Module Objectives

Understand goal, objectives, and structure of course.

Be familiar with course reference materials.

Know the logistics for the course.

Set expectations for the course.

Get to know fellow team members.
Module Topics

Course goal and objectives
Introductions
Reference materials
Logistics
Course structure and schedule
Expectations

Course Goal and Objectives

Goal
Be able to effectively and efficiently perform your team member role in a SCAMPI Class A appraisal.

Objectives
Understand steps of the Class A appraisal process.
Understand underlying principles of the Class A appraisal process.
Perform as a “mock” team member through practical demonstration and exercises.
Reference Materials

1. SCAMPI Method Definition Document (SMDD), V1.3
2. Appropriate reference model document
3. Sampling Factor Guidance (Appendix F, MDD V1.3)
## Course Map

<table>
<thead>
<tr>
<th>DAY 1</th>
<th>DAY 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM</strong></td>
<td><strong>PM</strong></td>
</tr>
</tbody>
</table>
| Course Introduction  
  • Exercise 1 – Personal Introductions  
  Team Development  
  Method Overview | On-site – Affirmations continued  
  • Exercise 4 – Group Interview  
  On-site – Practice Characterization  
  • Exercise 5a – Instantiation Level Characterization |
| Preparing for the Appraisal  
  On-site – Data Review & Analysis  
  • Exercise 2 – Initial Document Review | • Exercise 5b – OU Level Characterization  
  On-site – Preliminary Findings  
  • Exercise 6 – Develop and Present Preliminary Findings  
  Assign Appraisal Ratings  
  • Exercise 7 – Goal Rating  
  Concluding Activities |
Participant Expectations

What do you want to get out of this course?

Key competencies you are expected to learn

Be able to effectively and efficiently:
- Perform document reviews
- Conduct interviews
- Determine practice characterizations
- Develop preliminary findings
- Determine ratings
- Develop final findings
Exercise 1 - Personal Introductions

Team Solution

Team Development

© 2011 Carnegie Mellon University
Module Objectives

Lay a foundation for working effectively as an appraisal team.
Understand the stages for creating a successful team.
Establish key elements of an appraisal team charter.
Understand a model for decision making.

Module Topics

Appraisal teams
Drexler/Sibbet Team PerformanceTM Model
Components of a team charter
Consensus decision making
Your Experiences with Teams

Can you think of a team (outside of work) that you were happy and proud to be a member of?

- What characteristics led to those feelings?

Now, can you think of a team (outside of work) that was unpleasant or disappointing to be a member of?

- What characteristics led to those feelings?

When is a Group a Team?

Groups that call themselves teams usually have:

- a reason or purpose for working together;
- a need for each other’s experience, ability, and commitment to obtain a mutually held goal;
- a belief that working cooperatively will lead to more effective output than working alone; or
- accountability within the larger organization.
What is an Appraisal Team?

A Class A appraisal team

- is a team of experienced individuals that conducts a process appraisal of an organizational unit
- may contain members internal to the organization as well as those external
- typically consists of 4-9 members, one of whom is the appraisal team leader

Why Teams Are Important to Appraisals

Appraisal results reflect the knowledge, experience, and skill of the appraisal team.

Objectivity of the appraisal results is dependent on the objectivity of the appraisal team.

Credibility of the results is dependent on the credibility of the appraisal team and its decision making process.
Documenting a Team’s Shared Understanding: The Team Charter

The team charter is a tool to set team boundaries and help ensure a shared understanding of important points that the team has reached consensus on.

Even in the structured SCAMPI appraisal process, there is a real risk that team understandings and norms will become vague and misunderstood if they are not written down.
Important Components of a Team Charter

1. Clear goals
2. Appropriate membership
3. Clearly defined roles
4. Sufficient time and resources
5. Shared values and beliefs
6. Group norms

Clear Goals

An appraisal team cannot reach its goals systematically if the goals are ambiguous or missing.

For a typical appraisal team, key goals are:

- Follow the SCAMPI process, with full fidelity, as tailored for this appraisal.
- Provide appraisal results that are clear and accurate, and that provide value to the sponsor.
- Complete all appraisal activities as scheduled, without excessive stress on the team.
2 Appropriate Membership

An effective team’s membership is carefully selected.

Team members are selected based on criteria already provided to the organization, considering:

- Members must bring an appropriate mix of knowledge and skills to successfully complete the task.
- The team is large enough to handle the task.
  - Every additional member requires the team spend additional time coordinating activities.
- Team members are dedicated throughout the appraisal to avoid confusion from shifting membership.

3 Clearly Defined Roles

Because teams are made up of individuals who fill interdependent roles, members must understand clearly what role each member plays and what behaviors are expected of each role.

Without clear, agreed-upon roles, members can experience conflict and stress.

When roles are understood clearly and agreed upon, members can coordinate their actions more easily to complete their tasks.

Subsequent modules will specify the roles that team members will take on under the SCAMPI method.
4 Sufficient Time and Resources

Team members need enough time to complete the work and the resources to support them.

Teams need two kinds of time:

- **performance time** – during which the team prepares to produce, and produces its results.
- **process time** – during which the team reflects on how it can improve performance by systematically learning from experience to improve overall effectiveness.

Appropriate resources need to be provided to ensure team efficiency and effectiveness (e.g., spreadsheets, Internet or intranet access)

Part of the Lead Appraiser role is to monitor the team’s use of time and resources, and ensure adequate performance and process time.

5 Shared Values and Beliefs

In a team with a strong culture, members take actions and make decisions that are consistent with shared values and beliefs.

Team culture is the set of beliefs and values that members share and that guide their behavior.

- **Beliefs** are assumptions about what is true (e.g., people are naturally motivated to do a good job).
- **Values** are assumptions about what is worthwhile or desirable (e.g., practicing what one preaches).
6 Team Norms

Norms are expectations about how people should or should not behave that all team members share.

Effective teams develop a set of explicit norms that tells members what kinds of behavior are expected and not expected of them.

**Team norms are often unspoken**, resulting in some members misinterpreting them.

- It is difficult to enforce unspoken norms when members violate them.

---

**Norms for this team**

Behavior norms for the team during this course and the appraisal.
Consensus -1

One key team norm built into the SCAMPI method is that all important team decisions are made by consensus.

Consensus is finding a proposal acceptable enough that all team members can support it, and no team member opposes it.

