



UCA IOP Results Report

Margaret Goodrich
CIMug Meeting
May 11, 2011





Topics

- CIM 61968-Part 3 IOP
 - IOP Participants
 - IOP Test Witnesses
 - IOP Result Highlights
- CIM 61968-Part 6 IOP
 - IOP Participants
 - IOP Test Witnesses
 - IOP Result Highlights



Topics

- Test Approach – 61968-Part 3 & Part 6
 - Part 3 Scenarios
 - Part 3 Integration Patterns
 - Part 6 Scenarios
 - Part 6 Sequence Diagrams
 - Part 6 Integration Infrastructure



Topics

- CIM61968-Part 4 and Part 13 IOP
 - IOP Participants
 - IOP Test Witnesses & Test Host
 - IOP Contents
 - IOP Result Highlights
- Test Approach – 61968-Part 4 & Part 13
 - Profile Data Groups
 - Import/Export Exchange Tests
 - Interoperation Tests
 - Power Flow Tests
- IOP Report Contents & Status



Part 3 IOP Participants

- L+G AMI
- Oracle OMS
- Oracle ESB
- TIBCO ESB
- IBM ESB
- Alstom Grid DMS & SCADA
- EDF ESB
- EDF R&D SCADA
- GE OMS
- Telvent OMS





Part 3 IOP Test Witnesses

- David Bogen, ONCOR Electric Delivery (Transmission/Distribution Operator, USA)
- Frank Wilhoit, American Electric Power (AEP – Transmission/Distribution Operator, USA)
- Jim Greene, American Electric Power (AEP – Transmission/Distribution Operator, USA)
- Mark Ortiz, Consumers Energy (Transmission/Distribution Operator, USA)
- Hugo Bruers, Alcatel-Lucent (Belgium)
- Matthias Stifter, Austrian Institute of Technology (Austria)





Part 3 IOP Result Highlights

- All planned scenarios were executed
- All Product and ESB Vendors Passed all executed scenarios



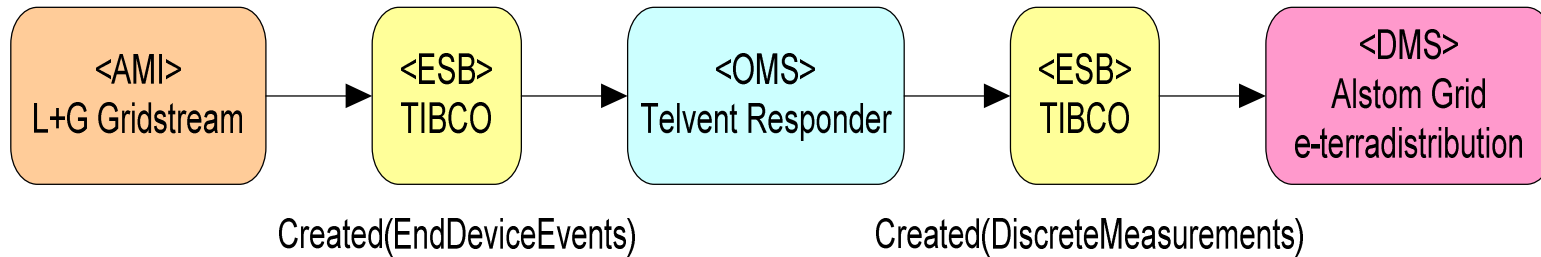
Part 3 Test Approach: Scenarios

AMI publishes power down events for meters downstream of a fuse. OMS receives notification.

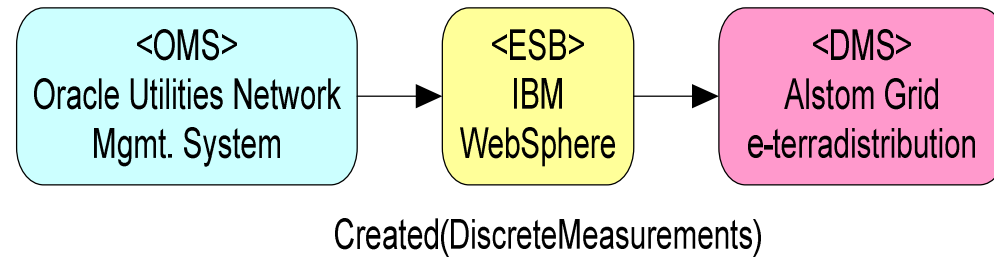
OMS predicts the fuse out of power based on the meter events

