National Information Assurance Partnership

Common Criteria Evaluation and Validation Scheme

TM

Validation Report

Cisco Systems, Inc.

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Cisco Firepower 4100 and 9300 Security Appliances

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1 Executive Summary

This report documents the assessment of the National Information Assurance Partnership (NIAP) validation team of the evaluation of Cisco Firepower 4100 and 9300 Security Appliances solution provided by Cisco Systems, Inc. It presents the evaluation results, their justifications, and the conformance results. This Validation Report is not an endorsement of the Target of Evaluation by any agency of the U.S. government, and no warranty is either expressed or implied.

The evaluation was performed by the Gossamer Security Solutions (Gossamer) Common Criteria Testing Laboratory (CCTL) in Catonsville, MD, United States of America, and was completed in May 2017. The information in this report is largely derived from the Evaluation Technical Report (ETR) and associated test reports, all written by Gossamer Security Solutions. The evaluation determined that the product is both Common Criteria Part 2 Extended and Part 3 Conformant, and meets the assurance requirements of the Collaborative Protection Profile for Stateful Traffic Filter Firewalls, version 1.0, 27 February 2015 (FWcPP10) and VPN Gateway Extended Package, version 2.1, 08 March 2017 (VPNGWcEP21).

The Target of Evaluation (TOE) is the Cisco Firepower 4100 and 9300 Security Appliances.

The Target of Evaluation (TOE) identified in this Validation Report has been evaluated at a NIAP approved Common Criteria Testing Laboratory using the Common Methodology for IT Security Evaluation (Version 3.1, Rev 4) for conformance to the Common Criteria for IT Security Evaluation (Version 3.1, Rev 4). This Validation Report applies only to the specific version of the TOE as evaluated. The evaluation has been conducted in accordance with the provisions of the NIAP Common Criteria Evaluation and Validation Scheme and the conclusions of the testing laboratory in the evaluation technical report are consistent with the evidence provided.

The validation team monitored the activities of the evaluation team, provided guidance on technical issues and evaluation processes, and reviewed the individual work units and successive versions of the ETR. The validation team found that the evaluation showed that the product satisfies all of the functional requirements and assurance requirements stated in the Security Target (ST). Therefore the validation team concludes that the testing laboratory's findings are accurate, the conclusions justified, and the conformance results are correct. The conclusions of the testing laboratory in the evaluation technical report are consistent with the evidence produced.

The technical information included in this report was obtained from the Cisco Firepower 4100 and 9300 Security Appliances Security Target, version 1.0, September 11, 2017 and analysis performed by the Validation Team.

2 Identification

The CCEVS is a joint National Security Agency (NSA) and National Institute of Standards and Technology (NIST) effort to establish commercial facilities to perform trusted product

evaluations. Under this program, security evaluations are conducted by commercial testing laboratories called Common Criteria Testing Laboratories (CCTLs) using the Common Evaluation Methodology (CEM) in accordance with National Voluntary Laboratory Assessment Program (NVLAP) accreditation.

The NIAP Validation Body assigns Validators to monitor the CCTLs to ensure quality and consistency across evaluations. Developers of information technology products desiring a security evaluation contract with a CCTL and pay a fee for their product's evaluation. Upon successful completion of the evaluation, the product is added to NIAP's Validated Products List.

Table 1 provides information needed to completely identify the product, including:

- The Target of Evaluation (TOE): the fully qualified identifier of the product as evaluated.
- The Security Target (ST), describing the security features, claims, and assurances of the product.
- The conformance result of the evaluation.
- The Protection Profile to which the product is conformant.
- The organizations and individuals participating in the evaluation.

