

First edition
2010-02-15

**Information technology — Systems and
software engineering — Guide for
configuration management tool
capabilities**

*Technologies de l'information — Ingénierie des systèmes et du
logiciel — Guide pour les capacités d'outil de gestion de configuration*

Reference number
ISO/IEC TR 18018:2010(E)



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Application of this Technical Report.....	3
4.1 Overview.....	3
4.2 CM personnel.....	3
4.3 Tool suppliers	3
4.4 Acquirers	3
5 Capabilities of configuration management tools	4
5.1 Overview of configuration management tool capabilities	4
5.2 Configuration management tool capabilities	4
5.3 Configuration identification.....	6
5.4 Configuration baselining	7
5.5 Configuration control.....	8
5.6 Configuration status accounting	12
5.7 Configuration auditing	13
5.8 Release management and delivery.....	15
5.9 Other configuration management tool capabilities	16
Annex A (informative) Focus areas of each reference.....	17
Annex B (informative) Configuration management services	20
Bibliography.....	27

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard (“state of the art”, for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC TR 18018, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

Introduction

Configuration management (CM) is a process central to the software engineering life cycle. CM has been established as an ISO/IEC standard life cycle process in ISO/IEC 12207:2008, *Systems and software engineering — Software life cycle processes* and ISO/IEC 15288:2008, *Systems and software engineering — System life cycle processes*.

ISO/IEC 12207 and ISO/IEC 15288 describe a comprehensive set of processes, activities and tasks to be performed when acquiring or developing software. However, these documents do not address the capabilities that a CM tool user can expect from a tool in order to support the CM process and other software engineering life cycle activities. There is a gap between CM process descriptions and corresponding CM process automation which affects both tool users and tool suppliers.

This Technical Report provides guidance in the evaluation and selection for CM tools during acquisition. CM tool evaluation by prospective users can be complex, time consuming, and expensive. This Technical Report helps to characterize what a CM tool can and cannot do in the CM process.

This Technical Report provides guidance for tool manufacturers in implementing a minimum set of capabilities. The capabilities defined in this Technical Report are linked to ISO/IEC 12207 and ISO/IEC 15288, and will provide tool manufacturers with guidance on the characteristics their tools should support to meet these International Standards.

Information technology — Systems and software engineering — Guide for configuration management tool capabilities

1 Scope

This Technical Report provides guidance for configuration management tool capabilities from which systems and software development life cycle activities can be supported.

ISO/IEC 14102:2008, *Information technology — Guideline for the evaluation and selection of CASE tools*, details a set of evaluation criteria for CASE tools without referencing a specific activity or task which the tool supports. This lack of consideration on a specific activity or task causes users confusion and difficulty in evaluating and selecting the right tools.

This Technical Report supplements ISO/IEC 14102:2008 by providing a set of minimum tool capabilities for configuration management. It can be used as the set of criteria by a potential user during an acquisition process, or by a configuration management tool supplier to help identify desirable tool capabilities.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 12207:2008, *Systems and software engineering — Software life cycle processes*

ISO/IEC 15288:2008, *Systems and software engineering — System life cycle processes*