ISO/IEC JTC1/SC7
Software Engineering
Secretariat: CANADA (SCC)

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2000-09-10

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Title	Strategies and Architecture of SQuaRE: Software Product Quality Requirement and Evaluation.
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Project	
Status	3rd Draft
References	
Action ID	FYI
Due Date	
Mailing Date	2000-09-10
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No. Of Pages	17
Note	

(3rd Draft) Strategies and Architecture of
SQuaRE: Software Product Quality Requirement and Evaluation

2000-05-30

Revision of SC7 N22 (WG6 N467r2)

ISO/IEC JTC1/SC7/WG6

Motoei Azuma

INTRODUCTION

- Project 07.13 will complete its mission soon.

- Some inconsistency and needs for the new architecture was identified.

- Needs of the name for identify IS and TR by WG6 was identified.

- This document is the draft proposal for the next generation of 9126 and 14598 Series.

- This document was originally made at the WG6 Kanazawa meeting and revised at the Madrid meeting.
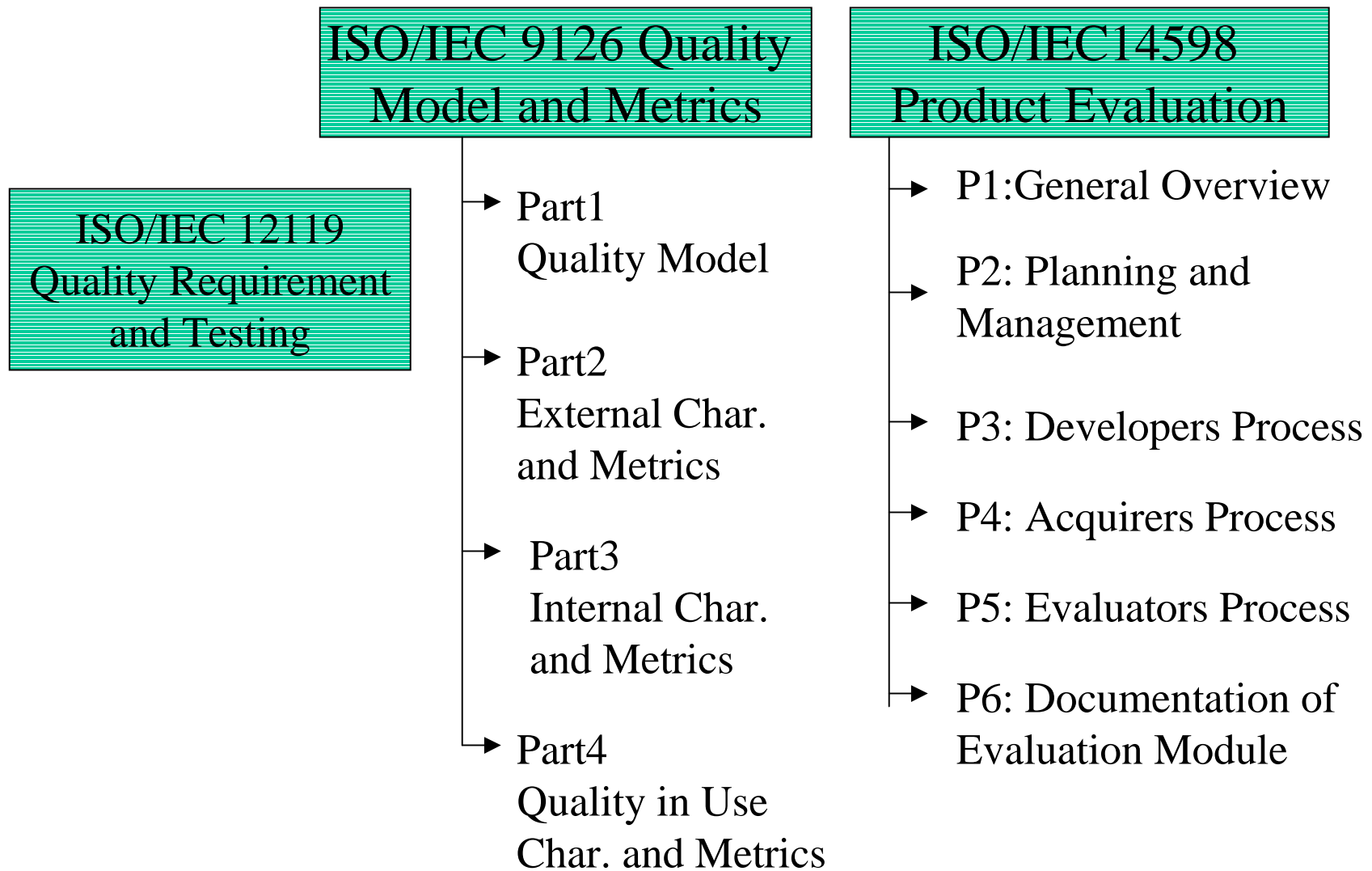
Needs for the New strategy and Architecture

