

# ISO/IEC 26564:2022-12 (E)

## Software and systems engineering - Methods and tools for product line measurement

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Reference model for product line measurement .....	2
4.1	Overview .....	2
4.2	Reference model for product line measurement .....	3
5	Product line measurement management .....	6
5.1	General .....	6
5.2	Product line measurement planning .....	6
5.2.1	Principal constituents .....	6
5.2.2	Identify strategies for measurement operationalization .....	7
5.2.3	Assign responsibility for measurement operationalization .....	8
5.2.4	Define success measures for measurement operationalization .....	8
5.2.5	Estimate adequate resources needed for measurement operationalization .....	8
5.2.6	Document product line measurement plans .....	9
5.3	Product line measurement enabling .....	9
5.3.1	Principal constituents .....	9
5.3.2	Enable product line measurement environment .....	10
5.3.3	Define index, formula, and integration protocol for commonality and variability measurement .....	10
5.3.4	Provide guidance for measurement operationalization .....	11
5.3.5	Enable measurement environments for quantifying measurement operationalization .....	11
5.4	Product line measurement managing .....	12
5.4.1	Principal constituents .....	12
5.4.2	Review measurement operationalization status with success measures .....	12
5.4.3	Control issues on measurement operationalization .....	13
5.4.4	Make corrective actions on measurement operationalization .....	13
6	Product line measurement operationalization .....	13
6.1	General .....	13
6.2	Product line measurement initiation .....	14
6.2.1	Principal constituents .....	14
6.2.2	Identify PL measurement participants .....	14
6.2.3	Mobilize resources for PL measurement operation .....	15
6.2.4	Initiate PL measurement operation .....	15
6.2.5	Perform preliminary PL measurement .....	15
6.3	Product line measurement for commonality .....	15
6.3.1	Principal constituents .....	15
6.3.2	Identify commonality for measurement .....	17
6.3.3	Apply commonality index and formula for PL measurement .....	18
6.3.4	Measure and determine the degree of PL commonality .....	18
6.3.5	Communicate and escalate commonality measurement issues to relevant roles and responsibilities (R&R) .....	18

6.4	Product line measurement for variability .....	19
6.4.1	Principal constituents .....	19
6.4.2	Identify variability for measurement .....	20
6.4.3	Apply variability index and formula for PL measurement .....	21
6.4.4	Measure and determine the degree of PL variability .....	21
6.4.5	Communicate and escalate variability measurement issues to relevant roles and responsibilities (R&R) .....	21
6.5	Product line measurement result integration .....	22
6.5.1	Principal constituents .....	22
6.5.2	Identify gaps for integration among commonality and variability indices .....	23
6.5.3	Integrate commonality and variability indices .....	23
6.5.4	Communicate and escalate PL measurement issues to relevant roles and responsibilities (R&R) .....	23
6.6	Product line measurement result analysis and reporting .....	24
6.6.1	Principal constituents .....	24
6.6.2	Analyse PL measurement results with PL objectives .....	24
6.6.3	Report PL measurement results .....	25
6.6.4	Identify improvement opportunities for defined indices of PL measurement .....	25
7	Product line measurement support .....	26
7.1	General .....	26
7.2	Conformance to product line measurement .....	26
7.2.1	Principal constituents .....	26
7.2.2	Objectively assure the conformance to the measurement of relevant domain engineering assets .....	27
7.2.3	Objectively assure the conformance to the measurement of relevant application engineering assets .....	27
7.2.4	Communicate and resolve non-compliance issues .....	28
7.2.5	Establish records on conformity assurance activities .....	28
7.3	Decision support for product line measurement .....	28
7.3.1	Principal constituents .....	28
7.3.2	Establish decision support policy for PL measurement .....	29
7.3.3	Tailor decision procedure for PL measurement .....	29
7.3.4	Guide the decision execution for PL measurement .....	29
7.3.5	Document the rationale for decisions concerning PL measurement .....	30
7.4	Uncertainty analysis for product line measurement .....	30
7.4.1	Principal constituents .....	30
7.4.2	Quantify uncertainty in PL measurement .....	31
7.4.3	Assess the confidence level of commonality measurement results .....	31
7.4.4	Assess the confidence level of variability measurement results .....	32
7.4.5	Evaluate and improve uncertainty analysis in PL measurement .....	32
	Annex A (informative) Commonality/variability analysis matrix .....	33
	Annex B (informative) Exemplary measurement for SSPL adoption .....	34
	Annex C (informative) Capability maturity of SSPL measurement .....	36
	Bibliography .....	38