

**National Information Assurance Partnership  
Common Criteria Evaluation and Validation Scheme**



**Validation Report  
Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300  
Series with FMC/FMCv**

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# 1 Executive Summary

This report documents the assessment by the National Information Assurance Partnership (NIAP) Validation team of the evaluation of the Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv solution provided by Cisco Systems, Inc. It presents the evaluation results, their justifications, and the conformance results. This Validation Report (VR) is not an endorsement of the Target of Evaluation (TOE) 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 Columbia, MD, United States of America, and was completed in May 2021. 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 *PP-Configuration for Network Devices, Stateful Traffic Filter Firewalls, and Virtual Private Network (VPN) Gateways*, Version 1.1, 1 July 2020, which includes the *collaborative Protection Profile for Network Devices*, Version 2.2e, 23 March 2020, *PP-Module for Stateful Traffic Filter Firewalls*, Version 1.4 + Errata 20200625, 25 June 2020, and the *PP-Module for Virtual Private Network (VPN) Gateways*, Version 1.1, 18 June 2020.

The TOE is the Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv. The TOE has been evaluated at a NIAP approved CCTL using the Common Methodology for IT Security Evaluation (Version 3.1, Rev 5) for conformance to the Common Criteria for IT Security Evaluation (Version 3.1, Rev 5). This VR 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 (CCEVS) and the conclusions of the testing laboratory in the ETR 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 ETR are consistent with the evidence produced.

The technical information included in this report was obtained from the *Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv Security Target*, Version 1.6, May 24, 2021 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 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 (PP) to which the product is conformant.
- The organizations and individuals participating in the evaluation.

**Table 1: Evaluation Identifiers**

Item	Identifier
<b>Evaluation Scheme</b>	United States NIAP Common Criteria Evaluation and Validation Scheme
<b>TOE</b>	Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv
<b>Protection Profile</b>	(Specific models identified in Section 8)  <i>PP-Configuration for Network Devices, Stateful Traffic Filter Firewalls, and Virtual Private Network (VPN) Gateways, Version 1.1, 1 July 2020, which includes the collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020, PP-Module for Stateful Traffic Filter Firewalls, Version 1.4 + Errata 20200625, 25 June 2020, and the PP-Module for Virtual Private Network (VPN) Gateways, Version 1.1, 18 June 2020</i>
<b>ST</b>	<i>Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv Security Target, Version 1.6, May 24, 2021</i>
<b>Evaluation Technical Report</b>	Evaluation Technical Report for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv, Version 0.3, May 25, 2021
<b>CC Version</b>	Common Criteria for Information Technology Security Evaluation, Version 3.1, rev 5
<b>Conformance Result</b>	CC Part 2 extended, CC Part 3 conformant
<b>Sponsor</b>	Cisco Systems, Inc.
<b>Developer</b>	Cisco Systems, Inc.
<b>Common Criteria Testing Lab (CCTL)</b>	Gossamer Security Solutions, Inc. Columbia, MD
<b>CCEVS Validators</b>	Farid Ahmed, John Butterworth, Sheldon Durrant, Jenn Dotson, Ted Farnsworth, Randy Heimann, Peter Kruus, Lisa Mitchell, Linda Morrison, Clare Olin

### 3 Architectural Information

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

The Cisco Firepower 4100 and 9300 security appliances are purpose-built, scalable platforms with firewall and VPN capabilities provided by Firepower Threat Defense (FTD) software that is running on the Firepower eXtensible Operating System (FXOS). The TOE includes one or more Firepower appliances (running FTD and FXOS software) that are centrally managed by a Firepower Management Center (FMC) appliance, and together the FMC and Firepower (running FTD/FXOS) appliances form the distributed TOE.

#### 3.1 TOE Evaluated Configuration

The evaluated configuration consists of the following devices:

TOE Configuration	Hardware Configurations	Software Version
FP 4110 FP 4115 FP 4120 FP 4125 FP 4140 FP 4145 FP 4150	<ul style="list-style-type: none"> <li>• The Firepower 4100 chassis contains the following components:                             <ul style="list-style-type: none"> <li>○ 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</li> <li>○ Two network modules slots (network module 2 and network module 3)</li> <li>○ Two (1+1) redundant power supply module slots</li> <li>○ Six fan module slots</li> <li>○ Two SSD bays</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• FXOS release 2.6 and FTD release 6.4</li> </ul>
FP 9300	<ul style="list-style-type: none"> <li>• The Firepower 9300 chassis contains the following components:                             <ul style="list-style-type: none"> <li>○ Firepower 9300 Supervisor—Chassis supervisor module                                     <ul style="list-style-type: none"> <li>○ Management port</li> <li>○ RJ-45 console port</li> <li>○ Type A USB port</li> <li>○ Eight ports for 1 or 10 Gigabit Ethernet SFPs (fiber and copper)</li> </ul> </li> <li>○ Firepower 9300 Security Module—Up to three security modules                                     <ul style="list-style-type: none"> <li>○ 800 GB of solid state storage per security blade (2 x 800 GB solid state drives running RAID1)</li> </ul> </li> <li>○ Firepower Network Module—Two single-wide network modules or one double-wide network module</li> <li>○ Two power supply modules (AC or DC)</li> <li>○ Four fan modules</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• FXOS release 2.6 and FTD release 6.4</li> </ul>

