European Network of
Transmission System Operators
for Electricity

INTEROPERABILITY TEST “CIM FOR SYSTEM DEVELOPMENT AND OPERATIONS” 2010

APPENDIX C: TEST RECORD FORMS

PART 5

TOOL SUMMARY FORM (PER TOOL)

Vendor: Siemens PTI	Tool: PSS®ODMS (w/PSS®E)

Witnessed by

Name	Signature
1. Svein Olsen	
2. Mario Ferreira	
3.	
4.	
5.	
6.	
7.	
8.	

Name	Signature
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	

Performed tests

Test No	Score
1_2	Pass
2_1	Pass
3_1	Pass
4_1	Pass
5_1	Pass
6_2	Pass
7_1	Pass
8	Not completed
9_2	Pass
10_1	Pass
11_1	Pass
12_3	Pass
13_2	Pass
14	Not completed

Test No	Score
15_1	Pass
16_1	Pass
17_1	Pass
27_1	Pass
28_1	Pass
29_1	Not completed
30_1	Not completed
31_1	Pass

Test No	Score

Comments:

The following tests were done with PSS®ODMS and PSS®E: 15 and 17.
All CIM/XML processing was done exclusively by PSS®ODMS. PSS®E was used to validated the load flow solution and for the dynamics tests.
Test 8 was not done due to lack of certainty in the needed functionality for short-circuit was covered in the tools. We did not manage to come back to this due to lack of time.
Test 14 could not be completed due to lack of difference file from other vendors.
Test 18 to 27 could not be completed due to lack of support for converting non-standard dynamic model data.
Test 29 was not completed bye to lack of time and missing quality in the files that should be imported. Test 30 could not be completed due to lack of difference file from other vendors and time constraints.

Date	Vendor		ENTSO-E	
	Name	Signature	Name	Signature
16/7-10	Michael Ford		Svein Olsen, Statnett SF	

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SINGLE TEST RECORD FORM

Test No:1_2	Tool: PSS®ODMS	Score: Pass

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_BE_EQ.xml	3.
4. ENTSOE_16_BE_TP.xml	4.
5. ENTSOE_16_BE_SV.xml (Version 1)	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4
Re-run the test with an updated ENTSOE_16_BE_SV.xml

Checked:
Area interchange: Area 1 : not transferred to PSS/O, but included in imported data in ODMS.

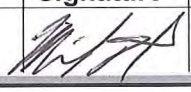
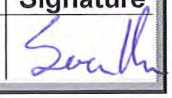
Lines:
NODE 3 -> NODE 11
Line R 0.002203 (expected) – result 0.0022025
Line X 0.070837 (expected) – result 0.07083751
Charging (pu) 0.022325 (expected) – result 0.02232

The line points were reverse instead of NODE 3 to NODE 11 it states in the system NODE 11 to NODE 3. This is not a problem.

Loads:
NODE 1 and NODE 3 -> OK

Generator:
NODE 10 -> OK

Supplementary files:
Siemens_OD_No1_2_Load_flow.jpg Screen shot of the load flow solution.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-12	Michael Ford		Svein Olsen, Statnett SF	

SINGLE TEST RECORD FORM

Test No:2_1	Tool: PSS®ODMS	Score: Pass

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_BE_OD_12J14h_EQ.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_BE_OD_12J14h_TP.xml
3. ENTSOE_16_BE_EQ.xml	3. ENTSOE_16_OD_12J15h_SV.xml
4. ENTSOE_16_BE_TP.xml	4.
5. ENTSOE_16_BE_SV.xml (Version 1)	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Checked:
Area interchange: Area 1 -> OK
Lines:
NODE 3 -> NODE 11
Aggregate flag -> OK
Line R and Line X -> OK

NODE 2 -> XAA_AB11 -> OK

The solution exported is the same as imported. To replace the imported solution values the load flow solution needs to be exported from PSS/O, before the solution file is exported.
Generator:
NODE 10: Pgen (MW) 118.1702 (expected) – result 118.1416
NODE 7: Qgen (Mvar) 100.2557 (expected) – result 100.3007
The difference is inside 5% deviation, so the result is accepted.

Switched shunts:
NODE 1 is represented as 4 shunt compensators: 4x100 Mvar and one is turned off.
Transformers:
NODE 1 –NODE 7 -> OK

Check 5 load flow points -> OK

Run CIMspy 2.3 validation of the exported files:
ENTSOE_16_BE_OD_12J14h_EQ.xml -> same result as the original file
ENTSOE_16_BE_OD_12J14h_TP.xml -> OK
ENTSOE_16_BE_OD_12J14h_SV.xml -> OK

Supplementary files:
"Siemens_OD_No1_2_Load_flow.jpg" Screenshot of the load flow solution.
"Siemens_OD_No2_1_CIMspyValidation.jpg" Screenshot of the CIMspy validation of the Equipment file

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-12	Michael Ford		Svein Olsen, Statnett SF	

SINGLE TEST RECORD FORM

Test No:3_1	Tool: PSS®ODMS	Score: Pass

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_BE_EQ.xml	3.
4. ENTSOE_16_BE_TP.xml	4.
5. ENTSOE_16_BE_SV.xml (Version 1)	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Checked:
The following values were compared:

	PSS/E	DIgSILENT
NODE 10	118.15/18.78	118.12/18.84
NODE 3	158.56/-23.77	158.50/-23.68
NODE 2	-275.75/23.68	275.66/23.59
NODE 1	-89.63/-91.08	-89.65/-91.27
XAC_AD/XAC_AD21	164.10/0.2	164.10/0.2

The result is inside the 5% tolerance.

Supplementary files:
"Siemens_OD_No1_2_Load_flow.jpg" Screenshot of the load flow solution.
"1.2.3 ENTSOE_16_BE_LDF_Result".wmf Screenshot showing DIgSILENT load flow solution

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-13	Michael Ford		Svein Olsen, Statnett SF	

SINGLE TEST RECORD FORM

Test No:4_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_13J12h_TP.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_NL_OD_13J12h_SV.xml
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_TP.xml	4.
5. ENTSOE_16_NL_SV.xml	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

The breaker on NODE 8 to NODE 5 in Area 2 was open.

Validated the topology and state file using CIMspy.

Supplementary files:
"Siemens_OD_No4_1_Load_flow_BeforeChange.jpg" Screenshot of the load flow solution based on the original files.
"Siemens_OD_No4_1_Load_flow_AfterChange.jpg" Screenshot of the load flow solution after the changes.
"Siemens_OD_No4_1_CIMspyValidation_TP.jpg" Screenshot of the CIMspy validation of the Topology file.
"Siemens_OD_No4_1_CIMspyValidation_SV.jpg" Screenshot of the CIMspy validation of the state file.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-13	Michael Ford	MDF	Svein Olsen, Statnett SF	Sol.

SINGLE TEST RECORD FORM

Test No:5_1	**Tool: PSS®ODMS**	**Score:** Pass

Test files (Version 1)

Import	**Export**
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_14J11h_SV.xml
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_TP.xml	4.
5. ENTSOE_16_NL_SV.xml	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

The following changes was made to the solution:
Generator 1 at node 9 from P = 140 MW to P = 160 MW
Node 9 svVoltage changed from V = 1.047 pu to V = 1.04 pu. This will not affect the load flow solution, but it will change the SV file.
Load 2 at node 4 from P = 10 MW to P=20 MW
Calculate load flow solution. Power setpoints are OK. Voltage setpoint is OK.

Exported the solved state solution file.
Validated the state file using CIMspy.

Supplementary files:
"Siemens_OD_No5_1_Load_flow_AfterChange.jpg" Screenshot of the load flow solution based on the original files.
"Siemens_OD_No5_1_CIMspyValidation_SV.jpg" Screenshot of the CIMspy validation of the state file.

Date	**Vendor**		**Test witness**	
	Name	**Signature**	**Name**	**Signature**
2010-06-14	Michael Ford		Mario Ferreira, REN, SA	

SINGLE TEST RECORD FORM

Test No:6_2	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_PF_13J15h_TP.xml	4.
5. ENTSOE_16_PF_13J15h_SV.xml	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

We imported the files from DIgSILENT.

Validated that the changes made in DIgSILENT was transferred over: The breaker on NODE 8 to NODE 5 in Area 2 was open.

Made a screenshot of the load flow solution (ODMS).
The following values were compared:

	ODMS	DIgSILENT	PSSE
NODE 4 Hi side T3	-74.69/28.56	-74.69/28.70	-74.69/28.54
NODE 4 Lo side T3	74.84/-26.72	74.84/-26.86	74.84/-26.70
NODE 9 Lo side T5	324.73/91.57	324.73/91.43	324.73/91.58

The number as inside the 5% tolerance.

Supplementary files:
"Siemens_OD_No6_2_Load_flow.jpg" Screenshot of the load flow solution based on topology changed made by DIgSILENT.
"1.2.4 ENTSOE_16_NL_LDF_Results.wmf" Screenshot showing DIgSILENT load flow solution for NL with the breaker open.
"Siemens_S_No6_2_Load_flow.jpg" Screenshot from PSS®E of the load flow solution based changed made by DIgSILENT.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-15	Michael Ford	MDF	Svein Olsen, Statnett SF	SO.

SINGLE TEST RECORD FORM

Test No:7_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_TP.xml	4.
5. ENTSOE_16_NL_PF_13J16h_SV.xml	5.

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

We imported the SV file from DIgSILENT. That included the following changes:
Generator 1 at node 9 from P = 140 MW to P = 160 MW
Node 9 svVoltage changed from V = 1.047 pu to V = 1.04 pu.
Load 2 at node 4 from P = 10 MW to P=20 MW

Set ODMS to use the svVoltage level to reset the regulation target of the regulating equipment. Without setting this – the solution is calculated based on the prior voltage settings. The reset of regulation target needs to be set before exporting the RAW file to PSS/ to get the same result in PSS/E.
Calculated load flow solution.

Made a screenshot of the load flow solution (ODMS).
The following values were compared:

	ODMS	DIgSILENT	PSSE
NODE 4 Hi side T3	-84.69/29.29	-84.69/29.45	-84.69/29.28
NODE 4 Lo side T3	84.85/-27.17	84.85/-27.33	84.85/-27.16
NODE 9 Lo side T5	310.00/128.70	310.00/129.71	310.00/129.11

The number as inside the 5% tolerance.

Supplementary files:
"Siemens_OD_No7_1_Load_flow.jpg" Screenshot of the load flow solution based on topology changed made by DIgSILENT.
"1.2.5 ENTSOE_16_NL_LDF_Results.wmf" Screenshot showing DIgSILENT load flow solution for NL with the breaker open.

"Siemens_OD_No7_2_Load_flow.jpg" Screenshot of the load flow solution based on topology changed made by DIgSILENT.
"Siemens_S_No7_2_Load_flow.jpg" Screenshot from PSS®E of the load flow solution based changed made by DIgSILENT.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-13	Michael Ford		Svein Olsen, Statnett SF	

SINGLE TEST RECORD FORM

Test No:9_2	**Tool: PSS®ODMS**	**Score:** Pass

Test files (Version 1)

Import	**Export**
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_14J10h_EQ.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_NL_OD_14J10h_TP.xml
3. ENTSOE_16_NL_EQ.xml	3. ENTSOE_16_EU_OD_14J10h_SV.xml
4. ENTSOE_16_NL_TP.xml	4. ENTSOE_16_BE_OD_14J10h_EQ.xml
5. ENTSOE_16_NL_SV.xml	5. ENTSOE_16_BE_OD_14J10h_TP.xml
6. ENTSOE_16_BE_EQ.xml	
7. ENTSOE_16_BE_TP.xml	
8. ENTSOE_16_BE_SV.xml	
9. ENTSOE_16_NL_OD_13J12h_TP.xml	
10. ENTSOE_16_NL_OD_13J12h_SV.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file. Calculated load flow. Created a screenshot showing the result.
Exported the merge model.
Validated all the exported files in CIMspy.

