TruePlanning® by PRICE® Systems

Revolutionizing Cost Estimating with TruePlanning 2008

ISPA/SCEA
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Agenda

- **Introduction**
- **Project Management Challenge**
- **Making Good Trade-Offs**
- **Common Project Management Scenarios**
  - Unrealistic Schedule Expectations
  - Scope Changes
  - Resource Competition

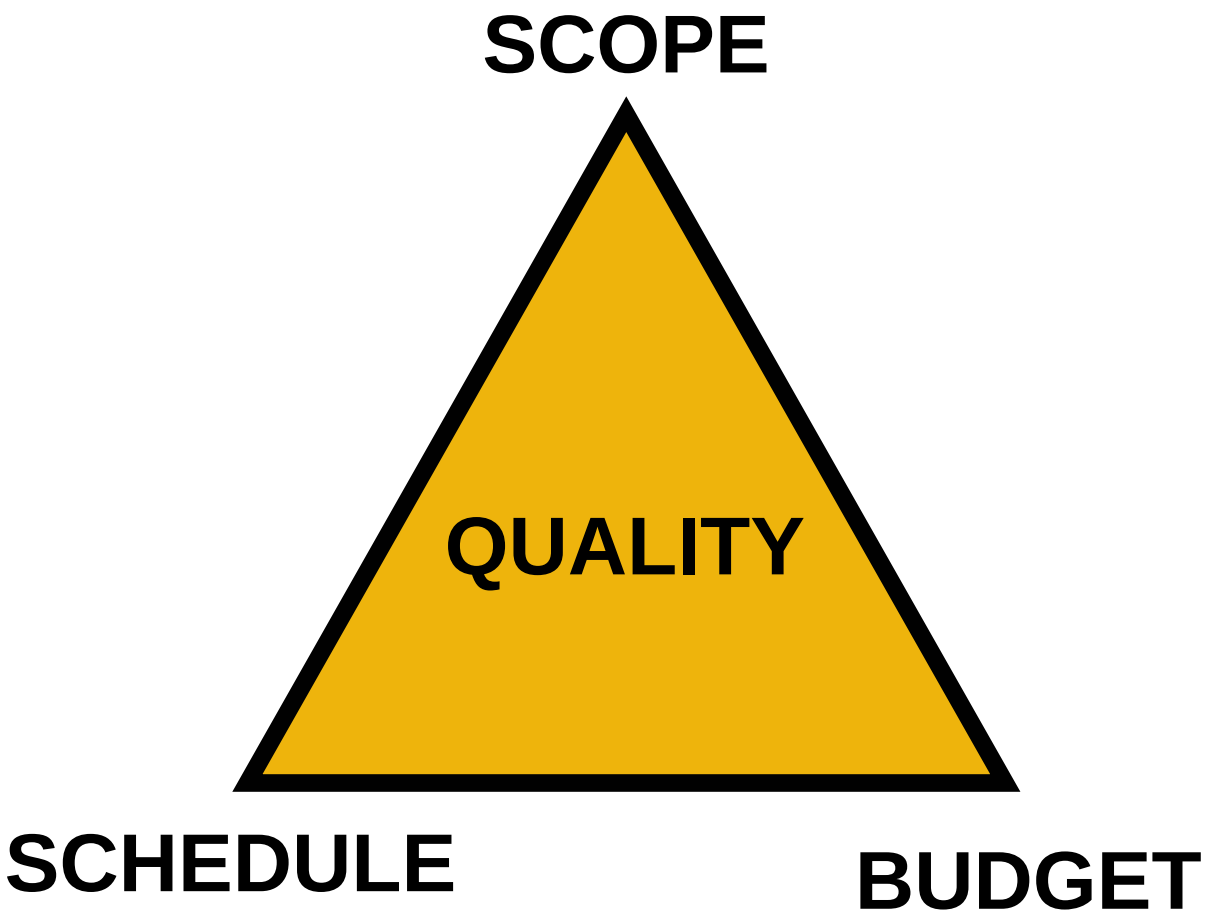
Introduction

- **Successful Project Planning Requires Good Estimating Practices**
  - Good estimating practices require thinking beyond prediction of cost, effort and schedule
- **All projects have constraints**
  - For successful execution, project managers need a mindset and toolset to facilitate to manage these constraints
  - Project Management Triangle – tool for visualization
  - Cost Estimator is Project Managers Biggest Ally in managing the Triangle

