

Ian

	<b>Data</b>	<b>Technology</b>	<b>People</b>
<b>Past</b>			
<b>Present</b>			
<b>Future</b>			


Ian: This is just a summary of what we all know- there are three ghosts (Christmas Past, Present and Future) and in order to develop a successful enterprise you need the 3 arms of data, technology and people.

## Data Management Complexities and Challenges in Today's E&P Sphere

	Data	Technology	People
Past	Files	Custom Built	Two Tier
Present	Projects	Product	Three Tier
Future	Capability Maturity	Platform	Integrated

Ian: The presentation is going to go over the 9 sections identified, so if you don't understand any of the terms used here, stay tuned. And if you do understand them all, please don't snore too loudly


## Data Management Complexities and Challenges in Today's E&P Sphere

	Data		
Past	<ul style="list-style-type: none"><li>➤ Paper based<ul style="list-style-type: none"><li>➤ No integration</li><li>➤ Low volumes<ul style="list-style-type: none"><li>➤ Technical data</li><li>➤ Base data</li></ul></li></ul></li></ul>		

Wes: If we go far enough back everyone worked on paper- seismic velocities were picked on paper and then digitised back into the computer system. Well tops were picked on the paper log.

The downside to this is all too familiar to us all- there was no integration (in fact there was no multi tasking- if someone else had that particular log, then no-one else could work on it).

Data volumes were typically low- a few wells, a single seismic survey and some culture or basemap data

Data Management Complexities and Challenges in Today's E&P Sphere	
	Technology
<b>Past</b>	<ul style="list-style-type: none"> <li>▶ Custom Built               <ul style="list-style-type: none"> <li>▶ Specific Solution</li> <li>▶ No enabling leaps</li> <li>▶ Removed repetition</li> </ul> </li> </ul> 

Wes: The technology of the day was also very singularly task orientated. It did what it was supposed to do. To use log analysis as an example, a technician had to digitize a series of logs in the intervals that were of interest, validate them using the overlay method and then finally analyze them. If an earth scientist wanted to add this information to seismic data or production history, well good luck to you. It meant transferring the results to another system, using another terminology set, etc. No leaping here, too much hard work. It did remove some repetition, but most likely, it just shifted it.

## Data Management Complexities and Challenges in Today's E&P Sphere

			<b>People</b>
<b>Past</b>	<ul style="list-style-type: none"> <li>▶ Two tier               <ul style="list-style-type: none"> <li>▶ IT</li> <li>▶ Business Unit</li> </ul> </li> </ul>		


Wes: Two departments;

IT which supported the company but implementing and maintaining off-the-shelf products such as MS Office, Novell networking, etc.

BU started to hire their own staff; technical people with a computing bent. They had the tasks of supporting science specific applications and trying to integrate data.


Really just a data transfer job.

## Data Management Complexities and Challenges in Today's E&P Sphere

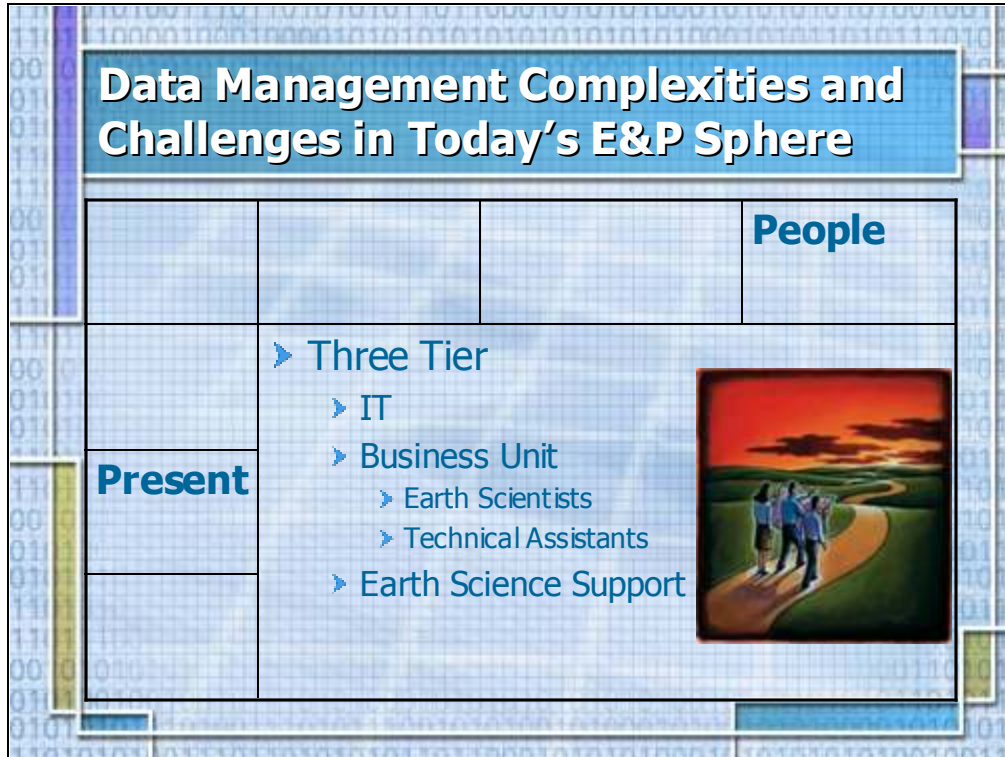
	<b>Data</b>		
<b>Present</b>	<ul style="list-style-type: none"> <li>▶ Projects               <ul style="list-style-type: none"> <li>▶ OpenWorks</li> <li>▶ SeisWorks</li> <li>▶ Template driven</li> </ul> </li> </ul>		

