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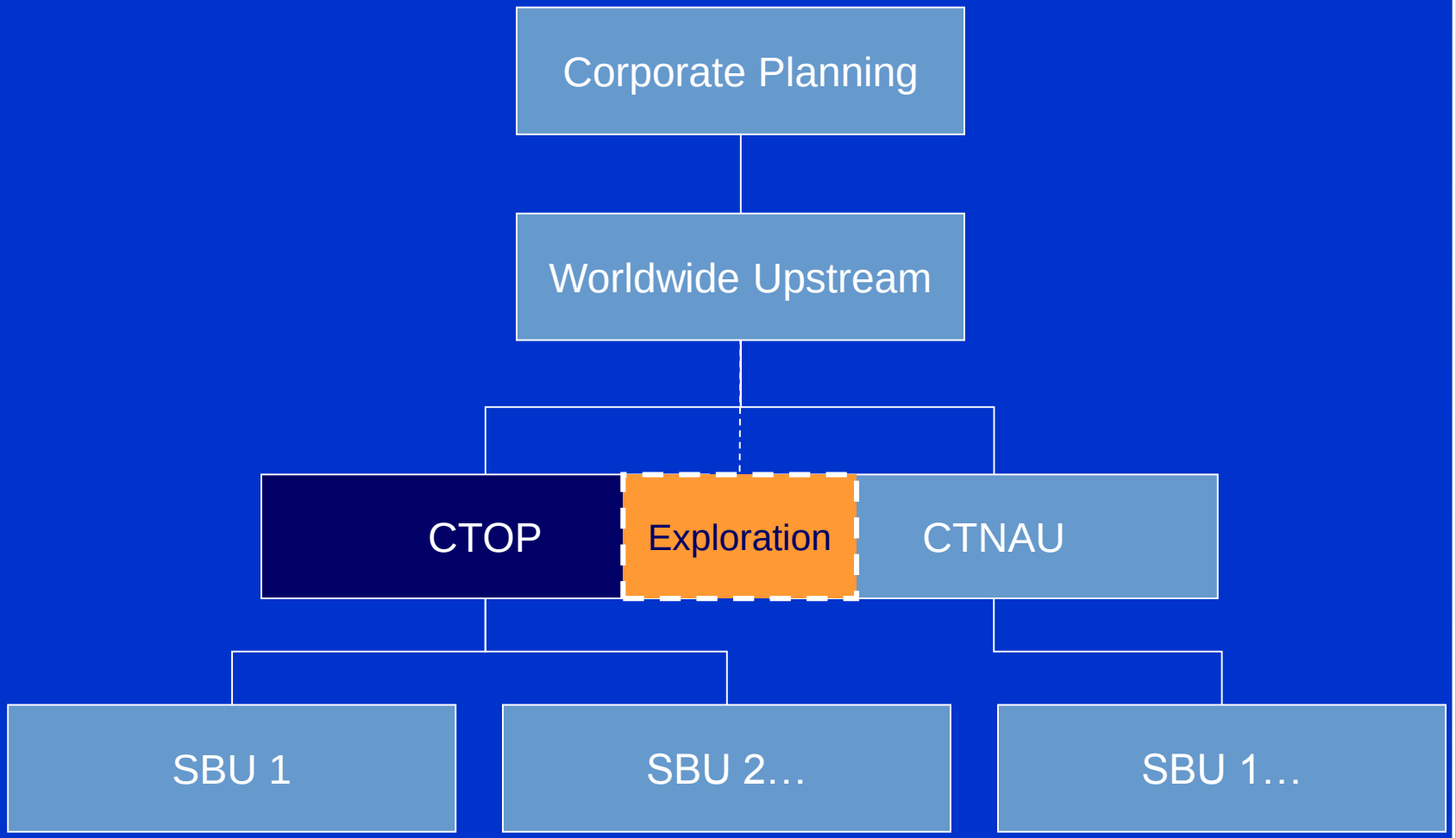
Development of a Portfolio Process at ChevronTexaco Overseas Petroleum (CTOP)