The Project Management Challenge

- **Constraints Exist in All Projects!**
  - Established at project inception
  - Change throughout the life of the project
  - Project Manager needs to understand impacts of these changes
  - Project Manger needs to communicate these impacts to decision makers
  - Confident decision making is supported with good toolset and mindset for analyzing and evaluating options

Project Management Triangle



Making Good Trade-Offs

- **Successful projects respect the triangle**
  - Projects that attempt to constrain projects along all three dimensions are likely to be unsuccessful
- **Scope**
  - Generally most important consideration in determining cost and schedule
  - Not always the most influential factor in setting schedule and budget
  - Scope needs to be quantified
  - Changes in scope need to be reevaluated in context of other constraints
    - Options, Trade-offs
    - Negotiations of features, cost or time

Making Good Trade-offs

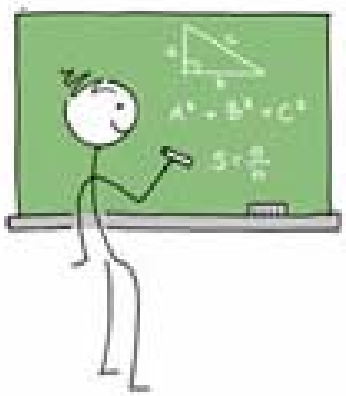
- **Budget**
  - Cost of project is function of scope, personnel, historical organizational knowledge
- **When Cost and Budget don't match….**
  - Scope reduction
  - Lower cost resources
  - Commercial off the shelf or other reuse
  - Outsourcing
  - Schedule extension

Making Good Trade-offs

- **Project Schedule**
  - Time to Market for project
  - Generally accepted that there is an optimal 'schedule' for a given project
- **When Mandated Schedule doesn't match analysis and organizational knowledge…..**
  - Reduce Scope
  - Compress schedule – cost increase non linear, eventually asymptotic
  - Overtime
  - Reuse

