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Software Engineering — Software Life Cycle Processes — Maintenance

*Ingénierie du logiciel — Processus du cycle de vie du logiciel —
Maintenance*



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Standard for Software Engineering — Software Life Cycle Processes — Maintenance

Norme pour ingénierie du logiciel — Processus de cycle de vie du logiciel — Maintenance

Sponsor

Software & Systems Engineering Standards Committee
of the
IEEE Computer Society

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Abstract: The process for managing and executing software maintenance activities is described.

Keywords: life cycle, maintenance, software, software maintenance

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ISO/IEC/IEEE 14764 was prepared by Joint Technical Committee ISO/IEC JTC 1, Subcommittee SC 7, (Software and System Engineering).

The first edition of ISO/IEC 14764 was prepared by ISO/IEC JTC 1/SC 7. The current edition is the result of merging the original edition with IEEE Std 1219-1998. ISO/IEC JTC 1/SC 7 and the IEEE Computer Society cooperated in this project to merge the two standards. This second edition cancels and replaces the first edition (1999).



International Organization for Standardization/International Electrotechnical Commission
Case postale 56 • CH-1211 Genève 20 • Switzerland

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IEEE Introduction

This introduction is not part of ISO/IEC/IEEE 14764:2005(E), Standard for Software Engineering—Software Life Cycle Processes—Maintenance.

This International Standard provides guidance on the Software Maintenance Process. Software Maintenance is a primary process in the life cycle of a software product, as described in ISO/IEC 12207, “Information technology – Software life cycle processes.” The Maintenance Process contains the activities and tasks of the maintainer. This International Standard is part of the ISO/IEC 12207 family of documents. In this International Standard, ISO/IEC 12207 refers to ISO/IEC 12207:1995 as amended in 2002 and 2004. The only mandatory clauses in this International Standard come from ISO/IEC 12207. The mandatory clauses contain shalls and each shall from ISO/IEC 12207 that is duplicated in this International Standard is boxed. The related ISO/IEC 12207 clause number is listed after the boxed ISO/IEC 12207 shalls. This International Standard is the result of the harmonization of ISO/IEC 14764 and IEEE Std 1219-1998.¹

Because maintenance consumes a major share of a software life cycle financial resources, it should be an important project consideration.

During operation of the software, problems may be detected that were not detected during validation and acceptance. Therefore, a maintenance effort is needed to cope with these problems. This maintenance effort also covers software improvements needed to meet new or modified user requirements. Software maintenance is commonly needed when upgrading system components, such as operating systems and databases, as well as when modifications are made to external software and systems interfaces. Software maintenance may be a significant portion of life cycle costs.

Software maintainers use a number of specific tools, methods, and techniques. This International Standard does not specify how to implement or perform the activities and tasks in the Software Maintenance Process since these are dependent upon the formal agreement and organizational requirements. Maintenance is required on all types of software, whatever the technology, technique, or tool used to create it.

Clause 1 provides the scope of this International Standard. Clause 2 provides conformance information. Clause 3 provides normative references. Clause 4 provides terms and definitions. Clause 5 provides the application of this International Standard. Clause 6 provides the details of the Maintenance Process. Clause 7 provides execution considerations for the Maintenance Process. Clause 8 provides the software maintenance strategy. Annex A provides a cross reference between clauses in this International Standard and ISO/IEC 12207. Annex B provides a list of abbreviations used in this International Standard. Annex C provides a bibliography.

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Participants

At the time this standard was completed, the Software Maintenance Working Group had the following membership:

Paul Croll, *Chair*
Thomas Pigoski, *Editor*
James W. Moore, *Liaison to ISO/IEC JTC 1/SC 7*

The following members of the individual balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

| | | | |
|-------------------|--------------------|------------------|---------------------|
| Edward Bartlett | Christof Ebert | Carol Long | Mike Smith |
| Bakul Banerjee | John Fendrich | James Moore | Mitchell Smith |
| Juris Borzovs | Gregg Giesler | Jeremy Moore | Luca Spotorno |
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| Todd Cooper | Peeya Iwagoshi | Terence Rout | Janusz Zalewski |
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