



eRA Project Update (Steering Committee)

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IV&V Team

Soza & Company / Perot Systems
Government Services



Outline

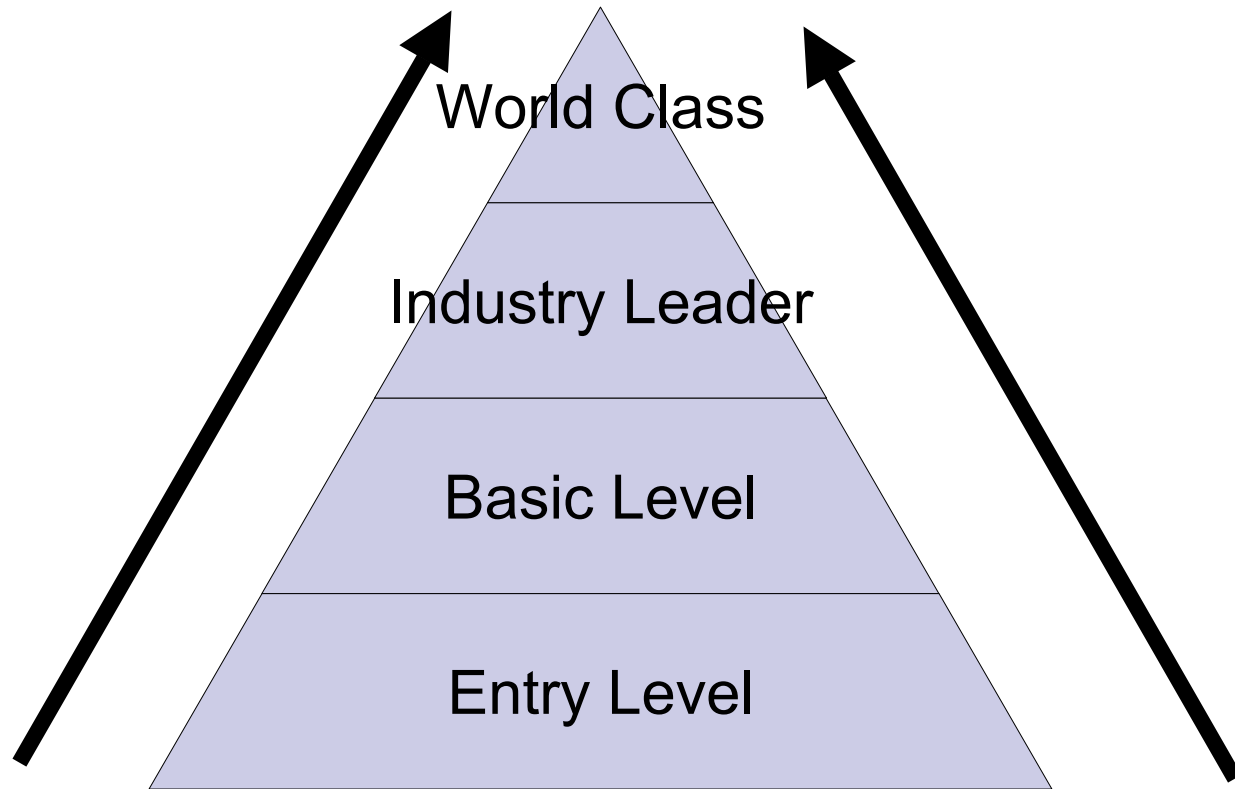
- Current Assessment
- Initial Assessment of 2001
- CY 2002 Initiatives
- Progress
- Analysis of March 2003 Release
- Challenges
- Current Initiatives

