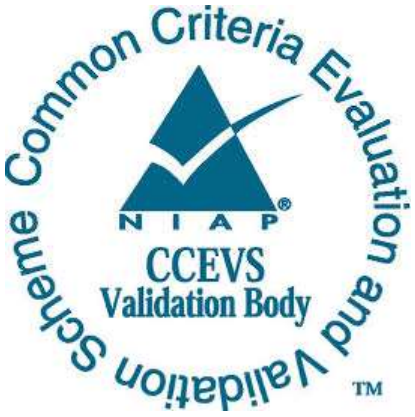
National Information Assurance Partnership

Common Criteria Evaluation and Validation Scheme



Validation Report

Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12

Report Number: **CCEVS-VR-VID11466-2024**
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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 Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 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 Columbia, MD, United States of America, and was completed in August 2024. 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 and MACsec Ethernet Encryption, Version 1.0, 29 March 2023 (CFG_NDcPP-MACsec_v1.0) which includes the Base PP: collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020 (NDcPP22e) with the PP-Module for MACsec Ethernet Encryption, Version 1.0, 02 March 2023 (MACSEC10).

The Target of Evaluation (TOE) is the Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12.

The 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 5) for conformance to the Common Criteria for IT Security Evaluation (Version 3.1, Rev 5). 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 Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 Security Target, version 0.6, August 6, 2024 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 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 Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 (Specific models identified in Section 3.2)
Protection Profile	• PP-Configuration for Network Devices and MACsec Ethernet Encryption, Version 1.0, 29 March 2023 (CFG_NDcPP-MACsec_v1.0) o Base PP: collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020 (NDcPP22e) o PP-Module for MACsec Ethernet Encryption, Version 1.0, 02 March 2023 (MACSEC10)
ST	Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 Security Target, version 0.6, August 6, 2024
Evaluation Technical Report	Evaluation Technical Report for Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12, version 0.2, August 6, 2024
CC Version	Common Criteria for Information Technology Security Evaluation, Version 3.1, rev 5
Conformance Result	CC Part 2 extended, CC Part 3 conformant
Sponsor	Cisco Systems, Inc.
Developer	Cisco Systems, Inc.

Item	Identifier
Common Criteria Testing Lab (CCTL)	Gossamer Security Solutions, Inc. Columbia, MD
CCEVS Validators	James Donndelinger Fernando Guzman Patrick Mallet, Ph.D. Mike Quintos

3 Architectural Information

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

The TOE is the Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 all running Internetworking Operating System (IOS)-XE 17.12. The TOE is a purpose-built, switching and routing platform with Open System Interconnection (OSI) Layer2 and Layer3 traffic filtering capabilities. The TOE also supports Media Access Control Security (MACsec) encryption for switch-to-switch (inter-network device) security.

3.1 TOE Description

The TOE is comprised of both software and hardware. The Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches that comprises the TOE has common hardware characteristics which affect only non-TSF relevant functions of the switches (such as throughput and amount of storage) and therefore support security equivalency of the switches in terms of hardware. The Cisco Catalyst Industrial Ethernet IE9300 Rugged Series Switches primary features are listed in Section 1.4 of the ST.

The software is comprised of the Universal Cisco Internet Operating System (IOS) XE software image Release IOS-XE 17.12. Cisco IOS-XE is a Cisco-developed highly configurable proprietary operating system that provides for efficient and effective routing and switching. Although IOS-XE performs many networking functions, this TOE only addresses the functions that provide for the security of the TOE itself.

3.2 TOE Evaluated Configuration

The evaluated configuration consists of the hardware appliances listed below and software IOS-XE-17.12 when configured in accordance with the documentation specified in section 6.

- IE-9310-26S2C
- IE-9320-26S2C
- IE-9320-22S2C4X
- IE-9320-24T4X
- IE-9320-24P4X
- IE-9320-24P4S
- IE-9320-16P8U4X

3.3 TOE Architecture

The TOE consists of one or more physical devices and includes the Cisco IOS-XE software. The TOE has two or more network interfaces and is connected to at least one internal and one external network. The Cisco IOS-XE configuration determines how packets are handled to and from the TOE's network interfaces. The switch configuration will determine how traffic flows received on an interface will be handled. Typically, packet flows are passed through the internetworking device and forwarded to their configured destination.

In addition, if the Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches are to be remotely administered, then the management workstation must be connected to an internal network. SSHv2 is used to securely connect to the switch. An external syslog server is used to store audit records, where IPsec is used to secure the transmission of the records. If these servers are used, they must be attached to the internal (trusted) network. The internal (trusted) network is meant to be separated effectively from unauthorized individuals and user traffic, one that is in a controlled environment where implementation of security policies can be enforced.

3.4 Physical Boundaries

The TOE is a hardware and software solution. The network on which they reside is considered part of the environment. The software is pre-installed and is comprised of the Cisco IOS-XE software image Release 17.12.

