

ISO/IEC 20741:2017-05 (E)

Systems and software engineering - Guideline for the evaluation and selection of software engineering tools

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	2
3	Terms and definitions	2
4	Abbreviated terms	3
5	Overview of evaluation and selection of software engineering tools	3
5.1	Introduction of the evaluation and selection of software engineering tools	3
5.2	Framework of the evaluation and selection of software engineering tools	4
5.3	General process considerations	4
5.3.1	Sequencing of processes	4
5.3.2	Reducing cost and risk	5
6	Preparation process	5
6.1	Purpose	5
6.2	Outcomes	6
6.3	Activities and tasks	6
6.3.1	Goal setting	6
6.3.2	Establishing selection criteria	7
6.3.3	Project planning and control	7
7	Structuring process	8
7.1	Purpose	8
7.2	Outcomes	8
7.3	Activities and tasks	9
7.3.1	Requirements definition	9
7.3.2	Software engineering tool information gathering	10
7.3.3	Identifying final candidate software engineering tools	11
8	Evaluation process	11
8.1	Purpose	11
8.2	Outcomes	12
8.3	Activities and tasks	12
8.3.1	Preparing for evaluation	12
8.3.2	Evaluating software engineering tools	13
8.3.3	Evaluation reporting	14
9	Software engineering tool selection process	14
9.1	Purpose	14
9.2	Outcomes	15
9.3	Activities and tasks	15
9.3.1	Preparing for selection	15
9.3.2	Applying the selection algorithm	15
9.3.3	Recommending a selection decision	15
9.3.4	Validating the selection decision	15

10	General software tool characteristics	16
10.1	Overview	16
10.2	Characteristics related to software engineering tool usage functionality	16
10.2.1	Overview	16
10.2.2	Software engineering tool operation environment characteristics	16
10.2.3	Software engineering tool integrability characteristics	17
10.2.4	Software engineering tool application characteristics	18
10.3	General quality characteristics	20
10.3.1	Overview	20
10.3.2	Functional suitability characteristics	20
10.3.3	Performance efficiency characteristics	20
10.3.4	Compatibility characteristics	21
10.3.5	Usability characteristics	21
10.3.6	Reliability characteristics	22
10.3.7	Security characteristics	23
10.3.8	Maintainability characteristics	24
10.3.9	Portability characteristics	25
10.4	General characteristics not related to quality	26
10.4.1	Overview	26
10.4.2	Acquisition process characteristics	26
10.4.3	Implementation characteristics	27
10.4.4	Support indicators characteristics	27
10.4.5	Evaluation or certification characteristics	28
Annex A (informative)	Examples of selection algorithms	29
Annex B (informative)	Evaluation report contents	32
Bibliography	34