



Common information sharing environment service and Data Model (CDM); Validation of the Test Suite

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Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definition of terms, symbols and abbreviations.....	5
3.1 Terms.....	5
3.2 Symbols.....	5
3.3 Abbreviations	6
4 Test Setup.....	6
4.1 Introduction	6
4.2 Abstract protocol tester	6
4.3 Test Configuration.....	6
4.3.1 Introduction.....	6
4.3.2 Config_CISE_1.....	7
4.3.3 Config_CISE_2.....	7
4.3.4 Config_CISE_3.....	7
5 Implemented Tests	8
5.1 Test Suite Reference.....	8
5.2 Identification summary.....	8
5.3 ATS summary	8
5.4 Test laboratory.....	8
5.5 SUT	8
5.6 Protocol layer information.....	9
5.6.1 Protocol identification.....	9
5.7 IUT information	9
6 Test Report	14
6.1 Static conformance review report.....	14
6.2 Test campaign report	14
6.3 Observations.....	15
Annex A (informative): ATS in TTCN-3.....	16
A.1 TTCN-3 files and other related modules.....	16
History	17

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Foreword

This Group Report (GR) has been produced by ETSI Industry Specification Group (ISG) european Common information sharing environment service and Data Model (CDM).

Modal verbs terminology

In the present document "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document includes the outcome of a first Testing Campaign implemented to validate the ETSI CDM Test Suite against a reference CISE node carried on the ETSI CDM Testing Platform.

2 References

2.1 Normative references

Normative references are not applicable in the present document.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.2] ISO/IEC 9646-6 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".
- [i.3] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [i.4] ETSI GS CDM 004: "Common information sharing environment service and Data Model (CDM); Service Model; Release 2".
- [i.5] ETSI GS CDM 005: "Common Information sharing environment service and Data Model (CDM); Data Model".
- [i.6] ETSI GS CDM 007-2: "Common Information sharing environment service and Data Model (CDM); Testing; Conformance test specifications for CISE; Part 2: Test Suite Structure and Test Purposes (TSS & TP)".
- [i.7] ETSI GS CDM 007-3: "Common Information sharing environment service and Data Model (CDM); Testing; Conformance test specifications for CISE; Part 3: Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI GS CDM 004 [i.4], ETSI GS CDM 005 [i.5], ISO/IEC 9646-6 [i.2] and ISO/IEC 9646-7 [i.3] apply.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ATS	Abstract Test Suite
CDM	CISE Data Model
CISE	Common Information Sharing Environment
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PX	PiXit
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure

4 Test Setup

4.1 Introduction

The following clauses describe how the SUT and the Test System have been configured to undertake the conformance test specified for CISE in ETSI GS CDM 007-2 [i.6].

4.2 Abstract protocol tester

The abstract protocol tester used by the test suite is described in Figure 1. The Test System simulates valid and invalid protocol behaviour and analyses the reaction of the IUT.

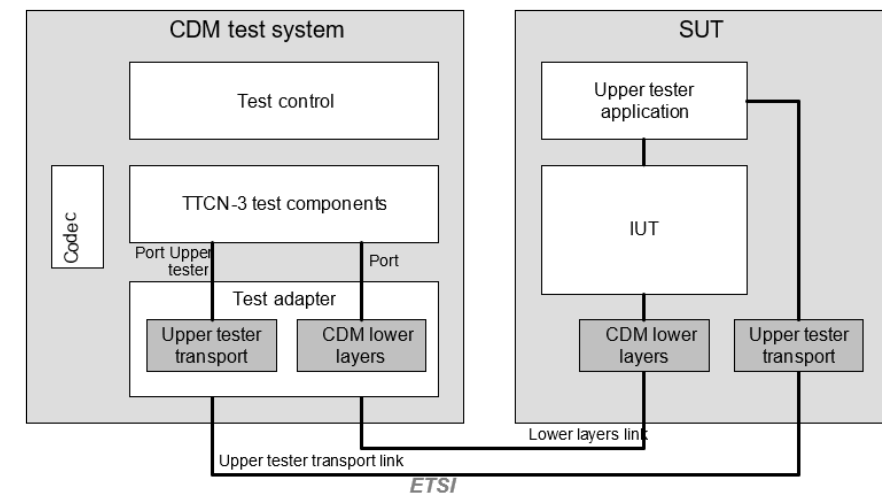


Figure 1: Abstract protocol tester - CISE ATS

4.3 Test Configuration

4.3.1 Introduction

This test suite uses three test configurations as defined in clauses below.

