



How to Identify Unrealistic Project Expectations and What to Do About Them



Speaker

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Laura Zuber has 25 years of experience in software development consulting, training, and support. She has conducted training and coaching sessions for all QSM SLIM-Suite tools and helped customers implement SLIM across a wide variety of processes and platforms. Laura has managed software development projects, served as a senior software process improvement specialist, performed process assessments, designed and implemented best practices, and authored numerous training programs. She is a Certified Scrum Master and SAFe Agilist.



Time & Money

“Great expectations” for
desired outcomes —

based on what?

The Challenge of Estimation



Problem Statement

- **Goal-based estimate:**
 - Release product in time to meet a market window
 - Outbid the competition and win business
 - Construct WBS or task list needed
- **Capability-based estimate:**
 - Technical calculation of what a team might be able to do, assuming a given scope, cost, schedule, staff and uncertainty level

Schedule & Budget Overrun Due to

- Unrealistic estimates exceed capabilities
- Not estimating scope
- Failure to re-estimate when scope creep occurs
- Not understanding the consequences of adding staff to reduce schedule



Estimation Solution

- Compare Desired Outcomes to Known Capabilities
- Identify Risky Assumptions
- Compute Alternative Solutions
- Assess Relative Risk
- Determine Contingency to Balance Risk/Reward

