ETSI GR CDM 008 V1.2.1 (2024-08)

Common information sharing environment service and Data Model (CDM); Testing Platform

Disclaimer

The present document has been produced and approved by the european Common information sharing environment service and Data Model (CDM) ETSI Industry Specification Group (ISG) and represents the views of those members who participated in this ISG. It does not necessarily represent the views of the entire ETSI membership.

Reference
RGR/CDM-0025

Keywords
data, platforms, testing

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Contents

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM**® and the GSM logo are trademarks registered and owned by the GSM Association.

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Executive summary

The ETSI Testing Platform is intended to provide a testing environment for the validation of the candidate CISE adaptors and candidate CISE nodes by leveraging on a set of software tools for conformance and interoperability testing activities.

Introduction

The CISE network is a peer-to-peer architecture connecting public authorities and their (legacy) IT systems responsible for maritime surveillance. The role of the CISE Adaptor is to connect seamlessly the Legacy System to the CISE network.

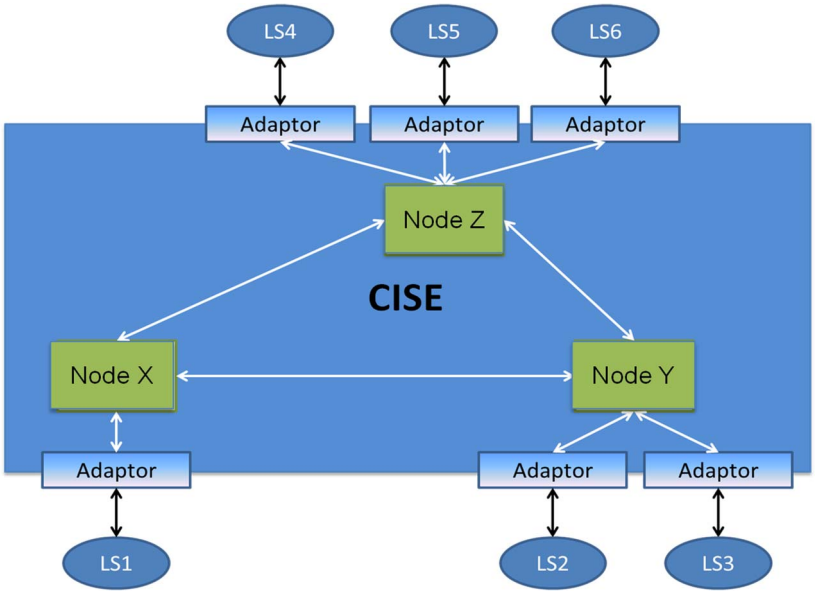


Figure 1: the CISE peer-to-peer architecture

CISE nodes and/or adaptors should comply with CISE Data Model [i.3] and CISE Service Model [i.2] accordingly.

To properly qualify a certain implementation of the CISE Node or of the CISE Adaptor based on such specifications, it is necessary to refer to ETSI documents published by the Methods for Testing and Specification (MTS) technical committee.

As from the Conformance Testing [i.1] it is necessary to define the boundaries for testing so that the Implementation Under Test (IUT) is separated from the Test System as shown in Figure 2.

The points where the tester controls and observes the IUT are called the Points of Control and Observation (PCO).

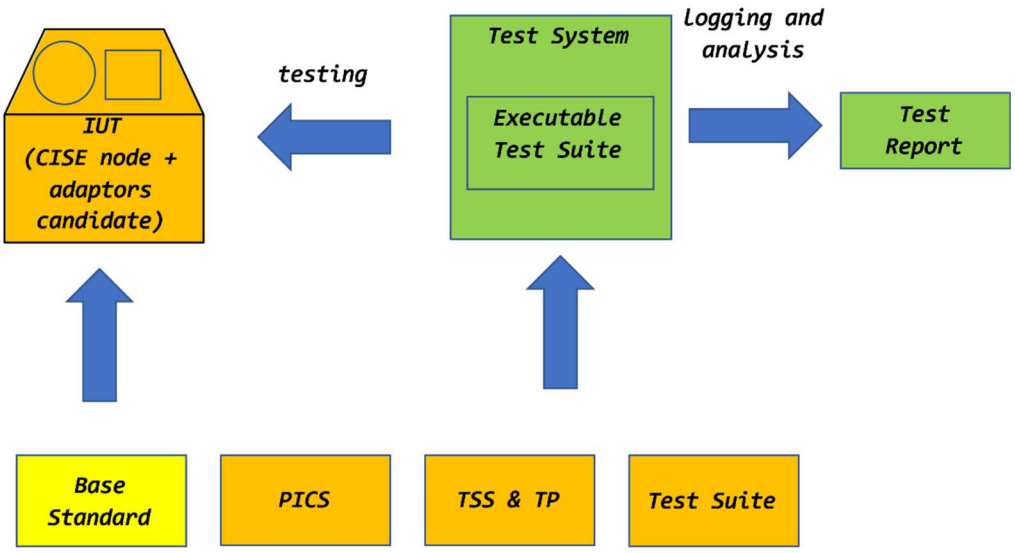


Figure 2: How to design a testing system for conformance testing using ETSI formal methodology [i.1]

The tests are performed on open standardized interfaces in order to let the Test System to correctly interact with the IUT. A comprehensive testing methodology consists of three complementary parts:

- Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma [i.7];
- Test Suite Structure and Test Purposes (TSS & TP) [i.8];
- Abstract Test Methodology (ATM) and Test Suite implementation [i.9].