4.3.2 Config_CISE_1

The CISE node is acting as the IUT. This configuration is used to test the interface between the CISE Node and the CISE Adaptor.

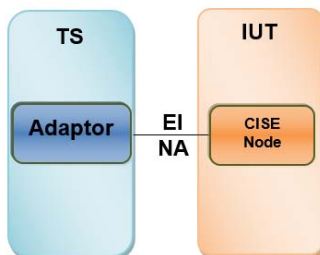


Figure 2: Config_CISE_1 to validate interface between IUT and the CISE Adaptor

4.3.3 Config_CISE_2

The CISE Node is acting as the IUT. This configuration is used to test the interface between the CISE Node and the CISE Network.

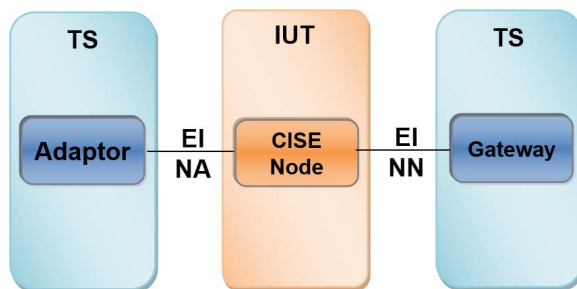


Figure 3: Config_CISE_2 to validate interface between IUT and the CISE Network

4.3.4 Config_CISE_3

The CISE Adaptor is acting as the IUT. This configuration is used to test the interface between the CISE Adaptor and the CISE Node.

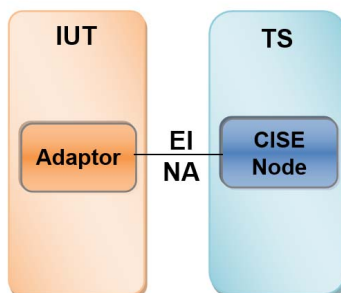


Figure 4: Config_CISE_3 to validate interface between IUT and the CISE Node

5 Implemented Tests

5.1 Test Suite Reference

The tests are based on PIXIT ISO/IEC 9646-6 [i.2] pro forma and are described in ETSI GS CDM 007-3 [i.7].

5.2 Identification summary

The Identification summary is specified in Table 5.1.

Table 5.1: Identification summary

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

5.3 ATS summary

The ATS summary is specified in Table 5.2.

Table 5.2: ATS summary

Protocol Specification:	ETSI GS CDM 004 [i.4], ETSI GS CDM 005 [i.5]
Protocol to be tested:	CDM protocol
ATS Specification:	ETSI GS CDM 004 [i.4], ETSI GS CDM 005 [i.5]
Abstract Test Method:	Clause 4

5.4 Test laboratory

The Test laboratory is specified as in Table 5.3.

Table 5.3: Test laboratory info

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

5.5 SUT

SUT is specified in Table 5.4.

Table 5.4: SUT

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

5.6 Protocol layer information

5.6.1 Protocol identification

Protocol identification is specified in Table 5.5.