SLIM Software Production Equation



Delivered
System
Size

Is proportional
to

Effort

over

Time

at some
level of

Productivity

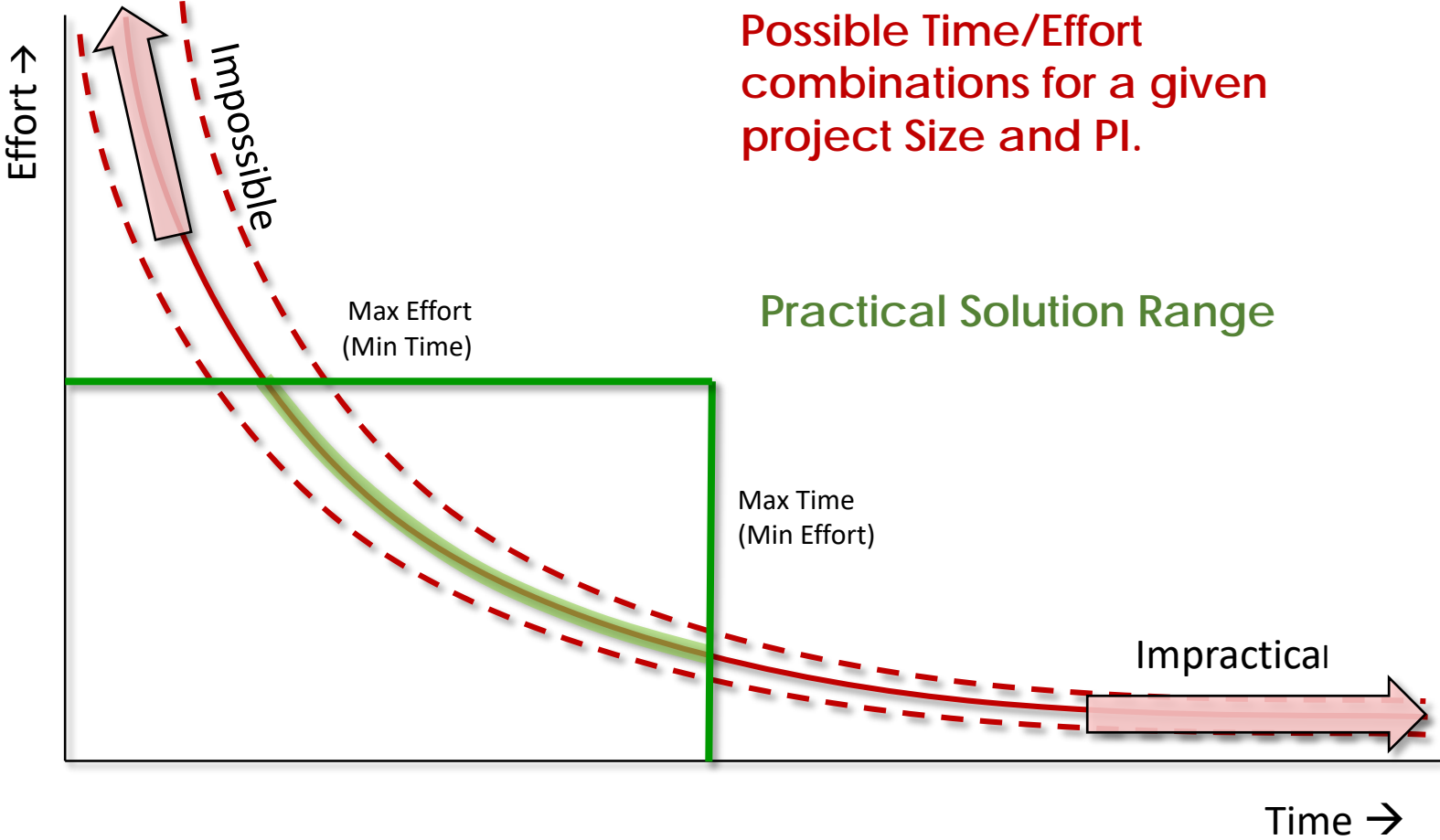
Value Delivered

Resources Expended

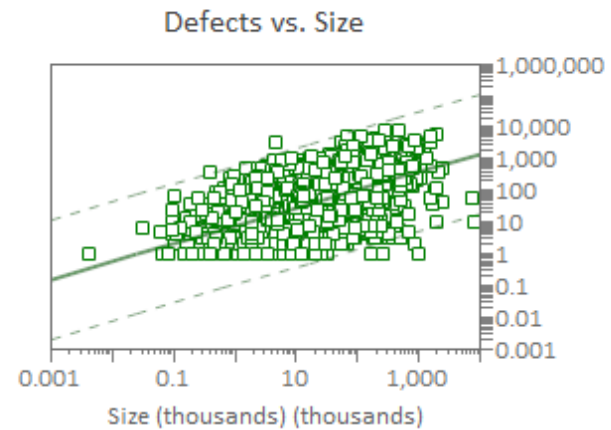
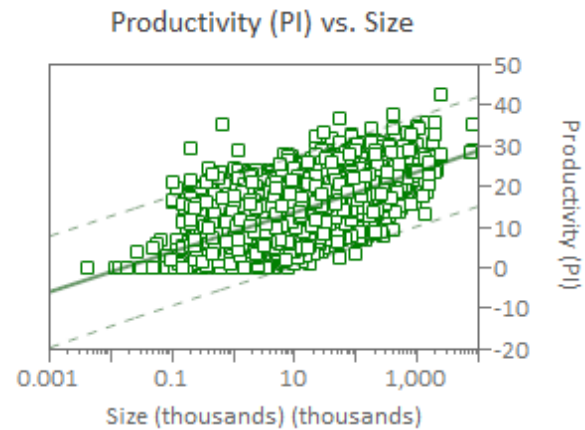
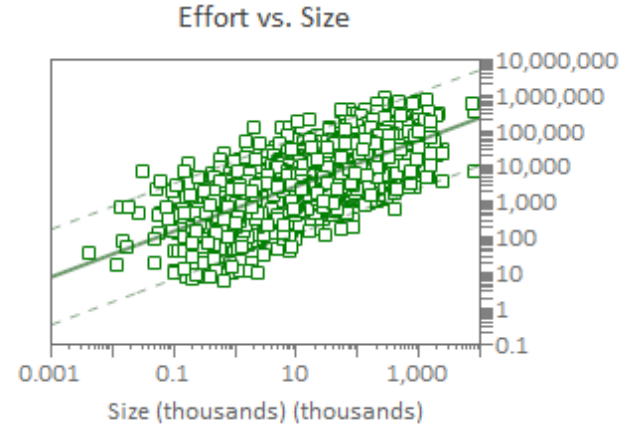
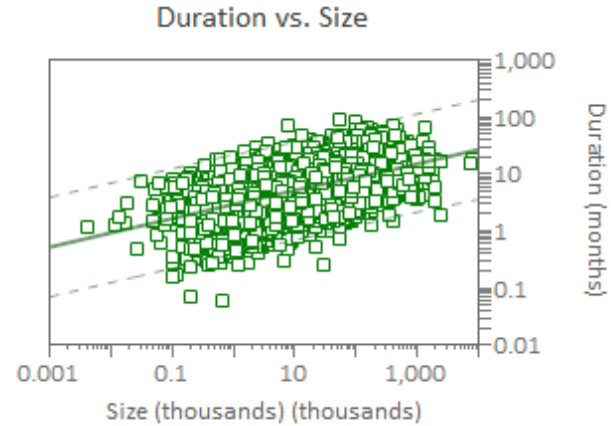
Duration Required