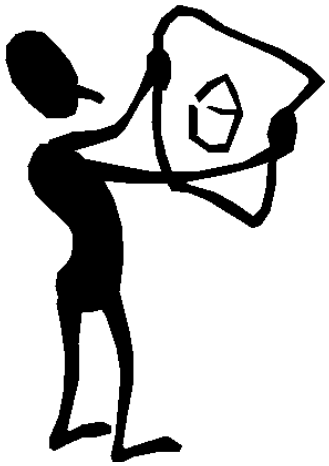
Common Project Management Scenarios

- **Unrealistic Schedule Expectations**



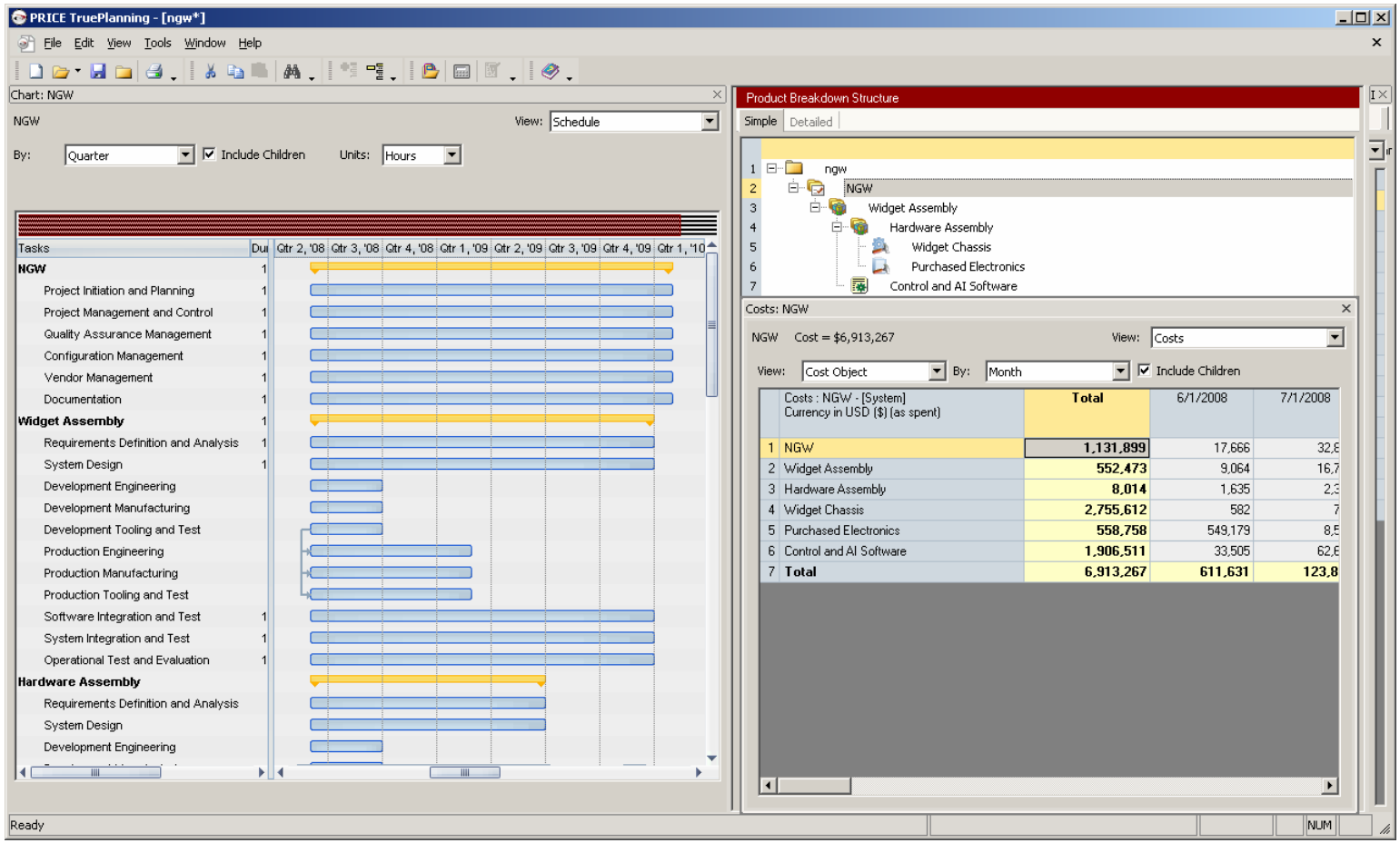
Jane
Cost Estimator

TimeLine June 2008
New Product : NGW
Launch Date July 1, 2009
Budget $7M



Dan
Project Manager

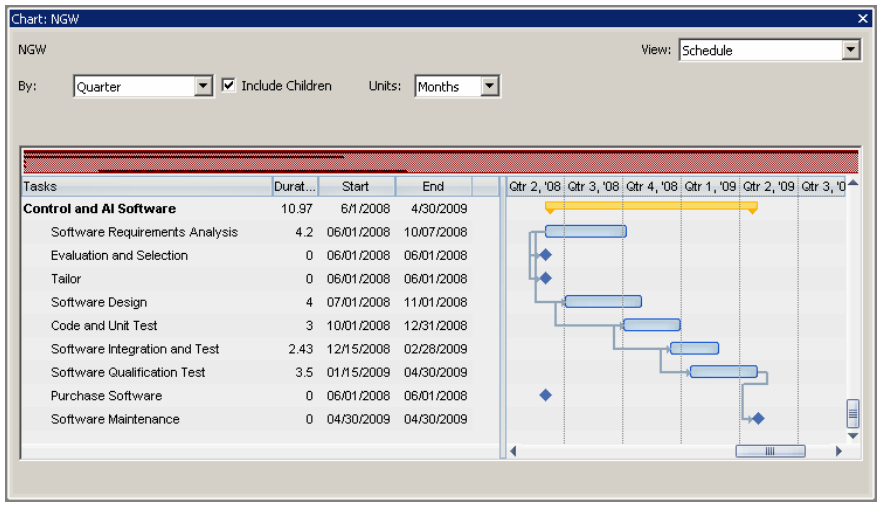
Unrealistic Schedule Expectations

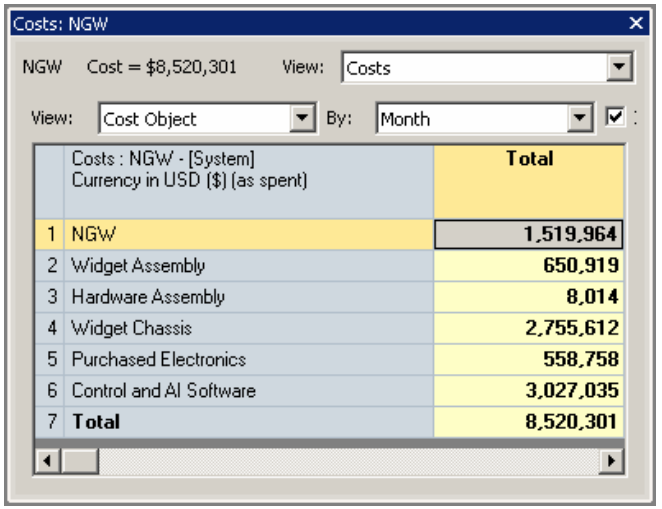


Cost Good ….. Schedule into Q4 2009

