C040 Certification Report

Juniper Networks Junos Pulse Secure Access Service 7.2 R4

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C040 Certification Report

Juniper Networks Junos Pulse Secure Access Service 7.2 R4

15 July 2013

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Forward

The Malaysian Common Criteria Evaluation and Certification (MyCC) Scheme has been established under the 9th Malaysian Plan to increase Malaysia's competitiveness in quality assurance of information security based on the Common Criteria (CC) standard and to build consumers' confidence towards Malaysian information security products.

The MyCC Scheme is operated by CyberSecurity Malaysia and provides a model for licensed Malaysian Security Evaluation Facilities (MySEFs) to conduct security evaluations of ICT products, systems and protection profiles against internationally recognised standards. The results of these evaluations are certified by the Malaysian Common Criteria Certification Body (MyCB) Unit, a unit established within Information Security Certification Body (ISCB) Department, CyberSecurity Malaysia.

By awarding a Common Criteria certificate, the MyCB asserts that the product complies with the security requirements specified in the associated Security Target. A Security Target is a requirements specification document that defines the scope of the evaluation activities. The consumer of certified IT products should review the Security Target, in addition to this certification report, in order to gain an understanding of any assumptions made during the evaluation, the IT product's intended environment, its security requirements, and the level of confidence (i.e., the evaluation assurance level) that the product satisfies the security requirements.

This certification report is associated with the certificate of product evaluation dated 15 July 2013, and the Security Target (Ref [6]). The certification report, Certificate of product evaluation and security target are posted on the MyCC Scheme Certified Product Register (MyCPR) at www.cybersecurity.my/mycc and the Common Criteria Portal (the official website of the Common Criteria Recognition Arrangement at www.commoncriteriaportal.org).

Disclaimer

The Information Technology (IT) product identified in this certification report and its associate certificate has been evaluated at an accredited and licensed evaluation facility established under the Malaysian Common Criteria Evaluation and Certification (MyCC) Scheme (Ref [4]) using the Common Methodology for IT Security Evaluation, version 3.1 revision 3 (Ref [3]), for conformance to the Common Criteria for IT Security Evaluation, version 3.1 revision 3 (Ref [2]). This certification report and its associated certificate apply only to the specific version and release of the product in its evaluated configuration. The evaluation has been conducted in accordance with the provisions of the MyCC Scheme and the conclusions of the evaluation facility in the evaluation technical report are consistent with the evidence adduced. This certification report and its associated certificate is not an endorsement of the IT product by CyberSecurity Malaysia or by any other organisation that recognises or gives effect to this certification report and its associated certificate, and no warranty of the IT product by CyberSecurity Malaysia or by any other organisation that recognises or gives effect to this certificate, is either expressed or implied.

Document Change Log

RELEASE	DATE	PAGES AFFECTED	REMARKS/CHANGE REFERENCE
v1	24 June 2012	All	Final Released.
v1a	15 July 2013	Page iv	Add the date of the certification.
		Page 5	Add Figure 1 based on comments received from Certification Committee (to clearly identify the physical boundary).

Executive Summary

The Juniper Networks Junos Pulse Secure Access Service 7.2 R4 (hereafter referred as Secure Access) from Juniper Networks is the Target of Evaluation (TOE) for this Evaluation Assurance Level 3 augmented with ALC_FLR.2 (EAL3+ ALC_FLR.2) evaluation.

Secure Access or the TOE acts as a secure application-layer gateway that intermediates all requests between remote computers and internal corporate resources. All requests from remote computers to a Secure Access appliance and from a Secure Access appliance to remote computers are encrypted using SSL/HTTPS 168-bit encryption. All unencrypted requests (e.g. HTTP) are redirected to HTTPS, which ensures the connection is encrypted. Each request is subject to administratively defined access control and authorisation policies, such as dual-factor or client-side digital certificate authentication, before the request is forwarded to an internal resource. Users gain authenticated access to authorised resources via an extranet session hosted by the appliance. From any Internet-connected Web browser, users can access Web-based enterprise applications, Java applications, file shares and terminal hosts. Secure Access generates audit records for security events. The administrator and read-only administrator are the only roles with access to the audit trail and have the ability to view the audit trail.

The functions of the TOE that are within the scope of evaluation covering the auditing of security relevant events, cryptographic operations, user data protection, user identification and authentication, management and protection of the security functions.

