

ISO/IEC 19987:2017-10 (E)

Information technology - EPC Information Services (EPCIS) Standard

Contents

	Page
1 Introduction	7
2 Relationship to the GS1 System Architecture.....	7
2.1 Overview of GS1 standards	8
2.2 EPCIS in relation to the “Capture” and “Share” layers	8
2.3 EPCIS in Relation to trading partners.....	10
2.4 EPCIS in relation to other GS1 System Architecture components.....	11
3 EPCIS specification principles.....	13
4 Terminology and typographical conventions.....	14
5 EPCIS specification framework	14
5.1 Layers	14
5.2 Extensibility.....	16
5.3 Modularity.....	16
6 Abstract data model layer.....	16
6.1 Event data and master data	17
6.1.1 Transmission of master data in EPCIS	19
6.2 Vocabulary kinds.....	20
6.3 Extension mechanisms.....	21
6.4 Identifier representation	22
6.5 Hierarchical vocabularies.....	22
7 Data definition layer	23
7.1 General rules for specifying data definition layer modules	23
7.1.1 Content	23
7.1.2 Notation	24
7.1.3 Semantics.....	25
7.2 Core event types module – overview	25
7.3 Core event types module – building blocks	29
7.3.1 Primitive types	29
7.3.2 Action type	29
7.3.3 The “What” dimension	30
7.3.4 The “Where” Dimension – read point and business location.....	33
7.3.5 The “Why” dimension	36
7.3.6 Instance/Lot master data (ILMD)	39
7.4 Core event types module – events	40
7.4.1 EPCISEvent.....	40
7.4.2 ObjectEvent (subclass of EPCISEvent)	43
7.4.3 AggregationEvent (subclass of EPCISEvent)	46
7.4.4 QuantityEvent (subclass of EPCISEvent) – DEPRECATED.....	49
7.4.5 TransactionEvent (subclass of EPCISEvent)	50
7.4.6 TransformationEvent (subclass of EPCISEvent).....	53
8 Service layer	55

8.1	Core capture operations module.....	57
8.1.1	Authentication and authorisation	57
8.1.2	Capture service	57
8.2	Core Query operations module.....	58
8.2.1	Authentication	59
8.2.2	Authorisation.....	59
8.2.3	Queries for large amounts of data.....	60
8.2.4	Overly complex queries	60
8.2.5	Query framework (EPCIS query control interface)	60
8.2.6	Error conditions	66
8.2.7	Predefined queries for EPCIS	68
8.2.8	Query callback interface	79
9	XML bindings for data definition modules	80
9.1	Extensibility mechanism.....	80
9.2	Standard business document header	82
9.3	EPCglobal Base schema	83
9.4	Master data in the XML binding	84
9.5	Schema for core event types	85
9.6	i Core event types – examples (Non-Normative)	97
9.6.1	Example 1 – Object Events with instance-level identification	97
9.6.2	Example 2 – Object Event with class-level identification.....	98
9.6.3	Example 3 – Aggregation event with mixed identification.....	99
9.6.4	Example 4 – Transformation event.....	100
9.7	Schema for master data document.....	101
9.8	i Master data – example (non-normative)	103
10	Bindings for core capture operations module	104
10.1	Message queue binding.....	104
10.2	HTTP binding	105
11	Bindings for core query operations module	106
11.1	XML schema for core query operations module	106
11.2	SOAP/HTTP binding for the query control interface	114
11.3	AS2 Binding for the query control interface	122
11.3.1	i GS1 AS2 guidelines (Non-Normative)	124
11.4	Bindings for query callback interface.....	126
11.4.1	General Considerations for all XML-based bindings.....	127
11.4.2	HTTP binding of the query callback interface	127
11.4.3	HTTPS binding of the query callback interface	127
11.4.4	AS2 Binding of the query callback interface.....	128
12	Conformance	129
12.1	Conformance of EPCIS data.....	129
12.2	Conformance of EPCIS capture interface clients	129
12.3	Conformance of EPCIS capture interface servers	129
12.4	Conformance of EPCIS query interface clients	130
12.5	Conformance of EPCIS query interface servers.....	130
12.6	Conformance of EPCIS query callback interface implementations	130
13	References	130