Table 1: Evaluation Identifiers

Item	Identifier
Evaluation Scheme	United States NIAP Common Criteria Evaluation and Validation Scheme
TOE	Cisco Firepower 4100 and 9300 Security Appliances (Specific models identified in Section 3.1)
Protection Profile	Collaborative Protection Profile for Stateful Traffic Filter Firewalls, version 1.0, 27 February 2015 (FWcPP10) and VPN Gateway Extended Package, version 2.1, 08 March 2017 (VPNGWcEP21)
ST	Cisco Firepower 4100 and 9300 Security Appliances Security Target, version 1.0, September 11, 2017
Evaluation Technical Report	Evaluation Technical Report for Cisco Firepower 4100 and 9300 Security Appliances, version 0.4, September 11, 2017
CC Version	Common Criteria for Information Technology Security Evaluation, Version 3.1, rev 4
Conformance Result	CC Part 2 extended, CC Part 3 conformant
Sponsor	Cisco Systems, Inc.
Developer	Cisco Systems, Inc.
Common Criteria Testing Lab (CCTL)	Gossamer Security Solutions, Inc.
CCEVS Validators	

3 Architectural Information

Note: The following architectural description is based on the description presented in the Security Target.

The TOE is comprised of both software and hardware. The model is comprised of the following: FP 4110, 4120, 4140, and 4150 and 9300. The software is comprised of the Adaptive Security Appliance software image Release 9.6.2, with ASDM 7.6, running on the security module and FXOS 2.0.1 running on Supervisor blade.

The models that comprise the TOE have common hardware characteristics (for example, the same FXOS image runs on all the models 4100 series and 9300, and the same ASA image runs on the security module regardless of the platforms). These differing characteristics affect only non-TSF relevant functionality (such as throughput, processing speed, number and type of network connections supported, number of concurrent connections supported, and amount of storage) and therefore support security equivalency of the TOE in terms of hardware.

3.1 TOE Evaluated Platforms

The evaluated configuration consists of the following models:

TOE Configuration	Hardware Configuration	Software Version
FP 4110 FP 4120 FP 4140 FP 4150	The Firepower 4100 chassis contains the following components: • Network module 1 with eight fixed SFP+ ports (1G and 10G connectivity), the management port, RJ-45 console port, Type A USB port, PID and S/N card, locator indicator, and power switch • Two network modules slots (network module 2 and network module 3) • Two (1+1) redundant power supply module slots • Six fan module slots • Two SSD bays	FXOS release 2.0.1 and ASA release 9.6.2
FP 9300	The Firepower 9300 chassis contains the following components: • Firepower 9300 Supervisor—Chassis supervisor module ◦ Management port ◦ RJ-45 console port ◦ Type A USB port ◦ Eight ports for 1 or 10 Gigabit Ethernet SFPs (fiber and copper) • Firepower 9300 Security Module—Up to three security modules ◦ 800 GB of solid state storage per security blade (2 x 800 GB solid state drives running RAID1)	FXOS release 2.0.1 and ASA release 9.6.2

	• Firepower Network Module—Two single-wide network modules or one double-wide network module • Two power supply modules (AC or DC) • Four fan modules	
ASDM	Included on all ASA 9.6.2	Release 7.6

3.2 TOE Architecture

The TOE consists of hardware and software that provide connectivity and security services onto a single, secure device.

The Cisco firepower 9300 security appliance is a modular, scalable, carrier-grade appliance that includes the Chassis (including fans and power supply), Supervisor Blade[1] (to manage the security application running on the security module), network module (optional) and security module that contains the security application which in this evaluation is the ASA. The FP4100 Series appliance is a complete standalone, bundle unit that contains everything required above in one appliance.

For firewall services, the ASA running on the security module provides application-aware stateful packet filtering firewalls. A stateful packet filtering firewall controls the flow of IP traffic by matching information contained in the headers of connection-oriented or connection-less IP packets against a set of rules specified by the authorized administrator for firewalls. This header information includes source and destination host (IP) addresses, source and destination port numbers, and the transport service application protocol (TSAP) held within the data field of the IP packet. Depending upon the rule and the results of the match, the firewall either passes or drops the packet. The stateful firewall remembers the state of the connection from information gleaned from prior packets flowing on the connection and uses it to regulate current packets. The packet will be denied if the security policy is violated.

