

ISO/TS 10303-18:2021-05 (E)

Industrial automation systems and integration - Product data representation and exchange - Part 18: Description methods: SysML XMI to Web services transformation

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions, and abbreviated terms	1
3.1 Terms and definitions.....	1
3.1.1 Terms and definitions for generic concepts.....	2
3.1.2 Terms and definitions for STEP concepts.....	2
3.1.3 Terms and definitions for SysML constructs.....	2
3.1.4 Terms and definitions used in OpenAPI specification.....	4
3.1.5 Terms and definitions used in hypertext transfer protocol.....	5
3.2 Abbreviated terms.....	6
4 Domain-independent, technology-independent services	7
4.1 Domain- and technology-independent services overview (CRUD+Query).....	7
4.2 Technology independent services definition.....	9
4.2.1 General.....	9
4.2.2 Representation, PartialRepresentation, OperationRepresentation and Reference.....	10
4.2.3 Mutation services.....	10
4.2.4 Interrogation services.....	12
5 Technology-dependent methods	13
5.1 General.....	13
5.2 Presentation conventions.....	14
5.3 SysML XMI to OpenAPI 3.0.0 JSON schema.....	14
5.3.1 General.....	14
5.3.2 Field “openapi”.....	14
5.3.3 Field “info”.....	15
5.3.4 Field “servers”.....	15
5.3.5 Field “tags”.....	15
5.3.6 Field “paths”.....	15
5.3.7 Field “components”.....	21
Annex A (normative) Information object registration	31
Annex B (informative) SysML to OpenAPI – Canonical XMI and equivalent in OpenAPI JSON schema	33
Annex C (informative) SysML to OpenAPI – Illustrative diagrams and files	61
Annex D (informative) SysML to OpenAPI - A listing of, and mapping between, SDAI and HTTP response status codes	63
Bibliography	69