Supplementary files:
"Siemens_OD_No9_2_Load_flow_Solution_1.jpg" Screenshot of the load flow solution based on the merge of original files.
"Siemens_OD_No9_2_Load_flow_Solution_2.jpg" Screenshot of the load flow solution for the merge solution with the changes from 1.2.4 – open the breaker on NODE 8 to NODE 5 in Area 2.
"Siemens_OD_No9_2_CIMspyValidation_EQ.jpg" Screenshot of the CIMspy validation of the Equipment file.
"Siemens_OD_No9_2_CIMspyValidation_TP.jpg" Screenshot of the CIMspy validation of the topology file.

Date	**Vendor**		**Test witness**	
2010-06-13	**Name**	**Signature**	**Name**	**Signature**
	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:10_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	
2. ENTSOE_16_EU_TP.xml	
3. ENTSOE_16_NL_OD_14J10h_EQ.xml	
4. ENTSOE_16_NL_OD_14J10h_TP.xml	
5. ENTSOE_16_EU_OD_14J10h_SV.xml	
6. ENTSOE_16_BE_OD_14J10h_EQ.xml	
7. ENTSOE_16_BE_OD_14J10h_TP.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the files created in 1.2.9. This model includes the merge base model.

The following values were compared:

	ODMS	DIgSILENT	PSS/E
NODE 10	118.17/18.62	118.17/18.42	118.17/18.75
NODE 7	90.00/99.77	90.00/98.37	90.00/100.04
NODE 3	158.59/-24.07	158.63/-24.35	158.53/-23.76
NODE 2	-274.81/24.15	-275.84/24.65	-275.74/23.75
NODE 4 Hi side T3	-74.61/29.40	-74.41/28.59	-74.67/29.77
NODE 4 Lo side T3	74.75/-27.55	74.56/-26.76	74.82/-27.92
NODE 9 Lo side T5	290.00/159.93	290.00/161.71	290.00/160.23

The result is inside the 5% tolerance.

Supplementary files:
"Siemens_OD_No10_1_Load_flow.jpg" Screenshot of the load flow solution based on the merge model.
"Siemens_OD_No10_1_unit.jpg" Screenshot of the load flow solution based on the merge model.
"1.2.9b ENTSOE_16_NL_BE_LDF_Results after TP_SV_import".wmf Screenshot showing DIgSILENT load flow solution
"Siemens_S_No10_1_Load_flow.jpg" Screenshot from PSS®E of the load flow solution based changed made by DIgSILENT.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-15	Michael Ford		Svein Olsen, Statnett SF	

SINGLE TEST RECORD FORM

Test No:11_2	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_15J15h_DIFF.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_NL_OD_15J15h_TP.xml
3. ENTSOE_16_NL_OD_14J10h_EQ.xml	3. ENTSOE_16_OD_15J15h_SV.xml
4. ENTSOE_16_NL_OD_14J10h_TP.xml	
5. ENTSOE_16_EU_OD_14J10h_SV.xml	
6. ENTSOE_16_BE_OD_14J10h_EQ.xml	
7. ENTSOE_16_BE_OD_14J10h_TP.xml	
8.	
9.	
10.	

Comments/Results/Issues:

The version of PSS®ODMS v.7.0.2.4
Imported the file.
The following changes was made to the solution:

1. Close breaker between NODE 6 and NODE 9.
2. Removed Load 2 at NODE 4.

Calculate load flow solution.
Export incremental / different model in the DIFF file. This file includes incremental differences in equipment, topology and state variables. This occurs since the removal of the Load affects the topology and state. It changes to the model that only effects equipment, then the DIFF file will only include equipment information. The specification of difference file is a bit unclear on this point.
Commit the changes to the model. Exported a full topology and state variable files.
Exported a screenshot with the load flow result.

Since CIMspy does not support validation of different / incremental file, we only used CIMspy to look at the changes.
Validated all the SV and TP files in CIMspy.

Supplementary files:

"Siemens_OD_No11_2_Load_flow.jpg" Screenshot of the load flow solution based on the changes done to the model.
"Siemens_OD_No11_2_CIMspy_DIFF.jpg" Screenshot of the CIMspy validation of the Equipment different file.
"Siemens_OD_No11_2_CIMspyValidation_TP.jpg" Screenshot of the CIMspy validation of the topology file.
"Siemens_OD_No11_2_CIMspyValidation_SV.jpg" Screenshot of the CIMspy validation of the state variable file.
"Siemens_S_No11_2_Load_flow.jpg" Screenshot of the load flow solution from PSSE based on the changes done to the model.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-15	Michael Ford	MoF	Svein Olsen, Statnett SF	SO

Single test record form

Test No:12_3	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	
2. ENTSOE_16_EU_TP.xml	
3. ENTSOE_16_NL_OD_14J10h_EQ.xml	
4. ENTSOE_16_NL_OD_14J10h_TP.xml	
5. eg_ENTSOE_16_EU_NL_Test11_EXP_DIFF.xml	
6. eg_ENTSOE_16_EU_NL_Test11_EXP_TP.xml	
7. eg_ENTSOE_16_EU_NL_Test11_EXP_SV.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file exported in 1.2.9 to create the merge model.
Imported the DIFF files represented the changes done by GE.

The following changes was identified:

1. Add Substation "EG Test" to the ENSOE subGeographicalRegion .
2. Changed neutral and normal step of the phase shifter.
3. Changed x value on a transformer

The solution from GE is based on the Version 0 of the base file, rather than Version 1. We reversed the signed in the injection point in the SV file. The file was saved as: eg_ENTSOE_16_EU_NL_Test11_EXP_SV_PTI.xml
This file was imported.

Calculate load flow solution.
Validated load and generator data and they were inside 1% difference.

Supplementary files:
"Siemens_OD_No12_3_Loads.jpg" Screenshot of the load result from the load flow calculation based on the changes done to the model imported in the DIFF file.
"Siemens_OD_No12_3_Units.jpg" Screenshot of the unit result from the load flow calculation based on the changes done to the model imported in the DIFF file.
"eg_test11_resolution_screen.doc" Screenshot showing GE load flow solution.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:13_2	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_16J15h_DIFF.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_NL_OD_16J15h_TP.xml
3. ENTSOE_16_NL_EQ.xml	3. ENTSOE_16_OD_16J15h_SV.xml
4. ENTSOE_16_NL_TP.xml	4. ENTSOE_16_BE_OD_16J15h_DIFF.xml
5. ENTSOE_16_NL_SV.xml	5. ENTSOE_16_BE_OD_16J15h_TP.xml
6. ENTSOE_16_BE_EQ.xml	
7. ENTSOE_16_BE_ TP.xml	
8. ENTSOE_16_BE_SV.xml	
9.	
10.	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file.
The following changes was made to the solution:

1. Close breaker between NODE 6 and NODE 9.
2. Add new Load at NODE 5.
3. Remove Generator at NODE 7
4. Add Line between NODE 3 and NODE 11,
   IdentifiedObject.name=PTI
   IdentifiedObject.description=new in 1.2.11
   IdentifiedObject.aliasName=DFG-THY 3
   ACLineSegment.bch=4.61157E-05
   ACLineSegment.r=1.06601
   ACLineSegment.x=34.2854
   Conductor.length=45
   ACLineSegment.gch=1E-09
   ACLineSegment.r0=1.16601
   ACLineSegment.x0=34.3853
   ACLineSegment.b0ch=0.0001
   ACLineSegment.g0ch=2E-9
   Equipment.aggregate=false

Calculate load flow solution.
Export incremental / different model in the two DIFF file. This file includes incremental differences in equipment, topology and state variables. This occurs since the removal of the Load affects the topology and state. It changes to the model that only effects equipment, then the DIFF file will only include equipment information. The specification of difference file is a bit unclear on this point.
Commit the changes to the model. Exported a full Topology and state variable files. Export incremental / different model, EQ, TP and SV files

Validated all the exported files in CIMspy.

Supplementary files:
"Siemens_OD_No13_3_Loads.jpg" Screenshot of the load result from the load flow calculation based on the changes done.
"Siemens_OD_No13_3_Units.jpg" Screenshot of the unit result from the load flow calculation based on the changes done.
"Siemens_OD_No13_2_CIMspy_NL_DIFF.jpg" Screenshot of the CIMspy showing the different file for NL.
"Siemens_OD_No13_2_CIMspy_BE_DIFF.jpg" Screenshot of the CIMspy showing the different file.

"Siemens_OD_No13_2_CIMspy_NL_TP.jpg" Screenshot of the CIMspy validation of the topology file.
"Siemens_OD_No13_2_CIMspy_NL_SV.jpg" Screenshot of the CIMspy validation of the state variable file.
"Siemens_OD_No13_2_CIMspy_BE_TP.jpg" Screenshot of the CIMspy validation of the topology file.
"Siemens_OD_No13_2_CIMspy_BE.jpg" Screenshot of the CIMspy validation of the state variable file.

Date	**Vendor**		**Test witness**	
2010-06-16	**Name**	**Signature**	**Name**	**Signature**
	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:15_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	
2. ENTSOE_16_EU_TP.xml	
3. ENTSOE_16_NL_EQ.xml	
4. ENTSOE_16_NL_TP.xml	
5. ENTSOE_16_NL_SV.xml	
6. ENTSOE_16_BE_EQ.xml	
7. ENTSOE_16_BE_TP.xml	
8. ENTSOE_16_BE_SV.xml	
9. ENTSOE_16_NL_DY.xml	
10. ENTSOE_16_BE_DY.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file. Created a screenshot showing the imported dynamic data.
The instant data was checked.
Calculated load flow. Exported the imported data to PSS/E RAW file, ENTSOE_16_Test15.raw and a combined Dynamic file ENTSOE_16_DY.dyr.
The files were imported to PSS/E v.32. The model was initialized by running a power flow and dynamic simulation. The result is captured in the screenshot.

The file ENTSOE_16_DY.dyr did not include IEEEG1 governor model. PSS/E used standard internal governor model.

Supplementary files:
"Siemens_OD_No15_1_Dynamic.jpg" Screenshot of the dynamic data imported.
"Siemens_OD_No15_1_Load_flow.jpg" Screenshot of the load flow solution based on the base model with dynamic data.
"Siemens_S_No15_1_Dynamic_initial.jpg" Screenshot of the dynamic initialized model.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford	MOF	Svein Olsen, Statnett SF	

Single test record form

Test No:16_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	1. ENTSOE_16_NL_OD_16J10h_EQ.xml
2. ENTSOE_16_EU_TP.xml	2. ENTSOE_16_NL_OD_16J10h_TP.xml
3. ENTSOE_16_NL_EQ.xml	3. ENTSOE_16_EU_OD_16J10h_SV.xml
4. ENTSOE_16_NL_TP.xml	4. ENTSOE_16_BE_OD_16J10h_EQ.xml
5. ENTSOE_16_NL_SV.xml	5. ENTSOE_16_BE_OD_16J10h_TP.xml
6. ENTSOE_16_BE_EQ.xml	6. ENTSOE_16_BE_OD_16J10h_DY.xml
7. ENTSOE_16_BE_TP.xml	7. ENTSOE_16_NL_OD_16J10h_DY.xml
8. ENTSOE_16_BE_SV.xml	
9. ENTSOE_16_NL_DY.xml	
10. ENTSOE_16_BE_DY.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file. Calculated load flow and initialized the model.
Validated the exported EQ files in CIMspy.