In addition to IP header information, the TOE mediates information flows on the basis of other information, such as the direction (incoming or outgoing) of the packet on any given firewall network interface. For connection-oriented transport services, the firewall either permits connections and subsequent packets for the connection or denies the connection and subsequent packets associated with the connection.

The application-inspection capabilities automate the network to treat traffic according to detailed policies based not only on port, state, and addressing information, but also on application information buried deep within the packet header. By comparing this deep-packet inspection information with corporate policies, the firewall will allow or block certain traffic. For example, it will automatically drop application traffic attempting to gain entry to the network through an open port-even if it appears to be legitimate at the user and connection levels-if a business's corporate policy prohibits that application type from being on the network.

[1] Also known as the Cisco FXOS chassis.

The TOE also provides IPsec connection capabilities. All references within this ST to "VPN" connectivity refer to the use of IPsec tunnels to secure connectivity to and/or from the TOE, for example, gateway-to-gateway[2] VPN or remote access VPN. Other uses refer to the use of IPsec connections to tunnel traffic that originates from or terminates at the TOE itself, such as for transmissions from the TOE to remote audit/syslog servers, or AAA servers, or for an additional layer of security for remote administration connections to the TOE, such as SSH or TLS connections tunneled in IPsec.

The TOE can operate in a number of modes: as a single standalone device, or in high-availability (HA) failover-pairs; with a single-context, or with multiple-contexts within each single/pair; as a transparent firewall when deployed in single-context, or with one or more contexts connected to two or many IP subnets when configured in router mode.

For management purposes, the ASDM is included. ASDM allows the TOE to be managed from a graphical user interface. Its features include:

- TLS/HTTPS encrypted sessions;
- Rapid Configuration: in-line and drag-and-drop policy editing, auto complete, configuration wizards, appliance software upgrades, and online help;
- Powerful Diagnostics: Packet Tracer, log-policy correlation, packet capture, regular expression tester, and embedded log reference;
- Real-Time Monitoring: device, firewall, content security, real-time graphing; and tabulated metrics;
- Management Flexibility: A lightweight and secure design enables remote management of multiple security appliances.

The TOE protects itself from tampering and bypass by offering only a limited and controlled set of functions at each of its physical interfaces to its environment. Communication via those interfaces is either directed at the TOE for the purpose of administration or is directed through the TOE for communication among network devices. In both cases the TOE implements a set of policies to control the services available and those services are designed to protect and ensure the secure operation of the TOE.

3.3 Physical Boundaries

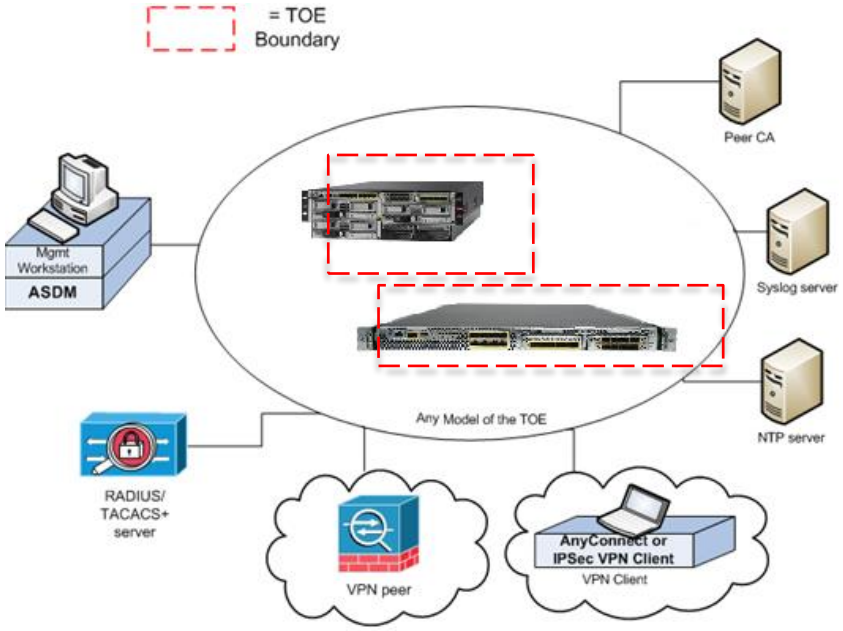
The TOE consists of one or more physical devices as specified below and includes the Cisco ASA software, which in turn includes the ASDM software. Each instantiation of the TOE has two or more network interfaces, and is able to filter IP traffic to and through those interfaces.