Influenced by Capability
and Difficulty of the
task

Time – Effort Tradeoff



5 Core Metrics & QSM Industry Database



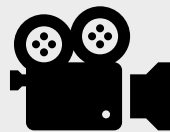
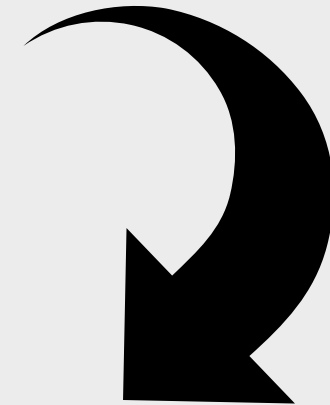
Trend Variance
Assesses
Estimate
Reasonableness

- Estimate Assumptions

- Schedule
- Cost
- Staffing
- PI

- Reference Trend

- Average
- Deviation



Visit QSM website Support Video Tutorials page
Uncertainty, Probability, and Risk in SLIM Tools

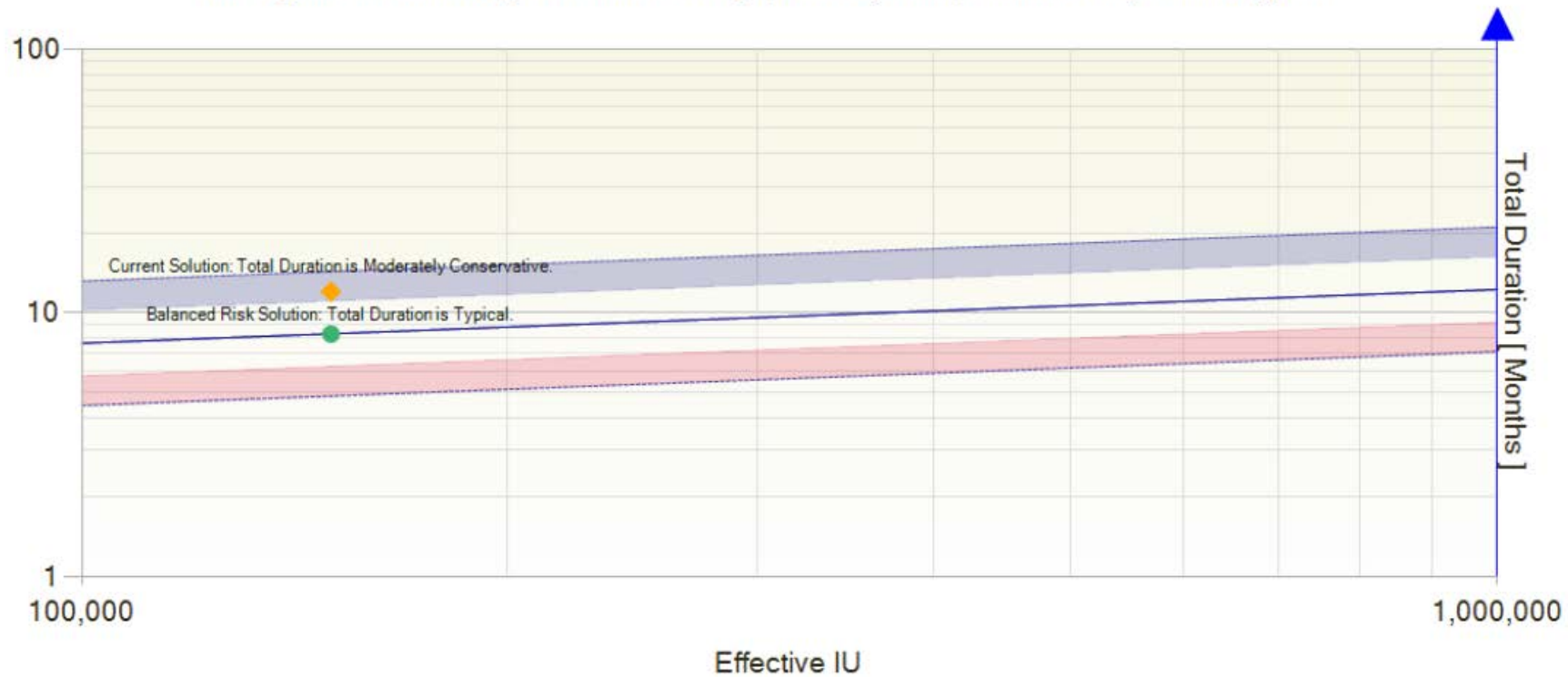
Chart Types & Solution Methods

- **Trend Chart**
 - SLIM-Collaborate
 - SLIM-Estimate
- **Quadrant Chart**
 - SLIM-Collaborate
 - SLIM-MasterPlan
- **Solution Method**
 - Feasibility Wizard (SLIM-Collaborate)
 - Bid Evaluation Wizard (SLIM-Estimate)