TOE Configuration	Hardware Configurations	Software Version
FMC1000-K9 FMC2500-K9 FMC4500-K9 FMC1600-K9 FMC2600-K9 FMC4600-K9	<ul style="list-style-type: none"> <li>The FMC models all run the same software image, but have differing hardware characteristics which affect only non-security relevant functionality such as throughput, processing speed, number and type of network connections supported, number of concurrent connections supported and amount of storage.</li> </ul>	<ul style="list-style-type: none"> <li>FMC release 6.4</li> </ul>
FMCv	<ul style="list-style-type: none"> <li>FMCv running on ESXi 6.0 or 6.5 on the Unified Computing System (UCS) UCSB-B200-M4, UCSC-C220-M4S, UCSC-C240-M4SX, UCSC-C240-M4L, UCSB-B200-M5, UCSC-C220-M5, UCSC-C240-M5, UCS-E160S-M3 and UCS-E180D-M3</li> </ul>	<ul style="list-style-type: none"> <li>FMCv release 6.4</li> </ul>

### 3.2 TOE Architecture

The TOE is comprised of both software and hardware. The models are comprised of the following: FP 4110, 4115, 4120, 4125, 4140, 4145, 4150, 9300 and Firepower Management Center (FMC) (FMC1000-K9, FMC2500-K9, FMC4500-K9, FMC1600-K9, FMC2600-K9, FMC4600-K9 and FMCv). The software is comprised of the FTD software image Release 6.4 (running directly on a 4100 series, or on a security module in a 9300), FXOS 2.6 (running on 4100 series or on the Supervisor blade of a 9300), and FMC (or FMCv) version 6.4.

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 FTD image runs on the FXOS 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.

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.

The Firepower eXtensible Operating System (FXOS) is used to manage the FTD. All the platforms run an instance of FXOS that provides management of the hardware and loads FTD. The 4k/9k chassis runs on its supervisor engine a fully featured build of FXOS referred to as the Management Input Output (MIO) build of FXOS. A separate, more limited build of FXOS runs on any Security Module (SM) installed within the chassis (the Firepower 4100 models contain one fixed Security Module, while the Firepower 9300 chassis supports up to three removable Security Modules). The SM hardware is a form of Cisco UCS server (based on a UCS B-series blade server), and as such it includes a Cisco Integrated Management Controller (CIMC), which is firmware running on a CIMC daughterboard on the server blade. The FTD software runs on FXOS on the SM. The FXOS software running on the chassis supervisor maintains a list of administrative accounts that are able to log in to the supervisor via CLI or WebUI/GUI, called Firepower Chassis Manager (FCM). All administrative accounts can be

managed via both CLI and GUI, and the same authentication mechanisms can be used at the CLI or GUI.

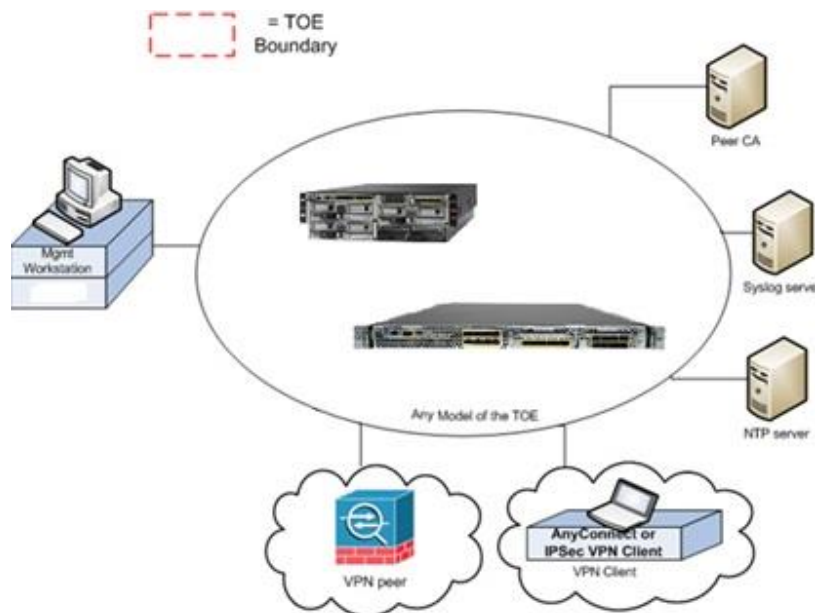
The underlying Cisco UCS hardware platforms within the TOE have common hardware characteristics. These differing characteristics affect only non-TSF relevant functionality (such as throughput, processing speed, number and type of network connections supported, number of concurrent connections supported, and amount of storage) and therefore support security equivalency of the FMCv in terms of hardware.