The TOE can optionally connect to an NTP server for clock updates. If the TOE is to be remotely administered, the management station must connect using SSHv2 (for ASA, SSH over IPsec). When ASDM is used a remote workstation with a TLS-enabled browser must be available. A syslog server can also be used to store audit records, and the syslog server must support syslog over TLS or IPsec. The TOE is able to filter connections to/from these external using its IP traffic filtering, and can encrypt traffic where necessary using TLS, SSH, and/or IPsec.

[2] This is also known as site-to-site or peer-to-peer VPN.

The following figure provides a visual depiction of an example TOE deployment. The TOE boundary is surrounded with a hashed red line.

Figure 1: Example TOE Deployment



The previous figure includes the following:

- Several examples of TOE Models
- VPN Peer (Operational Environment) or another instance of the TOE
- VPN Peer (Operational Environment) with Cisco VPN Client or AnyConnect Client
- Management Workstation (Operational Environment) with ASDM
- Remote Authentication Server (Operational Environment)
- NTP Server (Operational Environment)
- Peer CA (Operational Environment)
- Syslog server (Operational Environment)

4 Security Policy

This section summaries the security functionality of the TOE:

1. Security audit
2. Cryptographic support
3. Full Residual Information Protection
4. Identification and authentication
5. Security Management
6. Protection of the TSF
7. TOE access
8. Trusted path/channels
9. Filtering

4.1 Security audit

The TOE provides extensive auditing capabilities. The TOE can audit events related to cryptographic functionality, identification and authentication, and administrative actions. The TOE generates an audit record for each auditable event. The administrator configures auditable events, performs back-up operations, and manages audit data storage. The TOE provides the administrator with a circular audit trail or a configurable audit trail threshold to track the storage capacity of the audit trail. Audit logs are backed up over an encrypted channel to an external audit server.

4.2 Cryptographic support

The TOE provides cryptography in support of other TOE security functionality. The TOE provides cryptography in support of secure connections using IPsec and TLS, and remote administrative management via SSHv2 (for ASA, SSH over IPsec), and TLS/HTTPS. The cryptographic random bit generators (RBGs) are seeded by an entropy noise source.

4.3 Full Residual Information Protection

The TOE ensures that all information flows from the TOE do not contain residual information from previous traffic. Packets are padded with zeros. Residual data is never transmitted from the TOE.

4.4 Identification and authentication

The TOE performs two types of authentication: device-level authentication of the remote device (VPN peers) and user authentication for the authorized administrator of the TOE. Device-level authentication allows the TOE to establish a secure channel with a trusted peer. The secure channel is established only after each device authenticates the other. Device-level authentication is performed via IKE/IPsec X509v3 certificate based authentication or pre-shared key methods.

The TOE provides authentication services for administrative users wishing to connect to the TOEs secure CLI and GUI administrator interfaces. The TOE requires authorized administrators to authenticate prior to being granted access to any of the management functionality. The TOE can be configured to require a minimum password length of 15 characters as well as mandatory password complexity rules. The TOE also implements a lockout mechanism if the number of configured unsuccessful threshold has been exceeded.

