

National Information Assurance Partnership
Common Criteria Evaluation and Validation Scheme



Validation Report

for

**Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700
Series, 5510 HI Series, 5130 HI Series and 5130 EI Series
Switches**

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VALIDATION REPORT
Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5510 HI Series, 5130 HI Series and
5130 EI Series Switches

ACKNOWLEDGEMENTS

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1 Executive Summary

This report is intended to assist the end-user of this Information Technology (IT) product and any security certification agent for that end-user in determining the suitability of this product in their environment. End-users should review the Security Target (ST) ([6]), which is where specific security claims are made, in conjunction with this Validation Report (VR), which describes how those security claims were evaluated and tested and any restrictions on the evaluated configuration. Prospective users should read carefully the Assumptions and Clarification of Scope in Section 4 and the Validator Comments in Section 10, where any restrictions on the evaluated configuration are highlighted.

This report documents the National Information Assurance Partnership (NIAP) assessment of the evaluation of the Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5510 HI Series, 5130 HI Series and 5130 EI Series Switches with Comware 7.1 (the Target of Evaluation, or TOE)¹. It presents the evaluation results, their justifications, and the conformance results. This VR is not an endorsement of the TOE by any agency of the U.S. Government and no warranty of the TOE is either expressed or implied. This VR applies only to the specific version and configuration of the product as evaluated and as documented in the ST.

The evaluation of the Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5510 HI Series, 5130 HI Series and 5130 EI Series Switches with Comware 7.1 was performed by Leidos (formerly Science Applications International Corporation (SAIC)) Common Criteria Testing Laboratory (CCTL) in Columbia, Maryland, USA, and was completed in February 2016. The evaluation was conducted in accordance with the requirements of the Common Criteria and Common Methodology for IT Security Evaluation (CEM), version 3.1, revision 4 ([1], [2], [3], [4]) and assurance activities specified in *Protection Profile for Network Devices*, Version 1.1, 8 June 2012, as amended by Errata #3 dated 3 November 2014 ([5]), and including the following optional SFRs: FCS_IPSEC_EXT.1; FCS_SSH_EXT.1; and FIA_PSK_EXT.1. The conduct of the evaluation was consistent with NIAP Common Criteria Evaluation and Validation Scheme (CCEVS) policies and practices as described on their web site (www.niap-ccevs.org).

The TOE is a hardware and software solution that consists of the Comware 7.1 software running on any of the Hewlett Packard Enterprise appliances listed here according to the model series.

The 7900 Series devices in the evaluated configuration are as follows:

- HP FlexFabric 7904 Switch Chassis (JG682A)
- HP FlexFabric 7910 Switch Chassis (JG841A)
 - HP FlexFabric 7910 – 7.2Tbps Fabric / Main Processing Unit (JG842A) and/or
 - HP FlexFabric 7910 – 2.4Tbps Fabric / Main Processing Unit (JH001A)

The 7500 Series devices in the evaluated configuration are as follows:

- HP 7502 Switch Chassis (JD242C) with HP 7502 Main Processing Unit (JH208A)
- HP 7503 Switch Chassis (JD240C)

¹ On November 1, 2015, Hewlett-Packard became two separate companies: Hewlett Packard Enterprise and HP Inc. The network products are developed by the new Hewlett Packard Enterprise. The former HP network switches and routers are undergoing product rebranding. The rebranding is not complete in the documentation and on the websites. The TOE may be referred to with the prefix “HP”, “HP FlexFabric”, “HPE” or “HPE FlexFabric”. For the purpose of this evaluation, these name variations are used interchangeably and refer to the same product.

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- HP 7506 Switch Chassis (JD239C)
- HP 7510 Switch Chassis (JD238C)

The 7503, 7506 and 7510 Switch Chassis require one of the following:

- HP 7500 1.2Tbps Fabric w/ 2-port 40GbE for IRF-Only Main Processing Unit (JH207A), or
- HP 7500 2.4Tbps Fabric w/ 8-port GbE/10GbE and 2-port 40GbE User Ports Main Processing Unit (JH209A)

The 5700 Series devices in the evaluated configuration are as follows:

