



SEESGEN-ICT

4° GENERAL WORKSHOP

Paris - SAP Office, April 14th – 15th 2011

Fritz Schwarzländer (SAP):
WP5: Regulatory aspects and
Market Communication issues



PARIS 15/04/2011



Regulation

- COM(2011) 202 final – policy initiatives
Smart Grids: from innovation to deployment
- Corresponding with key findings from early pilots
WEF SG pilots report 2010
- Corresponding with key findings from EU
Taskforce SG EG3 / Legal Framework

- Recommendation ?



COM(2011) 202 final – policy initiatives

Smart Grids: from innovation to deployment

1. Actions on Smart Grids standards

- With the help of the Task Force, the Commission will monitor the implementation of the work programme established in the mandate with a view to ensuring timely adoption of the standards. If progress in the course of 2011 is not sufficient, the Commission will intervene to ensure that the deadline is met and the necessary standards are set, for example by defining a network code.
- The Commission will also follow the development of ICT standards at the European and international level to facilitate the implementation of Smart Grids.



COM(2011) 202 final – policy initiatives

Smart Grids: from innovation to deployment

1. Actions on data privacy and security of data in Smart Grids
 - The Commission will monitor the provisions of national sectoral legislation that might apply to take into account the data protection specificities of Smart Grids.
 - The ESOs will develop technical standards for Smart Grids taking the 'privacy by design' approach.
 - The Commission will continue bringing together the energy and ICT communities within an expert group to assess the network and information security and resilience of Smart Grids as well as to support related international cooperation.



COM(2011) 202 final – policy initiatives

Smart Grids: from innovation to deployment

3. Actions to adjust the existing regulatory framework for Smart Grids
 - The Commission will develop regulatory incentives for the deployment of Smart Grids, for example in the application and revision of the Energy Services Directive and/or through the development of a network code or implementing act on tariffs.
 - The Commission will establish guidelines to define a methodology for the smart meter implementation plans of Member States, as well as for their (possible) cost-benefit analyses.
 - Beyond the targets for smart meters in the Third Package, the Commission will request Member States to produce action plans with targets for the implementation of Smart Grids.
 - Through its role in the Regional Initiatives and its involvement in ENTSO-E, the Commission will encourage and promote coordinated action towards the deployment of Smart Grids at European and regional level.



COM(2011) 202 final – policy initiatives

Smart Grids: from innovation to deployment

4. Actions to guarantee competitive Smart Grids services to customers
 - The Commission will introduce, through revision of the Energy Services Directive, minimum requirements for the format and content of information provision for customers, and for access to information services and demand management (e.g. in-house control of consumption).
 - The Commission will monitor the implementation of the Third Package requirements needed to create a transparent and competitive retail market for the development of services (e.g. time-of-use pricing and demand response) based on Smart Grids and metering. If the requirements are not implemented or not effective, the Commission may take further action, possibly in its review of the Energy Services Directive.



COM(2011) 202 final – policy initiatives

Smart Grids: from innovation to deployment

5. Actions to support innovation and rapid application

- During 2011, the Commission will propose additional new large-scale demonstration initiatives for rapid Smart Grids deployment, taking into account the needs identified in the EEGI. They will include new ways and means to leverage financing, in line with the Energy Infrastructure Package and as requested by the European Council of 4 February 2011.
- The Commission will also launch the initiative Smart Cities and Communities in 2011.



Corresponding with key findings from early pilots WEF SG pilots report 2010

- Create a clear political mandate – A clear political mandate to transition to a smart grid sets the foundation for investment and the parameters for regulation.
- Create a conducive regulatory environment – The regulatory environment must reflect the policy ambitions and create the right incentives for private sector participation and innovation across the value chain while protecting consumers and balancing broader policy objectives.
- Accelerate the roll-out of interoperability and standards – A number of initiatives have been underway to drive more rapidly towards standards that will improve interoperability and reduce the total cost of ownership of solutions. Where these standards exist, they should become embedded within the design of the pilot to keep costs down.



