

## **SPE 104161 Advanced Production Monitoring**

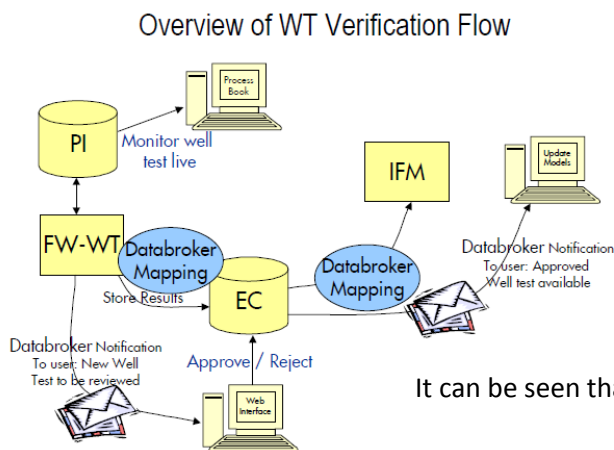
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As more and more real time data (and detailed) data is made available to engineers, an efficient and reliable approach to gathering the relevant data becomes necessary. Within Shell, an integrated production-system monitoring framework was to be set up. This program was developed to meter field data and quality check or improve it. This approach has been called 'Smart Fields' and the resulting data is used to update IPM models.

The principle requirements when developing a monitoring and integration framework are as follows:

1. A holistic approach to production monitoring is necessary
2. The framework must be able to use best-in-breed event detection algorithms
3. A consistent approach to event detection is necessary
4. This must a transparent mechanism for: auditing, performance monitoring and KPI reporting
5. The monitoring and integration framework must be able to initiate workflows
6. The monitoring and integration framework must provide some means of handling poor data

Following the above the requirements, an example of the resulting approach framework for well test verification is defined below:



It can be seen that IFM is also included in this framework.

### **CONCLUSIONS:**

An effective and comprehensive monitoring framework plays an important role in Smart Fields philosophy by turning data into value. This approach is called 'Data Broker' and allows for exception-based surveillance, allowing engineers to focus their time on technical engineering work. To summarise; this system allows for improved handling of data in terms of: efficiency, quality and timeliness in reporting to end-users.