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# **A Family of SCAMPI Appraisal Methods**

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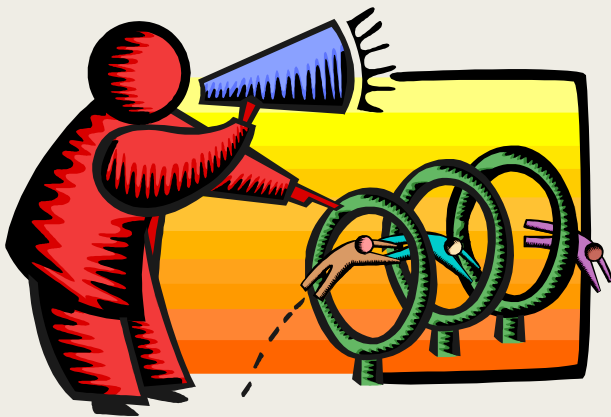
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# Objectives



Introduce the three classes of SCAMPI appraisal methods, different appraisal needs and types, and the SCAMPI B & C Project.



## Three Classes of Appraisals

Characteristic	Class C	Class B	Class A
Amount of objective evidence	Low	Medium	High
Ratings generated	No	No	Yes
Resource needs	Low	Medium	High
Team Size	Small	Medium	Large





# Appraisal Needs

Getting Started, Understanding the CMMI

Familiarization or Expectation Setting for Future Appraisal

Broad-based Information on Implementation of Practices

In-depth Analysis of Implemented Practices

Gap Analysis Focused on Findings of Previous Appraisal

Incremental Data to Track Improvement Progress

Benchmarking Leading to a Public Statement



# Appraisal Types

Getting-Started Intervention

\*Mini Appraisal

\*Gap Analysis

\*Improvement Monitoring

Delta Appraisal

Incremental Appraisal

Benchmarking Appraisal



# Getting-Started Intervention

**Purpose:** Provide information to an organization learning about CMMI.

**Description:** Expert-directed, presentation & discussion-intensive, broad scope, shallow coverage method that emphasizes participation of affected groups in facilitated sessions - with no focus on sufficiency of coverage.

**Rough Effort Estimate:** One to two experts on site for 1 to 5 days. Planning and coordination effort driven by appraisal scope.





# Mini Appraisal

**Purpose:** An abbreviated version of a benchmarking appraisal used for experience and non-rating related outputs.

**Description:** Team-based, data intensive, narrow scope, deep coverage method that emphasizes the use of Objective Evidence and interviews - with reduced focus on data sufficiency.

**Rough Effort Estimate:** One expert on site for 3 to 5 days. Planning and coordination effort driven by appraisal scope, and experience level of local team members.



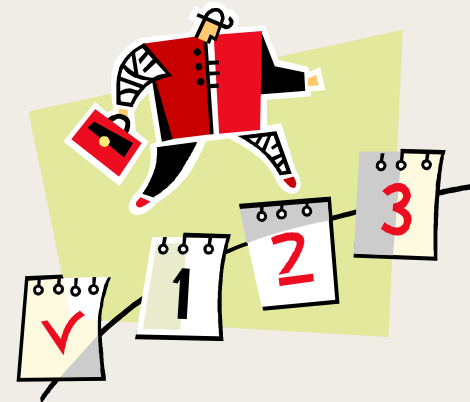


# Gap Analysis

**Purpose:** Identify specific deficiencies in implemented practices relative to practices which would support achievement of the goals - for a specified scope.

**Description:** Expert-based, interview-intensive, broad scope, shallow coverage method that emphasizes identification of weaknesses - with more limited focus on sufficiency of coverage.

**Rough Effort Estimate:** One to two experts on site for 1 to 3 days. Planning and coordination effort driven by appraisal scope.





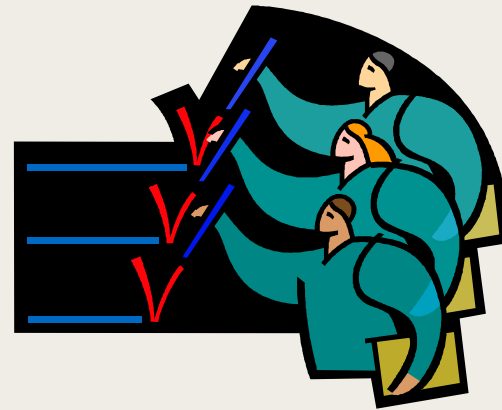


# Improvement Monitoring

**Purpose:** Track implementation of process improvement actions in an organizational unit that has previously undergone a benchmarking appraisal.