The TOE provides administrator authentication against a local user database. Password-based authentication can be performed on the serial console or SSH and HTTPS interfaces. The SSHv2 interface also supports authentication using SSH keys. The TOE optionally supports use of any RADIUS AAA server (part of the IT Environment) for authentication of administrative users attempting to connect to the TOE.

4.5 Security management

The TOE provides secure administrative services for management of general TOE configuration and the security functionality provided by the TOE. All TOE administration occurs either through a secure SSHv2 (for ASA, SSH over IPsec) or TLS/HTTPS session, or via a local console connection. The TOE provides the ability to securely manage all TOE administrative users; all identification and authentication; all audit functionality of the TOE; all TOE cryptographic functionality; the timestamps maintained by the TOE; TOE configuration file storage and retrieval, and the information flow control policies enforced by the TOE including encryption/decryption of information flows for VPNs. The TOE supports an "authorized administrator" role, which equates to any account authenticated to an administrative interface (CLI or GUI, but not VPN), and possessing sufficient privileges to perform security-relevant administrative actions.

When an administrative session is initially established, the TOE displays an administrator-configurable warning banner. This is used to provide any information deemed necessary by the administrator. After a configurable period of inactivity, administrative sessions will be terminated, requiring administrators to re-authenticate.

4.6 Protection of the TSF

The TOE protects against interference and tampering by untrusted subjects by implementing identification, authentication, and access controls to limit configuration to authorized administrators. The TOE prevents reading of cryptographic keys and passwords.

Additionally TOE is not a general-purpose operating system and access to the TOE memory space is restricted to only TOE functions.

The TOE internally maintains the date and time. This date and time is used as the timestamp that is applied to audit records generated by the TOE. Administrators can update the TOE's clock manually, or can configure the TOE to use NTP to synchronize the TOE's clock with an external time source. Additionally, the TOE performs testing to verify correct operation of the appliance itself and that of the cryptographic module. Whenever any system failures occur within the TOE the TOE will cease operation.

4.7 TOE access

When an administrative session is initially established, the TOE displays an administrator-configurable warning banner. This is used to provide any information deemed necessary by the administrator. After a configurable period of inactivity, administrator and VPN client sessions will be terminated, requiring re-authentication. The TOE also supports direct connections from VPN clients, and protects against threats related to those client connections. The TOE disconnects sessions that have been idle too long, and can be configured to deny sessions based on IP, time, and day, and to NAT external IPs of connecting VPN clients to internal network addresses.

4.8 Trusted path/channels

The TOE supports establishing trusted paths between itself and remote administrators using SSHv2 for CLI access (for ASA, SSH over IPsec), and TLS/HTTPS for GUI/ASDM access. The TOE supports use of TLS and/or IPsec for connections with remote syslog servers. The TOE can use IPsec to encrypt connections with remote authentication servers (e.g. RADIUS). The TOE can establish trusted paths of peer-to-peer VPN tunnels using IPsec, and VPN client tunnels using IPsec or TLS. Note that the VPN client is in the operational environment.

4.9 Filtering

The TOE provides stateful traffic firewall functionality including IP address-based filtering (for IPv4 and IPv6) to address the issues associated with unauthorized disclosure of information, inappropriate access to services, misuse of services, disruption or denial of services, and network-based reconnaissance. Address filtering can be configured to restrict the flow of network traffic between protected networks and other attached networks based on source and/or destination IP addresses. Port filtering can be configured to restrict the flow of network traffic between protected networks and other attached networks based on the originating (source) and/or receiving (destination) port (service). Stateful packet inspection is used to aid in the performance of packet flow through the TOE and to ensure that only packets are only forwarded when they're part of a properly established session. The TOE supports protocols that can spawn additional sessions in accordance with the protocol RFCs where a new connection will be implicitly permitted when properly initiated by an explicitly permitted session. The File Transfer Protocol is an example of such a protocol, where a data connection is created as needed in response to an explicitly allowed command connection. System monitoring functionality includes the ability to generate audit messages for any explicitly defined (permitted or denied) traffic flow. TOE administrators have the ability to configure permitted and denied traffic flows, including adjusting the sequence in which flow control rules will be applied, and to apply rules to any network interface of the TOE.