Current Assessment

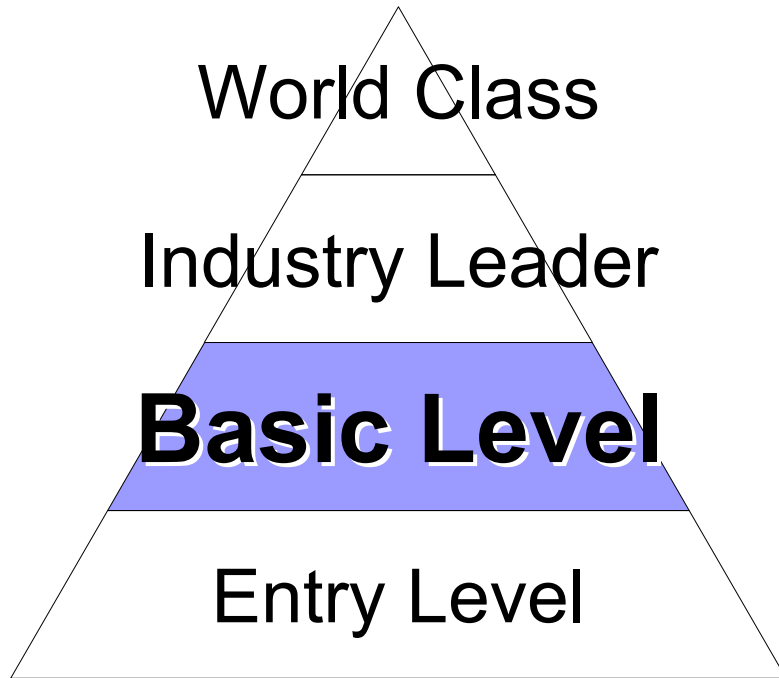
- Return on Investment (OMB 300):
 - 1.5 (50%) over 7 years (FY 2002 – FY 2008)
 - J2EE Migration
- Implementing cost & schedule measurement program
 - Evolving ability to monitor and forecast costs
 - Initial capacity to provide analysis from granular tracking of project data
 - Institution of measurement processes and practices across project modules

