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**Australian Government**  
**Department of Defence**

**Defence Signals Directorate**  
**Australasian Information Security**  
**Evaluation Program**

**Complete CM Automation**  
**(ACM\_AUT.2) - CC V2.2**  
***Common Evaluation Methodology***

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**Version 1.1**

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# 1 Complete CM Automation (ACM\_AUT.2)

## 1.1 Objectives

- 1 The objective of this sub-activity is to determine whether changes to the implementation representation and all other TOE configuration items are controlled with the support of automated tools, thus making the CM system less susceptible to human error or negligence.

## 1.2 Input

- 2 The evaluation evidence for this sub-activity is:
  - a) the configuration management documentation;
  - b) the developer CM system.

## 1.3 Evaluator Actions

### 1.3.1 ACM\_AUT.2.1E

<b>ACM_AUT.2.1C</b> The CM system shall provide an automated means by which only authorised changes are made to the TOE implementation representation, <b>and to all other configuration items.</b>
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ACM\_AUT.2-1 The evaluator *shall check* the CM plan for a description of the automated measures to control access to the TOE implementation representation and all other configuration items.

- 3 The evaluator reviews the CM plan looking for a description of the automated measures to control access. These may include, but are not limited to:
  - a) Those roles within the automated system with authority to access or change CM items;

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- b) Those roles with authority within the automated system to administer roles and access rights within the automated system;
- c) The measures that ensure that configuration changes follow automated workflow to roles with authority to access, modify or delete configuration items;
- d) The measures for identifying and authenticating individuals accessing TOE configuration items under the control of the CM system;
- e) The measures for recording for audit purposes access to TOE configuration items under the control of the CM system.

ACM\_AUT.2-2 The evaluator *shall examine* the automated access control measures to determine that they are effective in preventing unauthorised modification of the TOE implementation representation and other configuration items.

4 The evaluator reviews the configuration management documentation to identify those individuals or roles authorised to make changes to the TOE implementation representation and other configuration items (as defined in ACM\_SCP.x). For example, once it is under configuration management, access to an element of the implementation representation, or a configuration item, may only be allowed for the individual who performs the software integration role.

5 The evaluator should exercise the automated access control measures to determine whether they can be bypassed by an unauthorised role or user. This determination need only comprise a few basic tests.

<b>ACM_AUT.2.2C</b> The CM system shall provide an automated means to support the generation of the TOE.
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ACM\_AUT.2-3 The evaluator *shall check* the CM documentation for automated means to support generation of the TOE from its implementation representation.

6 In this work unit the term “generation” applies to those processes adopted by the developer to progress the TOE from its implementation to a state ready to be delivered to the end customer.

7 The evaluator should verify the existence of automated generation support procedures within the CM documentation.

ACM\_AUT.2-4 The evaluator *shall examine* the automated generation procedures to determine that they can be used to support generation of the TOE.

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- 8 The evaluator determines that by following the generation procedures a TOE would be generated that reflects its implementation representation. The customer can then be confident that the version of the TOE delivered for installation implements the TSP as described in the ST. For example, in a software TOE this may include checking that the automated generation procedures help to ensure that all source files and related libraries that are relied upon to enforce the TSP are included in the compiled object code.
- 9 It should be noted that this requirement is only to provide support. For example, an approach that placed Unix makefiles under configuration management should be sufficient to meet the aim, given that in such a case automation would have made a significant contribution to accurate generation of the TOE. Automated procedures can assist in identifying the correct configuration items to be used in generating the TOE.

**ACM\_AUT.2.3C** The CM plan shall describe the automated tools used in the CM system.

ACM\_AUT.2-5 The evaluator *shall check* that the CM plan includes information on the automated tools used in the CM system.

- 10 The evaluator reviews the CM plan and looks for clear identification of the automated tools including tool names, versions, platforms and guidance documentation applicable to the operation of the automated tools.

**ACM\_AUT.2.4C** The CM plan shall describe how the automated tools are used in the CM system.

ACM\_AUT.2-6 The evaluator *shall examine* the information relating to the automated tools provided in the CM plan to determine that it describes how they are used.

- 11 The information provided in the CM plan provides the necessary detail for a user of the CM system to be able to operate the automated tools correctly in order to maintain the integrity of the TOE. For example, the information provided may include a description of:
- a) the functionality provided by the tools;
  - b) how this functionality is used by the developer to control changes to the implementation representation;
  - c) how this functionality is used by the developer to support generation of the TOE.

**ACM\_AUT.2.5C** The CM system shall provide an automated means to ascertain the changes between the TOE and its preceding version.

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ACM\_AUT.2-7 The evaluator *shall check* the CM documentation for a description of the automated means to ascertain the changes between the TOE and its preceding version.

12 The CM documentation should describe how the CM system maintains previous version(s) of the TOE and how the changes between the TOE and its preceding version(s) can be ascertained.

ACM\_AUT.2-8 The evaluator *shall examine* the CM system to determine that it provides the means to ascertain the changes between the TOE and its preceding version.

13 The evaluator should exercise the CM system in accordance with the developers CM documentation to verify that the changes between the TOE and its preceding version(s) can be obtained from the CM system.

<b>ACM_AUT.2.6C The CM system shall provide an automated means to identify all other configuration items that are affected by the modification of a given configuration item.</b>
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ACM\_AUT.2-9 The evaluator *shall check* the CM documentation for a description of the automated means to identify all other configuration items that are affected by the modification of a given configuration item.

14 The CM documentation should describe how the CM system identifies all other configuration items that are affected by the change of a given configuration item.

ACM\_AUT.2-10 The evaluator *shall examine* the CM system to determine that it provides the means to identify all configuration items that are affected by the modification of a given configuration item.

15 The evaluator should select a sample of configuration items, covering all types of items, and exercise the automated means to determine that it identifies all items that are affected by the change of the selected item.

16 For guidance on sampling see Annex B.2, Sampling.

## 1.4 Implied Evaluator Action

### 1.4.1 ACM\_AUT\_2.1D

ACM\_AUT.2-11 The evaluator *shall examine* the CM system to determine that the automated tools and procedures described in the CM plan are used.

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- 17        This work unit may be viewed as an additional activity to be carried out in parallel with the evaluator's examination into the use of the CM system required by CM capabilities (ACM\_CAP). The evaluator looks for evidence that the tools and procedures are in use. This should include a visit to the development site to witness operation of the tools and procedures, and an examination of evidence produced through their use.
- 18        For guidance on site visits see B.5.