

CGMES Conformity Assessment Scheme (CGMES CAS)

Release 3.0.2

CIM WG approved on 25 August 2024

Release notes

- This release is based on the feedback from recent conformity assessments and aims at fixing inconsistencies in the documents and test configurations.
- With this occasion, ENTSO-E took the opportunity to restructure the CGMES CAS v3 package.
 - Inside the **CGMES_ConformityAssessmentScheme_r3-0-2**.zip package you will find:
 - **ENTSO-E_CGMES_ConformityAssessmentScheme_ApplicationProfiles_v3-0-2**
 - It consists on the SHACL and RDFS.
 - This is a subset of the Application Profiles Library specifically for the purposes of the CGMES CAS v3
 - To access the Application Profiles Library, please visit the CGMES Library on the ENTSO-E website ([link](#)).
 - **ENTSO-E_CGMES_ConformityAssessmentScheme_Documentation_v3-0-2**
 - It consists on all relevant documentation to guide users through the CGMES CAS v3 process.
 - **ENTSO-E_CGMES_ConformityAssessmentScheme_TestConfigurations_v3-0-3**
 - It contains relevant test models.
 - The name of the packages were changed to improve comprehension:
 - For documentation
 - From: ENTSO-E_Conformity_Assessment_Scheme_v3.0.1.zip
 - To: CGMES_ConformityAssessmentScheme_Documentation_v3-0-2.zip
 - For Application Profiles:
 - From: IEC61970-600-2_CGMES_3_0_1_ApplicationProfiles.zip
 - To: CGMES_ConformityAssessmentScheme_ApplicationProfiles_v3-0-2.zip
 - For Test Configurations:
 - From: ENTSO-E_Test_Configurations_v3.0.2.zip
 - To: CGMES_ConformityAssessmentScheme_TestConfigurations_v3-0-3.zip
- The following changes are applied to the CAS documents:
 - 04_CGMES_ConformityAssesment_FunctionCategoryMatrix_TestUseCases_Definition_Template_v3.0.1.xlsx
 - Update of TUC25

- The text of step 1 is modified

From

"The Supplier modifies two boundary points - one that is placed in a substation and one that in placed in a line. The modified EQBD is exported with correct reference in supercedes property. The instance file shall conform to EQBD profile."

To

"The Supplier modifies two boundary points - one that is placed in a substation and one that in placed in a line. The modified EQBD is exported with correct reference in supercedes property. The instance file shall conform to EQBD profile.

Note: When this test step is applied to CGMES v3.0.0 the modification to add boundary point in a substation is not applied, i.e. only one boundary point placed in a Line is modified."

- The test step outcome for step 2 is modified

From

"1) Boundary set A

EQ instance file representing boundary elements between MAS 1 and MAS 2 conform to EQ profile

EQ instance file representing boundary elements between MAS 2 and MAS 3 conform to EQ profile

EQBD instance file representing reference data conform to EQBD profile

2) Boundary set B

EQ instance file representing boundary elements between MAS 1 and MAS 2 conform to EQ profile

EQ instance file representing boundary elements between MAS 2 and MAS 3 conform to EQ profile

EQ instance file representing reference data conform to EQ profile"

TO

"A) Boundary set A

- EQ instance file representing boundary data between MAS 1 and MAS 2 that conform to EQ profile

- EQ instance file representing boundary data between MAS 2 and MAS 3 that conform to EQ profile

- EQBD instance file representing reference data that conform to EQBD profile

B) Boundary set B

- EQ instance file representing boundary data between MAS 1 and MAS 2 that conform to EQ profile

- EQ instance file representing boundary data between MAS 2 and MAS 3 that conform to EQ profile
- EQ instance file representing reference data that conform to EQ profile

C) Boundary set C

- EQ instance file representing boundary data between MAS 1, MAS 2 and MAS 3 that conform to EQ profile
- EQ instance file representing reference data that conform to EQ profile

D) Boundary set D

- EQ instance file representing boundary data between MAS 1, MAS 2 and MAS 3 as well as reference data that conform to EQ profile"

- The text of step 2 description is modified as follows:

From

"The Supplier adds a new boundary point that would connect MAS 2 with a new MAS 3 and deletes another boundary point. The export shall be organised per border i.e. the boundary points between 2 MAS and one of the boundary set shall contain the reference information part of the boundary set i.e. the BaseVoltage etc classes but not the connectivity nodes and boundary points."

TO

" The objective of step 2 is to test if the Application has a functionality to split a boundary set and export it in several forms.

The Supplier adds a new boundary point that would connect MAS 2 with a new MAS 3 and deletes another boundary point. The export shall be organised per border i.e. the boundary points between connected MASes. The boundary set shall contain the reference information part (i.e. the BaseVoltage, etc. classes).

