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LETTER BALLOT

Document SC7 N2781

*Title: SC7 Framework for ISO/IEC Systems and Software
Engineering Standards*

“P” National Body must return their comments to the JTC 1/SC 7 Secretariat by email at Secretariat@jtc1-sc7.org no later than **2003-05-12**.

* We approve document N2781 as presented

OR

* We approve document N2781 with the attached comments

OR

* We disapprove document N2781 for the attached technical reasons

OR

* We abstain from voting (P-members have an obligation to vote)

National Body: _____

Date: _____

Signature: _____

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**SC7 Framework for
ISO/IEC Systems and
Software Engineering
Standards
Draft 7.0, 2nd February 2003**

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SC7 Framework for ISO/IEC Systems and Software Engineering Standards - 2003

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Foreword

The scope of this framework is to organize the collection of ISO/IEC systems and software engineering standards, be they published, under development or contemplated. By organizing and modeling the collection, it becomes possible to:

- Understand their relationship
- Visualize gaps and overlaps

The material contained in this document is drawn from a variety of sources. Notably, the work of James W. Moore, *Software Engineering Standards: A User's Road Map*, IEEE Computer Society Press, Los Alamitos, CA, 1997.

History:

- Draft 3: Prepared by FC and JM as a baseline for BPG consideration, 3 December 1999.
- Draft 4: Typographical improvements made by JM, 28 December 1999.
- Draft 5: Resolves comments on ODP from ballot of Draft 4, 30 June 2000.
- Draft 6: Resolves remaining comments from ballot of Draft 4.
- Draft 7: Resolves remaining comments from ballot of Draft 6 and restructure document from the work of SWG5.

1 Scope

1.1 Purpose

This document describes the relationships among the existing ISO/IEC systems and software engineering standards as well as those to be completed within the next few years. The document also provides a useful planning tool for the future standardization as part of the business-driven review processes within ISO/IEC JTC1/SC7.

1.2 Field of application

This document is intended for two primary audiences:

- Developers of SC7 standards who wish to understand how proposed efforts might relate to existing standards;
- Users of SC7 standards who desire a better understanding of the overall collection.

2 References

The following normative documents contain provisions which, through reference in this text constitute provisions of this plan. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this plan are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid international Standards.

3 SC7 Terms of Reference

The SC7 terms of reference are standardization of processes, supporting tools and supporting technologies for the engineering of software products and systems.

Note: These processes, tools and technologies are within the scope of the JTC1 Terms of Reference and exclude specific tools and technologies that have been assigned by JTC1 to other of its SC's.

4 SC7 standards framework

The purpose of this framework is to provide a scheme to organise and relate SC7 standards and related documents for planning, delivery, coordination and presentation purposes. All types of SC7 documents are considered, including standards, technical reports, and work-in-progress.

A framework consists of one or more modeling views. Many views are possible, each with their own strengths and weaknesses.

Three modeling views will be used in this document:

- Standard Domain classification

- Standard Nature Classification
- Software Supportive Standards

4.1 Standard Domain classification

The domain classification view is derived from ISO9000:2000 and provides information on the main domain of use of a standard. It is composed of a set of columns, each being a domain of use.

As a standard can be used in different cases, the same standard can appear in different columns.

The different domain of use are :

- Management responsibility
- Resource management
- Measurement, analysis, and Improvement
- Product Realization
- Product
- Acquirer/Supplier Agreement

4.2 Standard Nature classification

In addition, standards can be classified by their normative nature. The normative nature of the standards can be described in five categories:

- Vocabulary: documents providing vocabulary for the collection
- Reference models: documents providing organizing information for the collection
- Principle standards: key umbrella standards providing principles that are detailed by element standards
- Element standards: standards with detailed conformance requirements
- Guides and supplements: documents providing guidance on how principle or element standards may be applied in specific situation.