The scope of the evaluation is defined by the Security Target (Ref [6]), which identifies assumptions made during the evaluation, the intended environment for the TOE, the security functional requirements, and the evaluation assurance level at which the product is intended to satisfy the security requirements. Prospective consumers are advised to verify that their operating environment is consistent with the evaluated configuration, and to give due consideration to the comments, observations and recommendations in this certification report.

This report confirms the findings of the security evaluation of the TOE to the Common Criteria (CC) EAL3 Augmented with ALC_FLR.2. The report confirms that the evaluation was conducted in accordance with the relevant criteria and the requirements of the Malaysian Common Criteria Evaluation and Certification (MyCC) Scheme (Ref [4]). The evaluation was performed by the BAE Systems Detica evaluation facility (the 'BAE Systems Detica MySEF') and completed on 28 May 2013.

The Malaysian Common Criteria Certification Body (MyCB), as the MyCC Scheme Certification Body, declares that the TOE evaluation meets all the Arrangement on the Recognition of Common Criteria certificates and the product will be listed in the MyCC Scheme Certified Products Register (MyCPR) at www.cybersecurity.my/mycc and the Common Criteria portal (the official website of the Common Criteria Recognition Arrangement) at www.commoncriteriaportal.org.

It is the responsibility of the user to ensure that the Secure Access meets their requirements. It is recommended that a potential user of the Secure Access to refer to the Security Target (Ref [6]) and this Certification Report prior to deciding whether to purchase the product.

Table of Contents

Index of Tables

Index of Figures

1 Target of Evaluation

1.1 TOE Description

1 The Target of Evaluation (TOE), Juniper Networks Junos Pulse Secure Access Service 7.2 R4 (hereafter referred as Secure Access) is the appliance and software client running on a remote IT system. The TOE provides secure remote access to internal network resources.

2 The TOE acts as a secure application-layer gateway that intermediates all request between remote computers and internal corporate resources. All requests from remote computers to a Secure Access appliance and from a Secure Access appliance to remote computers are encrypted using SSL/HTTPS 168-bit encryption. All unencrypted requests (e.g. HTTP) are redirected to HTTPS, which ensures the connection is encrypted. Each request is subject to administratively defined access control and authorisation policies, such as dual-factor or client-side digital certificate authentication, before the request is forwarded to an internal resource. Users gain authenticated access to authorised resources via an extranet session hosted by the appliance. From any Internet-connected Web browser, users can access Web-based enterprise applications, Java applications, file shares and terminal hosts. Secure Access generates audit records for security events. The administrator and read-only administrator are the only roles with access to the audit trail and have the ability to view the audit trail.

3 In the context of the evaluation, the TOE provides the following major security features; which will be discussed further in Section 1.4.1 of this document:

a) Generates audit records for security events.

b) Cryptographic support for secure communications between users and the TOE and between TOE components.

c) Provides information flow security policy that limits traffic to URLs and resource types, such as file servers, to specific user roles.

d) Identification and authentication before any information flows are permitted and user must be authenticated before performing any administrative functions.

e) Security management functions for administrator to configure the TOE, manage users, information flow policy and auditing activities.

f) Protection of the TOE security function (TSF) by enforcing session timeouts.

1.2 TOE Identification

4 The details of the TOE are identified in Table 1 below.

Table 1: TOE identification

Evaluation Scheme	Malaysian Common Criteria Evaluation and Certification (MyCC) Scheme

Project Identifier	C040
TOE Name	Juniper Networks Junos Pulse Secure Access Service
TOE Version	v7.2 R4
Security Target Title	Security Target: Juniper Networks Junos Pulse Secure Access Service 7.2 R4
Security Target Version	v1.4
Security Target Date	15 May 2013
Assurance Level	Evaluation Assurance Level 3 augmented with ALC_FLR.2 (EAL3+ ALC_FLR.2).
Criteria	Common Criteria for Information Technology Security Evaluation, July 2009, Version 3.1 Revision 3 (Ref [2])
Methodology	Common Evaluation Methodology for Information Technology Security Evaluation, July 2009, Version 3.1 Revision 3 (Ref [3])
Protection Profile Conformance	None
Common Criteria Conformance	CC Part 2 Conformant CC Part 3 Conformant Package conformant to EAL3 augmented with ALC_FLR.2 (EAL3+ ALC_FLR.2)
Sponsor and Developer	Juniper Networks, Inc. 1194 North Matilda Avenue, Sunnyvale, California 94089-1206 United States
Evaluation Facility	BAE Systems Detica MySEF

1.3 Security Policy

5 The TOE enforces an information flow security policy between authenticated users and protected resources logically behind the appliance. Before any access is granted, users must log into the TOE. Each user account is associated with one or more user roles. The administrator sets up roles and access rules associated with the roles. The access rules can address URLs or resource types. URL rules permit specific user roles to access specific URLs. Rules can be specified using exact URLs or URLs can contain wildcard designations. The last type of rule is based on rules that permit specific user roles to access specific resources such as file servers or web servers.