Unrealistic Schedule Expectations

- **Drill Down Identifies Software as the culprit**
- **Schedule Constraints impose the necessary schedule but raise the cost to $8.5M**





- **Considered bringing in highly skilled team – works for cost but need to consider unavailability and ramp up time….**

Unrealistic Schedule Expectations

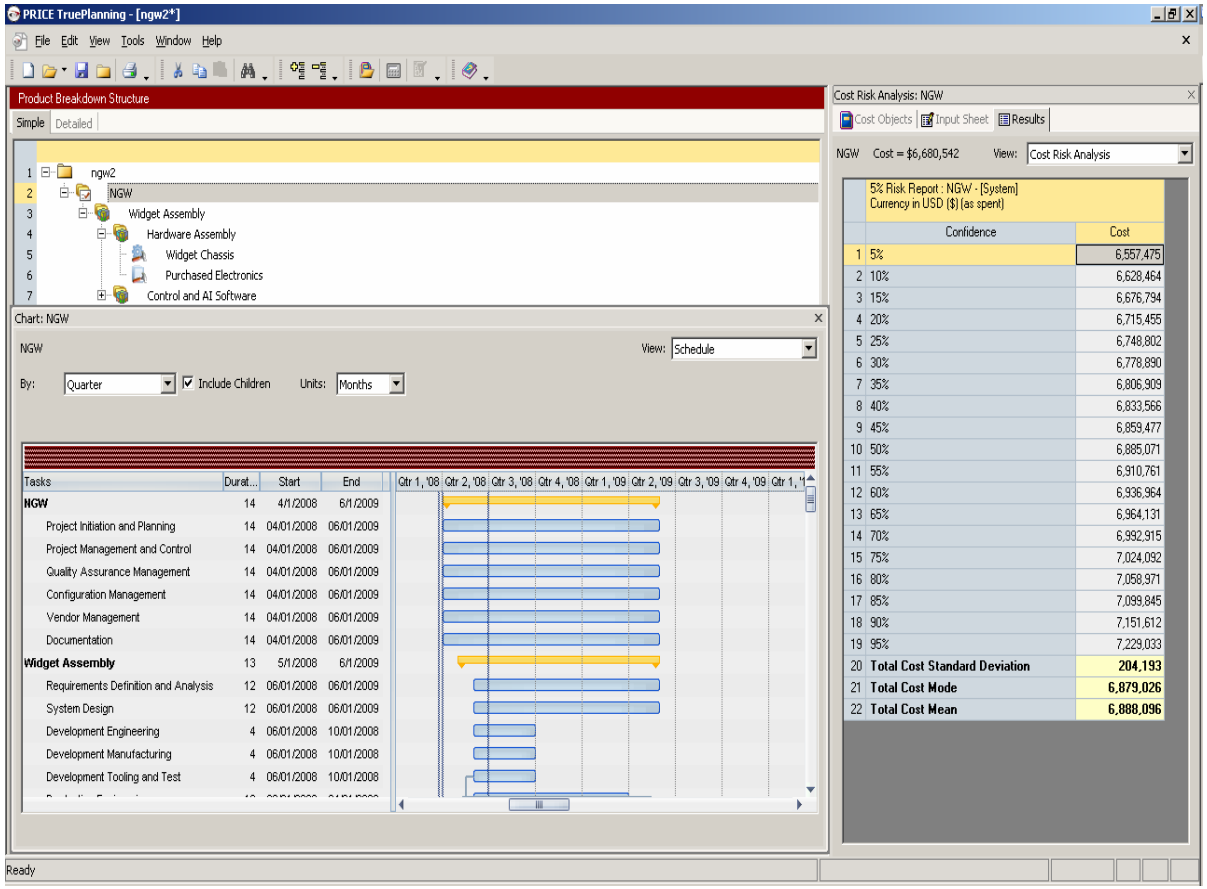
- **Analysis for Trade-Off Negotiations**

