Cisco Secure Firewall 6100 Series

Contents

Introduction

The Cisco Secure Firewall 6100 Series is an AI-ready, ultra-high-end firewall, engineered to deliver exceptional throughput per rack unit. Optimized for high-performing data center and telecommunications mobility infrastructure environments, the 6100 Series features a multi-socket, multi-core architecture that enables rapid threat inspection. It's dedicated cryptographic modules facilitate high-throughput IPSec and TLS connection termination at scale, providing industry-leading cryptographic performance within its two Rack Unit (RU) form factor.

Highlights

Table 1. Highlights of Cisco Secure Firewall 6100 Series

Secure Firewall 6100 Series with Firewall Threat Defense Software	
Unmatched performance: • Gain up to 570 Gbps of throughput from a single 2 rack unit device when enabling the next-generation firewall capabilities, including Intrusion Prevention System (IPS). • Support wide variety of network module, starting from 1G to high performance 400G QSFP DD network modules.	**Superior visibility:** • Gain insight into encrypted traffic at line rate with the Encrypted Visibility Engine (EVE). Selectively decrypt TLS 1.3 and Quick UDP Internet Connections (QUIC) traffic as necessary. • Accurately identify and control more than 8200 applications, enabling precise policy enforcement across cloud, SaaS, and custom workloads.
Carrier-grade firewalling: • Enable clustering, Carrier-Grade Network Address Translation (CGNAT), and carrier license package to obtain high performance for service providers. • Inspect GPRS Tunneling Protocol (GTP), Session Initiation Protocol (SIP), Diameter, and other telecom protocols at scale.	**Advanced threat defense:** • With SnortML, a machine learning technology for threat detection, you can protect your network against zero-day vulnerabilities without requiring new signature updates. • Perform on-premises dynamic analysis with Spero, ClamAV and cloud-based sandboxing to detect and stop evasive malware.
Robust high availability: • 6100 Series features N+1 clustering scalability, N+1 fan redundancy, and 1+1 power redundancy. • With its fail-to-wire network module, 6100 Series firewall enables continuous connectivity even in case of any data plane failure.	**Simplified management:** • Define a policy once and enforce it across Cisco and third-party firewalls with the Mesh Policy Engine. • Streamline rule creation and reporting with Cisco AI Assistant, a built-in capability of unified management platform.

Hardware overview

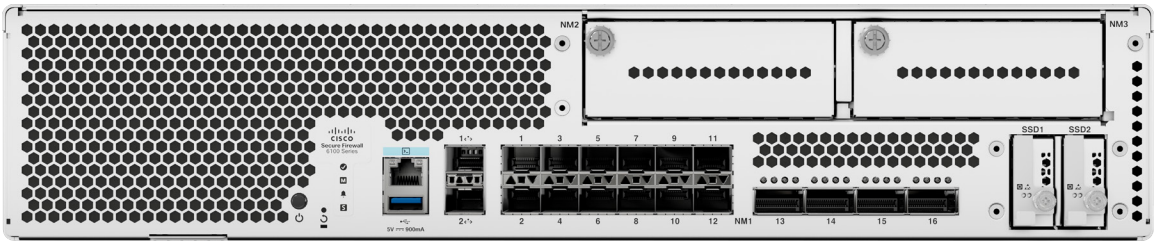

Figure 1. Front panel of 6100 Series firewall chassis

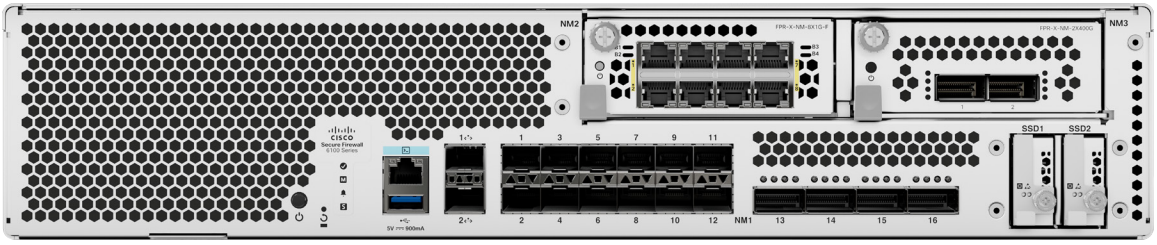

Figure 2. Front panel of 6100 Series firewall (with two network modules)

Figure 3. Back panel of 6100 Series firewall

Figure 4. 3D view of 6100 Series firewall chassis

Performance

Cisco Secure Firewall 6100 Series supports both Firewall Threat Defense (FTD) and Adaptive Security Appliance (ASA) software. The FTD software offers all the advanced next-generation security capabilities, whereas ASA software can deliver higher throughput for stateful inspection.