Supplementary files:
"Siemens_OD_No15_1_Dynamic.jpg" Screenshot of the dynamic data imported.
"Siemens_OD_No15_1_Load_flow.jpg" Screenshot of the load flow solution based on the base model with dynamic data.
"Siemens_S_No15_1_Dynamic_initial.jpg" Screenshot of the dynamic initialized model.
"Siemens_OD_No16_1_CIMspyValidation_NL_EQ.jpg" Screenshot of the CIMspy validation of the NL Equipment file.
"Siemens_OD_No16_1_CIMspyValidation_BE_EQ.jpg" Screenshot of the CIMspy validation of the NL Equipment file.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:17_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ.xml	
2. ENTSOE_16_EU_TP.xml	
3. ENTSOE_16_NL_EQ.xml	
4. ENTSOE_16_NL_TP.xml	
5. ENTSOE_16_NL_SV.xml	
6. ENTSOE_16_BE_EQ.xml	
7. ENTSOE_16_BE_TP.xml	
8. ENTSOE_16_BE_SV.xml	
9. ENTSOE_16_NL_DY.xml	
10. ENTSOE_16_BE_DY.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file. Created a screenshot showing the imported dynamic data.
The instant data was checked.
Calculated load flow. Exported the imported data to PSS/E RAW file, ENTSOE_16_Test15.raw and a combined Dynamic file ENTSOE_16_DY.dyr.
The files were imported to PSS/E v.32. The model was initialized by running a power flow and dynamic simulation. The result is captured in the screenshot.

The file ENTSOE_16_DY.dyr did not include IEEEG1 governor model. PSS/E used standard internal governor model.

Run dynamic simulation and compared the result with the result from DIgSILTENT. The result match inside 1% tolerance.

Supplementary files:
"Siemens_OD_No15_1_Dynamic.jpg" Screenshot of the dynamic data imported.
"Siemens_OD_No15_1_Load_flow.jpg" Screenshot of the load flow solution based on the base model with dynamic data.
"Siemens_S_No15_1_Dynamic_initial.jpg" Screenshot of the dynamic initialized model.
"Siemens_S_No17_1_Dynamic.jpg" Screenshot of the dynamic simulation result.
"1.2.17 ENTOSE_16 Node 6 vief step respose.wmf" screenshot showing the DIgSILENT result from the dynamic simulation.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford	MDF	Svein Olsen, Statnett SF	SO.

Single test record form

Test No:27_2	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ge1_eq.xml	1. GE1_OD_16J13h_EQ.xml
2. ge1_tp_v2.xml	2. GE1_OD_16J13h _TP.xml
3. ge1_sv_v2.xml	3. GE1_OD_16J13h _SV.xml
4.	4. GE1_OD_16J13h _DY.xml
5.	
6.	
7.	
8.	
9.	
10.	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Imported the file in CPSM profile format.

Exported the data in ENTSO-E profile format.
Validated the exported EQ, TP and SV file in CIMspy. The DY files were not validated.

The file validated correctly.

Supplementary files:
"Siemens_OD_No27_2_CIMspyValidation_GE1_EQ.jpg" Screenshot of the CIMspy validation of the Equipment file.
"Siemens_OD_No27_2_CIMspyValidation_GE1_TP.jpg" Screenshot of the CIMspy validation of the topology file.
"Siemens_OD_No27_2_CIMspyValidation_GE1_SV.jpg" Screenshot of the CIMspy validation of the state variable file.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:28_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ABB40bus_EQ_NM_14J13.xml	1.
2. ABB40bus_TP_CN2TP_NM_14J08.xml	2.
3. ABB40bus_SV_NM_14J15.xml	3.
4.	4.
5.	5.
6.	
7.	
8.	
9.	
10.	

Comments/Results/Issues:

The version of PSS®ODMS v.7.0.2.4

Imported the file.
The TP file included error in the header.
The following changes was done to the new TP file:
ABB40bus_TP_CN2TP_NM_14J08_PTI
==========
Changed md namespace to "http://iec.ch/2010/schema/CIM_model_description#"

Changed md:Model.DependentOn to rdf:resource="_"

Added ModelingAuthoritySet

```
<md:Model.ModelingAuthoritySet>
    <md:Description>
        <md:Description.name>LOCAL</md:Description.name>
    </md:Description>
</md:Model.ModelingAuthoritySet>
```

The following changes was done to new SV file:
ABB40bus_SV_NM_14J15_PTI
==========
Changed md namespace to "http://iec.ch/2010/schema/CIM_model_description#"

Added ModelingAuthoritySet same as above

We change SvTapStep.RatioTapChanger to SvTapStep.TapChanger

Ignore the error reporting that SvTapStep refers to missing TapChanger.

Calculate load flow solution. The solution solved. It was difficult to compare the values with ABB result. Some check where done and found OK.

Supplementary files:

"Siemens_OD_No28_1_Loads.jpg" Screenshot of the load result from the load flow calculation. "Siemens_OD_No28_1_Units.jpg" Screenshot of the unit result from the load flow calculation. "ABB40bus_NM_11J21_bus-branch-report.xml" XML files showing the load flow in ABB system.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford		Svein Olsen, Statnett SF	

Single test record form

Test No:31_1	Tool: PSS®ODMS	Score: Pass

Test files (Version 1)

Import	Export
1. ENTSOE_16_EU_EQ_Error.xml	
2. ENTSOE_16_EU_TP_Error.xml	
3. ENTSOE_16_NL_EQ_Error.xml	
4. ENTSOE_16_NL_TP_Error.xml	
5. ENTSOE_16_NL_SV_Error.xml	

Comments/Results/Issues:
The version of PSS®ODMS v.7.0.2.4

Each of the listed files includes one error in the header. The file was imported, error messages recorded and the file was changed back to the original condition and name and imported. The following error were introduced in the files:

ENTSOE_16_EU_EQ_Error.xml
xmlns:pti="http://www.pti-us.com/PTI_CIM-schema-cim14#
changes to
xmlns:pti="http://www.pti-us.com/PTI_CIM-schema-cim12#
The import failed with an error screen. Created a screenshot with the message.

ENTSOE_16_EU_TP_Error.xml
<md:Model.DependentOn rdf:resource="http://www.pti-us.com/2010/ENTSOE_16_EU_EQ/1"/>
Change to
<md:Model.DependentOn rdf:resource="http://www.pti-us.com/2010/ENTSOE_16_EU_EQ_Error/1"/>
The import failed with an error screen. Created a screenshot with the message.

ENTSOE_16_NL_EQ_Error.xml
<md:Model.ModelingAuthoritySet>
<md:Description>
<md:Description.name>ENTSOE_16_NL</md:Description.name>
</md:Description>
</md:Model.ModelingAuthoritySet>
Is removed from the file.
The import failed with an error screen. Created a screenshot with the message.

ENTSOE_16_NL_TP_Error.xml
<md:Model.Profile>

<md:Description>
<md:Description.uri>http://www.entsoe.eu/Topology/2</md:Description.uri>
<md:Description.name>ENTSOE-Topology</md:Description.name>
<md:Description.version>2</md:Description.version>
</md:Description>
</md:Model.Profile>
Changed to
<md:Description.version>2</md:Description.version> to
<md:Description.version>3</md:Description.version>
The import goes OK. The system should have reported that this is not a version that is supported.

ENTSOE_16_NL_SV_Error.xml
<md:Description.uri>http://www.entsoe.eu/StateVariables/2</md:Description.uri>
Changed to:
<md:Description.uri>http://www.entsoe.eu/State/2</md:Description.uri>
The import goes OK. The system should have reported that this is not a profile file that is supported.

Supplementary files:
"Siemens_OD_No31_1_EU_EQ_Error.jpg" Screenshot of the error message showed in the log file.
"Siemens_OD_No31_1_EU_TP_Error.jpg" Screenshot of the error message showed in the log file.
"Siemens_OD_No31_1_NL_EQ_Error.jpg" Screenshot of the error message showed in the log file.

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
2010-06-16	Michael Ford	MFF	Svein Olsen, Statnett SF	SO.

entsoe

TOOL SUMMARY FORM (PER TOOL)

Vendor: SISCO	Tool: SISCO UIB Adapter for OSIsoft PI System

Witnessed by

Name	Signature	Name	Signature
1. Chavdar Ivanov		9.	
2. Pierluigi Di Cicco	see test record form	10.	
3.		11.	
4.		12.	
5.		13.	
6.		14.	
7.		15.	
8.		16.	

Performed tests

Test No	Score	Test No	Score	Test No	Score
1_1	Pass	Unstruct_1_2	Pass		
4_1	Pass	1_7	Pass		
9_1	Pass	Unstruct_1_3	Pass		
10_1	Pass	1_8	Pass		
15_1	Pass	1_9	Pass		
1_2	Pass	28_1	Pass		
12_1	Pass	24_1	Pass		
31_1	Pass				
1_3	Pass				
1_4	Pass				
31_2	Pass				
1_5	Pass				
1_6	Pass				
31_3	Pass				
Unstruct_1_1	Pass				

Comments:

For test cases 2,3,5,6,7,8,11,13,14,16,17,19,20,22,23,25,26,27,28,29,30 product does not provide functionality of export, load flow analysis, or simulation.

Test 18,21 not performed due to no files being available.
28 is tested for import only.

Date	Vendor		ENTSO_E	
	Name	Signature	Name	Signature
16 July 2010	SISCO		Chavdar Ivanov	

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ENSTOE 16 MODEL

Test No:1_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml+_TP	1.
2. ENTSOE_16_BE_EQ.xml +TP+SV+DY	2.
3.	3.
4.	4.
5.	5.

Comments/Results/Issues:

Checked parameters of SVPowerFlow and SVVoltage

Supplementary files:

ENTSOE_1_1.jpg (screenshot of imported instance data)

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
12072010	SISCO		Chavdar Ivanov	

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Test No:4_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml+_TP	1.
2. ENTSOE_16_BE_EQ.xml +TP+SV+DY	2.
3.	3.
4.	4.
5.	5.

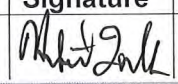
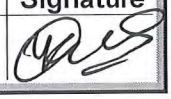
Comments/Results/Issues:

Removed connection to D1 (Conformant Load) P=100MW Q=90

Product does not perform export functionality.

Supplementary files:

ENTSOE_4_1.jpg (screenshot of imported instance data)

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
12072010	SISCO		Chavdar Ivanov	

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Test No:9_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml+_TP	1.
2. ENTSOE_16_BE_EQ.xml +TP+SV+DY	2.
3. ENTSOE_16_NL_EQ.xml+TP+SV+DY	3.
4.	4.
5.	5.

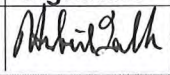
Comments/Results/Issues:

Verified Amsterdam Substation added.

Product does not perform Load Flow or Exports.

Supplementary files:

ENTSOE_9_1.jpg (screenshot of imported instance data)

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
12072010	SISCO		Chavdar Ivanov	

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Test No:10_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

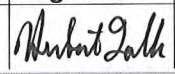
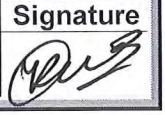
Import	Export
1. ENTSOE_16_EU_EQ.xml+_TP	1.
2. ENTSOE_16_BE_EQ.xml +TP+ DY	2.
3. ENTSOE_16_NL_EQ.xml+TP+ DY	3.
4.ENTSOE_16_SV.xml	4.
5.	5.

Comments/Results/Issues:

Power flow and export not supported by product.