Consensus

- attempts to produce a win/win solution for all team members
- retains team integrity and mission focus

[Source: Scholtes, The Team Handbook]

Consensus -2

Consensus is not:

- a unanimous vote—it may not reflect everyone’s first priorities
- a majority vote—even the minority must be content with the proposal
- necessarily making all team members totally satisfied
Tests for Consensus

Thumb voting technique:

- Thumb up means “Yes, the decision is what I would choose on my own.”
- Thumb sideways means “The decision would not be my first choice, but I can live with it, and I will support it.”
- Thumb down means “No, I cannot live with it or support it.”

Every team member must vote, and even one thumb down means the decision is not accepted.

Consensus has been achieved when:

- Everyone feels their views have been heard by the team
- Everyone can live with the proposed decision

Reasons Why Someone Might Vote Thumbs Down

Conflicting views about what the data means
Individual perspective has not been adequately discussed
Misunderstanding about the intent of the model
Personal agenda or individual biases
Others?
Consensus Pitfalls

Settling for too little
• It can be tempting to reduce the content of the proposal so that its importance is trivial.

Expecting to always be “right”
• Choose your battles wisely; don’t quibble just for the sake of “winning.”

Confusing consensus with 100% agreement

Others?

Need for Additional Charter Items?

Many items normally included in a team charter are, in effect, already defined for us by the SCAMPI method.

Are there additional items that we would like to document for our team?
• Shared Values
• Shared Beliefs
• Team Norms
Team Development Summary

Stages in team development

- Orientation
- Trust Building
- Goal/Role Clarification
- Commitment
- Implementation
- High Performance
- Renewal

Typical team charter contents

- Goals
- Roles
- Membership
- Time Available
- Shared Values and Beliefs
- Group Norms

Consensus decision making maintains team integrity and cohesion throughout the SCAMPI Class A appraisal.

SCAMPI Class A Method Overview

© 2011 by Carnegie Mellon University
This material is approved for public release. Distribution is limited by the Software Engineering Institute to attendees.
Module Objectives

Provide a high-level overview (30,000 foot or 9,144 meter level) of

- sequence of activities performed during an appraisal
- terminology used during an appraisal
- roles and responsibilities of appraisal team

Module Topics

> What is a SCAMPI Class A?

Terminology

SCAMPI Class A activities overview

Appraisal roles and responsibilities
Standard CMMI Appraisal Method for Process Improvement (SCAMPI) – Class A

Full comprehensive appraisal method
ARC class A method
Uses CMMI-based reference models, People CMM, and other reference models

SCAMPI Class A Objectives

SCAMPI A enables a sponsor to
- Gain insight into an organization’s capability by identifying the strengths and weaknesses of its current processes relative to appraisal reference model(s).
- Prioritize improvement plans.
- Focus on improvements (correct weaknesses that generate risks) that are most beneficial to the organization given its current level of organizational maturity or process capabilities.
- Assign derive capability level ratings as well as a maturity level rating, if requested by appraisal sponsor.
- Identify risks relative to capability/maturity determinations
Appraisal Principles

Start with a process reference model.
Use a defined appraisal method.
Involve senior management as an appraisal sponsor.
Observe strict confidentiality and non-attribution.
Approach the appraisal collaboratively.*
Focus on the sponsor’s business objectives.

* When SCAMPI is used for Supplier Selection or Process Monitoring modes, it may not be possible to use a collaborative appraisal approach.

Module Topics

What is SCAMPI Class A?
> Terminology
  SCAMPI Class A activities overview
  Appraisal roles and responsibilities
Terms with Special Meaning

Organizational Unit (OU)
Organizational Scope
Subgroup
Basic Unit
Support Function
Objective Evidence
Instantiation
Database of Objective Evidence
  • Artifacts
  • Affirmations
Practice Characterization

Organizational Unit

That part of an organization that is the subject of an appraisal and to which the appraisal result will be generalized.

• Deploys one or more processes that have a coherent process context and operates within a coherent set of business objectives.

• Typically part of a larger organization.
  – In a small organization, the organizational unit may be the whole organization.

[SCAMPI MDD glossary, v1.3]
Organizational Unit (OU) Examples

Specific project or set of (related) projects

OR

A unit within an organization focused on a specific life-cycle phase (or phases)
  - e.g., acquisition, development, maintenance, or support

OR

Part of an organization responsible for all aspects of a particular product or product set

Organizational Scope

The collection of basic units and support functions that provides instantiations of practices used within, and representative of, an organizational unit.

[SCAMPI MDD glossary, v1.3]
Subgroup

Cluster of basic units that share common sampling factor alternatives and exhibit similar process implementations.

[SCAMPI MDD glossary, v1.3]

Basic Unit

A managed set of interrelated resources which delivers one or more products or services to a customer or end user and typically operates according to a plan. Such a plan is frequently documented and specifies the products or services to be delivered or implemented, the resources and funds to be used, the work to be done, and the schedule or doing the work.

[SCAMPI MDD glossary, v1.3]
Support Function

An organizational group that provides products and/or services for a bounded set of activities needed by other portions of the organization.

Examples of support functions include a configuration management group or an engineering process group.

[SCAMPI MDD glossary, v1.3]

Objective Evidence (OE)

Artifacts or affirmations used as indicators of the implementation or institutionalization of model practices.

[SCAMPI MDD glossary, v1.3]
Instantiation

The implementation of a model practice used in the appropriate context within the boundaries of an organizational unit.

[SCAMPI MDD glossary, v1.3]

Instantiation Example

Example – Instantiations of the abstract term “automobile”:

Example – A potential alternate instantiation of the abstract term “automobile”:
Instantiation – Use Within CMMI Reference Model

CMMI practices are abstractions
  • Implemented and made real in their application by basic units and support functions.

The context within which the practice is applied “drives” the implementation.

Instantiation includes:
  • Details of implementation

AND
  • Context within which the practice is implemented

May be either at organizational unit or basic unit level.

Defining the Organizational Unit

Identify sampling factors that could affect process implementation

Differences in the way work is performed can arise from the constraints placed on the basic unit or support function.

The constraints represent pressures against which the practices of the organization must remain resilient.
Sampling and Instantiation in Appraisals

A sample of practice instantiations (within the organizational unit) is identified.

Implementation of practice is appraised for each member of the sample instantiations.

Extent to which the practice is implemented across the sample is used to indicate the extent to which the practice is implemented in the organizational unit.