4 Security Policy

This section summaries the security functionality of the TOE:

1. Security audit
2. Cryptographic support
3. Identification and authentication
4. Security management
5. Protection of the TSF
6. TOE access
7. Trusted path/channels

4.1 Security audit

The Cisco Catalyst IE9300 Rugged Series Switches provide extensive auditing capabilities. The TOE generates a comprehensive set of audit logs that identify specific TOE operations. For each event, the TOE records the date and time of each event, the type of event, the subject identity, and the outcome of the event.

Auditable events include:

- failure on invoking cryptographic functionality such as establishment, termination and failure of cryptographic session establishments and connections
- creation and update of Secure Association Key

- modifications to the group of users that are part of the Authorized Administrator roles
- all use of the user identification mechanism
- any use of the authentication mechanism
- Administrator lockout due to excessive authentication failures
- any change in the configuration of the TOE
- changes to time
- initiation of TOE update
- indication of completion of TSF self-test
- maximum sessions being exceeded
- termination of a remote session
- attempts to unlock a termination session
- initiation and termination of a trusted channel

The TOE is configured to transmit its audit messages to an external syslog server. Communication with the syslog server is protected using IPsec and the TOE can determine when communication with the syslog server fails. If that should occur, the TOE will store all audit records locally and when the connection to the remote syslog server is restored, all stored audit records will be transmitted to the remote syslog server.

The audit logs can be viewed on the TOE using the appropriate IOS-XE 17.12 commands. The records include the date/time the event occurred, the event/type of event, the user associated with the event, and additional information of the event and its success and/or failure. The TOE does not have an interface to modify audit records, though there is an interface available for the Authorized Administrator to clear audit data stored locally on the TOE.

4.2 Cryptographic support

The TOE provides the cryptography to support all security functions. All algorithms claimed have Cryptographic Algorithm Validation Program (CAVP) certificates.

The TOE leverages the IOS Common Cryptographic Module (IC2M), firmware version Rel5a (CAVP cert. #A1462). The IOS software calls the IC2M Rel5a cryptographic module that is validated for conformance to the requirements of Federal Information Processing Standards (FIPS) 140-2 Level 1.

The TOE supports MACsec using the proprietary UAPD MSC MACsec embedded in ASICs v1.1 (CAVP Cert. #4848).

The TOE provides cryptographic support for IPsec, which is used to secure the session between the TOE and the authentication servers.

The TOE authenticates and encrypts packets between itself and a MACsec peer. The MACsec Key Agreement (MKA) Protocol provides the required session keys and manages the required encryption keys to protect data exchanged by the peers.

4.3 Identification and authentication

The TOE performs two types of authentication: device-level authentication of the remote device (TOE 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 mutual authentication. The IKE phase authentication for the IPsec communication channel between the TOE and authentication server and between the TOE and syslog server is considered part of the Identification and Authentication security functionality of the TOE.

The TOE provides authentication services for administrative users to connect to the TOE's secure Command Line Interface (CLI) Administrator interface. 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 provides Administrator authentication against a local user database. Password-based authentication can be performed on the local serial console or SSHv2 interfaces. The SSHv2 interface also supports authentication using SSH keys. The TOE supports use of a RADIUS AAA server (part of the IT Environment) for authentication of administrative users attempting to connect to the TOE's CLI. The connection to the remote authentication server is secured using IPsec.

The TOE also provides an automatic lockout when a user attempts to authenticate and enters invalid information. When the threshold for a defined number of failed authentication attempts has exceeded the configured allowable attempts, the user is locked out until an Authorized Administrator can reenable the user account.

The TOE uses X.509v3 certificates as defined by RFC 5280 to support authentication for IPsec connections.

4.4 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 session or via a local serial console connection. The TOE provides the ability to securely manage:

- Administration of the TOE locally and remotely
- Configuration of warning and consent access banners
- Configuration of session inactivity thresholds
- Updates of the TOE software
- Configuration of authentication failures
- Configuration of the audit functions of the TOE
- Configuration of the TOE provided services
- Configuration of the cryptographic functionality of the TOE
- Generate, install, and manage Pre-Shared Key (PSK)
- Manage the Key Server, Connectivity Association Key (CAK) and MKA participants

- Configure lockout time interval for excessive authentication failures

The TOE supports two separate Administrator roles: non-privileged Administrator and privileged Administrator. Only the privileged Administrator can perform the above security relevant management functions. The privileged Administrator is the Authorized Administrator of the TOE who can enable, disable, determine, and modify the behavior of the security functions of the TOE as described in the ST.

4.5 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, Cisco IOS-XE is not a general-purpose operating system and access to Cisco IOS-XE memory space is restricted to only Cisco IOS-XE functions.

The TOE can verify any software updates prior to the software updates being installed on the TOE to avoid the installation of unauthorized software.

The TOE detects replay of information received via secure channels (MACsec). The detection is applied to network packets that terminate at the TOE, such as trusted communications between the TOE and an IT entity (e.g., MACsec peer). If replay is detected, the packets are discarded.