OMS publishes a confirmed outage for the fuse and DMS receives notification

1

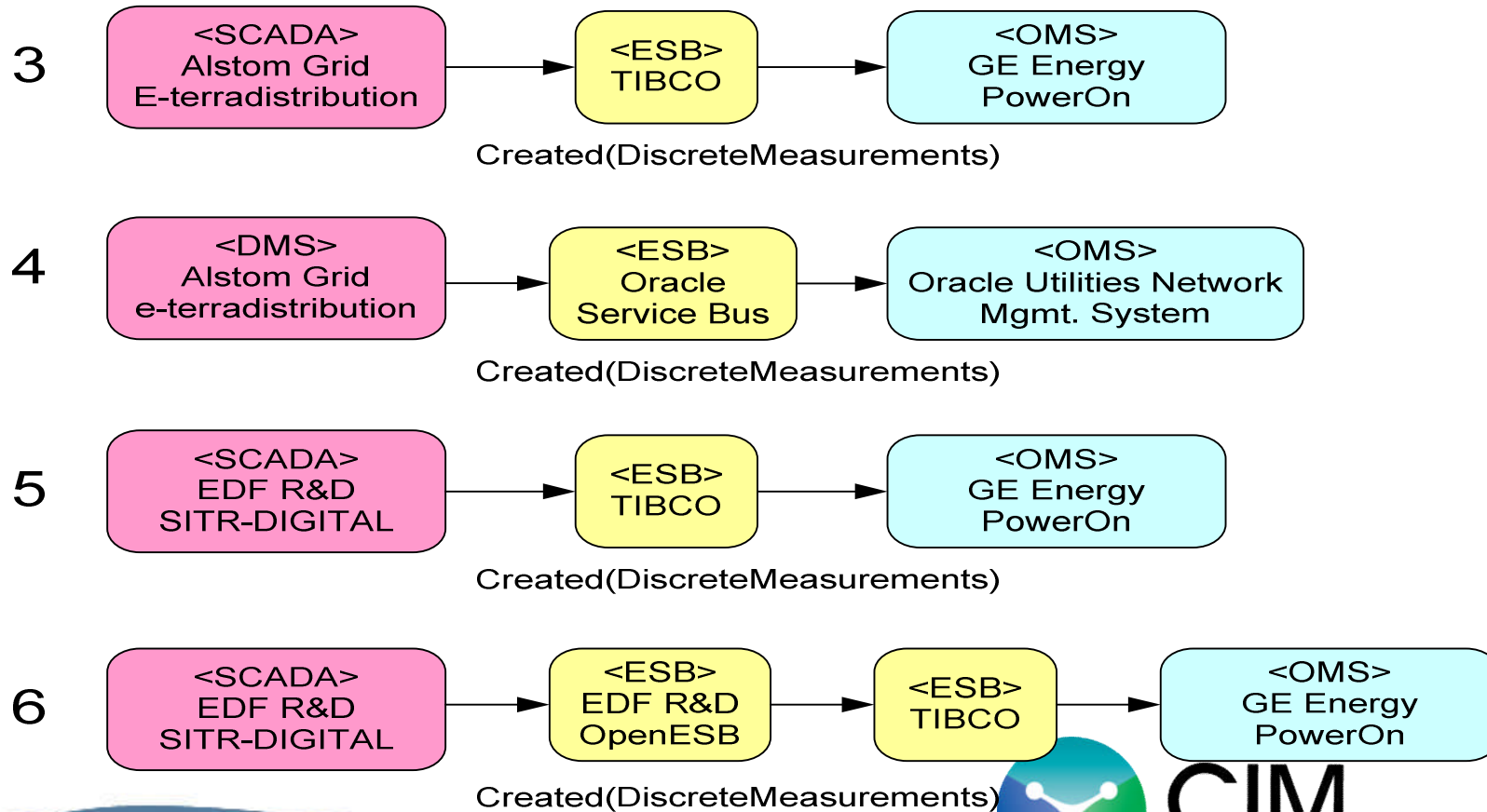


2

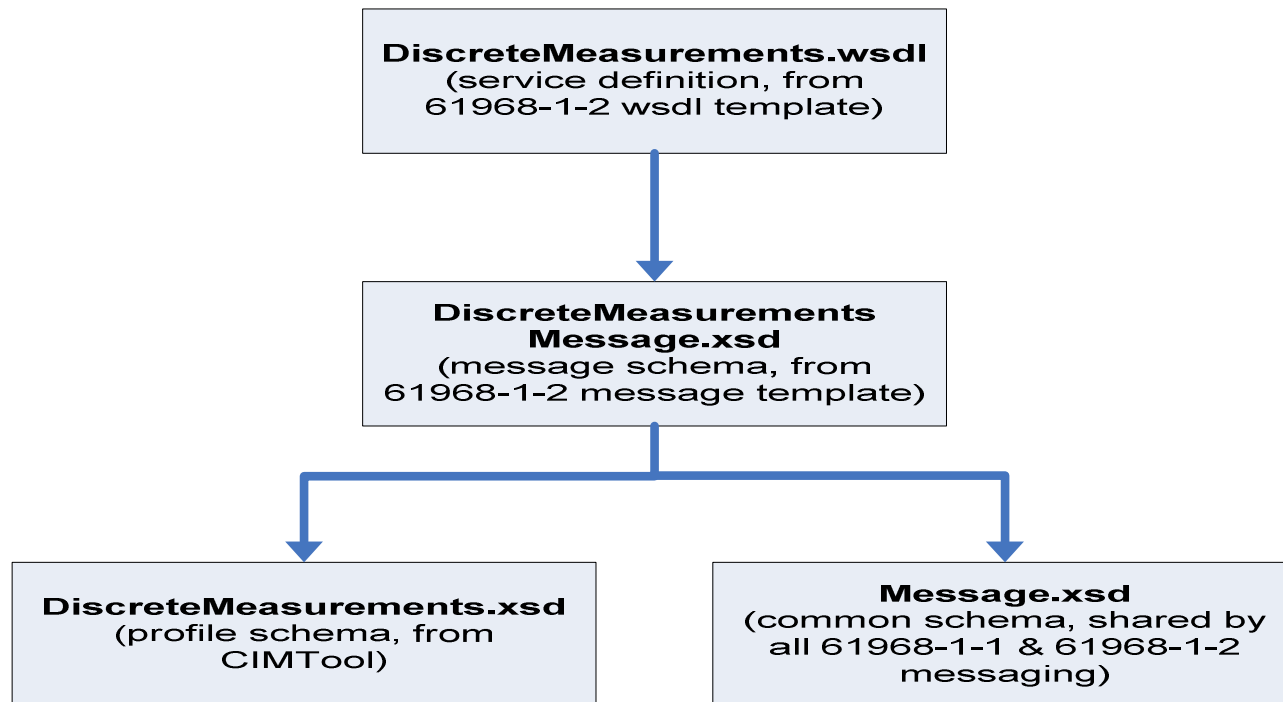


Part 3 Test Approach: Scenarios

SCADA reports outage at telemetered breaker. OMS receives notification and records it as a confirmed outage.



Part 3 Test Approach: Integration Infrastructure





Part 6 IOP Participants

- Alstom Grid DMS
- EDF R&D Simulator
- Sunflower Systems AMS
- IBM Maximo
- EDF ESB
- TIBCO ESB
- IBM ESB
- Oracle ESB





Part 6 IOP Test Witnesses