- Existence of two series and inconsistency among them caused by the building block approach
  - 9126 (Software engineering - Product Quality)
  - 14598 (Software engineering - Product evaluation)
- Needs for total view of product quality
- Needs for map and guides for the series
- Needs for quality requirement standard
- Needs for umbrella standard on metrics
  - TR at current stage
  - Duplication of the common part

Strategy: Three Stages Plan

- Stage 1: Finish the current work
- Stage 2: Develop the strategy and initial WD for NPs
  - Reference model and Guides to use of the series
  - Quality requirement standard
  - Revision of 12119
  - Elementary metrics
- Stage 3:   Implement the New Plan
  - Revision of 9126 and 14598 series
  - Re-numbering

Stage 1: Current Structure

ISO/IEC 9126 Quality Model and Metrics

ISO/IEC14598 Product Evaluation

ISO/IEC 12119 Quality Requirement and Testing

→ Part1
Quality Model

→ Part2
External Char.
and Metrics

→ Part3
Internal Char.
and Metrics

→ Part4
Quality in Use
Char. and Metrics

→ P1:General Overview

→ P2: Planning and Management

→ P3: Developers Process

→ P4: Acquirers Process

→ P5: Evaluators Process

→ P6: Documentation of Evaluation Module

Stage 2: Preparation for the New SQUARE Architecture

ISO/IEC 9126 Quality Model and Metrics

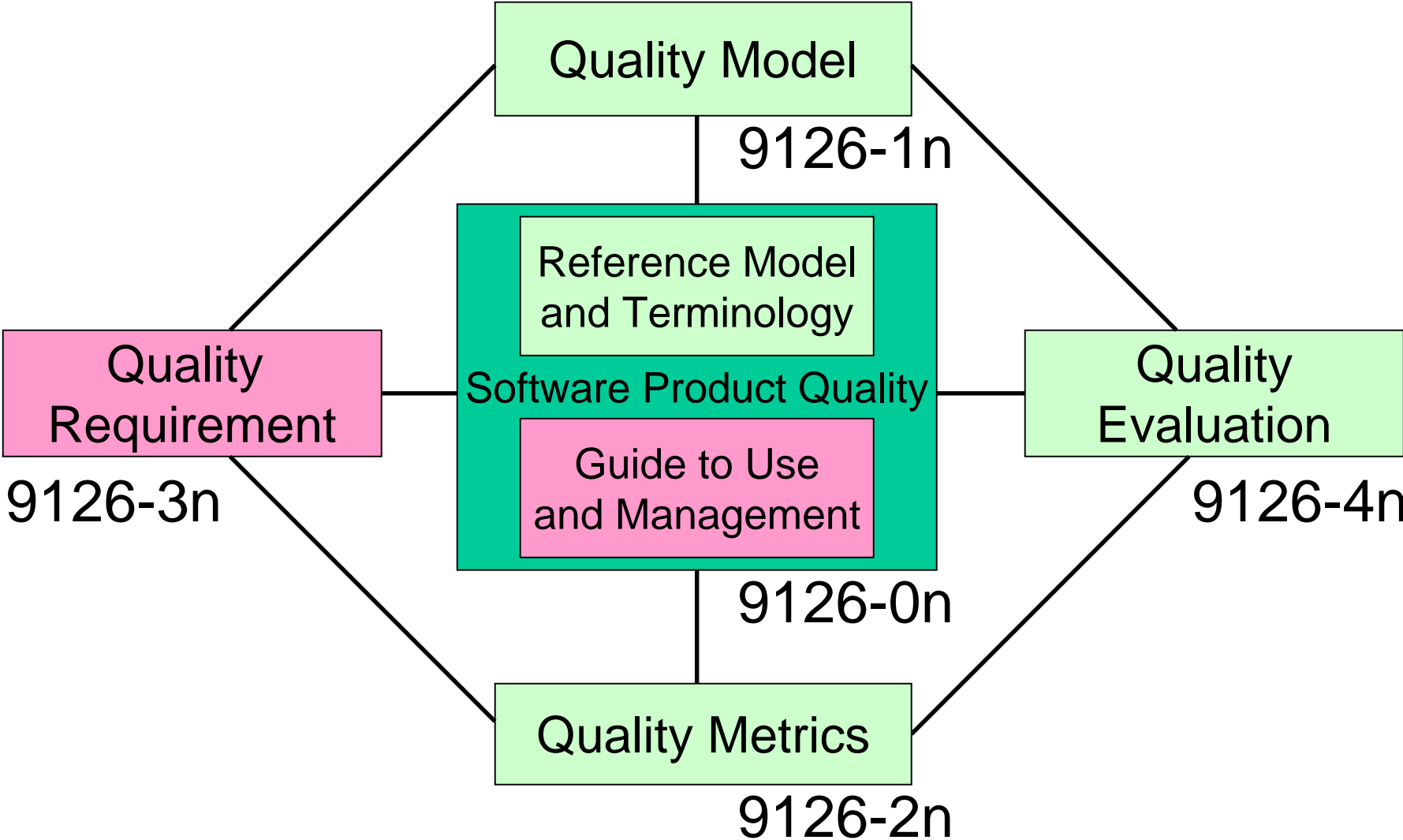**ISO/IEC14598 Product Evaluation**

NEW Quality Requirement

NEW Guide to use of Software Quality Std.
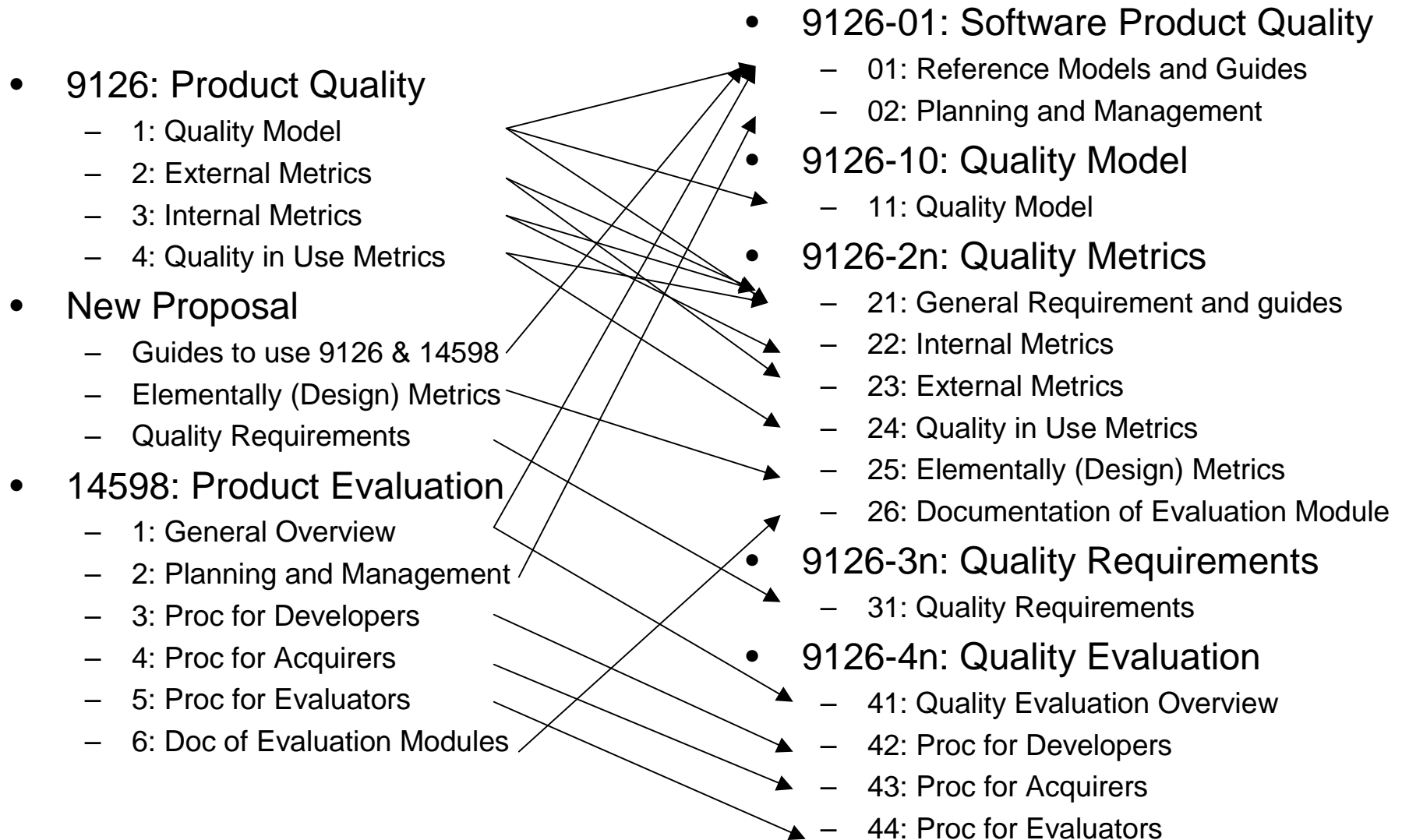
ISO/IEC 12119r Quality Requirement and Testing