Sampling Factor

A representative sample for the organizational unit is established by selecting basic units from each of the subgroups according to the following requirement:

The proportion of basic units sampled from a given subgroup shall be (at a minimum) equal to the proportion of basic units (within the organizational unit) that are contained in that given subgroup (with at least one basic unit sampled from each subgroup).

\[
\text{Minimum number of Basic Units to be selected from a given Subgroup} = \frac{\text{Number of Basic Units in the given Subgroup}}{\text{Total number of Basic Units}} \times \text{Number of Subgroups}
\]
Objective Evidence

Objective evidence are “footprints” which are indicators of the implementation or institutionalization of model practices. SCAMPI appraisals use objective evidence as the focus to verify practice implementation. Verifying practice implementation is the review of Objective Evidence to determine whether a practice is implemented within a basic unit, support function, and/or organization.

Objective Evidence Types

Artifacts
Affirmations
Artifacts

Artifacts are

- A **tangible** form of objective evidence indicative of work being performed that represents either the **primary output** of a **model practice** or a **consequence of implementing** a model practice

Examples:

- Example **work products** listed in CMMI practices
- Target products of an “establish and maintain” specific practice
- Documents, deliverable products, training materials, meeting minutes, etc.

Special Cases of Artifacts

For some practices, documents are accepted as artifacts even if they are not the primary intended result of performing the practice. For example:

- CM SP1.2 Establish a **configuration management system** (this could be represented by a schematic or a description of the library system from a CM plan)
- PI SP1.2 Establish the product **integration environment** (this could be represented by a schematic, a description from an engineering plan, or a picture)
- GP 2.5 **Train people** (this could be represented by training records showing that specific individuals have completed specific training)
**Affirmations**

Affirmation are

- An **oral or written statement** confirming or supporting implementation (or lack of implementation) of a model practice provided by the implementers of the practice, provided via an interactive forum in which the appraisal team has control over the interaction.

**Examples:**

- oral affirmations include interview responses, presentations, and demonstrations, as long as these presentations and demonstrations are provided in an interactive setting.
- written affirmations include written statements provided by the implementers of the practice to the appraisal team via an interactive forum.

---

**Example – Objective Evidence**

**PP SP1.1:**

Establish a top-level work breakdown structure (WBS) to estimate the scope of the project.

**artifacts:**
- top-level WBS
- task descriptions
- work package descriptions

**artifacts:**
- meeting minutes
- team charter
- WBS development notes

**Affirmations:**
- “I worked on the WBS team.”
- “We used the WBS to generate the estimates.”
## Practice Characterization

<table>
<thead>
<tr>
<th>Characterization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Implemented (FI)</td>
<td>Sufficient artifacts and/or affirmations are present (per 1.1.4 and 2.4.1) and judged to be adequate to demonstrate practice implementation, and no weaknesses are noted.</td>
</tr>
<tr>
<td>Largely Implemented (LI)</td>
<td>Sufficient artifacts and/or affirmations are present (per 1.1.4 and 2.4.1) and judged to be adequate to demonstrate practice implementation, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Partially Implemented (PI)</td>
<td>Some or all data required (per 1.1.4 and 2.4.1) are absent or judged to be inadequate. Some data are present to suggest some aspects of the practice are implemented, and one or more weaknesses are noted. OR Data supplied to the team (artifacts and/or affirmations) conflict – some data indicate the practice is implemented and some data indicate the practice is not implemented, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Not Implemented (NI)</td>
<td>Some or all data required (per 1.1.4 and 2.4.1) are absent or judged to be inadequate. Data supplied does not support the conclusion that the practice is implemented, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Not Yet (NY)</td>
<td>The basic unit or support function has not yet reached the stage in the sequence of work, or point in time to have implemented the practice.</td>
</tr>
</tbody>
</table>

---

## Exercise 2 – Recognizing Artifacts

[Image of a team solution diagram]

---

www.processgroup.com Page 32
Module Topics

What is SCAMPI Class A?
Terminology
> SCAMPI Class A activities overview
Appraisal roles and responsibilities

SCAMPI Class A Phase Structure

Phase I - Plan and Prepare for Appraisal
Phase II – Conduct Appraisal
Phase III – Report Results
Plan and Prepare for Appraisal Activities

- Develop Appraisal Goals and Objectives
- Plan Appraisal
- Train Team
- Process PIs
- Plan for On-site
- Appraisal On-site
- Readiness Review
- Objective Evidence Review
- Weaknesses
- Information Needed

What mechanism to gather information needed?
1. Interviews
2. New Documents
3. Demos (optional)
4. Presentations (optional)

Conduct Appraisal Activities

- Hold Opening Briefing
- Confirming Practice Implementation
- Develop and Present Preliminary Findings
- Characterize Organizational Unit Implementation
- Consolidate and Rate
- Prepare & Present Final Findings
- Conduct Executive Session (Optional)
- Wrap-Up

Note: The Report Results phase is included in this graphic.
Module Topics

What is SCAMPI Class A?
Terminology
SCAMPI Class A activities overview
> Appraisal roles and responsibilities

<table>
<thead>
<tr>
<th>Appraisal Participants – Roles and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appraisal sponsor</strong></td>
</tr>
<tr>
<td>- Sponsors appraisal</td>
</tr>
<tr>
<td>- Owns appraisal results</td>
</tr>
<tr>
<td>- Signs ADS</td>
</tr>
<tr>
<td><strong>Middle managers</strong></td>
</tr>
<tr>
<td>- From line or staff management positions</td>
</tr>
<tr>
<td>- Interviewee and data provider</td>
</tr>
<tr>
<td>- *Review preliminary findings</td>
</tr>
<tr>
<td><strong>Basic Unit leaders</strong></td>
</tr>
<tr>
<td>- Leadership responsibilities for a project</td>
</tr>
<tr>
<td>- Interviewee and data provider</td>
</tr>
<tr>
<td>- *Review preliminary findings</td>
</tr>
<tr>
<td><strong>Support Function</strong></td>
</tr>
<tr>
<td>- Practitioner</td>
</tr>
<tr>
<td>- Interviewee and data provider</td>
</tr>
<tr>
<td>- Review preliminary findings</td>
</tr>
<tr>
<td>* If participant</td>
</tr>
</tbody>
</table>

* If participant
### Appraisal Team – Key Roles

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| **Team Leader** | - Overall responsibility for appraisal  
                           - SEI-certified SCAMPI leader appraiser and has appropriate experience and required training  
                           - Signs Final Findings and ADS |
| **Team members** | - Satisfy requirements for team members relative to experience and training  
                           - Assume one or more specific roles  
                           - Signs Final Findings |