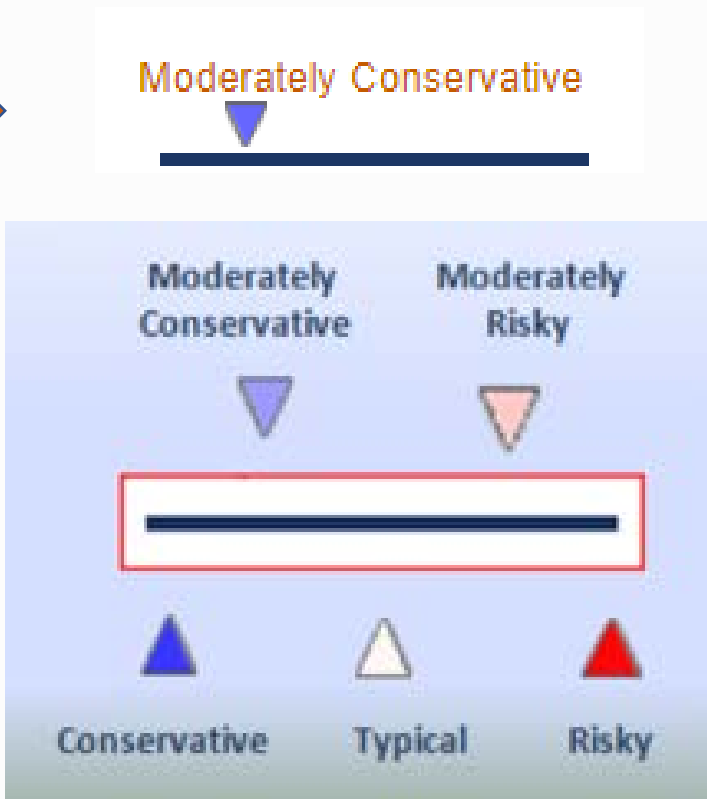
Trend Chart - SLIM-Collaborate

QSM Business AGILE Trends - Total Duration

Life Cycle includes Requirements & Design, Development, Post Development Support



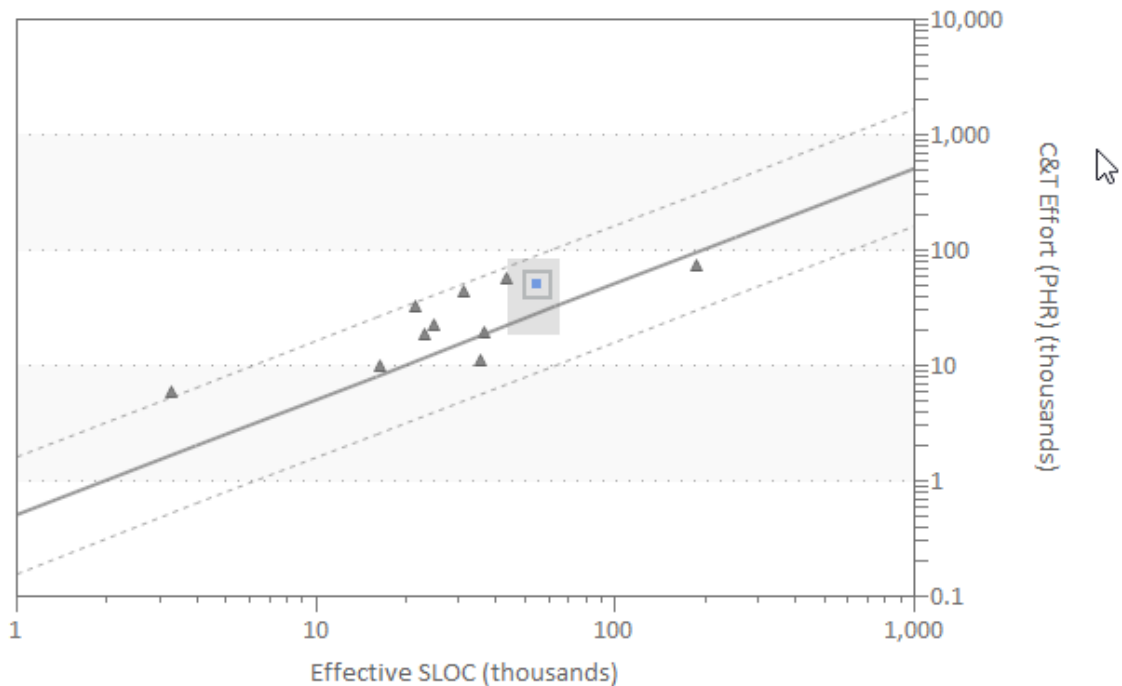
Collaborate “Risky Meter”



