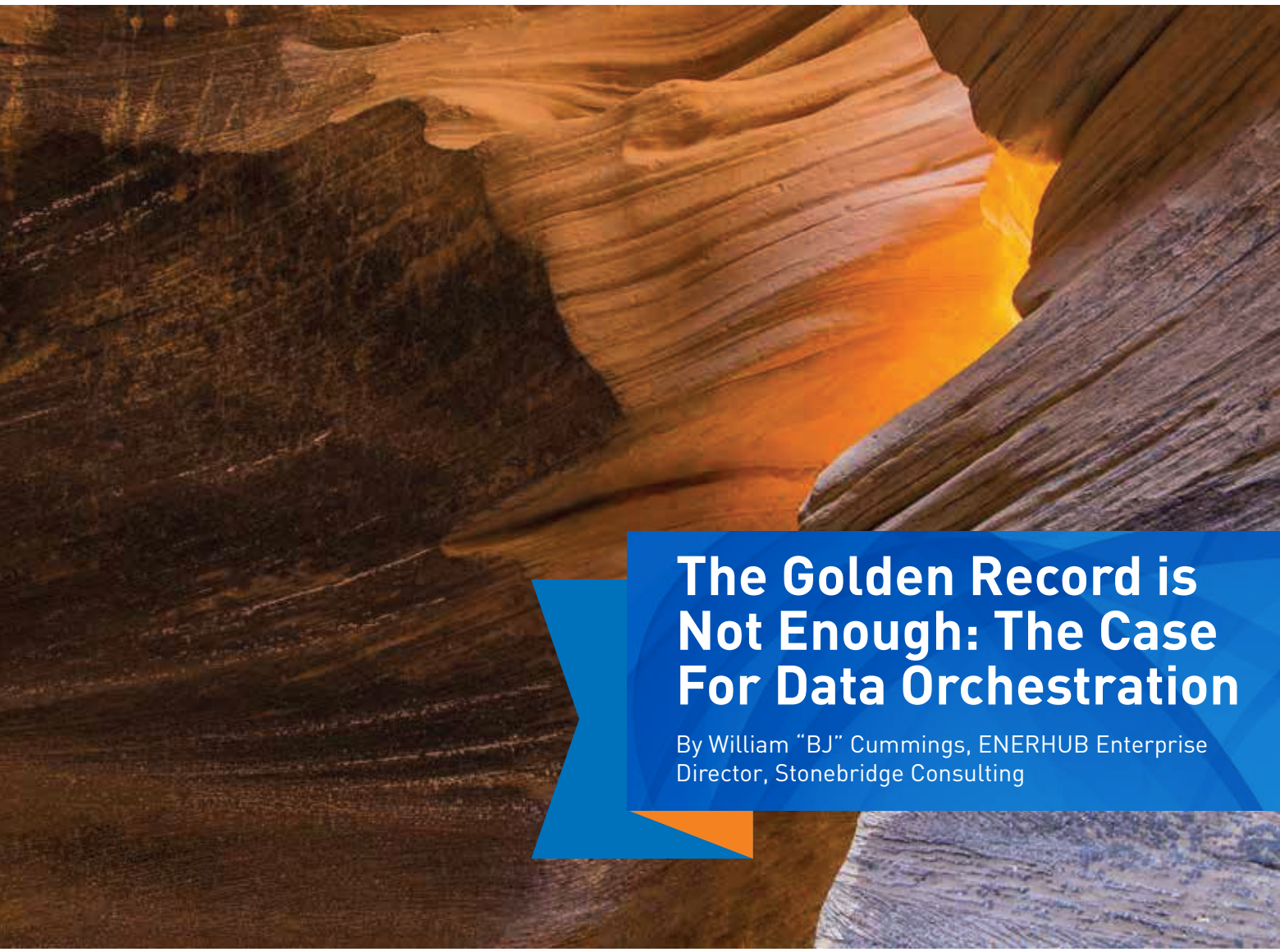
PPDM™

Foundations

Journal of the Professional Petroleum Data Management Association

Print: ISSN 2368-7533 - Online: ISSN 2368-7541

Volume 2 | Issue 3 | 4Q2015



The Golden Record is Not Enough: The Case For Data Orchestration

By William "BJ" Cummings, ENERHUB Enterprise Director, Stonebridge Consulting

1st Place Foundations Photo Contest Winner; Chris Ebright, "Golden Light in remote southern Utah canyon"

CPDAs Highly Recommend Certification Programs

Certification programs ensure that a person has the knowledge and skills needed. (Page 6)

PLUS PHOTO CONTEST:

This month's winners and how to enter (Page 16)

The Golden Record is Not Enough

The Case For Data Orchestration

By William "BJ" Cummings, ENERHUB Enterprise Director, Stonebridge Consulting.