As shown in Figure 2, it is assumed to rely on a comprehensive set of Base Standards so that it will be possible to technically define the IUT and its interfaces. The Implementation Under Test (IUT) can include either the "Node" functional block including eventual interfaces with adaptors or the adaptors themselves.

Aiming at the deployment, in the present document an actual technical design of a dedicated ETSI Testing Platform together with its relations with a CISE testing and operational network is proposed as depicted in Figure 3.

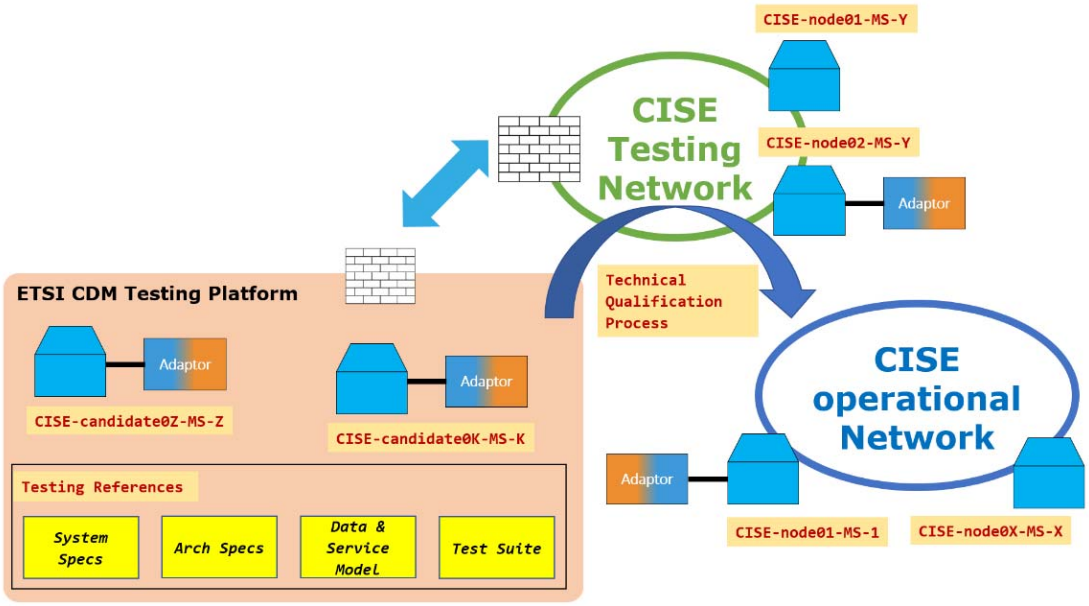


Figure 3: Prospected qualification process of the CISE Nodes and Adaptors

The development of the ETSI Testing Platform, aimed at permitting the execution of the Test Suite, is framed into the "CISE data model project" funded by the EC to ETSI under the SMP program and the SMP-STAND-2022-ESOS-01-IBA call.

1 Scope

The present document provides the description of the implementation of the ETSI Testing Platform deployed in Livorno for conformance and interoperability testing of the IUTs. The present document describes the instantiation procedures of the user tenants for testing purposes as well as the configuration of both hardware and software components.

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.1] ETSI ETS 300 406 (April 1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[i.2] ETSI GS CDM 004 (V1.1.1): "Common information sharing environment service and Data Model (CDM); Service Model; Release 1".

[i.3] ETSI GS CDM 005 (V1.6.1): "Common information sharing environment service and Data Model (CDM); Data Model; Release 1".

[i.4] ETSI ES 201 873-1: "Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3; Part 1: TTCN-3 Core Language".

[i.5] ETSI ES 201 873-5: "Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3; Part 5: TTCN-3 Runtime Interface (TRI)".

[i.6] ETSI EG 201 015 (V2.1.1): "Methods for Testing and Specification (MTS); Standards engineering process; A Handbook of validation methods".

[i.7] ETSI GS CDM 007-1 (V1.1.1): "Common information sharing environment service and Data Model (CDM); Testing; Conformance test specifications for CISE; Part 1: Test requirements and Protocol Implementation Conformance Statement (PICS) proforma; Release 1".

[i.8] ETSI GS CDM 007-2 (V1.1.1): "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); Release 1".

[i.9] ETSI GS CDM 007-3 (V1.1.1): "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); Release 1".

[i.10] ETSI GS CDM 003 (V1.2.1): "Common information sharing environment service and Data Model (CDM); CDM Architecture; Release 1".

[i.11] ETSI GR CDM 009 (V1.1.1): "Common information sharing environment service and Data Model (CDM); Validation of the Test Suite".