- David Bogen, ONCOR Electric Delivery (Transmission/Distribution Operator, USA)
- Frank Wilhoit, American Electric Power (AEP – Transmission/Distribution Operator, USA)
- Jim Greene, American Electric Power (AEP – Transmission/Distribution Operator, USA)
- Mark Ortiz, Consumers Energy (Transmission/Distribution Operator, USA)
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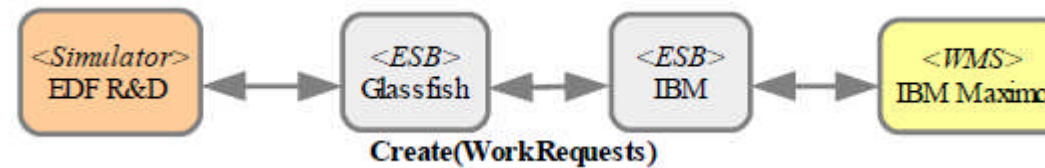
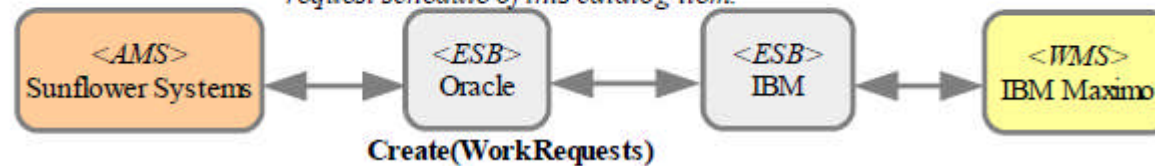


Part 6 IOP Result Highlights

- All planned scenarios were executed
- All Product and ESB Vendors Passed all executed scenarios