### 3.3 Physical Boundaries

The TOE consists of one or more physical devices as specified in Section 3.1 and includes the Cisco FTD, FMC, and FXOS 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 via an IPsec tunnel for clock updates. If the TOE is to be remotely administered, the management station must connect using SSHv2. When web UI 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 entities using its IP traffic filtering, and can encrypt traffic where necessary using TLS, SSH, and/or IPsec. The communication between the FMC software and FTD in Firepower appliance is protected by TLSv1.2. Digital certificates from a CA server are obtained when certificates are used as the authentication method for VPN connection. The TOE protects peer-to-peer VPN connections between itself and VPN peers (connections can be initiated by the TOE or by the peer) using IPsec.

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





The previous figure includes the following:

- TOE components (at least one Firepower 4K/9K appliance (with FTD and FXOS) and FMC)
- VPN Peer (Operational Environment) or another instance of the TOE
- VPN Client (Operational Environment) with Cisco VPN Client or AnyConnect Client
- Management Workstation (Operational Environment)
- NTP Server (Operational Environment)
- CA Server (Operational Environment)
- Syslog server (Operational Environment)

## 4 Security Policy

This section summarizes the security functionality of the TOE:

1. Security audit
2. Communication
3. Cryptographic support
4. Full Residual Information Protection
5. Identification and authentication
6. Security management
7. Protection of the TSF
8. TOE access
9. Trusted path/channels
10. 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 where the TOE overwrites the oldest audit record with the newest audit record when space is full. Audit logs are backed up over an encrypted channel to an external audit server.

### 4.2 Communication

The TOE allows authorized administrators to control which FTD device is managed by the FMC. This is performed through a registration process over TLS. The administrator can also de-register a FTD device if he or she wish to no longer manage it through the FMC.

### 4.3 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, and TLS/HTTPS. The cryptographic random bit generators (RBGs) are seeded by an entropy noise source.

## 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 when the number of unsuccessful authentication attempts exceeds the configured threshold.

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.

## 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 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; 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 administrator roles to limit configuration to authorized administrators. The TOE prevents reading of cryptographic keys and passwords.

Additionally, the 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 are used as the timestamp that is applied to audit records generated by the TOE. Administrators can update the TOE's clock manually via FMC or FXOS or can configure the TOE (FXOS) to use NTP via an IPsec tunnel 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, and TLS/HTTPS for GUI access. The TOE supports use of TLS and/or IPsec for connections with remote syslog servers and use of IPsec for connections with NTP servers. 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 are 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 & Clarification of Scope

### *Assumptions*

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

- *PP-Configuration for Network Devices, Stateful Traffic Filter Firewalls, and Virtual Private Network (VPN) Gateways, Version 1.1, 1 July 2020, which includes the collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020, PP-Module for Stateful Traffic Filter Firewalls, Version 1.4 + Errata 20200625, 25 June 2020, and the PP-Module for Virtual Private Network (VPN) Gateways, Version 1.1, 18 June 2020*

That information has not been reproduced here and the NDcPP22e/STFFW14E/VPNGW11 should be consulted if there is interest in that material.

### *Clarification of scope*

The scope of this evaluation was limited to the functionality and assurances covered in the NDcPP22e/STFFW14E/VPNGW11 and applicable Technical Decisions as described for this TOE in the ST. 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.

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 collaborative Protection Profile for Network Devices and the VPNGW and FW PP-Modules 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.

## 6 Documentation

The following documents were available with the TOE for evaluation:

- *FTD v6.4 on Firepower 4100 and 9300 Series with FMC and FMCv Common Criteria Supplemental User Guide*, Version 1.1, May 20, 2021.
- *Cisco FXOS 2.6 on Firepower 4100/9300 for FTD Preparative Procedures & Operational User Guide for the Common Criteria Certified Configuration*, Version 1.1, May 24, 2021
- *FTD v6.4 on Firepower 4100 and 9300 Series with FMC and FMCv Common Criteria User Guide Supplement IPS & VPN Functionality*, Version 0.7, May 20, 2021

## 7 IT Product Testing

This section describes the testing efforts of the developer and the Evaluation team. It is derived from information contained in the *Assurance Activity Report (NDcPP22e/STFFW14E/VPNGW11) for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv*, Version 0.3, May 25, 2021 (AAR).