Current Assessment: Cost & Schedule Measurement Program

4 Levels of Measurement Maturity



Current Assessment: Cost & Schedule Measurement Program

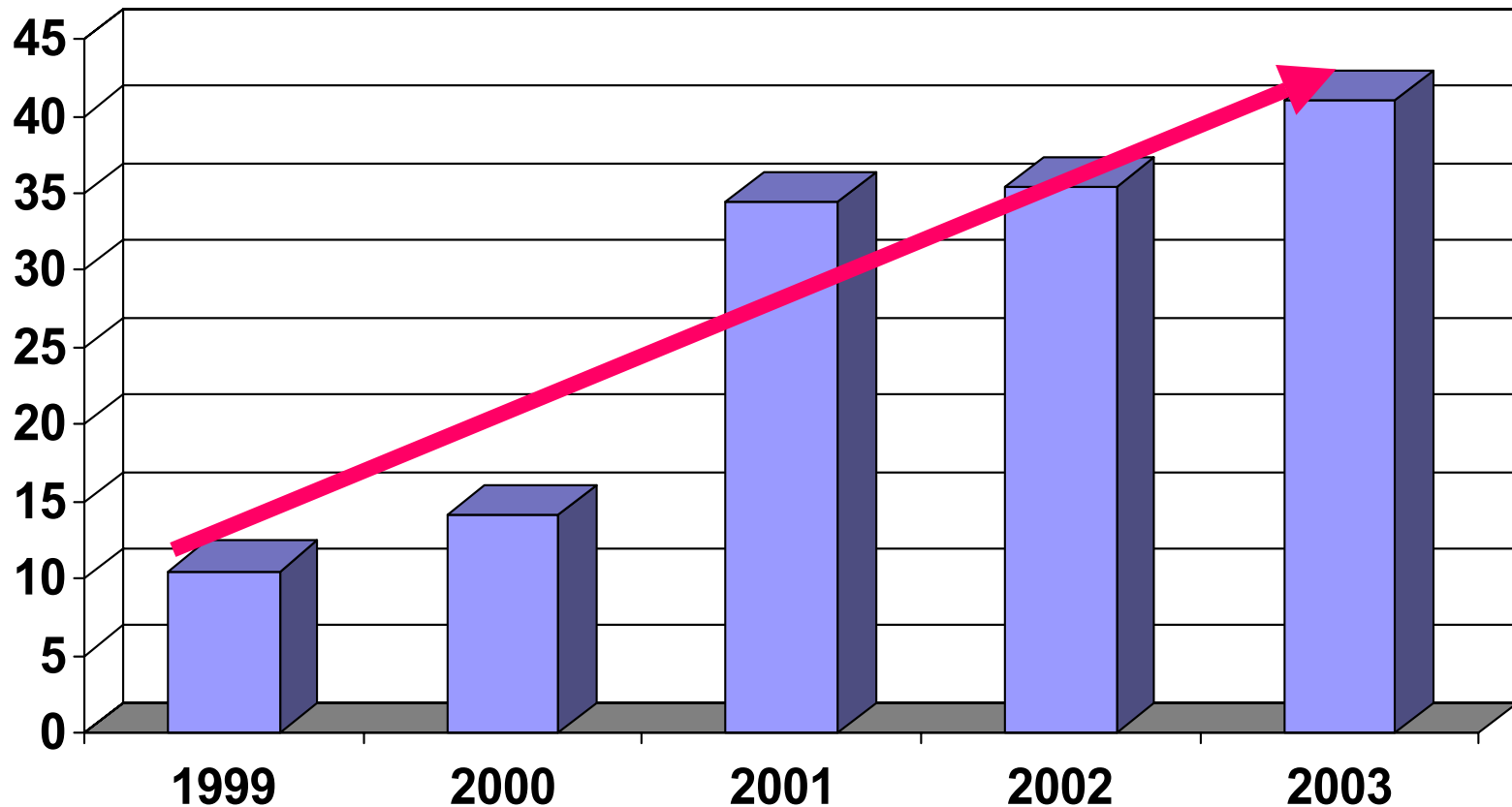


Basic Level:

- Management commitment to measurement program
- Measurement process documented
- Actively collecting data throughout lifecycle
- Increased integrity of data
- Data still questionable
- Data stored in repository
- Evolving ability to conduct detailed analysis

Initial Assessment (Nov 2001)

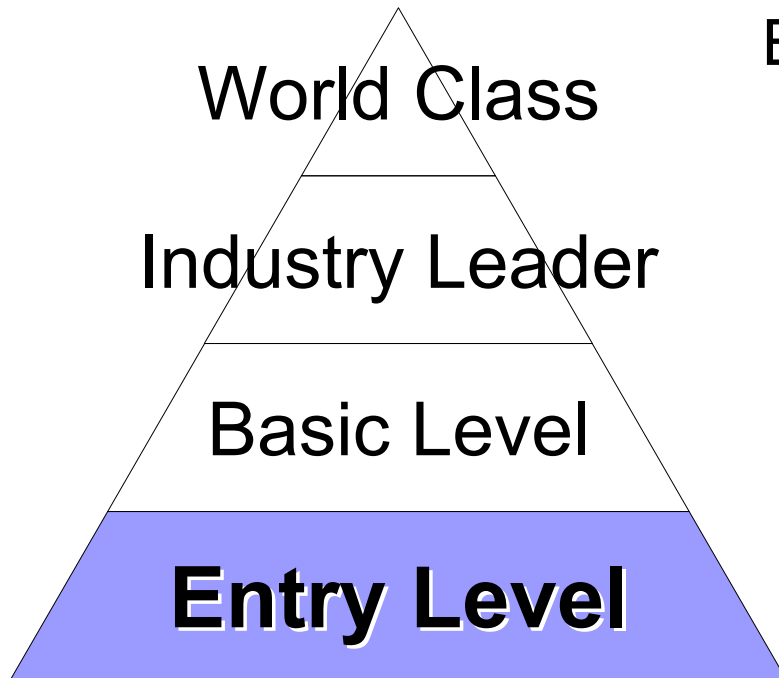
Classic symptoms of rapidly growing project:



Project Growth (millions)

Initial Assessment (Nov 2001)

Classic symptoms of rapidly growing project:



Entry Level (Below):

- Procedures and practices not standardized or fully documented
- Process across organization uneven
- Limited data availability
- Data unreliable
- PM skill set partially developed
- Institutionalization of roles throughout organization structure evolving



5 Major Initiatives

1. Define roles and responsibilities across project
2. Refine business planning processes
3. Institute a centralized project tracking system
4. Improve cost estimation capabilities
5. Track granular level project reporting data

Major Initiatives

1. Roles & Responsibilities

- Drafting of a Project Management Plan (PMP)
 - Define management processes, roles & responsibilities
- CY 02 - Period of change
- Final Draft to be completed by May 1

2. Refine Business Planning Processes

- Establish requirements management, configuration management, and change management structures
- Implementing Rational Unified Process (RUP)
- Implementing SEI/CMM Level II requirements
- Change from waterfall to iterative lifecycle – Release management

Configuration Control Board (CCB)