**Description:** Expert-based, interview & document-intensive, narrow scope, deep coverage method that emphasizes identifying status of changes in processes - with more limited focus on sufficiency of coverage.

**Rough Effort Estimate:** One to two experts on site for 1 to 3 days. Planning and coordination effort driven by scope and outcomes of previous appraisal(s).





# Delta Appraisal

**Purpose:** Confirm corrective actions resulting from a benchmarking appraisal.

**Description:** Expert-based, interview & document-intensive, very narrow scope, deep coverage method that emphasizes confirming specific changes in processes - with limited focus on sufficiency of coverage for the model.

**Rough Effort Estimate:** One to two experts on site for 1 or 2 days. Planning and coordination effort driven by the nature and magnitude of weaknesses identified in the benchmarking appraisal.



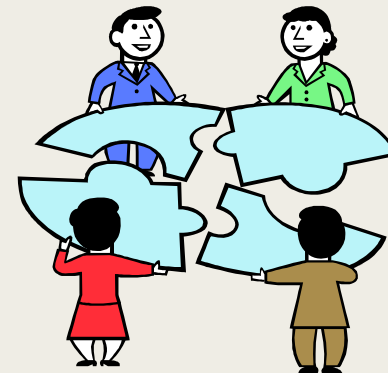
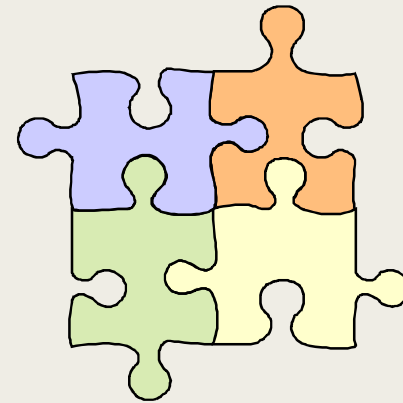


# Incremental Appraisal

**Purpose:** Building a profile of results across a broad model and/or organizational scope.

**Description:** Expert-directed or team-based, data intensive, narrow scope, deep coverage method that emphasizes use of objective evidence - with strong focus on sufficiency of coverage (in narrow increments).

**Rough Effort Estimate:** Appraisal events distributed over time. One expert on site for 3 to 8 days. Planning and coordination effort driven by appraisal scope, and experience level of team members.



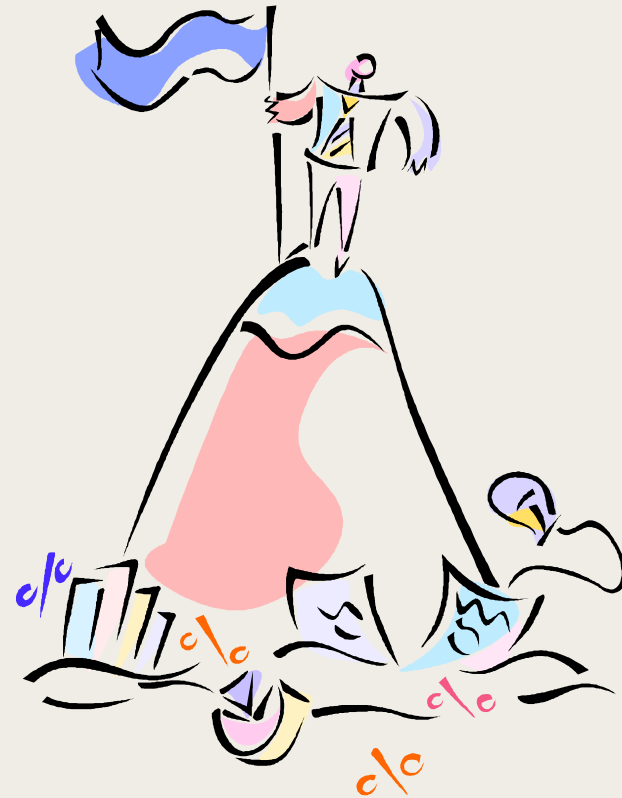


# Benchmarking Appraisal

**Purpose:** Document a frequently sought, high level, benchmark for an organizational unit.

**Description:** Expert-directed and team-based, data intensive, broad scope, deep coverage method that emphasizes use of objective evidence - with strong focus on sufficiency of coverage.

**Rough Effort Estimate:** One expert on site for 5 to 15 days. Planning and coordination effort driven by appraisal scope, organizational maturity, and experience level of team members.