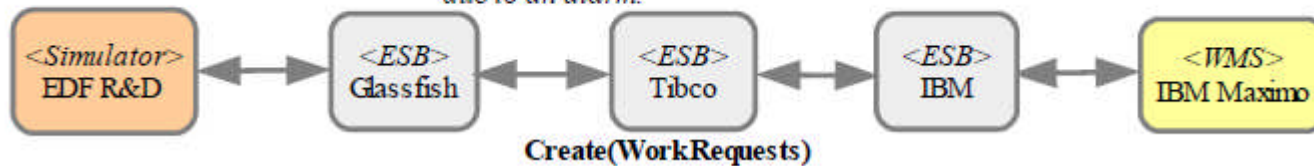
Part 6 Test Approach: Scenarios

Sunflower System AMS initiates a new work request to the WMS on a transformer asset as defined in the maintenance and work request schedule of this catalog item.



Part 6 Test Approach: Scenarios

EDF R&D Simulator initiates a new work request to the WMS on a transformer asset due to an alarm.

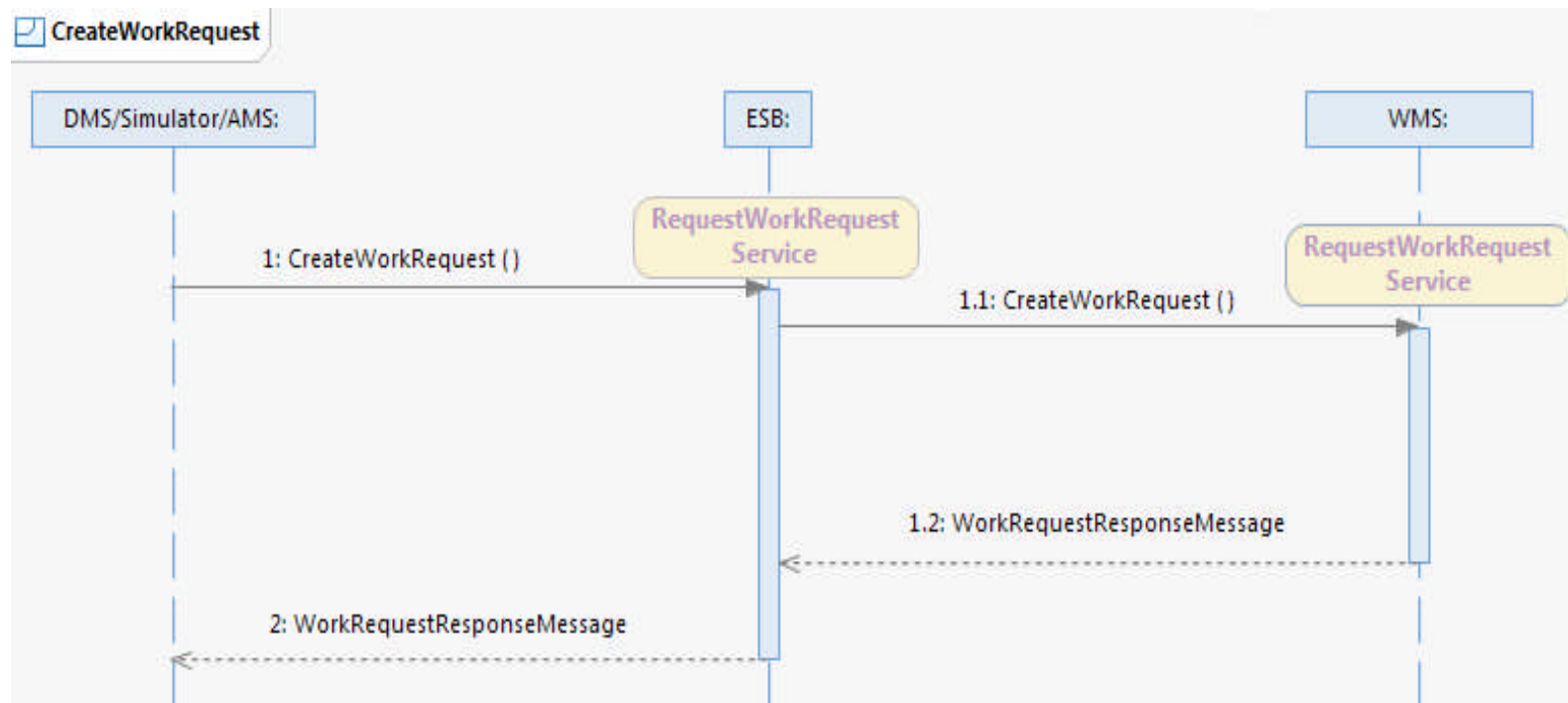


Alstom Grid DMS initiates a new work request to the WMS on a transformer asset due to an alarm.