- HP FlexFabric 5700-40XG-2QSFP+Switch (JG896A)
- HP FlexFabric 5700-48G-4XG-2QSFP+Switch (JG894A)
- HP FlexFabric 5700-32XGT-8XG-2QSFP+ Switch (JG898A)
- HP FlexFabric 5700-40XG-2QSFP+TAA-Compliant Switch (JG697A)
- HP FlexFabric 5700-48G-4XG-2QSFP+TAA-Compliant Switch (JG895A)
- HP FlexFabric 5700-32XGT-8XG-2QSFP+TAA-Compliant Switch (JG899A)

The 5510 HI Series devices in the evaluated configuration are as follows:

- HPE 5510 24G 4SFP+ HI 1-slot Switch (JH145A)
- HPE 5510 24G PoE+ 4SFP+ HI 1-slot Switch (JH147A)
- HPE 5510 24G SFP 4SFP+ HI 1-slot Switch (JH149A)
- HPE 5510 48G 4SFP+ HI 1-slot Switch (JH146A)
- HPE 5510 48G PoE+ 4SFP+ HI 1-slot Switch (JH148A)

The 5130 HI Series devices in the evaluated configuration are as follows:

- HP 5130-24G-4SFP+ HI Switch with 1 Slot (JH323A)
- HP 5130-48G-4SFP+ HI Switch with 1 Slot (JH324A)
- HP 5130-24G-PoE+-4SFP+ HI Switch with 1 Slot (JH325A)
- HP 5130-48G-PoE+-4SFP+ HI Switch with 1 Slot (JH326A)

The 5130 EI Series devices in the evaluated configuration are as follows:

- HP 5130-24G-4SFP+ EI Switch (JG932A)
- HP 5130-24G-SFP-4SFP+ EI Switch (JG933A)
- HP 5130-48G-4SFP+ EI Switch (JG934A)
- HP 5130-24G-PoE+-4SFP+ (370W) EI Switch (JG936A)
- HP 5130-48G-PoE+-4SFP+ (370W) EI Switch (JG937A)
- HP 5130-24G-4SFP+ EI TAA-compliant Switch (JG942A)
- HP 5130-24G-SFP-4SFP+ EI TAA-compliant Switch (JG943A)

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- HP 5130-48G-4SFP+ EI TAA-compliant Switch (JG944A)
- HP 5130-24G-PoE+-4SFP+ (370W) EI TAA-compliant Switch (JG946A)
- HP 5130-48G-PoE+-4SFP+ (370W) EI TAA-compliant Switch (JG947A)

Each series of switches included in the TOE consists of a set of distinct devices that vary primarily according to power delivery, performance, and port density. Each device in the TOE is a stand-alone gigabit Ethernet switch that implements network layers 2 and 3 switching, service and routing operations.

The Leidos evaluation team determined that the TOE is conformant to *Protection Profile for Network Devices*, v1.1, 8 June 2012, as amended by Errata #3, dated 3 November 2014. The TOE, when installed, configured and operated as specified in the evaluated guidance documentation, satisfies all of the security functional requirements stated in Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI Series, 5130 HI Series and 5510 HI Series Switches Security Target, Version 1.0, 16 February 2016. The information in this VR is largely derived from the Assurance Activities Report (AAR) ([9]) and associated test report ([10]) produced by the Leidos evaluation team.

The validation team reviewed the evaluation outputs produced by the evaluation team, in particular the AAR and associated test report. The validation team found that the evaluation results showed that the TOE satisfies all of the security functional and assurance requirements stated in the ST. The evaluation also showed that the TOE is conformant to *Protection Profile for Network Devices*, v1.1, 8 June 2012, as amended by Errata #3, dated 3 November 2014, and that the assurance activities specified in the Protection Profile have been performed appropriately. 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 documented in the proprietary Evaluation Technical Report (ETR) ([8]) are consistent with the evidence produced.

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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) 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 Product Compliant List (PCL).

Table 1 provides information needed to completely identify the product and its evaluation.

