

Dispute Resolution and Claims Analysis

Project Forensics using Acumen Fuse



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Agenda

- ④ Acumen introduction
- ④ Challenges faced
- ④ S1 > S5 schedule framework
- ④ How Fuse was used to conduct forensics analysis

Acumen Introductions

- ④ Dr. Dan Patterson, PMP
 - ④ 20 Years of PPM experience
 - ④ Risk/Schedule analytics expert
 - ④ Welcom, Pertmaster, Primavera
- ④ Acumen: **Project Analytics thought leader**
 - ④ Headquartered in Austin; office in Houston, TX
 - ④ Oracle and Microsoft partner
 - ④ Oracle exclusive accredited Pertmaster trainer
- ④ Two primary business units
 - ④ Facilitated Risk Workshops/risk analytics
 - ④ Project analytics software: **Acumen Fuse®**

Project Failure

- ☑ Why do projects “fail”?
- ☑ “Planning the work” and “working the plan”
 - a) “Unrealistic & inadequate planning” or
 - b) “Poor Execution”
- ☑ The challenge of successful project management
 - ☑ Large projects are inherently **complex** to model
 - ☑ Gantt charts/CPM tools don’t lend themselves to **team insight**
- ☑ The Solution: *project metric analysis*
 1. Pinpoint **root-cause** of schedule flaws
 2. Enhanced **visualization & optimization**
 3. **Resolution** of cost/schedule/risk/performance issues

S1 > S5 Schedule Maturity Model

S1

- **Non-Critiqued**
- Non-validated, buffered?, questionable realism, target driven?

S2

- **Critiqued Schedule using Metric Analysis**
- Structurally sound, no built in contingency, sound logic

S3

- **Risk-Adjusted Schedule**
- Estimate uncertainty, risk events, calculated contingency

S4

- **Optimized Target Scenario**
- Reduced hot spots, lower criticality, higher confidence

S5

- **Team Validated Optimized Model**
- Buy-in on S4 optimized model

Clients

BG
Marathon Oil
Anadarko

Petrobras
Shaw
Benham
Sonatrach
Enbridge

Kosmos
Fluor
DHS
NASA
Noble Energy

SNC Lavalin
Dow Chemical
ConocoPhillips
BHP Billion
Oceaneering

Repsol
Bechtel

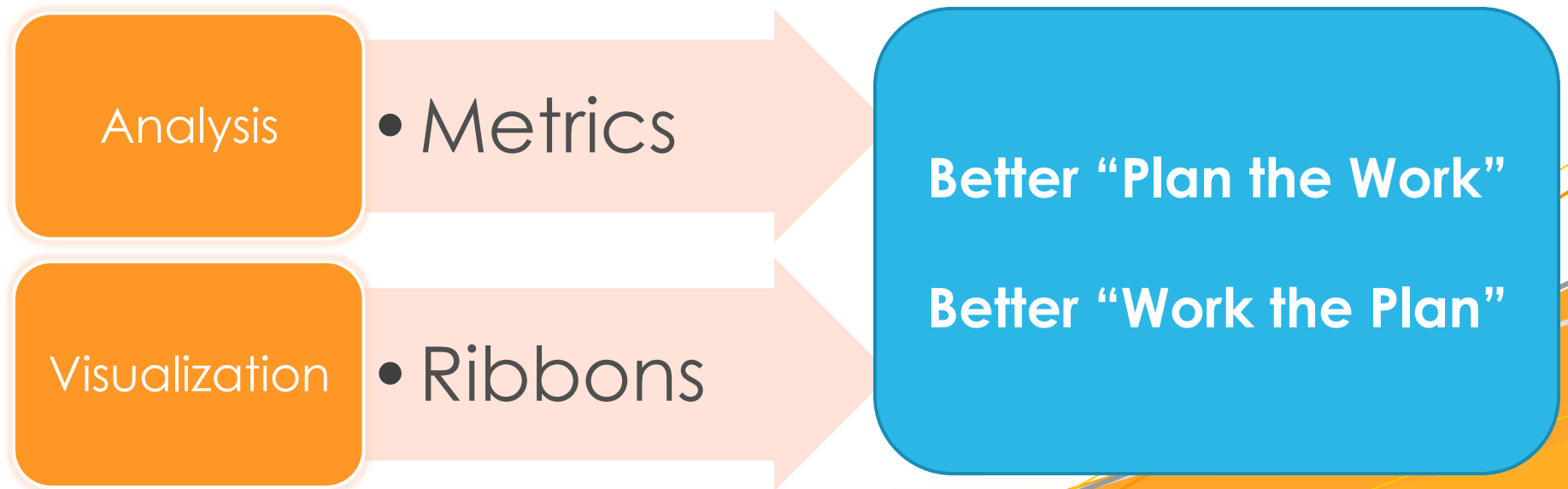
Case Study: Metrics Analysis for Forensics

