Metrics Based Project Governance

Presented by : Pam Morris
TOTAL METRICS

ACOSM 2003

"Without objective data you are just another person with an opinion"

TOTAL METRICS

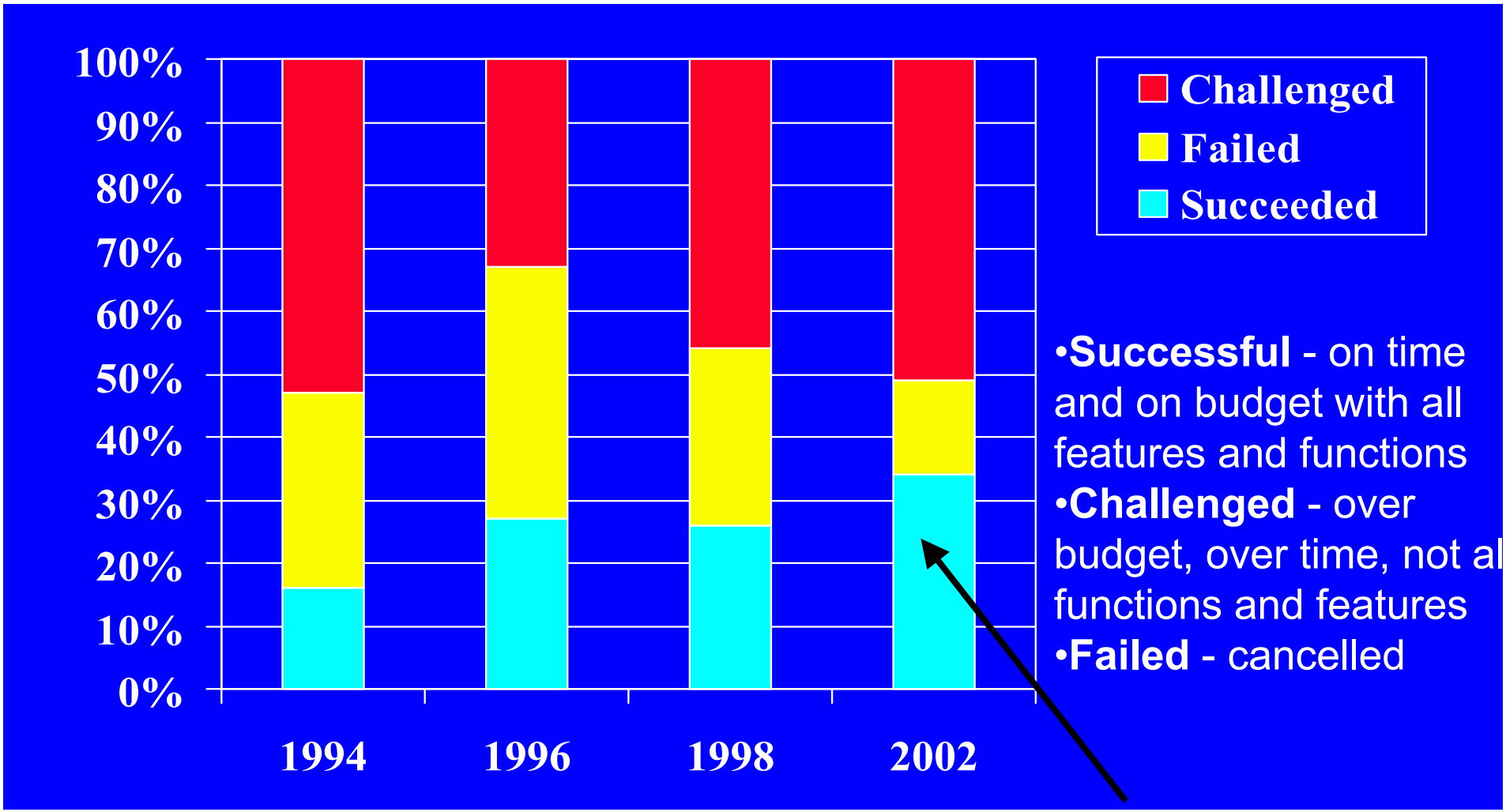
"harnessing the capabilities of your metrics team to minimise project risk"

Summary Slide

Standish Group Chaos Report : 1994 - 2002

- **Governance – "*balancing risk against opportunity*"**

Standish Group Chaos Report : 1994 - 2002



Only 34 % achieved Business Intent

TOTAL METRICS

Consequences of Failure

- Private / public embarrassment
- Missed business opportunities
- Disenchanted clients
- Legal repercussions
- De-moralised staff

August 1999 - *INCIS - New Zealand Police System*

*"NZ Finance Minister confirmed that INCIS' cost to the taxpayer so far was $106 million. Others have estimated the cost at up to **$130 million**, but in any case, costs have run well beyond the **$98 million** police budgeted for the entire project in 1995".*

Computerworld - 10th August 1999

"*the New Zealand police said to have made more than 900 variations to the original 10,000-page contract and IBM saying it had already **lost $40 million** on the ill-fated application*"

The Age 24 June 2003

Feb 2001 - *Citylink – Melbourne's Tolling and Tunnel System*

- "*Trouble is, it's been plagued with problems from the first sod - delays technical problems with computer tolling systems*" 7:30 Report 22nd Feb 2001

- "*Transurban claimed liquidated damages of $**251.5** million from TOJV for the late completion of the Melbourne CityLink".*

Citylink Media Release - 27th November 2001

Feb 2003 - Victorian Public Transport Ticketing System

- "*In February, the Victorian Government completed payment of a **$65 million** settlement to ERG subsidiary OneLink after changes made to the project design at a late stage blew out the budget of OneLink's Melbourne public transport ticketing system rollout.* " The Age June 24th 2003

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August 2003 - *RMIT - Academic Management System*

- "*The AMS project displayed a lack of essential rigour and a lack of effective risk management* "
  Victorian Auditor Generals Report 2003

- "*Original estimate was $**12.6** million it is now anticipated to cost $**47.3** million by the end of this Year*" The Australian – August 5th 2003

TOTAL METRICS

Attributes of "Scope Manager"

Excellent skills in:

- ✓ Business analysis
- ✓ Metrics and Function points
- ✓ Communication
- ✓ Management Reporting

Report to:

- ✓ Project Board / Project Sponsor

Paid by:

- ✓ Project Budget/client/supplier

Independence

Governance

Corporate Governance

Board of Directors

IT Governance

CFO | CEO | CIO

Project Governance

Project Board | Project Sponsor

"Scope Manager"

