Cisco Secure Firewall 6100 Series



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Introduction

The Cisco Secure Firewall 6100 Series is an AI-ready, ultra-high-performance firewall engineered to deliver exceptional throughput per rack unit. Optimized for high-demand data center and service provider environments, the 6100 Series features a multi-socket, multi-core architecture that accelerates threat inspection. Its dedicated cryptographic modules drive high-throughput IPsec and TLS connection termination at scale, providing industry-leading performance in a compact 2-Rack-Unit (2RU) form factor.

Table 1. Key capabilities of the Cisco Secure Firewall 6100 Series

Secure Firewall 6100 Series with Firewall Threat Defense Software	
Unmatched performance: • Achieve up to 700 Gbps of throughput in a single 2RU form factor with Next-Generation Firewall (NGFW) capabilities enabled, and up to 615 Gbps with Intrusion Prevention System (IPS) active. • Supports a comprehensive range of network modules, scaling from 1G up to high-performance 400G QSFP-DD interfaces.	**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: • Delivers carrier-class performance with clustering support, Carrier-Grade Network Address Translation (CGNAT), and specialized carrier license packages tailored for Service Providers. • Enables scalable Security Gateway (SEG) deployments for 3G, 4G, and 5G mobile networks, delivering up to 550 Gbps of IPsec tunnel termination performance. • Inspect GPRS Tunneling Protocol (GTP), Session Initiation Protocol (SIP), Diameter, and other telecom protocols at scale.	**Advanced threat defense:** • Defend against zero-day vulnerabilities using SnortML, an on-box machine learning engine that detects threats in real-time without requiring immediate signature updates. • Perform on-premises dynamic analysis with Spero, ClamAV and cloud-based sandboxing to detect and stop evasive malware.
Robust high availability: • Ensures maximum uptime with N+1 clustering scalability, N+1 fan redundancy, and 1+1 power supply redundancy. • With its fail-to-wire network modules, 6100 Series firewall enables continuous connectivity even in case of any data plane failure.	**Simplified management:** • Scale effortlessly: Manage up to 1,500 firewalls now, scaling to 2,000, via Security Cloud Control Firewall, manager optimized for Hybrid Mesh Firewall and MSSP environments. Use prebuilt templates and streamlined migration tools for fast, consistent global deployment without extra overhead. • Unified management, smarter security: A single intuitive console unifies logging and event viewing. Integrated AIOps converts telemetry into actionable insights and automated policy recommendations, enabling faster resolution, less alert fatigue, and proactive threat response.

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Hardware overview



Figure 1. 3D view of 6100 Series firewall

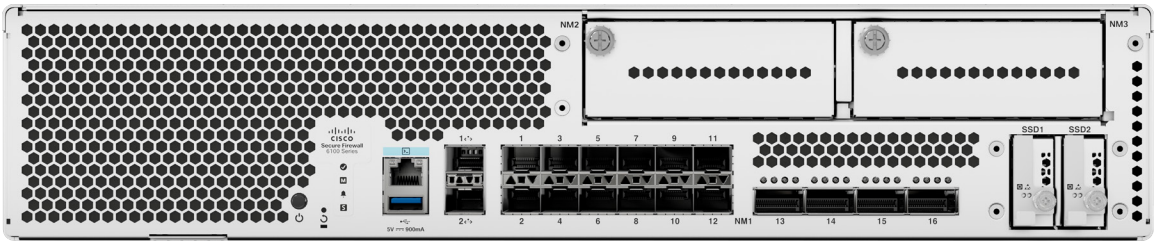


Figure 2. Front panel of 6100 Series firewall

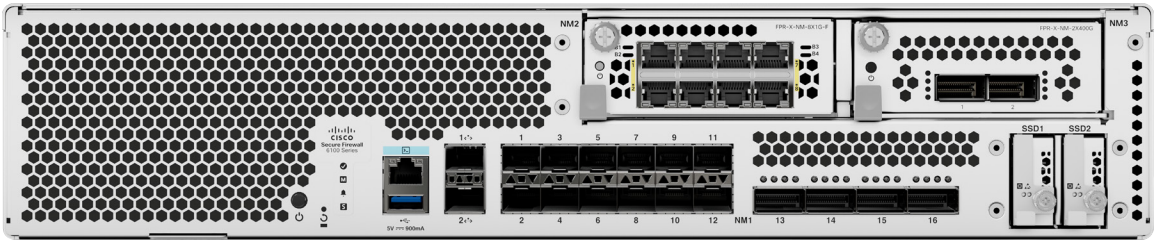


Figure 3. Front panel of 6100 Series firewall (with two network modules)