- ④ Project incurred massive schedule delays
- ④ Disagreement as to root cause of delay
- ④ Ongoing financial exposure was huge
- ④ As expert witness, Acumen asked to:
 1. Determine **realism** of schedule(s)
 2. Give **insight** into highly complex plan
 3. Perform schedule **risk** analysis
 4. Pinpoint **delay drivers** (root cause)
 5. Offer **acceleration** scenarios



Using Fuse for Forensics Analysis

- ✔ Metric **analysis & visualization** tool
- ✔ Add-on to existing PPM toolset
- ✔ Expert witness testimony based on Fuse analysis

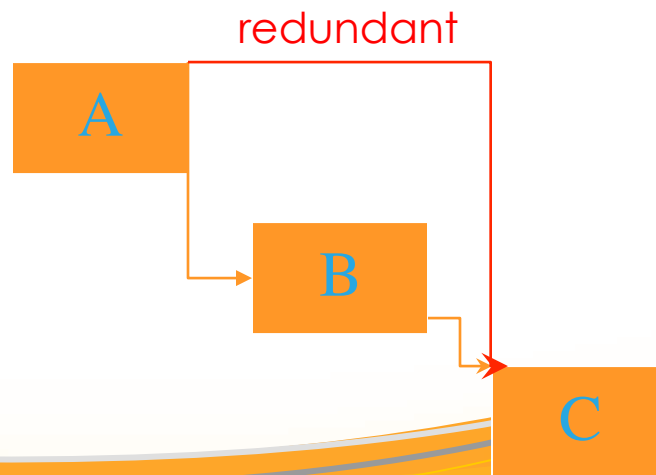


1) Schedule Realism

- ④ Advanced schedule analysis
- ④ Structural integrity
- ④ Complete scope of work across the WBS
- ④ Reasonable level of detail relative to reporting periods
- ④ Consistency over time

2) Insight into Complexity

- Path analysis
 - Schedule bottlenecks – logic hotspots
 - True continuous paths
- Redundant logic analysis
 - Result of iterative multi-scheduler planning



3) Risk Analysis

- ④ Objectives
 - ④ Determine true risk exposure
 - ④ Front/back end loaded
 - ④ Determine driver of risk
 - ④ True risk
 - ④ Complexity of project
 - ④ Overly optimistic scheduling
- ④ Previous analysis used summary schedule
 - ④ Developed template approach
- ④ Confidence level didn't give insight
 - ④ Developed Risk Range Certainty Factor (RRC)

Alternate Approaches to Building an S3 Risk Model

1) Risk Load only the (near) critical path

🔍 Pros

- 🔍 Focuses the team in a workshop
- 🔍 Based on actual schedule

🔍 Cons

- 🔍 Assumes known critical path
- 🔍 Risk events make this approach flawed
- 🔍 Dangerous approach to risk modeling
- 🔍 Doesn't give true picture of risk

Alternate Approaches to Building an S3 Risk Model

2) Create a summary schedule

🕒 Pros

- 🕒 Excellent means by which to facilitate a workshop
- 🕒 Easy to risk load/build risk model

🕒 Cons

- 🕒 Lose the logic integrity/calendars/detail of a schedule
- 🕒 Separate model to maintain to that of schedule

