It’s about Digitising your Supply Chain

STANDARDS BASED PROCUREMENT IN THE OIL AND GAS INDUSTRY

Dave Wallis

It’s about Streamlining your Process.

It’s about giving your company the advantage.
Our Oil & Gas Industry

- A truly global business
- Huge scale
- Specific requirements
  - Remote Operations
  - Largely Outsourced
  - Complex services
  - Non-explicit spend – more than 75% of $300b/yr. is ‘buying a solution’ - not a widget!

- 1970s R&D cutbacks by Oil Companies = outsourcing of technical solutions to Tier 1 suppliers
Our Oil & Gas Industry

- Of the $300b/yr. of spend in our industry it is estimated that ~ 66% is spent with less than 700 suppliers / solution providers globally.

- This results in a tight industry vertical where internal interoperability is key to B.P. efficiencies.
However, Procurement toolsets couldn’t manage more than simple MRO materials, and definitely not:

- Complex products
- Complex pricing
- Services
- Non-explicit spend, i.e. a ‘solution’

Therefore the need to focus elsewhere in the P2P process.
Definitions

eCommerce, usually characterised as Procure to Pay

Sourcing  Ordering  Fulfillment

eTender

Identification  Selection  Order  Delivery  Invoicing  Payment

Catalogs  Transactions

eProcurement

HSE & Government Regulatory reporting, etc

eBusiness, = all the above and everything else
The move from paper and the need for Interoperability

- There has always been a need to establish a certain degree of interoperability
- Effective, but not efficient
- Difficult to extend to the electronic exchange as lacked
  - Industry standard structure, or Syntactic Interoperability
  - Industry shared vocabulary, or Semantic Interoperability
- Needed to work together to develop standards that support unique requirements
- Interoperability, within our vertical
Use **my** standard...

- Standards “land grab”...
  - Often proprietary
  - Competing “open standards”

- Our unique Industry requirements challenged existing standards
- Our industry looked to API & PIDX for leadership

( Apologies to Scott Adams! )
PIDX subcommittees have developed and maintain XML standards for

- All Procure 2 Pay processes
- NEW – sales tax reporting
- NEW - HSE reporting
- Regulatory Reporting
- Product Classification >3900 templates
- Joint Interest Billing & Operating Data Exchange
- Downstream Bill of Lading
- Pipeline Nominations, Delivery, Reporting & Accounting
- Country-by-country eCommerce guides for Oil & Gas

All supported by processes descriptions, implementation guides & wiki based dictionaries
The evolution of our standards

GENERIC LANDSCAPE

E-COMMERCE in OIL & GAS

BUYER ERP
- MDM
- CONTRACT
- PURCHASE ORDER
- SERVICE ENTRY SHEET
- INVOICE

SUPPLIER ERP
- MDM
- CONTRACT
- SALES ORDER
- FIELD TICKET
- INVOICE

PO
- FT
- INV
Define the PRODUCT & SERVICE Attributes with Industry Templates and store in Master Data Repository.
The evolution of our standards

1. Define the structure for a SUPPLIER CATALOGUE which includes the Template Schemas to use for PRODUCTS & SERVICES.

2. Define the structure for a SUPPLIER CATALOGUE which includes the Template Schemas to use for PRODUCTS & SERVICES.
The evolution of our standards

1. PRODUCT & SERVICES TEMPLATES
2. UNSPSC Classification
3. Define the XML schema for DOCUMENT TRANSACTIONS such as Order, Invoice etc.
The evolution of our standards

1. Define the UNSPSC Classification as the basis for product and service templates.
2. Create encrypted envelopes to wrap transaction documents for routing and transmission across the Internet.
3. Encrypt the ENVELOPE with a DOCUMENT XML SCHEMA.
4. Define the secure encrypted ENVELOPE to wrap the TRANSACTION DOCUMENT in for routing and transmission across the Internet.