Functionality	New	Available	Complexity	Relative Cost
Decision Algorithms	8500	5000	High	9.25%
Learning Component	10000		High	10.34%
User Configuration		12750	Low	1.32%
Motor Control	2000	4850	Low	1.44%
Navigation and Visioning		7650	Medium	2.38%
Communication	4500	5020	High	8.39%

- **Decision to defer communication software**

Unrealistic Schedule Expectations

- Schedule Compressed
- Some more experienced team
- Communication Software deferred
- June 2009
- 70% Confidence for Cost < $7M



Scope Changes

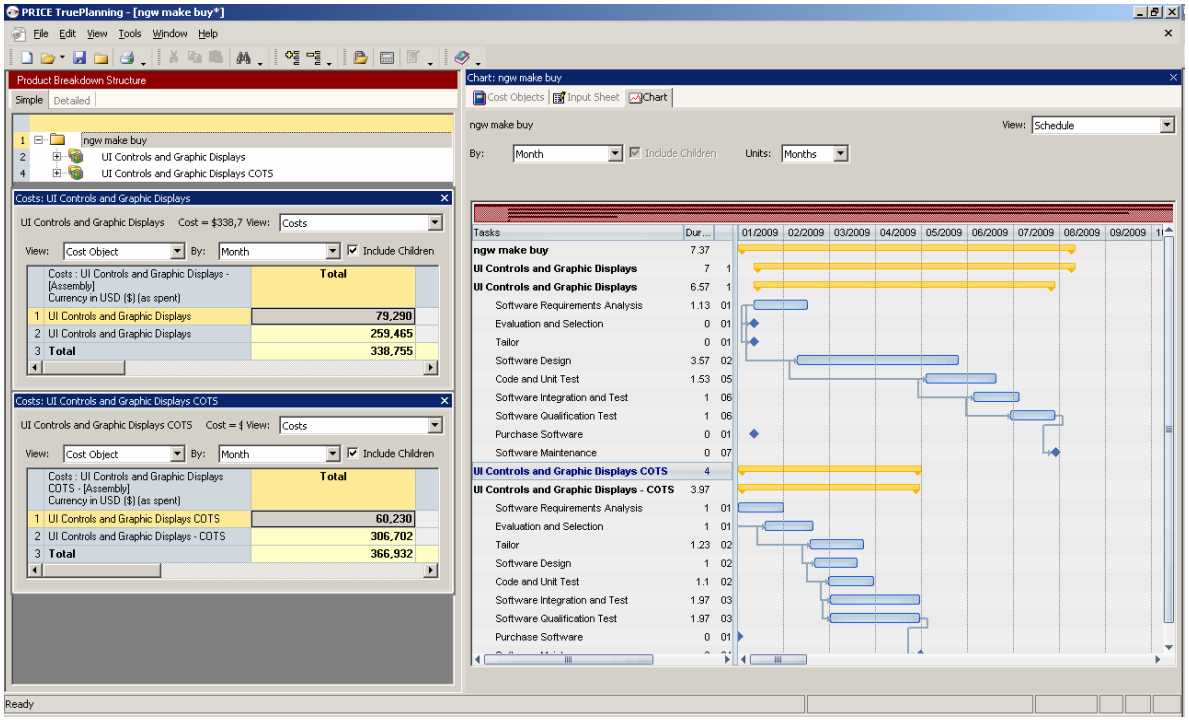
- **Initial capability available for Product Management Review in early 2009**
  - Identify gaps in Decision Algorithms
  - Identify some additional features deemed highly likely to increase product appeal on initial launch
  - Dan presented with a list of additional requirements
  - Additional negotiations required