Wes: Well what do we have today. Have we improved? Yes, we have. We have the ability to work with an integrated application model. Such as OW or SW. These have been designed to integrated different technologies such as wells, seismic, production, logs into a single cohesive platform. In essence you are given a 'blank sheet of paper to work with in a book'.

But this blank sheet of paper has a template. It starts you off with a 'seed' system. This seeded OW database contains a bunch of reference data that have been provided to you by LGC.

Data Management Complexities and Challenges in Today's E&P Sphere			
		<b>Technology</b>	
	<ul style="list-style-type: none"> <li>▶ Product</li> <li>▶ Go see other presentations...</li> </ul>		
<b>Present</b>			

Wes: We are now implementing products or applications such as PowerExplorer or PowerModel that have full blown life cycles of their own. These are tied into the data (model) as we have seen in the previous slide and have their own support structures that are needed. These applications are finally starting to be enablers for people. They are allowing the user to start to think/work out side of the box. To start to pull together 'abstract' thoughts and make a cohesive knowledgeable answer from it.



Wes: IT provides technology and tools. Responds to BU. Has no budget

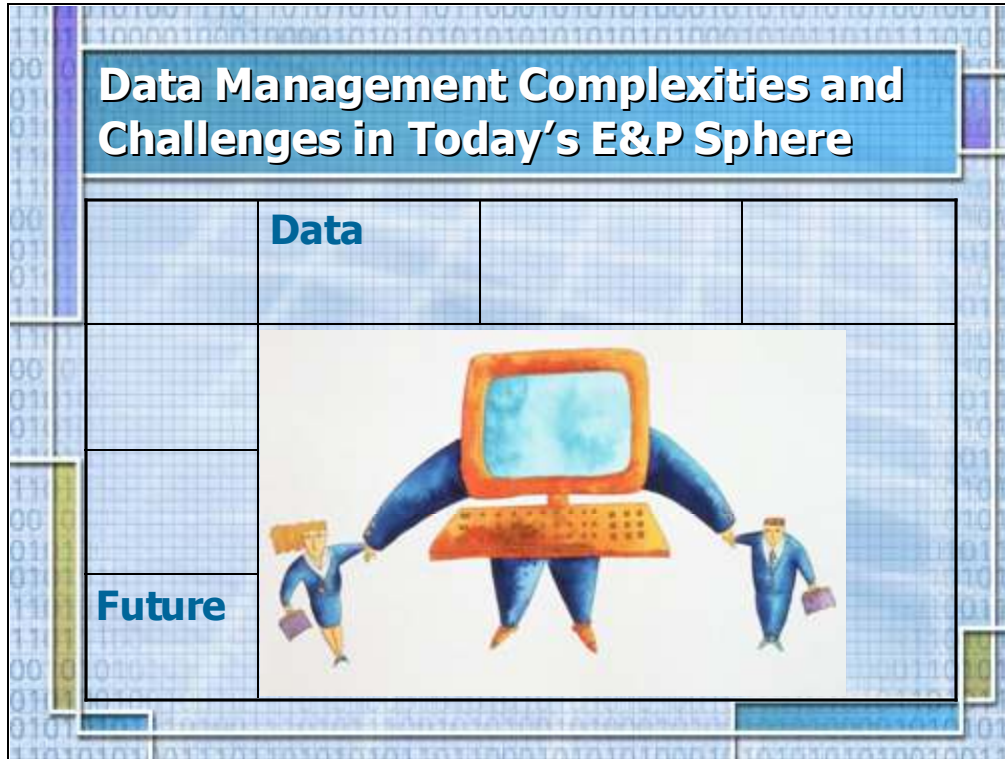
Business Unit continues to try to find oil

Earth Science Support straddles the two worlds- trying to make the technology provided by IT meet the business requirements of the business. Setting guidelines (corporate data models, infrastructure application environment etc)

Earth scientists → Multiple degrees

Technicians → Technical background, little formal training

Earth science support → Single degree



Ian: Is this Big Brother?

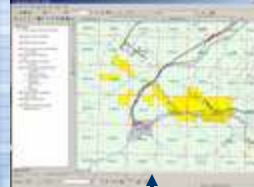
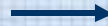
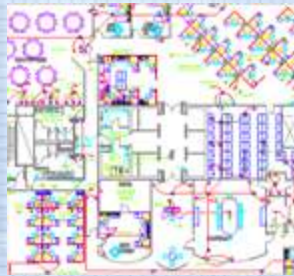
I don't think so, just a system that can help us.