Table 1: Evaluation Summary

Evaluated Product:	Hewlett Packard Enterprise Switches as follows: <ul style="list-style-type: none">• 7900 Series running Comware V7.1.045 Release 2138P02• 7500 Series running Comware V7.1.045 Release 7170• 5700 Series running Comware V7.1.045 Release 2423• 5510 HI Series running Comware V7.1.045 Release 1118• 5130 HI Series running Comware V7.1.045 Release 1116• 5130 EI Series running Comware V7.1.045 Release 3109P16
Sponsor & Developer:	Hewlett Packard Enterprise 11445 Compaq Center Drive West Houston, Texas 77070 United States
CCTL:	Leidos (formerly SAIC) Common Criteria Testing Laboratory 6841 Benjamin Franklin Drive Columbia, MD 21046
Completion Date:	February 2016
CC:	Common Criteria for Information Technology Security Evaluation, Version 3.1, Revision 4, September 2012
Interpretations:	There were no applicable interpretations used for this evaluation.
CEM:	Common Methodology for Information Technology Security Evaluation: Version 3.1, Revision 4, September 2012
PP:	<i>Protection Profile for Network Devices</i> , Version 1.1, 8 June 2012, as amended by Errata #3 dated 3 November 2014
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Validation Body: National Information Assurance Partnership CCEVS

2.1 Technical Decisions

The following NIAP Technical Decisions were applied during the course of this evaluation:

- TD0004: FCS_TLS_EXT Man-in-the-Middle Test - This Technical Decision removes the FCS_TLS_EXT man-in-the-middle tests for the NDPP (FCS_TLS_EXT.1.1, Test 2), pending development of new TLS requirements and assurance activities and identification of suitable test tools.
- TD0005: FPT_ITT Test 3 Resolution - This Technical Decision removes the need to perform Test 3 associated with FPT_ITT.1 in NDPP, consistent with the test requirements for FTP_ITC.1 and FTP_TRP.1.
- TD0011: FCS_SSH_EXT.1.4 Clarification - The SFR requires that the SSH transport implementation use specific encryption algorithms. Can the restriction to those algorithms be reliant upon configuration of the SSH client? No. The restrictions must be implemented by the TOE.
- TD0012: FCS_SSH_EXT.1.4 - Algorithms not identified in FCS_SSH_EXT.1.4 must not be allowed; other cipher suites (such as 3DES-CBC) must be disabled in evaluated configurations. The Assurance Activities associated with this requirement must verify that connection attempts with algorithms not listed in FCS_SSH_EXT.1.4 are denied. The NDPP will be updated to reflect this decision.
- TD0017: NDPP Audit Shutdown - This Technical Decision allows for the use of a startup audit record to indicate audit shutdown in the event of an uncontrolled shutdown.
- TD0026: FPT_TUD_EXT.1 - This Technical Decision allows for the administrator following TOE guidance to reject an illegitimate update detected by the TOE, in addition to the TOE rejecting the update automatically.
- TD0032: FCS_SSH_EXT.1.2 – SFR will be rewritten to conditionally require password-based authentication

2.2 Threats

The ST references the Protection Profile for Network Devices to identify the following threats that the TOE and its operational environment are intended to counter:

- An administrator may unintentionally install or configure the TOE incorrectly, resulting in ineffective security mechanisms.
- Security mechanisms of the TOE may fail, leading to a compromise of the TSF.
- A user may gain unauthorized access to the TOE data and TOE executable code. A malicious user, process, or external IT entity may masquerade as an authorized entity in order to gain unauthorized access to data or TOE resources. A malicious user, process, or external IT entity may misrepresent itself as the TOE to obtain identification and authentication data.
- A malicious party attempts to supply the end user with an update to the product that may compromise the security features of the TOE.

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- Malicious remote users or external IT entities may take actions that adversely affect the security of the TOE. These actions may remain undetected and thus their effects cannot be effectively mitigated.
- User data may be inadvertently sent to a destination not intended by the original sender.

2.3 Organizational Security Policies

The ST references the Protection Profile for Network Devices to identify following organizational security policy that the TOE and its operational environment are intended to fulfill:

- The TOE shall display an initial banner describing restrictions of use, legal agreements, or any other appropriate information to which users consent by accessing the TOE.

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3 Architectural Information

The various routers comprising the TOE share a common software code base, called Comware. Comware is special purpose appliance system software that implements networking technology. The evaluated version of Comware is V7.1. The TOE supports both IPv4 and IPv6 networks; however, IPv6 was not tested as part of this evaluation.