For PPDM true believers, an enterprise master data management (MDM) solution is our nirvana. Achieving that elevated state of bliss – variously referred to as the single version of the truth, the gold standard, the golden record – depends on policies, rules and processes for managing and accessing data. Which is to say that our primary focus is on data. Reasonable? Yes. Sufficient? No.

Data always has a business context animated by interconnected processes and functions. In upstream oil and gas, that animating context is the well life cycle (WLC). The WLC comprises the system of entry for the well, the system of record for the well header, well data ownership across departments, primary and secondary well attributes, and tracking the status of the well throughout its life.

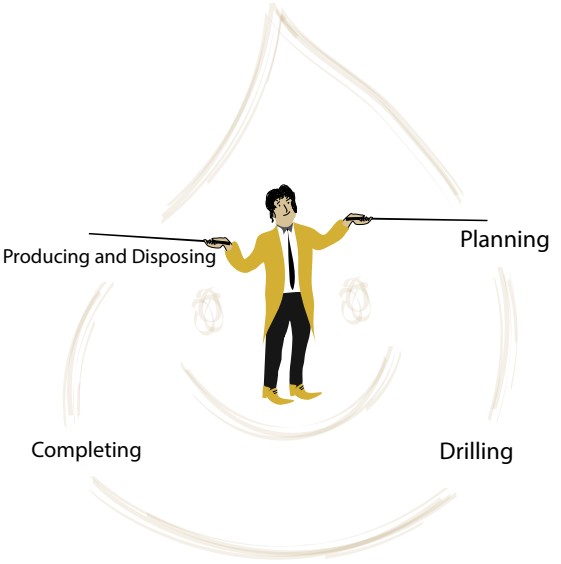
In short, the WLC is the upstream business and data is just one component of the WLC. The ideal MDM strategy is more than data and data management: it mirrors the WLC. Mastering MDM depends on the orchestration of process, function, and data throughout the WLC.

Creating the golden record isn't enough. A viable MDM strategy is more than loading data and creating a single version of the truth. It means actually doing something with the golden record to create value for the business. For that reason, data orchestration throughout the WLC is the next step in mastering MDM in upstream oil and gas.

WHY ISN'T THE GOLDEN RECORD ENOUGH?

A lot of effort is put into creating an MDM system, and people want to see a real ROI from all that effort. Creating the golden record only gets you started on the road to measurable business value. The real ROI is when you share that data across multiple systems, thereby reducing the time spent entering and maintaining the data and cutting the human error. An MDM strategy with orchestration at its core allows you to do that with less effort and greater accuracy. You save time and money, and you have better information to make better decisions. These are long-term, quantifiable benefits.

These benefits are especially meaningful in today's economic climate that demands efficient decisions, reduced duplication of effort, and managed costs. The current downturn gives you the time and focus to get your house in order. You can create an environment where master and transactional data, business rules, applications and processes are synchronized and orchestrated. You can benefit from cost savings today,



and create a competitive advantage for tomorrow. The key lies in how you manage your master and transactional data.

HOW SHOULD YOU MANAGE YOUR MASTER AND TRANSACTIONAL DATA?

There are many different classifications of data: master data, reporting data, metadata, reference data, unstructured data, big data, and so on. All are important. But too many times organizations put them into the same bucket, which is a mistake. It is absolutely critical in your enterprise MDM strategy to recognize the classification of the data and fully understand its characteristics and value so it can be managed effectively.

Master data represents the 'nouns' of the upstream business: wells, business associates, equipment, facilities and so forth. It is authored and shared across multiple systems. For instance, 'well identifier' exists in most upstream systems. Master data is low volume but high importance. It's scattered across many systems and duplicated throughout the WLC, and typically is not truly managed at the enterprise level.

