Integration Philosophy
Disciplines Workflows

What is the goal?
To create a unified, blended understanding of the reservoir in order to realize its maximum economic potential for the client

What is our approach?
- We develop close interactions between different disciplines, data types and concepts
- We pay close attention to details, and do not limit integration to a collection of software applications used sequentially

iReservoir's integrated technology

- Commercial applications
  - Petrophysics
  - Geologic data base, correlation, and mapping; statistical analysis
  - Seismic interpretation, AVO, and inversion
  - Geomodeling
  - Reservoir simulation
- In-house scripts based on commercial applications
- Proprietary software to complement commercial applications
  - Nonlinear petrophysical modeling
  - Probabilistic seismic attribute analysis
- Applications/workflows developed "on the fly" jointly with the client to adapt/solve specific project need

What makes iReservoir's integration different?

- Specializes in the core disciplines needed to perform most reservoir integrated studies: geology, petrophysics, geophysics, geomodeling, and reservoir engineering
- Specializes in non-sequential integration of knowledge, data and software designed to enhance value
- Uses conventional commercial software, as well as proprietary applications tailored to solve specific problems of the client
- Emphasizes feasibility, quality control and calibration of results with hard data
- Focuses on providing solutions for the reservoir rather than simply applying technologies

Petrophysics Workflow

Project Question	Workflow Task
What is available?	Database review
Is data usable?	Quality control
Are logs consistent?	Log normalization
Conventional Analysis vs. Model	Petrophysical analysis
What is the net pay?	Net Pay Identification
Does it matter?	Facies-Units or Flow-Units
Additional engineering needs?	BVW, contacts, Phi-K
What does the seismic tell us?	Rock physics/Petrophysics relations

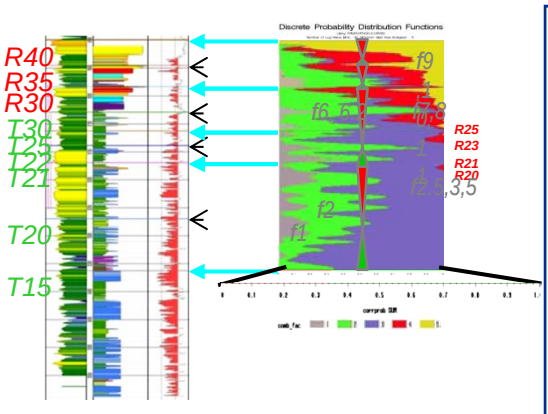


Figure: Carbonate case study: San Andres Formation, Seminole Field

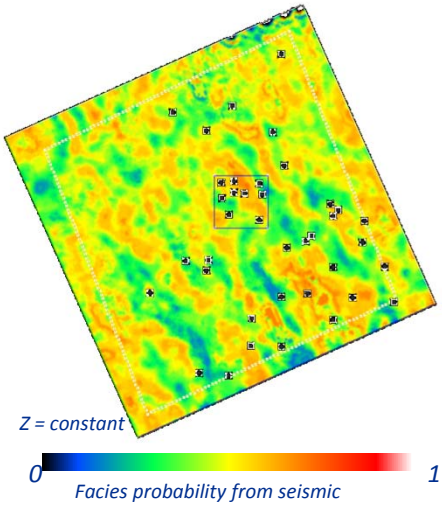
Geology Workflow

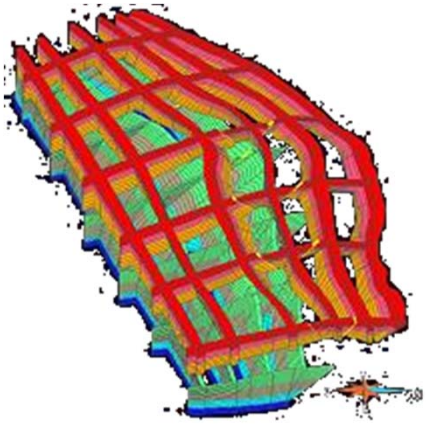
Project Question	Workflow Task
What is available?	Database review
Are data/tops usable?	Quality control
Stealing faults and vertical barriers?	Validation with dynamic data
Structural and fault maps?	Seismic/log interpretation
Hierarchy of Surfaces established?	1-D Stratigraphic & facies analysis
Flow units, barriers, and baffles?	2-D correlation & facies analysis
Facies ready for geomodel?	Facies proportion curves
Aspect ratios and directionality?	Depositional model

Disciplines Workflows (cont.)

Geophysics Workflow

Project Question	Workflow Task
Pre-stack, post-stack data	Data review
Is it ready to use	Quality control
What minerals and fluids?	Petrophysical analysis
What does seismic tell us?	Rock physics checks
Faults and horizons?	Structural Interpretation
Rock types, facies, faults?	Attribute extraction
Do we need to integrate in depth?	Depth conversion
Can it help to distribute properties?	Constrain geomodeling



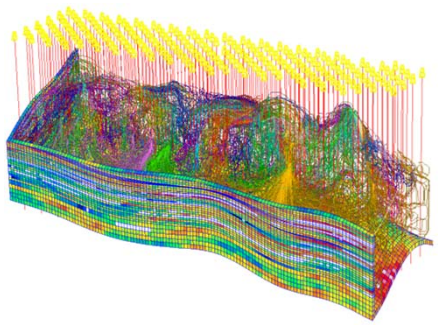


Geomodeling Workflow

Project Question	Workflow Task
What is available?	Database review
Are data/tops consistent?	Horizon/faults surfaces generation
What is required model resolution?	3D stratigraphic grid construction
Depositional environment variables?	Spatial statistics analysis
Are faceis proportions available?	Facies distribution
Seismic-log calibration available?	Distribution of seis/petro relationships
Porosity and permeability relationship?	Permeability distribution
Net pay cutoff?	Net-to-gross estimation
Reservoir simulation grid requirements?	Reservoir grid upscaling

Engineering Workflow (simulation emphasis)

Project Question	Workflow Task
Fluid types?	PVT fluid models for simulation
SCAL data (by Facies)?	Kr, Pc, compaction behavior
Wells test (PTT, tracer, RFT, PLT)?	Calibration for geomodel,/ simulation
Well completions, rates & pressures?	Analyze, QC, preparation for simulation
Fluid contacts, initial saturation?	Initial conditions, QC with logs
Effective Kv, faults sealing?	Test impact on simulations
Aquifer size and strength?	Test impacts on simulations
History Match?	Match dynamic data
Forecasts (uncertainty, optimization)	Simulation sensitivities, economics



1490 W. Canal Ct. Littleton, CO 80120 Ph: 303-713-1112