Comware V7.1 comprises four planes, as depicted in Figure 1 below: management plane; control plane; data plane; and infrastructure plane:

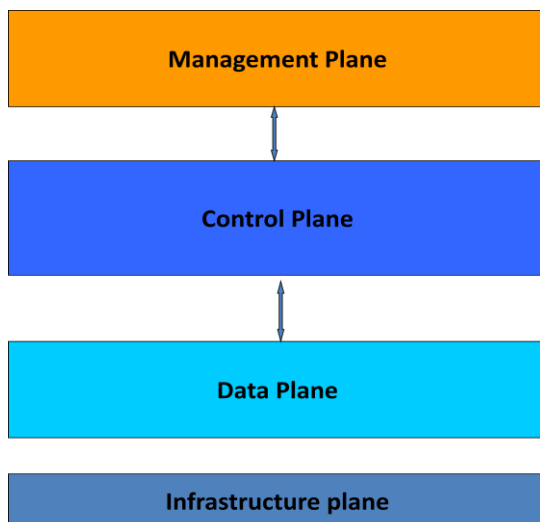


Figure 1: Comware V7.1 Architecture

The **Infrastructure Plane** provides basic Linux services and Comware support functions. Basic Linux services comprise basic Linux functions, C language library functions, data structure operations, and standard algorithms. Comware support functions provide software and service infrastructures for Comware processes, including all basic functions.

The **Data Plane** provides data forwarding for local packets and received IPv4 and IPv6 packets at different layers.

The **Control Plane** comprises all routing, signaling, and control protocols, such as MPLS, OSPF, and security control protocols. It generates forwarding tables for the data plane.

The **Management Plane** provides a management interface for operators to configure, monitor, and manage Comware V7.1. The management interface comprises a Command Line Interface (CLI) accessed locally via the console port and remotely via Secure Shell (SSH).

From a security perspective, the TOE implements NIST-validated cryptographic algorithms that support the IPsec and SSH protocols as well as digital signature services that support the secure update capabilities of the TOE.

The various TOE devices include the same security functions. The salient differences between the devices are the available ports and port adapters primarily representing differences in numbers, types, and speeds of available network connections.

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4 Assumptions

The ST references the Protection Profile for Network Devices to identify the following assumptions about the use of the product:

- It is assumed that there are no general-purpose computing capabilities (e.g., compilers or user applications) available on the TOE, other than those services necessary for the operation, administration and support of the TOE.
- Physical security, commensurate with the value of the TOE and the data it contains, is assumed to be provided by the environment.
- TOE Administrators are trusted to follow and apply all administrator guidance in a trusted manner.

4.1 Clarification of Scope

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

1. 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 claimed PP and performed by the evaluation team).
2. This evaluation covers only the specific device models and software versions identified in this document, and not any earlier or later versions released or in process.
3. The evaluation of security functionality of the product was limited to the functionality specified in the claimed PP. Any additional security-related functional capabilities of the product were not covered by this evaluation.
4. 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.
5. The following specific product capabilities are excluded from use in the evaluated configuration:
 - a. Non-FIPS mode of operation—this mode of operation allows cryptographic operations that are not FIPS-approved
6. The TOE can be configured to rely on and utilize a number of other components in its operational environment:
 - a. Syslog server—to receive audit records when the TOE is configured to deliver them to an external log server.
 - b. RADIUS and TACACS servers—the TOE can be configured to use external authentication servers.
 - c. Management Workstation—the TOE supports remote access to the CLI over SSHv2. As such, an administrator requires an SSHv2 client to access the CLI remotely.

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5 Security Policy

The TOE enforces the following security policies as described in the ST.

Note: Much of the description of the security policy has been derived from the ST and the proprietary Final ETR.

5.1 Security Audit

The TOE is able to generate audit records of security relevant events. The TOE can be configured to store the audit records locally so they can be accessed by an administrator or alternately send the audit records to a designated log server.

5.2 Cryptographic Support

The TOE includes NIST-validated cryptographic mechanisms that provide key management, random bit generation, encryption/decryption, digital signature and secure hashing and key-hashing features in support of higher level cryptographic protocols, including IPsec and SSHv2. Note that in the evaluated configuration, the TOE must be configured in FIPS mode.

5.3 User Data Protection

The TOE performs network switching and routing functions, passing network traffic among its various physical and logical network connections. The TOE implements mechanisms to ensure that it does not inadvertently reuse data found in network traffic.

