Architecture Workshop Munich Agenda

openETCS@ITEA2 Project

J. Gärtner (LEA/Railergy) on behalf of DB and NS

Munich, Nov 3-7, 2014

Introduction

- Alstom has, as the WP3 leader, invited the WP3 team and parts of adjacent WP4 and WP5 teams for a 4- day workshop in order to align the work already done and prepare the transition to the full design phase.

- DB who has taken the responsibility for the architectural work has subcontracted LEA/Railergy with the technical content, with full consent and support from Alstom and NS.

- Based on this mandate, Jakob Gärtner (LEA) is driving the process, work plan and structure of the architecture design phase and leads the transition to the SW design phase.

- The agenda is the result of a coordinated discussion between Alstom and DB.

Rationale for the agenda (1)

The objective of the workshop is to lay the ground for the next phases of the openETCS effort, which must lead to the following milestones:

30.11.2014: Architecture ready to allow for transition to SW design phase

03/2015: ITEA2- Review: Demonstrable results and progress on WP3 (complete architecture, substantial design progress, clear V&V concept, clear path to demonstration

06/2015: Open Proof of Concept "Utrecht- Amsterdam"

12/2015: Final Review

Rationale for the agenda (2)

openETCS is challenged by several factors, for example

- Industrial- scale project in a research- setting

- Very heterogeneous consortium with variations on experience (domain, process, tools)

We now have to streamline the process, align the level of expertise across the team and manage the rest of the work using proof-of-concept strategy with a proven track record, optimally exploiting the toolset that has been defined for openETCS

- As a prerequisite, we need an aligned architecture, which combines the industrial expertise from Alstom with the open POC concept of openETCS

Limitations and rules

Due to availability issues concerning some "neighbor" WPs, we could not define a fully logical and stringent schedule. (for example, we don't have the required commons session of WPs 3,4 and 5)

In order to maximize efficiency, some sessions will be held in smaller groups

The sessions include:

- Strict presentations **P**

- Interactive, moderated discussions **D**

- Each presentation has an **OWNER**

Each session has a **[leader]** and a **{rapporteur}**

The rapporteur is responsible for the MOM and for keeping the schedule

If the time is insufficient to find a consensus, the WP lead team will take a decision which appears to be the best compromise based on the input from the session.

So please provide concise, precise and constructive input during the moderated discussion sessions.

Agenda overview

Time//Date	Monday, 3. Nov	Tuesday, 4. Nov	Wednesday, 5. Nov		Thursday, 6. Nov		Friday, 7. Nov
09-10		**[LEA] 09:00-13:00: Architecture Alignment** *(all)* - Based on result from Monday afternoon: - Review of input documents, models, and WS results - [Alstom] Alstom Architecture & Design Document - [DB] Iteration 1 - Workshops in Brussels and Munich	**[LEA] 09:00-13:00: WP3/WP4 coordination** *(Group A, with WP4 and 5)*	**[DB] 09:00-13:00 Data Dictionary Alignment** *(Group B)*	**[LEA] 14:00-18:00 Design, Verification and Validation Strategy**: *(all)* Roadmap of WP3 towards the main project milestones Aligning the process across the WPs 3,4 and 5 Role of WP4 Role of WP5		**[DB] 09:00-12:00: Wrap- Up** - List of open issues - Roadmap towards milestones [Alstom]: Formal closing of the workshop
10-11							
11-12							
12-13							
13-14	**[LEA] 13:00-18:00 Setting up the workshop** *(all)* [Alstom]: Kick- off of the workshop - Presentation of agenda and WS work plan - openETCS architecture considerations and alignment strategy - Presentation of proposed document structure - Presentation of proposed process - ADD structure and process discussion	*Lunch Break*	*Lunch Break*		*Lunch Break*		
14-15		**[LEA] 14:00-15:00: More Architecture Alignment** *(all)* - Proposal for unified architecture **[LEA] 15:00-18:00: Towards Design Phase** - Essential design decisions - Resources, work shares and responsibilites	**[LEA] 09:00-13:00: Processes and Tools** *(all)* - Managing an industrial- style project with the openETCS toolchain and process - Agile process in OBU context - Role of WP7 - [DB]: Documentation concept for external stakeholders		**[LEA] 14:00-18:00: Demonstrator integration and validation plan** *(Group C, with WP4 and WP5)*	**[DB] 14:00-18:00: Work on architecture alignment** *(Group D)* - Cross- check input docs - Work on list of open points	
15-16							
16-17							
17-18							

Session details: *1:Setting up the workshop (Day 1)*

Monday, Nov 3, 13:00-18:00, Participants: ALL

Lead: [LEA], Rapporteur {N.N.}

P13:00-13:15 **ALSTOM:** Workshop official opening

P13:15-13:45 **LEA:** Agenda and WS work plan

D13:45-14:00 Agenda and WS work plan Q&A/ Discussion

P14:00-14:45 **LEA:** openETCS architecture considerations and alignment strategy

D14:45-15:15 openETCS alignment strategy discussion

Coffee break

P15:30-16:00 **LEA:** Proposed document structure

D16:00-End: Work session on document structure

Session deliverables *1: setting up the workshop*

- Approved agenda and work plan for the workshop
- Approved architecture alignment strategy
- Approved architecture & design document structure

