

ISO/IEC/IEEE 15288:2023-05 (E)

Systems and software engineering - System life cycle processes

Contents		Page
Foreword		v
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms, definitions, and abbreviated terms	1
4	Conformance	9
4.1	Intended usage	9
4.2	Full conformance	10
4.2.1	Full conformance to outcomes	10
4.2.2	Full conformance to tasks	10
4.3	Tailored conformance	10
5	Key concepts and their application	11
5.1	General	11
5.2	System concepts	11
5.2.1	Systems	11
5.2.2	System structure	12
5.2.3	Interfacing, enabling, and interoperating systems	13
5.2.4	Concepts related to the system solution context	13
5.2.5	Product line engineering (PLE)	14
5.3	Organizational concepts	15
5.3.1	Organizations	15
5.3.2	Organization and project-level adoption	16
5.3.3	Organization and collaborative activities	16
5.4	System of systems concepts	16
5.4.1	Differences between systems and SoS	16
5.4.2	Managerial and operational independence	17
5.4.3	Taxonomy of SoS	17
5.4.4	SoS considerations in life cycle stages of a system	17
5.4.5	Application of this document to SoS	18
5.5	Life cycle concepts	18
5.5.1	System life cycle model	18
5.5.2	System life cycle stages	18
5.6	Process concepts	19
5.6.1	Criteria for processes	19
5.6.2	Description of processes	19
5.6.3	General characteristics of processes	19
5.7	Processes in this document	20
5.7.1	General	20
5.7.2	Agreement processes	22
5.7.3	Organizational project-enabling processes	22
5.7.4	Technical management processes	23
5.7.5	Technical processes	24
5.8	Process application	25
5.8.1	Overview	25
5.8.2	Process iteration, recursion, and concurrency	27
5.8.3	Process views	28

5.9	Concept and system definition	28
5.10	Assurance and quality characteristics	29
5.11	Process reference model	30
6	System life cycle processes	30
6.1	Agreement processes	30
6.1.1	Acquisition process	30
6.1.2	Supply process	32
6.2	Organizational project-enabling processes	34
6.2.1	Life cycle model management process	34
6.2.2	Infrastructure management process	36
6.2.3	Portfolio management process	37
6.2.4	Human resource management process	38
6.2.5	Quality management process	40
6.2.6	Knowledge management process	41
6.3	Technical management processes	43
6.3.1	Project planning process	43
6.3.2	Project assessment and control process	45
6.3.3	Decision management process	47
6.3.4	Risk management process	49
6.3.5	Configuration management process	51
6.3.6	Information management process	54
6.3.7	Measurement process	56
6.3.8	Quality assurance process	57
6.4	Technical processes	59
6.4.1	Business or mission analysis process	59
6.4.2	Stakeholder needs and requirements definition process	62
6.4.3	System requirements definition process	67
6.4.4	System architecture definition process	70
6.4.5	Design definition process	74
6.4.6	System analysis process	76
6.4.7	Implementation process	78
6.4.8	Integration process	81
6.4.9	Verification process	83
6.4.10	Transition process	85
6.4.11	Validation process	88
6.4.12	Operation process	91
6.4.13	Maintenance process	94
6.4.14	Disposal process	98
	Annex A (normative) Tailoring process	101
	Annex B (informative) Example process artefacts and information items	103
	Annex C (informative) Process reference model for assessment purposes	107
	Annex D (informative) Model-based systems and software engineering (MBSSE)	109
	Bibliography	113
	IEEE notices and abstract	117