3 Definition of terms, symbols and abbreviations

3.1 Terms

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

Adaptor: component external to CISE network connecting a Participant to CISE network via standardized interface

NOTE 1: The Adaptor is the bridge between the Legacy System and the Gateway translating LS data to the CISE Data Model. The Adaptor uses available Gateway Services depending on the strategy chosen for message exchange patterns and Data Model.

NOTE 2: The Adaptor could be either software or software/hardware component.

NOTE 3: In case of a new system connected to CISE, the Adaptor functionality may be part of the new system.

CISE operational network: network of CISE nodes operated by Member States

CISE testing network: official network used to qualify Nodes and Adaptors in the CISE Transition Phase

information system: system designed to collect, process, store, and distribute information

Legacy System (LS): software designed to perform specific tasks and that exposes certain functionalities through interfaces

NOTE: In the present document, Public Authorities maintain Legacy Systems. Legacy Systems are the originator and final destinations of messages exchange through the CISE Network.

message: one of the structured sentences exchanged between Participants to discover, request and provide Services

national information system: information system related to the specific Member State

node: software components that provide CISE infrastructure and access point to CISE network

participant: Legacy System (LS) connected to the CISE network for exchanging data supporting one or more of the seven sectors in performing their activities

provider: participant providing Services over CISE network

Representational State Transfer (REST): architectural style for providing standards between computer systems on the web It leverages the capabilities of Hypertext Transfer Protocol (HTTP) and Uniform Resource Identifiers (URIs) to retrieve or modify the state of a resource

Secure Sockets Layer (SSL): standard security technology for establishing an encrypted link between a server and a client-typically a web server (website) and a browser, or a mail server and a mail client

service: formalized way to exchange information between Participants in CISE network following Service Oriented Architecture (SOA) principles

Simple Object Access Protocol (SOAP): lightweight protocol used to create web APIs, usually with Extensible Markup Language (XML)

Tenant: group of users who share a common access with specific privileges to the software instance

Transport Layer Security (TLS): cryptographic protocol designed to provide communications security over a computer network

Virtual Machine (VM): virtual environment that functions as a virtual computer system with its own CPU, memory, network interface, and storage, created on a physical hardware system located on-premises

Virtual Private Network (VPN): mechanism for creating a secure connection between a computing device and a computer network, or between two networks, using an insecure communication medium such as the public Internet

3.2 Symbols

Void.

3.3 Abbreviations

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

API	Application Programming Interface
ATM	Abstract Test Methodology
ATS	Abstract Test Suite
CDM	CISE Data Model
CISE	Common Information Sharing Environment
CPU	Central Processing Unit
DBMS	Database Management System
EC	European Commission
EU	European Union
FTP	File Transfer Protocol
GUI	Graphical User Interface
HDD	Hard-Disk Drive
HTTP	Hypertext Transfer Protocol
HTTPS	HyperText Transfer Protocol Secure
IaaS	Infrastructure as a Service
ICT	Information and Communications Technology
IMAP	Internet Message Access Protocol
IMO	International Maritime Organization
IT	Information Technology
IUT	Implementation Under Test
JRC	Joint Research Centre
JSON	JavaScript Object Notation
LDAP	Lightweight Directory Access Protocol
LS	Legacy System
MTS	Methods for Testing and Specifications
NNTP	Network News Transfer Protocol
OS	Operating System
PaaS	Platform as a Service
PCO	Points of Control and Observation
PDF	Portable Document Format
PICS	Protocol Implementation Conformance Statement
POP	Post Office Protocol
RAM	Random Access Memory
REST	Representational State Transfer
SaaS	Software as a Service
SDN	Software Defined Network
SFP	Small Form-Factor Pluggable
SMP	Single Market Programme
SMTP	Simple Mail Transfer Protocol
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SSD	Solid State Drive
SSH	Secure Socket Shell
SSL	Secure Sockets Layer
SUT	System Under Test
TB	Terabyte
TELNET	Terminal Network
TLS	Transport Layer Security
TP	Test Purposes
TSS	Test Suite Structure
TTCN-3	Testing and Test Control Notation 3
UNIX	Uniplexed Information and Computing Service
URI	Uniform Resource Identifier

UT	Upper Tester
UUID	Unique Universal Identifier
vLAN	Virtual Local Area Network
VM	Virtual Machine
VPN	Virtual Private Network
XML	eXtensible Markup Language

4 Design of the Testing Platform

4.1 General Architecture

In the present document the design and the implementation of a testing platform (hereafter referred to as ETSI Testing Platform), open to all players in the CISE ecosystem (e.g. firms, research organizations, institutional bodies) as IUT providers, is described. This allows to connect their candidate IUTs and validate them against the conformance and interoperability requirements based on standard specifications.

The purpose of the ETSI Testing Platform is to allow candidate CISE nodes and/or adaptors having passed the conformance and interoperability tests to enter the CISE Testing Network managed at the institutional level in the CISE transitional phase. These assets can be then deployed in the CISE operational network in accordance with the EU regulatory framework.