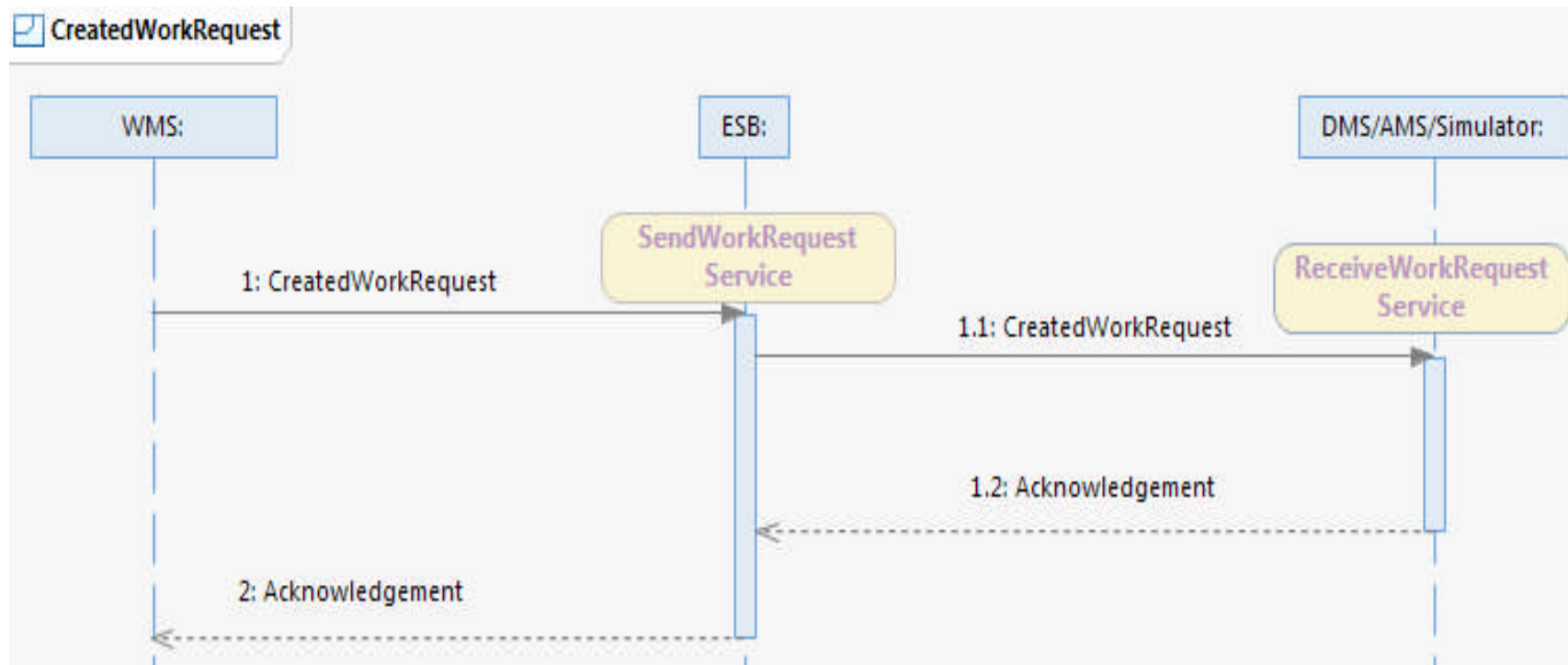
Part 6 Test Approach: Sequence Diagrams

- Work Request for Corrective Maintenance:

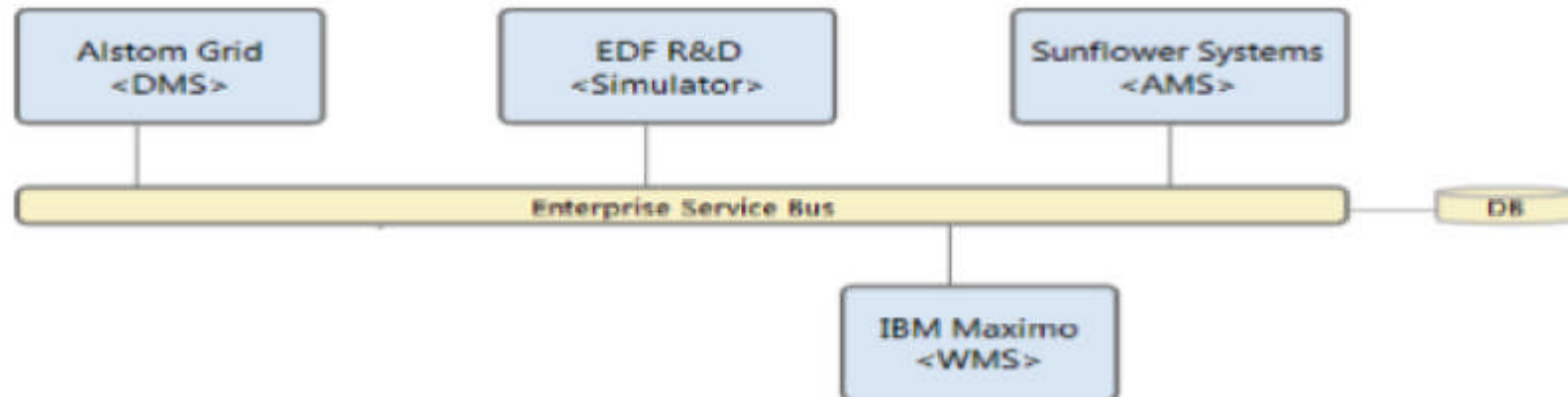


Part 6 Test Approach: Sequence Diagrams

- Work Request for Scheduled Maintenance:



Part 6 Test Approach: Integration Infrastructure





Part 4 & Part 13 IOP Participants

- Alstom Grid
- EDF
- GE Energy
- Open DSS
- Open Grid Systems
- Oracle
- Siemens
- SISCO
- SupeLec
- TIBCO





Part 4 & Part 13 IOP Test Witnesses & Test Host

- Alfredo Espinosa Reza, IIE (Institute for CFE, Mexico)
- Romano Napolitano, ENEL (DSO, Italy)
- Hugo Bruers, Alcatel-Lucent (Belgium)
- Matthias Stifter, Austrian Institute of Technology (Austria)
- EDF R&D – Michel Barberis, Eric Lambert, Pascale Bredillet for Hosting the IOP and providing wonderful refreshments and food!





Part 4 & Part 13 IOP Contents

- CIM XML Profile Exchange tests for the Individual Profiles with a Profile Group including:
 - Full Model Exchange (import and export)
 - Power Flow Solutions
 - Interoperation of full test models between two or more vendors
- CIM XML Profile Exchange tests for the combined Profile Group including:
 - Full Model Exchange (import and export)
 - Power Flow Solutions
 - Interoperation of full test models between two or more vendors





Part 4 and Part 13 IOP Result Highlights

- All vendors imported at least one Profile Group file for one or more of the official test files.
- Five of the vendors ran a Power Flow solution on the imported files
- Seven of the vendors exported at least one set of Profile Data Group files for one or more of the official test files.
- All vendors executed one or more of the Interoperation Test Procedures
- There were also several unstructured tests generated and executed during this IOP.