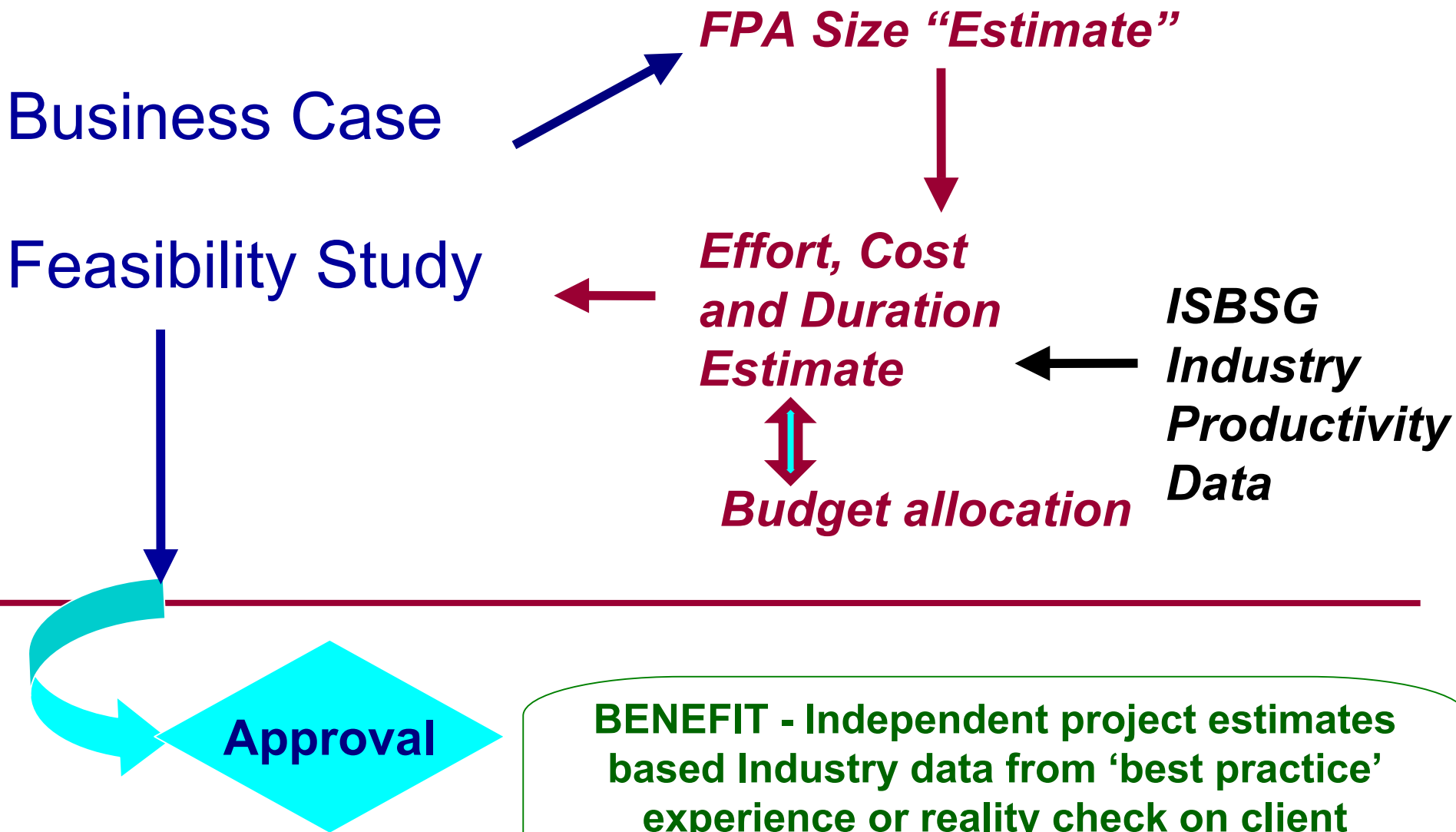
IT Project Director

Business Project Manager

Development Project Manager

Project Team

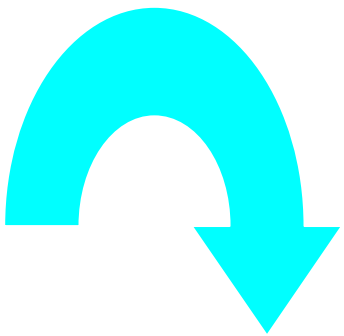
Project Activities – Metrics Based Governance



BENEFIT - Independent project estimates based Industry data from 'best practice' experience or reality check on client budget.

Will the software be delivered in time and be worth the Business Value?

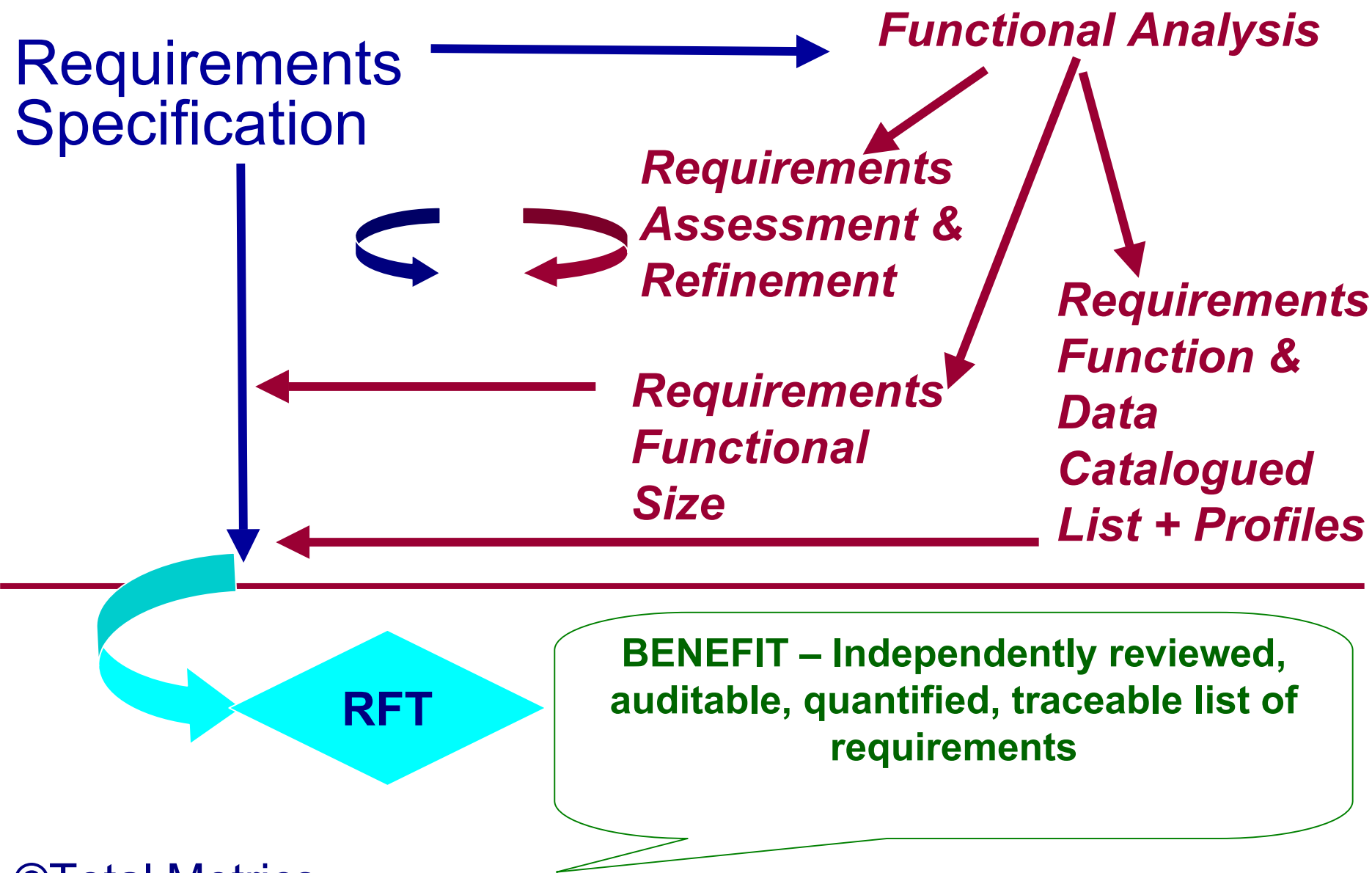
- ✓ *300 ~ 500 function points*
- ✓ *Delivery ~ 7 to 9 months*
- ✓ *Cost ~ $390k to $580k*



