

Standardization Issues Methods and Tools to insure Interoperability

ADDRESS WP4 Task 4.4

CIMUg - Milan, June 16th 2010

LAMBERT Eric – EDF R&D

Communication

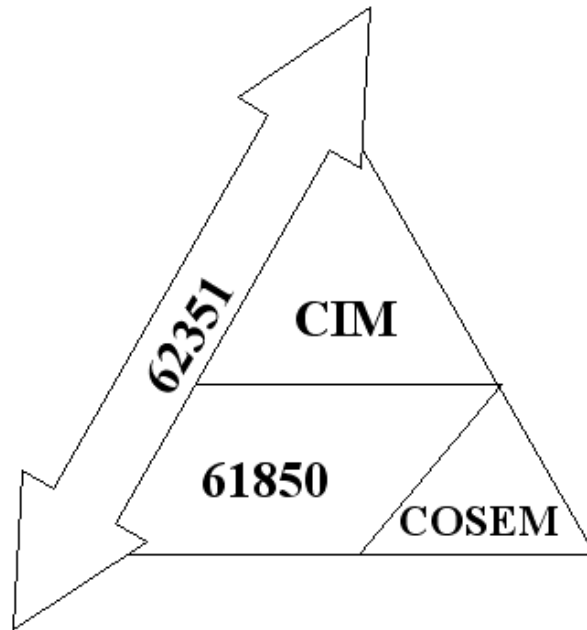
address
interactive
energy



The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 207643

Key objective

- Promote standards in European projects in order to prevent « reinventing the wheel »
- Leverage international standards that can help to resolve smartgrid complexity



HOW ADDRESS takes into account Standards

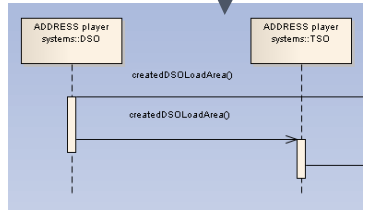
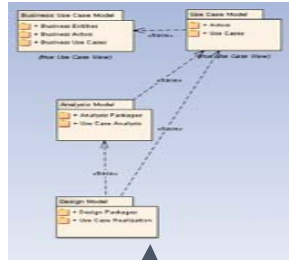
- WP4 Task 4.4 in charge of Methodology and Tools for ADDRESS promoted the following standards :
 - **ETSO role model** : Address actors have been defined and their different roles
-> Some changes will be submitted to ENTSO-E to take into account Address actors, and roles.
 - **Publicly Available Specification** ,from IEC TC8, on **Use Case Description** based on Intelligrid EPRI Project : input to Address Framework
 - **IEC TC57 related standards**
 - **CIM** (Common Information Model) : Address extensions to CIM will be proposed to IEC TC57 Working groups
 - CIM-ETSO Harmonization on-going work
 - 61968-9 standard : interfaces to Meters will be leveraged in the context of **Address Energy Box**
 - 61968-13 standard : Distribution nextwork exchange model using CIM
 - **61850**
 - **IEC TC13 & DLMS-UA**
 - **IT standards like UML, XML**
UML tool to describe Use Cases and integrate Common Information Model
Tool to derive **XML** Schema Messages that will be exchanged between Address participants

Synthesis : 5 Steps

steps 2b, 3,4,5 demonstrated on Toy (ABB lead)

Use Case Definition (text)

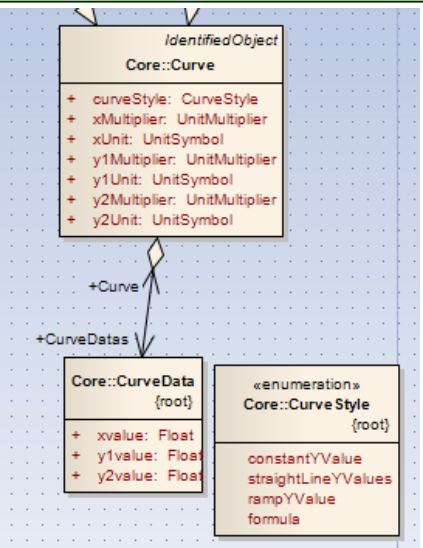
UML-2 Use Case (ENEL) Definitions WP1,WP2,WP3, WP5