- eRA Operations Manager – Chair
- Membership includes
 - Architect
 - Development
 - Operations
 - Quality Assurance - Testing
 - Deployment Manager
 - Relevant
 - Developers
 - Analyst

Major Initiatives

3. Project Tracking System

- Standardize work breakdown structure (wbs); project phases; milestones; deliverables, etc...
- Piloting *PlanView*
- Assist with OMB Circular A-11 & OMB 300

Major Initiatives

4. Cost Estimation Capabilities

2 Independent Methods:

1. Baseline

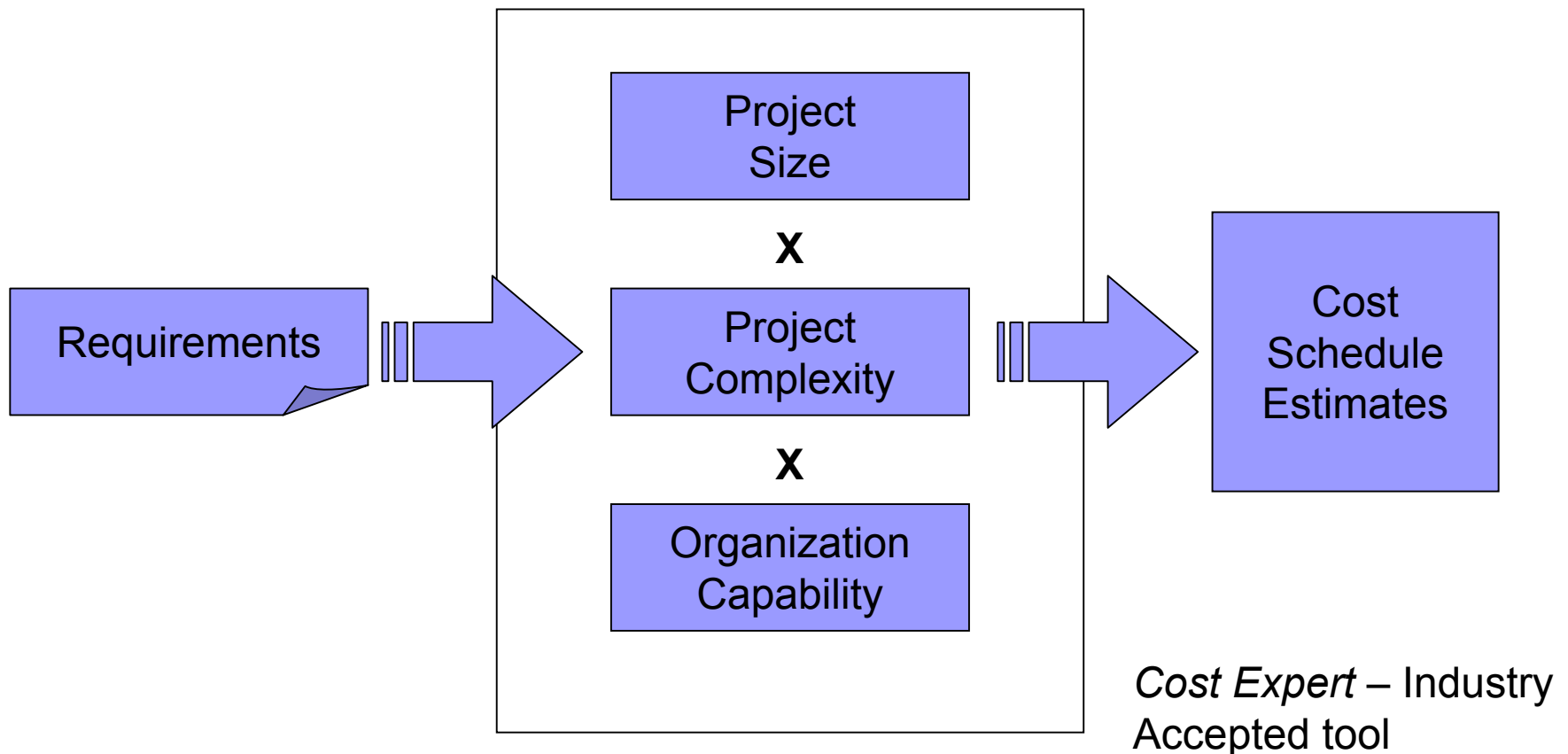
- Estimate based on historical cost & current requirements