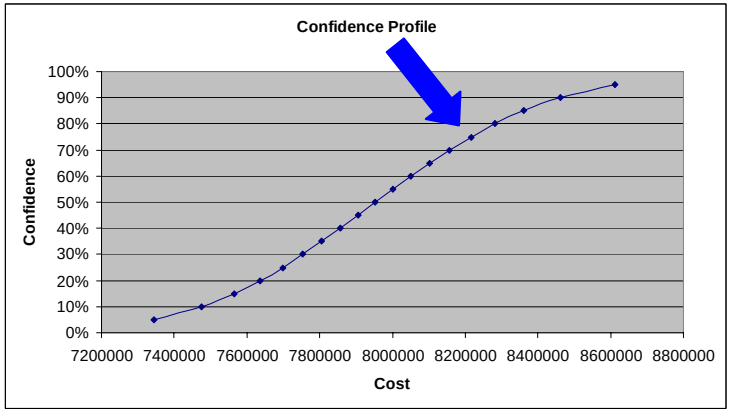
Scope Changes

- **As expected, analysis indicates cost and schedule increases:**
  - Dan confident that cost increase can be justified
  - Management stays firm on the date
- **Analysis indicates schedule increase is due to the new features, not the updates to features already in progress**
- **When presented with this evidence, Product Management won't budge on the requirement or the schedule**

Scope Changes

- **Make/ Buy Analysis indicates that an Off-The-Shelf Solution, though more costly would reduce schedule significantly**