Find Business Objects in CIM model or extend CIM



T4.4 UML needs for message Payload Definition from WP1,WP2,WP3,WP5 IEC WG14 verb+ payload



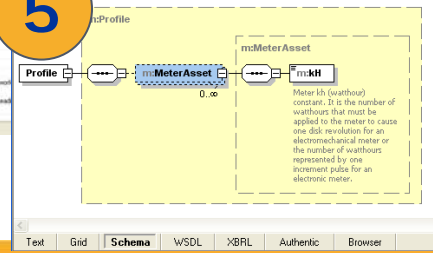
T4.4 EDF responsible for 3,4,5



Define Message Payloads from CIM-ADDRESS UML model



Generate XML XSD, WS



UML MODEL CIM-ADDRESS

Uses Cases Next Steps : Message Payload Definition based on CIM-Address Information Model

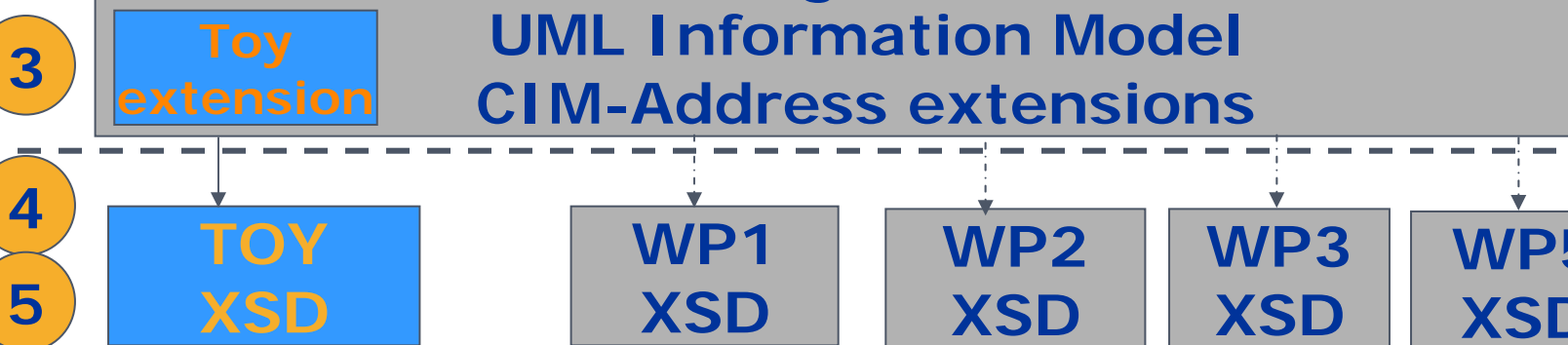
What in text



What in UML – Business Process



What in UML – class diagram



Who

WP1
WP2
WP3

WP1
WP2
WP3

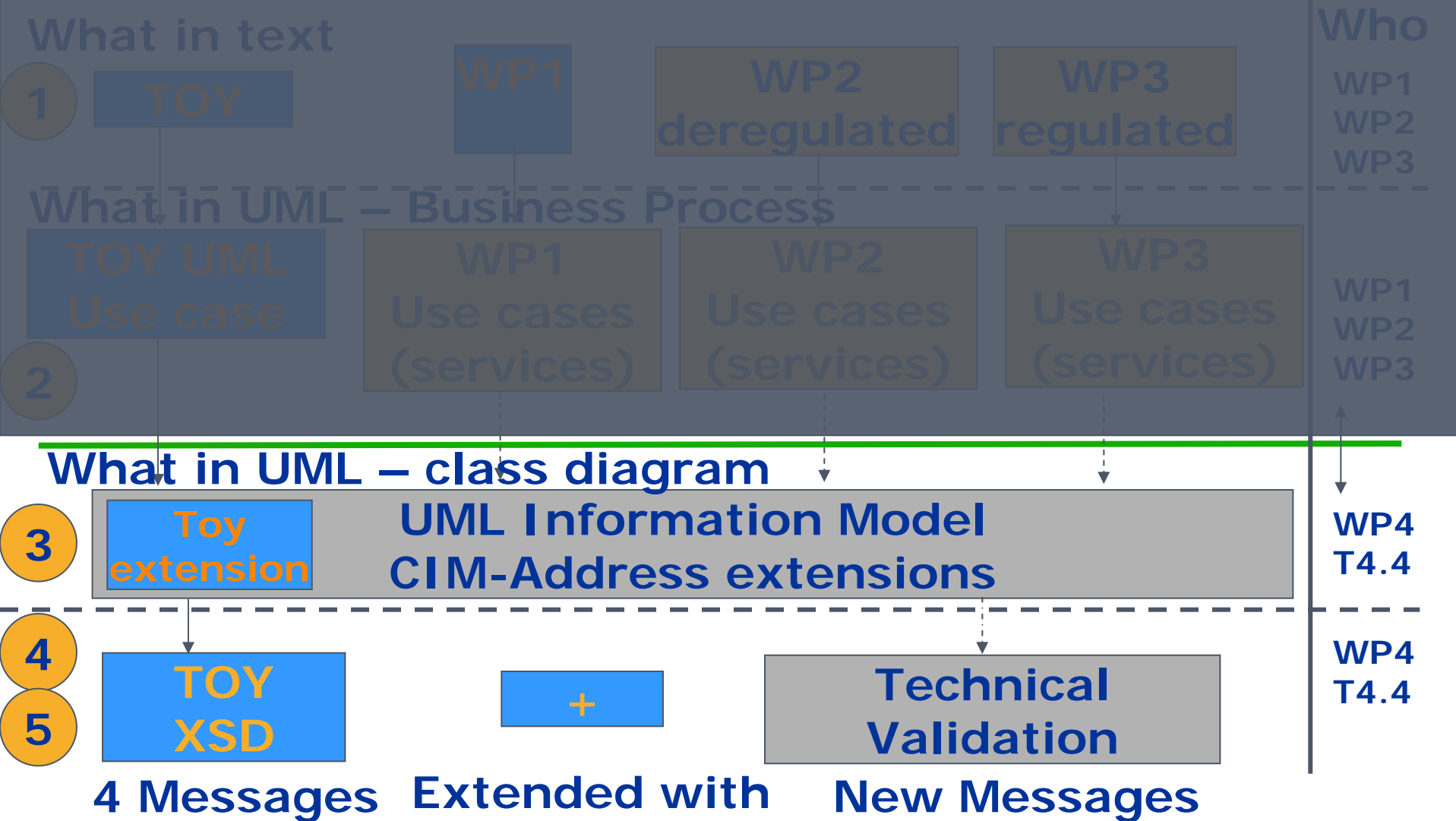