5.4 Identification and Authentication

The TOE requires administrators to be successfully identified and authenticated before they can access any security management functions available in the TOE. The TOE offers both a locally connected console and a network accessible interface (SSHv2) for interactive administrator sessions.

The TOE supports on device definition of administrators with usernames and passwords. Additionally, the TOE can be configured to utilize the services of RADIUS and TACACS+ servers in the operational environment to support, for example, centralized user administration. The TOE supports the use of text-based pre-shared keys for IKE peer authentication.

5.5 Security Management

The TOE provides a CLI to access its security management functions. Security management commands are limited to administrators and are available only after they have provided acceptable user identification and authentication data to the TOE.

5.6 Protection of the TSF

The TOE implements a number of features designed to protect itself to ensure the reliability and integrity of its security features.

It protects data such as stored passwords and cryptographic keys so that they are not accessible even by an administrator. It also provides its own timing mechanism to ensure that reliable time information is available (for example, for log accountability).

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The TOE uses cryptographic means to protect communication with remote administrators. When the TOE is configured to use the services of a syslog server or authentication servers in the operational environment, the communication between the TOE and the operational environment component is protected using encryption.

The TOE includes functions to perform self-tests so that it might detect when it is failing. It also includes mechanisms so that the TOE itself can be updated while ensuring that the updates will not introduce malicious or other unexpected changes in the TOE.

5.7 TOE Access

The TOE can be configured to display an informative banner that will appear prior to authentication when accessing the TOE via the console or SSH interfaces. The TOE subsequently will enforce an administrator-defined inactivity timeout value after which the inactive session will be terminated.

5.8 Trusted Path/Channels

The TOE protects interactive communication with administrators using SSHv2 for CLI access. Using SSHv2, both integrity and disclosure protection is ensured.

The TOE protects communication with network peers, such as audit and authentication servers, using IPsec connections to prevent unintended disclosure or modification of data.

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6 Documentation

There are numerous documents that provide information and guidance for the deployment of the TOE. Only those documents that were used to place the TOE into its evaluated configuration are considered to be part of the evaluated TOE. Any additional customer documentation delivered with the TOE or made available through electronic downloads should not be relied upon for using the TOE in its evaluated configuration.

In particular, the following Common Criteria specific guides provide the security-related guidance documentation for all devices in the evaluated configuration:

- *Preparative Procedures for CC NDPP Evaluated HPE 7900 Series, 7500 Series, 5700 Series, 5510HI Series, 5130HI and 5130EI Series Switch Modules based on Comware V7.1*, Version 1.01, 16 Feb 2016
- *Command Reference for CC Supplement*, Revision 1.05, 22 Jan 2016
- *Configuration Guide for CC Supplement*, Revision 1.6, 22 Jan 2016
- *Comware V7 Platform System Log Messages*, Revision 1.00, 21 Apr 2014.

The links in Table 2 below for each series can be used to find the full set of documentation for each of the evaluated router series. Note that only the documents listed above were examined during the course of the evaluation, and are the approved documents for configuring and using the TOE in its evaluated configuration.

Table 2: Product Documentation Links

Product Family	HPE Website Link to Module Information
HPE 5130 EI Series	http://h20566.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=7399420#manuals
HPE 5130 HI Series	http://h20566.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=1008605458#manuals
HPE 5510 HI Series ²	https://www.hpe.com/us/en/networking/campus-branch.html
HPE 5700 Series	http://h20566.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=7268889#manuals
HPE 7500 Series	http://h20566.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=4177519#manuals
HPE 7900 Series	http://h20566.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=7074890#manuals

² The HPE 5510 HI website is under development. The link provided is a starting point for the navigation to the product documentation.

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7 IT Product Testing

This section describes the testing efforts of the evaluation team. It is derived from information contained in the proprietary document *Evaluation Team Test Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI Series, 5130 HI Series, and 5510 HI Series Switches*, Version 1.0, 16 February 2016, which was made available to NIAP and the validation team and as summarized in the public document *Assurance Activities Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI, 5130 HI and 5510 HI Series Switches*, Version 1.0, 16 February 2016.

