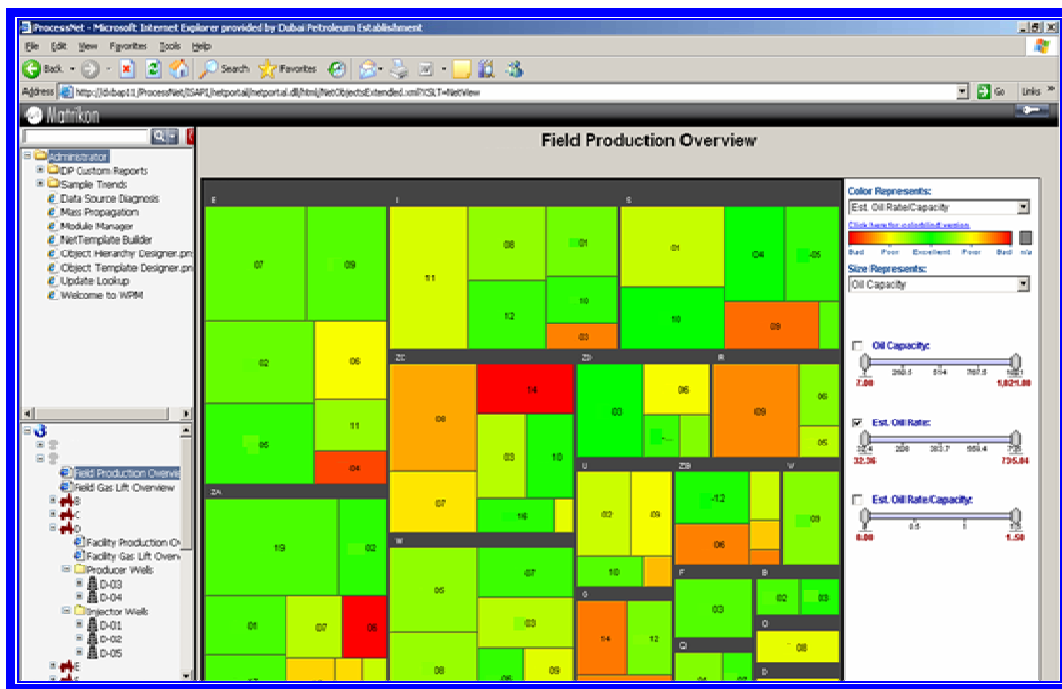


**SPE Digital Energy Conference
Houston, April 2009**



Matrikon's ProcessNet field production and real-time alarms¹.

A burning question at the 2009 SPE Digital Energy Conference was, 'Is a digital energy strategy important in the low cycle?' 2009 is expected to be a hard year with 'questions as to where R&D fits-in.' Chevron CTO Melody Mayer believes that those who keep at it will come out ahead at the end of the recession. BP is a 'digital' believer, and reports an added 85,000 bbl/day of production coming from 'Field of the Future' programs – and these are 'cheaper than well work.'

A debate on the exact meaning of 'digital energy' failed to reach a conclusion although there is a consensus that the 'digital revolution,' whatever it is, is only just beginning to happen. 'It's a long journey – and we are only starting.' Early 'philosophizing' – notably from CERA – had it that process control/automation was a 'commodity' technology. Not so according to Baker Hughes. It turns out that, four years after the CERA study, industry is 'only just coming to terms with control systems theory – an essential preliminary to optimization.' For Baker Hughes, 'significant process enhancement is to come from combining sensor data with experts.' Today's sensors just exist in a feedback loop. The next step will be to leverage 'feed-forward' and control methodologies to improve reservoir drainage. Shell is in broad agreement. Just as the Drilling Support Center revolutionized drilling, the 'Central Surveillance Center²' (CSC) is revolutionizing production operations. Shell is moving surveillance from asset to CSC and leveraging 'exception-based processing.' This compares real-time observations with data-derived models to identify and flag unusual events requiring attention. Today the attention likely takes the form of a phone call or email to the operator, but the medium term goal is to 'close the loop' and automate. For repetitive tasks such as well test or gas lift optimization, Shell advocates a move from a periodic 'harvest' mode to continuous process improvement.

DEC09 marks a shift from proof of concept projects to 'at scale' deployment. This can involve extra effort such as language localization of in-house developed software. BP is also applying 'greenfield' learnings to retrofit its 'brownfield' sites, a process where Chevron noted some initial problems applying 21st Century technology to its 100 year old fields.

Several speakers engaged in a 'reverse auction' to evaluate the contribution of 'technology.' A consensus seemed to emerge that technology only contributed around 5%, the bulk of the effort going into people/process. ExxonMobil sees technology as competing for the same barrels as people/process. These may seem somewhat paradoxical conclusions in the context of automation! One speaker addressed the need to 'de-layer' the jargon – a noble goal indeed, even if there is not much sign of this happening at the DEC!

¹ Image courtesy Matrikon – www.matrikon.com.

² Can a 'Center' be anything other than 'Central?'

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