6 The details of the security policy are described in Sections 6 and 7 of the Security Target (Ref [6]).

1.4 TOE Architecture

7 The TOE includes both logical and physical boundaries which are described in detail Section 1.7 of the Security Target (Ref [6]).

1.4.1 Logical Boundaries

8 The TOE implements and controls the security features listed below:

a) **Security audit**

The TOE generates audit records for security events. The logs are divided into several categories and are maintained separately as follows:

i. Event logs – used to track system related events such as start-up and shutdown,

ii. Admin access logs – used to record administrator generated event, and

iii. User access logs – record user access events such as retrieving a file.

The log details and list of events where the TOE will generate the logs are listed in Section 6.1.1.1 and Section 7.2 of the Security Target (Ref [6]).

Only administrator and the read-only administrator can access to the audit trail and have the ability to view and save the audit log via the web-based administrative interface. The administrator also has the ability to change the log settings.

The TOE maintains a circular buffer for audit records. When the audit log is full, the oldest audit records are overwritten.

b) **Cryptographic operations**

The TOE supports secure communications between users and the TOE and between TOE components. The secure communication ensures that the data are protected from unauthorised modification and disclosure. Several algorithms are used for specific cryptographic operations to support encrypted communication between users and the TOE as listed in Section 6.1.2.4 of the Security Target (Ref [6]).

c) **User data protection**

The TOE enforces an information flow policy between authenticated users and protected resources logically behind the appliance. Before any access is granted, users must log into the TOE. Each user account is associated with one or more user roles. The administrator sets up roles and access rules associated with the roles. The access rules can be addressed based on:

i. URLs: rules that permit specific user roles to access specific URLs, or

ii. resource types: rules that permit specific user roles to access specific resources such as file servers or web servers.

The TOE tracks all packet information including packet length and ensures that no residual data is exposed to users.

d) **Identification and authentication**

All users and administrators are required to perform identification and authentication before any information flows are permitted or perform any administrative functions. In the evaluated configuration, the TOE will perform the identification and authentication locally using username and password. If the authentication succeeds, the user receives a session token that is used for identification of subsequent requests during that session.

e) **Security management**

The TOE provides security management functions via a web-based interface. Administrators can configure the TOE including: user management, information flow policy management, audit management, and system start-up and shutdown.

The TOE also provides a console port for certain management capabilities, such as configuring the network relevant information pertaining to the internal and external network interfaces. However, the console port does not provide the management capabilities necessary to utilise the security management functionalities claimed within the Security Target (Ref [6]).

Administrators set the information flow policy rules on a per user basis. When the Administrator adds a new user, the Administrator defines the user access. By default, user access is restrictive but the Administrator may override the default upon rule creation.

The TOE supports the following roles:

i. Administrator – provide a user within the administrator's authentication realm access to perform all management functionalities available from the Administrator Console,

ii. read-only administrator – provides a user within the administrator's authentication realm read-only access to the various configurations and logs available from within the Administrator Console,

iii. The user and user admin roles provide a user within the user's authentication realm access to initiate an information flow request and access internal resource, if permitted. Additionally, the user admin role allows a user within the user's authentication realm to create, modify or delete existing user's within the user's authentication realm.

Users within the administrator's authentication realm are only permitted to access the TOE via the Administrator Console. Meanwhile users within the user's authentication realm are only permitted to access the TOE via the End-User Interface.

f) **Protection of the TSF**

The TOE provides a timestamp for its own use. The timestamp is generated from the clock provided in the hardware. The TOE protects all current sessions from compromise by enforcing a timeout. When a session becomes idle for more than 10 minutes or reaches a maximum lifetime of 60 minutes, the session times out and is deleted from the session table. Session timeouts are

enforceable on sessions initiated on both the administrator and user interfaces of the TOE.

1.4.2 The Physical Boundaries

9 The TOE includes the appliance and software client running on a remote IT system. The appliance TOE component is completely self-contained, housing the software and hardware necessary to perform all functions. The TOE boundary is shown in Figure 1 below.

