

What is RESQML?

RESQML is the data exchange format for transferring earth model data between applications in a vendor-neutral, open and simple format.

A goal for the RESQML model is to provide a structural & stratigraphic framework comprised of horizons and faults, geobodies, fractures, fluid contacts, unconformity surfaces, and the chronological relationships between them, in time and depth.

The RESQML model may also contain multiple cellular grids associated with an earth model and with the well data, including both static and dynamic data. It provides shared data standards between static geocellular and dynamic simulation models, and it supports unlimited numbers of multi-million cells and grids.

Future Developments

A goal of the RESQML format is to record the evolution of the knowledge and understanding of a reservoir during the complete life of a field. Capture of workflows and processes will also support major use of multi-scenarios and geostatistics.

Beyond a valuable audit trail, individual snapshots will allow better sharing of information among partners and with authorities, for full synergy of all expertise needed in today's complex fields.

The RESQML neutral format enables long-term preservation of individual interpretations for future reference and integration, such as description of basin- or seismic-scale models including palinspastic restoration capabilities, sensitivities of velocity field, and more.

Plans also include extending reservoir engineering support for streamlines and simulation data decks.

Use of RESQML

RESQML is used within the E&P community to interconnect a variety of software applications. A multi-vendor demonstration, including an operator's in-house application, has proven its capability to ease iterative workflows, from seismic interpretation to flow simulation grids.

Supported Data Types: Version 1.1

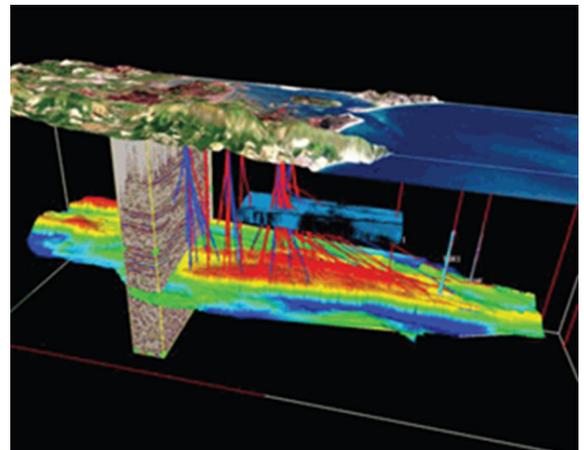
- Horizon geometry and properties
- Fault geometry and properties
- Blocked wells
- 3D grid geometry
- Static and dynamic cell and face properties, local grid refinement, and non-standard adjacency

Enhancements: Version 2

- **Combinations of unstructured and structured grids**, for geologic, flow simulation, discrete fracture and finite element geomechanical applications.
- **Framework concept**: structural, stratigraphic, and reservoir subsets are "detachable" yet consistent with the global earth model.
- Ability to **exchange fragments of a model** or complete models using a standards-based packaging index.
- Use of **WITSML**-originated data, such as formation markers, both from WITSML and interpreted, and some production data (completion, fluid flow, DTS, etc.)

Benefits of RESQML

- Improved grid capabilities to support unlimited numbers of multi-million cells in a model and provisioning for unstructured grids.
- Merged access, usage, and visualization of well (WITSML), earth model/reservoir (RESQML), and production (PRODML) data at all stages of field appraisal and production.
- Georeferencing and easy transfers to GIS-aware databases.



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