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Lessons Learned Using the Comprehensive Appraisal Method (CAM) for Performing Interim Progress Appraisals

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Topics

08:00 – 08:40

◈ Appraisal types

◈ Comparing CAM and SCAMPI

◈ What results from an appraisal?

◈ Lessons learned

◈ Questions and answers

◈ *This presentation is based in part on material presented by Mr. Byrnes at the 2004 ESEPG Conference and the 2004 ISD Brazil Customer's Conference.*

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Appraisal Types

Common Appraisal Goals

◈ **Ensure appraisal results**
- Contribute directly to process improvement
- Are comparable across companies

◈ **Optimize appraisal value to sponsors.**
- Support business objectives
- Optimize cost and minimize disruption

◈ **Ensure appraisal reliability.**
- Create repeatable processes – standardize
- Make results predictable and differences explainable
- Results independent of team composition

Slide excerpted and updated from presentations by Mr. Byrnes while managing the appraisal project at the SEI.

Appraisal Method Goals*

◈ Obtain accurate results relative to a reference model.

◈ Provide results that support senior management decision making.

◈ Facilitate or motivate an organization's commitment to process improvement.

◈ * Excerpt from the Comprehensive Appraisal Method (CAM) V1.0 Method Description, Part 1 Introduction

Examples of Appraisal Applications

◆ Benchmarking – improve competitive position

◆ Internal Improvement — improve organization or project performance

◆ Process Monitoring — jointly improve supplier/project/organization performance

◆ Supplier Selection – obtain best value supplier

Examples of Appraisal Classes

◆ Appraisal Requirements for CMMI (ARC) V1.1 defines different classes of appraisals

  ▪ Class A, Class B, or Class C

  ▪ Each implies different degrees of robustness of ARC implementation

◆ Appraisal methods implement the ARC requirements in various ways to meet different user needs

  ▪ Standard CMMI Appraisal Method for Process Improvement (SCAMPI) V1.1

    • CMMI Product Team developed to improve the method based on lessons from SCAMPI V1.0 pilot appraisals

    • A draft version of ISD's CAM was one input method to the SCAMPI V1.1 team

  ▪ Comprehensive Appraisal Method (CAM) V1.0

    • ISD developed follow on method to Software Capability Evaluation (SCE) V3.0

CAM Class B and C Lessons Learned

Appraisal Characteristics

Appraisal Type	Appraisal Application	Characteristics
Class A	Benchmarking Supplier Selection	A SCAMPI is an example of a Class A benchmarking A formal maturity rating can be issued Most costly and disruptive to an organization Requires an extensive amount of preparation
Class B	Internal Improvement Process Monitoring Supplier Selection	A "middle" approach compared to the Class A. Focus typically is on process improvement Identifies issues, risks, and gaps No maturity rating can be issued Moderately costly and disruptive Requires a moderate to extensive preparation.
Class C	Internal Improvement Process Monitoring	Scaled down to minimize cost and disruption Used as a self-diagnostic status check Typically one project and/or a few process areas Performed by an appraisal specialist or a small team No maturity rating can be issued Least costly and disruptive; least preparation

Benchmarking

- ◈ **ARC Class A compliant**
  - ▪ Similar to ISO results
  - ▪ Assesses Institutionalization
  - ▪ Validates "achievement."

- ◈ **SCAMPI and CAM Class A appraisals can provide benchmark quality ratings.**

- ◈ **Basis for comparing progress across similar or related business units or current state relative to competitors.**

Internal Process Improvement

◈ Usually Class B and Class C events

◈ Focus on Risk Reduction

- ▪ Identifying/Prioritizing Improvements
- ▪ Building action plans

◈ Integrates Business and Improvement Goals

- ▪ Goal Attainment
- ▪ Process and Quality

Process Monitoring

◈ Usually Class B and Class C events

◈ Focus on Risk Management

- Prioritizing and tracking improvements
- Managing action plans
- Common Management Framework

◈ Integrates Company and Customer Goals

- Typically Contract/Project Focus
- Terms and Conditions
- Basis for Corrective Action
- Performance Ranking and Incentives

Supplier Selection

◈ **Usually Class A or Class B events**

◈ **Focus on Risk Identification**
- Prioritizing and tracking improvements
- Managing action plans

◈ **Focuses on satisfying customer goals**
- Typically Future Contract Focus
- High-Quality Discriminator and/or Supplier Qualification
- Common Selection Framework, basis for comparison
- Basis for Work Product Transfer or Baseline for Process Monitoring

The Appraisal "Tool Kit"

Primary Diagnostic Purpose

"Wellness"   "Motivation"