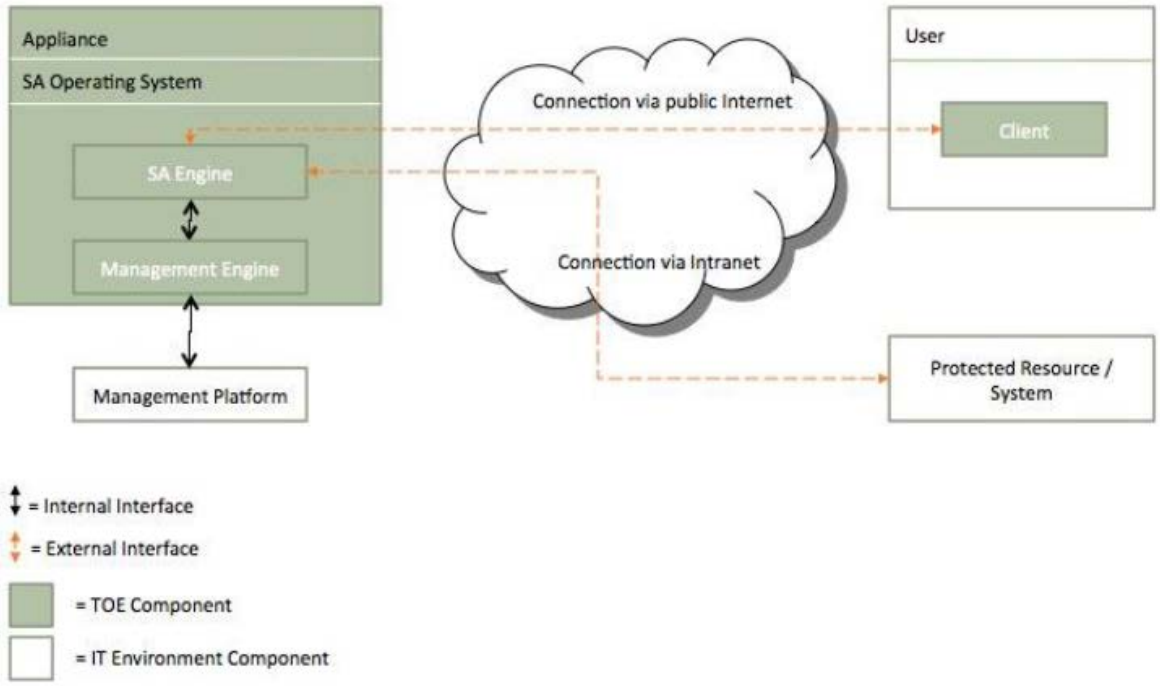

Figure 1: TOE Boundry

10 The TOE is composed of the following components:

a) SA Engine – provides the internal infrastructure to perform the security functions of the TOE including access control system, authentication system, protocol and connection handlers, request handler, and system logging facility. This includes a proprietary web server developed by Juniper, which provides the main interface for both users and administrators of the TOE. The web server provides users an interface to submit connection requests via an HTTPS encrypted tunnel.

b) Management Engine – provides features to handle TOE management commands that are received from the management platform in the IT environment. An administrator or read-only administrator uses it to access management features associated with their respective roles.

c) Software clients – open and manage a secure connection to the appliance for user connections.

11 The details of the TOE physical boundaries are described in Section 1.7.1 of the Security Target (Ref [6]).

1.5 Clarification of Scope

12 The TOE is designed to be suitable for use in well-protected environments that have effective countermeasures such as physical access protection, non-hostile and well-managed user community in accordance with administrator guidance that is supplied with the product. The information flow between internal and external networks should also passes through the TOE.

13 Section 1.4 of this document described the scope of the evaluation which was limited to those claims made in the Security Target (Ref [6]). The operating systems and the hardware running the software clients are outside the scope of the evaluation.

14 Potential consumers of the TOE are advised that some functions and services may not have been evaluated as part of the evaluation. Potential consumers of the TOE should carefully consider their requirements for using functions and services outside of the evaluated configuration.

1.6 Assumptions

15 This section summarises the security aspects of the environment/configuration in which the IT product is intended to operate. Consumers should understand their own IT environments and that required for secure operation of the TOE as defined in subsequent sections and in the Security Target Ref ([6]).