# Sources of Objective Evidence

## Instruments

- Organizational assets reflecting evidence of implementation of model practices (e.g., mapping tables)
- Questionnaires

## Interviews

- Standard structured interviews; on-call interviews; follow-up interviews
- Exploratory or focused questions targeted at manager, practitioners and/or users

## Presentations

- Briefings, demonstrations

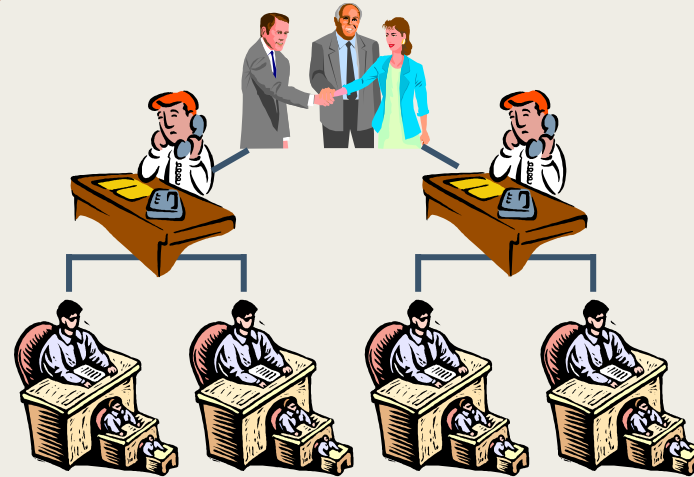
## Documents

- Hardcopy, softcopy, hyperlinks

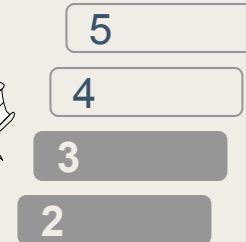
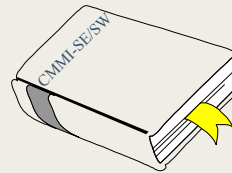


# Appraisal Scope

Defining the  
“Organizational Unit”



Selecting CMMI Model,  
Representation, and Scope



	0	1	2	3
PA1			Yellow	
PA2		Red		
PA3			Green	Green
PA4			Yellow	
PA5		Red		
PA6		Red		



## Broad Scope, Shallow Coverage

Take advantage of low cost data collection methods

- achieve broader coverage of the organization
  - include all projects, not just 4 for benchmarking
- address a larger portion of the model
  - match information sources to information needs

Limitations of low cost data collection methods

- very limited opportunity to explain nuances
  - yes/no questions in interviews don't pay off
- difficult to assure validity of data
  - ambiguous questionnaire items don't help



## Narrow Scope, Deep Coverage

Maximize insight with a small sample of the organization

- detailed insight about a selected unit in the organization
  - potentially include every staff member
- full coverage of limited model material
  - minimal risk of undiscovered weaknesses

Limitations of using a small sample

- limited ability to make generalizations
  - process of one stellar project may be misleading
- limited coverage of the lifecycle in use
  - implementation of future phases may differ from intended practices





## Required Outputs: SCAMPI B&C

Completed Appraisal  
Disclosure Statement (ADS)

Identification of data collection  
techniques used

Identification of data collection  
sessions conducted

Appraisal plan, annotated with  
actual data for

- time, effort and cost
- model coverage
- organizational coverage





## Expected Outputs: SCAMPI B&C

Statements of strengths and/or weaknesses relative to model practices, goals or other components.

Characterizations of differences in practice implementation

- across model content covered in the appraisal
- across organizational units included in the appraisal





## Optional Outputs: SCAMPI B&C

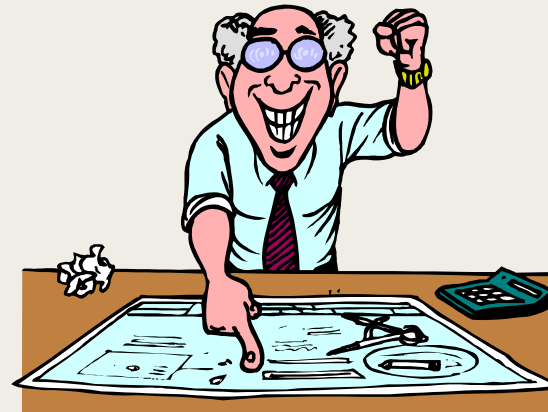
Detailed data summaries related to a pre-existing:

- process improvement target
- performance contract
- remedial improvement action
- set of risk areas in a contract

Orientation and/or training for:

- improvement champions
- technical and managerial staff
- sponsors new to CMMI

A 'watershed' event for a group of co-workers.