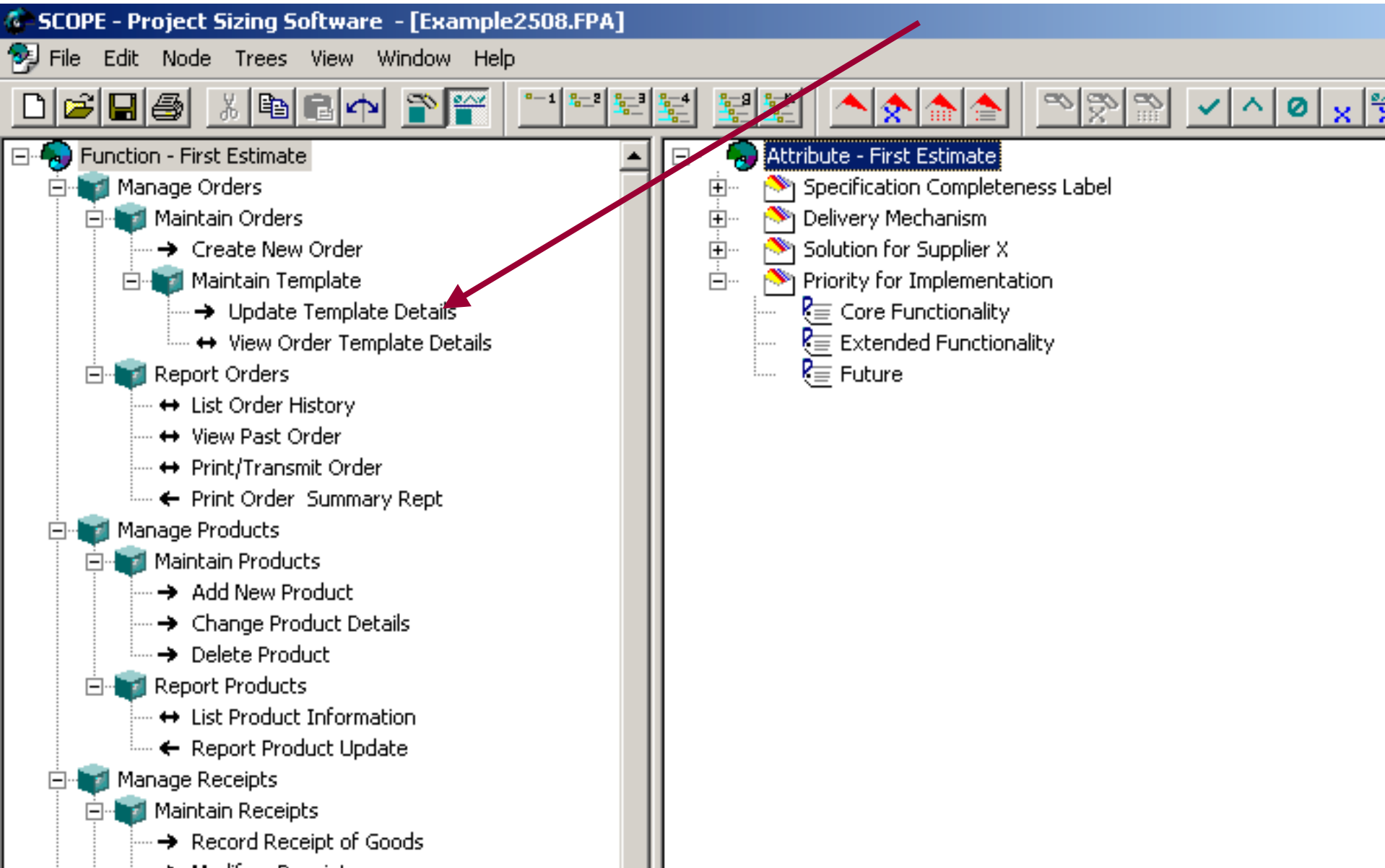
Budget Approval

- ✓ **Develop Requirements / RFT**

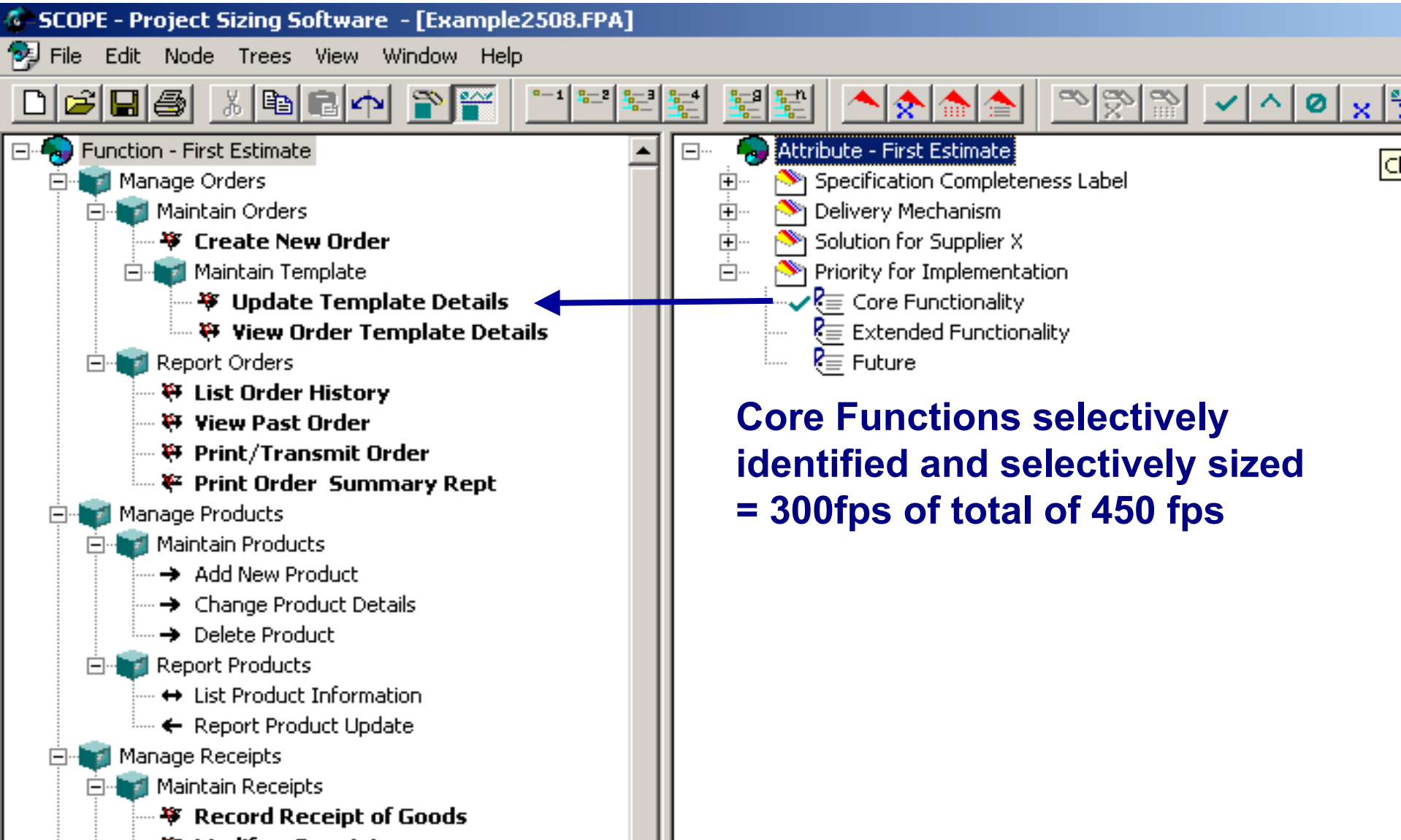
Project Activities – Metrics Based Governance



