



Standard Guide for Transition and Performance of Marine Software Systems Maintenance¹

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1. Scope

1.1 This guide covers a recommended plan for transition and acceptance of marine software that was developed by an activity other than the maintaining activity. It further provides a recommended iterative process model for managing and executing software maintenance activities.

2. Referenced Documents

2.1 ASTM Standards:

- E 622 Guide for Developing Computerized Systems²
- E 919 Specification for Software Documentation for a Computerized System²
- E 1013 Terminology Relating to Computerized Systems²

2.2 IEEE Standards:³

- 100 Standard Dictionary for Electrical and Electronic Terms
- 610 Standard Glossary of Software Engineering Terminology
- 1063 Standard for Software User Documentation
- 1074 Standard for Developing Software Life Cycle Processes

2.3 ANSI Standards:⁴

- ANSI/ISO/ASQC Q 9000—3 Quality Management and Quality Assurance Standards: Guidelines for the Application of ANSI/ISO/ASQC Q 9001 to the Development, Supply and Maintenance of Software
- ANSI/ISO/ASQC Q 9001 Quality Systems—Model for Quality Assurance in Design, Development, Production, Installation and Servicing

2.4 Military Standards and Specifications:⁵

MIL-STD 498 Software Development and Documentation

3. Terminology

3.1 The terminology used in this guide is defined in Terminology E 1013 and Guide E 622.

3.2 Other computer-related terms in this guide are defined in IEEE 100 and IEEE 610.12.

4. Significance and Use

4.1 This guide provides a recommended transition plan for a marine software maintainer, when the maintainer is other than the supplier, to develop the capability to make extensive changes or extensions to the programs. Further, this guide provides a recommended interactive process model for managing and executing software maintenance activities. This guide applies principally to the marine software that requires design effort and for which the product requirements are stated principally in performance terms.

5. Software Transition Plan

5.1 The software transition plan is developed when the software support concept calls for transition of responsibility from the developer to a separate support agent. The software transition plan identifies hardware, software, and other resources needed for life cycle support of deliverable software and describes the developer's plans for transitioning deliverable items to the support agent. The developer shall identify all software development resources needed by the support agent to fulfill the support concept specified in the contract. The developer shall develop and record plans identifying these resources and describing the approach to be followed for transitioning deliverable items to the support agent. The planning shall include the following.

5.1.1 *Software Support Resources*—Description of the resources needed to support the deliverable software. These resources shall include items needed to control, copy, and distribute the software and its documentation, and to specify, design, implement, document, test, evaluate, control, and distribute modifications to the software. This includes needed

¹ This guide is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.05 on Computer Applications.

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² *Annual Book of ASTM Standards*, Vol 14.01.

³ Available from IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08854-1331.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁵ Available from Standardization Documents Order Desk, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, Attn: NPODS.