SCAMPI A

Breadth

Organization

Model Scope

Organization Scope

CAM Class B example

Domain

These attributes are tailored up or down in CMMI® and CMM® based appraisals to meet sponsor needs

Depth

Project

Small, 1-3 days

Medium, 4-7 days

Large, 8-10+ days

Team Size and Time Onsite

CAM Class B and C Lessons Learned

13
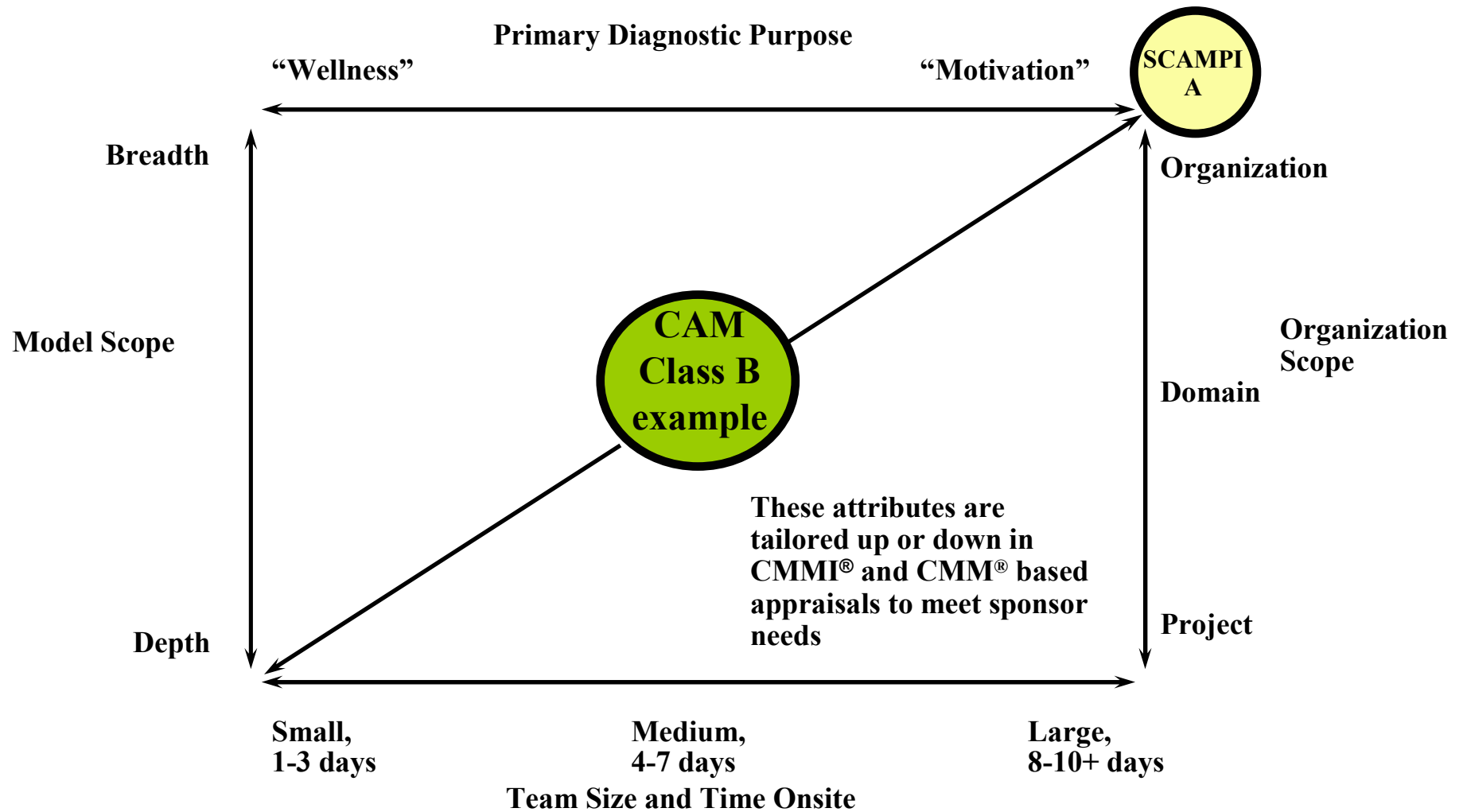
Baseline CAM Attributes - 1

◆ Team characteristics

➢ 6 team members (Class A)

➢ Led by an authorized Lead Appraiser

➢ All team members are external to the appraised entity

➢ All are trained in the reference model, appraisal method, and appraisal life cycle application area by an authorized method and reference model trainer

➢ All meet minimum CAM and ARC or CAF experience, skill, and qualification requirements

Baseline CAM Attributes - 2

◈ **Organizational scope**

  ➤ One appraised entity; event performed at a single location (per site visit),

  ➤ Organization wide project selection (within a defined business unit) and organization focused findings (Class A instantiation),

  ➤ Product line or application domain focused project selection (within a defined business unit) and potentially project specific findings (Class A or Class B instantiation),

  ➤ 2-4 (large) current projects that are representative of work done across the targeted organization unit,

  ➤ Multiple disciplines reviewed in the same event (e.g., systems and software engineering) (Class A instantiation)

  ➤ Target approximately a 25-30% sampling of representative projects available for review.