The TOE internally maintains the date and time. This date and time information is used as the timestamp that is applied to audit records generated by the TOE. The TOE provides the Authorized Administrators the capability to update the TOE's clock manually to maintain a reliable timestamp.

Finally, the TOE performs testing to verify correct operation of the TOE itself and that of the cryptographic module.

4.6 TOE access

The TOE can terminate inactive sessions after an Authorized Administrator configurable time-period. Once a session has been terminated, the TOE requires the user to re-authenticate to establish a new session.

The TOE can also display an Authorized Administrator specified banner on the CLI management interface prior to allowing any administrative access to the TOE.

4.7 Trusted path/channels

The TOE allows a trusted path to be established to itself from remote Administrators over SSHv2 and initiates outbound IPsec trusted channels to transmit audit messages to remote syslog servers. In addition, IPsec is used as a trusted channel between the TOE and the remote authentication servers.

The TOE supports MACsec secured trusted channels between itself and MACsec peers.

5 Assumptions & Clarification of Scope

Assumptions

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

- collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020 (NDcPP22e)
- PP-Module for MACsec Ethernet Encryption, Version 1.0, 02 March 2023 (MACSEC10)

That information has not been reproduced here and the NDcPP22e/MACsec10 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 NDcPP22e/MACsec10 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.

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 collaborative Protection Profile for Network Devices and the MACsec Module 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.
- Apart from the Admin Guide, additional customer documentation for the specific MACsec Ethernet Encryption models was not included in the scope of the evaluation and therefore should not be relied upon when configuring or operating the device as evaluated.
- 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 NDcPP22e/MACsec10 and applicable Technical Decisions. Any additional security related functional capabilities of the TOE were not covered by this evaluation.

6 Documentation

The following document was available with the TOE for evaluation:

- Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 CC Configuration Guide, Version 0.5, June 20, 2024

Any additional customer documentation provided with the product, or that is available online was not included in the scope of the evaluation and therefore should notbe relied upon when configuring or operating the device as evaluated.

To use the product in the evaluated configuration, the product must be configured as specified in the Guidance Documentation listed above. Consumers are encouraged to download the configuration guides from the NIAP website to ensure the device is configured as evaluated.

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 proprietary Detailed Test Report for Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12, Version 0.2, August 6, 2024 (DTR), as summarized in Section 3.4 of the evaluation Assurance Activity Report (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 a Common Criteria Certification document and ran the tests specified in the NDcPP22e/MACsec10 including the tests associated with optional requirements. The AAR identifies the tested device in Section 1.2. A list of test tools and diagram of the test environment is provided in Section 3.4.

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 Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 TOE to be Part 2 extended, and to meet the SARs contained in the NDcPP22e/MACsec10.

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 Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 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.

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 Security Target and Guidance documents. Additionally, the evaluator performed the assurance activities specified in the NDcPP22e/MACsec10 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.

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 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.

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 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.

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/MACsec10 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.

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 search was performed on August 5, 2024, and a summary is included in Section 3.5 of the AAR. 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: “TCP”, “SSH”, “IPsec”, “IKE”, “MACsec”, “MACsec Controller”, “MSC”, “IC2M”, “IC2M Rel5a”, “IOS Common Cryptographic Module”, “Cisco Catalyst Industrial Ethernet”, “IE-9310”, “IE-9320”, “Radius”, “IOS-XE 17.12”, “Cisco IOS XE 17.12 “, “CrayCore CPU”, “DopplerGS ASIC”, “ARMv8 Cortex A53”.

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.

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 notes that the evaluated configuration is dependent upon the TOE being configured per the evaluated configuration instructions in the guides listed in Section 6. No other versions of the TOE and software, either earlier or later were evaluated. Please note that the functionality evaluated is scoped exclusively to the security functional requirements specified in the Security Target. Other functionality included in the product, including those listed on Table 6 in Section 1.8 of the ST, was not assessed as part of this evaluation. Other functionality provided by devices in the operational environment, such as a syslog server, need to be assessed separately and no further conclusions can be drawn about their effectiveness.

10 Annexes

Not applicable

11 Security Target

The Security Target is identified as: *Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 Security Target, Version 0.6, August 6, 2024*.

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 and MACsec Ethernet Encryption, Version 1.0, 29 March 2023 (CFG_NDcPP-MACsec_v1.0)

[5] collaborative Protection Profile for Network Devices, Version 2.2e, 23 March 2020 (NDcPP22e).

[6] PP-Module for MACsec Ethernet Encryption, Version 1.0, 02 March 2023 (MACSEC10).

[7] Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12 Security Target, Version 0.6, August 6, 2024 (ST).

[8] Assurance Activity Report for Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12, Version 0.2, August 6, 2024 (AAR).

[9] Detailed Test Report for Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12, Version 0.2, August 6, 2024 (DTR).

[10] Evaluation Technical Report for Cisco Catalyst Industrial Ethernet 9300 Rugged Series Switches running IOS-XE 17.12, Version 0.2, August 6, 2024 (ETR).