Supplementary files:

ENTSOE_10_1.jpg (screenshot of imported instance data)

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
12072010	SISCO		Chavdar Ivanov	

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Test No:15_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ENTSOE_16_EU_EQ.xml+_TP	1.
2. ENTSOE_16_BE_EQ.xml +TP+SV+DY	2.
3. ENTSOE_16_NL_EQ.xml +TP+SV+DY	3.
4.	4.
5.	5.

Comments/Results/Issues:

Checked attribute values for ESAC1A of ExcAC1A class.

Product does not support load flow.

Supplementary files:

ENTSOE_15_1.jpg (screenshot of imported instance data)

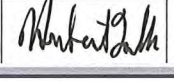
Date	Vendor		Test witness	
12072010	Name	Signature	Name	Signature
	SISCO		Chavdar Ivanov	

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ABB 40 MODEL

Test No:1_2	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ABB40bus_EQ_NM_11J21.XML	1.
2. ABB40bus_TP_NM_11J21.XML	2.
3. ABB40bus_SV_NM_11J21.XML	3.
4.	4.
5.	5.

Comments/Results/Issues:

Checked parameters of TransformerWinding and ACLineSegment

Product does not support export or power flow.

Supplementary files:

ABB40_1_1_TransformerWinding.jpg
ABB40_1_1_ACLineSegment.jpg

Date	Vendor		Test witness	
13072010	Name	Signature	Name	Signature
	SISCO		Pierluigi Di Cicco	

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Test No:12_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ABB40bus_EQ_NM_11J21.XML	1.
2. ABB40bus_TP_NM_11J21.XML	2.
3. ABB40bus_SV_NM_11J21.XML	3.
4. ABB40bus_Incr_AddBreaker_12J09.XML	4.
5.	5.

Comments/Results/Issues:

Checked the addition of breaker and topology.

Product does not perform load flow.

Supplementary files:

ABB40_12_1_AddedBreaker.jpg

Date	Vendor		Test witness	
13072010	Name	Signature	Name	Signature
	SISCO		Pierluigi Di Cicco	

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Test No:31_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ABB40bus_EQ_NM_11J21.XML	1.
2. ABB40bus_TP_NM_11J21.XML	2.
3. ABB40bus_SV_NM_11J21.XML	3.
4. Modifying ABB40bus_SV_NM_12J09.xml	4.
5.	5.

Comments/Results/Issues:

Changed in ABB40bus_SV_NM_12J09.xml

<md:Model.DependentOn rdf:resource="#_61e4ae76f1a24e75af619d1700ccc54c"/>
to
<md:Model.DependentOn rdf:resource="#_61e4ae76f1a24e75af619d1700ccc54d"/>

Detected file was previously imported due to FullModel
<md:FullModel rdf:about="#_c3724b84989b432880a2b9a431efc7a2"> not being changed.

Changed to:

<md:FullModel rdf:about="#_c3724b84989b432880a2b9a431efc7a9">

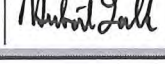
Re-imported and the missing dependsOn was detected.

Changed the dependency from:
<md:Model.DependentOn rdf:resource="#_61e4ae76f1a24e75af619d1700ccc54d"/>
to
<md:Model.DependentOn rdf:resource="#_61e4ae76f1a24e75af619d1700ccc54c"/>

Re-imported with no header problems detected.

Supplementary files:

ABB40_31_1_FilePreviouslyImported.jpg, ABB40_31_1_DependsOnMissing.jpg

Date	Vendor		Test witness	
13072010	Name	Signature	Name	Signature
	SISCO		Pierluigi Di Cicco	

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BCP

Test No: 1_3	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ENTSOE_16_EU_EQ_NE_12J11h.xml	1.
2. ENTSOE_16_EU_TP_NE_12J11h.xml	2.
3. ENTSOE_16_BE_EQ_NE_12J11h.xml	3.
4. ENTSOE_16_BE_TP_NE_12J11h.xml	4.
5. ENTSOE_16_EU_SV_NE_12J11h.xml	5.

Comments/Results/Issues:

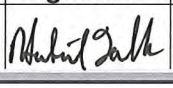
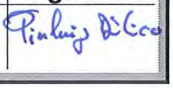
Checked Substation C4\Node3\SvVoltage & C4\Node3\SvPowerFlow

Checked Line Parameters.

Product does not perform load flow or export.

Supplementary files:

BCP_1_3_PowerFlow.jpg , BCP_1_3_ACLineSegment.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
13072010	SISCO		Pierluigi Di Cicco	

DigSilent

Test No:1_4	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from 1.2.2 ENTSOE_16_PF_13J16h.zip	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_TP.xml	4.
5. 1.2.2 ENTSOE_16_PF_13J16h_SV.xml	5.

Comments/Results/Issues:

Checked ACLineSegment and GeneratingUnits

Product does not support export or power flow.

Supplementary files:

DIGSILENT_1_4_ACLineSegment.jpg, DIGSILENT_1_4_GeneratingUnit.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

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Test No:31_2	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from 1.2.2 ENTSOE_16_PF_13J16h.zip	Export
1. ENTSOE_16_EU_EQ.xml	1.
2. ENTSOE_16_EU_TP.xml	2.
3. ENTSOE_16_NL_EQ.xml	3.
4. ENTSOE_16_NL_TP.xml	4.
5. 1.2.2 ENTSOE_16_PF_13J16h_SV.xml	5.

Comments/Results/Issues:

Attempted to re-import 1.2.2 ENTSOE_16_PF_13J16h_SV.xml. Receive warning that it already exists in the model.

Changed model header:

rdf:about="http://www.pti-us.com/2010/ENTSOE_16_NL_SV/1 to

rdf:about="http://www.pti-us.com/2010/ENTSOE_16_NL_SV/2

AND changed

<md:Model.DependentOn rdf:resource="http://www.pti-us.com/2010/ENTSOE_16_NL_TP/1" />

To

<md:Model.DependentOn rdf:resource="http://www.pti-us.com/2010/ENTSOE_16_NL_TP/2" />

Changed the dependsOn back to
<md:Model.DependentOn rdf:resource="http://www.pti-us.com/2010/ENTSOE_16_NL_TP/1" />

Imported with no errors.

Supplementary files:

DIGSILENT_31_2_ImportedPreviouslyCheck.jpg , DIGSILENT_31_2_FailedDependsOn.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO	Norbert Jalk	Pierluigi Di Cicco	Pierluigi Di Cicco

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CESI

Test No:1_5	Tool: SISCO UIB PI-AF	Score: PASS

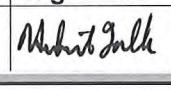
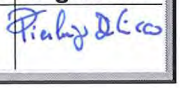
Test files

Import: from	Export
1. ENTSOE_16_EU_EQ_SP.xml	1.
2. ENTSOE_16_EU_TP_ SP.xml	2.
3. ENTSOE_16_NL_EQ_SP.xml	3.
4. ENTSOE_16_NL_TP_SP.xml	4.
5. ENTSOE_16_SV_SP.xml	5.

Comments/Results/Issues:
Checked HydroGeneratingUnit and ACLineSegment

Product does not support export or power flow.

Supplementary files:
CESI_SPIRA_1_5_HydroGeneratingUnit.jpg
CESI_SPIRA_1_5_ACLineSegment.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

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FGH

Test No:1_6	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1. ENTSOE_16_IN_14J09_EU_EQ.xml	1.
2. ENTSOE_16_IN_14J09_EU_TP.xml	2.
3. ENTSOE_16_IN_14J09_NL_EQ.xml	3.
4. ENTSOE_16_IN_14J09_NL_TP.xml	4.
5. ENTSOE_16_IN_14J09_NL_SV.xml	5.

Comments/Results/Issues:
Checked HydroGeneratingUnit and ACLineSegment

Product does not support export or power flow.

Supplementary files:
FGH_1_6_GeneratingUnit.jpg
FGH_1_6_ACLineSegment.jpg

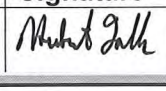
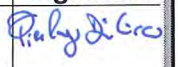
Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

ABB MMS

Test No:31_3	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1.Export_ENTSO-E_16_EU_EQ_BM_13JUL11h.xml	1.
2. Export_ENTSO-E_16_EU_TP_BM_13JUL11h.xml	2.
3.	3.
4.	4.
5.	5.

Comments/Results/Issues:

EQ file had the following rdf:about="#http://www.abb.com/ABB40Bus/BaseCase/topology"

The TP file had:
DependentOn rdf:resource="http://www.abb.com/ABB40Bus/BaseCase/equipment"/>

Since there was no "#" in the dependsOn, an appropriate warning was shown.

Changed TP dependsOn to add "#".
DependentOn rdf:resource="#http://www.abb.com/ABB40Bus/BaseCase/equipment"/>

Re-imported TP file and no warning was displayed..

Supplementary files:

ABB-MMS_31_3_DependsOnMessage.jpg , ABB-MMS-_31_3_SuccessfulImport.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

Test No:Unstruct_1_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1. ENTSOE_16_EU_EQ.xml – from original Entso-E	1.
2. ENTSOE_16_EU_TP.xml – from original Entso-E	2.
3. Export_ENTSO-E_16_NL_EQ_BM_13JUL11h.xml	3.
4. Export_ENTSO-E_16_NL_TP_BM_13JUL11h.xml	4.
5.	5.

Comments/Results/Issues:

Imported original Entso-e boundary files (e.g. EU). Then imported the ABB exported files for the Netherlands.

Looked for unresolved externals, which would have indicated boundary-to-model mismatch. There were no unresolved externals.

Then verified connectivity between boundary and Netherlands.

Supplementary files:

ABB-MMS_Unstruct_1_1_NoUnresolves.jpg
ABB-MMS_Unstruct_1_1_ConnectivityCheck.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

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OGS

Test No: Unstruct_1_2	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1. ENTSOE_16_EU_EQ.xml – from original Entso-E	1.
2. ENTSOE_16_EU_TP.xml – from original Entso-E	2.
3. ENTSOE_16_BE_EQ_CP_13J10h.xml	3.
4. ENTSOE_16_BE_TP_CP_13J10h.xml	4.
5. ENTSOE_16_BE_SV_CP_13J10h.xml	5.

Comments/Results/Issues:

Imported original Entso-e boundary files (e.g. EU). Then imported the ABB exported files for the Netherlands.

Looked for unresolved externals, which would have indicated boundary-to-model mismatch. There were no unresolved externals.

Then verified connectivity between boundary and Belgium.

Supplementary files:

OGS_Unstructured_1_2_NoUnresolves.jpg
OGS_Unstruct_1_2_ConnectivityCheck.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

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ABB-MMS

Test No:1_7	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1.Export_ENTSO-E_16_EU_EQ_BM_13JUL11h.xml	1.
2. Export_ENTSO-E_16_EU_TP_BM_13JUL11h.xml	2.
3.Export_ENTSO-E_16_BE_EQ_BM_13JUL11h.xml	3.
4. Export_ENTSO-E_16_BE_TP_BM_13JUL11h.xml	4.
5. Export_ENTSO-E_16_BE_SV_BM_13JUL11h.xml	5.

Comments/Results/Issues:

Forced import for BE files even though the files had the same Model Header rdf:about value.
The EU_EQ and BE_EQ files had the same rdf:about:
rdf:about=http://www.abb.com/ABB40Bus/BaseCase/equipment

The EU_TP and BE_TP files had the same rdf:about.
rdf:about="http://www.abb.com/ABB40Bus/BaseCase/topology"

Checked 3WindingTransformer and ACLineSegment

Product does not support export or power flow.