Baseline List of Individual Requirements



Profile and Quantify Requirements

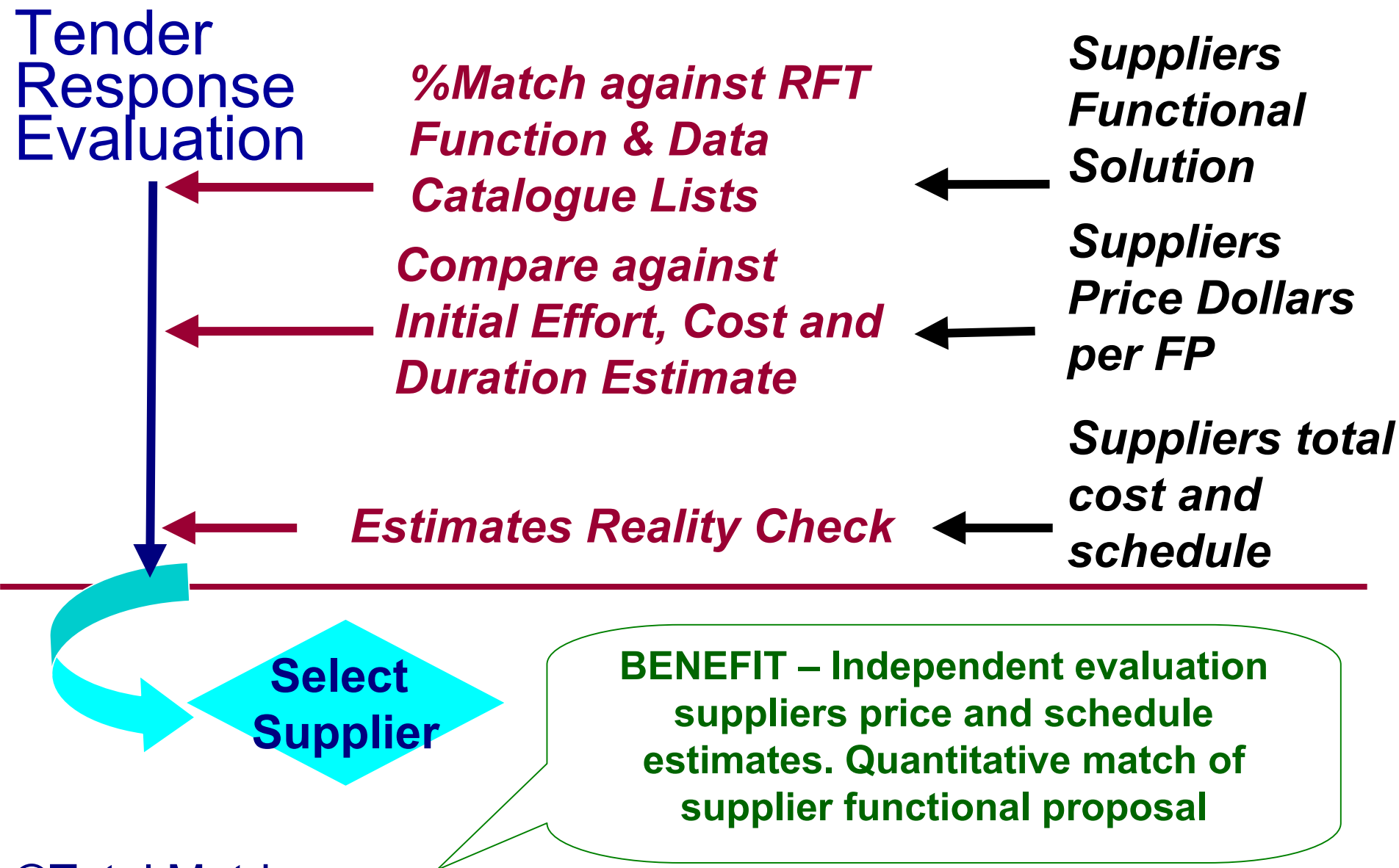


Core Functions selectively identified and selectively sized = 300fps of total of 450 fps

