SPE DSA-TS Comms Team

Meeting Minutes

Date: 11-Jan-2013

Attendees:

Jens Orneas, NOV
Bill Johnson, NOV
Mark Anderson, Shell
Paul Hunker, OPC
Randy Armstrong, OPC
Ken Bever, OGI/MIMOSA
Jason D., Halliburton
Rustam Isangulov, Schlumberger
Lars, Pason (on behalf of Dean Trumain)
Han Yu, Schlumberger
Andrew Li, Schlumberger
Charles Sewell, BHI
Michael Behunick, Apache
Thomas Burke, OPC Foundation
Dimtri D., BHI
Jana Schey, Energistics
Pradeep Annaiyappa, Canrig
Alan Johnston, OGI
Clinton Chapman, Schlumberger

Clinton reviewed the findings from the last Interoperability meeting where we had identified some areas of concern but the need was expressed to demonstrate automation of drilling a stand down. An agenda for the days meeting was presented as follows:

1. Agree that drill a stand down was what we will work on.
2. Agree on schedule for test and presentation
3. Define what drill a stand down means

In the initial case drilling a stand down would not include any additional equipment such as Iron Roughneck and such. It was proposed that we would try to do something by next ATCE in Sept 2013 and make a presentation of solution and lessons learnt.

Drilling a stand down was further defined by Clinton as not including any complexities such as slide/rotate transitions. Question was asked if drilling a stand will include any wellbore events. Clinton clarified that it would only include starting pumps, starting rotation, going to bottom and drilling at a defined rate, drill stand down and pull up to defined height. Marty reminded team that there are two issues, one of data aggregation and one of control. It was clarified that data aggregation would be limited to the parameters required.

Alan Johnston reminded that there is a need for data modeling for interoperability and the need to work through the ISO, OGI and Mimosa for standards for interfaces and data modeling. Alan further defined modeling as capturing all the elements that make up a piece of equipment including its behavior, a digital representation of the real world.

Question was posed if the objective of this year was to create a full specification with a data model. After a lot of deliberation it was agreed that this was a way to advance the industry through the implementation of a smaller problem using a simulator and define a specification required only for this problem. We would use any available industry standards such as ISO 15926 for Oil and Gas equipment but only be concerned about the subset of the model that is required for the problem of drilling a stand down.

Discussion about Information/physical equipment modeling Vs Automation interface modeling. Standards are available for information models, we will use what is available and define

interface model required for drilling a stand down. Alan Johnston will send links to what the standards are available to the group.

Mark Anderson said that what was needed was to be able to control the Drawworks, TopDrive and Pumps. We need to be able to start the pumps at a specified flow rate, Start the TopDrive at a given RPM, and lower the drawworks down and drill the stand at a given ROP. Including well models is very complicated and Shell has been working on Automation and have not gotten to it as yet. The objective of automation is to be able to take a new driller and provide them some tools to be able to drill consistently. Michal concurred and said that what is important is to automate the surface equipment on an AC rig. We need to work at the Rig PLC level and not get into the individual pieces of equipment. We need to create high level interfaces and leave the lower level commands to the rig PLC. A three level model was discussed, a high level command, a equipment level command and an equipment data model. Issue a universal command and leave the individual machine to interpret and execute it.

Question was posed that we have not defined what the problem is that we are trying to solve. It was agreed that we need a clear set of use cases or problem definition. Clinton requested Michael to lead the group to define the use cases. Michael requested Marty to work on this team. Alan proposed Ken from Mimosa to be on the team as a use case expert. The team of Michael, Marty and Ken will lead this effort.

Decisions:

1. Drill a Stand down, Equipment controlled, Mud Pump, TopDrive, Drawworks
2. Investigate what OGI data models are available
3. Define use cases for automation

Action items:

1. Alan to send pointer to where the OGI object model standards are available
2. Ken to send use case example or template
3. Call meeting 2 weeks from now.