

Round Table ISO25000

October 30, 2019

ISO/IEC JTC 1 SC 7/WG 6
Software Product and System Quality

Overview of ISO/IEC 25000 SQuaRE Series

※: Systems and software **Quality Requirements and Evaluation**

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Purpose and Necessity of Product Evaluation Standardization

■ Purpose of product evaluation

- To verify work products satisfy requirements to them
- To compare and select the best from candidates
- To evaluate independently from user point of view

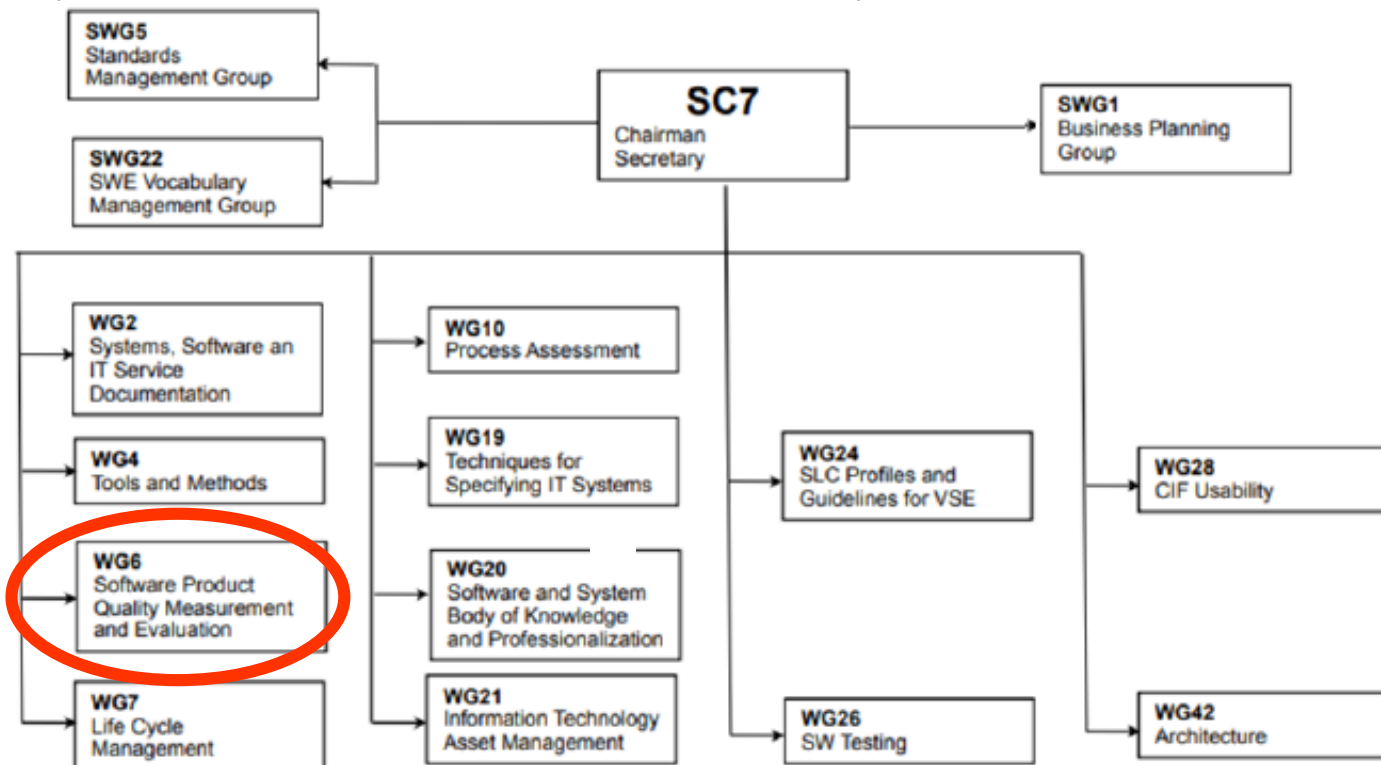
■ Necessity of standardization

- To establish basis for agreement on quality requirements
- To ensure objectivity, repeatability and quantification of evaluation
- To specify evaluation method and criteria of acceptance or selection

There was no consensus basis on software quality when software product quality evaluation standardization started in 1985. First IS (ISO/IEC 9126) published in 1991. Thereafter it has been evolved to suit for evolving ICT.

