



On 4-Aug, PPDM ran the Perth Data Management Symposium, in a new format and in a new location for the Australia-West petroleum data community. Acknowledging the downturn and restrictions in travel and budget, we limited the Symposium to one day, reduced attendance costs, and used the Curtin University Graduate School of Business facility in the city as a low cost venue. We were rewarded with attendance at over 80% of last year, an admirable recognition of the importance of data management in a downturn. Special thanks to all of our sponsors and to Curtin University for supplying the venue and student help with logistics.

Nick Parker from GeoSoft showed results of a survey of just under 2000 data users from the petroleum and mining sector, interestingly over a quarter of them said their biggest challenge is the volume of still-unorganized legacy data. And in a finding that really shows the need for industry standard metrics, the survey revealed that from 2013 to 2015, the number of organizations that don't know how much time they spend on data management tasks actually increased by 8%, from 15% to 23%. We also learned that one use for geophysical surveys is locating unexploded ordinance before construction projects. The survey was somewhat unique in that drew out a correlation between those respondents who were unsure if the amount of time spent on data management tasks was appropriate (19%), with those who felt that the most important factor in maintaining a data management solution was finding the time and resources to fully populate the data (25%). These were highly correlated with the group (35%) that felt that the most important outcome of data management was increased visibility and transparency for reporting and investment.



Dr. Kerry Brown from Curtin University explained how one of the barriers to effective knowledge management is a “lack of standardized systems and taxonomies”. Dr. Brown showed network maps of an Integrated Strategic Asset Management framework, created from organization charts, reporting lines, and job descriptions. There were some knowing chuckles in the room as she showed examples of diagnostic departures from an “ideal” network, as attendees recognized patterns that probably represented issues in their own organizations, such as isolated one-way chains that slow the dissemination of key information. She also highlighted a 2009 study showing that information management is a key skill domain for asset managers, along with engineering and business expertise,

and was able to cite examples from a local police force that was still hand entering data twice for each patrol call without linking information about people and locations, which seems unthinkable in today's environment of searching for patterns that indicate criminal activity.

Guy Holmes from Katalyst Data Management presented a case study of a seismic database with over 8 Pb of data from 75 different companies, emphasizing that even with automated quality checking routines, there is still no substitute for an experienced subject matter expert loading the data at least once to insure quality. Questions from the audience during this session included concerns about entitlements and performance.



If we needed an example of Dr. Brown's "knowledge rich" environment, Dr. Shastri Nimmagadda certainly provided it with another information-dense condensation of his published work with the International Geologic Congress and IEEE, among others. His bubble charts showing the growth of attributes that reflect "Big Data" facets over time in public domain data sets take a while to chew through, but reflect an important and perhaps unique attempt to quantify exactly how the term applies to petroleum technical data.

Our speaker (and chocolate) sponsor the Australian Geoscience Information Association, represented by Vanessa Johnson, briefly reviewed their services to the industry, including opportunities for networking and professional development, and their sponsorship of travel grants with the International Geological Congress. This year's awards helped fund travel to the Waikato Coast of New Zealand for field study of the Jurassic Anoxic event, to Northland, New Zealand for drone mapping of lignites, and to Boise in the U.S. to learn state of the art petrophysical facies analysis techniques.



Immediately after the lunch break Martin Storey led the group in a workshop looking at the Business Rules Library on the PPDM website, and the results of applying some of the rules to a public domain data set from the Western Australia government. Oh boy! I am sure many of us had the same thought on the way home from the Symposium; "wait, did he say that over 22% of the almost 3500 wellbores in the WAPIMS system failed a simple test for "maximum TVD must not exceed driller's maximum reported

depth?”. Yes he did, and he attributed most of the errors to a failure to maintain relationships between well origins and wellbores. But the really story of this exercise came in the weeks leading up to the Symposium, when we were studying the spreadsheet output, used a formula copied from a different column and didn’t use a permanent cell reference. This led to a suggestion for a data management business rule; “data and calculated values derived from a spreadsheet are only valid for a system of record if the spreadsheet’s embedded coding is audited for accuracy”. In one work group at the Symposium, we suggested a business rule that “sensor data must have metadata indicating the last calibration date of the equipment”.

Operator case studies are always the highlight of a PPDM Symposium, and our local membership did not disappoint. Christopher Hudson from Inpex led us through his assertion that the Inpex Icthyx project has “the BEST corporate database in industry from a usage, relevance and completeness point of view”, which after his explanation of the 5 year project, turned out to be a “pretty good corporate database, overall”. One important note on data governance procedures from his talk was that some PVT and fluid report data got rejected up to 4 times before being accepted as validated data for the Master Data Store.

Gao Bin from Schlumberger later followed up with more detail about the final year of the implementation at Origin, and about the challenges of combining the depth-indexed data usually found in well databases with time-indexed information such as planning documents, daily drilling reports, and real-time data, and making this available to an analytics engine.



And Martin Storey closed us out with some thoughts based on a presentation from Ross Philo of Energetics, who cited a 2-4% reduction in Non Productive Time from some operators using WITSML.