WP4
T4.4

WP4
T4.4

Proposal of Scope for the simulated Prototype

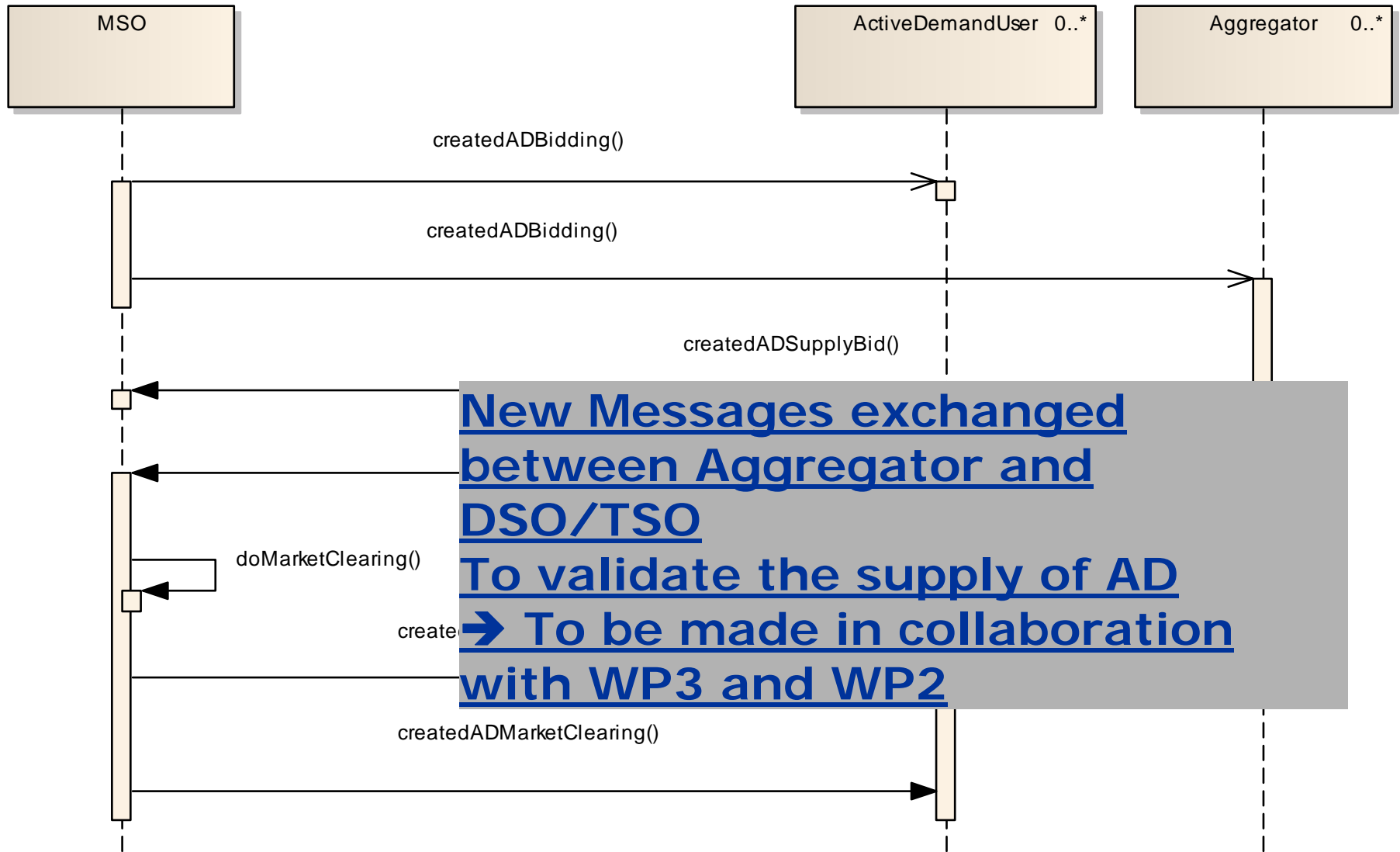
Done

WiP



Technical Validation

sd Clear AD market



New Messages exchanged between Aggregator and DSO/TSO
To validate the supply of AD
→ To be made in collaboration with WP3 and WP2