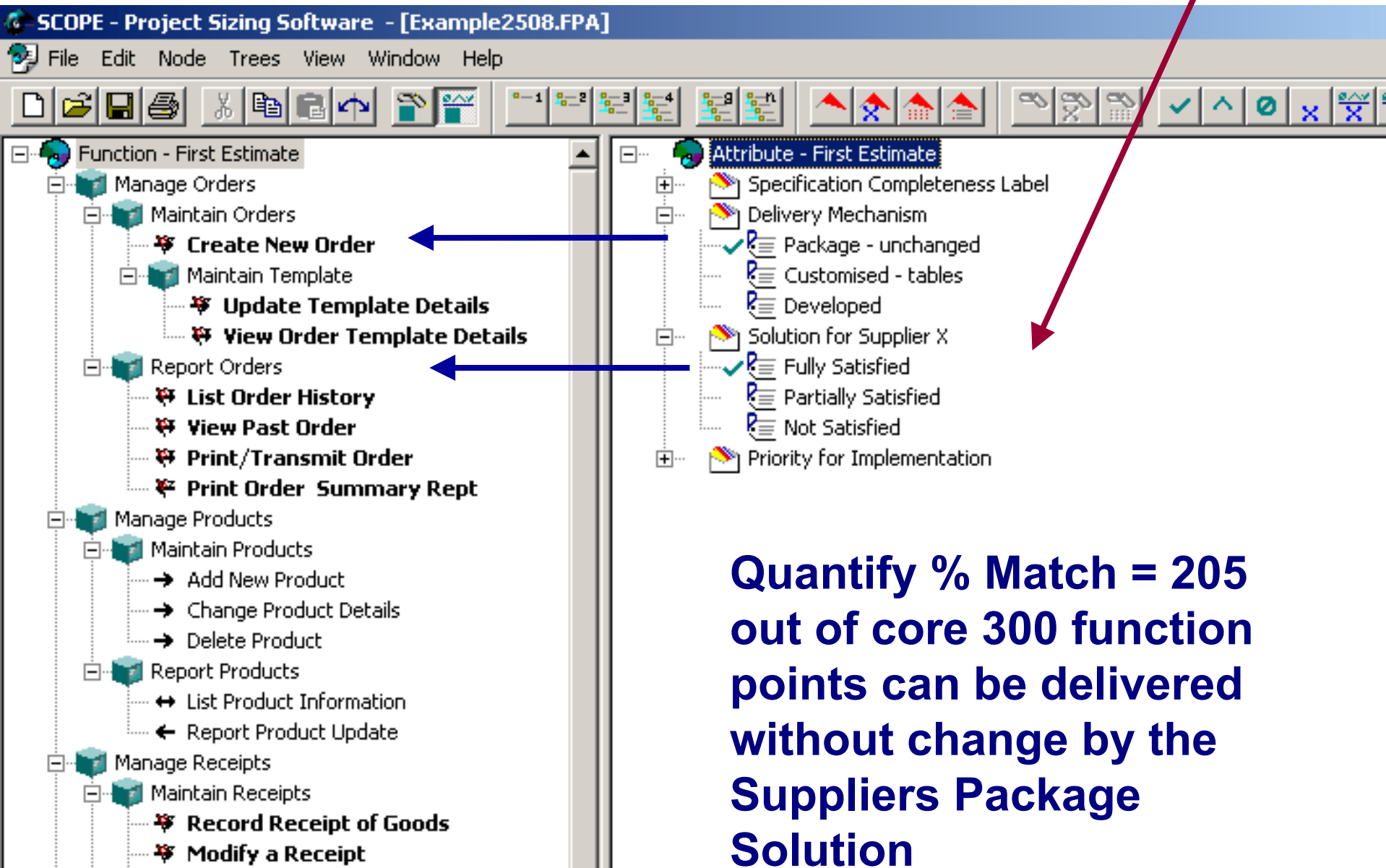
Re-Estimate – Java , J2EE

	Minimum	Maximum
Function Points	400	550
PDR hrs/fp	17	21
Effort hours	5,442	7,197
Duration months	9.0	11.4
Cost	$642,108	$849,255
Cost $/fp	$1,167	$2,123

Project Activities– Metrics Based Governance



Suppliers Solution Mapped to Requirements

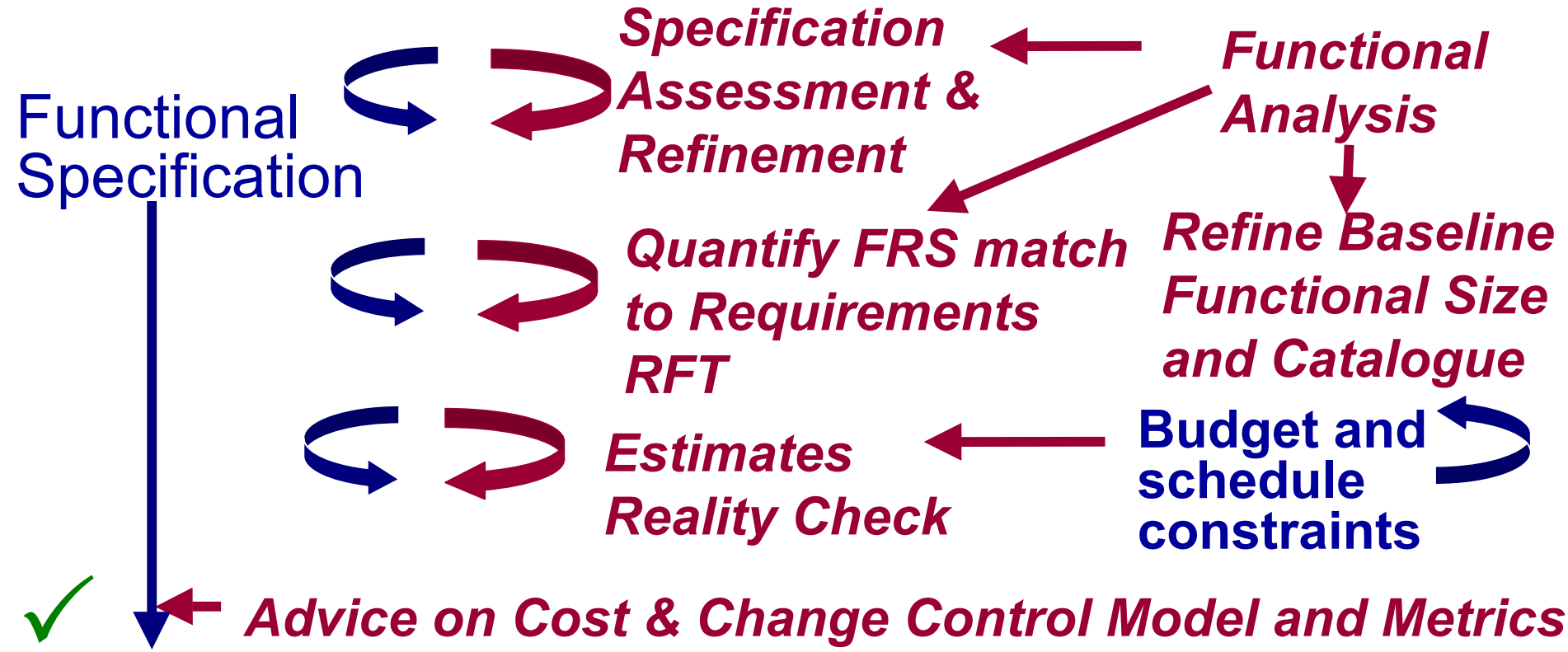


Quantify % Match = 205 out of core 300 function points can be delivered without change by the Suppliers Package Solution

Evaluate Suppliers Responses for Reasonableness

Estimates	Minimum	Maximum
Duration months	9.0	11.4
Cost $/fp	$1,167	$2,123
Supplies Bids	Cost $/fp	Duration
Supplier A ✓	$1,892	12
Supplier B ✓	$1,563	10
Supplier C ☒	$987	6