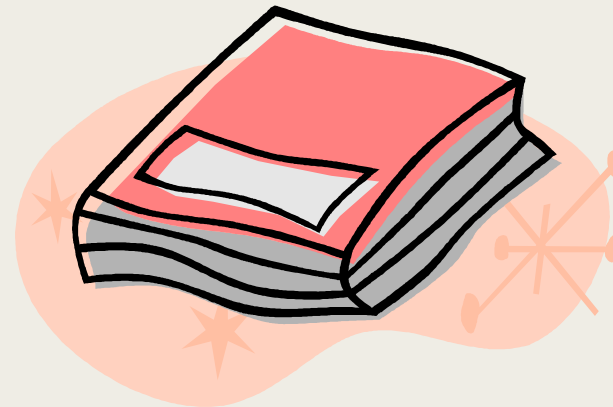
# Appraisal Reporting Techniques

Formal presentations using “slides” - words and graphics.

Facilitated, interactive, presentations with specific participants.

Group or individual meetings involving appraisers and participants.

Written material, ranging from ‘bulleted’ summaries in presentation slide format to a full detailed report.





# Appraisal Use/Purpose: Examples



Formulating Our  
Winning Strategy



Fixing Immediate  
Problems



Exploring Goals for  
Improvement &  
Training Staff



# Appraisal Outcomes: Examples -1



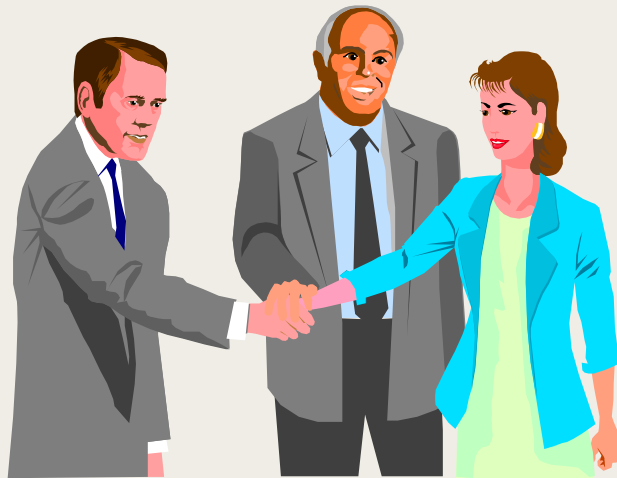
Making Sure Our  
House is in Order



Charting Progress  
Against Our Plan



## Appraisal Outcomes: Examples -2



Recognize Progress  
and Celebrate Success



Find New  
Challenges  
to Conquer



## The SCAMPI B&C Project

SEI working collaboratively with appraisal stakeholders:

- prototyping and field trials with collaborator organizations
- communication with stakeholders about the project
- periodic dissemination of draft material for review
- publication/presentation of project results





# SCAMPI B&C Project Objectives

Develop, Field Test, and Deploy an integrated suite of appraisal methods that are:

- Developed iteratively with extensive field tests
- Based on requirements from users
- Integrated and upwardly compatible
- Well specified and documented





## Project Goals

1. Jointly Develop proven B&C appraisal methods
2. Transition B&C competencies to the participating organizations
3. Advance the (SCAMPI) authorization of current and future lead appraisers
4. Deliver value to the participating organizations' improvement efforts through the delivery of pilot appraisals
5. Jointly produce: technical reports, papers, presentations



# Appraisal Usage Modes

Internal process improvement

Acquisition

- Source selection
- Contract/Process monitoring



# Options for the Pilot Appraisals

- Appraisal types and timing sequence
- Definition of the OU scope (what parts of the organization are included in the appraisal)
- Definition of the reference model scope
- Findings
  - At the OU level
  - Discipline specific
  - Project specific
- These options drove the derivation of the pilot use cases and the pilot enactments.



## Estimated Resources

### Team Members

- Class B (2-9) 3-8 days on-site; 1-2 days training
- Class C (1-6) 1-5 days on-site; 0-1 days training

### Appraisal participants

- 1-5 hours/participant, including (as applicable)
  - Attending the opening meeting
  - Completing a questionnaire or survey
  - Participating in an interview session
  - Participating in a validation session
  - Attending the findings presentation



## SEI's Role

Steward of the family of SCAMPI appraisal methods

Lead developer of SCAMPI B and C methods

Definer of pilot data to be collected and data analyses to be performed

Leader/Coach of pilot appraisals



## Conclusion



Not all appraisal needs  
make sense using the  
SCAMPI A method.

The SEI is developing  
SCAMPI B & C methods.