Metric	Current Solution	
	Value	Risk
Overall Risk		
Total Duration	17.9	
Total Effort	39882.0	
Total Avg Staff	12.9	
Productivity Index	16.9	
Development Duration	9.8	
Development Effort	28777.0	
Development Avg Staff	17.1	
Development Constr Rate	8965.2	
Development Productivity	3.0	

SLIM-Estimate Trend Chart

C&T Effort (PHR) vs Effective SLOC

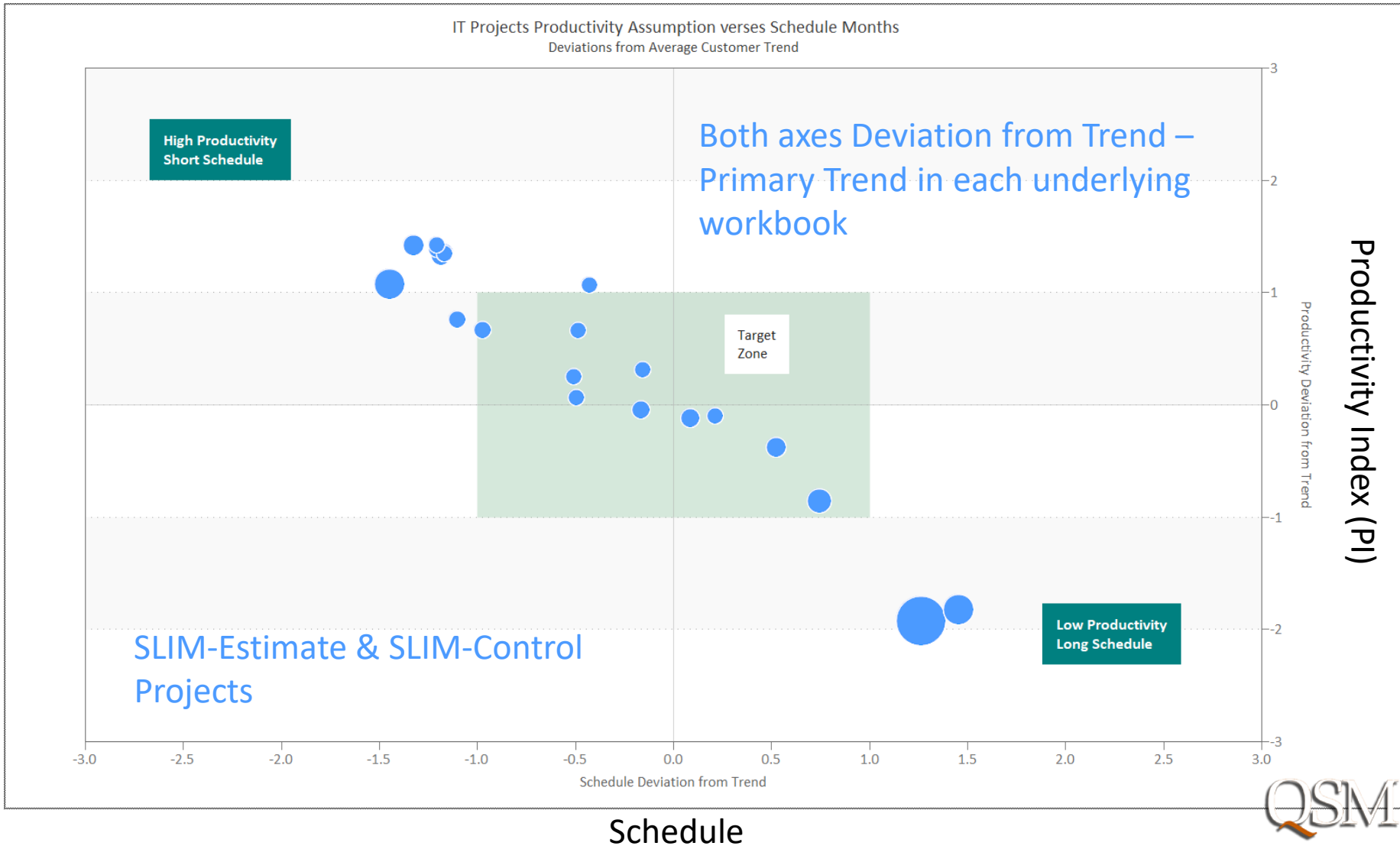


Deviations Calculated From: QSM Business AGILE

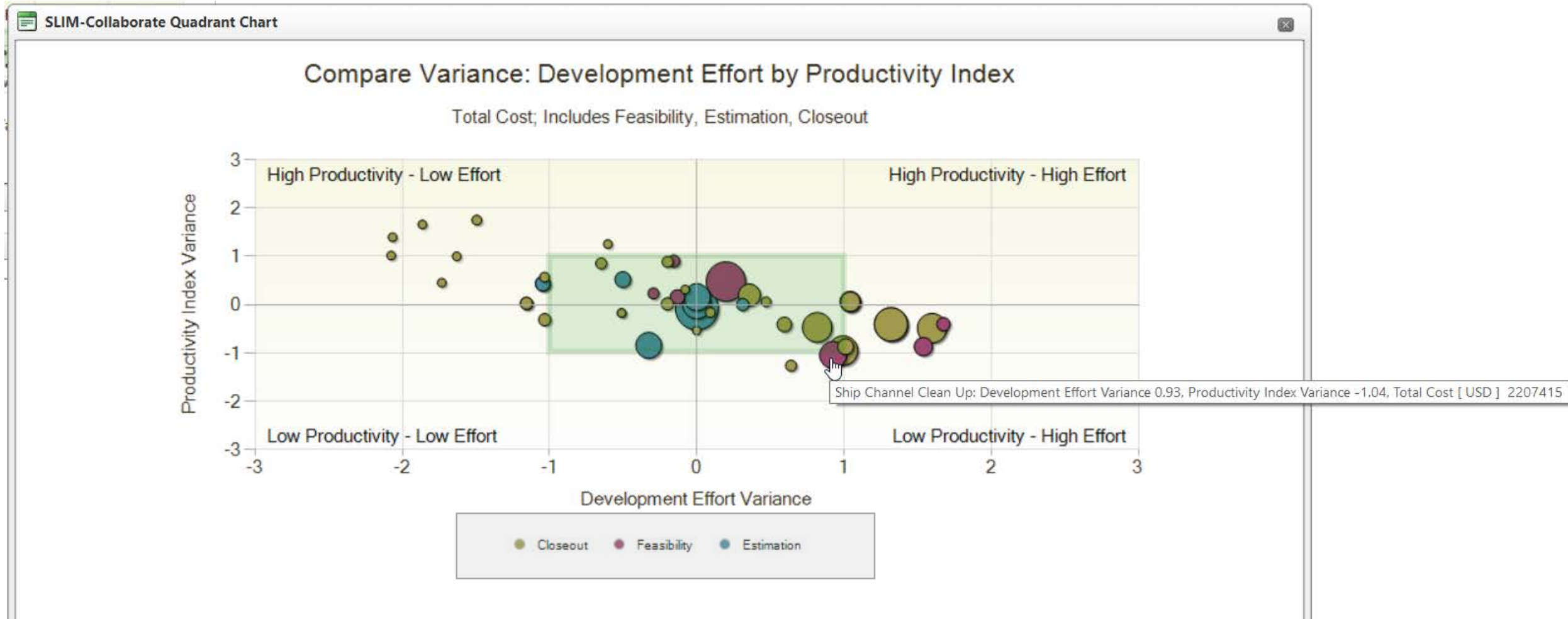
Solution Name	Effective IU	BUILD Effort (PHR)	Deviation	Dev Sigma
Staffing - Phase 3 End = 5/1/2018	26,300	9,825.92	4,026.63	0.61

