



**CESG CERTIFICATION BODY**

**COMMON CRITERIA MAINTENANCE REPORT MR1  
(supplementing Certification Report No. P237)**



122-B

**Juniper Networks M/T/J Series Families of  
Service Routers running JUNOS 8.1R3**

**Covering J2300, J4350, J6350, M7i and M10i**

Issue 1.0

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**ARRANGEMENT ON THE  
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IN THE FIELD OF INFORMATION TECHNOLOGY SECURITY**

The CESG Certification Body is a member of the above Arrangement and as such this confirms that the addendum to the original Common Criteria certificate has been issued by or under the authority of a Party to this Arrangement and is the Party's claim that the addendum has been issued in accordance with the terms of this Arrangement.

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- confirms that this certificate has been issued under the authority of a party to an international Recognition Agreement ('RA') designed to ensure that security evaluations are performed to high and consistent standards
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The evaluation was carried out in accordance with the requirements of the UK IT Security Evaluation and Certification Scheme as described in United Kingdom Scheme Publication 01 [UKSP01] and 02 [UKSP02P1, UKSP02P2]. The Scheme has established a Certification Body, which is managed by CESG on behalf of Her Majesty's Government.

The purpose of the evaluation was to provide assurance about the effectiveness of the TOE in meeting its Security Target [ST], which prospective consumers are advised to read. To ensure that the Security Target gave an appropriate baseline for a CC evaluation, it was first itself evaluated. The TOE was then evaluated against this baseline. Both parts of the evaluation were performed in accordance<sup>1</sup> with CC Part 1 [CC1] and 3 [CC3], the Common Evaluation Methodology [CEM] and relevant Interpretations.

The issue of a Certification Report is a confirmation that the evaluation process has been carried out properly and that no *exploitable* vulnerabilities have been found in the evaluated configuration of the TOE. It is not an endorsement of the product.

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<sup>1</sup> All judgements contained in this Certification Report are covered by the Recognition Arrangement.



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## Abbreviations

CC	Common Criteria
CCRA	Common Criteria Recognition Arrangement
EAL	Evaluation Assurance Level
IAR	Impact Analysis Report
MR1	Maintenance Report No. 1
SFR	Security Functional Requirement
TOE	Target of Evaluation

For completeness, please also refer to Chapter 3 *Terms And Definitions* and Chapter 4 *Symbols And Abbreviated Terms* in Part 1 of the Common Criteria [CC].

## References

- [AC] Assurance Continuity: CCRA Requirements, Common Criteria Interpretation Management Board, CCIMB-2004-02-09, Version 1.0, February 2004.
- [CC] Common Criteria for IT Security Evaluation, Common Criteria Management Board, CCMB-2005-08-001, CCMB-2005-08-002 and CCMB-2005-08-003, Version 2.3, August 2005.
- [CCRA] Arrangement on the Recognition of Common Criteria Certificates in the Field of Information Technology Security, Members of the Agreement Group, May 2000.
- [CL] Common Criteria Configuration List for JUNOS 8.1R3, Juniper Networks, Incorporated, Issue 1.0, January 2008.
- [CR] Common Criteria Certification Report No. CRP237, Juniper Networks M/T/J Series of Service Routers running JUNOS 8.1R1, UK IT Security Evaluation and Certification Scheme, Issue 1.0, April 2007.
- [ETR] Juniper Networks M/T/J Series Families of Service Routers running JUNOS 8.1R1, Evaluation Technical Report, BT CLEF, Issue 1.0, 20/04/07.
- [IAR] Juniper Networks M/T/J Series Families of Service Routers running JUNOS 8.1R3, Impact Analysis Report, Juniper Networks, Incorporated, Version 1.0, December 2007.
- [RN] JUNOS 8.1 Internet Software Release Notes, Juniper Networks, Incorporated, 28 August 2007.
- [SCG] Security Configuration Guide for Common Criteria and JUNOS-FIPS, Release 8.1, Revision 3, Juniper Networks, Incorporated, Part Number: 530-020251-01.
- [ST] Security Target for Juniper Networks M/T/J Series Families of Service Routers running JUNOS 8.1R1, Juniper Networks, Incorporated, Version 1.0, April 2007.
- [ST1] Security Target for Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3, Juniper Networks, Incorporated, Version 1.0, January 2008.
- [VUL] Juniper Networks M/T/J Series Families of Service Routers running JUNOS 8.1R1, Vulnerability Analysis, Juniper Networks, Incorporated, Revision 0.4, February 2007.