### 7.1 Developer Testing

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

### 7.2 Evaluation Team Independent Testing

The Evaluation team verified the product according to the Common Criteria Certification document and ran the tests specified in the NDcPP22e/STFFW14E/VPNGW11 including the tests associated with optional requirements.

## 8 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 5 and CEM version 3.1 rev 5. The evaluation determined the FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC and FMCv TOE to be Part 2 extended, and to meet the SARs contained in the NDcPP22e/STFFW14E/VPNGW11.

### 8.1 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 FTD (NGFW) 6.4 on Firepower 4100 and

9300 Series with FMC and FMCv products that are consistent with the Common Criteria, and product security function descriptions that support the requirements.

The Validation team 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.

## **8.2 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 ST and Guidance documents. Additionally, the evaluator performed the assurance activities specified in the NDcPP22e/STFFW14E/VPNGW11 related to the examination of the information contained in the TSS.

The Validation team 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.

## **8.3 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 Validation team 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.

## **8.4 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 Validation team 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.

## 8.5 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 NDcPP22e/STFFW14E/VPNGW11 and recorded the results in a Test Report, summarized in the AAR.

The Validation team 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.

## 8.6 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/vuln/search>)
- Vulnerability Notes Database (<http://www.kb.cert.org/vuls/>)
- Rapid7 Vulnerability Database (<https://www.rapid7.com/db/vulnerabilities>)
- Tipping Point Zero Day Initiative (<http://www.zerodayinitiative.com/advisories> )
- Exploit / Vulnerability Search Engine (<http://www.exploitsearch.net>)
- SecurITeam Exploit Search (<http://www.securiteam.com>)
- Tenable Network Security (<http://nessus.org/plugins/index.php?view=search>)
- Offensive Security Exploit Database (<https://www.exploit-db.com/>)

The search was performed on May 13, 2021 with the following search terms:

- "ftd 6.4"
- "firepower threat defense "
- "cisco ssl fom"
- "Cisco Security Crypto Virtual"
- "fmc fom"
- "FxoS 2.6"
- "Firepower management center"
- "openssh"
- "Intel Xeon E5-2600"
- "Intel Xeon Scalable"

- "Intel Xeon E3-1100"
- "Intel Xeon E5-2600"
- "Intel Xeon D"
- "firepower 4100"
- "firepower 9300"

The Validation team 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.

## 8.7 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.

## 9 Validator Comments/Recommendations

The Validation team suggest that the consumer pay particular attention to the evaluated configuration of the TOE. As stated in the Clarification of Scope, the evaluated functionality is scoped exclusively to the security functional requirements specified in the ST, and the only evaluated functionality was that which was described by the SFRs claimed in the Security Target. All other functionality provided by the TOE needs to be assessed separately and no further conclusions can be drawn about its effectiveness.

Consumers employing the TOE must follow the configuration instructions provided in the Configuration Guidance documentation listed in Section 6 to ensure the evaluated configuration is established and maintained.

The Validation team notes that, while the product allows for the inclusion of numbers in password composition, the FXOS password composition rules do not require a number be included, which differs from other TOE components.

## 10 Annexes

Not applicable

## 11 Security Target

The Security Target is identified as: *Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv Security Target*, Version 1.6, May 24, 2021.



## 12 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.

## 13 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 5, April 2017.
- [2] *Common Criteria for Information Technology Security Evaluation Part 2: Security functional components*, Version 3.1, Revision 5, April 2017.
- [3] *Common Criteria for Information Technology Security Evaluation Part 3: Security assurance components*, Version 3.1 Revision 5, April 2017.
- [4] *PP-Configuration for Network Devices, Stateful Traffic Filter Firewalls, and Virtual Private Network (VPN) Gateways*, Version 1.1, 1 July 2020, which includes *collaborative Protection Profile for Network Devices*, Version 2.2e, 23 March 2020, *PP-Module for Stateful Traffic Filter Firewalls*, Version 1.4 + Errata 20200625, 25 June

- 2020, and the *PP-Module for Virtual Private Network (VPN) Gateways*, Version 1.1, 18 June 2020
- [5] *Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv Security Target*, Version 1.6, May 24, 2021 (ST).
  - [6] *Assurance Activity Report (NDcPP22e/STFFW14E/VPNGW11) for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv*, Version 0.3, May 25, 2021 (AAR).
  - [7] *Detailed Test Report (NDcPP22e) for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC and FMCv*, Version 0.3, May 25, 2021 (DTR).
  - [8] *Detailed Test Report (STFFW14E/VPNGW11) for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC and FMCv*, Version 0.3, May 25, 2021 (DTR).
  - [9] *Evaluation Technical Report for Cisco FTD (NGFW) 6.4 on Firepower 4100 and 9300 Series with FMC/FMCv*, Version 0.3, May 25, 2021 (ETR)