❖ Tony Kenck

Organizational Structure



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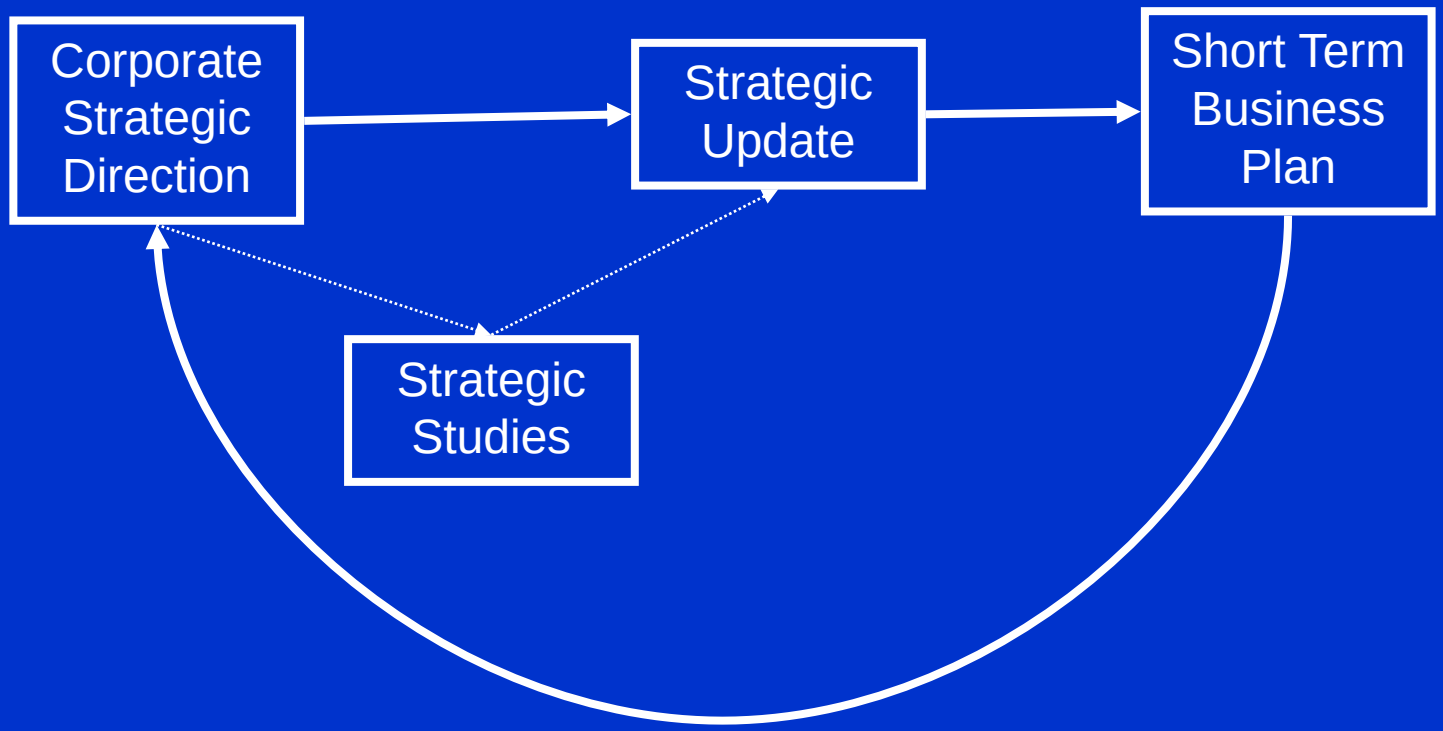
Current Planning Process



…but where does portfolio fit?

Long Term Planning at ChevronTexaco Has Changed

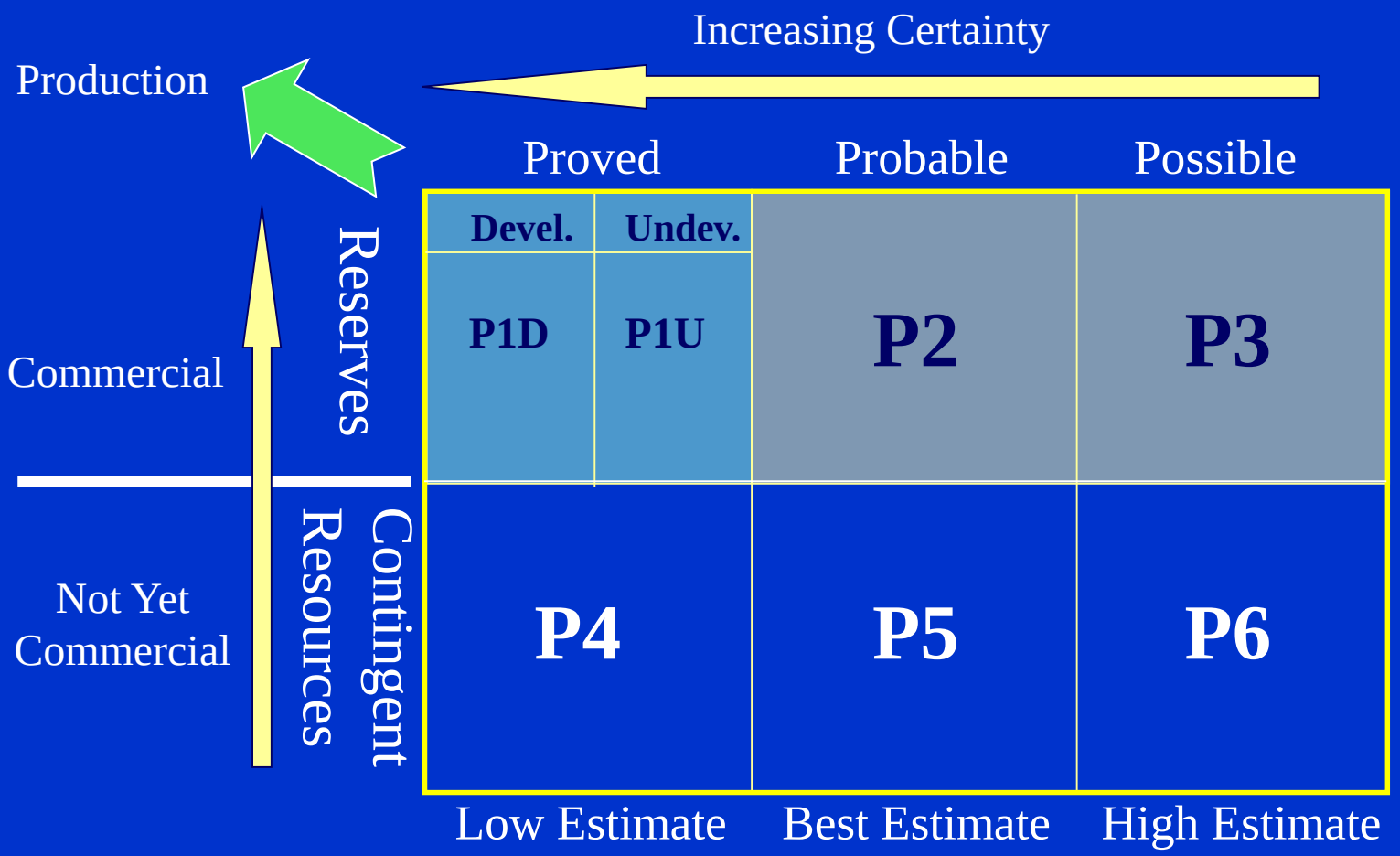
- Previously
  - 10 year “short term” plan
  - No explicit tie to reserves or resource
  - Near term accountability (reconciliation)
  - Limited ability to understand full implications of strategic decisions
- Two recent changes
  - 6P resource system and Resource Development Process
  - Portfolio analysis perspective

