Easy Data Exchange Using Paradigm’s Epos Connector Plug-In for Petrel

Peter Wang
Technical Sales Advisor
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• Petrel and GeoFrame are marks of Schlumberger
• “Gullfaks” public training dataset provided by Schlumberger
• OpenWorks is a mark of Halliburton
The Paradigm

Software Stack

- GEODEPTH
- SEISEARTH
- STRATIMAGIC
- VOXELGEO
- SKUA-GOCAD
- GEOLOG
- SYSDRILL

3rd Party Data Servers: GeoFrame, OpenWorks
The case of retail clustering

Why Do Certain Retail Stores Cluster Together?

Ever notice how competitors like Target and Walmart tend to cluster together? Ken Steif has, and through a close analysis of retail location trends in NY, NJ, and CT, he examines which businesses tend to agglomerate and why.

October 24, 2013, 4pm PDT | Ken Steif

www.planetizen.com
Neighboring E&P software settlements
Customer preferences

• 2015 Kimberlite worldwide G&G software market survey - majority of E&Ps prefer to buy best-in-class products, not sole source

• Connected parking lots increase customer choice and enhance economic value for all parties
Technical Topics

1. Paradigm investments in Energistics standards
2. Supported data types
3. Epos Data Management system to/from Petrel
4. Paradigm standalone apps to/from Petrel
5. Other ecosystems
6. Future developments
7. Where to get the plug-ins, cost
8. Demo of Petrel connectors
9. Q&A (Stuart Lowery)
Paradigm investments in open standards

- Leadership role in Energistics RESQML consortium
- RESQML™: industry initiative, provide open, non-proprietary data exchange standards for reservoir characterization, earth and reservoir models
- Paradigm data model integration based on RESQML
- Paradigm develops **Paradigm Petrel connector** to facilitate cross-vendor file-based data exchange
RESQML data moved by

- Well data
  - Well header, borehole path
  - Well logs – continuous, discrete, comment logs
  - Checkshots
  - Formation tops
- Single-value seismic interpretation horizons
- Triangulated meshes – salt bags, geobodies
- Fault sticks

- Surfaces (2D grids) – structure and attributes
- Seismic stacks 2D and 3D
- 3D grids (pillar grids) – grids aligned with faults, stairstep grids, hybrid configurations, continuous and discrete properties (Petrel to RESQML to SKUA)
- Boundary polygons
- More coming in future...
Petrel to/from Epos

Paradigm Exporter
Paradigm Importer

RESQML exchange format

Epos

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Standalone data types

- Well header
- Directional survey
- Final log curves
- Formation tops
- Checkshots
- Calculated time
- Facies maps
- Facies volumes
Petrel to/from Geolog (standalone)

Petrel directly transfers to/from Geolog data store. Geolog and Petrel on same Windows computer.
Petrel to/from Stratimagic (standalone)
Petrel to/from SKUA-GOCAD (standalone)

- Pathway for pillar grid model (3D grid)
Planned for Paradigm 2016

Paradigm Exporter
Paradigm Importer

RESQML or Energistics Transfer Protocol (ETP)

Epos
Other ecosystems

• Epos to OpenWorks, GeoFrame via ULA, GLDBWell client-server architecture

• Other apps via industry formats and protocols
  – RESQML, WITSML, LAS, SEG-Y, JavaSeis, ECLIPSE®, VIP, CMG, Stars, Gems, Rescue, ESRI®, Petris Recall™, ASCII

• Through our software development kits

• Paradigm custom development projects
Petrel to/from Epos

ULA, GLDBWell client-server architecture enables “file free” data transfer

RESQML exchange format

Paradigm Exporter
Paradigm Importer

OpenWorks

Epos
Alternate RESQML missions

- Paradigm Exporter
- Paradigm Importer

- RESQML exchange format
- Proprietary
- Vendor neutral
- Exchange with partners

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**Easy MSI installer**

Zero-cost license for Epos clients

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- Epos Connector for Petrel 2014
  - 4920 KB
- Epos Connector for Petrel 2015
  - 4920 KB
Installer information (Petrel-Geolog)

- Installers can be found in the Geolog applications folder
- Petrel 2014 or 2015 installation required before installing plug-ins
- Plug-in installers Petrel version specific
Conclusions

- Good connections between ecosystems add economic value to customers (Home Depot, Lowes shared parking lot)
- Good connections made possible by open industry standards – Energistics
- Petrel, GeoFrame, OpenWorks, any other RESQML users
- SDK, custom development
Parting questions

1. How could you use the RESQML industry standard to store or exchange data?
2. Do you have gaps in your geoscience capabilities that could be filled by connecting your software ecosystems?
“If you had a bridge, where would you go?”

Thank you