Well header is an example of master data. Information is generated in multiple systems, such as planning, accounting and production. Its attributes are defined and owned by the different systems. Master data is transferred from system to system based upon events. Once a well is completed and starts production, for instance, the well header data is sent from System A to System B.

Transactional data is different. It is event-centric, high volume, changes frequently, and is best transferred in batches. Some transactional data is shared, but most is generated and used in one system. It usually changes with each successive time interval. Daily production volumes are a good example of transactional data.

WHY SHOULD THEY BE MANAGED DIFFERENTLY?

Master data and transactional data are very different. Transactional data is high volume and event-driven; it is difficult to move in real-time while maintaining the validity required for a trusted source. There's much more value derived from a set of data versus checking each record. For example, you load volumes in the warehouse after allocations are complete. You don't move them as each calculation is performed.

On the other hand, you need to be able to validate master data on a record-by-record basis. For example, is my well identifier valid? Is well depth valid? PPDM has done a great service in identifying many of the master data rules that can be put in place today. When you look at master data, you want it to be consistent across systems and you want it to reflect the most recent data as soon as possible. Critical decisions are made on well master data throughout the WLC, so it needs to be in-sync and orchestrated across our systems all the time, and preferably in real time.

WHY SHOULD MASTER DATA BE MANAGED REAL TIME?

Keeping master data consistent is critical. Keeping it in-sync in real time is even more critical. Different departments may have different needs for the same data. For example, drilling may need a spud date, but accounting may need the number of wells spudded in the last month. Having information up-to-date, standardized and in-sync meets everyone's requirements.

Critical decisions are based on master data, and yet companies spend an enormous amount of time trying to figure out why reports don't match or why the well was reported as producing to the regulators but not in the financials. With an MDM strategy based on data orchestration, these inconsistencies can be remedied and better decisions made.

WHAT IS ORCHESTRATION?

Orchestration is a process that allows attributes to be updated across the system in close to real-time. It must be built from the ground up. To capitalize on your investment in the golden record, you must share it across systems and deliver it to the people who are making decisions. So, when you update a well name or location in one system, it matches across all your systems. That's orchestration, and that's where the value is generated – in time saved maintaining and entering data, in ensuring quality, and in the ability to make better decisions based on the best data.

WHAT ARE THE SYMPTOMS OF DATA MANAGEMENT WITHOUT ORCHESTRATION?

Many companies rely on a reporting system in which information is gathered manually and cross-referenced by hand. They do it day in, day out. It is time-consuming and error-prone, with multiple people entering the same data in multiple systems. The unfortunate outcome is that you are integrating inconsistent and inaccurate data. It should be no surprise that this produces inconsistent and inaccurate results. When you consider how much time people are spending to collect data, match it all up, and produce a report, it's mind-bogglingly inefficient. A report filled with inaccuracies and presented on a spreadsheet with multiple versions just adds insult to injury.

WHAT IS THE VALUE OF ORCHESTRATION TO A COMPANY?

Establishing an MDM strategy that orchestrates process, function and data throughout the WLC will save hundreds of thousands of dollars. There are other advantages that have the potential for greater value. In current market conditions, for instance, we will see a wave of acquisitions. Having your own house in order allows you to take advantage of opportunities because it is faster and easier to integrate acquired assets and incorporate new data systems.

WHAT IS THE VALUE OF STANDARDIZATION TO MDM?

PPDM has advanced MDM in many ways. We now have standardized definitions, a well life cycle, ownership of data and a common data model. Before, companies were spending huge amounts of time defining their own MDM systems. With PPDM, you can load your data in a standardized way that can be transferred efficiently. Instead of taking years to build an MDM framework, a company can do it in weeks. This also gives the baseline to create connectors to systems to pull the data quickly and efficiently, thereby reducing the time and cost to implement solutions.

WHAT ABOUT DATA QUALITY?

If you orchestrate bad data across different systems, aren't you making the problem worse? The key is in a good data governance policy. Instead of being wrong and not knowing it, you know that something is wrong across systems and can correct it. Mind you, governance is more than technology or a standard data model. It's about the entire upstream ecosystem: people, process, and technology.