Capital Allocation Happens Through Two Separate Processes

- Large Projects are approved using a Capital Project Decision Analysis process known as ChevronTexaco Project Development and Evaluation Process (CPDEP) (75%)
- Yearly capital allocations (Small projects, SBU discretion) are made through the business planning (budgeting) process (25%).

Implication: Once the large project decision is made, yearly allocations are relatively inflexible

ChevronTexaco 6P Reserves/Resource Categories



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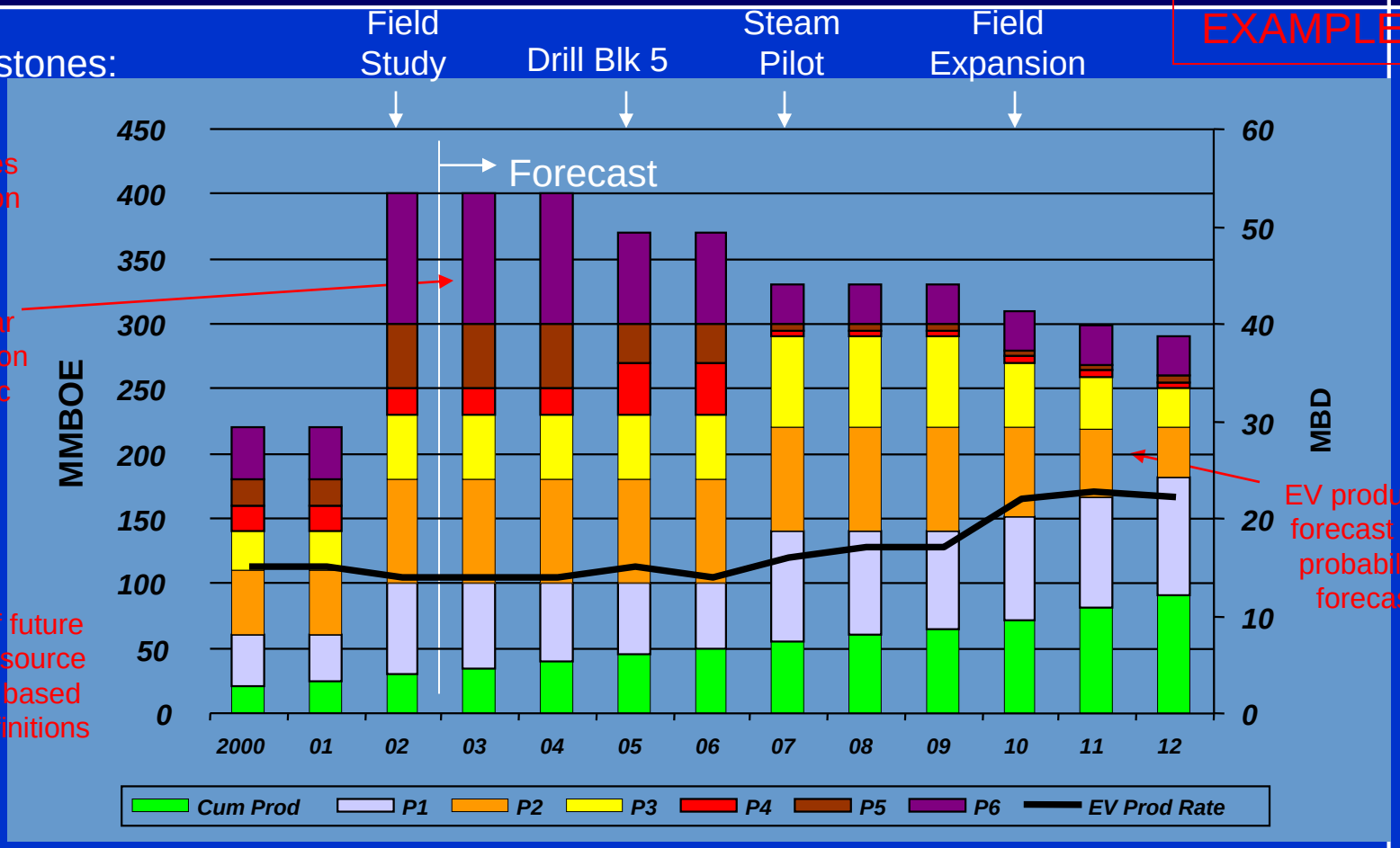
Linking Resource to Finances: Why Resource-Based Planning?