The world is changing.. I can feel it in the water: Changing from an appearance driven world to a data driven world

## Data Management Complexities and Challenges in Today's E&P Sphere

### ► Future Data Management

- Complexity increasing
- Data driven paradigm



Ian: Need to manage data better  
Resources reduced  
Turn around time decreasing  
How do we achieve all this?  
Adopt existing solution

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Capability Maturity
  - ▶ Developed at Carnegie-Mellon
  - ▶ Used for software development
  - ▶ Modified for data levels
    - ▶ Initial
    - ▶ Repeatable
    - ▶ Defined

lan:

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Data Maturity
  - ▶ Initial
    - ▶ No strict rules or procedures
  - ▶ Repeatable
    - ▶ Some data management standards
  - ▶ Defined
    - ▶ Corporate wide scope

lan: Initial

No strict rules or procedures

Extremely limited scope

Extremely limited lifetime

Never be used to make business decisions

Little or no explicit metadata

Easy to recreate

Repeatable

Project or business unit wide scope

Lasts for a considerable time

May be used to make business decisions.

Sufficient explicit metadata associated

Some data management documentation

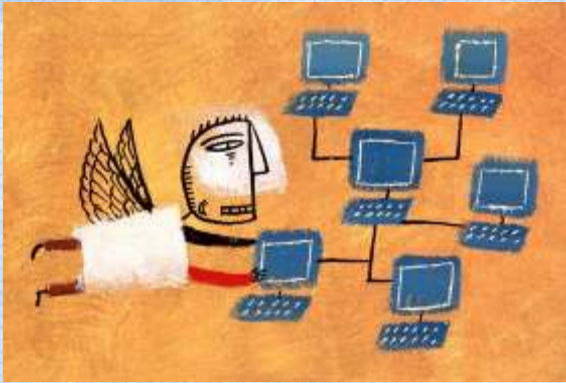
Corporate wide scope

Retained according to corporate retention schedules

Will be used to make business decisions

Complete metadata

Complete data management procedures

<b>Data Management Complexities and Challenges in Today's E&amp;P Sphere</b>	
	<b>Technology</b>
	
<b>Future</b>	

Wes: Our little angel, technology?

Is it going to come in and tie all of our systems together ??

We will see.

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Platform
  - ▶ Enables knowledge driven work
  - ▶ Solves business problems with
    - ▶ Defined workflow processes
    - ▶ Collections of technologies

Wes: What is a platform?

We know what a product is, right?

A product's something you put onto the machine and then run with, such as MS Office or games.

A product is something that you are taught how to use;

A platform is quite different, because it's a collection of technologies that allows you to build the solution you need for your workflow.

A platform is something that is enabled to do the work on behalf of the user.

You don't follow the norm, you take a leap to get a job done, better/faster/easier.

You start to tie together seemingly disparate processes into a something more.

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Platform example
  - ▶ OpenWorks seed/ template database
    - ▶ LGC reference codes →
    - ▶ Your reference codes
  - ▶ Adopt a maturity model
    - ▶ Repeatable
  - ▶ Implement a platform
    - ▶ Will deliver value to business

Wes: Our platform example is the OpenWorks seed or template database. Comes with LGC defined reference codes. That great. But is it what my company wants? Uses?


No, it's not. Well, do you have to go and change it for every new OW project you create? Why?

Why not make these changes once? Make them in the 'seed' database. Does this sound familiar? It should be. You have just implemented a 'Capability Maturity' model; the repeatable or level two one that Ian talked about. And you are doing it with/in a platform not a product.

You are no longer working with a blank sheet of paper, you have just added value to your business.

Just remember not to overwrite your seed database when you upgrade OW.

## Data Management Complexities and Challenges in Today's E&P Sphere

			<b>People</b>
			
<b>Future</b>			

Ian: What does the future hold for us?

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Integrated
  - ▶ Skills applied at pain point
    - ▶ Data technician in BU
  - ▶ Built on support platform
    - ▶ IT supply technology
      - ▶ Oracle
      - ▶ Access
    - ▶ ESS supply data models
      - ▶ OpenWorks
      - ▶ PPDM

Ian: This does actually mean using consultants. Either from Landmark or independent.

Is this in the company's core competency? Making additional value inherent in company is critical. Not being provided by service companies providing product support- need to get people supporting platform

## Data Management Complexities and Challenges in Today's E&P Sphere

- ▶ Summary
  - ▶ Data: Adopt maturity
  - ▶ Technology: Enable platform
  - ▶ People: Apply skills
- ▶ Contact:
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  - ▶ Wes: [wes@datamatters.com](mailto:wes@datamatters.com)



Ian: Organisational structure

You can do this within your existing structure Not going to change

Modify skills within structure

## Data Management Complexities and Challenges in Today's E&P Sphere