ETSI Testing Platform is designed as a private cloud based on a multi-tenant infrastructure (see Figure 4). It consists of the following cloud service layers:

- Infrastructure as a Service (IaaS);
- Platform as a Service (PaaS);
- Software as a Service (SaaS).

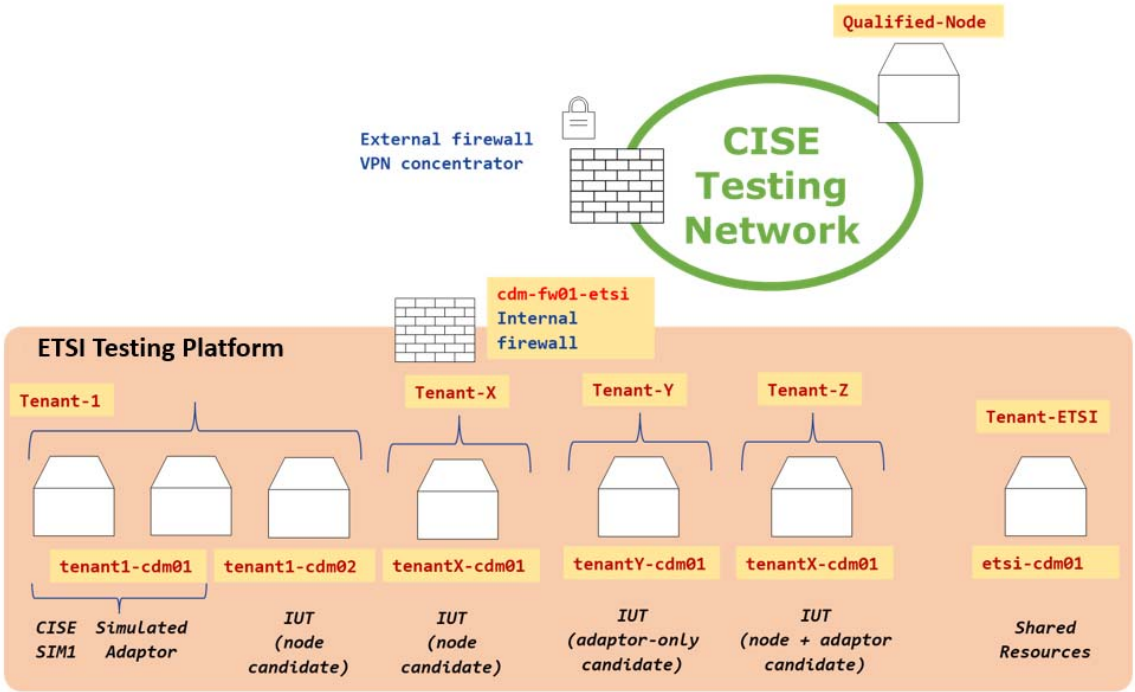


Figure 4: A conceptual scheme of the ETSI Testing Platform

The private cloud is hosted in a physical infrastructure (dedicated server farm) and located in Livorno.

4.2 Infrastructure as a Service

The server farm includes two mirrored and synchronized servers in order to prevent potential downtimes.

The infrastructure is equipped with a fibre-optic communication allowing up to 100MBit/s data rate both in download and upload towards the Internet.

This layer provides on-demand computing resources by means of secure communications, including infrastructural components such as storage and network hardware. To fully align the ETSI Testing Platform with the technical requirements coming from background experience in the CISE program, the following hardware resources are allocated (single server):

Table 1: single server specifications

Server Name	Power Edge R750
CPU	Dual Xeon Gold 5317 (12 cores)
Storage HDD	4,8 TB
Storage SSD	1,9 TB
Network Adapter	Ethernet 25 Gb/s SFP+

The IaaS layer allows:

- to deploy and run VMs requested by user tenants (see clause 5.1), including the operating system and the installed software;
- a Software Defined Network (SDN) including software switches implementing vLANs, and custom firewall rules.

4.3 Platform as a Service

This layer provides all necessary horizontal resources to support testing processes that can be used by any user tenant:

- hypervisor services implemented with VMware ESXi technology;
- docker as container runtime and Kubernetes as platform for dynamic management;
- network monitoring using both Zabbix and Nagios tools with templates for FTP, HTTP, HTTPS, IMAP, LDAP, MySQL, NNTP, SMTP, SSH, POP and TELNET;
- hosting and delivery of VPN services to remote and local VPN clients based on OpenVPN;
- a set of most popular DBMS and storage capabilities suited to fulfil specific user requirements.

Finally, the PaaS layer includes the CDM Test System which is intended to check the conformance of IUT against the normative standards and provisions. It allows to select a proper testing configuration, to execute test cases, to check valid and invalid behaviour and to analyse the reaction of the IUT. The CDM Test System is described in Annex B.

4.4 Software as a Service

This layer provides a set of software and tools accessible by any user tenant, if requested. Such tools include the CISE Adaptor, the CISE Simulator and the CISE Node.

The CISE Adaptor allows to generate and send CISE messages. It can be used for conformance testing with a candidate CISE Node. More in details, it allows:

- to generate CISE messages according to the CISE Data and Service Model and to send them to an endpoint (either an instance of the CISE Simulator or a CISE Node);
- to consume CISE messages coming from an instance of the CISE Simulator or from a CISE Node.