- Assumption: An upstream company's future is driven by its management of its inventory of hydrocarbon assets and opportunities—both owned and unowned
- Ensure all resources (opportunities) are being worked
- It places assets and alternatives into consistent investment types, decision types and risk profiles
- It allows for separation of opportunity classes to help balance the mix of investments and the flow of projects
- CVX has a framework—the 6P reserves system—to combine financial and resource planning

Tie work plan, production, and reserves

EXAMPLE



Forecast of reserves movement does not need to be precise, but needs to be consistent with milestones, production forecast, and reserve definitions. See next slide for how definitions shape forecast.

This plot can be compared year-on-year to track performance.

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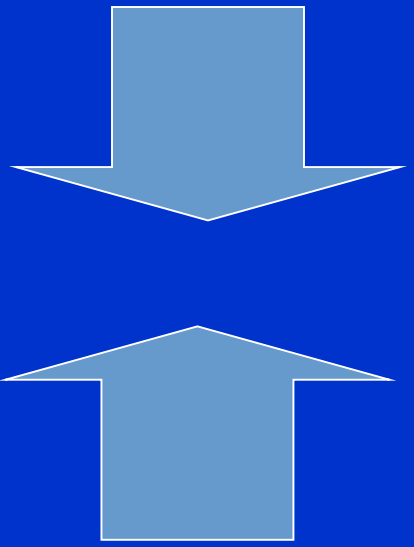
Portfolio – Two Approaches to Analyses

Top Down Portfolio Analysis



Bottom Up Portfolio Analysis

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Portfolio – Bottom Up Is A Rollup Approach

- Includes good inventory of actual assets
- Incorporates actual options around the assets
- Seeks the best answer within your known universe
- Includes constraints
- Data integrity is important

Looking for the best answer given the constraints—both real and perceived—of the corporation. Rich set of options to attempt to match expectations.

Portfolio – Top Down Seeks the Drivers of Corporate Performance

- Starts with a good inventory of actual assets
- Constraints and goals initially removed
- Narrows to a more realistically constrained case (running the funnel)
- Use realistic placeholders (surrogates) to analyze and understand what it would take to achieve desired performance (working the performance gap)
- Data integrity is less important

Performance modeling approach to understand the characteristics that drive desired performance.

Portfolio – The Two Approaches Meet at "The Gap"