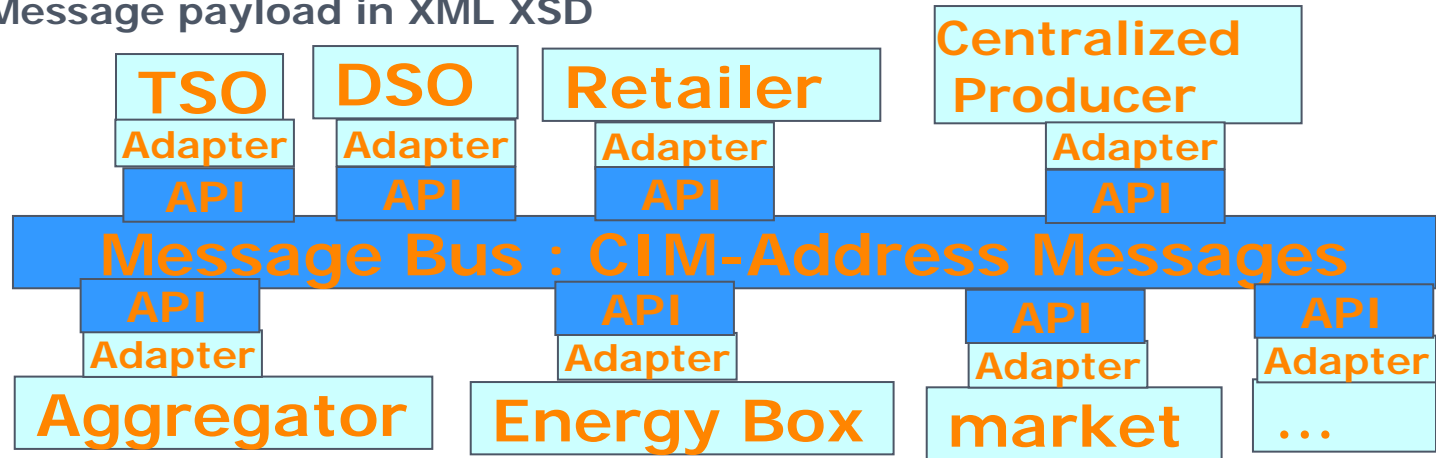
Simulating Address : towards Field test

WP4
T4.4

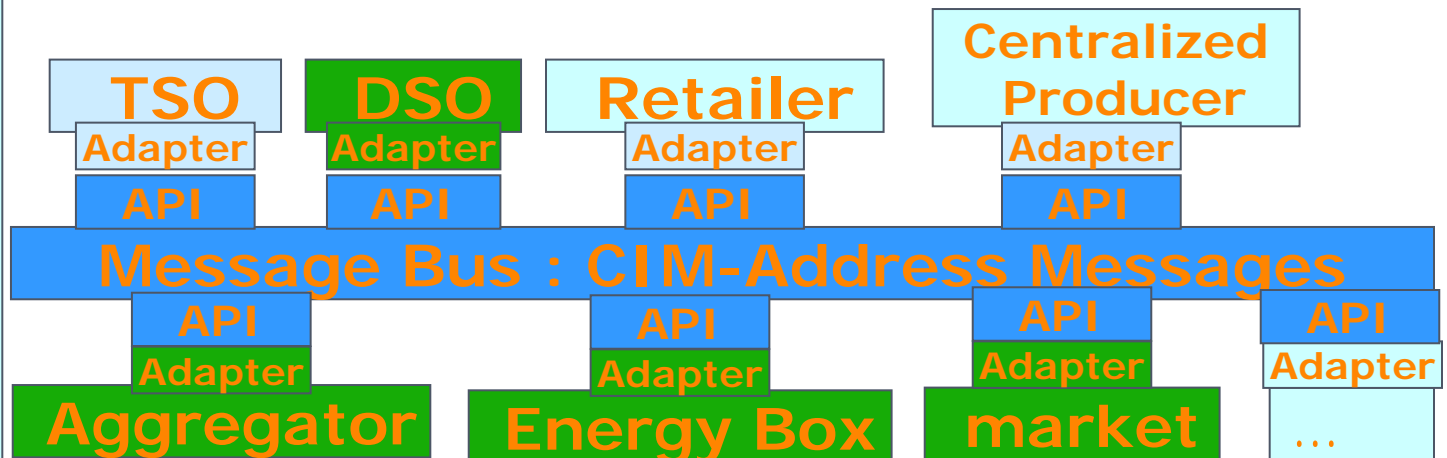
Adapter
API

Adapter to each simulated or real application
Message payload in XML XSD

Simulated
prototype



Field Test
=
integration
with some
real
application



CONCLUSION

- ADDRESS leverages standards which will play a key role in Smartgrid
- ADDRESS will provide feedback to international standards organizations (ENTSO-E, IEC TC57, IEC TC13) through its dissemination package
 - Address requirements on ETSO role model
 - Address Uses Cases
 - Address CIM extensions
- ADDRESS Field tests will implement this Model Driven Integration Approach based on standards
- Other European projects would be able to take the same approach

<http://www.addressfp7.org>

QUESTIONS ?

Communication

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