- → Part1 Quality Model
- → Part2 External Char. and Metrics
- → Part3 Internal Char. and Metrics
- → Part4 Quality in Use Char. and Metrics
- → *Part5 (New) Elementally Metrics*

- → P1: General Overview
- → P2: Planning and Management
- → P3: Process for Developers
- → P4: Process for Acquirers
- → P5: Process for Evaluators
- → P6: Documentation of Evaluation Module

SQUARE Stage 3: New Architecture

Quality Model

9126-1n

Reference Model and Terminology

Software Product Quality

Quality Requirement

9126-3n

Guide to Use and Management

9126-0n

Quality Evaluation

9126-4n

Quality Metrics

9126-2n

Relation between Current and New Series

- **9126: Product Quality**
  - 1: Quality Model
  - 2: External Metrics
  - 3: Internal Metrics
  - 4: Quality in Use Metrics

- **New Proposal**
  - Guides to use 9126 & 14598
  - Elementally (Design) Metrics
  - Quality Requirements

- **14598: Product Evaluation**
  - 1: General Overview
  - 2: Planning and Management
  - 3: Proc for Developers
  - 4: Proc for Acquirers
  - 5: Proc for Evaluators
  - 6: Doc of Evaluation Modules

- **9126-01: Software Product Quality**
  - 01: Reference Models and Guides
  - 02: Planning and Management

- **9126-10: Quality Model**
  - 11: Quality Model

- **9126-2n: Quality Metrics**
  - 21: General Requirement and guides
  - 22: Internal Metrics
  - 23: External Metrics
  - 24: Quality in Use Metrics
  - 25: Elementally (Design) Metrics
  - 26: Documentation of Evaluation Module

- **9126-3n: Quality Requirements**
  - 31: Quality Requirements

- **9126-4n: Quality Evaluation**
  - 41: Quality Evaluation Overview
  - 42: Proc for Developers
  - 43: Proc for Acquirers
  - 44: Proc for Evaluators

New Part: Elementally (Design) Metrics
Reference: WG6 Kanazawa 10r

- Purpose, justification
- Major contents, scope
- Relationship to other standards
- Users
- Editor and Coeditor: Juri Vanicek, Nigel Bevan

NP: Guide to use of 9126 & 14598 series
Reference: WG6 Kanazawa 11r

- Purpose, justification
  - Give guide map of the series
  - Time saving of users
- Major contents, scope
  - Who should use which part
- Relationship to other standards
  - Describe usage of other standards
- Intended Users
  - All user of 9126 and 14598 series
- Editor and Coeditor: Danilo Scalet

NP: Quality Requirement

Reference: WG6 Kanazawa 12r

- Document Type:
  - Standard or Technical Report
  - New proposal
- Purpose and justification:
- Scope
  - Major contents:
  - Users:
- Relationship to other standards:
- Editor and Coeditor: Jogen Boergh, Ota, Nigel

12119 revision

- Title: Software packages - Quality requirement and testing
- Purpose, justification:
    - Consistency with 9126-1
    - Consistency with other standards
- Major contents, scope
- Relationship to other standards
    - 9126-1, ISO 9127
- Users
- Editor and Coeditor: Gilbert & Antonia

SQuaRE - 0n: SQuaRE Reference

Single Volume 3 parts umbrella document, which consists of normative part and informative part.

**9126-0n
Product Quality**

9126-01: Reference Model and General Overview

SQuaRE architecture model, terminology from 14598-1, overview from 9126-1

9126-02: Guide to Use of the series

New guide

9126-03: Planning and Management

Current 14598-2

SQUARE - 1n: Quality Model

Single volume 2parts document
Transfer metrics requirement (Normative reference)

**9126-1n
Quality Models**

9126-12: Quality Model

9126-13: Guide to Use of the quality model

SQUARE - 2n: Quality Metrics

**9126-2n
Quality Metrics**

From 9126-1

9126-21: Metrics Reference model and Guide

New

9126-22: Elementary Metrics

9126-23: Internal Metrics

9126-24: External Metrics

9126-25: Quality in Use Metrics

Current 14598-1

9126-26: Documentation of Evaluation Module

SQUARE - 3n: Quality Requirement

Single volume standard and guides

**9126-31
Quality Requirement**

→ Concepts and general guides to Quality Requirement

→ Quality in Use Requirement

→ External Quality Requirement

→ Internal Quality Requirement

12119r

This is not a part of SQuaRE!!

SQUARE - 4n: Evaluation

9126-4n
Product Evaluation

9126-41: Evaluation Process Overview

Modified 14598-1

9126-42: Developers Process

9126-43: Acquirers Process

9126-44: Evaluators Process