Top Down Portfolio Analysis

- Drivers – Placeholders and cross-opco
- Goals
- Performance Modeling

Facilitated Executive Meeting

The Gap

Portfolio Management

- Givens
- Large inventory of doable alternatives
- Reality

Data Standards And Collection

Bottom Up Portfolio Analysis

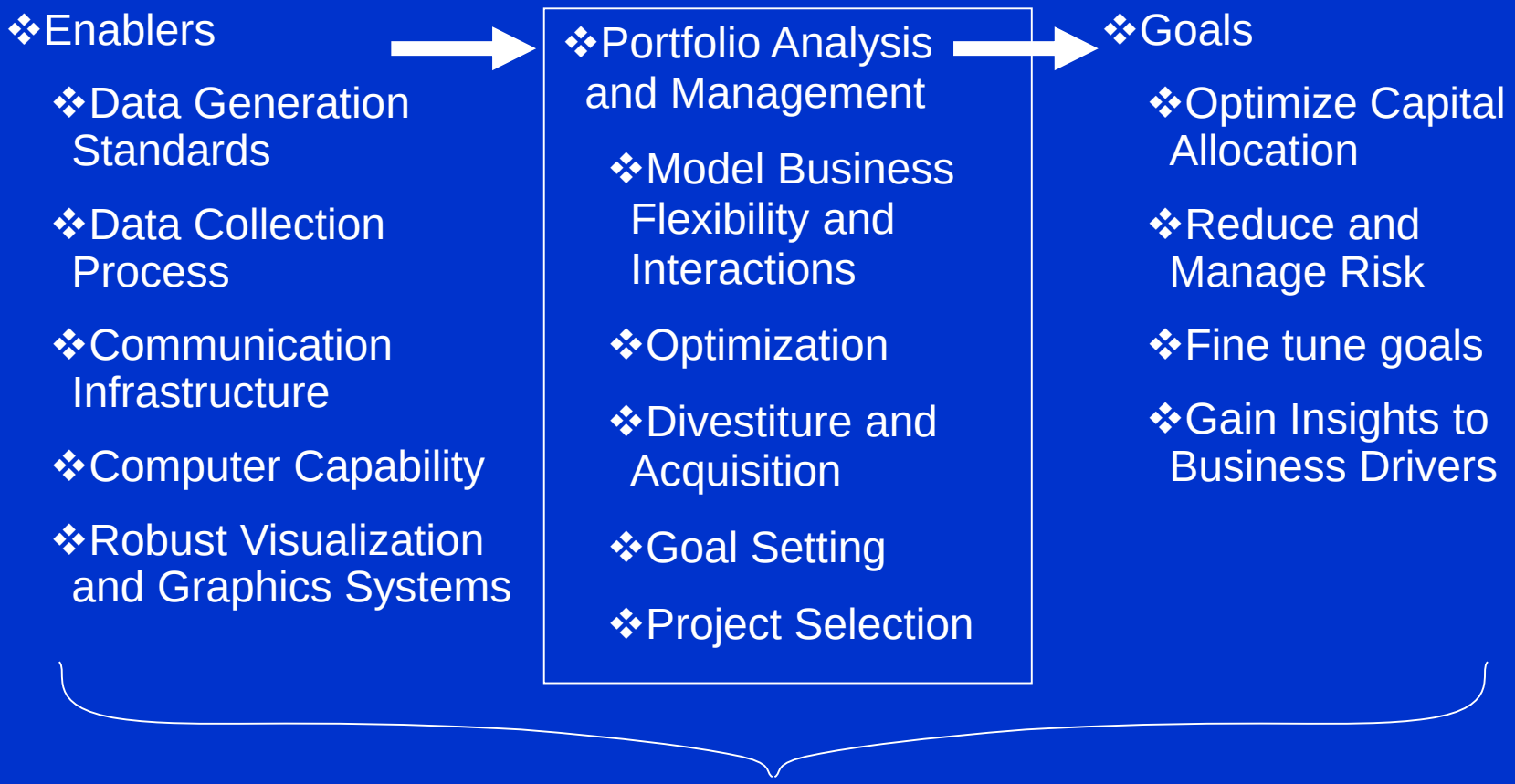
Portfolio – Implications of Dual Approach

- Portfolio **Analysis**
  - Does not give “The Answer”
  - Top down analysis gives insights on constraints and needs
  - Bottom up analysis gives insights on the inventory of opportunities
- Portfolio **Management** is the process of recognizing constraints and gaps and making achievable decisions necessary to fill the gaps and to align expectations with reality.
- Even though the assets are probabilistic, the decisions are discrete. The final answer then is the set of choices made.

Portfolio – The Decisions

- Portfolio Actions—Divest, Acquire, or Trade
- Portfolio Actions—Decide Asset Roles
- Fix Constraints
  - Organizational change
  - Policy decisions
  - Build organizational capability as needed
- Determine and Communicate Early Phase Project Actions and Roles
  - Fill gaps
  - Decision criteria (not hurdle rates)
- Stretch Goals

Portfolio Management Drivers



Adapted from ***Apples to Apples: Making Best Use of Portfolio Management in E&P*** - CERA

Corporate Portfolio Vision

- Evergreen Portfolio
- Granularity at “Combination” Asset and Large Project level
- Full integration with Operating Companies
- Incorporate External Drivers (e.g. Political Risk, Prices)
- Incorporate M&A Opportunities and Divestments
- Able to model capital structure decisions
- Incorporate resource movement