## Introduction

1. This Maintenance Report outlines the current status of the Assurance Continuity process for *Juniper Networks M/T/J Series Families of Service Routers running JUNOS 8.1R3*, and is intended to assist prospective consumers when judging the suitability of the IT security of the product for their particular requirements.
2. The baseline for assurance maintenance was the Common Criteria evaluation, to the EAL3 Evaluation Assurance Level, of *Juniper Networks M/T/J Series of Service Routers running JUNOS 8.1R1*.
3. Prospective consumers are advised to read this document in conjunction with:
  - the Certification Report P237 [CR] for the EAL3 evaluation of the original certified Target of Evaluation (TOE), to which this report is an Addendum;
  - the Security Target [ST] of the certified TOE, which specifies the functional, environmental and assurance requirements for the evaluation; and
  - the updated Security Target [ST1] of the maintained derivative.

## Maintained Versions

4. The version of the product originally evaluated was:
  - *Juniper Networks M/T/J Series of Service Routers running JUNOS 8.1R1*.
5. The first (and latest) derived version of the product for which assurance has subsequently been maintained is:
  - *Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3*.
6. The maintenance of the first (and latest) derived version is described in this document, which provides a summary of the changes from the original product.

## Assurance Continuity Process

7. The Common Criteria Recognition Arrangement (CCRA) [CCRA] has been established as a basis for the mutual recognition of the results of Common Criteria evaluations. The process of Assurance Continuity within Common Criteria is defined in the document 'Assurance Continuity: CCRA Requirements' [AC].
8. The Assurance Continuity process is based on an Impact Analysis Report (IAR) produced by the Developer. The IAR describes all the changes made to the product, together with the updated evaluation evidence, and assesses the security impact of each change. For *Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers*



*running JUNOS 8.1R3*, [IAR] has been examined by the CESG Certification Body, who produced this Maintenance Report No. 1 (MR1).

9. The Developer, Juniper Networks, Incorporated, has carried out full retesting on *Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3*, and has considered all the assurance aspects detailed in 'Assurance Continuity: CCRA Requirements' [AC].

### **General Points**

10. Assurance continuity addresses the security functionality claimed in the Security Target [ST] with reference to the assumed environment specified. The assurance maintained TOE configurations and platform environments are as specified by the modifications detailed in this Report (see 'TOE Identification' and 'TOE Environment') in conjunction with the original Certification Report [CR]. Prospective consumers are advised to check that this matches their identified requirements.

11. The assurance continuity process is *not* a guarantee of freedom from security vulnerabilities. There remains a small probability (smaller with higher Evaluation Assurance Levels) that exploitable vulnerabilities may be discovered after the assurance continuity process has been completed. This Report reflects the Certification Body's view at the time of certification.

12. Existing and prospective consumers should check regularly for themselves whether any security vulnerabilities have been discovered since this Report was issued and, if appropriate, should check with the vendor to see if any patches exist for the product and whether those patches have further assurance.

13. The installation of patches for security vulnerabilities, whether or not those patches have further assurance, should improve the security of the TOE. However, note that unevaluated patching will invalidate the certification of the TOE, unless the TOE has undergone a formal re-certification or is covered by a Scheme-approved Assurance Continuity process.

### **Analysis of Changes**

14. JUNOS 8.1R1 was certified to the CC EAL3 level of assurance [CC], augmented with ALC\_FLR.3, in April 2007. See [ST], [ETR], and [CR] for full details.

15. [IAR] provides the Impact Analysis Report from JUNOS 8.1R1 to JUNOS 8.1R3 and provides the Assurance Continuity (Maintenance) rationale for JUNOS 8.1R3 on the following subset of platforms: J2300, J4350, J6350, M7i and M10i.

16. [IAR] conforms to the Assurance Continuity (Maintenance) requirements specified in [AC], in particular Chapters 4 and 5.



17. The Developer of the Certified TOE (JUNOS 8.1R1) and also the Maintained TOE (JUNOS 8.1R3) is:

Juniper Networks, Incorporated  
1194 North Mathilda Avenue  
Sunnyvale  
California 94089  
USA

18. No major changes were made between JUNOS 8.1R1 and JUNOS 8.1R3. All changes were bug fixes as described in [RN] and no changes were made to the development environment. As shown in Chapter 3 of [IAR], there were no changes that impacted the ALC\_FLR.3 augmentation since there are no changes to any of the deliverables that provided input into the ALC\_FLR.3 evaluation activity. The TOE changes and their impact & effect on the evaluation deliverables are described in [IAR], which shows that *for all changes*:

- The “Impact of Change” is determined to be “Minor”.
- The “Effect on evaluation deliverables” is determined to be “None”.
- The “Action” required for resolution is determined to be “None”.

19. Note that:

- Some of the changes were for platforms that were in the original JUNOS 8.1R1 evaluation but are not included in the scope of the Assurance Continuity (Maintenance) for JUNOS 8.1R3: J2300, J4350, J6350, M7i and M10i.
- Some of the changes were related to the CLI which was not included within the scope of the original evaluation and hence was considered to be outside the scope of the Assurance Continuity (Maintenance) for JUNOS 8.1R3.
- Some of the changes were related to availability or performance of the TOE in general, which do not correspond to any Security Functions (and have no relation to any SFRs), and hence were considered to be out of scope.
- Some of the changes were not in scope of the EAL3 requirements. For example, changes to detailed design or implementation aspects of the product are not provided in the EAL3 deliverables. However, the evaluators relied on the re-testing to confirm that the TOE behaved in the same manner.
- Some of the changes were not related to any Security Functions (and hence had no relation to any SFRs).