2. Independent Estimate - *Function Point Analysis*

- Internationally recognized methodology for measuring software projects

Function Point Analysis

Quantitative and Qualitative Elements:





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graph TD; A[BASELINE] --> B((COST ESTIMATE)); C[INDEPENDENT ESTIMATE (FUNCTION POINT)] --> B
```

BASELINE

**COST
ESTIMATE**

**INDEPENDENT ESTIMATE
(FUNCTION POINT)**



Major Initiatives

5. Tracking Granular Project Data

2 Independent Methods:

1. Invoices

- Track detailed invoice reports as received

2. Real Time Estimate

- Oracle Small Business (SBS)

Tracking Granular Project Data

Real Time Estimate - Oracle Small Business Suite (SBS)

The screenshot shows the Oracle Small Business Suite Weekly Time Tracking interface. The browser window title is "National Institutes of Health OER eRA - Oracle Small Business Suite: Weekly Time Tracking". The address bar shows the file path: "C:\Documents and Settings\PasquinJ\My Documents\National Institutes of Health OER eRA - Oracle Small Business Suite Weekly Time Tracking.mht".

The interface includes the Oracle Small Business Suite logo and a navigation menu with "Employee Center" selected. The main heading is "Weekly Time Tracking" for "Employee Pasquina, Joe".