Supplementary files:

ABB-MMS_1_7_3WindingTransformer.jpg
ABB-MMS_1_7_ACLineSegment.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	Pierluigi Di Cicco

10 GE ENERGY

Test No: Unstruct_1_~~2~~ 3	Tool: SISCO UIB PI-AF	Score: PASS

Test files

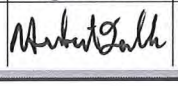
Import: from	Export
1. ENTSOE_16_EU_EQ.xml – from original Entso-E	1.
2. ENTSOE_16_EU_TP.xml – from original Entso-E	2.
3. eg_ENTSOE_16_NL_test02_EQ.xml	3.
4. eg_ENTSOE_16_NL_test02_TP.xml	4.
5. eg_ENTSOE_16_NL_test02_SV.xml	5.

Comments/Results/Issues:

Then verified connectivity between boundary and Belgium.

Supplementary files:

GEEnergy_Unstruct_1_2_PowerFlow.jpg
GEEnergy_Unstruct_1_2_ACLineSegment.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14072010	SISCO		Pierluigi Di Cicco	

11 INTERCOMPRO

Test No:1_8	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1. ENTSOE_16_BE_EQ.xml – original file	1.
2. ENTSOE_16_EU_EQ.xml – original file	2.
3. ENTSOE_16_TP_IS_14J14h.XML	3.
4. ENTSOE_16_SV_IS_14J14h.XML	4.
5.	5.

Comments/Results/Issues:

Intercompro uses the original equipment files and exported a single topology and a single state variable file for the merged model of the equipment files. This is by design. Therefore, there are no EU_TP , EU_SV, BE_TP, or BE_SV in this test.

Product does not support export or power flow.

Supplementary files:

intercompro _1_8_3WindingTransformer.jpg
intercompro_1_8_ACLineSegment.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
15072010	SISCO		Pierluigi Di Cicco	

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12 ALSTOMGRID

Test No: 1_9	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import: from	Export
1. ENTSOE_16_EU_EQ.xml – from original Entso-E	1.
2. ENTSOE_16_EU_TP.xml – from original Entso-E	2.
3. export_BE_EQ_14072010.xml	3.
4. export_BE_TP_14072010.xml	4.
5. export_BE_SV_14072010.xml	5.

Comments/Results/Issues:

The BE files had a NULL value for rdf:about in the header. This is not valid rdf. Manually edited the files to have values of "a", "b", and "c" for the EQ, TP, and SV files respectively. Additionally, the files have no DependsOn within the header.

Alstom TP and SV files used rdf:ID instead of rdf:about.

Imported original Entso-e boundary files (e.g. EU). Then imported the AlstomGrid exported files for Belgium.

Looked for unresolved externals, which would have indicated boundary-to-model mismatch. There were no unresolved externals.

Then verified connectivity between boundary and Belgium.

Checked 3WindingTransformer/TransformerWindings as well as StateVoltage

Product does not support export or power flow.

Supplementary files:

AlstomGrid_1_9_3WindingTransformert.jpg
AlstomGrid_1_9_StateVoltage.jpg
AlstomGrid_1_9_NoUnresolved.jpg
AlstomGrid_1_9_ConnectivityCheck.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
15072010	SISCO		Pierluigi Di Cicco	

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Test No:28_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files

Import	Export
1. ABB40bus_EQ_NM_14J13.XML	1.
2. ABB40bus_TP_CN2TP_NM_14J08.xml	2.
3. ABB40bus_SV_NM_14J15.xml	3.
4.	4.
5.	5.

Comments/Results/Issues:

Verified ACLineSegment, verified instance counts

Product does not support load flow.

Supplementary files:

ABB40_28_1_AClineSegment.jpg
ABB40_28_1_InstanceCounts.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
15072010	SISCO		Pierluigi Di Cicco	

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Test No:24_1	Tool: SISCO UIB PI-AF	Score: PASS

Test files from: 1.2.25 ENTSOE_16_PF_15J14h.zip

Import	Export
1. ENTSOE_16_EU_EQ.xml + TP	1.
2. ENTSOE_16_BE_EQ.xml + TP	2.
3. ENTSOE_16_NL_EQ.xml + TP	3.
4. ENTSOE_16_BE_DY.xml	4.
5. ENTSOE_16_NL_DY.xml	5.

Comments/Results/Issues:

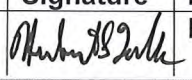
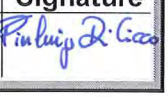
Imported EU EQ and TP. The imported BE EQ. Encountered an rdf error on line 1045 due to rdf:resource="". Manually edited the file to remove the line. Saved fixed file as ENTSOE_16_BE_EQ_fixed.xml. Then imported the fixed file.

Verified the existence of appropriately constructed MetaBlock.

Product does not support load flow.

Supplementary files:

DigSilent_24_1_MetaBlock.jpg

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
15072010	SISCO		Pierluigi Di Cicco	

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TOOL SUMMARY FORM (PER TOOL)

Vendor: CESI		Tool:SPIRA	
Witnessed by			
Name	**Signature**	**Name**	**Signature**
1.Pietro Capurso		9.	
2.Pierluigi Portoghese		10.	
3.		11.	
4.		12.	
5.		13.	
6.		14.	
7.		15.	
8.		16.	

Performed tests

Test No	Score	Test No	Score	Test No	Score
1_1	Pass				
1_2	Pass				
1_3	Pass				
1_4	Pass				
2_1	Pass				
2_2	Pass				
3_1	Pass				
4_1	Pass				
5_1	Pass				
6_1	Pass				
7_1	Pass				
7_2	Pass				
8_1	Pass				
8_2	Pass				
9	Pass (Partial)				

Comments:

SIPRA doesn't still manage the header, but CESI will implement soon this function.

During the export of SV file, a new attribute svTapStep is created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.

In general all test done was successfully performed.

Date	Vendor		ENTSO-E	
	Name	**Signature**	**Name**	**Signature**
16 July	CESI		Chavdar Ivanov	

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SINGLE TEST RECORD FORM

Test No:1_1	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_NL_EQ.xml (ver 12July)	1.
2. ENTSOE_16_NL_TP.xml (ver 12July)	2.
3. ENTSOE_16_EU_EQ.xml (ver 12July)	3.
4. ENTSOE_16_EU_TP.xml (ver 12July)	4.
5. ENTSOE_16_NL_SV.xml (ver 12July)	5.
6.	6.
7.	7.

Comments/Results/Issues:

The following items were checked:

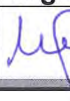
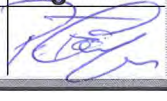
- Load data of area NL;
- Voltage on the electrical node;
- Generation data of area NL;
- The Flow trough the Phase Shifter Transformer between NODE 4 and NODE 8;
- Tie flow data between area NL and EU;

The power flow gave the same results as from the original data of the model.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Screen shot: SP_TEST01_1_SCREENSHOTH.doc

Date	Vendor		Test witness	
13 July	Name	Signature	Name	Signature
	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:1_2	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_EU_IN_13J16_EQ.xml	1.
2. ENTSOE_16_EU_IN_13J16_TP.xml	2.
3. ENTSOE_16_NL_IN_13J16_EQ.xml	3.
4. ENTSOE_16_NL_IN_13J16_SV.xml	4.
5. ENTSOE_16_NL_IN_13J16_TP.xml	5.
6.	6.
7.	7.

Comments/Results/Issues:

It was imported the model produced by FGH during the test 2_1.

The import was successful and the load flow solution give result comparable with the model ENSTOE_16.

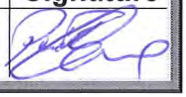
The following issues of the input model are not compliant with the official test model ENTSOE_16:

- The input model doesn't contain generator type;
- The input model has the load of NODE 8 divided in 3 different node;
- The input model doesn't contain the name of the electric node (NODE 1, NODE 2 etc...)

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Load Flow Solution: SP_TEST01_2_LFSolution_FGH.out
Screen shot: SP_TEST01_2_screenshot_FGH.doc

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14 July	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:1_3	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_PF_13J08h.zip	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.

Comments/Results/Issues:

It was imported the model produced by Digsilent during the test 02.

The import was successful and the load flow solution give result comparable with the model ENSTOE_16.

The following issues of the input model are not compliant with the official test model ENTSOE_16:

- The input model doesn't contain generator type;
- The input model doesn't contain the name of the electric node (NODE 1, NODE 2 etc...)

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
14 July	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:1_4	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. eg_ENTSOE_16_NL_test02_EQ.xml	1.
2. eg_ENTSOE_16_NL_test02_SV.xml	2.
3. eg_ENTSOE_16_NL_test02_TP.xml	3.
4.	4.
5.	5.
6.	6.
7.	7.

Comments/Results/Issues:

It was imported the model produced by GE Energy during the test 02.

The import was successful and the load flow solution give result comparable with GE Results.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Load Flow Solution: SP_TEST01_4_LFSolution_GE.out

Date	Vendor		Test witness	
15 July	**Name**	**Signature**	**Name**	**Signature**
	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:2_1	Tool:SPIRA	Score: Pass

Test files	
Import	**Export**
1. ENTSOE_16_NL_EQ.xml (ver 12July)	1. ENTSOE_16_NL_EQ_SPv1.xml
2. ENTSOE_16_NL_TP.xml (ver 12July)	2. ENTSOE_16_NL_TP_SPv1.xml
3. ENTSOE_16_EU_EQ.xml (ver 12July)	3. ENTSOE_16_SV_SPv1.xml
4. ENTSOE_16_EU_TP.xml (ver 12July)	4.
5. ENTSOE_16_NL_SV.xml (ver 12July)	5.
6.	6.
7.	7.

Comments/Results/Issues:

Cimspy was used to check all the instance counts and some instance details as below.
Phase Shifter Tap position
ControlArea
GeographicRegion
BaseVoltage
VoltageLevel

It is noted that the original model contains class of *OperatingParticipant* and *Zone*. These two classed are not in the July 12 2010 version of Entso-E profile. The exported files do not contain these two classes.
A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.
The SV file contain also the class *LoadFlowSettings* produced by CESI but the validation is ok.
rdf:ID are also checked between original models and exported models for most of the elements.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:
Valitation: SP_Test02_1_Validation.doc
Load Flow solution: SP_Test02_1_LFSolution.out

Also Boundary files are exported:
ENTSOE_16_EU_EQ_SPv1.xml
ENTSOE_16_EU_TP_SPv1.xml

Date	Vendor		Test witness	
	Name	**Signature**	**Name**	**Signature**
13 July	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:2_2	Tool:SPIRA	Score: Pass

Test files	
Import	**Export**
1. ENTSOE_16_NL_EQ.xml (ver 13July)	1. ENTSOE_16_NL_EQ_SPv2.xml
2. ENTSOE_16_NL_TP.xml (ver 13July)	2. ENTSOE_16_NL_TP_SPv2.xml
3. ENTSOE_16_EU_EQ.xml (ver 13July)	3. ENTSOE_16_SV_SPv2.xml
4. ENTSOE_16_EU_TP.xml (ver 13July)	4.
5. ENTSOE_16_NL_SV.xml (ver 13July)	5.
6.	6.