### Team Leader Responsibilities

<table>
<thead>
<tr>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall responsibility for the appraisal</td>
</tr>
<tr>
<td>Monitors schedule and performance</td>
</tr>
<tr>
<td>Ensures planning activities are complete</td>
</tr>
<tr>
<td>Facilitates team resolution of conflicts and impasses</td>
</tr>
<tr>
<td>Assigns team roles</td>
</tr>
<tr>
<td>Interfaces with sponsor</td>
</tr>
<tr>
<td>Ensures SCAMPI appraisal process followed</td>
</tr>
<tr>
<td>Reports results to SEI</td>
</tr>
</tbody>
</table>
Team Member Responsibilities

Appraisal coordinator - Handles on-site logistics; may need more than one for a multi-site appraisal (might not be on team)

Librarian - Manages appraisal documents and returns documents at end of appraisal

Timekeeper - Tracks team’s time and schedule constraints during interviews and other activities (might have one per mini-team)

Note takers - Take notes during data gathering sessions for all PAs

Appraisal team - Reviews all the work

Mini-teams - (see next slides)

Roles, Obligations and Access Rights

<table>
<thead>
<tr>
<th>Role</th>
<th>Team Training</th>
<th>Process Baseline Change</th>
<th>Policy/Procedure Change</th>
<th>Audit</th>
<th>Mini-team Coordination</th>
<th>Affirmation</th>
<th>Team Consensus</th>
<th>Preliminary Findings Delivery</th>
<th>Final Findings Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal Team Leader</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>O</td>
<td>O</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Process Area or Basic unit</td>
<td>O</td>
<td>O</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Appraisal Coordinator</td>
<td>R</td>
<td>O</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>O</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sponsor</td>
<td>O</td>
<td>R</td>
<td>O</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Support Functions and Basic</td>
<td>O</td>
<td>O</td>
<td>R</td>
<td>N</td>
<td>R</td>
<td>O</td>
<td>N</td>
<td>N</td>
<td>O</td>
</tr>
<tr>
<td>Facilitator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>R</td>
<td>O</td>
</tr>
<tr>
<td>Timekeeper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>R</td>
<td>R</td>
</tr>
</tbody>
</table>

1 The appraisal team leader has additional responsibilities and may or may not be able to support mini-team team consolidation and all affirmations.

2 At least two mini-team members are required to attend their mini-team’s affirmations. Mini-team members are not required to attend all mini-team affirmations unless requested by the appraisal team leader.

3 Applies to at least one person from each support group and basic unit.
Why Mini-teams?

Mini-teams typically consist of two or three members. Mini-team assignments can be made based on several factors:

Mini-teams are typically formed to:

- Balance reference model experience level of mini-team members.
- Balance workload of mini-teams.
- Mini-team composition may be changed by team leader to improve performance.
- Enable the team to work in parallel in many time-consuming tasks.

May be organized around:

- related process areas (e.g., process area categories)
- composition mix of mini-team members (e.g., discipline experience and appraisal experience)
- Generic vs. specific practices
- Others . . .

Mini-Team Responsibilities

- Verify implementation of reference model practices by reviewing objective evidence provided.
- Identify weaknesses in implementation and characterize extent of implementation of practices at instantiation levels.
- Request additional information as needed.
Example Mini-Team PA Assignments

Using CMMI-DEV V1.3

<table>
<thead>
<tr>
<th>Mini-team</th>
<th>Process Area Categories</th>
<th>Process Area Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Project Management</td>
<td>6 process areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(PP, PMC, REQM, SAM, IPM, RSKM)</td>
</tr>
<tr>
<td>B</td>
<td>Engineering</td>
<td>5 process areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(RD, TS, PI, VER, VAL)</td>
</tr>
<tr>
<td>C</td>
<td>Process Management and Support</td>
<td>7 process areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(OPF, OPD, OT, MA, PPQA, CM, DAR)</td>
</tr>
</tbody>
</table>

Mini-teams allow the appraisal team to work more efficiently by performing many tasks in parallel.

Team Responsibilities

Entire team acts as a review group for mini-team work.

- supplements data gathering
- approves data consolidation
- agrees on wording of preliminary and final findings
- achieves consensus on organizational unit characterizations
- achieves consensus on ratings
Summary

You have just seen SCAMPI from the 30,000 feet or 9,144 meter level. Remainder of course provides the detailed view.
We Are Here

Module Topics

Appraisal planning
Organizational Unit (OU) familiarization
Appraisal participants briefing
Review and analysis of initial Objective Evidence (OE)
Appraisal readiness review
Team Leader Plans the Appraisal

The team leader does the following in order to start planning the appraisal:

- Ties appraisal goals to the business needs of the organization
- Identifies appraisal parameters:
  - Constraints due to time, cost, effort
  - Scope of Reference Model
  - Definition of the Organizational Unit
  - Organization scope
  - Outputs of appraisal
- Obtains sponsor’s commitment

Appraisal Plan

Appraisal Plan is developed by the Team Leader and approved by the Appraisal Sponsor and includes the following:

- Tailoring of appraisal method
- Activities to be performed
- Cost and schedule estimates
- Resources (e.g., team, organization participation, equipment, facilities)
- Logistics
- Risks and mitigation plans

Team members should receive a copy of the approved plan.
Appraisal Schedule

Schedules established during planning may significantly change.

Interviews are conducted, but may be limited to the minimum required to meet the Affirmation coverage rules (covered in Module E).

The following schedule is simply one example and may vary from the schedule the team is given.

Schedule Example – Week 1 of 2
# Schedule Example – Week 2 of 2

<table>
<thead>
<tr>
<th>TIME</th>
<th>Day 6</th>
<th>Day 7</th>
<th>Day 8</th>
<th>Day 9</th>
<th>Day 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Team Planning</td>
<td>Team Planning</td>
<td>Team Planning</td>
<td>Team Planning</td>
<td>Team Planning</td>
</tr>
<tr>
<td>9:00</td>
<td>Follow-up &amp; Informal Interviews as needed</td>
<td>Team review Preliminary Findings</td>
<td>Update Characterizations and Findings</td>
<td>Team Sanity Check Final Findings</td>
<td>Presentation</td>
</tr>
<tr>
<td>10:00</td>
<td>Complete Data Characterizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Team Consolidation</td>
<td>Team Consolidation</td>
<td>Present Preliminary Findings: Managers</td>
<td>Team review updates</td>
<td>Presentation Final Findings</td>
</tr>
<tr>
<td>15:00</td>
<td>Prepare Preliminary Findings</td>
<td>Prepare Preliminary Findings</td>
<td>Present Preliminary Findings: Practitioners</td>
<td>Generate ratings Final findings</td>
<td>Executive Briefing</td>
</tr>
<tr>
<td>16:00</td>
<td>Team QA session</td>
<td>Team QA session</td>
<td>Team QA session</td>
<td>Team QA session</td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

May have longer evenings depending on team performance.