Figure 4. Back panel of 6100 Series firewall

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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: Firewall + Application Visibility and Control (AVC) (1024B)	600 Gbps	700 Gbps
Throughput: AVC + Intrusion Prevention System (IPS) (1024B)	550 Gbps	600 Gbps
NGFW Throughput: FW + AVC + IPS (1024B)	550 Gbps	600 Gbps
IPSec VPN Throughput (1024B TCP w/Fastpath)	450 Gbps	550 Gbps
TLS Decryption[1]	100 Gbps	150 Gbps
Application Visibility and Control (AVC)	Standard, supporting more than 8100 applications, as well as geolocations, users, and websites	

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

Metric	6120	6130	6160	6170
Stateful inspection firewall throughput (1500 B UDP)[2]	350 Gbps	550 Gbps	650 Gbps	750 Gbps
Stateful inspection firewall throughput (HTTP 1024 Byte)	350 Gbps	550 Gbps	650 Gbps	750 Gbps
IPsec VPN throughput (450B UDP L2L test)	175 Gbps	225 Gbps	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.

[1] Throughput measured with 50% TLS 1.2 traffic with AES256-SHA with RSA 2048B keys.

[2] Throughput measured with 1500B User Datagram Protocol (UDP) traffic measured under ideal test conditions.

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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	120 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, Active/Active (with clustering)	
Instances (Multi-Instance)	Available in future release	
Clustering	Up to 16	

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

Metric	6120	6130	6160	6170
New connections per second	2.5 Million	3.5 Million	4.5 Million	5.5 Million
Concurrent firewall connections	60 Million	90 Million	240 Million	360 Million
Maximum VPN Peers	45 K	60 K	60 K	60 K
High availability	Active/Active and Active/Standby			
Security contexts	Included 10, maximum 250			
Clustering	Up to 16			

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Hardware specifications

Table 6. Cisco Secure Firewall 6100 Series hardware specifications

Specification	6120	6130	6160	6170
Form factor	2 RU for 19” Rack			
Fixed ports	12 x 1/10/25/50 Gigabit Ethernet SFP56 Ports 4 x 40/100/200 Gigabit Ethernet QSFP56 Ports			
Management Ethernet	2 x 1/10/25 Gigabit Ethernet SFP28 Ports			
Network Modules	**Standard Ethernet Modules** • 8 x 1/10 Gigabit Ethernet SFP+ Network Module • 8 x 1/10/25 Gigabit Ethernet SFP28 Network Module • 4 x 40 Gigabit Ethernet QSFP+ Network Module • 4 x 40/100/200 Gigabit Ethernet QSFP56 Network Module • 2 x 40/100 Gigabit Ethernet QSFP28 Network Module • 2 x 200/400 Gigabit Ethernet QSFP-DD Network Module **Fail-to-Wire (FTW) Module**s • 8 x 1 Gigabit Ethernet RJ-45 Copper Fail-to-Wire (FTW) Network Module • 6 x 1 Gigabit Ethernet SFP SX Fail-to-Wire (FTW) Network Module • 6 x 10 Gigabit Ethernet SFP+ SR Fail-to-Wire (FTW) Network Module • 6 x 10 Gigabit Ethernet SFP+ LR Fail-to-Wire (FTW) Network Module • 6 x 25 Gigabit Ethernet SFP28 SR Fail-to-Wire (FTW) Network Module • 6 x 25 Gigabit Ethernet SFP28 LR Fail-to-Wire (FTW) Network Module • 2 x 100 Gigabit Ethernet QSFP28 SR4 Fail-to-Wire (FTW) Network Module			

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Specification	6120	6130	6160	6170
Maximum number of interfaces	See table below			

