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IEEE Standard for Software Quality Assurance Plans

Sponsor

Software Engineering Standards Committee
of the
IEEE Computer Society

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IEEE-SA Standards Board

Abstract: The standard specifies the format and content of software quality assurance plans. It meets the IEEE/EIA 12207.1 requirements for such plans.
Keywords: assurance, quality, software quality

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Introduction

(This introduction is not a part of IEEE Std 730-2001, IEEE Standard for Software Quality Assurance Plans.)

This standard assists in determining the content and preparation of Software Quality Assurance Plans and provides a standard against which such plans can be prepared and assessed. It is directed toward the development and maintenance of software.

This standard is consistent with Clause 6.20 of IEEE/EIA 12207.1-1997 [B18] and obviates the need for Annex A of the 1998 version of the standard.[1] In addition to eliminating Annex A of the 1998 version of this standard, minor structural changes have been made to conform to the current IEEE Standards Style Manual.

There are three groups to whom this standard applies or may affect: the user, the supplier, and the public.

a) The user, who may be another element of the same organization developing the software, has a need for the product. Further, the user needs the product to meet the requirements identified in the specification. The user thus cannot afford a "hands-off" attitude toward the supplier and rely solely on a test to be executed at the end of the software development time period. If the product should fail, not only does the same need still exist, but also a portion of the development time has been lost. Therefore, the user needs to obtain a reasonable degree of confidence that the product is in the process of acquiring required attributes during software development.

b) The supplier needs an established standard against which to plan and to be measured. It is unreasonable to expect a complete reorientation from project to project. Not only is it not cost effective, but, unless there exists a stable framework on which to base changes, improvement cannot be made.

c) The public may be affected by the use of the product. The public may include, for example, depositors at a bank or passengers using a reservation system. The public users have requirements, such as legal rights, which preclude haphazard development of software. At some later date, the provider of the services to the public user and the supplier may be required to show that they acted in a reasonable and prudent professional manner to ensure that required software attributes were acquired.

Participants

This standard was prepared by the Software Engineering Standards Committee of the Software Engineering Technical Committee of the IEEE Computer Society. The Working Group consisted of the following members:

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[1]The numbers in brackets correspond to those of the bibliography in Annex A.

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IEEE Standard for Software Quality Assurance Plans

1. Overview

1.1 Scope

This standard applies to the development of a software quality assurance plan (SQAP). The existence of this standard should not be construed to prohibit additional content in a SQAP. An assessment should be made for the specific software item to assure adequacy of coverage. Where this standard is invoked for an organization or project engaged in producing several software items, the applicability of the standard should be specified for each of the software items.

Although this document does not require the use of IEEE/EIA Std 12207.0-1996 [B17] and IEEE/EIA Std 12207.1-1997 [B18], it is consistent with those two standards.[1] An SQAP meeting the requirements of this standard will be in document compliance with the SQAP information item of IEEE/EIA 12207.1-1997 [B18].

1.2 Purpose

The purpose of this standard is to provide uniform, minimum acceptable requirements for preparation and content of software quality assurance plans.

In considering adoption of this standard, regulatory bodies should be aware that specific application of this standard may already be covered by one or more IEEE or ANSI standards documents relating to quality assurance, definitions, or other matters. It is not the purpose of this document to supersede, revise, or amend existing standards directed to specific industries or applications.

1.3 Conformance to this standard

Content conformance to this standard can be claimed when all requirements (indicated by “shall”) are carried out as defined in this standard. Format conformance to this standard can be claimed if the resulting SQAP is in the format specified in Clause 4. The word “shall” is used to express a requirement, “should” to express a recommendation, and “may” to express alternative or optional methods of satisfying a requirement.

[1]The numbers in brackets correspond to those of the bibliography in Annex A.

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