The CISE Adaptor supports the following communication patterns according to the CISE Service Model [i.2]:

- **Discover**: allows to discover the list of available services from the CISE network.
- **Pull** (provider): allows to provide the information requested by the CISE network.
- **Pull** (consumer): allows to invoke a specific service and get back the response from the CISE network.
- **Subscribe** (provider): allows to provide publish services on the CISE network according to the subscription mechanism.
- **Subscribe** (consumer): allows to receive the information from the CISE network according to the subscription mechanism.

When the Config_CISE_3 is used for conformance testing (see Annex B), a triggering mechanism allowing the CDM Test System to send requests to the IUT needs to be implemented on Adaptor side (see Annex A).

The CISE Simulator is an application developed by the European Commission Joint Research Centre (JRC) capable of sending and receiving CISE messages to/from CISE Node, CISE Adaptor or another instance of the CISE Simulator. This tool provides a set of templates that can be used for generating the CISE messages based on the communication patterns defined in CISE Service Model [i.2].

The CISE Simulator can receive CISE messages from the REST endpoints and it is shaped as a Docker container running in a dedicated VM with the following specifications:

Table 2: VM specifications for CISE Simulator

CPU	2 cores
RAM	8 GB
Storage	30 GB
OS	Ubuntu 22.04

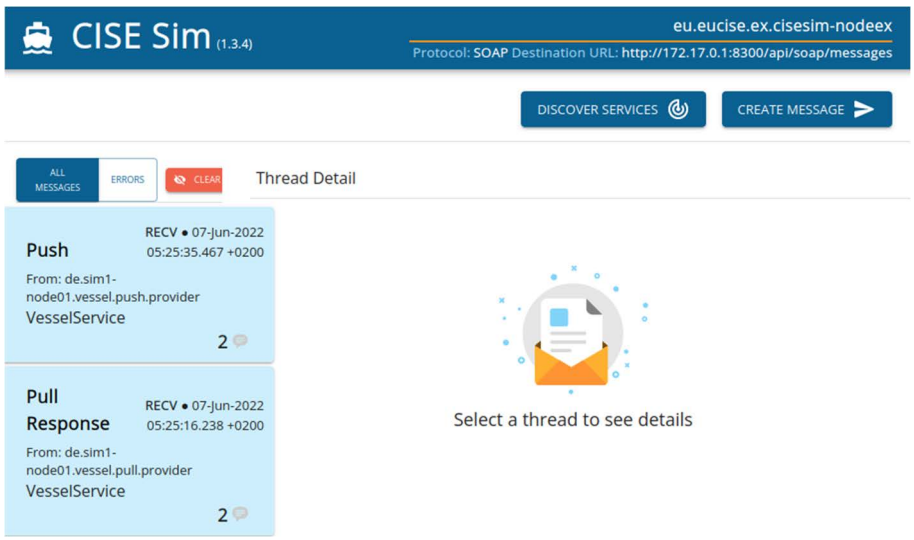


Figure 5: CISE Simulator web-based GUI

The CISE Simulator exposes the following endpoints which can be remotely invoked by any user tenant:

Table 3: List of endpoints exposed by CISE Simulator

Endpoint	Description
http://HOST_ADDRESS:8200/	Web interface (for web browsers)
http://HOST_ADDRESS:8200/api/messages	REST interface (to receive CISE messages from other adaptors/nodes/CISE Simulator)
http://HOST_ADDRESS:8200/api/soap/messages	SOAP interface (to receive CISE messages from other adaptors/nodes/CISE Simulator)

CISE Simulator can be used by any user tenant to check whether a candidate CISE Adaptor or a candidate CISE Node complies with the CISE Service and Data Models respectively.

Finally, the SaaS layer includes a reference CISE Node v2 (running within CISE Test Network). The CISE Node is based on a complex virtual and software infrastructure relying on a microservice architecture. It consists of a considerable cluster of VMs interacting one with another in order to provide all functionalities according to the CISE Node Architecture [i.10].

The CISE Node provides a web-based Administration Console which allows the node administrators to properly configure all the needed parameters (e.g. services, participants, access rules, etc.) so that a candidate CISE Adaptor or a candidate CISE Node can interact with it in a controlled manner for conformance and/or interoperability testing activities.

5 Tenant View

5.1 User Tenants

User tenants can be set-up on-demand by allocating all needed ICT resources, according to the requirements. A user tenant can host any IUT (either a candidate CISE Adaptor or a candidate CISE Node) or any additional tool/software for testing purposes provided by other players (e.g. firms, research organizations, institutional bodies, etc.). User tenants are remotely accessible by owners only through a VPN-based tunnelling using SSL/TLS protocol and certificates for the authentication and key exchange.