Table 2. Cisco Secure Firewall 6100 Series performance with the Cisco Secure Firewall Threat Defense (FTD) software

Metric	6160	6170
Throughput: FW + AVC (1024B)	520 Gbps	635 Gbps
Throughput: FW + Intrusion Prevention System (IPS) (1024B)	500 Gbps	570 Gbps
NGFW Throughput: FW + AVC + IPS (1024B)	500 Gbps	570 Gbps
IPSec VPN Throughput (1024B TCP w/Fastpath)	400 Gbps	490 Gbps
TLS decryption	100 Gbps	150 Gbps

Table 3. Cisco Secure Firewall 6100 Series performance with the Cisco Adaptive Security Appliance (ASA) software

Metric	6160	6170
Stateful inspection firewall throughput (1500 B UDP)	600 Gbps	700 Gbps
Stateful inspection firewall throughput (HTTP 1024 Byte)	600 Gbps	700 Gbps
IPsec VPN throughput (450B UDP L2L test)	300 Gbps	370 Gbps

Note: Performance will vary depending on features activated, 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.

Scalability

Table 4. Cisco Secure Firewall 6100 Series scalability with the Cisco Secure Firewall Threat Defense (FTD) software

Metric	6160	6170
Maximum concurrent sessions, with AVC	75 Million	105 Million
Maximum new connections per second, with AVC	1.5 Million	2.7 Million
Maximum VPN peers	60 K	60 K
Maximum Virtual Router Instances (VRF)	250	
High availability	Active/Standby	
Instances (Multi-Instance)	Available in future release	
Clustering	4 units (16 in future release)	

Table 5. Cisco Secure Firewall 6100 Series scalability with the Cisco Adaptive Security Appliance (ASA) software

Metric	6160	6170
New connections per second	4.5 Million	5.5 Million
Concurrent firewall connections	180 Million	180 Million
Maximum VPN Peers	60 K	60 K
High availability	Active/Standby	Active/Standby
Security contexts	Included 2, maximum 250	
Clustering	4 (16 in future release)	

Hardware specifications

Table 6. Cisco Secure Firewall 6100 Series hardware specifications

Specification	6160	6170
Form factor	2 RU for 19” Rack	
Fixed ports	12x1/10/25/50 SFP56 Ethernet Ports + 4x40/100/200 QSFP56 Ports	
Management Ethernet	2 x 1/10/25/50 Gigabit Ethernet ports (SFP56)	
Network modules	• 8-port 1Gbps copper, FTW (fail to wire) Network Module. Ports that are not configured as FTW can be used as regular 1 Gb copper ports • 8 x 1/10 Gigabit Ethernet Small Form-Factor Pluggable (SFP+) network modules • 8 x 1/10/25 Gigabit Ethernet Small Form-Factor Pluggable (SFP28) network modules • 4 x 40 Gigabit Ethernet Quad SFP+ network modules • 4 x 40/100/200 Gigabit Ethernet Quad SFP28 (QSFP28) network modules • 2 x 100G Gigabit Ethernet QSFP SFP28 network modules • 2 x 400G Gigabit Ethernet QSFP DD network modules • 6-port 10Gbps SR Fiber FTW (fail to wire) Network Module • 6-port 10Gbps LR Fiber FTW (fail to wire) Network Module • 6-port 25Gbps LR Fiber FTW (fail to wire) Network Module • 6-port 25Gbps SR Fiber FTW (fail to wire) Network Module	
Maximum number of interfaces	Up to 24 x 1/10/25/50 Gigabit Ethernet (SFP56) interfaces across fixed ports; up to 8 x 40 Gigabit Ethernet (QSFP+) interfaces with 2 network modules; up to 12 x 100/200 Gigabit Ethernet (QSFP56) interfaces across fixed ports and with 2 network modules; up to 4 x 400 Gigabit Ethernet (QSFPDD) interfaces with 2 network modules **Note:** The above port counts do not factor in the breakout capability supported by different interfaces.	
Console port	1 x RJ-45 console	
USB port	1 USB 3.0	
Storage	2 x 3.6 TB	2 x 7.2 TB
Transceiver support	Refer to Cisco Secure Firewall (CSF) 6100 Hardware Installation Guide	