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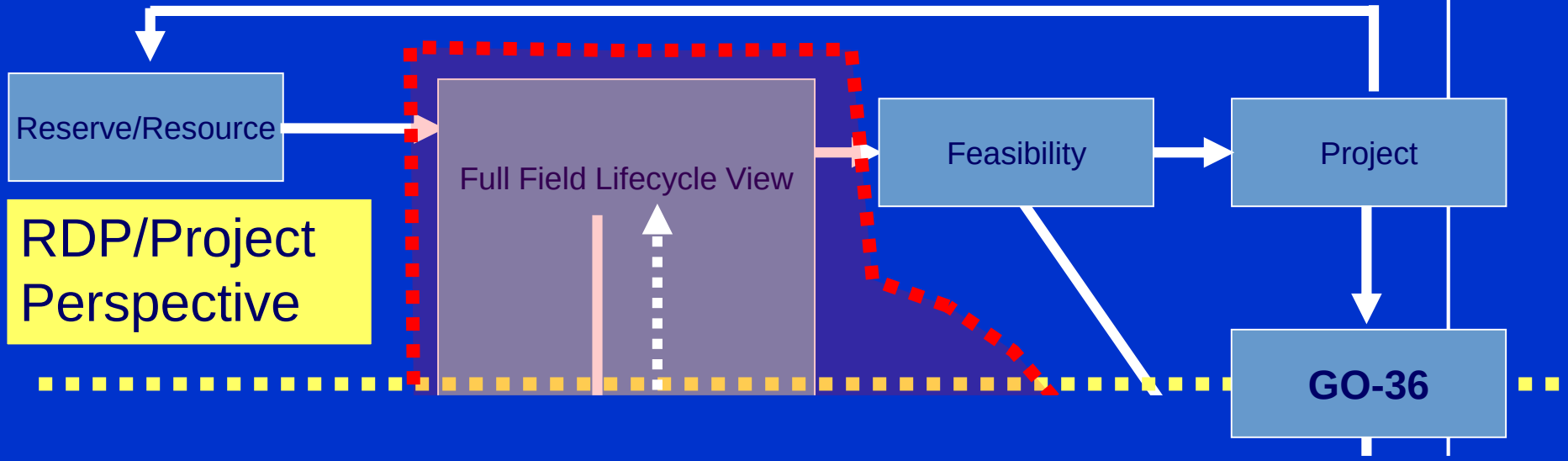
CTOP Portfolio Vision

- We can at any time understand our assets, their value to the corporation, and how to enhance their value
  - Provide feedback for large projects regarding portfolio fit and alternatives (75%)
  - Help give insights on appropriate roles of assets (25%)
  - Able to move assets in and out
  - Ability to adjust for sensitivity to price
  - Incorporate reserves and resource
  - Provide a quantitative understanding of significant opportunities
  - High quality data; full asset life
  - Rollup mechanics should be trivial
  - Good template and data management
  - Should have both risked and unrisked output

How Do Planning and Resource Development Process Work Together?



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Portfolio Analysis – Where Are We Going?

a. Individual projects

c. High grading by individual deterministic criteria

e. Portfolio interactions

b. Consolidation and listing of projects for planning purposes

d. High grading using probabilistic and risk analysis integration

Combined with global, regional, and local strategic analyses and direction

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Portfolio Analysis Roadmap
Achieving Project Frame in Stages

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Portfolio Tools

- Two techniques

Portfolio Tools

- Two techniques
  - Optimize Learn Iteration
  - Generate ‘em all, let team sort them out
- The techniques can be complementary

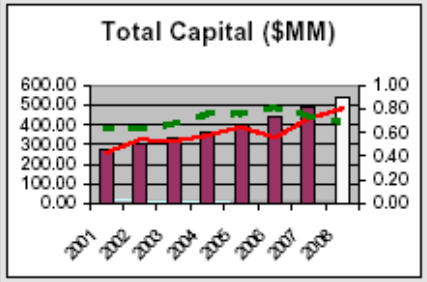
Optimize Learn Iteration - Perspectives™

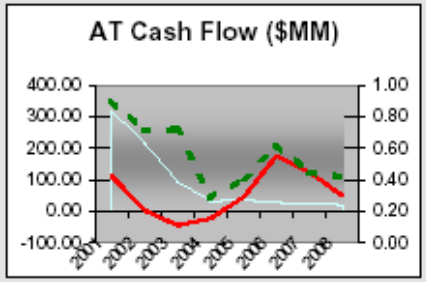
- Deterministic optimizer with probabilistic reporting
- Excel, What's Best, Crystal Ball
- Good tool for top down or bottom up
  - Pros:
    - Straightforward
    - Should capture optimal portfolios
  - Cons:
    - Dependent on good model (business rules, etc.) for bottom up
    - Black boxy
    - Hard constraints?
    - Strong facilitation important (running the funnel)

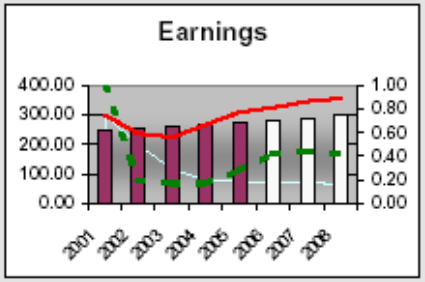
Incorporating Probabilities and Uncertainties