The TOE also provides packet filtering and secure IPsec tunneling. The tunnels can be established between two trusted VPN peers as well as between remote VPN clients and the TOE. More accurately, these tunnels are sets of security associations (SAs). The SAs define the protocols and algorithms to be applied to sensitive packets and specify the keying material to be used. SAs are unidirectional and are established per the ESP security protocol. An authorized administrator can define the traffic that needs to be protected via IPsec by configuring access lists (permit, deny, log) and applying these access lists to interfaces using crypto map set.

5 Assumptions

The Security Problem Definition, including the assumptions, may be found in the following documents:

- Collaborative Protection Profile for Stateful Traffic Filter Firewalls, version 1.0, 27 February 2015 (FWcPP10)

- VPN Gateway Extended Package, version 2.1, 08 March 2017 (VPNGWcEP21)

That information has not been reproduced here and the FWcPP10/VPNGWcEP21 should be consulted if there is interest in that material.

The scope of this evaluation was limited to the functionality and assurances covered in the FWcPP10/VPNGWcEP21 as described for this TOE in the Security Target. Other functionality included in the product was not assessed as part of this evaluation. All other functionality provided by the devices needs to be assessed separately, and no further conclusions can be drawn about their effectiveness.

6 Clarification of Scope

All evaluations (and all products) have limitations, as well as potential misconceptions that need clarification. This text covers some of the more important limitations and clarifications of this evaluation. Note that:

- As with any evaluation, this evaluation only shows that the evaluated configuration meets the security claims made with a certain level of assurance (the assurance activities specified in the Stateful Traffic Filter Firewalls collaborative Protection Profile and the VPN Gateway Extended Package and performed by the evaluation team).
- This evaluation covers only the specific device models and software as identified in this document, and not any earlier or later versions released or in process.
- This evaluation did not specifically search for, nor attempt to exploit, vulnerabilities that were not “obvious” or vulnerabilities to objectives not claimed in the ST. The CEM defines an “obvious” vulnerability as one that is easily exploited with a minimum of understanding of the TOE, technical sophistication and resources.
- The functionality evaluated is scoped exclusively to the security functional requirements specified in the FWcPP10/VPNGWcEP21 and applicable Technical Decisions. Any additional security related functional capabilities of the TOE were not covered by this evaluation.

7 Documentation

The following documents were available with the TOE for evaluation:

- Preparative Procedures & Operational User Guide for Firepower 4100 and 9300, Version 1.0, June 27, 2017
- Cisco Adaptive Security Appliance (ASA) 9.6 Preparative Procedures & Operational User Guide for the Common Criteria Certified configuration, Version 1.0, June 27, 2017

8 IT Product Testing

This section describes the testing efforts of the developer and the Evaluation Team. It is derived from information contained in the Detailed Test Report (FWcPP10/VPNGWcEP21) for Firepower 4100 and 9300 Security Appliances, Version 0.3, September 5, 2017 (DTR).

8.1 Developer Testing

No evidence of developer testing is required in the assurance activities for this product.

8.2 Evaluation Team Independent Testing

The evaluation team verified the product according a Common Criteria Certification document and ran the tests specified in the FWcPP10/VPNGWcEP21 including the tests associated with optional requirements.