---

## Team Member Qualifications

All team members must have successfully completed SEI-licensed Introduction to reference model course and SCAMPI Team Training.

**EXPERIENCE (as a group):**

- **Engineering field:**
  - Average 6 years per team member
  - Team total minimum of 25 years

- **Management:**
  - 10 years team total
  - 6 years for at least one team member

- **Aggregate representative experience** in life cycles used in OU. At least two members must have been practitioners.

Team members should not be managers of one of the selected projects nor be the direct supervisory chain of any of the interviewees.

*Life cycle experience can be obtained outside of OU.*
Organizational Unit Preparation

A documented set of Practice Implementation Objective Evidence (OE) is not a required input for the SCAMPI family of methods. In order to aid efficiency, the organizational unit may collect, organize, and record Practice Implementation OE prior to the appraisal.

- Provides specific documentation list mapped to the applicable CMMI Process Area practices
- Resulting documents are called Practice Implementation Indicator Descriptions (PIIDs)

Practice Implementation Indicators (PII) guidance is provided in the SCAMPI Appraisal Leader kit to aid development of the organizational units PIIDs.

- Provides OE examples to guide the organization

Clarification of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Implementation Indicator (PII) Guidance</td>
<td>Provide guidance and example objective evidence for both organizational unit and team members. (Available in the SCAMPI Appraisal Leader kit.)</td>
</tr>
<tr>
<td>Practice Implementation Indicator Description (PIID)</td>
<td>Organizational unit’s mapping of their objective evidence against CMMI practices.</td>
</tr>
<tr>
<td>Practice Implementation Indicator (PII) Team Worksheets</td>
<td>Team members’ worksheets used by team members to document their records of data review and analysis.</td>
</tr>
</tbody>
</table>

*These terms are often confused.*
Example PIID

<table>
<thead>
<tr>
<th>REQM SP 1.2</th>
<th>Artifacts</th>
</tr>
</thead>
</table>
| Obtain commitment to requirements from the project participants. | 1. Project team RDD sign off. Use case sign off.  
2. Project team approval mail on requirement changes. |

Understanding the Organizational Unit

All appraisal team members must understand the context within which the reference models are implemented.

- terminology
- OU size, culture, life cycles used, etc.
- application domain(s)

Organization may provide the team with this information:

- OU Site Information Package, provided by the Appraisal Team Leader with support of the OU.
- Package can be supplemented by site tours, presentations, and demonstrations of tools and/or products.
When Context Is Not Understood

Appraisal team members:

- Can form **inaccurate understanding** of the process contexts
- May develop **inaccurate or inappropriate** findings
- Will **take longer to conduct an appraisal** due to the need to learn during on-site phase

Appraisal Participants Briefing Purpose

Provides **orientation to appraisal participants** on their roles in the appraisal

- **Educates** appraisal participants and relieves anxiety about the appraisal process
- **Establishes familiarity** with process improvement and the reference model
- Builds understanding of the **role of the appraisal** in process improvement
- Starts to establish **buy-in and ownership of appraisal results** by participants

May be combined with the Opening Briefing

Participants must reconfirm their availability to participate in the appraisal.
Appraisal Participants Briefing Topics

Role of reference model and reference model-based appraisals in process improvement
Appraisal objectives and principles
Appraisal activities and schedule
Question and answer session

Who Should Attend the Appraisal Participants Briefing

Appraisal team members
Appraisal participants
  • e.g., middle managers, basic unit leaders, and support function representatives
Other members of the organization, as deemed appropriate by the team leader and sponsor
  • process group members
  • respected opinion leaders
Objective Evidence Review and Initial Analysis

Purpose

Start preparing appraisal team for its role in confirming practice implementation

- Can be conducted as either a follow-on to appraisal team training or integrated as a part of it
- Allows for early feedback to OU on status of practice implementation and team questions about objective evidence
- Allows team members to calibrate the pace of their review activities
Objective Evidence Review and Initial Analysis

Each mini-team reviews available objective evidence for their assigned areas (and instantiations) to identify:

- areas for which objective evidence is:
  - not identified
  - not accessible
  - insufficient or sufficient
  - unclear or non-relevant
- potential strengths and weaknesses
- questions for interviews

Output of Objective Evidence Review and Initial Analysis

Upon completion, each mini-team should have identified:

- Practices clearly instantiated
- Practices needing probing to substantiate claimed implementation
  - questions for interviews
- Practices which need more objective evidence or clarification
  - requests for additional evidence
- Practices for which the objective evidence appears sufficient
We Are Here

Readiness Review Purpose

The Readiness Review answers the question:

- Given the current state of the organization’s
  - objective evidence (for each instance of each practice),
  - appraisal team readiness, and
  - logistical readiness (e.g., facilities, equipment, and participant availability)

will the team be able to perform the appraisal successfully as planned?

A decision is ultimately made to:

- continue as planned
- re-plan/reschedule
- cancel

The Team Leader is responsible for the decision and conditions to proceed.
Readiness Review Implementation

At least one readiness review is required to be conducted. Review of OE for each in-scope PA and all sampled projects is recommended. More than one is likely to be needed.

• First: Performed early in planning phase
• Second: Once OE has been gathered and appraisal ready to start

May be conducted on-site, or by video- or tele-conference, or any combination.

Explicit criteria for determining readiness is established by the appraisal team leader

Readiness review may be conducted in conjunction with team training.

Appraisal Readiness Review Participants

Appraisal Team Leader (review leader)

Recommend at least one representative from each appraisal mini-team

OU coordinator(s)

Any additional OU representatives desired
Dimensions of Readiness

Data (OE) Readiness

- What objective evidence do we have?
- What objective evidence do we need?
- Where are we going to get it?

Logistics

- facilities
- equipment
- personnel availability

Team Readiness

- Are the mini-teams operating effectively and efficiently?