Table 5.5: Protocol identification

Name:	CDM protocols ETSI GS CDM 004 [i.4] and ETSI GS CDM 005 [i.5]
Version:	
PICS References:	ETSI GS CDM 007-2 [i.6]

5.7 IUT information

CISE ATS PIXITs are listed in the following tables:

Table 5.6: Relevant general PIXITs

Identifier	Description	
PX_SECURITY_SIGN_HASH_ALG	Comment	Indicate the signature hash algorithm
	Type	HashAlgorithm
	Def. value	e_sha1
PX_CISE_REQUEST_ACK	Comment	Set to true if asynchronous acknowledgment messages are expected
	Type	boolean
	Def. value	true
PX_CISE_SENDER_SERVICE_ID	Comment	Sender service (consumer)
	Type	charstring
	Def. value	
PX_CISE_UNKNOWN_SENDER_SERVICE_ID	Comment	Unknown sender service (consumer)
	Type	charstring
	Def. value	
PX_CISE_RECIPIENT_SERVICE_ID	Comment	Recipient service (provider)
	Type	charstring
	Def. value	
PX_CISE_UNKNOWN_RECIPIENT_SERVICE_ID	Comment	Unknown recipient service (provider)
	Type	charstring
	Def. value	
PX_CISE_DISCOVERY_PROFILE_SERVICE_ID	Comment	Discovery profile service
	Type	charstring
	Def. value	
PX_COUNTRY_TYPE	Comment	Country identifier
	Type	CountryType
	Def. value	fR
PX_DATA_FRESHNESS_TYPE	Comment	Data freshness
	Type	DataFreshnessType
	Def. value	realTime
PX_CISE_SEA_BASSIN	Comment	Sea basin for discovery
	Type	charstring
	Def. value	northSea
PX_CISE_CONSUMER	Comment	Known vessel IMO number
	Type	ServiceRoleType
	Def. value	consumer
PX_CISE_PROVIDER	Comment	Unknown vessel IMO number
	Type	ServiceRoleType
	Def. value	provider
PX_SUBSCRIPTION_REFRESH_RATE	Comment	Subscription data refresh rate
	Type	Duration
	Def. value	P0Y0M0DT0H1M0S

Table 5.7: Vessel specific PIXITs

Identifier	Description	
PX_VESSEL_IMO_NUMBER	Comment	Known vessel IMO number
	Type	integer
	Def. value	
PX_VESSEL_UNKNOWN_IMO_NUMBER	Comment	Unknown vessel IMO number
	Type	integer
	Def. value	
PX_VESSEL_DATA_FRESHNESS_TYPE	Comment	Data freshness
	Type	DataFreshnessType
	Def. value	realTime
PX_VESSEL_POS_LATITUDE	Comment	Vessel position
	Type	charstring
	Def. value	81.0
PX_VESSEL_POS_LONGITUDE	Comment	Vessel position
	Type	charstring
	Def. value	171.0
PX_VESSEL_INVALID_POS_LATITUDE	Comment	Invalid vessel position
	Type	charstring
	Def. value	171.0
PX_VESSEL_INVALID_POS_LONGITUDE	Comment	Vessel position
	Type	charstring
	Def. value	81.0
PX_VESSEL_TYPE	Comment	Vessel type
	Type	VesselType
	Def. value	fishingVessel
PX_VESSEL_NET_TONNAGE	Comment	Vessel net tonnage, used for payload selector filters
	Type	float
	Def. value	
PX_PAYLOAD_SELECTOR_CONDITION_1	Comment	Agent UUID
	Type	charstring
	Def. value	//Vessel/NetTonnage
PX_PAYLOAD_SELECTOR_CONDITION_2	Comment	Agent UUID
	Type	charstring
	Def. value	//Vessel/MaximumSpeed

Table 5.8: Agent specific PIXITs

Identifier	Description	
PX_AGENT_UUID	Comment	Agent UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_AGENT_AGENT_ROLE	Comment	Unknown vessel IMO number
	Type	AgentRoleInEventType
	Def. value	nonSpecified
PX_AGENT_CONTACT	Comment	Agent contact point
	Type	charstring
	Def. value	BEGIN:VCARD#13;\nVERSION:3.0#13;\nPROPID:ez-vcard\n0.10.5#13;\nFN:AgentPerson#13;\nEMAIL:Person@Person#13;\nTEL:321234#13;\nEND:VCARD#13;