9 Evaluated Configuration

The evaluated configuration consists of the following series and models

TOE Configuration	Hardware Configuration	Software Version
FP 4110 FP 4120 FP 4140 FP 4150	The Firepower 4100 chassis contains the following components: • Network module 1 with eight fixed SFP+ ports (1G and 10G connectivity), the management port, RJ-45 console port, Type A USB port, PID and S/N card, locator indicator, and power switch • Two network modules slots (network module 2 and network module 3) • Two (1+1) redundant power supply module slots • Six fan module slots • Two SSD bays	FXOS release 2.0.1 and ASA release 9.6.2
FP 9300	The Firepower 9300 chassis contains the following components: • Firepower 9300 Supervisor—Chassis supervisor module ◦ Management port ◦ RJ-45 console port ◦ Type A USB port ◦ Eight ports for 1 or 10 Gigabit Ethernet SFPs (fiber and copper) • Firepower 9300 Security Module—Up to three security modules ◦ 800 GB of solid state storage per security blade (2 x 800 GB solid state drives running RAID1)	FXOS release 2.0.1 and ASA release 9.6.2

	• Firepower Network Module—Two single-wide network modules or one double-wide network module • Two power supply modules (AC or DC) • Four fan modules	
ASDM	Included on all ASA 9.6.2	Release 7.6

10 Results of the Evaluation

The results of the assurance requirements are generally described in this section and are presented in detail in the proprietary ETR. The reader of this document can assume that all assurance activities and work units received a passing verdict.

A verdict for an assurance component is determined by the resulting verdicts assigned to the corresponding evaluator action elements. The evaluation was conducted based upon CC version 3.1 rev 4 and CEM version 3.1 rev 4. The evaluation determined the Firepower 4100 and 9300 Security Appliances TOE to be Part 2 extended, and to meet the SARs contained in the FWcPP10/VPNGWcEP21.

10.1 Evaluation of the Security Target (ASE)

The evaluation team applied each ASE CEM work unit. The ST evaluation ensured the ST contains a description of the environment in terms of policies and assumptions, a statement of security requirements claimed to be met by the Cisco Firepower 4100 and 9300 Security Appliances products that are consistent with the Common Criteria, and product security function descriptions that support the requirements.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.2 Evaluation of the Development (ADV)

The evaluation team applied each ADV CEM work unit. The evaluation team assessed the design documentation and found it adequate to aid in understanding how the TSF provides the security functions. The design documentation consists of a functional specification contained in the Security target and Guidance documents. Additionally, the evaluator performed the assurance activities specified in the FWcPP10/VPNGWcEP21 related to the examination of the information contained in the TSS.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.3 Evaluation of the Guidance Documents (AGD)

The evaluation team applied each AGD CEM work unit. The evaluation team ensured the adequacy of the user guidance in describing how to use the operational TOE. Additionally, the evaluation team ensured the adequacy of the administrator guidance in describing how to securely administer the TOE. All of the guides were assessed during the design and testing phases of the evaluation to ensure they were complete.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.4 Evaluation of the Life Cycle Support Activities (ALC)

The evaluation team applied each ALC CEM work unit. The evaluation team found that the TOE was identified.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.5 Evaluation of the Test Documentation and the Test Activity (ATE)

The evaluation team applied each ATE CEM work unit. The evaluation team ran the set of tests specified by the assurance activities in the FWcPP10/VPNGWcEP21 and recorded the results in a Test Report, summarized in the AAR.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.6 Vulnerability Assessment Activity (VAN)

The evaluation team applied each AVA CEM work unit. The vulnerability analysis is in the Detailed Test Report (DTR) prepared by the evaluator. The vulnerability analysis includes a public search for vulnerabilities. The public search for vulnerabilities did not uncover any residual vulnerability.

The evaluator searched the National Vulnerability Database (https://web.nvd.nist.gov/view/vuln/search) and Vulnerability Notes Database (http://www.kb.cert.org/vuls/) with the following search terms: “firepower”, “FMC”, “CiscoSSL”, “auditd”, “syslog-ng”, “OpenSSH”, “TLS”.