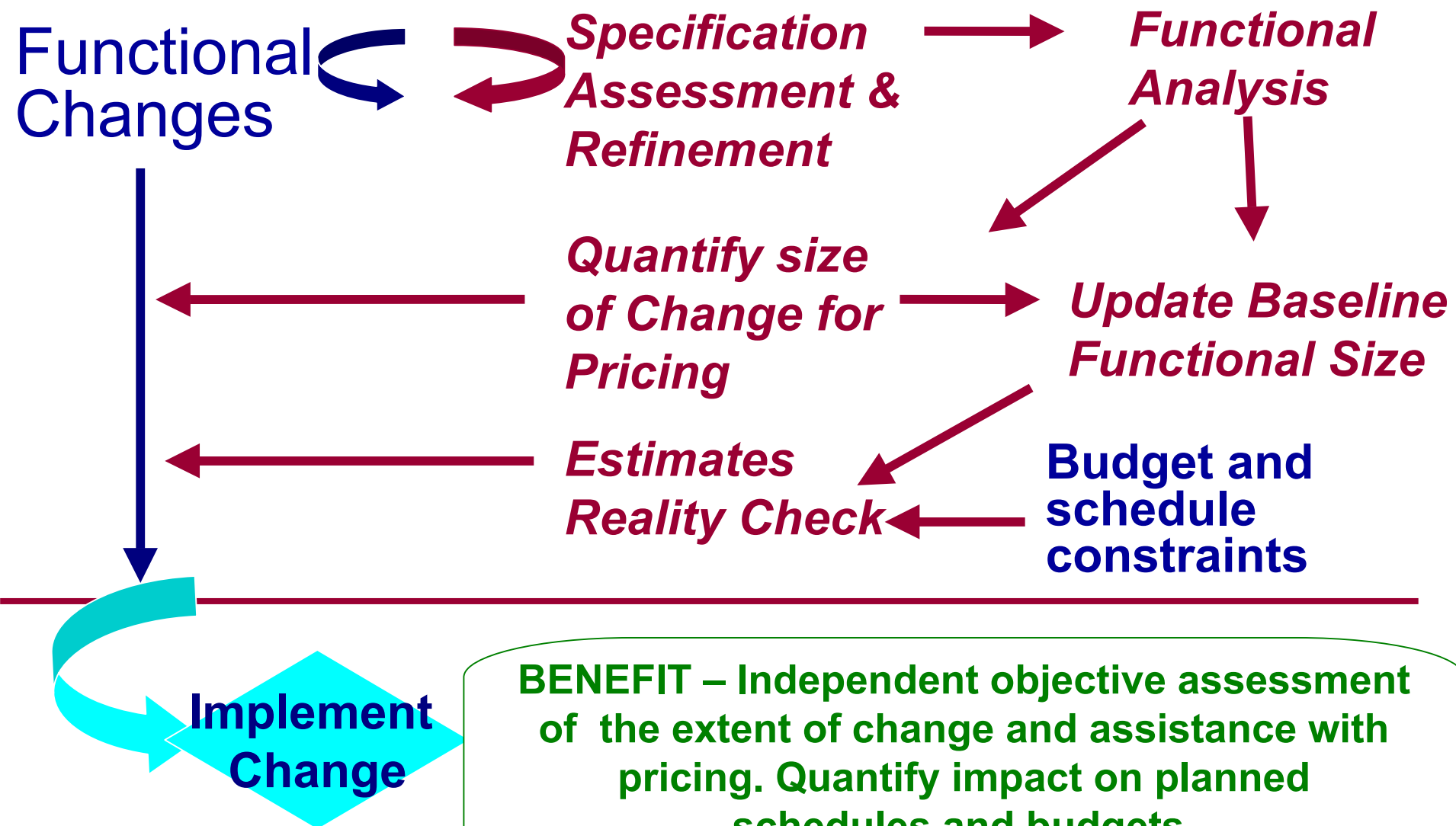
Project Activities– Metrics Based Governance



Build

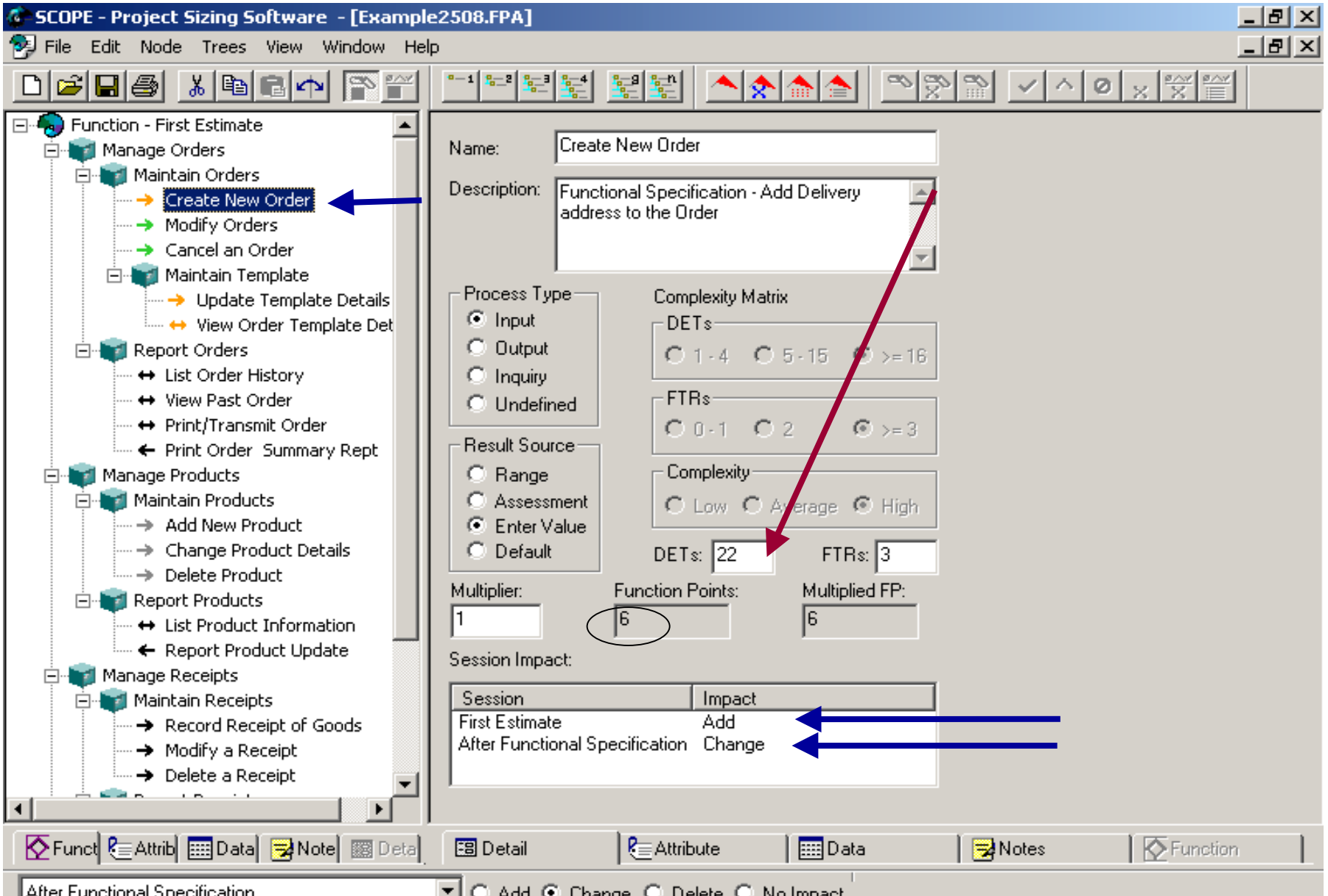
BENEFIT – Independent assessment of completeness of Functional Requirements. Quantify different functional solutions to fit budget / schedule. Expert advice on Pricing & Change Control Model and Project Metrics.