Specification	6160	6170
Mean Time Between Failure (MTBF)	• Chassis: 212 K Hrs • Power Supply AC: 8 Mn Hrs • Power Supply DC: 8 Mn Hrs • Fan Module: 4.25 Mn Hrs	• Chassis: 206 K Hrs • Power Supply AC: 8 Mn Hrs • Power Supply DC: 8 Mn Hrs • Fan Module: 4.25 Mn Hrs
Chassis dimensions (HxWxD)	3.5” H x 16.9” W x 32.5” D	
Weight	66lbs (fully loaded)	
Cooling	4 Field Replaceable Fan module; every module has 2 fans	
Rack mountable	Yes, mount rails included (4-post EIA-310-D rack)	
Power Supply Details		
Configuration	2 Power Supplies. Up to 3000W each PSU, Hot-Swappable, Load-Sharing Redundancy	
AC input voltage	100 to 120 VAC (HVAC low line); 200 to 240 VAC (HVAC high line)	
AC input frequency	50–60 Hz	
AC current draw, maximum	13 Amperes	14 Amperes
DC input voltage	–48VDC to –60VDC	
Power consumption, typical	1740 Watts	2010 Watts
Power consumption, maximum	2440 Watts	2760 Watts
Redundancy	1+1 Redundancy	
Temperature: operating	32°F to 104°F (0°C to 40°C)	
Humidity: operating	5% to 90% (non-condensing)	
Altitude: operating	0 to 10,000 ft. De-rate the maximum operating temperature 1°C/1K-ft. above 6000 ft.	
Acoustic noise	Sound Pressure: <=74 dBA (typical), <= 90 dBA (maximum) Sound Power: <=81 dB (typical), <=98 dB (maximum)	
Non-operating/storage environment		
Temperature: nonoperating	-40F° to -85°F (-40°C to -65°C)	
Humidity: nonoperating	5% to 95% (non-condensing)	
Altitude: nonoperating	40,000 ft.	

Compliance

For details on product regulatory compliance in a specific market, consult the Cisco Product Approvals tool.

Table 7. Cisco Secure Firewall 6100 Series Network Equipment Building System (NEBS), regulatory, safety, environmental and Electromagnetic Compatibility (EMC) compliance

Specification	Description
Regulatory compliance	Products comply with CE markings per directives 2004/108/EC and 2006/108/EC
Safety	• UL 62368-1 • UL 60950-1 • CAN/CSA-C22.2 No. 62368-1 • CAN CSA C22.2 60950-1 • EN 62368-1 • IEC 62368-1 • AS/NZS 62368.1 • GB4943.1
EMC: Emissions	• FCC 47CFR15 Class A • AS/NZS CISPR 32 Class A • EN55032/CISPR 32 Class A • ICES-003 Class A • VCCI Class A • KS C 9832 Class A • CNS-13438 Class A • EN61000-3-2 Power Line Harmonics • EN61000-3-3 Voltage Changes, Fluctuations, and Flicker

Specification	Description
EMC: Immunity	• EN61000-6-2 Generic Immunity Standards • IEC/EN61000-4-2 Electrostatic Discharge Immunity • IEC/EN61000-4-3 Radiated Immunity • IEC/EN61000-4-4 EFT-B Immunity • IEC/EN61000-4-5 Surge • IEC/EN61000-4-6 Immunity to Conducted Disturbances • IEC/EN61000-4-11 Voltage Dips, Short Interruptions, and Voltage Variations • KS C 9835
EMC: ETSI/EN	• EN 300 386 Telecommunications Network Equipment (EMC) • EN55032/CISPR32 Multimedia Equipment (Emissions) • EN55035/CISPR 35 Multimedia Equipment (Immunity) • EN61000-6-1, EN61000-6-2 Generic Immunity Standards

Ordering information

The product IDs of the Cisco Secure Firewall 6100 Series hardware appliances are listed below. For information on licenses, subscriptions, and other options associated with the product, refer to the Cisco Network Security Ordering Guide.

Table 8. Cisco Secure Firewall 6100 Series Product IDs

Product ID	Description
CSF6160-A-TD-K9	Cisco Secure Firewall 6160 Appliance, Threat Defense
CSF6160-A-ASA-K9	Cisco Secure Firewall 6160 Appliance, ASA
CSF6170-A-TD-K9	Cisco Secure Firewall 6170 Appliance, Threat Defense
CSF6170-A-ASA-K9	Cisco Secure Firewall 6170 Appliance, ASA

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.

Table 9. Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report)

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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