The purpose of this activity was to confirm the TOE behaves in accordance with the TOE security functional requirements as specified in the ST for a product claiming conformance to the Protection Profile for Network Devices, Version 1.1, 8 June 2012, as amended by Errata #3 dated 3 November 2014. As such, the evaluation team devised a Test Plan based on the Testing Assurance Activities specified in the PP.

The Test Plan described how each test activity was to be instantiated within the TOE test environment. The evaluation team executed the tests specified in the Test Plan and documented the results in the Team Test Report and summarized in the Assurance Activity report as identified above.

Testing took place at the Leidos facility in Columbia, Maryland from 21 December 2015 through 31 January 2016.

The evaluators received the TOE in the form that customers would receive it; installed and configured the TOE in accordance with the provided guidance, and exercised the Team Test Plan on equipment configured in the testing laboratory.

The configuration depicted in Figure 2 was used for testing.

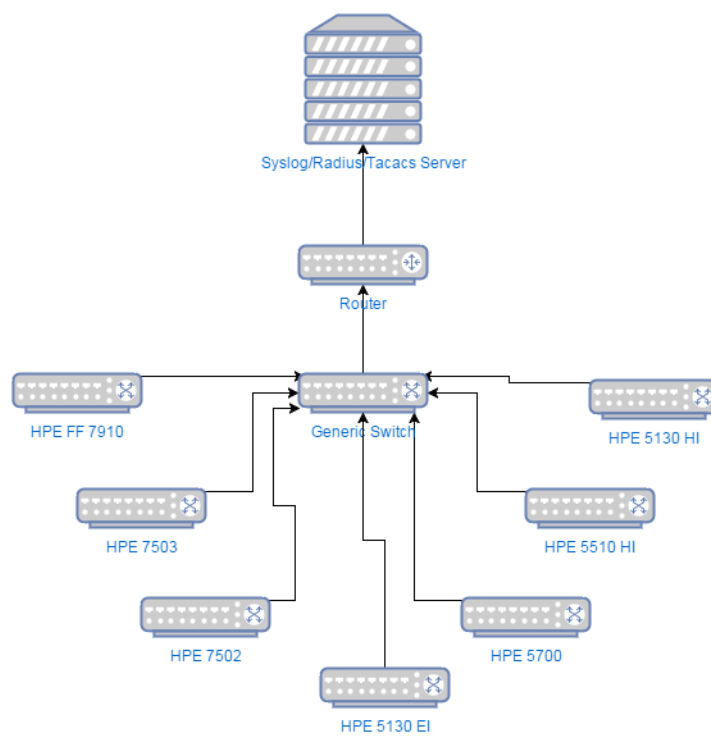


Figure 2: Test Configuration

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The following hardware and software components were included in the evaluated configuration during testing:

- Hardware
 - HPE 5130-24G-SFP-4SFP+ EI Switch (JG933A)
 - HPE 5130 48G PoE+ 4SFP+ 1-slot HI Switch (JH326A)
 - HPE 5510 24G 4SFP+ HI 1-slot Switch (JH145A)
 - HPE FlexFabric 5700-32XGT-8XG-2QSFP+ Switch (JG898A)
 - HP 7502 Switch Chassis with Main Processing Unit (JH208A)
 - HP 7503 Switch Chassis with Main Processing Unit (JH207A)
 - HPE FF 7910 Switch Chassis with Main Processing Unit (JH001A)
- Software
 - HP Comware 7.1.045.

The following components are not part of the TOE but were included in the testing environment:

- Router
- Syslog - 3CDaemon Version 2.0 Revision 10 running on Windows Server 2008
- FreeRadius
- Tacacs.NET.

7.1 Penetration Testing

The evaluation team conducted a limited open source search for vulnerabilities in the product using simple product related search terms via several known vulnerability tracking websites. The open source search did not identify any obvious vulnerabilities applicable to the TOE in its evaluated configuration. The search results and analysis are summarized in the *Assurance Activities Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI, 5130 HI and 5510 HI Series Switches*.

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8 Evaluated Configuration

The TOE is the Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI Series, 5130 HI Series and 5510 HI Series Switches, which are installed and configured according to the product installation guidance identified in Section 6. The TOE appliances are configured to operate in FIPS mode. The specific devices and software included in the evaluated configuration are identified in the following table.