◈ **Reference model scope**

  ➤ Target Process Capability (TPC) is the set of Process Areas associated with Maturity Levels 2-3 [in the reference model]

  ➤ Full Coverage of the reference model components in the target process capability – all practices associated with the target

  ➤ Full Scope – all applicable reference model components in the target process capability

Baseline CAM Attributes – 4

◆ **Rating Baseline: Class A implementation**

➢ Target Process Capability (TPC) is the set of Process Areas associated with Maturity Levels 2-3 [Staged equivalent in the CMMI V1.1], both systems and software disciplines,

➢ Full Coverage of the reference model components in the target process capability – all practices associated with the target,

➢ Full Scope – all applicable reference model components in the target process capability,

➢ Both "breadth" and "depth" focus,

➢ Rating baseline: full coverage, full scope, with practice level ratings in addition to goal, process area, and maturity/capability level ratings,

➢ Any reference model component, including practices, may be rated (if selected for rating during the requirements analysis and planning activities).

Baseline CAM Attributes – 5

◈ Rating Baseline – Class B

➢ TPC is Staged Levels 2-3, single discipline

➢ Full coverage of the selected reference model components,

➢ Partial scope – not all components within the TPC are reviewed,

➢ Rating baseline: full coverage, partial scope, with risk adjusted practice level ratings (i.e., confidence factors). No maturity level rating.

Comparing CAM and SCAMPI

Key Decision Making Parameters

Method > Attribute	CBA IPI V1.1	CAM V1.0	SCAMPI V1.1
Cost	More costly due to distribution arrangements Less external cost due to internal resource usage	Less life cycle costs due to ◈ tailoring options, ◈ distribution arrangements, and ◈ multiple uses	Most costly due to ◈ model scope ◈ appraisal complexity, and ◈ more training
Schedule	Highly disruptive (due to organization focus)	Disruptive on appraised entity (due to sampling approach)	Highly disruptive
Performance	Least rigorous (as documented)	Rigorous, Conservative, Flexible	Most Rigorous, Highest confidence (as documented)

Distribution and Qualification

Parameter	CBA IPI V1.1	SCE V3.0/ CAM V1.0	SCAMPI V1.1
Methodology Distribution	Public	Public	Public
Training Distribution	Authorized Lead Assessors	Licensed Vendors	Licensed Vendors with Authorized Lead Appraisers
Qualification	Lead Assessor Program	Lead Evaluator Program, Contracts	Lead Appraiser Program, Contracts
Licensing	No	Yes	Yes
Authorization	Yes, via training in Assessor Program	Yes, via training in Evaluator Program	Yes, via training in Appraiser Program
Certification of People	No, implicit in Assessor Program	No, implicit in Evaluator Program	No, implicit in Appraiser Program
Certification of Results	No	Not formally – but….	No – but….

Product Suite Comparison

Product	CAM V1.0	SCAMPI V1.1
Method Description	Yes, detailed process description	Yes, detail process description
Team Member Guide	ISD release	No
Field Guide	ISD release	None
Reference Material/Work Aids	Yes, obtained in training	Some, more coming with SEI "PAL"
Implementation Guide	Supplier selection, Advance Tailoring trg	Brief Supplier Selection, New B and C Guide
Team Member Training	4 days	2.5 days
Team Leader Training	ISD delivered only	SEI delivered only
Refresher Training	SCE/CAM/SCAMPI	None
Train the Trainer	ISD customer specific delivery	None (Lead training authorizes team training by the lead)
Automated Tools	Yes, Appraisal Wizard^{tm} Integrated tooling.	None, Lead training provides electronic templates

Technical Concepts

Concept	CAM V1.0	SCAMPI V1.1
Method Tailoring	Formally built in, supported, must be documented in plans	Requirements documented, Variances allowed, must be documented
Rating Baseline Options	Yes, with coverage factors, risk adjustment	No
Consolidation Rules	Yes, sampling constrained	Yes, sampling constrained
Rating Rules	Yes	Yes
Temporal Flow	Yes, see MDD	Yes, see MDD
Data Flow Diagrams	Yes, in MDD	No
Activity Descriptions	Yes, in MDD	Yes, in MDD
Outputs	Findings, Ratings (optional), Reports	Findings, Ratings, Reports