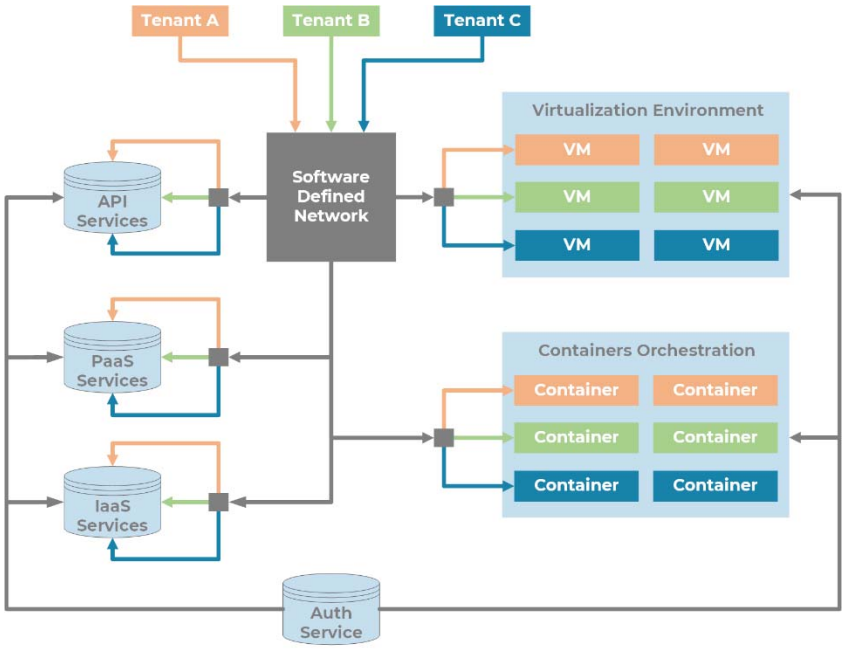


Figure 6: ETSI Testing Platform multi-tenant structure

Based on requirements, user tenants could be composed by a given set of VMs with proper specifications including all needed services from the IaaS, PaaS or SaaS layers. Such services can be either standalone, provided and deployed by the tenant owner, or the shared ones provided by the ETSI Tenant.

5.2 ETSI Tenant

This tenant is allocated to ETSI for sharing technical resources with other tenants. Such resources include:

- CDM Test System (see clause 4.3) to be connected with candidate IUTs.
- An instance of the CISE Adaptor (see clause 4.4).

- An instance of the CISE Node (see provision clause 4.4).
- The CISE Simulator (see clause 4.4).

6 Conformance Testing

The aim of the conformance testing is to make sure that either a candidate CISE Node or a candidate CISE Adaptor are conformant to the CISE Data and Service models. The CDM Test System allows to execute against the IUT a given set of test cases based on implemented test purposes [i.8] as are part of the Abstract Test Suite. All test cases are defined using the Testing and Test Control Notation (TTCN-3) [i.4] and [i.5].

The user will be requested to connect the IUT to the CDM Test System provided by ETSI tenant. All testing configurations for the IUTs supported by the CDM Test System are described in Annex B. At the end of the testing campaigns, the IUTs' providers will have to fill in:

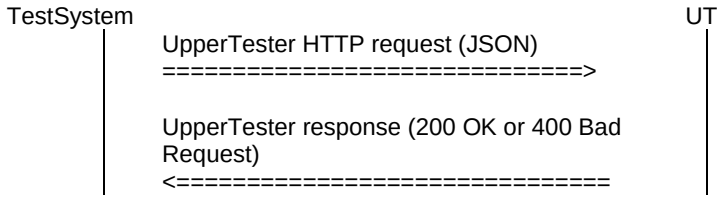
- the Protocol Implementation Conformance Statement (PICS) proforma [i.7] which provides an overview of the features and options that are implemented by a given IUT;
- the Protocol Implementation eXtra Information for Testing (PIXIT) [i.9] which contains additional information necessary for testing;
- the validation and testing reports [i.11] with implemented tests.

Annex A:
Upper tester

The Upper Tester is used to interact with the upper interface of the Implementation Under Test (IUT). It is typically implemented as an upper tester module executed in the test adapter and as a small module executed on the SUT as described in Annex B. It is used for:

- Triggering events in SUT.
- Triggering messages.
- Checking that the message payload is transmitted correctly to upper layers.

When the CISE Adaptor is used as the IUT (Config_CISE_3), the Upper Tester module needs to be separately implemented on Adaptor side in a form of a trigger for sending/receiving CISE messages coming to/from the CDM Test System. This communication is initiated by the CDM Test System and consists in an HTTP request/response. The Upper Tester result message is specific to each primitive and may be used to indicate the success of the request or to report some values:



The Figure A.1 depicts a sequence diagram representing an example of the interaction between the Test System, Upper Tester and a candidate CISE Adaptor.