Data Readiness Criteria

Recommended minimum criteria:

1. Data base of objective evidence does not have any significant unplanned coverage gaps.
2. All artifacts identified in the data base of objective evidence are accessible.
3. Appropriate objective evidence has been provided in all instances where it is available.
4. The state of readiness and completeness is compatible with the duration of the planned on-site period.
Objective Evidence Readiness – What Do We Have?

Data base of objective evidence contain:

- OE identifying data for each basic unit, support function, and practice
- objective evidence separated by Artifact and Affirmation types

OE reviewed for weaknesses

Objective Evidence Readiness – What Do We Need?

Mini-teams summarize in PA Worksheet where sufficient objective evidence are not apparent for each instantiation

- Missing artifacts
- Inappropriate artifacts
- Incomplete artifacts
Objective Evidence Readiness – Where and When Are We Planning to Get the Objective Evidence?

Plan for your interview questions and/or artifact requests

For each item of information needed (each practice/basic unit) on the PA worksheet, record:

- Session (who and when) question will be asked
- objective evidence to be collected
  - Session
  - Information/data needed
  - Question to be asked

Readiness – Appraisal Current State

These appraisal artifacts describe the current state:

- Data base of objective evidence (may be provided by the site)
  - current objective evidence inventory
  - pointer to relevant information
  - team comments on the OE
- PA worksheet (generated by team members)
  - Potential weaknesses as well as strengths
  - information needed
- Questions worksheet (generated by team members)
  - Helps to link information needed, questions to ask, and the available data sessions.
Team Readiness

Team leader may change mini-team membership, add resources, change assignments, etc., to optimize team performance.

During the readiness review, team leader determines:

- **How are the teams operating?**
  - Efficiently/inefficiently? Are there problems?
- **How are the mini-teams performing?**
  - What is the rate of progress for each mini-team?
  - How complete are the objective evidence reviews and PA worksheet annotations?
- **If the mini-teams will be able to operate effectively during the on-site appraisal**

---

Readiness Review and Practice Characterizations

If any document review and practice characterizations is done before or during the readiness review, then the Conduct Appraisal phase has begun and must be completed within the 90-day constraint.
We Have Been Here

Develop Appraisal Goals and Objectives

Plan Appraisal

Train Team

Process Plans

Plan for On-site

Readiness Review

Appraisal On-site

Organizational Unit Develops Plans / Collects Objective Evidence

Appraisal Participants Briefing (In Pre On-site or On-site)

Objective Evidence Review weaknesses Information Needed

What mechanism to gather information needed?

1. Interviews
2. New Documents
3. Demos (optional)
4. Presentations (optional)

On-site Activities:
Data Review and Analysis

Sponsored by the U.S. Department of Defense
© 2011 by Carnegie Mellon University
This material is approved for public release. Distribution is limited by the Software Engineering Institute to attendees.
We Are Here

Note: The Report Results phase is included in this graphic

Module Topics

Opening briefing

Review schedule and collected data
Opening Briefing

SCAMPI A method requires that communication with the appraisal participants take place to establish expectations and answer questions about the appraisal.

This may include communications, formal presentations and direct interactions one-on-one with the individual appraisal participants.

The Opening Briefing frequently provides the best forum for communication with the entire set of participants.

Virtual technology may be used during the Opening Briefing, but details of attendees and locations should be documented in the Appraisal Plan.

Opening Briefing* Purpose

Establish a common set of expectations for the “on-site” phase of the appraisal.

Explain the purpose and scope of the appraisal.

Introduce the appraisal team.

Demonstrate management sponsorship of the appraisal.

Provide an overview of the activities.

Remind participants of scheduled activities.

Provide context for appraisal results.

*Appraisal Participants Briefing may be combined with the Opening Briefing
Who Should Attend Opening Briefing

- Entire appraisal team
- Sponsoring manager(s)
- Appraisal participants
- Other organization members, as deemed appropriate by the team and sponsor

Team Leader presents the opening briefing

Opening Briefing Topics

- Senior management sponsorship
- Goals of the appraisal
- Sequence of appraisal activities
- On-site schedule
- Roles of appraisal participants

Appraisal principles
- confidentiality and non-attribution
- focus on process, not people
- collaboration between the appraisal team and the members of the organization
Module Topics

Opening briefing
>
Review schedule and collected data

We Are Here
Confirming Practice Implementation

Activities

1. Schedule of on-site activities is reviewed and adjusted as needed
2. Collected data (artifacts) are reviewed by mini-teams
Schedule Review: One Measure of Team Progress

Team and mini-teams regularly monitor and focus the pace of their activities.

- Initially, the schedule is reviewed by the team to ensure they are aware of any changes since they reviewed the appraisal plan.
- A daily review of the schedule is conducted to adjust for any modification which may result from revised data collection plans.

Artifact Review Purposes

Become familiar with the practices in use in the organization
Prepare for scripting interview questions
Review data and determine if it is acceptable as objective evidence
  - Determine the corresponding reference model practices
  - Determine what portions of the Organizational Unit (OU) correspond to the data
  - Confirm institutionalization of practices

Artifact review is performed many times during the appraisal.
Data Types

Artifacts

- A tangible form of objective evidence indicative of work being performed that represents either the primary output of a model practice or a consequence of implementing a model practice.

Affirmations

- An oral or written statement confirming or supporting implementation (or lack of implementation) of a model practice provided by the implementers of the practice, provide via an interactive forum in which the appraisal team has control over the interaction.

[SCAMPI MDD glossary, v1.3]

Planning for Artifact Review

Organizations often catalog organizational data and provide a mapping between the data and the corresponding reference model practice(s)

- e.g., Practice Implementation Indicator Descriptions (PIIDs)

Includes documents from the

- Organizational level
- Basic Unit Level
- Support Function level

Document library may be Web-based document libraries, paper files, or a combination
Artifact Review Tasks: Preparation -1

Team librarian verifies initial artifact inventory
Site coordinator or librarian provides an overview of inventory
Librarian reviews with the team the library management procedures such as:
  • How to request artifacts
  • How to handle them (e.g., no markings)
  • What to do with them when you no longer need them

Artifact Review Tasks: Preparation -2

Initially, information is needed for every PA practice.
As the appraisal progresses, prior to each activity, the mini-team members identify what information is still needed by reviewing:
  • Database of objective evidence
  • Team Worksheets identifying gaps and information needed
  • Notes
  • Reference Model
Based upon the results of this review, team members will assign/select artifact for review.
Artifact Review Strategies