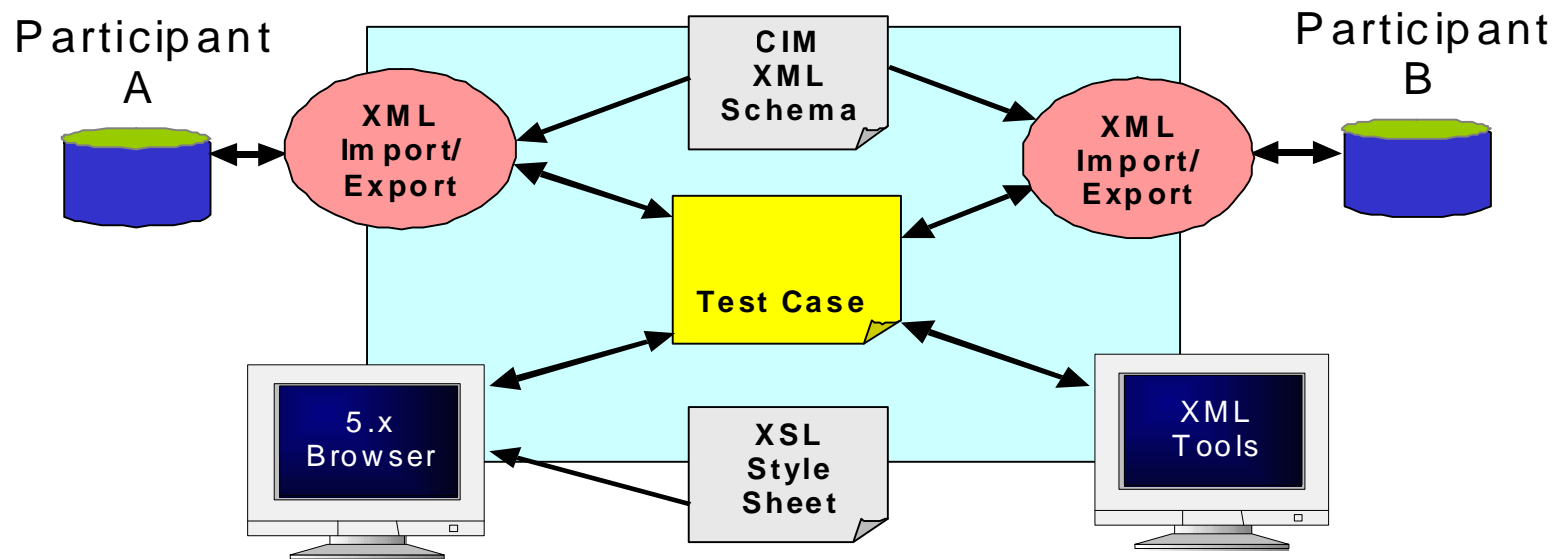




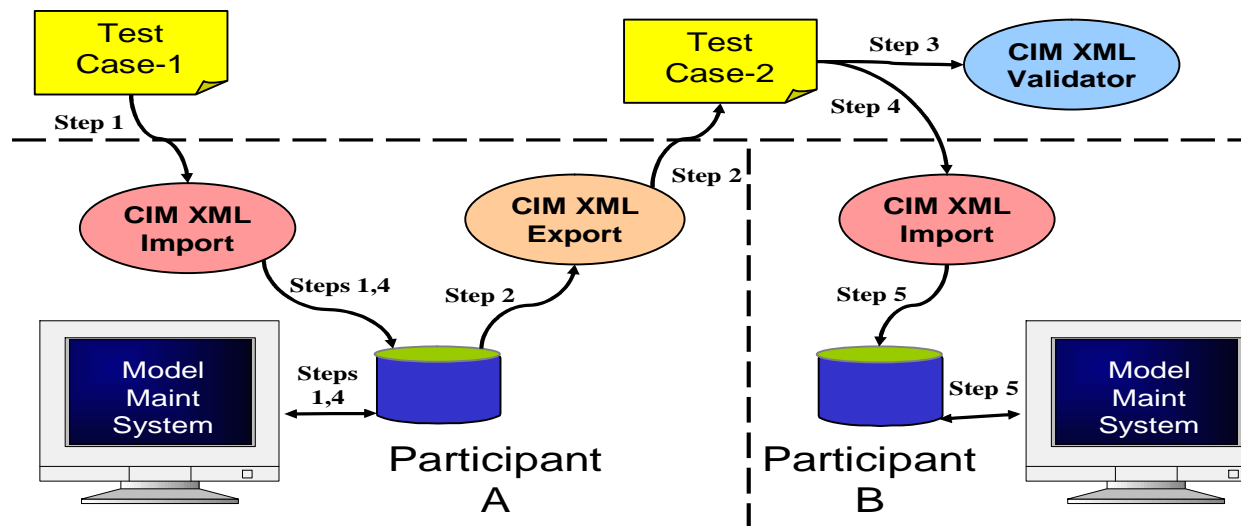
Part 4 & Part 13 IOP Test Approach – Profile Data Groups

- For Power Flow:
 - Functional
 - Electrical Properties
- For GIS Import:
 - Functional
 - Asset
- For Power Flow Solution Exchange:
 - State Variables
 - Topology