Comments/Results/Issues:

Cimspy was used to check all the instance counts and some instance details as below.
Phase Shifter Tap position
ControlArea
GeographicRegion
BaseVoltage
VoltageLevel

It is noted that the original model contains class of *OperatingParticipant* and *Zone*. These two classed are not in the July 13 2010 version of Entso-E profile. The exported files do not contain these two classes.
A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.
The SV file contain also the class *LoadFlowSettings* produced by CESI but the validation is ok.
rdf:ID are also checked between original models and exported models for most of the elements.
The Boundary files produced are compliant with the profile

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:
Valitation: SP_Test02_2_Validation.doc
Load Flow solution: SP_Test02_2_LFSolution.out

Also Boundary files are exported:
ENTSOE_16_EU_EQ_SPv2.xml
ENTSOE_16_EU_TP_SPv2.xml

Date	Vendor		Test witness	
	Name	**Signature**	**Name**	**Signature**
13 July	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:3_1	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_NL_EQ.xml (ver 12July)	1.
2. ENTSOE_16_NL_TP.xml (ver 12July)	2.
3. ENTSOE_16_EU_EQ.xml (ver 12July)	3.
4. ENTSOE_16_EU_TP.xml (ver 12July)	4.
5. ENTSOE_16_NL_SV.xml (ver 12July)	5.
6.	6.
7.	7.

Comments/Results/Issues:

The comparison was made between the following tool in relation to the Test 01: SPIRA and Enterprise Gateway.

The results are comparable and mach in the engineering tolerance.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Screen shot: SP_TEST03_1_SCREENSHOTH.doc

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
13 July	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:4_1	Tool: CESI	Score: Pass

Test files:

Import	Export
1. **ENTSOE_16_NL_EQ.xml** (ver 13July)	1. ENTSOE_16_NL_TP_SPv1_16J9h.xml
2. **ENTSOE_16_NL_TP.xml** (ver 13July)	2. ENTSOE_16_EU_TP_SPv1_16J9h.xml
3. **ENTSOE_16_NL_SV.xml** (ver 13July)	3. ENTSOE_16_SV_SPv1_16J9h.xml
4. ENTSOE_16_EU_EQ.xml (ver 13July)	4.
5. ENTSOE_16_EU_TP.xml (ver 13July)	5.

Comments/Results/Issues:

The following Topology change is made:
Change status of Breaker between NODE 6 and NODE 9 from Open to Close

Load Flow results are in the output file SP_test04_1_LFSolution.out

For the State Variable file, All the original information (rdf:ID) are updated, also, some other information such as SvPowerFlow, SvTapStep are added.

A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.

The SV file contain also the class *LoadFlowSettings* produced by CESI but the validation is ok.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Power flow result: SP_test04_1_LFSolution.out
CimSpy data: SP_test04_1_validation.doc

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
July 16	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:5_1	**Tool: SPIRA**	**Score: Pass**

Test files:

Import	**Export**
1. **ENTSOE_16_NL_EQ.xml (13 July)**	1. ENTSOE_16_SV_SPv1_16J9h.xml
2. **ENTSOE_16_NL_TP.xml (13 July)**	2.
3. **ENTSOE_16_NL_SV.xml (13 July)**	3.
4. ENTSOE_16_EU_EQ.xml **(13 July)**	4.
5. ENTSOE_16_EU_TP.xml **(13 July)**	5.

Comments/Results/Issues:

The following StateVariable changes are made:

- Change Load MW of "Load 2" at NODE 4 from 10MW to 50MW;
- Change the generation of generator of the NODE 9 from 150 MW to 175 MW.

Load Flow solves and results are in the output file SP_test05_1_LFSolution.out

For the State Variable file, All the original information (rdf:ID) are updated and the validation in ok.

A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.

The SV file contain also the class *LoadFlowSettings* produced by CESI but the validation is ok.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Power flow result: SP_test05_1_LFSolution.out
CimSpy data: SP_test05_1_validation.doc

Date	**Vendor**		**Test witness**	
	Name	**Signature**	**Name**	**Signature**
July 16	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:6_1	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. SELF TEST	1. N/A
2. **ENTSOE_16_NL_EQ.xml (13 July)**	2.
3. ENTSOE_16_NL_TP_SPv1_16J9h.xml	3.
4. ENTSOE_16_SV_SPv1_16J9h.xml	4.
5. ENTSOE_16_EU_TP_SPv1_16J9h.xml	5.
6. ENTSOE_16_EU_EQ.xml **(13 July)**	6.
7.	7.

Comments/Results/Issues:

It was imported the TP and SV file exported during test 4_1 as Self Test.
The EQ file is the same of the original test model (ENTSOE_16 version 1 – 13 July)

Load Flow results are the same of the model modify as in test 4_1

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Power flow result: SP_test06_1_LFSolution_selftest.out

Date	Vendor		Test witness	
	Name	**Signature**	**Name**	**Signature**
16 July	CESI		Pierluigi Portoghese	

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SINGLE TEST RECORD FORM

Test No:7_1	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. **ENTSOE_16_NL_EQ.xml (13 July)**	1. N/A
2. **ENTSOE_16_NL_TP.xml (13 July)**	2.
3. ENTSOE_16_SV_SPv1_16J9h.xml	3.
4. ENTSOE_16_EU_EQ.xml **(13 July)**	4.
5. ENTSOE_16_EU_TP.xml **(13 July)**	5.
6.	6.
	7.

Comments/Results/Issues:

Test 7_1 is made as a Self Test importing SV file produced during the Test 05_1.
The EQ and TP files are the same of the original test model (ENTSOE_16 version 2 – 13 July)

After importing process it was cheked that the modification of test 05_1 was applied.

The LF results are the same of the test 05_1.

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Power flow result: SP_test07_1_LFSolution_selftest.out

Date	Vendor		Test witness	
	Name	**Signature**	**Name**	**Signature**
16 July	CESI		Pierluigi Portoghese	

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SINGLE TEST RECORD FORM

Test No:7_2	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. **ENTSOE_16_NL_EQ_SPv2.xml**	1. N/A
2. **ENTSOE_16_NL_TP_SPv2.xml**	2.
3. **1.2.5 ENTSOE_16_PF_13j16h_SV.xml**	3.
4. **ENTSOE_16_EU_EQ_SPv2.xml**	4.
5. **ENTSOE_16_EU_TP_SPv2.xml**	5.
6.	6.
	7.

Comments/Results/Issues:
Test 7_2 is made importing SV file produced by Digsilent during the Test 5b and TP/EQ produced by SPIRA during test 02_2

The following modification are been verified:

- *Generator 1 at node 9 from P = 140 MW to P = 160 MW.*
- *Generators at node 9 changed voltage setpoint for node 1 from V = 1.047 pu to V = 1.04 pu.*
- *Load 2 at node 4 from P = 10 MW to P = 20 MW.*

The Solution was solved and the load flow results (voltage and Power flow) are very close to the output of DigSilent "*1.2.5 ENTSOE_16_NL_LDF_Results.wmf*" and the maximum difference between the solutions is related to the reactive power trough the busbar coupler (NODE 8 – NODE 5) about 2 MVar

PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:

Power flow result: SP_test07_2_LFSolution_selftest.out

Date	Vendor		Test witness	
	Name	**Signature**	**Name**	**Signature**
16 July	CESI		Pietro Capurso	

SINGLE TEST RECORD FORM

Test No:8_1	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_BE_EQ.xml (ver 13July)	N/A
2. ENTSOE_16_BE_TP.xml (ver 13July)	
3. ENTSOE_16_BE_SV.xml (ver 13July)	
4. ENTSOE_16_EU_EQ.xml (ver 13July)	
5. ENTSOE_16_EU_TP.xml (ver 13July)	

Comments/Results/Issues:

The following items were checked:

- Load data of area NL and BE
- Generation data of area NL
- The Flow trough the Phase Shifter Transformer between NODE 4 and NODE 8 (maximum difference of reactive power about 2 MVar)
- Tie flow data between area NL and EU

The power flow of the Merged Model gave results close to the original data of the model.

The exported files are verified using CIMSpy.

- The exported EQ Belgium file has less OperationalLimitSet (11 instead of 13) and CurrentLimit (33 instead of 39) that correspond to the current limits of 220 kV tieline.
- A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.

TO BE COMPLETED (Last two steps)
PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:
Screen shot: SP_TEST09_SCREENSHOTH.doc
Load Flow Solution: SP_test09_1_LFSolution1.out
CIMSpy Validation: SP_test09_1_validation.doc

Date	Vendor		Test witness	
16 July	Name	Signature	Name	Signature
	CESI		Pietro Capurso	

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SINGLE TEST RECORD FORM

Test No:8_2	Tool:SPIRA	Score: Pass

Test files

Import	Export
1. ENTSOE_16_BE_EQ.xml (ver 13July)	N/A
2. ENTSOE_16_BE_TP.xml (ver 13July)	
3. ENTSOE_16_BE_SV.xml (ver 13July)	
4. ENTSOE_16_EU_EQ.xml (ver 13July)	
5. ENTSOE_16_EU_TP.xml (ver 13July)	

Comments/Results/Issues:
The model was correctly imported except for Mutual coupling that are not managed by SPIRA.

The SC analysis was performed considering the following parameters:

1. SC According to IEC60909;
2. Shunt branches of the lines are considered;

The 3-phase shorts circuit result for the NODE 2 is comparable with the result obtained by DigSilent.

The Digsilent unbalanced shorts circuit results are not available.

Unfortunately there isn't any referring case useful to evaluate the good result of the simulation.

Supplementary files:
SC Solution: SP_test08_2_scSolution.out

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
16 July	CESI		Pierluigi Portoghese	

SINGLE TEST RECORD FORM

Test No:9	Tool:SPIRA	Score: Pass (Partial)

Test files

Import	Export
1. ENTSOE_16_BE_EQ.xml (ver 13July)	1. ENTSOE_16_SV_SP_16J10h.xml
2. ENTSOE_16_BE_TP.xml (ver 13July)	2. ENTSOE_16_BE_EQ_SP_16J10h.xml
3. ENTSOE_16_NL_EQ.xml (ver 13July)	3. ENTSOE_16_BE_TP_SP_16J10h.xml
4. ENTSOE_16_NL_TP.xml (ver 13July)	4. ENTSOE_16_NL_EQ_SP_16J10h.xml
5. ENTSOE_16_EU_EQ.xml (ver 13July)	5. ENTSOE_16_NL_TP_SP_16J10h.xml
6. ENTSOE_16_EU_TP.xml (ver 13July)	6. ENTSOE_16_EU_EQ_SP_16J10h.xml
7. ENTSOE_16_NL_SV.xml (ver 13July)	7. ENTSOE_16_EU_TP_SP_16J10h.xml
8. ENTSOE_16_BE_SV.xml (ver 13July)	

Comments/Results/Issues:

The following items were checked:

- Load data of area NL and BE
- Generation data of area NL
- The Flow trough the Phase Shifter Transformer between NODE 4 and NODE 8 (maximum difference of reactive power about 2 MVar)
- Tie flow data between area NL and EU

The power flow of the Merged Model gave results close to the original data of the model.

The exported files are verified using CIMSpy.

- The exported EQ Belgium file has less OperationalLimitSet (11 instead of 13) and CurrentLimit (33 instead of 39) that correspond to the current limits of 220 kV tieline.
- A new attribute svTapStep was created with rdf:ID="null". This doesn't generate any problem to other vendors that import this file, anyway CESI is working to produce a SV file without this dirt.

TO BE COMPLETED (Last two steps)
PS: SIPRA doesn't still manage the header, but CESI will implement soon this function.

Supplementary files:
Screen shot: SP_TEST09_SCREENSHOTH.doc
Load Flow Solution: SP_test09_1_LFSolution1.out
CIMSpy Validation: SP_test09_1_validation.doc

Date	Vendor		Test witness	
	Name	Signature	Name	Signature
16 July	CESI		Pietro Capurso	

TOOL SUMMARY FORM (PER TOOL)

Vendor: TIBCO Software	Tool: Collaborative Information Manager

Witnessed by

Name	Signature	Name	Signature
1.Oana Stanescu		9.	
2.		10.	
3.		11.	
4.		12.	
5.		13.	
6.		14.	
7.		15.	
8.		16.	