1.6.1 Usage assumptions

16 Assumptions for the TOE usage listed in the Security Target are:

a) The administrators will be non-hostile and follow all administrator guidance.

b) There are no general-purpose computing capabilities (e.g., the ability to execute arbitrary code or applications) and storage repository capabilities on the TOE.

c) The TOE does not host any public data.

d) Information cannot flow among the internal and external network unless it passes through the TOE.

1.6.2 Environmental assumptions

17 Assumptions for the TOE environment listed in the Security Target are:

a) The TOE will be located within controlled access facilities to prevent unauthorized physical access.

1.7 Evaluated Configuration

18 The TOE is the appliance and software client running on a remote IT system, as described in Section 1.7.1 of the Security Target (Ref [6]). The assurance gained via

evaluation applies specifically to the TOE in the defined evaluated configuration according to the documented preparative user guidance (Ref 29b) and 29c)).

19 The evaluated configuration for the TOE encompasses three components:

a) Appliance software: Juniper Networks Junos Pulse Secure Access Service 7.2 R4,

b) Appliance hardware: as per listed in Table 3 of the Security Target (Ref [6]), and

c) Client software: as per listed in Table 3 of the Security Target (Ref [6]).

1.8 Delivery Procedures

20 Secure Access is delivered to the customers using the delivery procedure (Ref 29a)), which ensures that the TOE is securely transferred from the development environment into the responsibility of the customer. The delivery procedures are outlined below.

21 Upon receipt by Juniper, customer orders are processed by Juniper Order Management where all subsequent processing (shipment transaction, package slip generation, and invoice generation) will take place.

22 Secure Access will be produced by authorised contract manufacturers. The appliances are uniquely labelled using an adhesive-backed thermal label that contains unit model number, unit serial number and in some instances the MAC address. These labels are printed during the manufacturing process by the contract manufacturers and affixed to the unit during final packaging of the box.

23 Juniper packages and labels the product in accordance with the current bill of material (BOM) and any applicable package specification for the product to be shipped.

24 Each hardware appliance is wrapped in a plastic bag to provide resistance against moisture. Then the appliance is enclosed in cardboard shipping boxes and sealed with tape that does not contain a Juniper logo. A shipping label identifying the exact product (including the serial number for the included device) and the customer name is provided on the outside of the shipping box.

25 Juniper employs commercial carrier for its shipment of goods. The commercial carrier provides a tracking service for both the sender (Juniper) and the receiver to track delivery and receipt of the package.

26 The recipient can verify that they have received a product that has not been tampered with:

a) Outside packaging: If the outside shipping box and tape have not been broken, and the outside shipping label properly identifies the customer and the product, then the product has not been tampered with.

b) Inside packaging: If the plastic bag or seal on the plastic bag are damaged or removed, the device may have been tampered with.

c) Delivery times: If delivery times coincide with the tracking information from the carrier, it can be assumed that the package was not tampered. It is assumed that the trusted carriers provide reasonable measures to protect the products from tampering during shipping.

27 There are several mechanisms provided in the above process for a customer to ensure that they are receiving a box sent by Juniper that has not been masqueraded by another company or entity:

a) When an appliance is shipped, an Advanced Shipment Notification is sent to the email address provided by the customer when the order is taken. This email includes the following information:

i) Purchase Order Number

ii) Juniper Order Number to be used to track the shipment

iii) Carrier tracking number to be used to track the shipment

iv) List of Items shipped including serial numbers

v) Address and contacts of the customer who ordered the product and who the product will be shipped to.

b) If a customer wants to verify that a box they have received was sent by Juniper they can do the following:

i) Compare the carrier tracking number or the Juniper order number listed in the Juniper shipment notification with the tracking number on the package received.

ii) Log onto the Juniper online customer support portal at https://www.juniper.net/customers/csc/management/ to view the Order Status. Compare the carrier tracking number or the Juniper order number listed in the Juniper shipment notification with the tracking number on the package received.

1.9 Documentation

28 To ensure secure usage of the product, it is important that the TOE is used in accordance with guidance documentation.