Fields include "Week of" (with a calendar icon), "Cost Category:Module", "Service Item", and "Payroll Item". A list of service items is displayed, with "E-SNAP Maintenance" selected. At the bottom, a "Totals" row shows time values: 0:00, 0:00, 0:00, 0:00, 0:00.

Overlaid on the right side of the screenshot is a list of features:

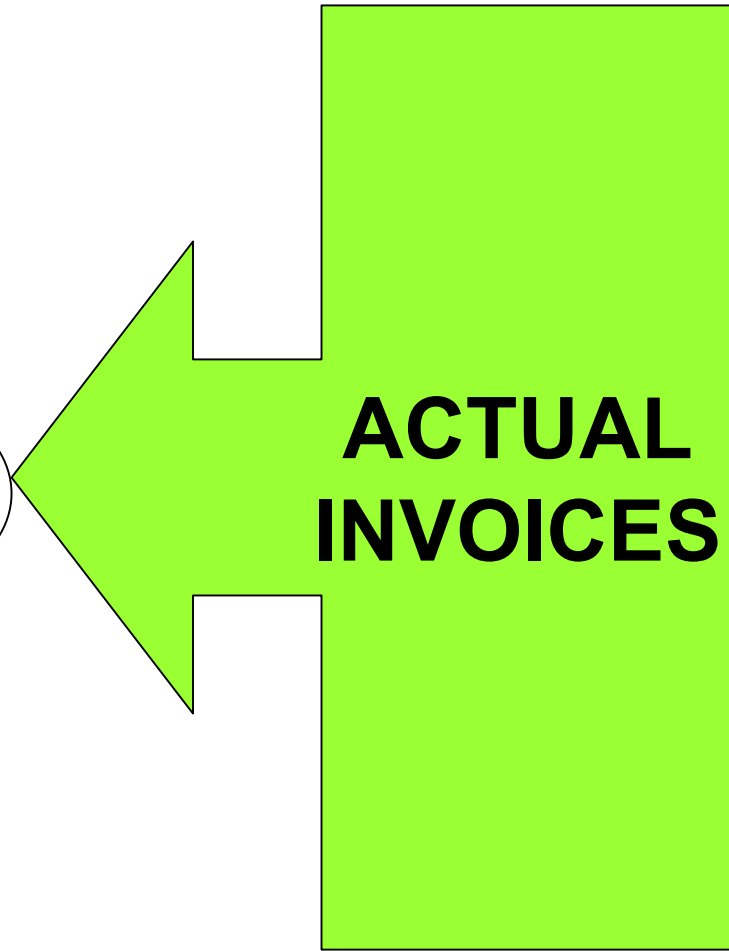
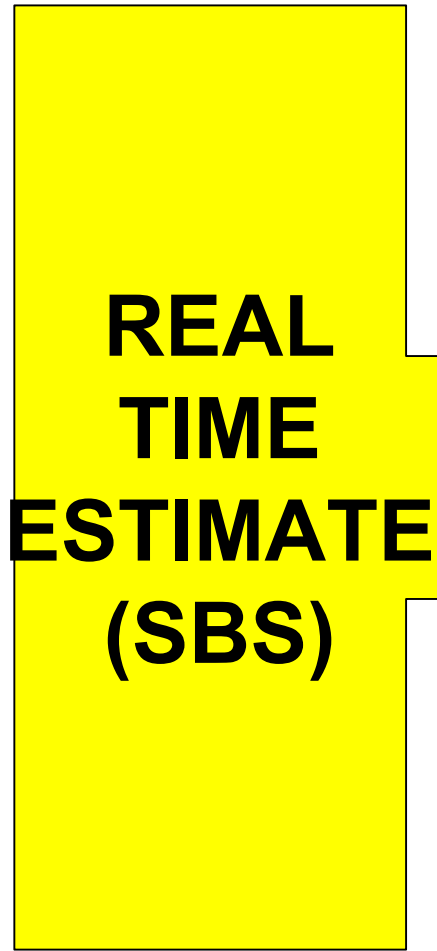
- Online work tracking system
- All project team members
 - Not Analyst
- Cost Categories
- Workflow
- Organization
 - Government
 - Contractors

Tracking Granular Project Data

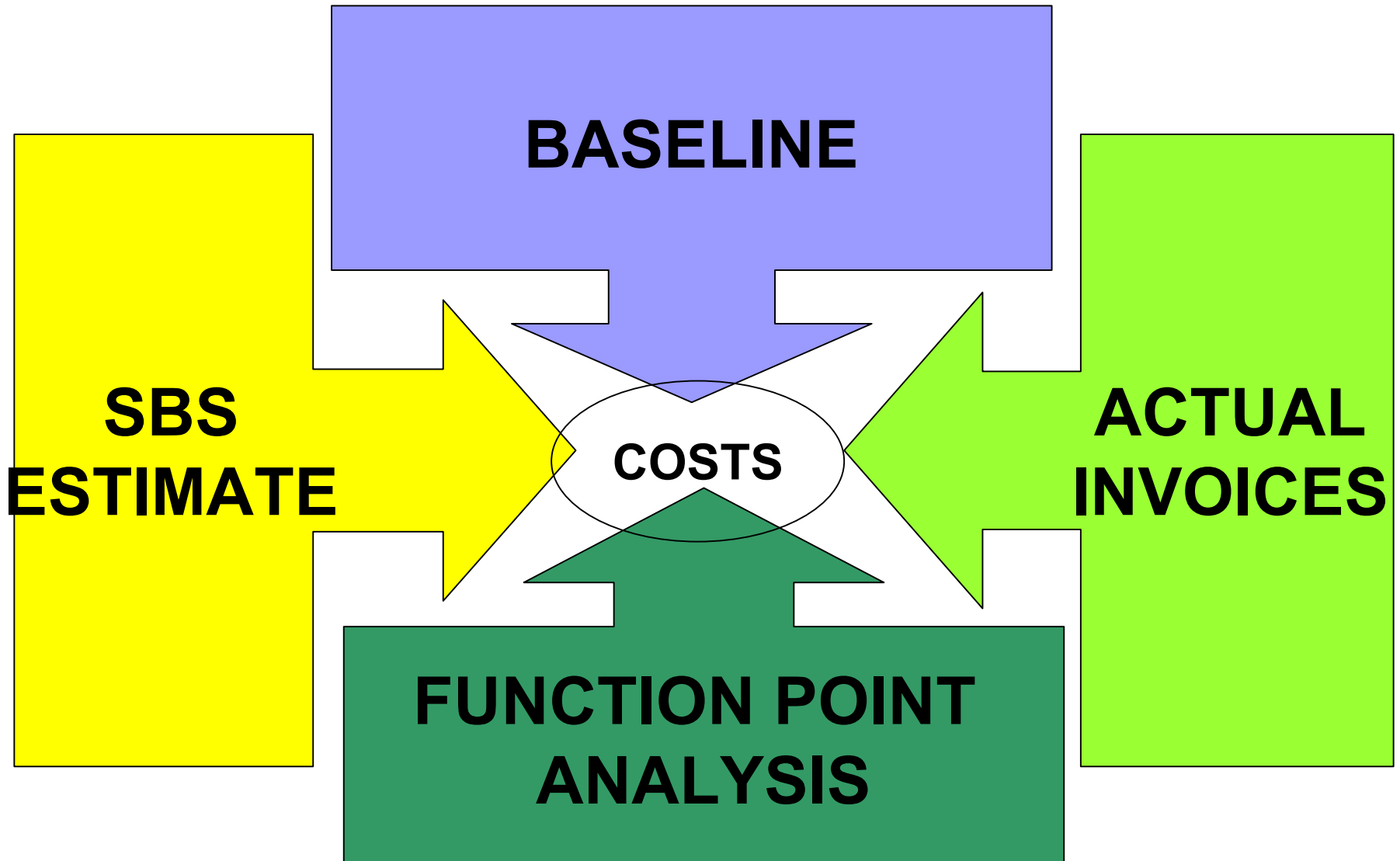
Real Time Estimate & Invoices

eRA Cost Tracking Database

- MS Access Database:
 - 126 Cost Categories – 93 Active
 - 297 employees
 - 58 government
 - 239 contractors
 - 134 invoices
 - 28 contracts
 - 22 contractors + government
 - 127 labor categories (rates)



4 Independent Methodologies



March 2003 Release - Analysis

■ Discovery Phase

- Collecting and analyzing data
- Reviewing and modifying data collection processes
- Identifying trends
- Performing gap analysis

■ 26 cost modules tracked

- Maintenance projects
- Development projects

■ Invoices – 2-month delay

- Most Dec
- Partial Jan
- Little Feb
- No March

March 2003 Release–Analysis