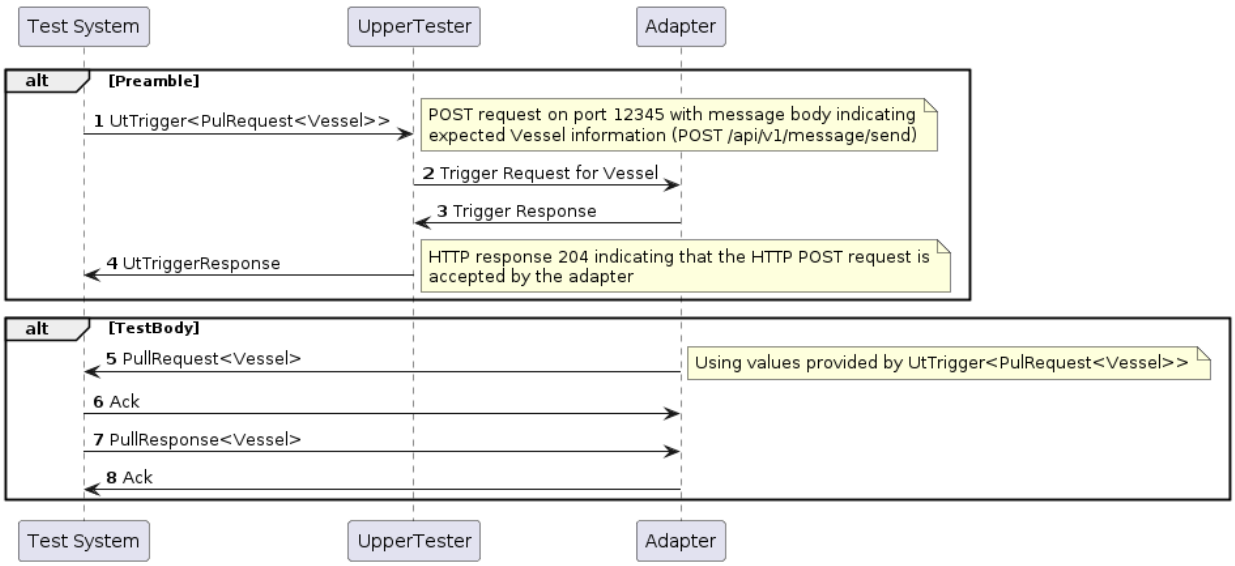


Figure A.1: Sequence diagram for basic CISE Adaptor test

The common data elements of the message to be triggered are reported in Table A.1.

Table A.1: common trigger payload

Name	Type	Value
Message Id	Json.String	UUID format
Context Id	Json.String	UUID format
Correlation ID	Json.String	UUID format
Creation Date/Time	Json.String	
Priority	Json.String	
Sender Id	Json.String	UUID format
Recipient Id	Json.String	UUID format
Message Type	Json.String	PullRequest Discovery Subscribe GetSubscription Unsubscribe
UtDescription	Structure	Specific to the Message Type

Table A.2 contains the data elements specific for a VesselService.

Table A.2: VesselService specific payload

Name	Type	Value
IMO Number	Json.String	UUID format
Type	Json.String	UUID format

Annex B:
Test System

B.1 Constraints and requirements

The purpose of the ETSI Testing Platform is to provide a reliable set of software and hardware equipment that can be used to validate TTCN-3 Abstract Test Suites (ATS) developed in ETSI. The architecture of this test platform has been designed taking into account the following constraints:

- to be compatible with the requirements expressed in the validation handbook [i.6];
- to be independent of the platform used to implement the test system;
- to be independent of the TTCN-3 tool provider;
- to be configurable and customizable;
- to provide tools and well defined interfaces to System Under Test (SUT), allowing test automation;
- to be easily extensible for future CDM protocols;
- to provide generic components that can be reused in other test platforms.

Test tool independence has been achieved by isolating the tool specific interfaces from core functionalities of the platform. Adapting the current platform to a different test tool would only require the implementation of a very simple piece of software mapping tool-specific functions to generic functions. In addition, great care has been taken to separate CDM specific functionalities from generic test platform tasks in order to provide a maximum number of reusable components for future test platforms.

B.2 General architecture

Typically a TTCN-3 test platform is composed of the following components:

- The TTCN-3 test tool providing necessary software to execute the abstract test suite.
- The hardware equipment supporting TTCN-3 test execution and adaptation to SUTs.
- The codecs which convert protocol messages into their abstract TTCN-3 representation.
- The Test Adapter (TA) implementing interfaces with the device under test.
- The Lower Tester which adapts the protocol messages used by TTCN-3 test suite so that they can be transmitted successfully to the SUT.
- The Upper Tester which is used to interact with the upper interface of the IUT.

The interaction among these components is depicted in Figure B.1.