Appraisal Method Comparison

◈ **Rating methods are explicit**

- SCAMPI focuses on goals, but requires practice characterization

- CAM focuses on practices, allows options for less detail, proactively supports tailorability

◈ **Consolidation rules are slightly different**

- CAM uses stricter documentation guidelines than IPI, and allows for formal sampling approaches to meet full coverage rules

- SCAMPI has the most stringent evidence rules to meet full coverage. No slack is available. Data points required for each instance.

Appraisal Method Comparison - 2

◈ CAM and SCAMPI *may* focus on different parts of the organizational process and unit.

◈ Both may include non-model based findings impeding process improvement.
  ▪ Less likely in a benchmarking SCAMPI due to purpose and focus of event.

◈ Data collection/analysis is structured for both
  ▪ each method may use varying techniques, tools, and forms
  ▪ focus of investigation is on validating practice implementation

Method Tailoring Comparison

◈ **Method Tailoring**

- CAM builds tailoring into the process formally.

- SCAMPI activity descriptions document tailoring options, required execution elements

- SCAMPI limits its application areas (organizational unit focus, benchmarking)

- Both SCAMPI and CAM require appraisal plans to document tailoring decisions.

Examples of Appraisal "Families"

◈ Internal Improvement — self improvement

◈ Acquisition — selecting suppliers [supplier selection]

◈ Teaming or Joint Improvement — customers and suppliers together [process monitoring]

◈ *Third Party — certification [benchmarking]*

◈ **SCAMPI V1.1 was explicitly redesigned to meet the last application area**

◈ **CAM V1.0 supports SCAMPI benchmarks for a full "appraisal lifecycle approach"**

Slide adapted from SCE V3.0 training

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What Results from the C-B-A set of Appraisals?

Desired C-B-A Timeline

◈ Class C T-12 months from Class A event

   ▪ Time to fix processes and re-deploy

◈ Class B T-6 months from class A event

   ▪ Time to update processes, correct implementation issues, and re-deploy

◈ Readiness Review T-2 months from Class A event

   ▪ Time to better organize unit for conducting the event and closing final gaps

Typical Class B Appraisal Goals

◈ Perform an ARC-compliant appraisal;

◈ Rate the risks in the organization's process implementation;

◈ Baseline the organization's capability against the reference model;

◈ Minimize disruption of on-going projects;

◈ Report findings at a sufficient granularity to minimize risk and maximize action planning;

◈ Provide recommendations to facilitate management decision making;

CAM Class B and C Lessons Learned

Specific Example Class B Goals

◆ Conduct CMMI Class B Level 5 Appraisal

  ▪ Externally Led Appraisal – Lead Appraiser Paul Byrnes

◆ Interview participants as we would in a Class A

◆ Re-review updated and new Objective Evidence provided based on Class C findings

  ▪ Rigorous review – Class A Thoroughness

  ▪ Projects participated fully

◆ Rate Risk for a Class A CMMI Level 5 Appraisal as as scheduled for <specific date>

Example Project Selection Criteria

◈ Organization Coverage: representative of and consistent with organization practices, programs, business goals and objectives, and PI program implementation; meet minimum size criteria;

◈ Model Coverage: projects with institutionalized practices which reflect model requirements;

◈ Life Cycle Coverage: Typically 3 or more projects at or near completion;

◈ Functional Coverage: projects representative of development (requirements, design, construction and test) practices - limited to one maintenance and no sub-projects.

Key Points About Findings

- Findings include
  - strengths/best practices (superior implementation)
  - compliance (satisfactory implementation)
  - alternate practices (satisfactory implementation)
  - weaknesses (gaps against the model)
    - significant, standard, and minor (severity designator)
  - improvement activities (not institutionalized) (optional)
    - "filling gaps" and "improving standard practice" types
  - recommendations

- Findings and ratings are determined through consensus.
  - all findings are validated by the team
- Reminder: A reference model component can be rated "satisfied" even though it has validated weaknesses.

Example Improvement Activities

improvement activity in an implementation practice	One project is using a new, organizationally approved developmental baseline procedure as a pilot test prior to roll out to the entire organization.
improvement activity in an institutionalization practice	An engineering improvement team chartered by the division has a draft peer review policy and procedure ready for implementation.

Note: These "improvement activities" are a valid finding in a CAM. It is currently not a finding type in a SCAMPI.