Alternate Approaches to Building an S3 Risk Model

3) Risk ranging against the actual project schedule

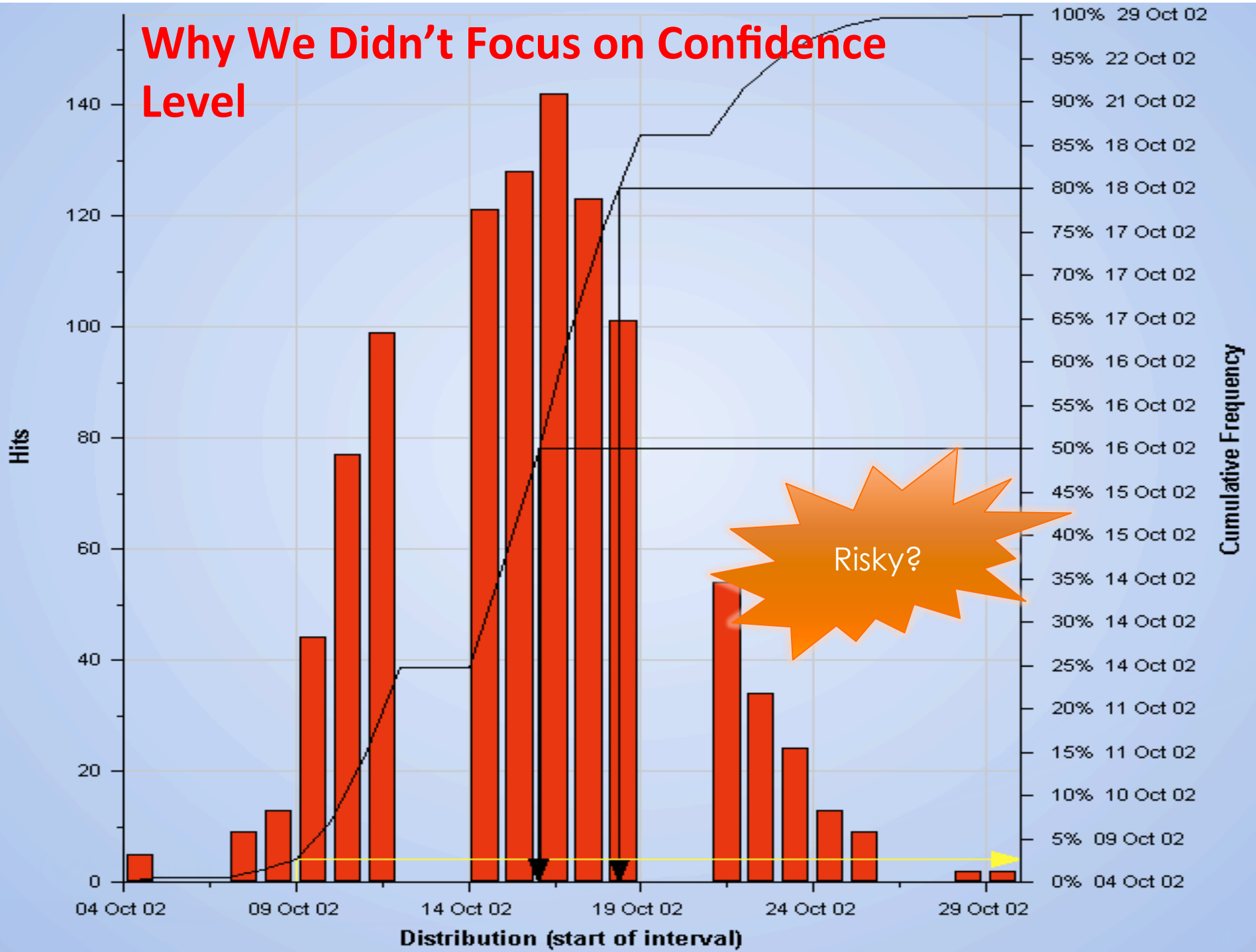
🔍 Pros

- 🔍 Retains true integrity of the project schedule
- 🔍 Enables risk loading at summary yet analysis at detail level
- 🔍 Requires full schedule critique