Interface Speed/Type	Fixed Ports	Expansion (2 Slots)	Total Maximum Ports
1/10/25/50 Gigabit (SFP56)	12 Ports	+ 16 (via 2x 8-port modules, SFP28)	28 Ports (50G: 12 Ports)
40/100/200 Gigabit (QSFP56)	4 Ports	+ 8 (via 2x 4-port modules, QSFP56)	12 Ports
400 Gigabit (QSFP-DD)	0 Ports	+ 4 (via 2x 2-port modules, QSFP-DD)	4 Ports
Fail-to-Wire (FTW)	0 Ports	+ 4 to + 16 (module dependent)	16 Ports
Management (SFP28)	2 Ports	N/A	2 Ports

Note:

50G Support: Only the 12 Fixed SFP56 ports support native 50G speeds (Modules listed are SFP28 maxing at 25G).

FTW (Fail-to-Wire): If using Fail-to-Wire modules (6-ports each), the total 1/10/25G count would be 24 ports (12 Fixed + 12 Module). With 8-port copper FTW modules in both slots, the total 1G count is 28 ports (12 Fixed + 16 Module).

100G FTW: With 2-port 100G QSFP28 SR4 FTW modules in both slots, the system provides 4 x 100G FTW ports, for a total 100G count of 8 ports (4 Fixed + 4 Module). The 12-port 100G maximum requires 4-port QSFP56 modules, which are not FTW.

Console port	1 x RJ-45 console			
USB port	1 USB 3.0			
Storage	2 x 1.8 TB	2 x 1.8 TB	2 x 3.6 TB	2 x 7.2 TB
Power over Ethernet	N/A			
Transceiver support	Refer to Cisco Secure Firewall (CSF) 6100 Hardware Installation Guide			
Chassis dimensions (HxWxD)	3.5” H x 16.9” W x 32.5” D (8.89 cm x 42.93 cm x 82.55 cm)			
Weight	66lbs (29.94kg), fully loaded			

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Specification	6120	6130	6160	6170
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	Dual high-voltage AC/DC power supplies. ▪ **High Line AC:** Up to 3000W per power supply, hot-swappable, load-sharing redundancy. ▪ **Low Line AC:** Up to 1500W per power supply, load sharing with no redundancy. Dual low-voltage DC power supplies offered. ▪ **Both Inputs Connected:** Up to 3000W per power supply, hot-swappable, load-sharing redundancy. ▪ **One Input Connected:** Up to 1500W per power supply, load sharing with no redundancy.			
AC input voltage	100 to 120 VAC (HVAC low line) 200 to 277 VAC (HVAC high line)			
AC input frequency	50–60 Hz			
HVDC input voltage	240 to 380 VDC			
LVDC input voltage	–48VDC to –60VDC			
AC current draw, maximum	7 Amperes (high line AC)	10 Amperes (high line AC)	13 Amperes (high line AC)	14 Amperes (high line AC)
System HVDC current draw, maximum	6 Amperes	9 Amperes	11 Amperes	12 Amperes
System LVDC current draw, maximum per feed	17 Amperes	24 Amperes	29 Amperes	33 Amperes

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Specification	6120	6130	6160	6170
Power consumption, typical	780 Watts	1200 Watts	1740 Watts	2010 Watts
Power consumption, maximum	1400 Watts	1940 Watts	2440 Watts	2760 Watts
Redundancy	1+1 Redundancy • Redundant only with dual HVAC, HVDC, or dual-input LVDC. • LVAC and single-input DC do not support redundancy.			
Operating Range				
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	-40°F to 158°F (-40°C to 70°C)			
Humidity: nonoperating	5% to 95% (non-condensing)			
Altitude: nonoperating	40,000 ft.			

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Compliance

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

Table 7. Cisco Secure Firewall 6100 Series regulatory, safety, and Electromagnetic Compatibility (EMC) compliance

Specification	Description
Regulatory compliance	Products comply with CE markings per directives 2014/30/EU 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-15936 Class A • EN61000-3-2 Power Line Harmonics • EN61000-3-3 Voltage Changes, Fluctuations, and Flicker

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Specification	Description
EMC: Immunity	• 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
CSF6120-A-ASA-K9	Cisco Secure Firewall 6120 Appliance, ASA
CSF6130-A-ASA-K9	Cisco Secure Firewall 6130 Appliance, ASA
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

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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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