## Changes to Developer Evidence

20. The [IAR] shows that the *only* evaluation documentation deliverables that were updated were as follows:

- Results of Developer tests re-run on J2300, J4350, J6350, M7i and M10i platforms.
- Vulnerability Analysis (see below) [VUL].
- Secure Configuration Guide for Common Criteria and JUNOS-FIPS [SCG], in order to reference JUNOS 8.1R3.
- JUNOS 8.1 Common Criteria Configuration List [CL], in order to reference JUNOS 8.1R3.
- Security Target for Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3 [ST1], updated from [ST] in order to reference JUNOS 8.1R3.

21. Note that the first two items in the above list would be expected in any Assurance Continuity (Maintenance) activity and the last three items resulted in only minor changes.

## TOE Identification

22. The maintained TOE is uniquely identified as:

- *Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3*

## TOE Documentation

23. The TOE documents have changed as previously described in Paragraph 20.

## TOE Environment

24. The defined environment has not changed.

## Vulnerability Assessment

25. In order to assess whether any vulnerabilities had been introduced into the product between JUNOS 8.1R1 and JUNOS 8.1R3, an analysis was made of the Juniper Networks Flaw Reporting Database and public domain vulnerabilities. The same level of vulnerability analysis was performed for this re-assessment as was performed for the original evaluation. The information assessed also contained details of generic vulnerabilities, so any generic vulnerabilities relevant to JUNOS were also considered.

26. An analysis of the Juniper Networks Flaw Reporting Database was performed in November 2007. This showed that there had been no bugs logged that required changes within the scope of the maintained TOE between versions 8.1R1 and 8.1R3.

27. During the original evaluation a search of <http://securityfocus.org> and <http://cve.mitre.org> was performed on 19th February 2007 for vulnerabilities relating to JUNOS. This search was repeated on 21st November 2007 and it was found that no new vulnerabilities had been reported. As the scope of the TOE and the deliverables were unchanged, the mitigation of these vulnerabilities was unchanged from that reported in [ETR].

28. Therefore, no vulnerabilities were found between the certified version of the TOE (JUNOS 8.1R1) and the maintained version of the TOE (JUNOS 8.1R3).

### IT Product Testing

29. The testing performed for the evaluation of JUNOS 8.1R1 was completely automated and was controlled by a set of test scripts. The testing performed for JUNOS 8.1R3 was performed by the Regression Testing department at Juniper Networks, Incorporated.

30. The automated test scripts examined during the original evaluation were compared to the test scripts for JUNOS 8.1R3. Some of the test scripts have been renamed or split over two files. However the actual tests themselves have not changed and test exactly the same functionality in the same manner.

31. All test scripts used for testing JUNOS 8.1R3 were performed on all five models included within the reassessment (J2300, J4350, J6350, M7i and M10i) and all tests passed. The results were exactly the same as the results of the tests performed during the original evaluation.

32. Thus confidence can be gained that JUNOS 8.1R3 provides the claimed security functionality in the same manner as JUNOS 8.1R1.

### Summary

33. Exactly the same testing as performed for the evaluation of JUNOS 8.1R1 was performed on all platforms considered in the re-assessment (although some test scripts had been renamed or split over two files). Testing on JUNOS 8.1R3 produced exactly the same results as for JUNOS 8.1R1 and did not show up any inconsistencies or concerns.

34. The analysis in [IAR] shows that no major changes have been made to the TOE between JUNOS 8.1R1 and JUNOS 8.1R3. The only changes have been bug-fixes and these have all resulted in changes to the code that are at too low a level of detail to require any changes to the design documentation produced at EAL3. Thus all changes are categorised as having a **Minor** impact and hence EAL3 augmented with ALC\_FLR.3 assurance has been maintained.



## Conclusion

35. The Certification Body accepts the decisions detailed in [IAR], which has assessed each change as being of **Minor** impact, and concludes that the overall impact of all the changes is **Minor**. The Certification Body also accepts that [IAR] meets the requirements for an Impact Analysis Report as specified in the 'Assurance Continuity: CCRA Requirements' [AC].

36. After consideration of the [IAR] and other visibility of the assurance continuity process given to the Certifier, the Certification Body has determined that EAL3 augmented with ALC\_FLR.3 assurance, as outlined in Certification Report P237 [CR], has been maintained for the latest derived version, *Juniper Networks J2300, J4350, J6350, M7i and M10i Service Routers running JUNOS 8.1R3*. Only minor generic changes were required to the original Security Target [ST], to reflect TOE version changes, resulting in [ST1].