(These items will drive the work of the following days)

- Minutes of meeting (by rapporteur)

Session details *2:Architecture Alignment* (Day 2)

Tuesday, Nov 4, 09:00-15:00, Participants: All

Lead: [LEA], Rapporteur {N.N.}

P09:00-09:30 LEA: Approved architecture alignment plan (from Monday)

P09:30-10:30 ALSTOM: Alstom Architecture & Design Document

Coffee Break

P10:45-11:45 DB: Iteration 1

P11:45-12:45 NS?: Work since the Brussels Workshop, Results from Munich workshop in October

 Lunch Break

Deliverables: *The expected output is not the complete detailed architecture, but an agreement on essential elements and on the way forward*

Session details *3: Towards Design Phase* (Day 2)

Tuesday, Nov 4, 15:00-18:00, Participants: All

Lead: [LEA], Rapporteur {N.N.}

P13:45-15:30 **LEA**: Essential design decisions (Taken or to be taken) → (we are nottraling about SRS deviations here, but about fundamental architectural design desicisions)

D15:30-16:00: Classification of design decisions (open, closed, to be analyzed

Coffee break

D16:15-End: Resources, work shares and responsibilities

Deliverables: A clear list of open points regarding design, a clear list of available resources and skills. This will be the input for the overall resource planning for the next phase.

Session details *4:WP3/WP4 coordination* (Day3)

Wednesday, Nov 5, 09:00-13:00, Participants: Group A (Alstom, DB, WP4)

Lead: [LEA], Rapporteur {N.N.}

P09:00-10:00 **LEA**: WP4 as seen from WP3 perspective: requirements, inputs, outputs, role of WP5

D10:00-13:00 Work session: Development of a valid validation concept against a system architecture definition

Deliverables: The output of this discussion will be further elaborated in the common afternoon session

Session details *5: Data Dictionary Alignment* (Day 3)

Wednesday, Nov 5, 09:00-13:00, Participants: Group B (All stakeholders in architecture modeling)

Lead: [DB], Rapporteur {N.N.}

In the overall proposed work plan for the next phase, we will require an owner for the task of assuring integrity and completeness of the data dictionary, its compatibility with the Alstom API and the assurance that it is consistently being used across the project. We propose that Peyman (DB) should take this task and prepare the session.

Expected deliverables: *Strategy and work plan for data dictionary, its integration into the overall process (or related requirements), possible impact on WP7 (for automated transformations across tools)*

Thursday, Nov 6, 14:00-18:00, Participants: All

Lead: [LEA], Rapporteur {N.N.}

P14:00-15:00 **LEA**: **Managing an industrial- style project with the openETCS tool-chain and process**

D15:00-16:00: **Q&A/working session on tools and their limitations (with focus on architecture and design)**

Coffee break

P16:15-16:30 **LEA**: **The role of WP7. The perspective of the project vs. the perspective of a reviewer**

P16:30-17:00 **DB**: **Requirements on documentation for upstream stakeholders**

D17:00-18:00: **Agreement on processes, tools and documentation**

Deliverables: Clear plan on concepts, tools and processes.

NB: Depending on the result of the Tuesday work, we may dsicide to split off a architecture discussion group in parallel

Thursday, Nov 5, 09:00-13:00, Participants: All

Lead: [LEA], Rapporteur {N.N.}

P09:00-10:00 LEA: Roadmap of WP3 towards the main project milestones, aligning the process across the WPs 3,4 and 5, Role of WP4, Role of WP5

D10:00-13:00: Working session on roadmap of WP3 towards the main project milestones, aligning the process across the WPs 3,4 and 5, Role of WP4, Role of WP5

Session deliverables: Approved roadmap and process, clear requirements for WP4 and WP5

Session details: *8:work on architecture alignment* (Day 3)

Thursday, Nov 5, 14:00-18:00, Participants: Group D (all stakeholders with architecture/ design focus)

Lead: [DB)], Rapporteur {N.N.}

D14:00-18:00: Based on the prior work and deliverables, start the work on the next iteration of the architecture and first steps into SW design phase.

Session details: *9:Demonstrator integration and validation plan* (Day 4)

Thursday, Nov 6, 14:00-18:00, Participants: Group C (Alstom, DB, NS, WP5)

Lead: [LEA], Rapporteur {N.N.}

P14:00-14:30 ERSA: The Utrecht- Amsterdam Open POC: Integration of external simulation tools or executable code with the ERSA ERTMS simulator

P14:30-15:00 LEA: SCADE- Based simulation and validation concepts, APIs and interfaces in CENELEC context.

D15:00-18:00: Definition of validation concepts adapted to our design phases and milestones. Impact on WP4 from this perspective

Deliverable: V&V concept from WP3/WP5 perspective

Session details: _10:Wrap Up_ (Day 5)

Friday, Nov 7, 09:00-12:00, Participants: All

Lead: [DB], Rapporteur {N.N.}

P09:00-10:00 **Rapporteurs from Sessions 2-9: List of open issues, list of assigned tasks and actions**

P10:00-10:30 **DB: Roadmap requirements toward milestones** (see page 3 of these slides)

D10:30-11:30: **Work session: Priority list of tasks (input for overall project planning and backlogs)**

P10:00-10:30 **Alstom: Official workshop wrap-up and closure**