Table 3: Evaluated Configuration Identification

Series	Software Identification	Hardware Identification
HP 7900	Comware V7.1.045 R2138 P02	HP FlexFabric 7904 Switch Chassis (JG682A) HP FlexFabric 7910 Switch Chassis (JG841A) with one or both of the following modules: <ol style="list-style-type: none"> 1. HP FlexFabric 7910 – 7.2Tbps Fabric / Main Processing Unit (JG842A) 2. HP FlexFabric 7910 -- 2.4Tbps Fabric / Main Processing Unit (JH001A)
HP 7500	Comware V7.1.045 R7170	HP 7502 Switch Chassis (JD242C) with HP 7502 Main Processing Unit (JH208A) HP 7503 Switch Chassis (JD240C) HP 7506 Switch Chassis (JD239C) HP 7510 Switch Chassis (JD238C) The 7503, 7506, 7506-V and 7510 require one of the following: <ul style="list-style-type: none"> • HP 7500 1.2Tbps Fabric w/ 2-port 40GbE for IRF-Only Main Processing Unit (JH207A), or • HP 7500 2.4Tbps Fabric w/ 8-port GbE/10GbE and 2-port 40GbE User Ports Main Processing Unit (JH209A)
HP 5700	Comware V7.1.045 R2423	HP FlexFabric 5700-40XG-2QSFP+Switch (JG896A) HP FlexFabric 5700-48G-4XG-2QSFP+Switch (JG894A) HP FlexFabric 5700-32XGT-8XG-2QSFP+ Switch (JG898A) HP FlexFabric 5700-40XG-2QSFP+TAA-Compliant Switch (JG697A) HP FlexFabric 5700-48G-4XG-2QSFP+TAA-Compliant Switch (JG895A) HP FlexFabric 5700-32XGT-8XG-2QSFP+TAA-Compliant Switch (JG899A)

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Series	Software Identification	Hardware Identification
HP 5130 EI	Comware V7.1.045 R3109 P16	HP 5130-24G-4SFP+ EI Switch (JG932A) HP 5130-24G-SFP-4SFP+ EI Switch (JG933A) HP 5130-48G-4SFP+ EI Switch (JG934A) HP 5130-24G-PoE+-4SFP+ (370W) EI Switch (JG936A) HP 5130-48G-PoE+-4SFP+ (370W) EI Switch (JG937A) HP 5130-24G-4SFP+ EI TAA-compliant Switch (JG942A) HP 5130-24G-SFP-4SFP+ EI TAA-compliant Switch (JG943A) HP 5130-48G-4SFP+ EI TAA-compliant Switch (JG944A) HP 5130-24G-PoE+-4SFP+ (370W) EI TAA-compliant Switch (JG946A) HP 5130-48G-PoE+-4SFP+ (370W) EI TAA-compliant Switch (JG947A)
HP 5130 HI	Comware V7.1.045 R1116	HP 5130-24G-4SFP+ HI Switch with 1 Slot (JH323A) HP 5130-48G-4SFP+ HI Switch with 1 Slot (JH324A) HP 5130-24G-PoE+-4SFP+ HI Switch with 1 Slot (JH325A) HP 5130-48G-PoE+-4SFP+ HI Switch with 1 Slot (JH326A)
HP 5510 HI	Comware V7.1.045 R1118	HPE 5510 24G 4SFP+ HI 1-slot Switch (JH145A) HPE 5510 24G PoE+ 4SFP+ HI 1-slot Switch (JH147A) HPE 5510 24G SFP 4SFP+ HI 1-slot Switch (JH149A) HPE 5510 48G 4SFP+ HI 1-slot Switch (JH146A) HPE 5510 48G PoE+ 4SFP+ HI 1-slot Switch (JH148A)

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9 Results of the Evaluation

The evaluation was conducted based upon the assurance activities specified in Protection Profile for Network Devices, Version 1.1, 8 June 2012, as amended by Errata #3 dated 3 November 2014 (including the following optional SFRs: FCS_IPSEC_EXT.1; FCS_SSH_EXT.1; and FIA_PSK_EXT.1), in conjunction with version 3.1, revision 4 of the CC and the CEM. A verdict for an assurance component is determined by the resulting verdicts assigned to the corresponding evaluator action elements.

The validation team's assessment of the evidence provided by the evaluation team is that it demonstrates that the evaluation team performed the assurance activities in the claimed PP, and correctly verified that the product meets the claims in the ST.