4.3 SC7 Standards

The results of the combination of these two modeling view is a composite framework illustrated by the following figure. Individual standards or Technical Reports or parts thereof may be categorized by insertion into one of the illustrated cells of the framework:

	Management Responsibility	Resource Management	Measurement, analysis, and Improvement	Product Realization	Product	Aquirer/Supplier Agreement
Vocabulary						
Reference models						
Principle Standards	12207 15288	12207 15288	12207 15288 15939 14598-1 9126-1 14143-1 15504-1/9 15504	12207 15288	12207 15288	12207 15288
Element Standards	15846 16326 16085	19770	14598-2/3/4/5/6 9126-2/3/4 14143-2 20926 20968 19761 14756 15504-2/3 15504-2 25000	15026 15910 18018		
Guides and Supplements	15271 9000-3 19760 9294	15271 9000-3 19760 15504-6, 19759	15271 9000-3 19760 9126-30 14143-3/4/5 24570 15504-4/5/7/8 15504-3/4/5	15271 9000-3 19760 14759 15289	15271 9000-3 19760 3535 18019	15271 9000-3 19760

4.4 Tools and methodological classification

This view gathers the different standards that are really related to the tools, techniques and methods used by systems or software engineering.

For historical reasons, the majority of these standards are dedicated to software.

The standards under this category are :

- 15474-1
- 5806
- 5807
- 6592
- 6593
- 8631
- 8790
- 8807
- 9127
- 10746-1/2/3/4/Amd
- 1141
- 12182
- 14568
- 14750
- 14764
- 12119
- 13235-1/3
- 14102
- 14471
- 14752
- 14753
- 14769
- 14771
- 15414
- 15437
- 15909
- 15935
- 15474-2
- 15475-1/2/3
- 15476-1/2
- 15940
- 19500-2
- 19501

5 ANNEXE A - SC7 Standard list

ISO 3535:1977	Forms design sheet and layout chart
ISO 5806:1984	Information processing -- Specification of single-hit decision tables
ISO 5807:1985	Information processing -- Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts
ISO/IEC 6592:2000	Information technology -- Guidelines for the documentation of computer-based application systems
ISO 6593:1985	Information processing -- Program flow for processing sequential files in terms of record groups
ISO/IEC 8631:1989	Information technology -- Program constructs and conventions for their representation
ISO 8790:1987	Information processing systems -- Computer system configuration diagram symbols and conventions
ISO 8807:1989	Information processing systems -- Open Systems Interconnection -- LOTOS -- A formal description technique based on the temporal ordering of observational behaviour
ISO/IEC 9126-1:2001	Software engineering -- Product quality -- Part 1: Quality model
ISO 9127:1988	Information processing systems -- User documentation and cover information for consumer software packages
ISO/IEC TR 9294:1990	Information technology -- Guidelines for the management of software documentation
ISO/IEC 10746-1:1998	Information technology -- Open Distributed Processing -- Reference model: Overview
ISO/IEC 10746-2:1996	Information technology -- Open Distributed Processing -- Reference Model: Foundations
ISO/IEC 10746-3:1996	Information technology -- Open Distributed Processing -- Reference Model: Architecture
ISO/IEC 10746-4:1998	Information technology -- Open Distributed Processing -- Reference Model: Architectural semantics
ISO/IEC 10746-4:1998/Amd 1:2001	Computational formalization
ISO/IEC 11411:1995	Information technology -- Representation for human communication of state transition of software
ISO/IEC 12119:1994	Information technology -- Software packages -- Quality requirements and testing
ISO/IEC TR 12182:1998	Information technology -- Categorization of software
ISO/IEC 12207:1995	Information technology -- Software life cycle processes
ISO/IEC 12207:1995/Amd 1:2002	
ISO/IEC 13235-1:1998	Information technology -- Open Distributed Processing -- Trading function: Specification
ISO/IEC 13235-3:1998	Information technology -- Open Distributed Processing -- Trading Function -- Part 3: Provision of Trading Function using OSI Directory service
ISO/IEC 14102:1995	Information technology -- Guideline for the evaluation and selection of CASE tools