CMMI® Practice Characterizations

◈ Practices are characterized according to their "degree" of implementation by each project:

- Fully Implemented (FI), Largely Implemented (LI), Partially Implemented (PI), Not implemented (NI)

◈ Project characterizations are "rolled up" into an organization level practice characterization.

◈ Organization practice characterizations are the basis for determining Process Area goal satisfaction.

Key Points About Class B Ratings

◆ Ratings for this event were *informal*. Each practice was characterized as either
- Fully implemented
- Largely implemented
- Partially implemented
- Not implemented
- Not applicable [an ISD method extension]
- "Not there yet" [an ISD method extension]

◆ Practices, goals, and process areas were *"rated"* relative to *risk* in achieving a successful <scope> SCAMPI in <schedule>. Risk is relative to
- Quantity of issues to resolve
- Difficulty of actions to implement
- Resource availability
- Time available before the Class A

Example Practice Characterizations
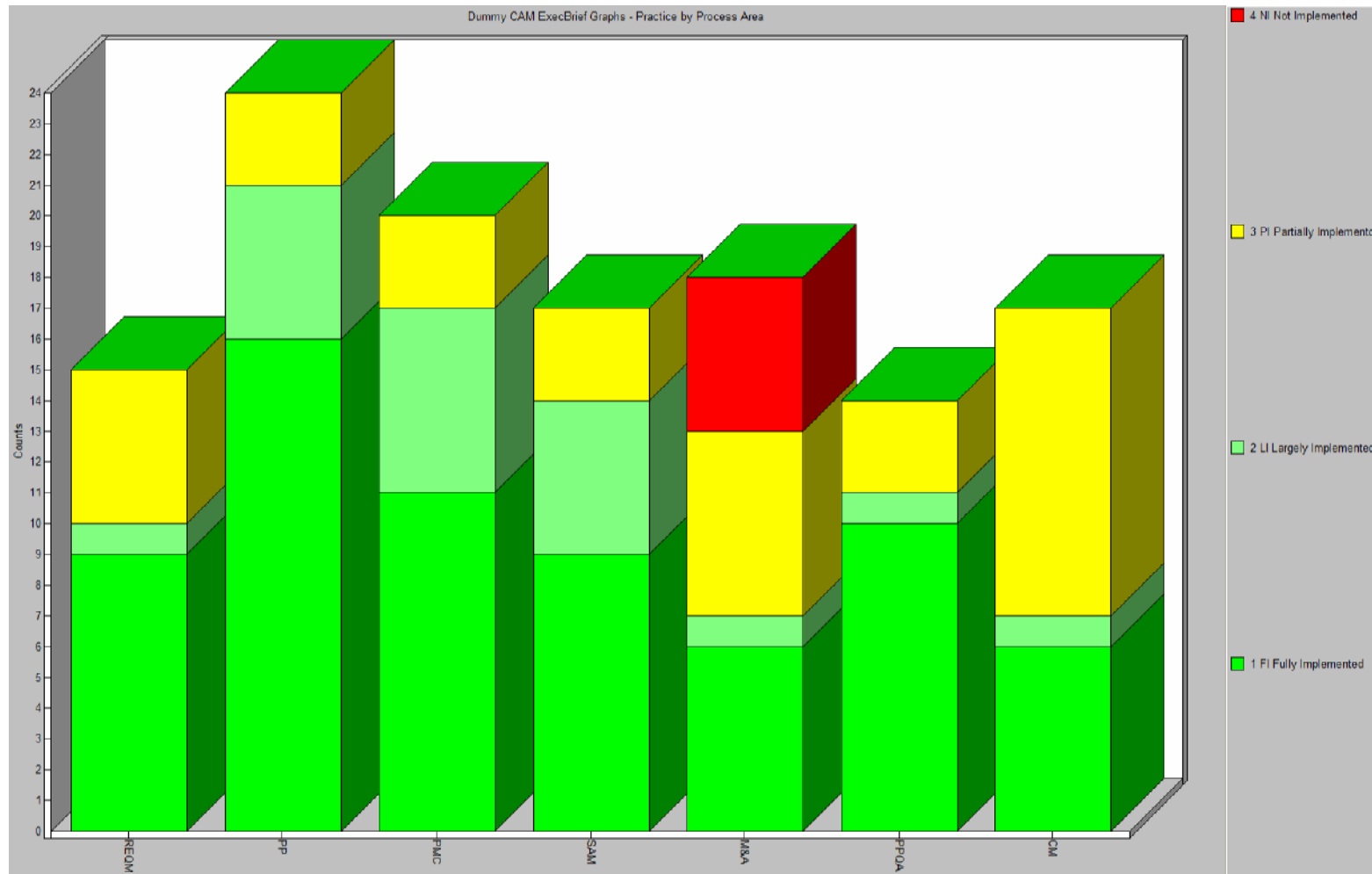
PA	CO	AB					DI				VE		SP													
	1	1	2	3	4	5	1	2	3	4	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14
REQM													1.1	1.2	1.3	1.4	1.5									
PP													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3
PMC													1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3				
SAM													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
M&A													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
PPQA													1.1	1.2	2.1	2.2										
CM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
RD													1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	3.4	3.5				
TS													1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2					
PI													1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	3.4					
VER													1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2						
VAL													1.1	1.2	1.3	2.1	2.2									
OPF													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
OPD													1.1	1.2	1.3	1.4	1.5									
OT													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
IPM													1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	
RSKM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
IT													1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5						
ISM													1.1	1.2	2.1	2.2	2.3									
DAR													1.1	1.2	1.3	1.4	1.5	1.6								
OEI													1.1	1.2	1.3	2.1	2.2	2.3								
OPP													1.1	1.2	1.3	1.4	1.5									
QPM													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
OID													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
CAR													1.1	1.2	2.1	2.2	2.3									