Corresponding with key findings from early pilots WEF SG pilots report 2010

- Provide assurance on data privacy and security issues – Pilots should adopt emerging best practices in relation to data privacy and security. Breaches of data privacy and security can have a catastrophic impact on pilots. Protocols exist within the smart grid industry and in adjacent industries that can and should be applied as a matter of course.
- Adequate training and re-skilling opportunities – Existing pilots have demonstrated the need to critically assess the capabilities that are needed within the utility workforce to design, build and operate a smart grid. At an industry level, there is a need to build a pipeline of graduates and trainees that will be able to operate in this new mode while the existing workforce is re-skilled to adapt to the new environment.



Corresponding with key findings from EU Taskforce SG EG3 / Legal Framework

- **concentrate on outputs of the regulated entity**
- **incentive mechanisms and or direct set of minimum requirements**
- **grid-user centric approach**
- **“market platform” can function effectively on the basis of a level playing-field**
- **support smooth communication by defining data collection requests, standardised data formats and communication protocols and the access to relevant market information**



Corresponding with key findings from EU Taskforce SG EG3 / Legal Framework

- Regarding funding
 - **fair according to the actual originator of these costs, adhering to the principle of causality**
 - **predefined performance targets and indicators**
 - **metrics for quantification of the effects and benefits**



Corresponding with key findings from EU Taskforce SG EG3 / Legal Framework

- Regarding Energy Market Place
 - **new energy market places will have to be promoted, contributing to a further optimization of the system**
 - **to introduce a common implicit auctioning (“market coupling”) intra-day platform**
 - **supplying customers that produce some of their electricity as well**
 - **new load profiles / flexibility measures should help retail suppliers to optimize their procurement from the energy market**



Corresponding with key findings from EU Taskforce SG EG3 / Legal Framework

■ Some Priority areas

- ... the required legal framework needs to exist and be enforced to ensure all relevant market rules and regulations are in place between TSOs, DSOs and other market participants
- ... create a framework and guidance for the Smart Metering rollout especially to deal with issues relating to customer data privacy, data protection, tariffs, remote management and disconnection. Necessary legislation for imposing cross-industry standardization (energy and ICT)in a uniform way throughout the member states will be required
- ... Defined and enforceable legal provisions for education and certification of DSOs and TSOs staff as well as training of other market participants will need to be developed.
- ...



Corresponding with key findings from EU Taskforce SG EG3 / Legal Framework

■ Key recommendations (1. questionnaire)

- There is a need for standardized, harmonized approach to all issues (technical, privacy / data protection, organisational, cross-issues between energy and ICT, etc); very important: issue is **interoperability**
- There is **no need for new Directives or Regulation** but there is a need for a harmonized and effective implementation of the 3rd Package
- A range of **consumer related issues** need to be addressed
....
- Strengthen Support for **right and smart** investment and ensure adequate return
- Need to **legally enable TSOs and DSOs** to fulfil their duties (also relying on the implementation of the 3rd legislative package and, if necessary correcting a national framework).