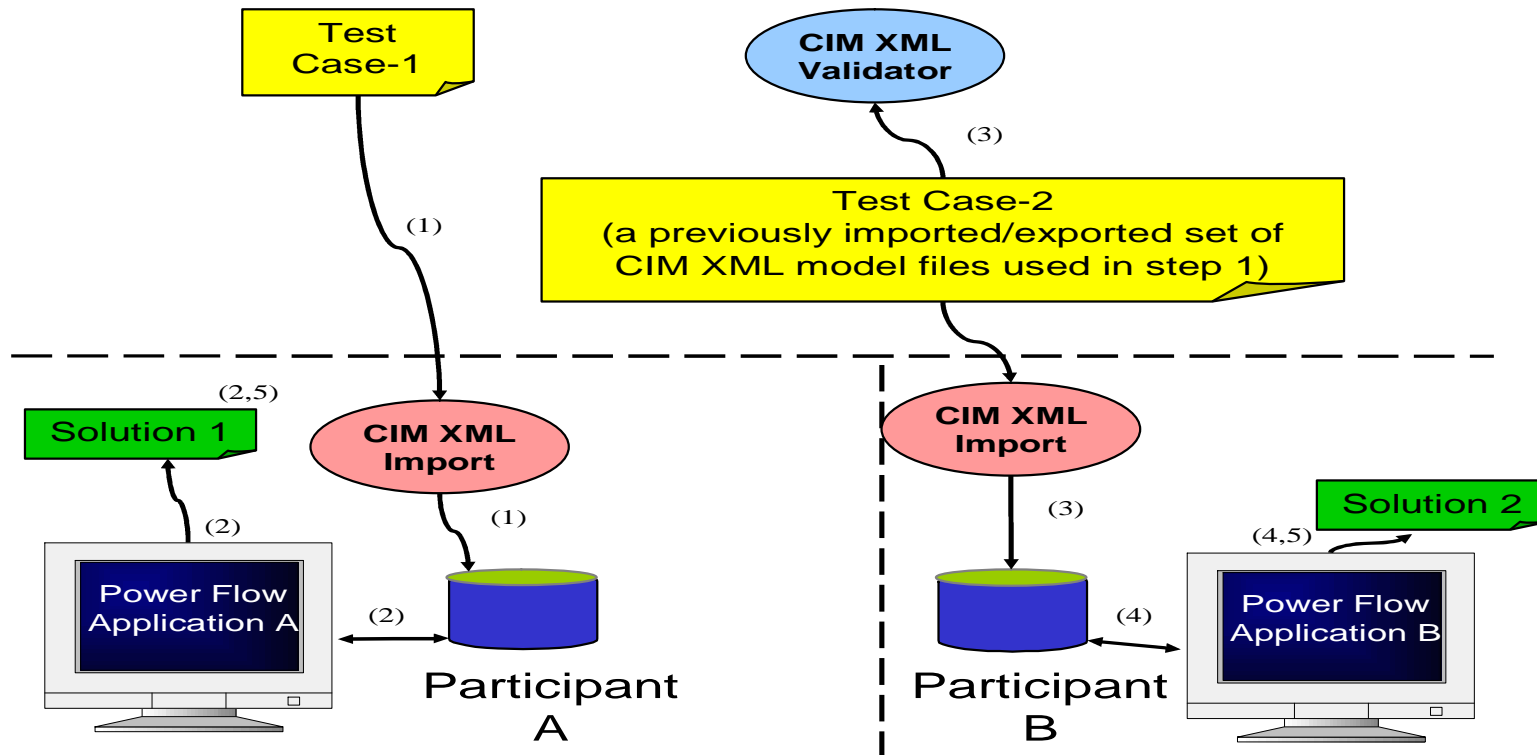
Part 4 & Part 13 IOP Test Approach – Import/Export Exchange Tests



Part 4 & Part 13 UCTE IOP Test Approach – Interoperation Tests



Part 4 & Part 13 IOP Test Approach – Power Flow Tests





All IOP Reports: Contents & Status

- All IOP Test Reports will contain:
 - List of Vendors, Test Witnesses, Products and Models that were part of the test including a full list of the Official files as well as the files that were generated
 - Detailed Test Results
 - Product Descriptions for all participants
 - List of all Issues that were identified and the disposition/resolution/proposed solution if possible
 - Summary description of the Test Approach
- The UCA IOP Test Report will be generated by the Test Director and reviewed by the team.
- The Report will be published to all UCA members, all SGIP/SGTCC members and every major CIM mail exploder we have as well as to many Customer lists by the Vendors.
- This report will be posted on the UCA Web Sites (both CIM and 61850) as soon as it is published.





Additional Information

- UCA IOP Test Sponsors:
 - Kay Clinard at UCA - kay@ucaiuug.org
 - Randy Lowe at AEP – rrlowe@aep.com
 - John Simmins at EPRI – jsimmins@epri.com
- UCA IOP Test Director:
 - Margaret Goodrich email – margaret@sisconet.com
 - Margaret Goodrich Cell – + 1-903-477-7176
- UCA IOP Vendor Coordinators
 - 61850 - Herb Falk – herb@sisconet.com
 - 61968-4 – Bruce Scovill – bruce1.scovill@ge.com
 - 61968-13 – Eric Lambert – eric.lambert@edf.fr
 - 61968-6 – Nada Reinprecht – nadarein@au1.ibm.com
 - 61968-3 – Jon Fairchild – jon.fairchild@telvent.com
- IOP Host:
 - Provided hosting, sponsorship and technical consulting
 - Eric Lambert – eric.lambert@edf.fr

