

ISO 15704:2019-12 (E)

Enterprise modelling and architecture - Requirements for enterprise-referencing architectures and methodologies

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Abbreviated terms	5
5	Requirements for enterprise-referencing architectures and models	6
5.1	General requirements	6
5.2	Applicability and coverage of enterprise architecture	7
5.2.1	Kinds of enterprise	7
5.2.2	Characterizing enterprise architecture	7
5.2.3	Enterprise engineering and architecting methodology	7
5.2.4	Enterprise design	8
5.2.5	Enterprise operation	8
5.3	Essential concepts for enterprise-referencing architecture	8
5.3.1	Span of conceptual orientation	8
5.3.2	Human oriented	8
5.3.3	Process oriented	8
5.3.4	Interoperation oriented	8
5.3.5	Decision oriented	8
5.3.6	Realization oriented	9
5.3.7	Technology oriented	9
5.3.8	Environment oriented	9
5.3.9	Lifetime oriented	9
5.3.10	Stakeholder oriented	10
5.3.11	Viewpoint oriented	10
5.3.12	Model oriented	11
5.3.13	Model view oriented	12
5.3.14	Enterprise interoperation oriented	13
5.3.15	Verification and validation oriented	13
6	Components of enterprise-referencing architectures	13
6.1	Enterprise-referencing models	13
6.1.1	Purpose of enterprise-referencing models	13
6.1.2	Kinds of enterprise-referencing models	14
6.2	Modelling languages	16
6.2.1	Requirements for modelling languages and constructs	16
6.2.2	Expressiveness	16
6.2.3	Semantics and syntax of an enterprise-referencing model	16
6.2.4	Names, labels and glossary	17
6.2.5	Elements of interoperation	17
6.3	Models as representations	18
6.3.1	Representing enterprise characteristics	18
6.3.2	Concepts of internal structure	18
6.3.3	Compatibility of structuring approaches	18

6.3.4	Concepts of enterprise-referencing behaviour	19
6.3.5	Short-term and long-term behavioural change	19
6.3.6	Representation of behaviour	20
6.3.7	Concepts of hierarchy	20
6.3.8	Recursion in decomposition	21
6.3.9	Iteration	22
6.3.10	Availability and format of model information	22
6.3.11	Management of constituent parts	23
6.4	Impact of genericity	23
6.4.1	Generic enterprise elements	23
6.4.2	Partial enterprise models	23
6.4.3	Particular enterprise models	23
6.5	Enterprise perspectives and viewpoints	24
6.5.1	Primary concern perspectives	24
6.5.2	Additional concern perspectives	26
6.6	Enterprise-referencing modelling framework	26
6.7	Tools	27
6.8	Modules	27
6.9	Enterprise operational systems	27
6.10	Representation	27
Annex A (informative) Key principles of enterprise integration and interoperation		28
Annex B (informative) Generalized Enterprise Reference Architecture and Methodology (GERAM) ..		32
Annex C (informative) Relationship of this document with other International Standards related to architecture for enterprise systems		67
Bibliography		70