Report format

Quadrant (Bubble) Chart - MasterPlan



Quadrant (Bubble) Chart - Collaborate



Starting Point

Desired Outcomes

PI required to meet schedule and effort/cost goals

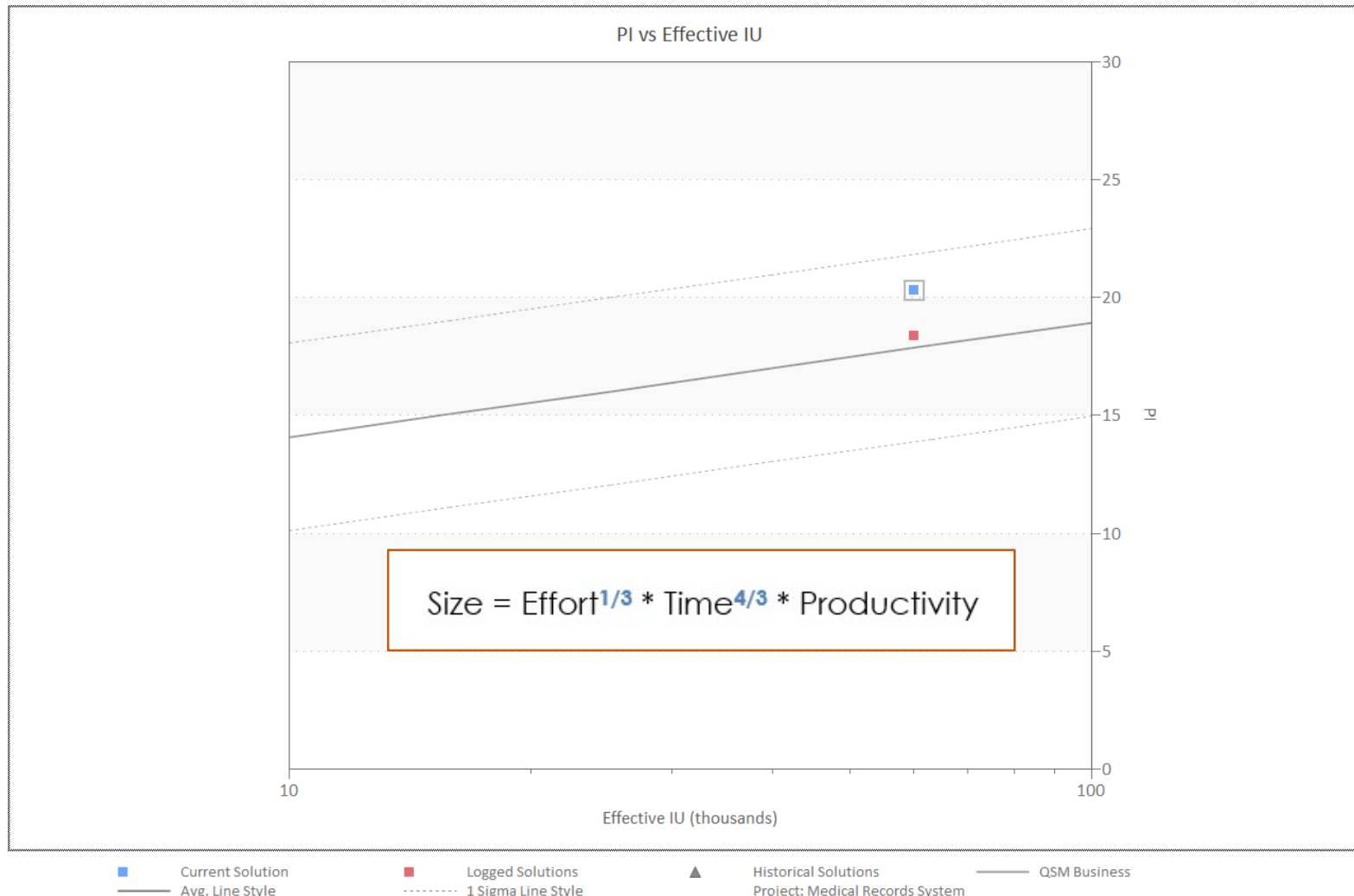
Balanced Risk

Schedule, Effort, and PI are “typical”



Developing Estimates to Emend Unrealistic Expectations

Understand The Challenge for Each Project



How much higher is the proposed PI?

What can you negotiate?

- Duration
- Effort/Staff
- Size

What are hard constraints?

Where is the risk?

- Scope or change in direction
- New technology, method
- Staffing (level or skills)
- Quality