Project Activities– Metrics Based Governance



BENEFIT – Independent objective assessment of the extent of change and assistance with pricing. Quantify impact on planned schedules and budgets.

Quantified Traceable Changes Against Requirements



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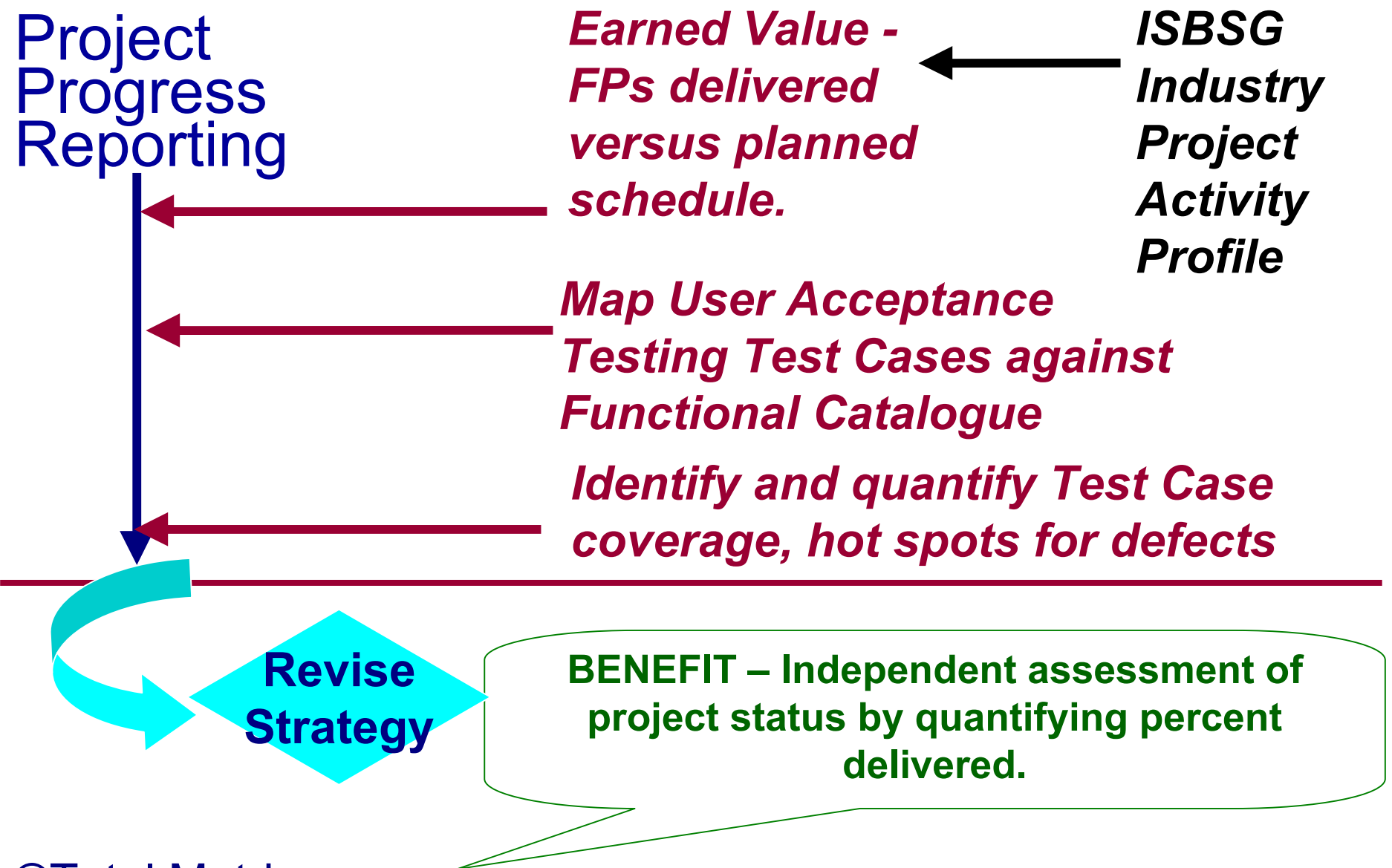


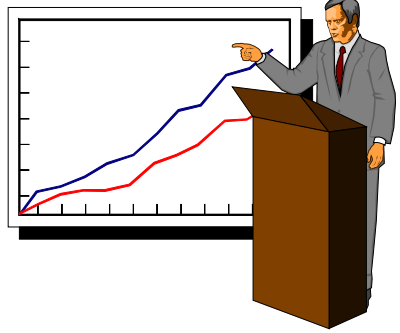
Independent Progress Recording

Project Team record Actual time against function

Completed % Status of Function predicts Effort Consumed

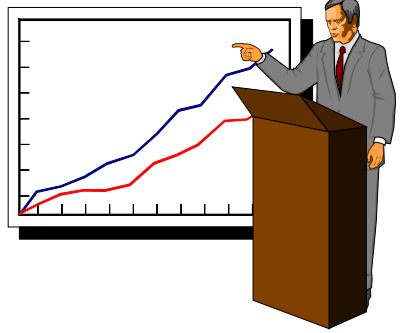
TodaysD	25-Apr-02	Predicted PDR (hrs/fp)	Completed Stage	Current Completion %	Function Points	Predicted Total Hours	Actual Hours Consumed	FP Predicted Hours Consumed	Actual Hours Remaining
Week #	8								
	BFCs								
1.1	Create Assignment	2.4	Specified	26%	6	14.4	3.0	3.7	11.4
1.2	Modify Assignment	2.4	Specified	26%	6	14.4	5.0	3.7	9.4
1.3	View / Print Assignment Detail	2.4	Specified	26%	3	7.2	5.0	1.9	2.2
1.4.1	Assign Contractor to Assignmnt	2.4	Specified	26%	4	9.6	4.0	2.5	5.6
1.4.2	Remove Contractor Assignmnt	2.4	Specified	26%	3	7.2	7.0	1.9	0.2
1.4.3	List Assignment Contractors	2.4	Specified	26%	4	9.6	4.0	2.5	5.6
1.5	Quotation Success	2.4	Built	74%	4	9.6	6.0	7.1	3.6
1.6	List Assignments Date Range	2.4	Built	74%	3	7.2	1.5	5.3	5.7
2.1	Create Assignment Type	2.4	Built	74%	4	9.6	6.5	7.1	3.1
2.2	Modify Assignment Type	2.4	Built	74%	4	9.6	5.5	7.1	4.1
2.3	Delete Assignment Type	2.4	Specified	26%	3	7.2	1.5	1.9	5.7
2.4	View Assignment Type	2.4	Specified	26%	3	7.2	1.5	1.9	5.7
2.5	List /Print Assignment Type	2.4	Tested	91%	3	7.2	4.7	6.6	2.5
	etc.....	etc.....							
			TOTAL		119	285.6	105.9	139.5	178.2