Follow a “thread”
  • life cycle,
  • incident,
  • or relationships between artifacts

Use team expertise in subject areas

Ask site personnel for help:
  • be aware of terminology differences
  • look for specific information

Artifact Review Tasks: Each Review Session

Manage artifact inventory

Take notes
  • immediately tag pertinent information
  • summarize and reference, don’t repeat

Use varied strategies

Record follow-up actions

Team Worksheets, noting for the artifact reviewed:
  • Database of objective evidence
  • Any gap statements
  • Any information needed
Artifact review can be challenging

Can consume great deal of time

Sometimes team members attempt to read everything in hopes that something useful will be discovered

Sometimes team members find items that are very interesting and lose sight of what they are looking for

Know what you are looking for

Know when to stop looking

Exercise 3 - Initial Artifact Review
**We Are Here**

- **Hold Opening Briefing**

  - **Review (Revise) Schedule of On-site Activities**

  - **Review Collected Data**

  - **Conduct Interviews**

  - **Generate Implementation gap statements**

  - **Characterize Instance Implementation**

  - **Characterize Organizational Unit Implementation**

  - **More data needed**

- **Where possible**

**Module Topics**

- Affirmation rules

- Conducting interviews
Affirmations

An oral or written statement confirming or supporting implementation (or lack of implementation) of a model practice provided by the implementers of the practice, provide via an interactive forum in which the appraisal team has control over the interaction.

Examples of oral affirmations include interview responses, presentations, and demonstrations of a tool or mechanism related to implementation of a CMMI model practice, as long as these presentations and demonstrations are provided in an interactive setting.

Examples of written affirmations include written statements provided by the implementers of the practice to the appraisal team via an interactive forum (e.g., email) in which the appraisal team has the ability to ask questions either orally or written. Presentation and demonstration materials provided in an interactive setting to the appraisal team can also be written affirmations if they are not outputs of the process, in which case they could be artifacts instead.

[SCAMPI MDD glossary, v1.3]

Affirmations - 2

Affirmations: For an affirmation to be accepted as evidence of practice implementation, it must be supplied by an individual who participated in the implementation of the practice being examined by the appraisal team.
Module Topics

Affirmation rules
> Conducting interviews

Interview Purpose

Collect affirmation objective evidence to support the appraisal data needs:

- objective evidence needs continue to evolve throughout the appraisal.
- Planning for interviews (and re-planning) is part of a continuous re-evaluation of practice implementation status.

The appraisal schedule and objective evidence collection plan may be revised to reflect this evolution and re-planning.

A series of interviews is conducted with appraisal participants.
- Both individual and group interviews may be conducted.
Interview Confidentiality

Strict confidentiality is observed throughout all interviews. Confidentiality includes non-attribution of objective evidence to basic unit or support function* and individuals. Confidentiality applies to both appraisal team members and interviewees. Confidentiality applies both during and after the appraisal.

*unless basic unit or support function specific reports are specified as an appraisal output

Three Types of Interviews

Standard
- Scheduled well in advance
- Employs series of scripted questions
- Interviewees typically include people from similar responsibilities (e.g., QA personnel)
- Typically the entire team or mini-team is present

On-call
- Scheduled well in advance, but only held if team members decide there is a need
- Interviewees reserve a block of time for potential interview
- Interviewees notified the day before schedule time as to whether interview will be held

Office Hours
- Conducted by team members at interviewee’s desk, cubicle, or office
- Interviewees reserve a block of time for potential interview
- Only held if team members decide there is a need
- Interviewees may receive only a limited advanced notice for these interviews, although confirming at least a day in advance is suggested whenever possible
Interview Process

Typically, all standard interviews have the entire team present.

All interviews must have at least two members of the appraisal team (selected by appraisal team leader) participating.

- Note: The use of two team members occurs when team members have a high amount of appraisal experience. If team members are inexperienced, interviews are usually conducted by the entire team.

Steps taken to conduct an interview session:

- Prepare for the interview
- Hold the interview
- Capture interview data

Standard Interviews

The remainder of this module will address standard interviews.

On-call interviews are usually conducted as standard interviews.

Office interviews are less formal although they still have many of the characteristics of standard interviews such as:

- Introductions
- Confidentiality and non-attribution
- Note taking
Interview Preparation: Groupings

Appropriate groupings are defined as a part of appraisal planning. Examples of some potential groupings are:

- **Individual** interviews, focused on a particular basic unit
  - basic unit managers
- **Group** interviews, focused on sampling across the basic units within an organization
  - support functions
    - e.g., requirements developers, product engineering, product test, QA, CM, process group

Interview Preparation

Refine objective evidence collection plan to determine the OE needed from interviews

- Identify practices which need objective evidence
- Identify practices where clarifications and follow-up are needed
- Generate questions to ask
- Arrange interview room
- Determine team member roles and assemble team or mini-team as appropriate
Interview Preparation: Tasks

Establish schedule.
Allocate time for opening, free-form discussion (optional), questions on specific process areas, closing.
Determine specific objective evidence needed. Revise strategy after each interview and objective evidence consolidation session.
Pre-script questions.

Preparation Logistics

Interview room Private, free of distractions

Seating Interview facilitator should have good eye contact with interviewee(s)

Team Members Close enough to hear what is said, but sufficiently in background so note taking is not distracting
Interview Roles

Facilitator
- Conducts interview session
  - Must have extremely good knowledge of reference model to recognize links or threads in conversation and be able to follow them

Timekeeper
- Tracks progress against plan through session

Librarian
- Records requests for artifact, if needed

Note Takers (all team members except facilitator)
- Take notes recording answers to the questions

Interviewees
- Provide answers

General Interview Conduct

Select participants to interview
- Initially done during appraisal planning

Open interview

Conduct interview
- Ask questions
- Ask for artifacts, if needed
- Listen and take notes
- Monitor team and interviewees

Close the interview
Conducting Standard Interviews – Opening Script

- Introduce appraisal team
- Explain purpose of interview and appraisal
- Go over appraisal activities to date
- Go over confidentiality rules
- Explain interview process briefly
- Ask if the interviewee has any questions for the team
- Move to first question

During the Interview – Data Collection

- Facilitator asks scripted questions on a particular topic
  - Focused investigation to obtain specific objective evidence
- All team members (except facilitator) take notes on the answers to the questions
- Team members may ask follow-up questions to clarify answers, if required
- Librarian records artifacts to be collected after interview session
Facilitator’s Role During Interview

Keeps interview focused on appropriate objective evidence

Manages tangents

- Often provide a source of information
- Need to be managed

Sets expectations for topic changes

Manages team and interviewees

- Makes interviewees as comfortable and forthcoming as possible
- Helps the note takers keep track of the flow and capture as much as possible

Question Categories

Open-ended questions

- do not presuppose the answer
- provide the opportunity for the interviewees to express their ideas and concerns
- allow for a spontaneous, unstructured response
  - Example: Please describe your role and responsibilities.