ISO/IEC 14143-1:1998	Information technology -- Software measurement -- Functional size measurement -- Part 1: Definition of concepts
ISO/IEC TR 14143-4:2002	Information technology -- Software measurement -- Functional size measurement -- Part 4: Reference model
ISO/IEC TR 14471:1999	Information technology -- Software engineering -- Guidelines for the adoption of CASE tools
ISO/IEC 14568:1997	Information technology -- DXL: Diagram eXchange Language for tree-structured charts
ISO/IEC 14598-1:1999	Information technology -- Software product evaluation -- Part 1: General overview
ISO/IEC 14598-2:2000	Software engineering -- Product evaluation -- Part 2: Planning and management
ISO/IEC 14598-3:2000	Software engineering -- Product evaluation -- Part 3: Process for developers
ISO/IEC 14598-4:1999	Software engineering -- Product evaluation -- Part 4: Process for acquirers
ISO/IEC 14598-5:1998	Information technology -- Software product evaluation -- Part 5: Process for evaluators
ISO/IEC 14598-6:2001	Software engineering -- Product evaluation -- Part 6: Documentation of evaluation modules
ISO/IEC 14750:1999	Information technology -- Open Distributed Processing -- Interface Definition Language
ISO/IEC 14752:2000	Information technology -- Open Distributed Processing -- Protocol support for computational interactions
ISO/IEC 14753:1999	Information technology -- Open Distributed Processing -- Interface references and binding
ISO/IEC 14756:1999	Information technology -- Measurement and rating of performance of computer-based software systems
ISO/IEC TR 14759:1999	Software engineering -- Mock up and prototype -- A categorization of software mock up and prototype models and their use
ISO/IEC 14764:1999	Information technology -- Software maintenance
ISO/IEC 14769:2001	Information technology -- Open Distributed Processing -- Type Repository Function
ISO/IEC 14771:1999	Information technology -- Open Distributed Processing -- Naming framework
ISO/IEC 15026:1998	Information technology -- System and software integrity levels
ISO/IEC TR 15271:1998	Information technology -- Guide for ISO/IEC 12207 (Software Life Cycle Processes)
ISO/IEC 15414:2002	Information technology -- Open distributed processing -- Reference model -- Enterprise language
ISO/IEC 15437:2001	Information technology -- Enhancements to LOTOS (E-LOTOS)
ISO/IEC 15474-1:2002	Information technology -- CDIF framework -- Part 1: Overview
ISO/IEC 15474-2:2002	Information technology -- CDIF framework -- Part 2: Modelling and extensibility
ISO/IEC 15475-1:2002	Information technology -- CDIF transfer format -- Part 1: General rules for syntaxes and encodings
ISO/IEC 15475-2:2002	Information technology -- CDIF transfer format -- Part 2: Syntax SYNTAX.1
ISO/IEC 15475-3:2002	Information technology -- CDIF transfer format -- Part 3: Encoding ENCODING.1
ISO/IEC 15476-1:2002	Information technology -- CDIF semantic metamodel -- Part 1: Foundation
ISO/IEC 15476-2:2002	Information technology -- CDIF semantic metamodel -- Part 2: Common
ISO/IEC TR 15504-1:1998	Information technology -- Software process assessment -- Part 1: Concepts and introductory guide
ISO/IEC TR 15504-	Information technology -- Software process assessment -- Part 2: A reference

2:1998	model for processes and process capability
ISO/IEC TR 15504-3:1998	Information technology -- Software process assessment -- Part 3: Performing an assessment
ISO/IEC TR 15504-4:1998	Information technology -- Software process assessment -- Part 4: Guide to performing assessments
ISO/IEC TR 15504-5:1999	Information technology -- Software Process Assessment -- Part 5: An assessment model and indicator guidance
ISO/IEC TR 15504-6:1998	Information technology -- Software process assessment -- Part 6: Guide to competency of assessors
ISO/IEC TR 15504-7:1998	Information technology -- Software process assessment -- Part 7: Guide for use in process improvement
ISO/IEC TR 15504-8:1998	Information technology -- Software process assessment -- Part 8: Guide for use in determining supplier process capability
ISO/IEC TR 15504-9:1998	Information technology -- Software process assessment -- Part 9: Vocabulary
ISO/IEC TR 15846:1998	Information technology -- Software life cycle processes -- Configuration Management
ISO/IEC 15910:1999	Information technology -- Software user documentation process
ISO/IEC 15939:2002	Software engineering -- Software measurement process
ISO/IEC TR 16326:1999	Software engineering -- Guide for the application of ISO/IEC 12207 to project management
Square	Project to replace 9126 14598.