Progress Reporting



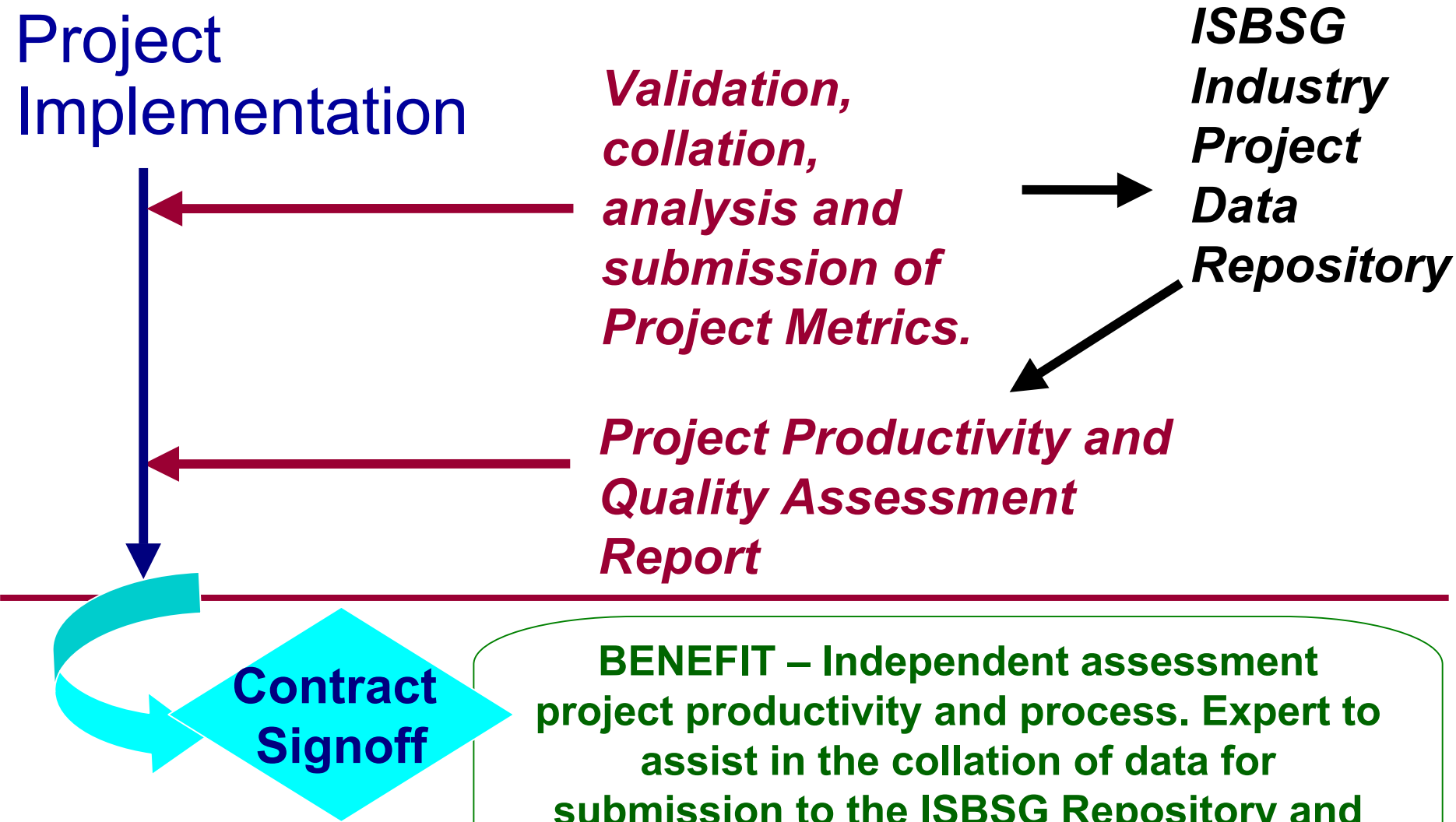
start	01-Mar-02	Week Number	8	Actual Value Calculation based on:
today	25-Apr-02	Actual	Original Plan	
PDR		1.8	2.4	Hours consumed for FPs delivered
Function Points Delivered		58.1	46.5	FPs by Percentage completion
Effort Hours Consumed		105.9	132.8	Recorded by team for work against a function
Effort Hours Remaining		178.2	161.8	Total hours predicted minus hours consumed
Weeks Remaining		10.5	9.6	Relationship between Effort and Duration
Due Completion Date		07-Jul-02	01-Jul-02	Predicted by Remaining hours

Progress Reporting



start	01-Mar-02	Week Number	8	Calculation based on:
today	25-Apr-02	Actual	Original Plan	
% Product Delivered		48.9% ✓	39.1%	%FPs Delivered of total compared to that predicted to be delivered for effort consumed
% Effort Consumed		40.2% ✓	48.9%	%Effort Consumed of total compared to Effort predicted to be consumed for FPs delivered
%Schedule Consumed		45.1% ✗	36.0%	%Schedule Consumed of total compared to predicted to be consumed for the effort expended

Project Activities– Metrics Based Governance



Case Studies

Case 1- Win / Win

- ✓ Complete functional requirements
- ✓ Successful implementation, on time, on budget and all requirements
- ✓ Good Productivity rates
- ✓ Ongoing good relationship

Case Studies

Case 2 – Conflictive

- ☒ Supplier estimates unrealistic
  - ✓ *Early warning of potential over runs*
- ☒ Supplier status reporting not reflective true situation
  - ✓ *Quantitative assessment of functionality delivered to UAT*
- ☒ Requirements not all implemented
  - ✓ *Quantitative assessment of functionality omitted for price negotiations*

Which Projects Need Governance?

- ✓ **High risk**
- ✓ **New / inexperienced project management**
- ✓ **High profile**

Cost / Benefit Analysis

- ✓ Cost ? = 1 – 3 % of software cost
  - depending on :
    - level of activities
    - Size of project
    - Internal or external consultant
- ✗ Cost of not having it ?
  - 0 – >100% of project cost

Key Success Factors?

- ✓ FPA is a standardised, structured method to identify, classify and quantify functionality to be delivered
- ✓ Independence of Scope Manager
- ✓ Certification of Scope Manager
- ✓ Reporting at Project Board Level
- ✓ Commitment both Client and Supplier
- ✓ Customisation of method to suit Project
- ✓ Transparency of the process
- ✓ Availability of relevant ISBSG data

Thank You

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