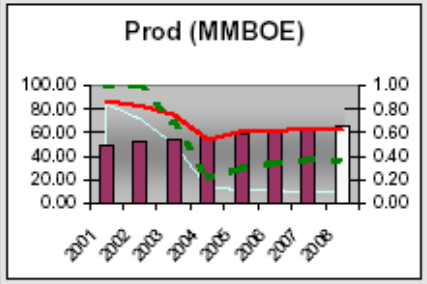
Initial Portfolio

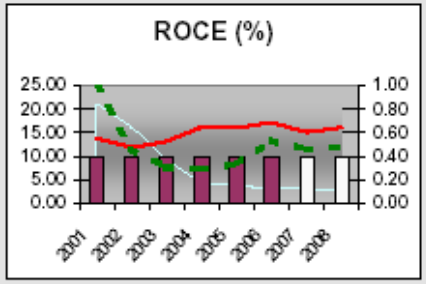
Probability of Achieving

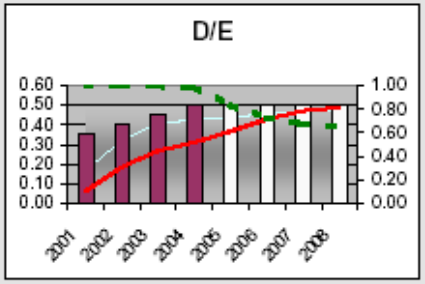












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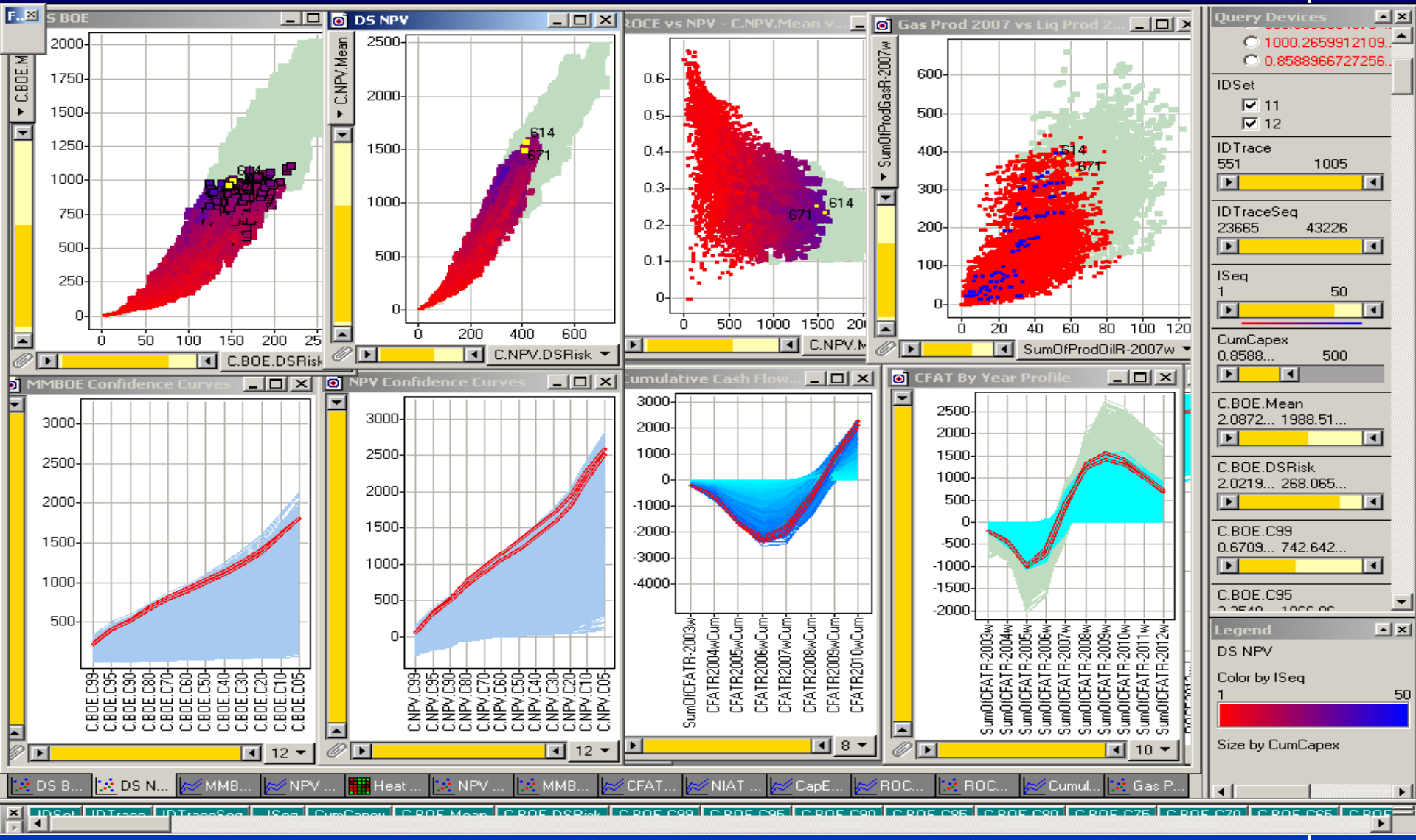
Generate them all – Blitzport™ and Spotfire™