The validator reviewed the work of the evaluation team, and found that sufficient evidence and justification was provided by the evaluation team to confirm that the evaluation was

conducted in accordance with the requirements of the CEM, and that the conclusion reached by the evaluation team was justified.

10.7 Summary of Evaluation Results

The evaluation team's assessment of the evaluation evidence demonstrates that the claims in the ST are met. Additionally, the evaluation team's testing also demonstrated the accuracy of the claims in the ST.

The validation team's assessment of the evidence provided by the evaluation team is that it demonstrates that the evaluation team followed the procedures defined in the CEM, and correctly verified that the product meets the claims in the ST.

11 Validator Comments/Recommendations

The validation team suggests that the consumer pay particular attention to the installation guidance to ensure the devices are placed into the evaluated configuration.

As was noted in the Clarification of Scope section of this report, the devices provide more functionality than was covered by the evaluation. Only the functionality claimed in the SFR's in the Security Target was evaluated. All other functionality provided by the devices needs to be assessed separately and no further conclusions should be drawn as to their effectiveness, nor can any claims be made relative to their security based upon this evaluation.

12 Annexes

Not applicable

13 Security Target

The Security Target is identified as: *Cisco Firepower 4100 and 9300 Security Appliances Security Target, Version 1.0, September 11, 2017*.

14 Glossary

The following definitions are used throughout this document:

- **Common Criteria Testing Laboratory (CCTL)**. An IT security evaluation facility accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) and approved by the CCEVS Validation Body to conduct Common Criteria-based evaluations.
- **Conformance**. The ability to demonstrate in an unambiguous way that a given implementation is correct with respect to the formal model.
- **Evaluation**. The assessment of an IT product against the Common Criteria using the Common Criteria Evaluation Methodology to determine whether or not the claims made are justified; or the assessment of a protection profile against the Common

Criteria using the Common Evaluation Methodology to determine if the Profile is complete, consistent, technically sound and hence suitable for use as a statement of requirements for one or more TOEs that may be evaluated.

- **Evaluation Evidence**. Any tangible resource (information) required from the sponsor or developer by the evaluator to perform one or more evaluation activities.
- **Feature.** Part of a product that is either included with the product or can be ordered separately.
- **Target of Evaluation (TOE)**. A group of IT products configured as an IT system, or an IT product, and associated documentation that is the subject of a security evaluation under the CC.
- **Validation**. The process carried out by the CCEVS Validation Body leading to the issue of a Common Criteria certificate.
- **Validation Body**. A governmental organization responsible for carrying out validation and for overseeing the day-to-day operation of the NIAP Common Criteria Evaluation and Validation Scheme.

15 Bibliography

The Validation Team used the following documents to produce this Validation Report:

[1] Common Criteria for Information Technology Security Evaluation: Part 1: Introduction and General Model, Version 3.1, Revision 4, September 2012.

[2] Common Criteria for Information Technology Security Evaluation Part 2: Security functional components, Version 3.1, Revision 4, September 2012.

[3] Common Criteria for Information Technology Security Evaluation Part 3: Security assurance components, Version 3.1 Revision 4, September 2102.

[4] Collaborative Protection Profile for Stateful Traffic Filter Firewalls, version 1.0, 27 February 2015 (FWcPP10) and VPN Gateway Extended Package, version 2.1, 08 March 2017 (VPNGWcEP21)

[5] Cisco Firepower 4100 and 9300 Security Appliances Security Target, Version 1.0, September 11, 2017 (ST)

[6] Assurance Activity Report (FWcPP10/VPNGWcEP21) for Firepower 4100 and 9300 Security Appliances, Version 0.5, September 11, 2017 (AAR)

[7] Detailed Test Report (FWcPP10/VPNGWcEP21) for Firepower 4100 and 9300 Security Appliances, Version 0.3, September 5, 2017 (DTR)

[8] Evaluation Technical Report for Cisco Firepower 4100 and 9300 Security Appliances, Version 0.4, September 11, 2017 (ETR)