29 The following documentation is provided by the developer to the end user as guidance to ensure secure delivery, installation, and operation of the product:

a) Secure Delivery Processes and Procedures : Juniper Networks Junos Pulse Secure Access Service 7.2 R4, v1.1, 30 October 2012

b) Juniper Networks : Junos Pulse® Secure Access Service Complete Software Guide, v7.2, 15 May 2012

c) Operational User Guidance and Preparative Procedures Supplement : Juniper Networks Junos Pulse Secure Access Service 7.2 R4, v1.1, 30 October 2012

2 Evaluation

30 The evaluation was conducted in accordance with the requirements of the Common Criteria, Version 3.1 Revision 3 (Ref [2]) and the Common Methodology for IT Security Evaluation (CEM), Version 3.1 Revision 3 (Ref [3]). The evaluation was conducted at Evaluation Assurance Level 3 augmented with ALC_FLR.2 (EAL3+ ALC_FLR.2). The evaluation was performed conformant to the MyCC Scheme Policy (MyCC_P1) (Ref [4]) and MyCC Scheme Evaluation Facility Manual (MyCC_P3) (Ref [5]).

2.1 Evaluation Analysis Activities

31 The evaluation activities involved a structured evaluation of the TOE, including the following components:

2.1.1 Life-cycle support

32 An analysis of the TOE configuration management system and associated documentation was performed. The evaluators confirmed that the configuration list which includes the TOE and the evaluation evidence were clearly and uniquely labelled, and that the access control measures as described in the configuration management documentation are effective in preventing unauthorised access to the configuration items. The developer's configuration management system was also observed during the site visit, and it was found to be consistent with the provided evidence.

33 It is evaluated that the implemented configuration management system can control changes to those items that have been placed under configuration management system. The developer's configuration management system was also observed during the site visit, and it was found security flaws under configuration management ensures that security flaw reports are not lost or forgotten, and allows a developer to track security flaws to their resolution. This is evaluated to be consistent with the provided evidence.

34 During the site visit the evaluators examined the development security documentation and determined that it detailed sufficient security measures for the development environment to protect the confidentiality and integrity of the TOE design and implementation. The evaluators confirmed that the developer used a documented life-cycle model which provides necessary control over the development and maintenance of the TOE by using the procedures, tools and techniques described by the life-cycle model.

35 The evaluators examined the delivery documentation and determined that it described all of the procedures required to maintain the integrity of the TOE during distribution to the consumer.

2.1.2 Development

36 The evaluators analysed the TOE functional specification and design documentation; they determined that the design completely and accurately describes the TOE

security functionality (TSF) interfaces, and the TSF subsystems. The design described the TOE subsystems to sufficiently determine the TSF boundary. It provides a detailed description of the SFR-enforcing subsystems and enough information about the SFR supporting and SFR-non-interfering subsystems for the evaluator to determine that the SFRs are completely and accurately implemented.

37 The evaluators analysed the TOE security architectural description and determined that the delivery and installation process was secure and the security functions are protected against tamper and bypass. The evaluators also independently verified that the correspondence mappings between the design documents were correct.

2.1.3 Guidance documents

38 The evaluators examined the TOE preparative user guidance and operational user guidance, and determined that it sufficiently and unambiguously described how to securely transform the TOE into its evaluated configuration, and how to use and administer the product in order to fulfil the security objectives for the operational environment. The evaluators examined and tested the preparative and operational guidance, and determined that they were complete and sufficiently detailed to result in a secure configuration.

2.1.4 IT Product Testing

39 Testing at EAL3 consists of assessing developer tests, performing independent function test, and performing penetration tests. The TOE testing was conducted by evaluator from BAE Systems Detica MySEF at BAE Systems Detica MySEF Lab, Kuala Lumpur where it was subjected to comprehensive suite of formally documented, independent functional and penetration tests. The detailed testing activities, including configurations, procedures, test cases, expected results and actual results are documented in a separate Test Plan Reports.

2.1.4.1 Assessment of Developer Tests

40 The evaluators verified that the developer has met their testing responsibilities by examining their test plans, and reviewing their test results, as documented in the Evaluation Technical Report (Ref [7]) (not a public document because it contains information proprietary to the developer and/or the evaluator).

41 The evaluators analysed the developer's test coverage and depth analysis, and found them to be complete and accurate. The correspondence between the tests identified in the developer's test documentation and the interfaces in the implementation representative, functional specification, TOE design and security architecture description was complete.

2.1.4.2 Independent Functional Testing

42 Independent functional testing is the evaluation conducted by evaluator based on the information gathered by examining design and guidance documentation, examining developer's test documentations, executing a sample of the developer's test plan, and creating test cases that augmented the developer test.