Performed tests

Test No	Score	Test No	Score	Test No	Score
1.2.1_1	Passed				
1.2.9_1	Passed				

Comments:

TIBCO is testing with Master Data Management application, which doesnot support powerflow. Also the import of StateVariables and Dynamics have no functional role in a Master Data Management environment due to their transactional nature.

Although TIBCO Collaborative Information Manager does support full loop lifecycle management of master data, which includes exporting it to and synchronizing with external applications, the functionality to perform these exports in the CIMXML format was not yet implemented at the time of the IOP.

For these reasons the only IOP tests that were applicable are test 1.2.1 (Import of full model of a single MAS) and test 1.2.9 (import of full model of multiple MAS's and merge them).

Date	Vendor		ENTSO-E	
07/16/10	**Name**	**Signature**	**Name**	**Signature**
	Tibco Software		Chavdar Ivanov	

SINGLE TEST RECORD FORM

Test No:1.2.1	Tool: TIBCO Collaborative Information Manager	Score:Pass

Test files

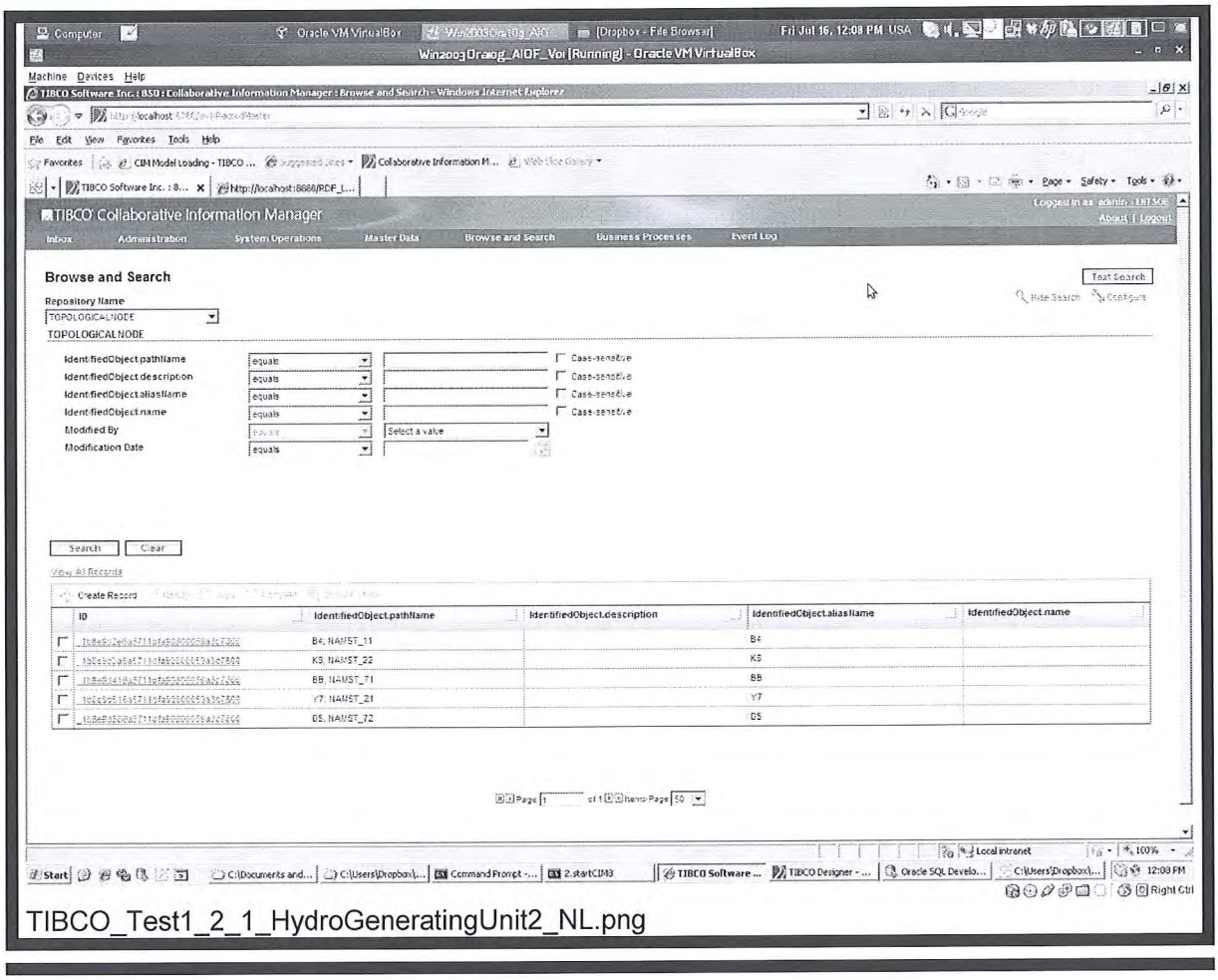
Import	Export
1.TestModels\ENTSO-E16model\Version_2_13_July_PSTcorrected\Merged\ENTSOE_16_NL_EQ.xml	1.
2.TestModels\ENTSO-E16model\Version_2_13_July_PSTcorrected\Merged\ENTSOE_16_NL_TP.xml	2.
3.	3.
4.	4.
5.	5.

Comments/Results/Issues:

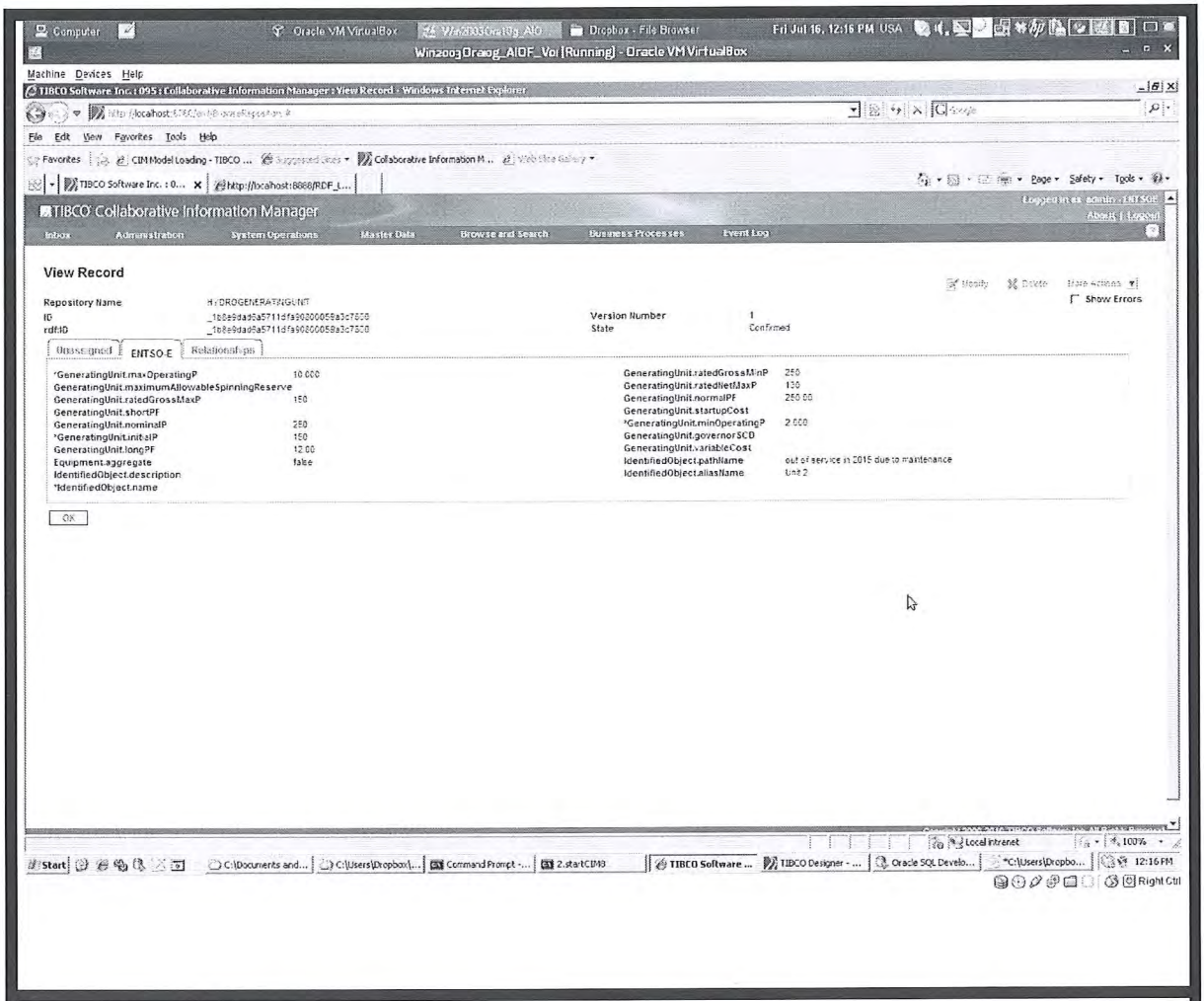
TIBCO is testing with Master Data Management application, which doesnot support powerflow. Also the import of StateVariables and Dynamics have no functional role in a Master Data Management environment due to their transactional nature.

Verified numnber of TopologicalNodes
Verified HydroGeneratingUnit Unit 2 and its connection to TopologicalNode.

Supplementary files:
TIBCO_Test1_2_1_TopologicalNodes_NL.png



TIBCO_Test1_2_1_HydroGeneratingUnit2_NL.png



Date	Vendor TIBCO Software		Test witness	
07/16/10	Name	Signature	Name	Signature
	Perry Krol		Oana Stanescu	