Table 5.9: Organization specific PIXITs

Identifier	Description	
PX_ORGANIZATION_LEGAL_NAME	Comment	Organization legal name
	Type	charstring
	Def. value	A1
PX_INVALID_ORGANIZATION_LEGAL_NAME	Comment	Unknown organization legal name
	Type	Charstring
	Def. value	CAFEDECA
PX_ORGANIZATION_UUID	Comment	Organization UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_ORGANIZATION_COUNTRY	Comment	Data freshness
	Type	charstring
	Def. value	FR
PX_ORGANIZATION_CONTACT	Comment	Organization contact point
	Type	charstring
	Def. value	BEGIN:VCARD;VERSION:3.0;PRODID:ez-vcard 0.10.5;FN:AgentPerson;EMAIL:Person@Person;TEL:321234;END:VCARD;

Table 5.10: Action specific PIXITs

Identifier	Description	
PX_ACTION_UUID	Comment	Action UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_ACTION_NATURE_TYPE	Comment	Nature of the action
	Type	NatureType
	Def. value	observed
PX_ACTION_ACTION_STATUS	Comment	Action status
	Type	ActionStatus
	Def. value	nonSpecified
PX_ACTION_MISSION	Comment	Data freshness
	Type	charstring
	Def. value	FR
PX_ACTION_PRIORITY	Comment	Action priority
	Type	ActionPriorityType
	Def. value	High

Table 5.11: Anomaly specific PIXITs

Identifier	Description	
PX_ANOMALY_UUID	Comment	Anomaly UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_ANOMALY_NATURE_TYPE	Comment	Nature of the anomaly
	Type	NatureType
	Def. value	observed
PX_ANOMALY_TYPE	Comment	Type of the anomaly
	Type	AnomalyType
	Def. value	nonSpecified

Table 5.12: Period specific PIXITs

Identifier	Description	
PX_PERIOD_START_DATE	Comment	Period starting date
	Type	Date
	Def. value	
PX_PERIOD_END_DATE	Comment	Period ending date
	Type	Date
	Def. value	

Table 5.13: Document specific PIXITs

Identifier	Description	
PX_CERTIFICATE_DOCUMENT_SUBJECT_UUID	Comment	Certificate document subject UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_CERTIFICATE_DOCUMENT_SUBJECT	Comment	Certificate document subject
	Type	charstring
	Def. value	Tonnage Certificate
PX_CERTIFICATE_DOCUMENT_TITLE	Comment	Certificate document title
	Type	charstring
	Def. value	Tonnage Certificate
PX_CERTIFICATE_DOCUMENT_VERSION	Comment	Certificate document version
	Type	charstring
	Def. value	V1.0.1
PX_CERTIFICATE_DOCUMENT_CONTENT	Comment	Certificate document content
	Type	charstring
	Def. value	
PX_CERTIFICATE_DOCUMENT_B64_CONTENT	Comment	Certificate document content encoded B64
	Type	charstring
	Def. value	
PX_CERTIFICATE_DOCUMENT_B64_CONTENT_HASH	Comment	Hash of the B64 certificate document content
	Type	charstring
	Def. value	171.0
PX_CERTIFICATE_DOCUMENT_B64_INVALID_HASH	Comment	Altered hash of the B64 certificate document content
	Type	charstring
	Def. value	81.0
PX_CERTIFICATE_DOCUMENT_TYPE	Comment	Document type
	Type	CertificateDocumentType
	Def. value	tonnageCertificate

Table 5.14: Incident specific PIXITs

Identifier	Description	
PX_INCIDENT_UUID	Comment	Incident UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_INCIDENT_NATURE_TYPE	Comment	Nature of the incident
	Type	NatureType
	Def. value	observed
PX_INCIDENT_CERTAINTY	Comment	Certainty of the incident
	Type	CertaintyType
	Def. value	likely
PX_INCIDENT_DEATHS_ON_BOARD	Comment	Are there deaths on board?
	Type	integer
	Def. value	0
PX_INCIDENT_DISEASES_ON_BOARD	Comment	Are there diseases on board?
	Type	boolean
	Def. value	false