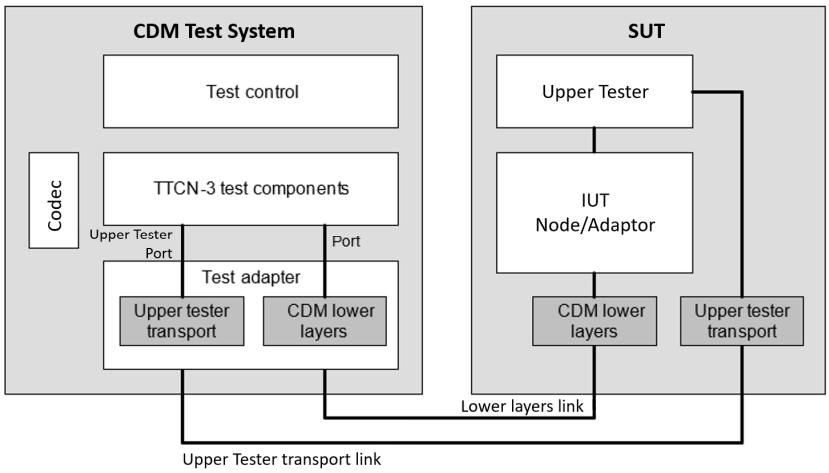


Figure B.1: General architecture - CISE ATS

The TTCN-3 test tool is usually provided by third parties and its description is out of the scope of the present document. The implementation details of the other components are described in the present document.

B.3 CDM Test System requirements

B.3.1 Hardware

The main hardware component of the CDM Test System is based on hardware resources of the ETSI Testing Platform as described in clause 4.2 of the present document. Its role is to host the execution of the test suite using a TTCN-3 test execution tool. Whatever operating system is installed on the hardware component of the CDM Test System, it is necessary to ensure that the following points are taken into account:

- No firewall interference with traffic generated by the CDM Test System and/or SUT.
- Excellent time synchronization between the SUT and the CDM Test System.

The communication between the SUT and the CDM Test System is achieved through Ethernet if the SUT supports it or using an access layer adaptation box, as shown in Figure B.2.

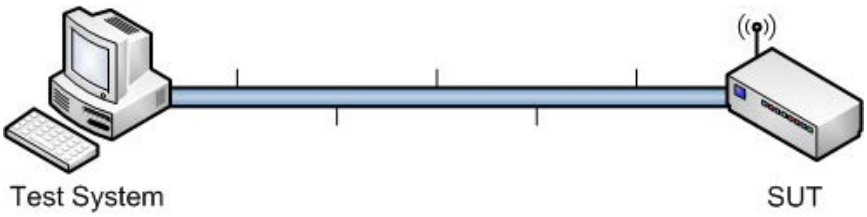


Figure B.2: Communication via Ethernet

B.3.2 Software

The CDM Test System is based on TITAN™ project [i.6] and its core components. It requires a UNIX®/Linux®-like environment.

NOTE 1: UNIX® is a registered trademark of The Open Group.

NOTE 2: Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

B.3.3 Virtualization

A dockerized version of the CDM Test System is available.

B.3.4 Continuous Integration

Located at the root of the source code architecture, the *jenkins.sh* script is provided in order to integrate the CDM Test System source code in a Continuous Integration mechanism based on Jenkins®.

B.3.5 Code documentation

Based on Doxygen®, a documentation in PDF can be generated.

B.4 Test Configuration

B.4.1 Introduction

The CDM Test System is designed to support the testing configurations described hereafter. Each testing configuration is based on a given set of implemented and executable test cases [i.8].

B.4.2 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.

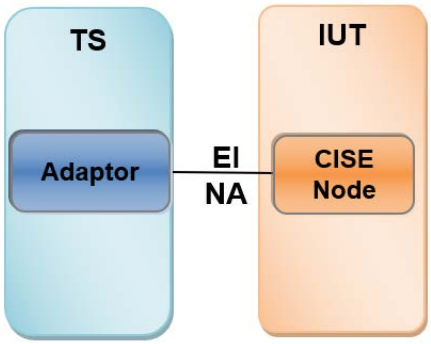


Figure B.3: Config_CISE_1 to validate interface between IUT and the CISE Adaptor

B.4.3 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.

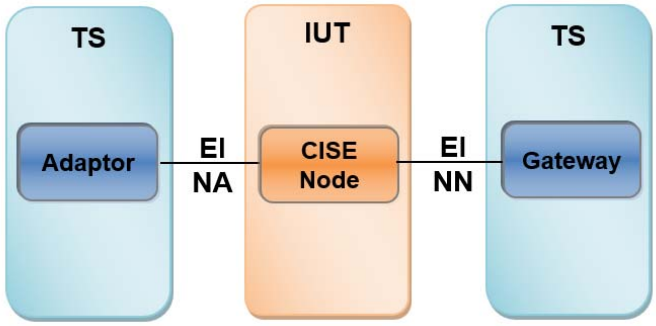


Figure B.4: Config_CISE_2 to validate interface between IUT and the CISE Network

B.4.4 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.

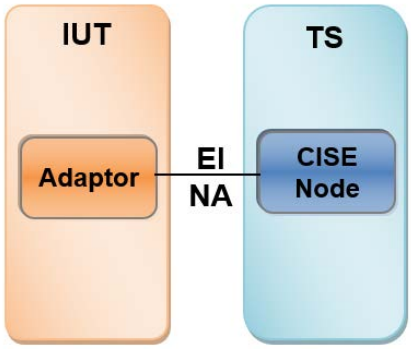


Figure B.5: Config_CISE_3 to validate interface between IUT and the CISE Node

History

Document history		
V1.1.1	June 2023	Publication
V1.2.1	August 2024	Publication