SINGLE TEST RECORD FORM

Test No:1.2.1	Tool: TIBCO Collaborative Information Manager	Score:Pass

Test files

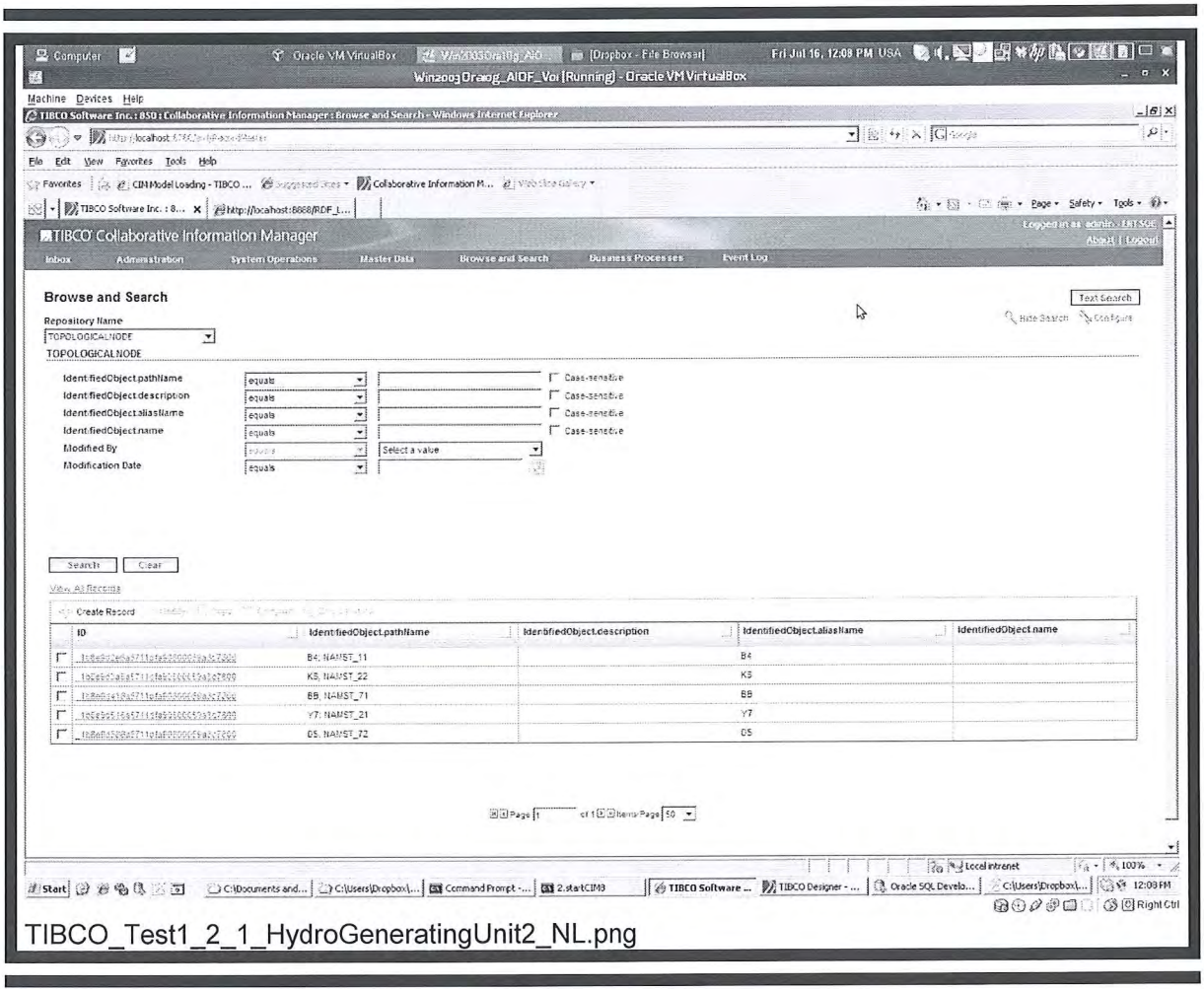
Import	Export
1.TestModels\ENTSO-E16model\Version_2_13_July_PSTcorrected\Merged\ENTSOE_16_NL_EQ.xml	1.
2.TestModels\ENTSO-E16model\Version_2_13_July_PSTcorrected\Merged\ENTSOE_16_NL_TP.xml	2.
3.	3.
4.	4.
5.	5.

Comments/Results/Issues:

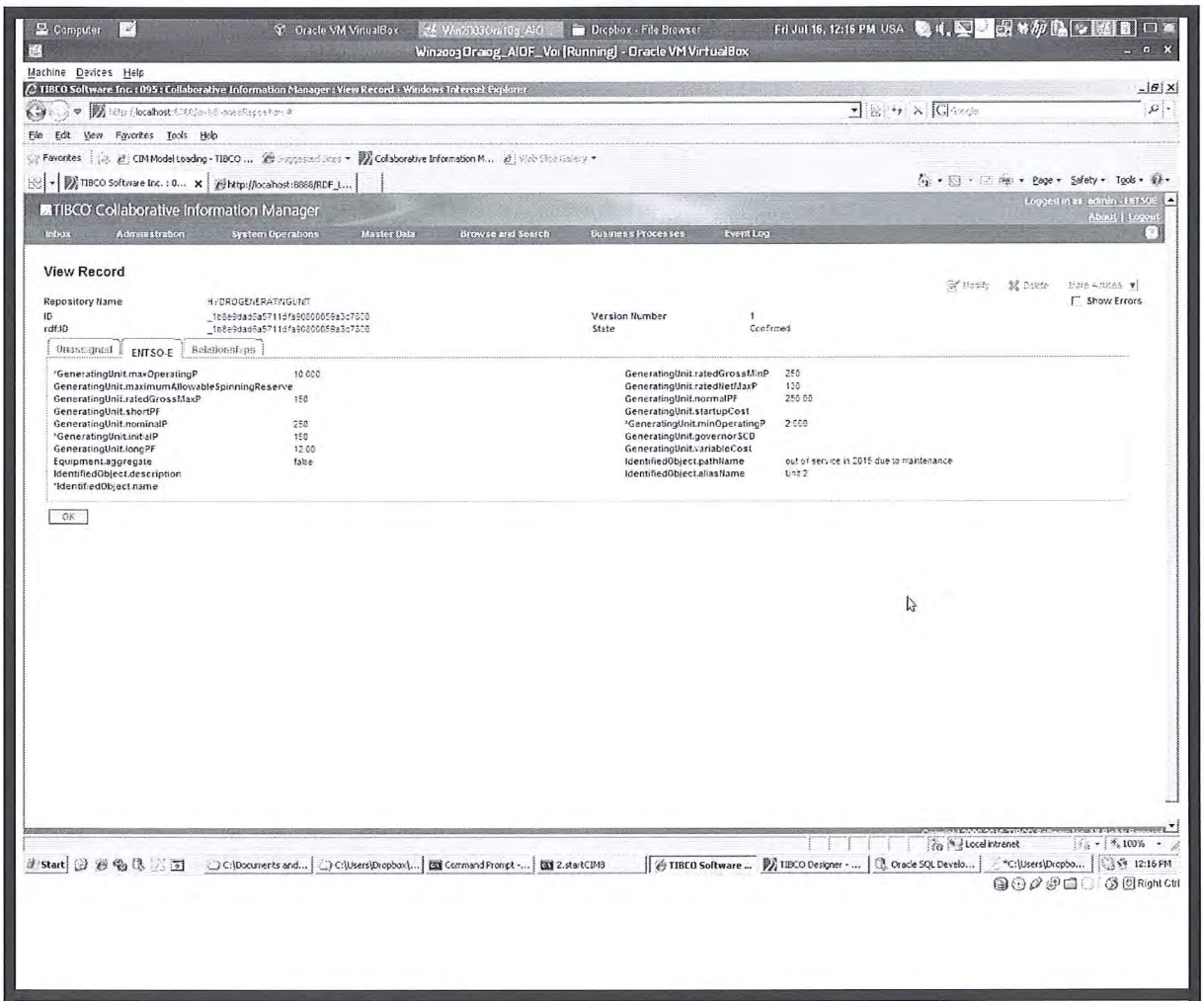
TIBCO is testing with Master Data Management application, which doesnot support powerflow. Also the import of StateVariables and Dynamics have no functional role in a Master Data Management environment due to their transactional nature.

Verified numnber of TopologicalNodes
Verified HydroGeneratingUnit Unit 2 and its connection to TopologicalNode.

Supplementary files:
TIBCO_Test1_2_1_TopologicalNodes_NL.png



TIBCO_Test1_2_1_HydroGeneratingUnit2_NL.png



Date	Vendor TIBCO Software		Test witness	
07/16/10	Name	Signature	Name	Signature
	Perry Krol		Oana Stanescu	

TOOL SUMMARY FORM (PER TOOL)

Vendor: RTE & Tractebel		Tool:EUROSTAG 4.6	
Witnessed by			
Name	**Signature**	**Name**	**Signature**
1.Tomasz Rogowski	Rogowski T.	9.	
2.		10.	
3.		11.	
4.		12.	
5.		13.	
6.		14.	
7.		15.	
8.		16.	

Performed tests

Test No	Score	Test No	Score	Test No	Score
9_1 (unstructured)	PASS				
9_2 (unstructured)	PASS with errors				

Comments:

We were not able to make tests with different MAS because the software does not actually support that concept.

We didn't make the dynamic tests this time but we are planning to do the work for next time.

Date	Vendor		ENTSO-E	
	Name	**Signature**	**Name**	**Signature**
16 July 2010	Christian Merckx		Chavdar Ivanov	

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SINGLE TEST RECORD FORM

Test No: 9_1 (unstructured)	Tool: EUROSTAG 4.6	Score: Pass

Test files

Import	Export
1. ENTSOE_16_full_EQ.xml	1.
2. ENTSOE_16_full_TP.xml	2.
3. ENTSOE_16_full_SV.xml	3.
4.	4.
5.	5.

Comments/Results/Issues:

This test aims in the import of full ENTSOE16 node model meaning that ENTSOE_16_full_EQ.xml is the concatenated Equipment file (ENTSOE_16_BE_EQ.xml, ENTSOE_16_EU_EQ.xml & ENTSOE_16_NL_EQ.xml), ENTSOE_16_full_TP.xml is the concatenated Topology file (ENTSOE_16_BE_TP.xml, ENTSOE_16_EU_TP.xml & ENTSOE_16_NL_TP.xml) and State Variable file is the concatenated SV file (ENTSOE_16_BE_SV.xml & ENTSOE_16_NL_SV.xml).

There were three warnings due to the ENTSOE profile issue (ratedApparentPower attributes were not set in the official ENTSOE 16 node test model).

We did the count of imported (into EUROSTAG 4.6) objects and it did not show any discrepancy with the original object count.
We validated the correctness of obtained topology validate connection points of three winding transformer, shunt Compensators, generators, loads and both boundary nodes and tie-lines (see the screenshots in the file import_full_16node_ENTSOE_model.docx)

Power Flow was performed showing that model can be solved (see full_16node_ENTSOE_model.lf)

Supplementary files:
import_full_16node_ENTSOE_model.docx – screenshots of topology check
full_16node_ENTSOE_model.lf – load flow solution

Date	Vendor		Test witness	
16th July 2010	**Name**	**Signature**	**Name**	**Signature**
	Christian Merckx		**Tomasz Rogowski**	

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SINGLE TEST RECORD FORM

Test No: 9_2 (unstructured)	Tool: EUROSTAG 4.6	Score: PASS with errors

Test files

Import	Export
1. ENTSOE_16_full_EQ.xml	1. ENTSO-E_16_EQ_EU_16J17h.xml
2. ENTSOE_16_full_TP.xml	2. ENTSO-E_16_TP_EU_16J17h.xml
3. ENTSOE_16_full_SV.xml	3. ENTSO-E_16_SV_EU_16J17h.xml
4.	4.
5.	5.

Comments/Results/Issues:

This test aims in the import of full ENTSOE 16 node model meaning that ENTSOE_16_full_EQ.xml is the concatenated Equipment file (ENTSOE_16_BE_EQ.xml, ENTSOE_16_EU_EQ.xml & ENTSOE_16_NL_EQ.xml), ENTSOE_16_full_TP.xml is the concatenated Topology file (ENTSOE_16_BE_TP.xml, ENTSOE_16_EU_TP.xml & ENTSOE_16_NL_TP.xml) and State Variable file is the concatenated SV file (ENTSOE_16_BE_SV.xml & ENTSOE_16_NL_SV.xml) and then export the Equipment, Topology & State Variables file back to the CIM format.

We exported successfully three files (ENTSO-E_16_EQ_EU_16J17h.xml, ENTSO-E_16_TP_EU_16J17h.xml and ENTSO-E_16_SV_EU_16J17h.xml).

We performed files validation using CIMTool. It showed some minor errors (date format, undefined association of ACLineSegment.BaseVoltage, which is already the known CIM issue). There were more significant errors in Topology and State Variables file (see the file with the screenshots).

Supplementary files:

validationExport_full_16node_ENTSOE_model.docx – screenshots of full ENTSOE 16 node model (ENTSO-E_16_EQ_EU_16J17h.xml, ENTSO-E_16_TP_EU_16J17h.xml and ENTSO-E_16_SV_EU_16J17h.xml)

Date	Vendor		Test witness	
16th July 2010	Name	Signature	Name	Signature
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