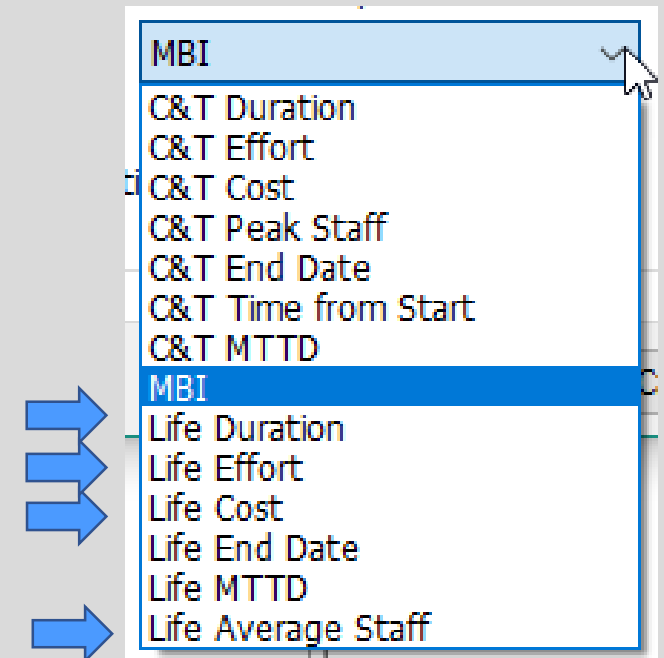
Estimation Process Steps

- Step 1 – Start with Balanced Risk* solution
 - Set uncertainty sliders
 - Adjust PI if defensible
- Step 2 – Run Designed to Input solution for each project goal

Tip! SE – Run a Constrained solution w/ 50% probability

- Duration
- Effort/Cost/Staffing



* Assuming no historical projects or changes to SDLC

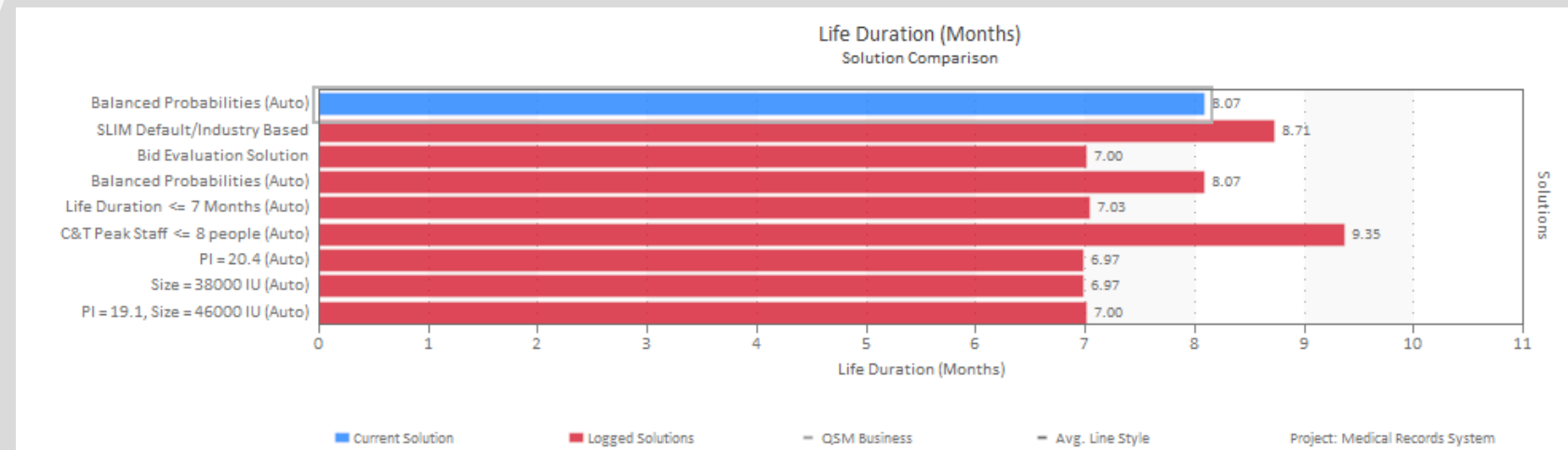


SLIM-Collaborate Options

Estimation Process Steps

• Step 3 – Analyze tradeoffs

- Single target solution accepted – done!
- Balanced Probabilities
- Reduce Size (scope)
- Increase PI
- Combination PI  Size 



Now you know what is possible – specific negotiating points

Estimation Process Steps

- **Step 4 – Explore other compromise solutions based on feedback**
 - Risk Gauge
 - Control Panel
 - Prioritized Feature Sizing
 - PI Calculator
 - SDLC – Phase Tuning* and staffing shapes; effort has little effect
- **Step 5 – Compute Contingency Solution**
 - Probability Curves
 - Contingency – Target Probability
 - Contingency – Fixed % (Collaborate)
 - Constrained Solution > 50%

* Amount of time and effort spent in each phase and activity overlap

Contingency – Risk Buffer

Higher Target Probabilities

Constrained Solution in SLIM-Estimate

Contingency Wizard

Add contingency to Recommended Solution

SLIM-Collaborate Contingency Dashboard

Questions?

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