Risk Rating Legend

NAME	COLOR
High	(red)
Medium	(yellow)

Class B Risk Rating Profile - Medium

PA	CO 1	AB 1	2	3	4	5	DI 1	2	3	4	VE 1	2	SP 1	2	3	4	5	6	7	8	9	10	11	12	13	14
REQM													1.1	1.2	1.3	1.4	1.5									
PP													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3
PMC													1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3				
SAM													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
M&A													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
PPQA													1.1	1.2	2.1	2.2										
CM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
RD													1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	3.4	3.5				
TS											1.1*		1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2					
PI													1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	3.4					
VER													1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2						
VAL													1.1	1.2	1.3	2.1	2.2									
OPF													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
OPD													1.1	1.2	1.3	1.4	1.5									
OT													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
IPM													1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	
RSKM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
IT													1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5						
ISM													1.1	1.2	2.1	2.2	2.3									
DAR													1.1	1.2	1.3	1.4	1.5	1.6								
OEI													1.1	1.2	1.3	2.1	2.2	2.3								
OPP													1.1	1.2	1.3	1.4	1.5									
QPM													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
OID													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
CAR													1.1	1.2	2.1	2.2	2.3									

Risk Rating Legend

NAME	COLOR
High	(red)
Medium	(yellow)

Class B Practice Rating Grid

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NAME	COLOR
1 FI Fully Implemented	(green)
2 LI Largely Implemented	(light green)
3 PI Partially Implemented	(yellow)
4 NI Not Implemented	(red)
5 NTY Not There Yet	(purple)

PA	CO 1	AB 1	AB 2	AB 3	AB 4	AB 5	DI 1	DI 2	DI 3	DI 4	VE 1	VE 2	SP 1	SP 2	SP 3	SP 4	SP 5	SP 6	SP 7	SP 8	SP 9	SP 10	SP 11	SP 12	SP 13	SP 14
REQM													1.1	1.2	1.3	1.4	1.5									
PP													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3
PMC													1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3				
SAM													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
M&A													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
PPQA													1.1	1.2	2.1	2.2										
CM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
RD													1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	3.4	3.5				
TS													1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2					
PI													1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	3.4					
VER													1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2						
VAL													1.1	1.2	1.3	2.1	2.2									
OPF													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
OPD													1.1	1.2	1.3	1.4	1.5									
OT													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
IPM													1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	
RSKM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
IT													1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5						
ISM													1.1	1.2	2.1	2.2	2.3									
DAR													1.1	1.2	1.3	1.4	1.5	1.6								
OEI													1.1	1.2	1.3	2.1	2.2	2.3								
OPP													1.1	1.2	1.3	1.4	1.5									
QPM													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
OID													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
CAR													1.1	1.2	2.1	2.2	2.3									

Practice Characterization Legend

NAME	COLOR
1 FI Fully Implemented	(green)

Class B Practice Coverage Grid

NAME	COLOR
Full	(green)
Partial	(yellow)
None	(red)