HOW DOES A COMPANY ORCHESTRATE AN MDM SYSTEM?

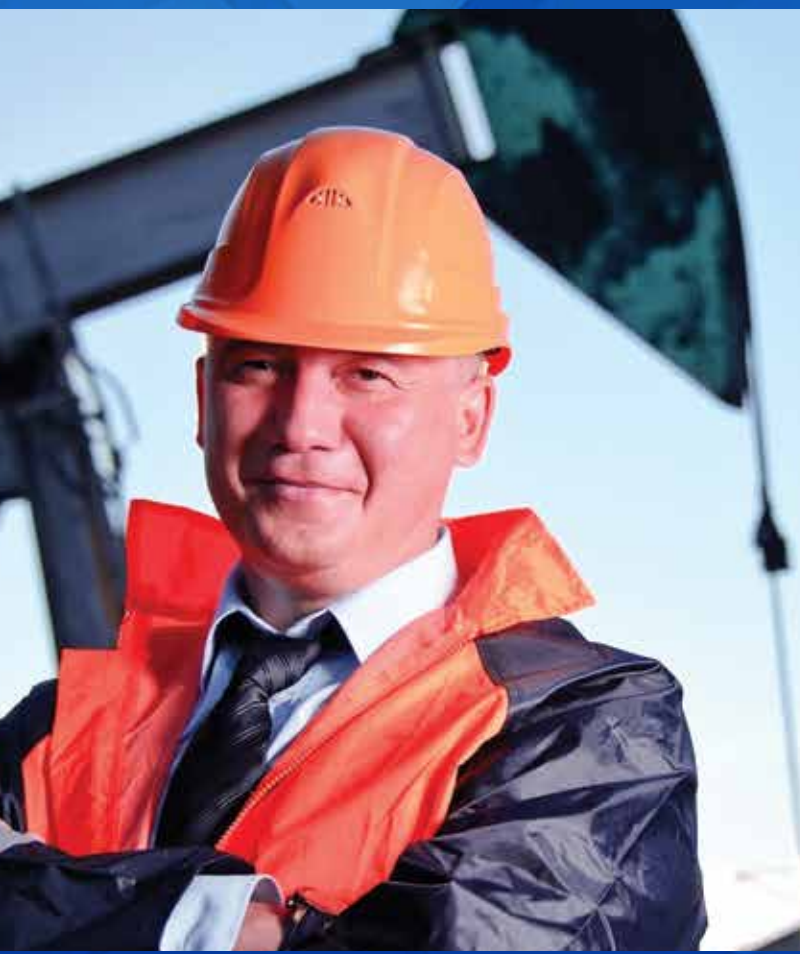
First, understand your data issues and how to address them. Then create and implement a fit-for-purpose governance strategy. This cannot be treated as a project; it must be a corporate capability that will evolve and drive value. The entire process requires close collaboration across the enterprise and with the implementation service provider. The best practice approach is in understanding the WLC and data ownership across systems, identifying a common data model, and putting the right technologies and processes in place. Finally, it's creating connectors among commonly used systems so you can pull the master data in PPDM format.

About the Author

William "BJ" Cummings is Executive Director for ENERHUB, Stonebridge's enterprise data management solution for oil and gas. BJ has more than 10 years' experience in developing business intelligence solutions for oil and gas companies. He is the chief solution architect for Stonebridge's Upstream Reference Architecture, which is built around PPDM standards and today serves as the framework of Stonebridge's ENERHUB solution for upstream operators.

stonebridge

Business advisory and technology services for next-gen oil and gas



+ Business Alignment
+ Process Optimization
+ Technology Enablement
+ Managed Services
+ ENERHUB™
+ Peloton® Services

In today's dynamic energy market, oil and gas companies are looking to achieve the optimal balance: retaining the ability to move quickly and decisively on emerging opportunities while maintaining leaner, more efficient operations. Stonebridge Consulting provides business advisory and technology services that enable oil and gas companies to get lean and stay lean through improved operational performance across the entire enterprise.

www.sbti.com | **800.776.9755**

SERVING CLIENTS THROUGHOUT NORTH AMERICA