For instance if the test configuration contains two borders the following exports are expected:

A) full export of EQ datasets that contains boundary data per border and conforms to EQ profile. Full export of an EQ dataset that contains relevant reference data e.g. base voltages, regions, etc. and conforms to the EQBD profile (the deprecated profile).

B) full export of EQ datasets that contain boundary data per border and relevant reference data e.g. base voltages, regions, etc. All EQ datasets shall conform to EQ profile.

C) full export of an EQ dataset which contains boundary points instances for each of the borders. Full export of an EQ dataset which contains relevant reference data e.g. base voltages, regions, etc. All EQ datasets shall conform to EQ profile.

D) full export of an EQ dataset which contains all boundary elements between MAS 1, MAS 2 and MAS 3 as well as relevant reference data e.g. base voltages, regions, etc. The EQ dataset shall conform to EQ profile.”

- The following statement is added to all export TUC. It is added to the section "Preconditions/Requirements"

"The Supplier shall document any not supported classes and the Review Team shall verify this.

Comparison of count of instances is not performed during the assessment of the test steps.

Datasets exported by the Supplier can contain additional information (either for classes defined in CGMES profiles or other extensions). In cases where the Supplier does not support certain classes and their relevant properties (e.g., attributes and associations) of the profile subject to an export, it may be accepted not to export such classes for a specific test."

- The following statement was added to "Purpose" of all import and export TUC: "The export indicates correctness in the conversion process within the Applications as it is performed from internal data structure of Application and not a direct reexport of imported data."
- TUC2 – the Test Configuration field is updated to include EQBD as the EQ depends on EQBD.
- TUC 22 – Wrong references to "version" instead of "step" in Step 9 were fixed.
- TUC 19 – the following text was added to the assessment criteria "In cases where the automatic validation indicates differences, the Review Team shall perform visual inspection. Differences in the count of classes is no reason for failing the test."
- TUC15 and TUC 17: Test configuration was modified to refer to MicroGrid-BaseCase-Merged instead of FullGrid. This is considered a temporary approach until FullGrid test configuration is fixed.

- The following changes are applied to the Test Configurations (v3.0.3):

- FullGrid

- The test configuration contained a Junction and a BusbarSection associated with a ConnectivityNode. The BusbarSection and all related elements was deleted.
- DCGround elements with high voltage (160 kV) were fixed. Voltage changed to 1 kV
- Fix related to issue "ACLineSegment _61146890-aa23-41df-8048-d4441c24fda7 length" – length was modified
- Fix related to issue "Only one PhaseTapChangeTablePoint defined for a TapChanger with 9 steps" – steps were modified and table points added
- Fix related to issue "One RatioTapChangerTable used by 7 RatioTapChangers" – steps were modified and table points added
- Fix related to issue "RegulatingControl _0adf3846-cee8-4c73-b567-ac1d64758e22 deadband not OK" – discrete was changed to true and deadband added
- Fix related to issue "SC data for transformers" – short circuit data was modified to be in reasonable ranges

- Fix related to the issue “AsynchronousMashine frequency issue” – frequency and speed attributes were modified
 - Note the FullGrid Test Configuration contains random data and has no valid power flow solution and it is only provided for checking import exports of datasets.
- PST_PhaseTapChangerLinear_Type1 – added DL to the Test Configuration and updated the documentation to include screenshots of power flow calculation results per each tap changer step.
- PST_PhaseTapChangerLinear_Type2 – added DL to the Test Configuration and updated the documentation to include screenshots of power flow calculation results per each tap changer step.
- PST_PhaseTapChangerTable_Type3 – added DL to the Test Configuration and updated the documentation to include screenshots of power flow calculation results per each tap changer step.
- MicroGrid
 - MicroGrid-NL-MAS-EQ_diff.xml is modified to include the following PowerTransformer objects in forward and reverse statements
 - _2184f365-8cd5-4b5d-8a28-9d68603bb6a4
 - _80016742-31b3-432a-b00a-300667a1e572
- Svedala
 - The model has a SynchronousMachine _904232af-11a3-4fa2-9a0c-17ea76ddb41f that is of type condenser. A GeneratingUnit is associated with this machine. Due to the constraint C:452:EQ:SynchronousMachine.type:condenser, Svedala test configuration was modified to delete the GeneratingUnit 0fd2b9d5-bb07-4f43-8600-88863b116b45.
- Application profiles to be used in CAS (RDFS and SHACL) are included as part of the CGMES Application profiles in the Application profiles Library and also as a subset of this library in the package ENTSO-E_CGMES_ConformityAssessmentScheme_ApplicationProfiles_v3-0-2. When ENTSO-E released the Application Profiles Library, the files were renamed. There is no change in the content of the files.