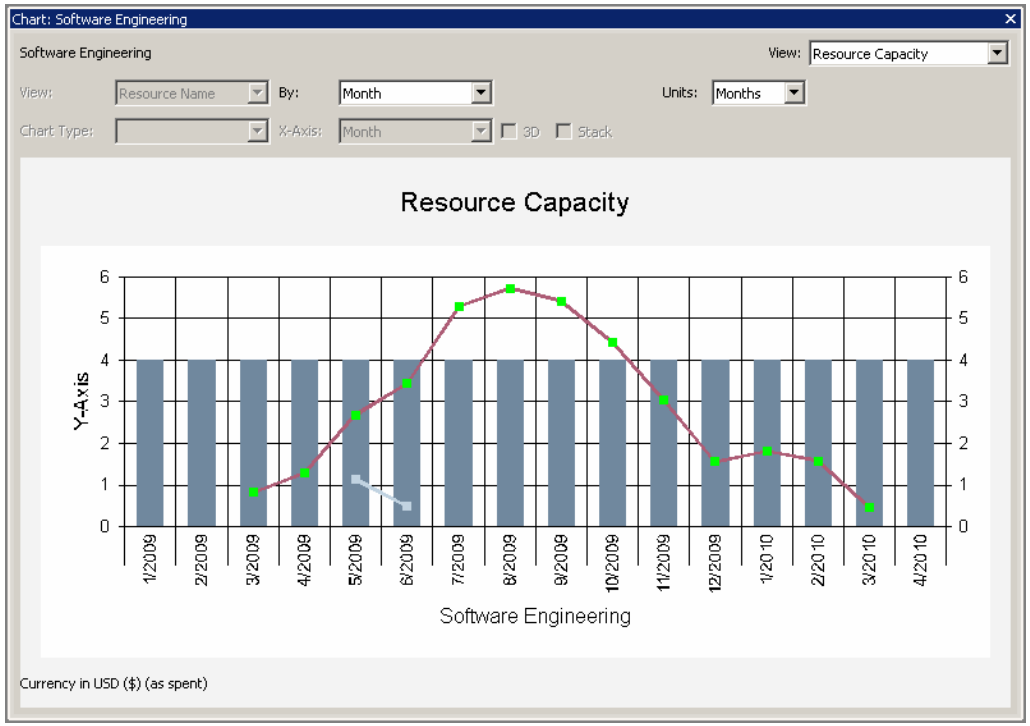


Resource Competition

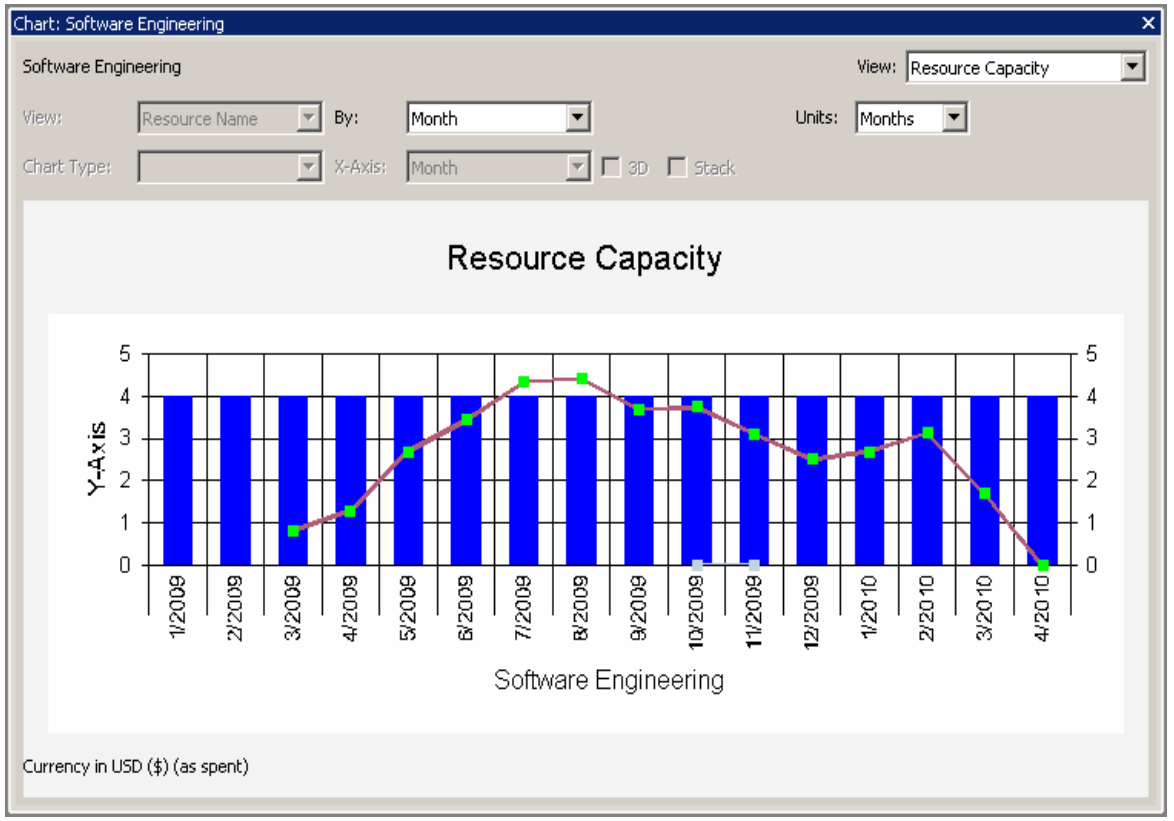
- **Organizations with several projects often face competition for resources among the projects**
- **Big picture eye on projects to ensure resources are neither overcommitted or under committed**
- **There is a need to monitor resource utilization at a portfolio level.**

Resource Competition

- Jane identifies time period where Software Engineering resources are over committed
- Drill down indicates Dan's project is the culprit
- Dan identifies software activities that can delay start… without impact on overall schedule
- They rerun the analysis and see that the resource situation is practically resolved



Resource Competition



Conclusions

- A significant challenge of project management is the balancing act between scope, cost and schedule
- The Project Management Triangle facilitates an understanding of the trade-offs necessary when constraints compete
- Project Managers need a mindset and a toolset to ease and automate triangle related analysis
- The cost estimator, armed with TruePlanning 2008 can be the Project Manager's best friend in grappling with constraint analysis.

The Power of PRICE

Deep Federal Experience

- DoD and Civilian Agencies and Contractors
- Top Priority Program Support
- Dedicated Cost Research

Project and Cost Control Best Practices

- Program Processes
- Project Management
- Software Development
- Education

Cost Estimating and Analysis Tools

- Research-based configuration
- Benchmark data libraries
- Cost Models
- Training & Support