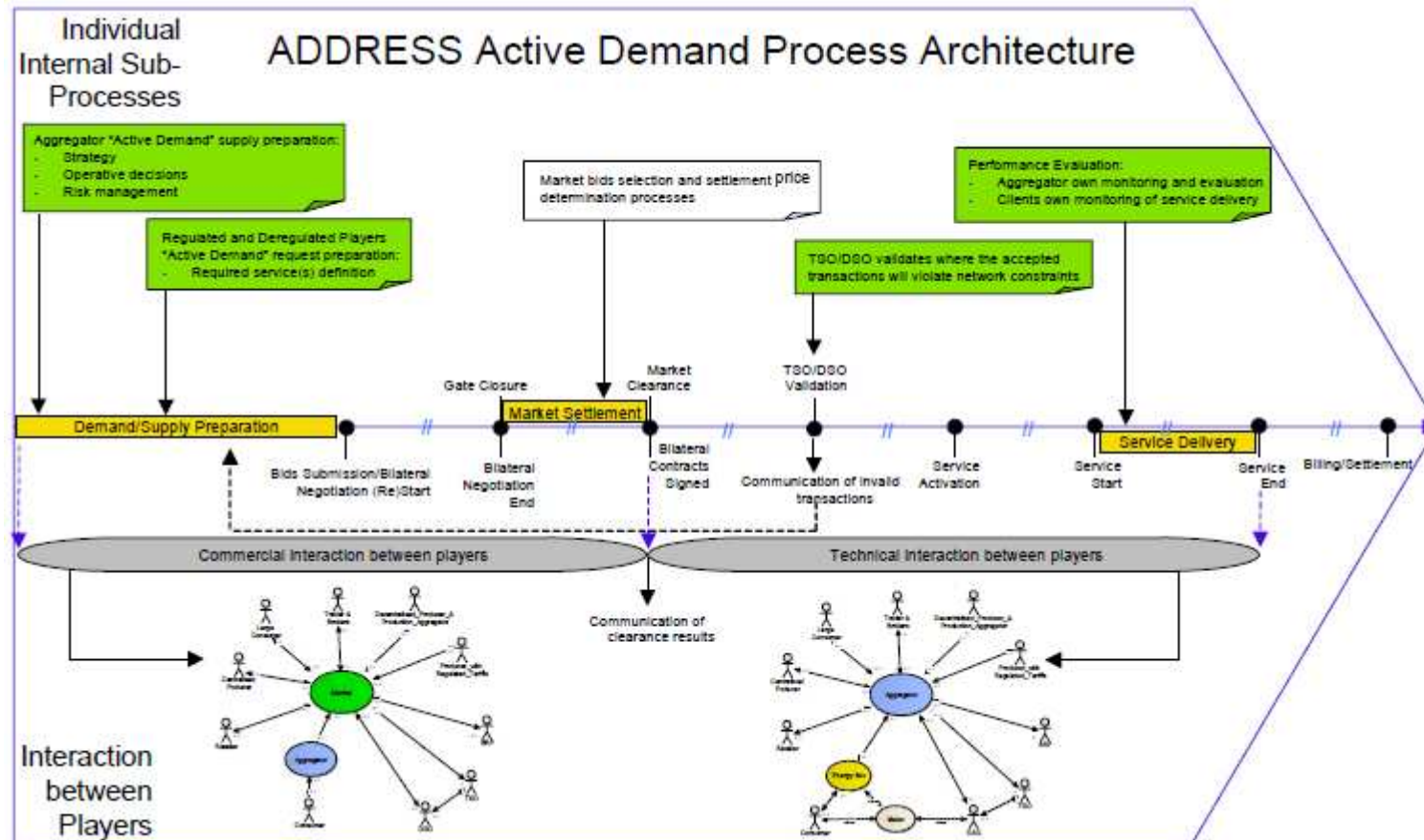


Market Communication

- Architecture: ADDRESS example
- Key problems
- Key „stakeholders“
- Recommendation



Market Communication Architecture: ADDRESS example





Market Communication Architecture: ADDRESS example Product-/Service definitions required

AD Product	Conditionality	Typical example
Scheduled re-profiling (SRP)	Unconditional (obligation)	The aggregator has the obligation to provide a specified demand modification (reduction or increase) at a given time to the product buyer.
Conditional re-profiling (CRP)	Conditional (real option)	The aggregator must have the capacity to provide a specified demand modification during a given period. The delivery is called upon by the buyer of the AD product (similar to a reserve service).
Bi-directional conditional re-profiling (CRP-2)	Conditional (real option)	The aggregator must have the capacity to provide a specified demand modification during a given period in a bi-directional range $[-y, x]$ MW, including both demand increase and decrease. The delivery is called upon by the buyer of the AD product (similar to a reserve service).