43 All testing was planned and documented to a sufficient level of detail to allow repeatability of the testing procedures and results. The results of the independent functional tests were developed and performed by the evaluators to verify the TOE functionality as follows:

Table 2: Independent Functional Testing

DESCRIPTION	SECURITY FUNCTION	TSFI	RESULTS
To test that the TOE perform identification and authentication before any information flows are permitted. In conjunction with user authentication, this test is also focused on the security management functions part. For example TOE configurations, User management, Information flow policy, audit and other maintenance activities.	FIA_ATD.1, FIA_SOS.1, FIA_UAU.2, FIA_UID.2, FMT_MOF.1, FMT_MSA.1, FMT_MSA.2, FMT_MSA.3, FMT_MTD.1, FMT_SAE.1, FMT_SMF.1 and FMT_SMR.1	Administrator Interface, User Interface and Serial Interface	**PASS**. The TOE does perform identification and authentication, TOE configuration and user management.
To test that the TOE provides an information flow security policy. The security policy limits traffic to URLs and resource types, such as file servers, to specific user roles. In addition to that, this test will also be focusing on session timeout. Secure Access protects all current sessions from compromise by enforcing a timeout.	FDP_IFC.1, FDP_IFF.1, FDP_RIP.1, FPT_STM.1, FTA_SSL.3, FPT_ITT.1 and FTP_TRP.1	Administrator Interface, User interface and Network Interface	**PASS.** The TOE does provide an information flow security policy and session timeout.
To test that the TOE supports secure communications between users and the TOE and between TOE components. This encrypted traffic prevents modification and disclosure of user information.	FCS_CKM.1, FCS_CKM.2, FCS_CKM.4 and FCS_COP.1	Administrator Interface, User Interface and Network Interface	**PASS**. The TOE does supports secure communications between users and the TOE and between TOE components.
To test that the TOE generates audit records for security events.	FAU_GEN.1, FAU_SAR.1,	Administrator Interface, User	**PASS**. The TOE does generate

DESCRIPTION	SECURITY FUNCTION	TSFI	RESULTS
	FAU_STG.1 and FAU_STG.3	Interface and Serial Interface	audit records for security events.

44 All tests performed by the evaluators produced the expected results and as such the TOE behaved as expected.

2.1.4.3 Penetration Testing

45 The evaluators performed a vulnerability analysis of the TOE in order to identify potential vulnerabilities in the TOE and to determine whether these were exploitable in the intended operating environment of the TOE. This vulnerability analysis considered public domain sources and an analysis of guidance documentation, functional specification, TOE design, security architecture description, and implementation representation.

46 From the vulnerability analysis, the evaluators conducted penetration testing to determine that the TOE, in its operational environment, is resistant to attack performed by an attacker possessing a Basic attack potential. The following factors have been taken into consideration during penetration tests:

a) Time taken to identify and exploit (elapsed time);

b) Specialist technical expertise required (specialised expertise);

c) Knowledge of the TOE design and operation (knowledge of the TOE);

d) Window of opportunity; and

e) IT hardware/software or other requirement required for exploitation.

47 The penetration tests focused on:

a) Injection;

b) Man in the middle attack;

c) Reverse engineering attack; and

d) Fuzzing.

48 The results of the penetration testing note that there is no exploitable vulnerability and/or residual vulnerability found. However, it is important to ensure that the TOE is use only in its evaluated configuration and in secure environment.

2.1.4.4 Testing Results

49 Tests conducted for the TOE produced the expected results and demonstrated that the product behaved as specified in its Security Target and functional specification.

50 Based on the results of penetration testing, the evaluators determined that the TOE is resistant to an attacker possessing a Basic attack potential.

3 Result of the Evaluation

51 After due consideration during the oversight of the execution of the evaluation by the certifiers and of the Evaluation Technical Report (Ref [7]), the Malaysian Common Criteria Certification Body certifies the evaluation of Juniper Networks Junos Pulse Secure Access Service 7.2 R4 performed by the BAE Systems Detica MySEF.

52 The BAE Systems Detica MySEF found that Juniper Networks Junos Pulse Secure Access Service 7.2 R4 upholds the claims made in the Security Target (Ref [6]) and supporting documentation, and has met the requirements of the Common Criteria (CC) assurance level EAL3+ ALC_FLR.2.

53 Certification is not a guarantee that a TOE is completely free of exploitable vulnerabilities. There will remain a small level of risk that exploitable vulnerabilities remain undiscovered in its claimed security functionality. This risk is reduced as the certified level of assurance increases for the TOE.

3.1 Assurance Level Information

54 EAL3 provides assurance by a full Security Target (ST) and an analysis of the security functions in the ST, using a functional and interface specification, guidance documentation, and an architectural description of the TOE design, to understand the security behaviour.