BUYER ERP
- MDM
- CONTRACT
- PURCHASE ORDER
- SERVICE ENTRY SHEET
- INVOICE

SUPPLIER CATALOGUES
- PRODUCT & SERVICES TEMPLATES
- UNSPSC Classification
- SUPPLIER CATALOGUES

SUPPLIER ERP
- MDM
- CONTRACT
- SALES ORDER
- FIELD TICKET
- INVOICE
The evolution of our standards

1. PRODUCT & SERVICES TEMPLATES

2. UNSPSC Classification

3. DOCUMENT XML SCHEMA

4. ENCRYPTED ENVELOPE

5. SECURE TRANSMISSION PROTOCOL (AS2 or RNIF)

5. Define the secure TRANSMISSION PROTOCOL to route the encrypted ENVELOPE containing the TRANSACTION DOCUMENT across the Internet.
The evolution of our standards

Defines the CONTENT and TRANSACTION standards for Secure E-Commerce in O&G
Any other information / data that can benefit the trading partner relationship by being relayed / transmitted electronically, such as HSE – REGULATORY – TAX – etc
Ok, it’s not that easy…

<table>
<thead>
<tr>
<th><strong>Pace of Development</strong></th>
<th><strong>Cost to Implement</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers have “day jobs”</td>
<td>It must be accessible to a wide audience</td>
</tr>
<tr>
<td>Challenge to maintain momentum</td>
<td>Cost point must “make sense”; PIDX and AS/2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>I need it now, but it’s not finished…</strong></th>
<th><strong>Effort to Drive Adoption</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business moves on and can’t wait for standards to be “finished”</td>
<td>“Build it and they will come!”; they most likely won’t</td>
</tr>
<tr>
<td>Staged releases; backwards compatibility</td>
<td>It takes effort; a standard won’t “adopt itself”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Backwards compatibility</strong></th>
<th><strong>Unilateral “Pilots”</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not always possible and can cause more issues</td>
<td>Leave it to us to work it out</td>
</tr>
</tbody>
</table>
The broad and early involvement of all stakeholders is critical

Limited pilot deployments of new or emerging standards are useful to road test the theory

A balance between the general and specific cases and the balance between flexibility and specificity, is important

Natural tendency of the entropy of systems to increase is unavoidable

Extensions of Trading Partner specific business processes ‘beyond the firewall” should be avoided

The management of existing deployments in an environment of ongoing standards development takes lots of work

**BUT, we have growing successes …..**
Chevron’s Top Supplier Statistics via PIDX XML
as publicly stated in Aberdeen July 2008

### Services

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Transactions/yr</th>
<th>Spend/wk</th>
<th>Spend/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11,000</td>
<td>$6,201,553</td>
<td>$323 MM</td>
</tr>
<tr>
<td>B</td>
<td>8,000</td>
<td>$4,739,846</td>
<td>$246 MM</td>
</tr>
<tr>
<td>C</td>
<td>45,000</td>
<td>$1,451,168</td>
<td>$75 MM</td>
</tr>
<tr>
<td>D</td>
<td>1,000</td>
<td>$818,620</td>
<td>$43 MM</td>
</tr>
</tbody>
</table>

### Materials

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Transactions/yr</th>
<th>Spend/wk</th>
<th>Spend/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>44,000</td>
<td>$1,159,485</td>
<td>$60 MM</td>
</tr>
<tr>
<td>F</td>
<td>38,000</td>
<td>$728,091</td>
<td>$38 MM</td>
</tr>
<tr>
<td>G</td>
<td>3,800</td>
<td>$421,819</td>
<td>$22 MM</td>
</tr>
</tbody>
</table>
How do PIDX standards enhance Chevron’s processes?

- Time to implement (same process for everyone)
- Major reduction in time & effort to add locations
- 98% Supplier Invoices now processed without intervention
- Attachments are included in XML format
- Security/encryption included
- Transaction integrity ensured from delivery through to acknowledgement
Who are we?

OFS Portal, a group of diverse suppliers working together* with a non-profit objective, providing standardised information to B2B trading partners to facilitate eCommerce in upstream products and services.

* In compliance with all Anti-Trust laws

We have a growing community who have all agreed to a mutually beneficial contractual framework for eBusiness transactions.

As a group we strongly support, promote and use PIDX standards.

The Petroleum Industry Data Exchange (PIDX), a non-profit API committee for Developing Electronic Business Standards. PIDX develop open and non-proprietary standards available to the public, for Products and Services, Secure Data Exchange, Transaction Documents and Business Processes.
Thank you