Identifier	Description	
	PX_INCIDENT_INFECTION_ON_BOARD	Comment
Type		boolean
Def. value		false
PX_INCIDENT_NUMBER_OF_IILL_PERSONS	Comment	Number of ill persons
	Type	integer
	Def. value	5
PX_INCIDENT_RESPONSE_URGENCY	Comment	Urgency of the response to the incident
	Type	UrgencyType
	Def. value	future
PX_INCIDENT_SEVERITY	Comment	Incident severity
	Type	SeverityType
	Def. value	severe
PX_INCIDENT_SICK_ANIMAL_ON_BOARD	Comment	Are there sick animals on board?
	Type	boolean
	Def. value	true

Table 5.15: Meteo Oceanographic Conditions specific PIXITs

Identifier	Description	
	PX_METEO_AIR_TEMP	Comment
Type		float
Def. value		21.0
PX_METEO_CLOUD_CEILING	Comment	Cloud ceiling
	Type	integer
	Def. value	1
PX_METEO_CLOUD_COVER	Comment	Cloud coverage
	Type	CloudCoverType
	Def. value	clearSky
PX_METEO_PRECIPITATION	Comment	Is the weather rainy?
	Type	integer
	Def. value	0
PX_METEO_SALINITY	Comment	Sea salinity
	Type	float
	Def. value	5.9
PX_METEO_SEA_CONDITION	Comment	Sea condition
	Type	SeaConditionType
	Def. value	calm_rippled
PX_METEO_SEA_LEVEL_PRESSURE	Comment	Sea level pressure
	Type	float
	Def. value	1.0
PX_METEO_SOURCE_TYPE	Comment	Source of the meteo conditions information
	Type	SourceType
	Def. value	observed
PX_METEO_WATER_TEMPERATURE	Comment	Surface sea temperature
	Type	float
	Def. value	10.2

Table 5.16: Risk specific PIXITs

Identifier	Description	
PX_RISK_UUID	Comment	Risk UUID
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_RISK_LEVEL	Comment	Level of the risk
	Type	RiskLevelType
	Def. value	medium
PX_RISK_PROBABILITY	Comment	Risk probability
	Type	RiskProbabilityType
	Def. value	probable
PX_RISK_SEVERITY	Comment	Data freshness
	Type	RiskSeverityType
	Def. value	negligible
PX_RISK_TYPE	Comment	Risk type
	Type	RiskType
	Def. value	illegalFishing

Table 5.17: Cargo specific PIXITs

Identifier	Description	
PX_CARGO_NAME	Comment	Cargo name
	Type	charstring
	Def. value	
PX_CARGO_UUID	Comment	Cargo identifier
	Type	charstring
	Def. value	787aa3e9b91b-5bc2-0cf5-80a8-183a716b8d59
PX_CARGO_POS_LATITUDE	Comment	Cargo position
	Type	charstring
	Def. value	81.0
PX_CARGO_POS_LONGITUDE	Comment	Cargo position
	Type	charstring
	Def. value	171.0
PX_CARGO_TYPE	Comment	Cargo type
	Type	CargoType
	Def. value	largeFreightContainers

6 Test Report

6.1 Static conformance review report

The PICS for this IUT is consistent with the static conformance requirements in the specified protocol.

6.2 Test campaign report

For the complete list of all test cases refer to the test control module of the file described in Annex A of the present document.

NOTE: "Template - CISE Conformance test status.xlsm" is the Excel file contained in archive gr_cdm009v010101p0.zip which accompanies the present document.

6.3 Observations

Additional information relevant to the technical content is given here.

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Annex A (informative): ATS in TTCN-3

A.1 TTCN-3 files and other related modules

The TTCN-3 library modules, which form parts of the present document, are accessible from the ETSI source repository: <https://forge.etsi.org/rep/cdm/cise-data-model.git>.

History

Document history		
V1.1.1	July 2024	Publication