic measured under ideal test conditions.

<sup>2</sup> "Multiprotocol" refers to a traffic profile consisting primarily of TCP-based protocols and applications like HTTP, SMTP, FTP, IMAPv4, BitTorrent, and DNS.

## Performance testing methodologies [LINK](#)

## Hardware specifications

Table 3. Cisco Firepower 9300 Series hardware specifications

| Specification                                | Description   |
|--|---|
| Dimensions (H x W x D)                       | 5.25 x 17.5 x 32 in. (13.3 x 44.5 x 81.3 cm)  |
| Form factor                                  | 3 Rack Units (3RU), fits standard 19-in. (48.3-cm) square-hole rack   |
| Security module slots                        | 3   |
| Network module slots                         | 2 (within supervisor)   |
| Supervisor                                   | Cisco Firepower 9000 Supervisor with 8 x 10 Gigabit Ethernet ports and 2 network module slots for I/O expansion   |
| Security modules                             | <ul style="list-style-type: none"> <li>• Cisco Firepower 9000 Security Module 40 with 2 x SSDs in RAID-1 configuration</li> <li>• Cisco Firepower 9000 Security Module 48 with 2 x SSDs in RAID-1 configuration</li> <li>• Cisco Firepower 9000 Security Module 56 with 2 x SSDs in RAID-1 configuration</li> </ul> |
| Network modules (2 module slots per chassis) | <ul style="list-style-type: none"> <li>• 8 x 10 Gigabit Ethernet Enhanced Small Form-Factor Pluggable (SFP+) network modules</li> <li>• 4 x 40 Gigabit Ethernet Quad SFP+ network modules</li> </ul>  |

| Specification                       | Description   |                 |                      |                   |
|-------------------------------------|---|-----------------|----------------------|-------------------|
|                                     | <ul style="list-style-type: none"> <li>• 2 x 100 Gigabit Ethernet Quad SFP28 network modules</li> <li>• 4 x 100 Gigabit Ethernet Quad SFP28 network modules</li> </ul> <p><b>Note:</b> Cisco Firepower 9300 may also be deployed as a dedicated threat sensor, with fail-to-wire network modules. Please contact your Cisco representative for details.</p> |                 |                      |                   |
| Maximum number of interfaces        | Up to 24 x 10 Gigabit Ethernet (SFP+) interfaces; up to 8 x 40 Gigabit Ethernet (QSFP+) interfaces with 2 network modules; up to 8 x 100 Gigabit Ethernet interfaces with two network modules   |                 |                      |                   |
| Integrated network management ports | 1 x Gigabit Ethernet copper port (on supervisor)  |                 |                      |                   |
| Serial port                         | 1 x RJ-45 console   |                 |                      |                   |
| USB                                 | 1 x USB 2.0   |                 |                      |                   |
| Storage                             | Up to 4.8 TB per chassis (1.6 TB per security module in RAID-1 configuration)   |                 |                      |                   |
| Power supplies                      |   | AC power supply | -48V DC power supply | HVDC power supply |
|                                     | Input voltage   | 200 to 240V AC  | -40V to -60V DC*     | 240 to 380V DC    |
|                                     | Maximum input current   | 15.5A to 12.9A  | 69A to 42A           | <14A at 200V      |
|                                     | Maximum output power  | 2500W           | 2500W                | 2500W             |
|                                     | Frequency   | 50 to 60 Hz     | -                    | -                 |
|                                     | Efficiency (at 50% load)  | 92%             | 92%                  | 92% (at 50% load) |
|                                     | Redundancy  | 1+1             |                      |                   |
| Fans                                | 4 hot-swappable fans  |                 |                      |                   |
| Noise                               | 75.5 dBA at maximum fan speed   |                 |                      |                   |
| Rack mountable                      | Yes, mount rails included (4-post EIA-310-D rack)   |                 |                      |                   |
| Weight                              | 105 lb (47.7 kg) with one security module; 135 lb (61.2 kg) fully configured  |                 |                      |                   |
| Temperature: standard operating     | Up to 10,000 ft (3000 M): 32 to 104°F (0 to 40°C) for SM-24 module<br>32 to 88°F (0 to 35°C) for SM-36 module at sea level<br>Altitude adjustment notes:<br>For SM-36, maximum temp is 35°C, for every 1000 feet above sea level subtract 1°C   |                 |                      |                   |
| Temperature: NEBS operating         | Long term: 0 to 45°C, up to 6,000 ft (1829 m) Long term: 0 to 35°C, 6,000 to 13,000 ft (1829-3964 m)<br>Short term: -5 to 55°C, up to 6,000 ft (1829 m)<br>Note: Cisco Firepower 9300 NEBS compliance applies only to SM-24, SM-40, SM-44 and SM-48 configurations.   |                 |                      |                   |
| Temperature: nonoperating           | -40 to 149°F (-40 to 65°C); maximum altitude is 40,000 ft   |                 |                      |                   |
| Humidity: operating                 | 5 to 95% noncondensing  |                 |                      |                   |
| Humidity: nonoperating              | 5 to 95% noncondensing  |                 |                      |                   |
| Altitude: operating                 | SM-24: 0 to 13,000 ft (3962 m)<br>SM-36: 0 to 10,000 ft (3048 m); please see above Operating Temperature section for temperature  |                 |                      |                   |

| Specification          | Description          |
|------------------------|----------------------|
|                        | adjustment notes     |
| Altitude: nonoperating | 40,000 ft (12,192 m) |

\* Minimum turn-on voltage is -44V DC.

**Table 4.** Cisco Firepower 9300 Series NEBS, regulatory, safety, and EMC compliance

| Specification                | Description   |
|------------------------------|---|
| <b>NEBS</b>                  | Cisco Firepower 9300 is NEBS compliant with SM-24, SM-40, SM-44 and SM-48 Security Modules  |
| <b>Regulatory compliance</b> | Products comply with CE markings per directives 2004/108/EC and 2006/108/EC   |
| <b>Safety</b>                | <ul style="list-style-type: none"> <li>• UL 60950-1</li> <li>• CAN/CSA-C22.2 No. 60950-1</li> <li>• EN 60950-1</li> <li>• IEC 60950-1</li> <li>• AS/NZS 60950-1</li> <li>• GB4943</li> </ul>  |
| <b>EMC: emissions</b>        | <ul style="list-style-type: none"> <li>• 47CFR Part 15 (CFR 47) Class A (FCC Class A)</li> <li>• AS/NZS CISPR22 Class A</li> <li>• CISPR22 CLASS A</li> <li>• EN55022 Class A</li> <li>• ICES003 Class A</li> <li>• VCCI Class A</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• KN22 Class A</li> <li>• CNS13438 Class A</li> <li>• EN300386</li> <li>• TCVN7189</li> </ul> |
| <b>EMC: immunity</b>         | <ul style="list-style-type: none"> <li>• EN55024</li> <li>• CISPR24</li> <li>• EN300386</li> <li>• KN24</li> <li>• TVCN 7317</li> <li>• EN-61000-4-2, EN-61000-4-3, EN-61000-4-4, EN-61000-4-5, EN-61000-4-6, EN-61000-4-8, EN61000-4-11</li> </ul>   |



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