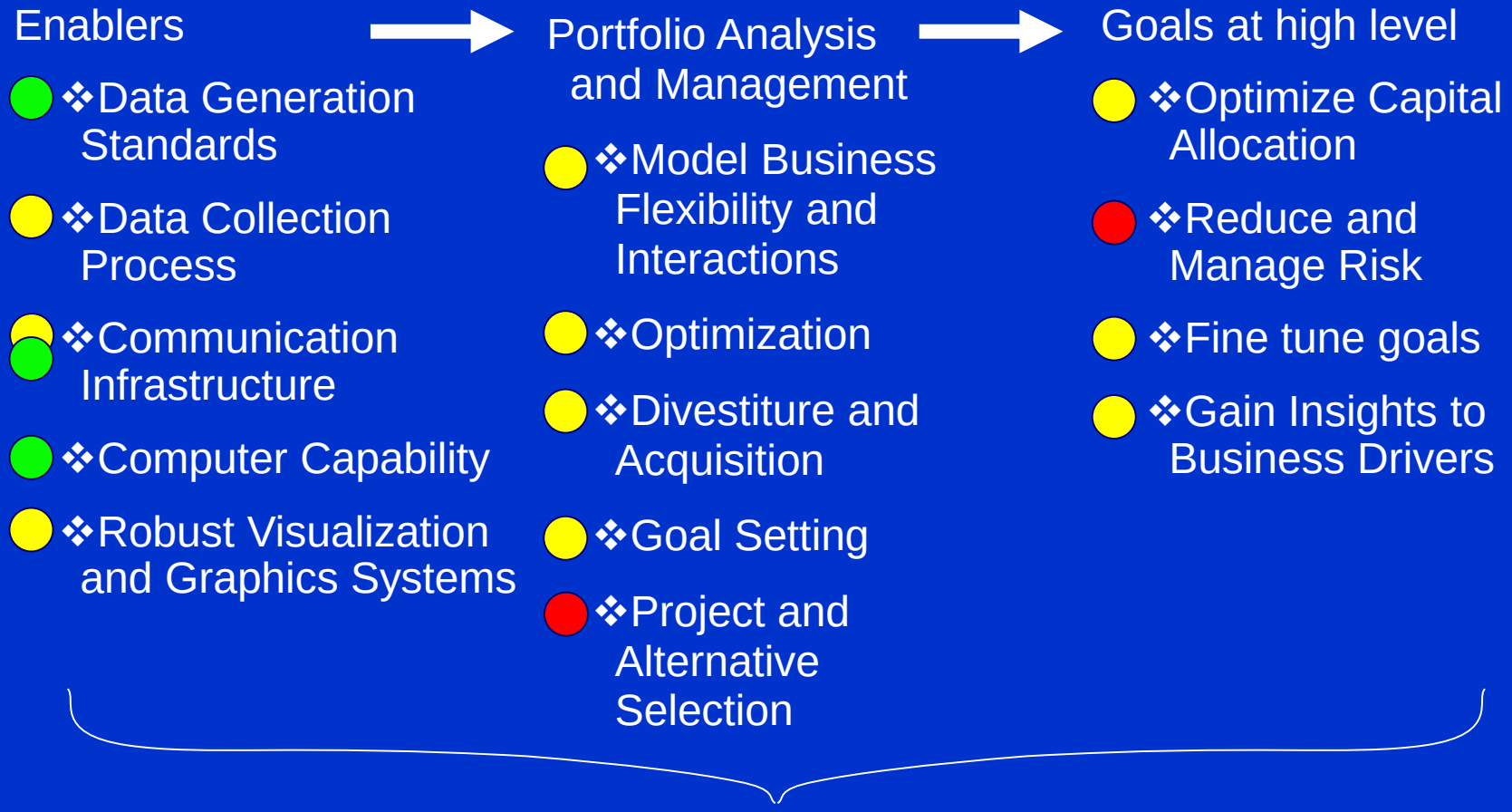
- Generate numerous portfolios based on heuristic guidelines and strategies, or other techniques (Blitzport, optimizer, etc.)
- Use a powerful tool to sort and separate (Spotfire DecisionSite)
  - Pros:
    - Interactive
    - Not sensitive to hard constraints
  - Cons:
    - Best with a good inventory of well-defined options
    - May miss the “optimal” portfolio
    - Suitability for top down?

Spotfire Panel



Spotfire Panel rom WiserWays Sample Data Set

Portfolio Management Drivers



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Acknowledgements

- ChevronTexaco
  - www.chevrontexaco.com
- John I. Howell III – Portfolio Decisions
  - www.portfoliodecisions.com
- Steve M. Rasey Ph. D. – WiserWays
  - www.wiserways.com