SC 7 Structure and WG 6 Position

- WG 6 is established in SC 7 in 1990 to standardize software quality requirement specification and evaluation. Scope expanded to software intensive systems and services, and data processed with software.
- Convener: Toshihiro Komiyama, Japan
- Secretary: Kenichi Sakamoto, Japan and Jacky Takahashi, Japan



Quoted from SC7 Secretary Report

SC 7/WG 6 Responsibility

Title:

Software Product and Systems Quality

Scope:

Development of Standards and Technical Reports for Systems and Software Product Quality Requirements, Measurement and Evaluation

Organizational Structure:

Documents	WG
SQuaRE Series (ISO/IEC 25000 - 25099)	WG 6
Categorization of IT systems and software	WG 6
Functional Size Measures	WG 6/FSM SG
CIF for Usability Reports (ISO/IEC 25060 - 25069)	JWG 28 (Joint between JTC1/SC7 and ISO/TC159/SC4)

SQuaRE Architecture and Sub-projects

ISO/IEC 2503n: Quality Requirements Division

25030: Quality requirements framework (2019)

Revision

ISO/IEC 2501n: Quality Model Division

25010: System and software quality models (2011)

25011: Service quality model (2017 as TS)

25012: Data quality model (2008)

ISO/IEC 2500n: Quality Management Division

25000: Guide to SQuaRE (2014)

25001: Planning and management (2014)

ISO/IEC 2502n: Quality Measurement Division

25020: Quality measurement framework (2019)

25021: Quality measure elements (2012)

25022: Measurement of quality in use (2016)

25023: Measurement of sys. & SWP quality (2016)

25024: Measurement of data quality (2015)

25025: Measurement of IT service quality (as TS)

New

ISO/IEC 2504n: Quality Evaluation Division

25040: Quality evaluation process (2011)

25041: Evaluation guide for developers, acquirers and independent evaluators (2012)

25045: Evaluation module for recoverability (2010)

ISO/IEC 25050 - 25099: SQuaRE Extension Division

25051: Requirements for quality of Ready to Use Software Product (RUSP) and instructions for testing (2014)

ISO/IEC 25060 - 25069:
Common Industry Format for Usability Reports
Joint between JTC1/SC7 and ISO/TC159/SC4

List of Published Standards

1. ISO/IEC 25000-2014: Guide to SQuaRE (Rev. of 25000-2005)
2. ISO/IEC 25001-2014: Planning and management (Rev. of 25001-2007)
3. ISO/IEC 25010-2011: System and software product quality models (Rev. of 9126-1_2001)
4. ISO/IEC TS 25011-2017: Service quality model
5. ISO/IEC 25012-2008: Data quality model
6. ISO/IEC 25020-2019: Quality measurement framework (Rev. of 25020_2007)
7. ISO/IEC 25021-2012: Quality measure elements (Rev. of TR 25021-2007)
8. ISO/IEC 25022-2016: Measurement of quality in use (Rev. of 9126-4)
9. ISO/IEC 25023-2016: Measurement of system and software product quality (Integration & rev. of 9126-2, 3)
10. ISO/IEC 25024-2015: Measurement of data quality
11. ISO/IEC 25030-2019: Quality requirements framework (Rev. of 25030_2007)
12. ISO/IEC 25040-2011: Evaluation process
13. ISO/IEC 25041-2012: Evaluation guide for developers, acquirers and independent evaluators
14. ISO/IEC 25045-2010: Evaluation module for recoverability
15. ISO/IEC 25051-2014: Requirements for quality of Ready to Use Software Product (RUSP) and instructions for testing (Rev. of 25051-2006)
16. ISO/IEC TR 12182-2015: Categorization of IT systems and software, and guide for applying it (Rev. of TR 12182-1998: Categorization of software)

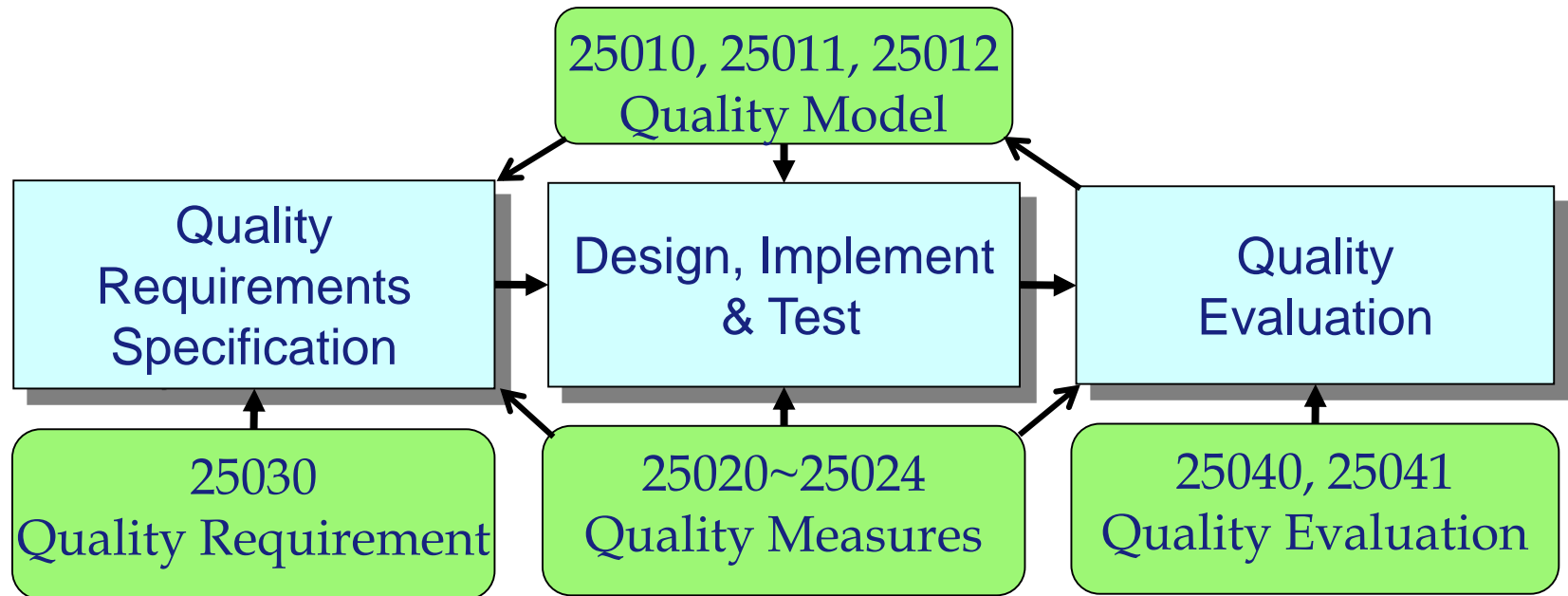
Issuance as JIS: Japanese Industry Standards