- Comparing Real Time Estimate (SBS) vs. Actual – December
 - Strong correlation within the modules (97%)
 - 2 outlier modules (<10%)
 - SBS = \$318K
 - Invoice = \$292K

- Baseline Estimate vs. Real Time Estimate (SBS) - Release
 - Strong correlation project wide for release
 - Baseline ≈ \$1.8 million
 - SBS data ≈ \$1.9 million
 - Variability amongst modules

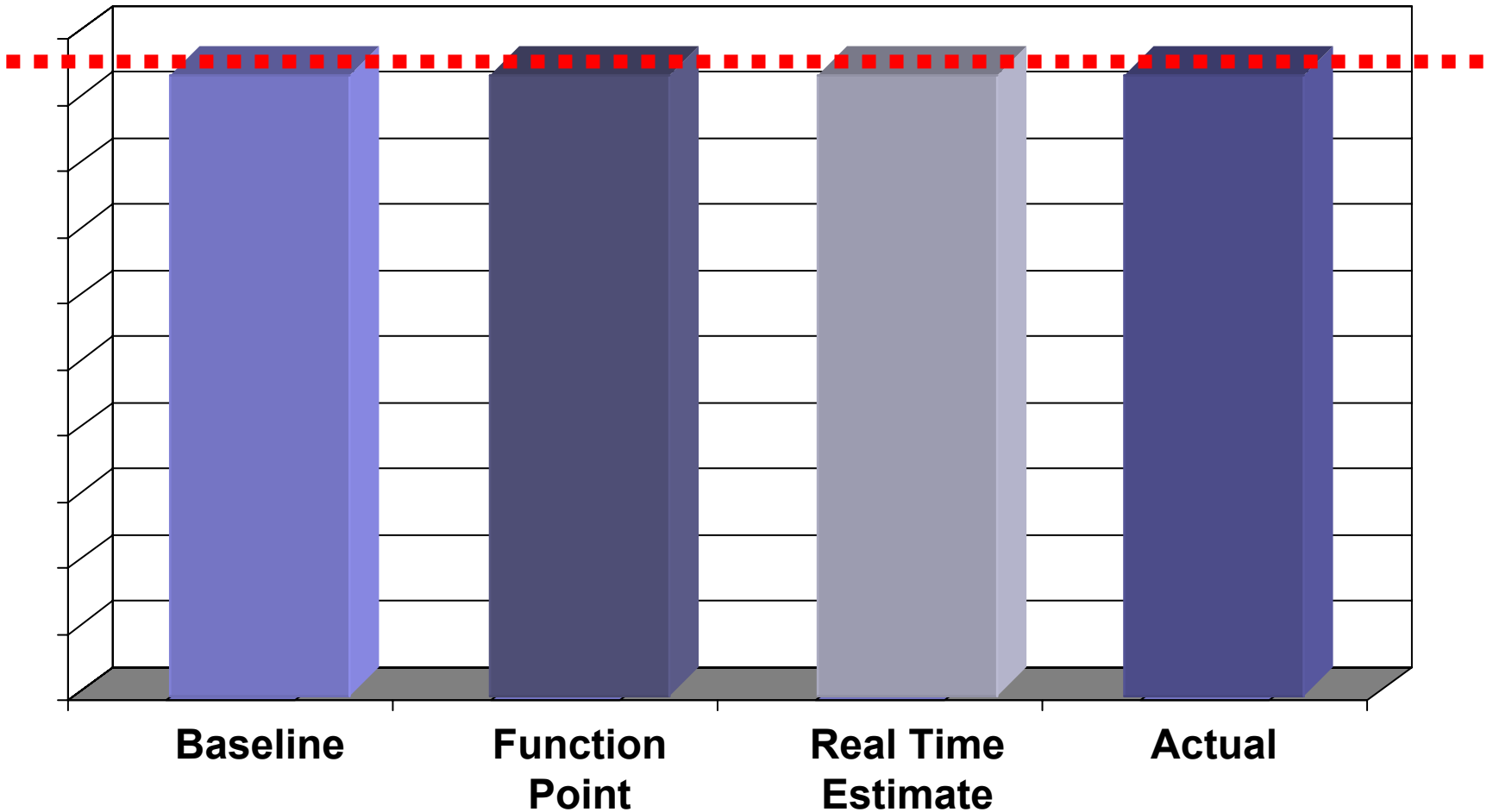
March 2003 Release

Module Category	December	
	SBS	Invoice
Committee Management Fast Track	\$ 97,075.91	\$ 92,471.54
CRISP on the WEB Maintenance	\$ 7,091.45	\$ 8,874.00
GM Closeout Maintenance	\$ 2,787.13	\$ 1,740.85
GM Maintenance	\$ 20,482.86	\$ 20,118.22
Grants Payment Management Maintenance	\$ 15,283.68	\$ 16,659.39
Grants Update Module (GUM) Maintenance	\$ 775.02	\$ 775.02
ICO Maintenance	\$ 11,180.95	\$ 13,018.63
ICSTORE Maintenance	\$ 336.40	\$ 379.19
IM Module	\$ 1,278.90	\$ 1,510.96
IRDB Maintenance	\$ 21,861.81	\$ 12,494.77
Person Module Maintenance	\$ 5,936.88	\$ 5,939.90
Receipt and Referral Maintenance	\$ 23,954.80	\$ 20,218.87
Review - Internet-Assisted Review	\$ 17,569.34	\$ 35,362.99
Review Module Maintenance	\$ 11,365.22	\$ 11,111.22
Type 4's, 6's, and 7's Module	\$ 1,277.92	\$ 3,024.52
Type 5s Module Maintenance	\$ 2,014.57	\$ 4,102.30
TOTALS	\$ 240,272.84	\$ 247,802.37

March 2003 Release – Analysis

- Independent Estimate - Function Point Analysis:
 - In discovery process
 - Unable to compare to actual costs until all invoices for March release are received
 - Sample of modules estimated – Comparable only to Baseline and Real Time Estimate (SBS)
 - Function point estimate lower than baseline and real time estimate – 2/3
 - Comparable to industry (50-60% of software projects over estimate)
 - International Software Benchmarking Standards Group (ISBSG) recommends 20-30% contingency be built in to early size estimates
 - Conducting further analysis
 - Qualitative assessment – various levels of performance for different modules

Future Vision





Current Challenges

- Ability to receive user requirements beyond 3-month window limits ability to forecast costs
- Resource leveling and monitoring scope creep still evolving
- SBS and Cost Tracking Database reaching functional limits

CY 2003 Initiatives

- Calibrate baselines across all modules
- Finalize Project Management Plan
- Migrate Oracle SBS & eRA Cost Tacking Database to PlanView
- Refine cost estimating models
- Independent cost & schedule estimates across all models
- Further expand SEI/CMM Level II capabilities
 - Build repeatable processes
- Emphasize cost control and contractor invoicing



QUESTIONS???