The details of the evaluation are recorded in the Evaluation Technical Report (ETR), which is controlled by the Leidos CCTL. The security assurance requirements are listed in the following table.

Table 4: TOE Security Assurance Requirements

Assurance Component ID	Assurance Component Name
ADV_FSP.1	Basic functional specification
AGD_OPE.1	Operational user guidance
AGD_PRE.1	Preparative procedures
ALC_CMC.1	Labeling of the TOE
ALC_CMS.1	TOE CM coverage
ATE_IND.1	Independent testing - conformance
AVA_VAN.1	Vulnerability survey

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10 Validator Comments/Recommendations

The evaluated configuration may include non-security relevant product features and hardware modules that were not assessed, such as IRF, MDC, ISSU, TRILL and OAA which are addressed in the Security Target and elsewhere. The consumer should be aware that no further conclusions can be drawn about their effectiveness as the claimed capabilities of those items were not exercised as part of the security testing.

The TOE supports both IPv4 and IPv6 networks; however, IPv6 was not exercised during the performance of the assurance activities. Note that audit records are not buffered for transmission to the syslog server, therefore the administrator is advised to ensure additional audit destinations are configured so that audit logs are not lost in the event of the loss of connectivity to a single syslog server.

The validation team notes that the evaluated configuration is dependent upon the TOE being configured for FIPS operation. Furthermore, the consumer is cautioned that that the FIPS mode cannot be enabled if a High Encryption license has not been installed. HPE ships the MSR router series with a High Encryption License.

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11 Annexes

Not applicable.

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12 Security Target

- Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI Series, 5130 HI Series and 5510 HI Series Switches Security Target, Version 1.0, 16 February 2016

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13 Abbreviations and Acronyms

AAR	Assurance Activities Report
CC	Common Criteria for Information Technology Security Evaluation
CCEVS	Common Criteria Evaluation and Validation Scheme
CM	Configuration Management
CLI	Command Line Interface
ETR	Evaluation Technical Report
FIPS	Federal Information Processing Standard
IKE	Internet Key Exchange
IP	Internet Protocol
IPsec	Internet Protocol Security
ISSU	In Service Software Upgrades
IT	Information Technology
MPLS	Multiprotocol Label Switching
NDPP	Protection Profile for Network Devices
NIAP	National Information Assurance Partnership
NIST	National Institute of Standards and Technology
OAA	Open Application Architecture
OSPF	Open Shortest Path First
PP	Protection Profile
QoS	Quality of Service
RADIUS	Remote Authentication Dial In User Service
SFP	Small Form-factor Pluggable
SFR	Security Functional Requirement
SSH	Secure Shell
ST	Security Target
TACACS+	Terminal Access Controller Access Control System Plus
TOE	Target of Evaluation
TRILL	Transparent Interconnection of Lots of Links
TSF	TOE Security Functions
VLAN	Virtual Local Area Network
VR	Validation Report

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14 Bibliography

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

- [1] Common Criteria for Information Technology Security Evaluation Part 1: Introduction, Version 3.1, Revision 4, September 2012.
- [2] Common Criteria for Information Technology Security Evaluation Part 2: Security Functional Requirements, 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 2012.
- [4] Common Methodology for Information Technology Security Evaluation, Evaluation Methodology, Version 3.1, Revision 4, September 2012.
- [5] Protection Profile for Network Devices, Version 1.1, 8 June 2012, as amended by Errata #3 dated 3 November 2014.
- [6] Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI Series, 5130 HI Series and 5510 HI Series Switches Security Target, Version 1.0, 16 February 2016
- [7] Common Criteria Evaluation and Validation Scheme - Guidance to CCEVS Approved Common Criteria Testing Laboratories, Version 2.0, 8 Sep 2008.
- [8] Evaluation Technical Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI, 5130 HI and 5510 HI Series Switches, Version 1.0, 16 February 2016.
- [9] Assurance Activities Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI, 5130 HI and 5510 HI Series Switches, Version 1.0, 16 February 2016.
- [10] Evaluation Team Test Report for Hewlett Packard Enterprise 7900 Series, 7500 Series, 5700 Series, 5130 EI, 5130 HI and 5510 HI Series Switches, Version 1.0, 16 February 2016.