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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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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO/IEC documents should be noted. This document was drafted in accordance with the rules given in the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

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ISO/IEC/IEEE 14764 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Systems and software engineering*, in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This third edition cancels and replaces the second edition (ISO/IEC 14764:2006), which has been technically revised.

The main changes compared to the previous edition are as follows:

- alignment of the standard with ISO/IEC/IEEE 12207:2017 and updates to other ISO/IEC JTC1/SC7 standards;
- introduction of modern approaches to “maintenance”.

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## Introduction

This document provides guidance on the software maintenance process. Maintenance is a technical process in the life cycle of a software product, as described in ISO/IEC/IEEE 12207. The maintenance process contains the activities and tasks of the maintenance organization. This document is the result of the harmonization of ISO/IEC 14764 and IEEE Std 1219, and the update for ISO/IEC/IEEE 12207:2017.

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 verification, 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 changes are made to external software and systems' interfaces. Software maintenance is typically a significant portion of life cycle costs, even when a part of the system under maintenance includes COTS software.

Software maintenance organizations use a number of specific tools, methods, and techniques. This document 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.