🔍 Cons

- 🔍 Requires disciplined facilitation
- 🔍 Observation of Central Limit Theorem

Why We Didn't Focus on Confidence Level



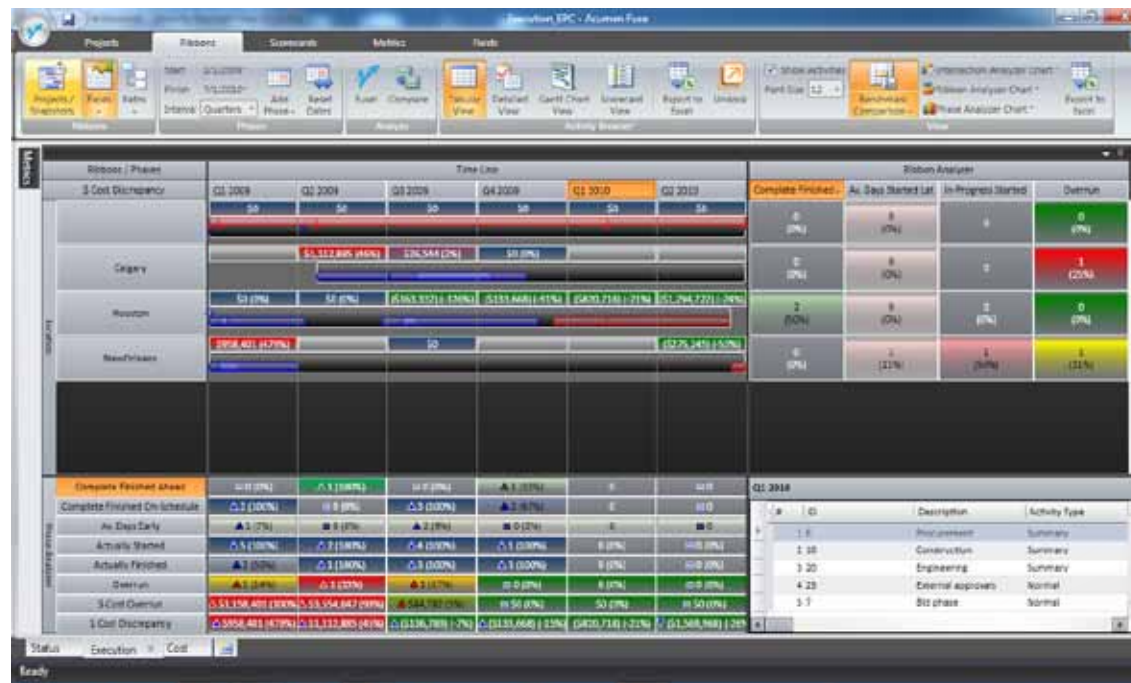
Intelligent Risk Metrics

- ④ Hidden critical paths
- ④ Risk hot spots
- ④ Risk range factor
- ④ Paths carrying most risk exposure
- ④ Time phasing risk (front/back end loaded)
- ④ Discipline/location comparisons

Risk Insight Demo

4) Delay Drivers

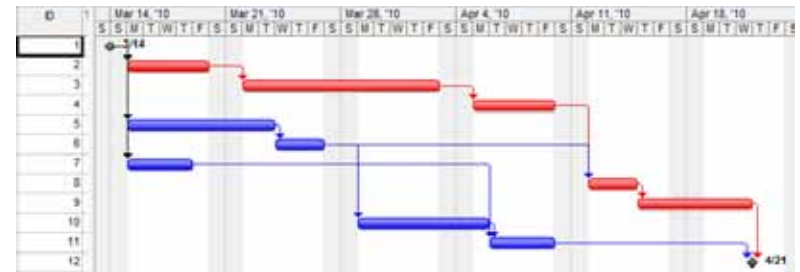
- Examined monthly changes to the schedule using Fuse forensics



5) Acceleration Candidates

By understanding the remaining duration & float for each path, we can pinpoint which path(s) is the best candidate for acceleration.

Also determine which periods of time are best candidates for adding additional work to help with acceleration.



Workbook1 - Acumen Fuse

Projects | Ribbons | Scorecards | Metrics | Fields

Start: 3/14/2010, Finish: 4/21/2010, Interval: Weeks

Projects / Snapshots | Fields | Paths | Phases | Analyze | Activity Browser | View | Export to Excel

Ribbons / Phases	Time Line						Ribbon Analyzer				
	Float	3/14/2010	3/21/2010	3/28/2010	4/4/2010	4/11/2010	Ribbon Length	Rem. Dur.	Normal	Activities	Float
Path #1	0	0	0	0	0	0	38	28 (54%)	5 (71%)	7 (58%)	0
Path #2	5	8			0	0	38	18 (35%)	4 (67%)	6 (50%)	8
Path #3	5	8	6	8		0	38	20 (38%)	4 (67%)	6 (50%)	8
Path #4	20			8		0	38	8 (15%)	2 (50%)	4 (33%)	20

Case Study Results

- ✔ Used metric analysis to achieve objectives
 - ✔ *Schedule critique*: was scope/status accurately modeled by all parties?
 - ✔ *Risk analysis*: what/who were drivers of delay? Scope/events etc?
 - ✔ *Acceleration scenarios*: what could be done to resolve...
- ✔ Expert witness 20 minute testimony lasted 3 hrs
 - ✔ *Schedule*: deterministic durations were found to be hugely aggressive
 - ✔ *Risk exposure*: delays due to scope definition rather than events
 - ✔ *Future Acceleration*: less bi-directional construction/SIMOPS
- ✔ Result
 - ✔ New *insight* into project – agreement on schedules!
 - ✔ Both parties were able to *resolve* dispute in early 2010
 - ✔ New *accelerated, yet more realistic* plan now being put into place
 - ✔ S1 > S5 adopted

Find out more:

**Download a free trial or
additional information at:
www.projectacumen.com/fuse**