PA	CO 1	AB 1	AB 2	AB 3	AB 4	AB 5	DI 1	DI 2	DI 3	DI 4	VE 1	VE 2	SP 1	SP 2	SP 3	SP 4	SP 5	SP 6	SP 7	SP 8	SP 9	SP 10	SP 11	SP 12	SP 13	SP 14
REQM													1.1	1.2	1.3	1.4	1.5									
PP													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3
PMC													1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3				
SAM													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
M&A													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
PPQA													1.1	1.2	2.1	2.2										
CM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
RD													1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	3.4	3.5				
TS													1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2					
PI													1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	3.4					
VER													1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2						
VAL													1.1	1.2	1.3	2.1	2.2									
OPF													1.1	1.2	1.3	2.1	2.2	2.3	2.4							
OPD													1.1	1.2	1.3	1.4	1.5									
OT													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
IPM													1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	
RSKM													1.1	1.2	1.3	2.1	2.2	3.1	3.2							
IT													1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5						
ISM													1.1	1.2	2.1	2.2	2.3									
DAR													1.1	1.2	1.3	1.4	1.5	1.6								
OEI													1.1	1.2	1.3	2.1	2.2	2.3								
OPP													1.1	1.2	1.3	1.4	1.5									
QPM													1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4						
OID													1.1	1.2	1.3	1.4	2.1	2.2	2.3							
CAR													1.1	1.2	2.1	2.2	2.3									

OU Coverage Legend

NAME	COLOR
Full	(green)
Partial	(yellow)

CAM Class B and C Lessons Learned

Specialized Findings Types

Finding Type	Class C	Class B
Missing Documents	188	72
Link Issues	69	30
Evidence Type Issues	139	41
Recommendations	29	31
Compliant	536	807
Minor Weakness	50	49
Weakness	95	19
Improvement Activities	18	25
Total Records Approved	1132	1086

Note specialized findings types in bold, italics – these are specific to the "build up" of the objective evidence in the appraisal database.

Example Rating Profile
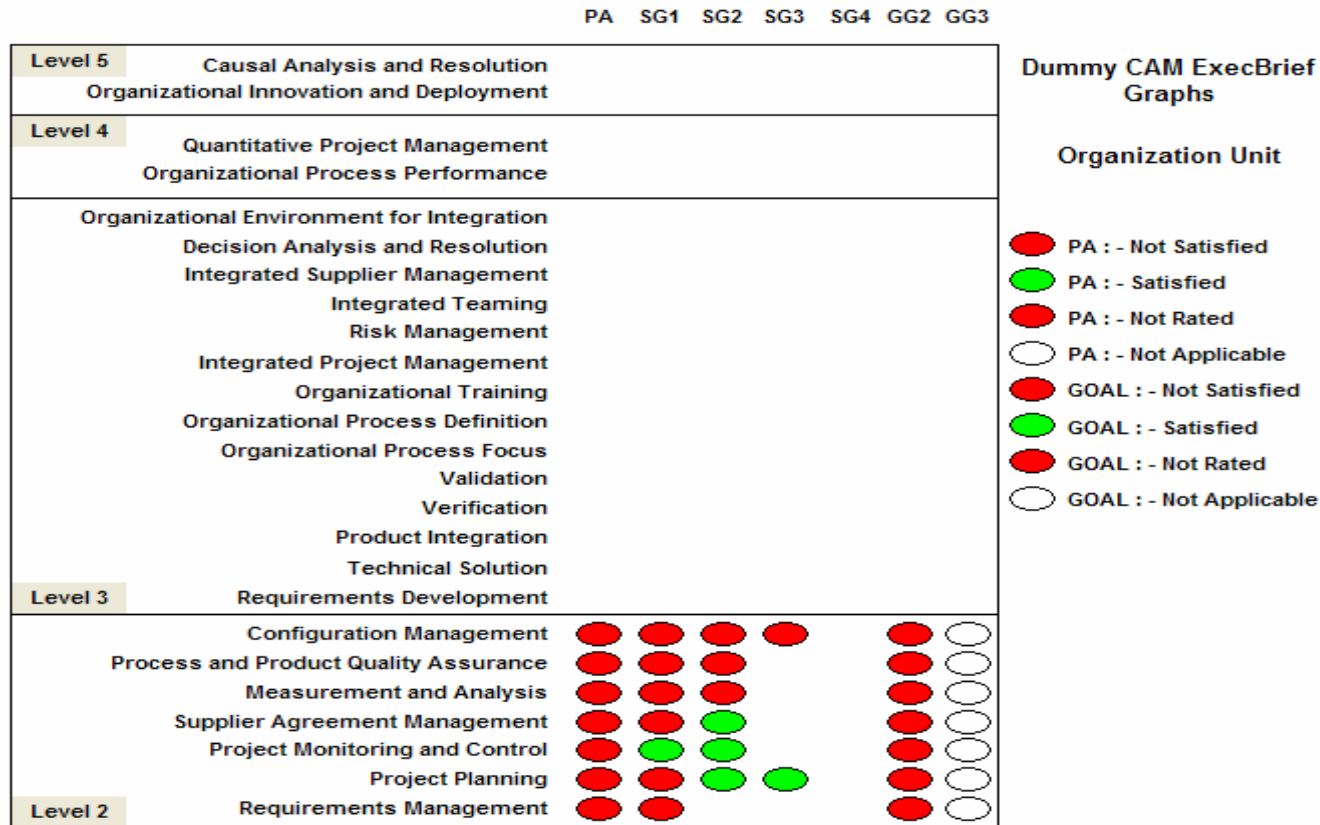
This summary profile is not a formal rating – only an "A" provides that. This Profile is indicative of an organization with significant risk of SCAMPI target Achievement.