55 The analysis is supported by independent testing of the TOE security functions, evidence of developer testing based on the functional specification and TOE design, selective independent confirmation of the developer test results, and a vulnerability analysis (based upon the functional specification, TOE design, security architecture description and guidance evidence provided) demonstrating resistance to penetration attackers with a Basic attack potential. However, in this evaluation, the lifecycle support evaluation is performed by the evaluator assuming a flaw reporting procedures of High based on ALC_FLR.2 requirements.

56 EAL3 also provides assurance through the use of development environment controls, TOE configuration management, and evidence of secure delivery procedures.

57 EAL3 represents a meaningful increase in assurance by requiring more complete testing coverage of the security functionality and mechanisms and/or procedures that provide some confidence that the TOE will not be tampered with during development.

3.2 Recommendations

58 In addition to ensure secure usage of the product, below are additional recommendations for Juniper Networks Junos Pulse Secure Access Service 7.2 R4 consumers:

a) The users and administrators of the TOE should make themselves familiar with the developer guidance provided with the TOE and pay attention to all security warnings.

b) Appropriate network layer protection, the network on which the TOE is installed must be both physically and logically protected.

c) System Administrator ensures that the TOE is correctly configured and performs annual testing to confirm that all vulnerabilities have been suitably addressed.

Annex A References

A.1 References

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[2] The Common Criteria for Information Technology Security Evaluation, Version 3.1, Revision 3, July 2009.

[3] The Common Evaluation Methodology for Information Technology Security Evaluation, Version 3.1, Revision 3, July 2009.

[4] MyCC Scheme Policy (MyCC_P1), v1a, CyberSecurity Malaysia, December 2009.

[5] MyCC Scheme Evaluation Facility Manual (MyCC_P3), v1, December 2009.

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A.2 Terminology

A.2.1 Acronyms

Table 3: List of Acronyms

Acronym	Expanded Term
CB	Certification Body
CC	Common Criteria (ISO/IEC15408)
CEM	Common Evaluation Methodology (ISO/IEC 18045)
CCRA	Common Criteria Recognition Arrangement
EAL	Evaluation Assurance Level
FIPS	Federal Information Processing Standard
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IEC	International Electrotechnical Commission
ISCB	Information Security Certification Body
ISO	International Standards Organisation
MyCB	Malaysian Common Criteria Certification Body

Acronym	Expanded Term
MyCC	Malaysian Common Criteria Evaluation and Certification Scheme
MyCPR	MyCC Scheme Certified Products Register
MySEF	Malaysian Security Evaluation Facility
SSH	Secure Shell
SSL	Secure Socket Layer
ST	Security Target
TOE	Target of Evaluation
TSF	TOE Security Functions
TSFI	TOE Security Functions Interface

A.2.2 Glossary of Terms

Table 4: Glossary of Terms

Term	Definition and Source
Certificate	The official representation from the CB of the certification of a specific version of a product to the Common Criteria.
Certification Body	An organisation responsible for carrying out **certification** and for overseeing the day-today operation of an **Evaluation and Certification Scheme**. Source CCRA.
Consumer	The organisation that uses the certified product within their infrastructure.
Developer	The organisation that develops the product submitted for CC evaluation and certification.
Evaluation	The assessment of an IT product, IT system, or any other valid target as defined by the scheme, proposed by an applicant against the standards covered by the scope defined in its application against the certification criteria specified in the rules of the scheme. Source CCRA and MS ISO/IEC Guide 65.
Evaluation and Certification Scheme	The systematic organisation of the functions of **evaluation** and **certification** under the authority of a **certification body** in order to ensure that high standards of competence and impartiality are maintained and that consistency is achieved. Source CCRA.
Interpretation	Expert technical judgement, when required, regarding the meaning or method of application of any technical aspect of the criteria or the methodology.
Certifier	The certifier responsible for managing a specific certification task.

Term	Definition and Source
Evaluator	The evaluator responsible for managing the technical aspects of a specific evaluation task.
Security Evaluation Facility	An organisation (or business unit of an organisation) that conducts ICT security evaluation of products and systems using the CC and CEM in accordance with Evaluation and Certification Scheme policy
Sponsor	The organisation that submits a product for evaluation and certification under the MyCC Scheme. The sponsor may also be the developer.
User	Any entity (human user or external IT entity) outside the TOE that interacts with the TOE.
User data	Data created by and for the user that does not affect the operation of the TSF.

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