Market Communication Architecture: ADDRESS example

Use case definitions required

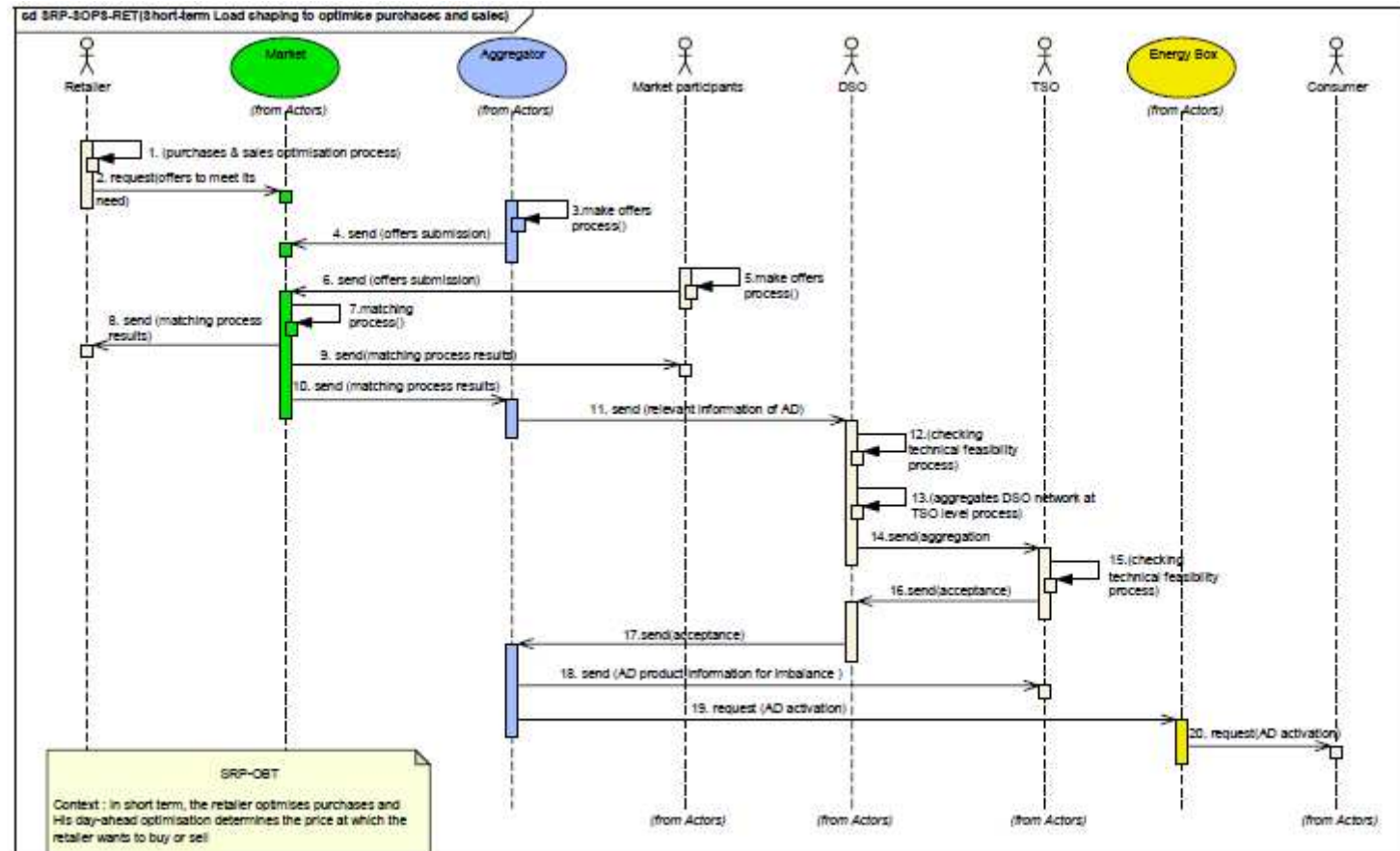


Figure 7. SRP reference use case for deregulated players: short term load shaping for the retailer



Market Communication

Key problems

- No common standard definitions for
 - Products and Prices (first approach Oasis)
 - Usecases (first approach Pilots, EPRI 162)
 - Further semantics (see deliverable 3)
- When defined (e.g. ebIX for lib. Market):
National implementation (first harmonization approach in the nordics)
- Central hubs vs. Bilateral communication



Market Communication

Key „stakeholders“

- OASIS – US
 - Energy Interoperability 1.0
 - EMIX 1.0
 - WS Calendar 1.0
- ebIX, ENTSO-E, EFET – harm. role model
- ebIX in liberalized markets, EDIFACT
- CIM extensions to business level
- CIM – ENTSO-E (TSO com) prototype EDF
- OGEMA / e-energy
- EPRI SG use case repository
- Pilots like ADDRESS, EEGI
- Industry (e.g. SAP AMI / businesscases)



Market Communication Recommendation

- Working group /EU-project
 - Collect existing (best) practices
 - Pilots
 - Organizations
 - Build generic
 - Role model extension
 - Products / Services (main examples)
 - Usecases (main examples)
 - Required messages (content, syntax, semantics)
derive formats
 - Cooperation among key stakeholders and with ESO's



Thank you



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