Relative Costs

- ◈ Planning
- ◈ Conducting
- ◈ Reporting
- ◈ Follow-Up

- ◈ Other Key Costs
  - Training
  - Participant time
  - Evidence collection
  - Equipment/Tools
  - Travel

Appraisal Class	Time on Site	Effort
Class A	8-10 work days	100 hours per team member
Class B	4-7 work days	50 hours per team member
Class C	1-3 work days	24 hours per team member

This table only reflects the Conducting period

Management Support for Improvement Efforts

◈ Commitment - Management commitment is more than funding.

◈ Strategic - integrate process into the business model

◈ Direction - business unit goals and objectives

◈ Communication - staff meetings, newsletters, process advocates

◈ Leadership ("this is important to the business...")

◈ Tracking - Measurement and reporting (walk the talk)

Lessons Learned and Trends

An Example of a Large Organization's Successful Implementation Strategy

◈ Spend time up front defining the organization scope

◈ Take an integrated approach to process deployment

◈ Target a model scope that makes sense for your current state, business goals, and business environment

◈ Minimize impact on programs

◈ Conduct informal interim appraisals (Class C, Class B) as a risk reduction technique

These lessons are paraphrased from one of ISD's CMMI customers, as reported in 2003 in a public forum

Lessons Learned - Management

◈ Implement classic program management

- ▪ Plan, plan, plan: Manage the effort like a project. Track progress, identify and mitigate risks, and escalate unresolved issues immediately
- ▪ Start early (earlier than for CMM, single discipline events)

◈ Prioritize activities and focus on weaker areas with higher risk

- ▪ Manage risks (technical, logistical, and appraisal risks)
- ▪ Develop contingency plans
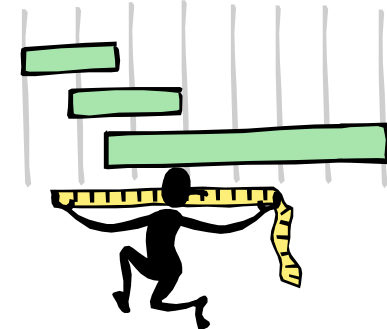
Lessons Learned - Evidence

◆ Organize objective evidence in a user-friendly and straightforward manner

- Prepare and provide guidance for objective evidence material, particularly for new model concepts

- Use interim (C and B) appraisals to incrementally "build" the appraisal database

- Store evidence electronically – Use automated tooling.

- Review the evidence for consistency

Lessons Learned – Appraisal Conduct

◈ **Assemble a well balanced team**

   ▪ Select an external Lead Appraiser familiar with the work environment and

   ▪ Work with Lead Appraiser in advance

◈ **Use external consultation services to identify gaps and recommend ways to reduce appraisal risk**

◈ **Address each finding in Process Improvement Plans after each interim appraisal**

◈ **Prepare a thorough In-Brief explaining the organization environment and its approach to process implementation**

These lessons are paraphrased from one of ISD's CMMI customers, as reported in 2003 in a public forum

SCAMPI "A" Relationship to "B and C"

◈ Purpose of SCAMPI Results

- Maintaining or increasing "win" rates in declining environments
- Adding business explicitly based on process expertise
- Receiving customer awards
- Validating performance by customer teams
- Generating significant "word of mouth" peer credibility

◈ *Purpose of the "other 90%" of the appraisals performed….*

- *risk identification, risk mitigation,*
- *gap analysis, gap closure,*
- *best practice identification, technology (process) transfer*

Summary

◈ **CAM V1.0 supports an integrated "appraisal tool kit"**

- CAM was designed for multiple integrated applications
- CAM can be used internally to support process improvement and can also be used by a prime in managing their suppliers
- CAM augments SCAMPI V1.1 benchmark appraisals

◈ **CAM Class B and C usage facilitates rigorous risk management efforts and significantly reduced risks of failure in the SCAMPI Class A**

◈ **There are wide variations in B and C applications.**

Questions and Answers

- Q
- &
- A