- SQuaRE documents are translated and published as JIS attaching same numbers with ISO/IEC numbers to promote utilization in Japan
 - Referable through JISC (Japanese Industrial Standards Committee) web site <https://www.jisc.go.jp/app/jis/general/GnrJISSearch.html>

		■:Published as JIS	□:Not Published as JIS
<p>JIS X 2503n: 品質要求部門</p> <p style="background-color: #90EE90; padding: 2px;">25030: 品質要求事項</p>	<p style="text-align: center;">JIS X 2501n:品質モデル部門</p> <p style="background-color: #90EE90; padding: 2px;">25010:システム及びソフトウェア品質モデル</p> <p style="background-color: #FFB6C1; padding: 2px;">25011: Service quality model</p> <p style="background-color: #90EE90; padding: 2px;">25012:データ品質モデル</p> <p style="text-align: center;">JIS X2500n:品質管理部門</p> <p style="background-color: #90EE90; padding: 2px;">25000:SQuaREの指針</p> <p style="background-color: #90EE90; padding: 2px;">25001:計画と管理</p> <p style="text-align: center;">JIS X 2502n:品質測定部門</p> <p style="background-color: #FFB6C1; padding: 2px;">25020:Quality measurement framework</p> <p style="background-color: #90EE90; padding: 2px;">25021:品質測定量要素</p> <p style="background-color: #90EE90; padding: 2px;">25022:利用時の品質の測定</p> <p style="background-color: #90EE90; padding: 2px;">25023:システム及びソフトウェア製品品質の測定</p> <p style="background-color: #90EE90; padding: 2px;">25024: データ品質の測定</p> <p style="background-color: #FFB6C1; padding: 2px;">25025:Measurement of IT service quality</p>	<p>JIS X 2504n: 品質評価部門</p> <p style="background-color: #90EE90; padding: 2px;">25040:評価プロセス</p> <p style="background-color: #90EE90; padding: 2px;">25041:開発者、取得者及び独立評価者への評価の手引</p> <p style="background-color: #FFB6C1; padding: 2px;">25045:Evaluation module for recoverability</p>	
<p>JIS X 25050 ~ 25099: 拡張部門</p> <p style="background-color: #90EE90; padding: 2px;">25051: 既製ソフトウェア製品 (RUSP) に対する品質要求事項及び試験に対する指示</p>	<p style="background-color: #FFB6C1; padding: 2px;">25060: General framework for usability-related information</p> <p style="background-color: #90EE90; padding: 2px;">25062:使用性の試験報告書のための工業共通様式</p> <p style="background-color: #FFB6C1; padding: 2px;">25063: Context of use description</p> <p style="background-color: #FFB6C1; padding: 2px;">25064: User needs report</p> <p style="background-color: #FFB6C1; padding: 2px;">25065: User requirements specification</p> <p style="background-color: #FFB6C1; padding: 2px;">25066: Evaluation report</p>		

Utilization of SQuaRE Series of Standards

Specify and evaluate systems and software quality quantitatively from multiple point of views



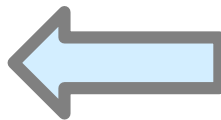
- ◆ Specify quality requirements using quality model and quality measures.
- ◆ Measure work products quality during development.
- ◆ Evaluate work products quality using quality measures at every Lifecycle stages.

Current and Future of SQuaRE

■ On-going projects

- Revision of 25010
 - To be spitted into the following three parts;
 - 25010-1: System and software quality models – Part1: Overview and usage (NP),
 - 25010-2: System and software quality models – Part 2: Product quality model (CD),
 - 25010-3: System and software quality models – Part 3: Quality in use model (NP).
- 25025: Measurement of IT service quality (DTS)

■ Future topics



Details will be explained by Prof. Nakajima

- Application of SQuaRE to cloud computing and AI
 - To be harmonized with SC38 and SC42
- Quality engineering
- Enhancement of quality evaluation (inc. independent evaluation)



**Thank You
for Your Kind Attention !!**