Direct questions

- may presuppose the answer (assumes something already exists)
- ask the interviewee for specific information
  - Example: Please tell us what criteria you use to perform your PPQA process evaluations.

Transition questions

- questions about questions
- used to guide the interview process
  - Example: Did we miss anything? Did you expect us to ask about anything else?
Open Ended: Generic Questions

How do you ____________ X?
  • Plan
  • Monitor and control
  • Make changes to
  • Know what your tasks are for

How does X get ____________?
  • Evaluated
  • Reviewed by management
  • Technically reviewed and/or tested

What are X’s ____________?
  • Inputs and outputs
  • Impacts and dependencies
  • Steps that are necessary to perform

Where X is a specific reference to the process area work product or task

Team Interview Lessons Learned

Avoid leading questions which suggest the answer you want or expect.
Do not react to things people say in interviews.
  • May state your opinion with your reaction (body language, expressions of surprise); it is likely to affect answers you get for the rest of the interview.

Listen to what each participant says.
  • Otherwise, you may make participants think you are ignoring them or that what they say is not important.
    - Don’t ask a question that’s already been asked.
    - Follow up on information that should be clarified.

If a participant is having difficulty with some of the questions, do not suggest an answer.
  • Interview results may reflect your point of view, not theirs. Instead restate question, or ask why question is causing difficulty.
Conducting Interviews - Requests for Artifact

Interviewee may mention an artifact not yet seen by the appraisal team.

A request for the artifact may be made.

The team librarian makes a note of the request.

At interview closing, the interviewees are reminded of the artifact requests and arrangements are made to collect them.

Conducting Interviews - Timekeeping

Team member assigned to be timekeeper

- Monitors the progress of the interview by subject
- Communicates the status to the facilitator
  - Written notes on a timekeeping sheet
  - Predefined signals (e.g., flash cards with agreed-upon timing milestones)

Timekeeper sits where they can be seen by facilitator

- Next to or across from the facilitator
Close the Interview

Ask transition questions.
  • Did we miss anything?
  • Was there something you expected us to ask you that we missed?

Ask summary questions:
  • If you could change anything, other than your boss or paycheck, what would it be?
  • What has improved the most over the last year?

Review list of artifacts requested.
Remind them of the preliminary and final findings schedule.
Remind them of the confidentiality and non-attribution of the interview.

Individual vs. Group Interviews

Group interviews have some unique aspects:
  • Group management is necessary:
    – Keep outgoing participants from dominating.
    – Ensure shy participants contribute.
    – Keep discussion on track.
  • Team seating must be decided.
Interviews Using Teleconferences and Other Media

Interviews may be conducted using a variety of media. As with all technologies, make sure that the set-up works before you use it.

Advantages
- Ability to include key players who otherwise would not be available
- Economical
- Convenient

Disadvantages
- More difficult to pick up non-verbal cues
- Harder to adapt to local context
- Not sure who is on the other end of the line

Example Seating Plans

Group interview:

Interviewee
Team Member
Facilitator

Individual interview:

Interviewee
Team Member
Facilitator
Notetaking

Purpose: Record objective evidence gathered from interviews.

Objectives
- Remember what was heard and seen.
- Make sense out of information.
- Report information accurately.
- Verify model and organizational coverage.
- Resolve inconsistencies in team members’ recall.
- Provide basis for generating implementation gaps (or strengths).

Notetaking Skills

Good notetaking requires good listening and good observation skills.
- Record actual relevant statements.
- Avoid paraphrasing.
- Record what you heard verbatim, where possible.
- Avoid making conclusions.
- Avoid making inferences.
- Record verbal and nonverbal communication.

Notes must be able to be understood and used.
Note Tagging

Should occur immediately following the interview
Necessary to relate notes to the specific reference model components
Not easy and requires reference model knowledge
Greatly facilitates the generation of gap statements

Tagged Notes Example

<table>
<thead>
<tr>
<th>Date/time</th>
<th>Session</th>
<th>FAR, Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sam H. 2</td>
<td>Mark E 3</td>
</tr>
<tr>
<td></td>
<td>Bob H. 4</td>
<td></td>
</tr>
<tr>
<td>Suzy Q</td>
<td>Project C 1</td>
<td>Project C 3</td>
</tr>
<tr>
<td>Project A</td>
<td>Introductions</td>
<td></td>
</tr>
<tr>
<td>CM SP 3.2 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q: configuration audity</td>
<td>&quot;In ten years, never heard of one being done&quot; Agreed to. No records available.</td>
<td>3</td>
</tr>
</tbody>
</table>
On-call and Office Hours Interviews

When do you hold an on-call or office hours interview?
- when there are holes in coverage
- to resolve inconsistencies

Objectives
- Identify areas for improvement.
- Include critical players.
- Understand how work is performed (get specifics).
- Clarify previous information.
- Ensure coverage of PAs.

Follow-Up Interview Conduct

Can be less formal (e.g., office hours interviews)
- May be a demonstration, or to see information is online
- May be to speak with an opinion leader who was inadvertently missed

May be conducted by
- Part of the team (but at least two team members)
  - Interviewers perform facilitator tasks
- Entire team
  - if key information will be discussed
We Have Been Here

Hold Opening Briefing

Review (Revise) Schedule of On-site Activities

More data needed

Demos (Optional) Presentations (Optional)

Interviews

Conduct Interviews

Characterize Organizational Unit Implementation

Characterize Instance Implementation

Generate Implementation gap statements

More data needed

More data needed

Hold Opening Briefing

On-site Activities:
Practice Characterization

*Where possible

Sponsored by the U.S. Department of Defense
© 2011 by Carnegie Mellon University
This material is approved for public release. Distribution is limited by the Software Engineering Institute to attendees.

http://www.sei.cmu.edu/about/legal-trademarks.html
Module Topics

- Rules for confirming practice implementation
  - Instantiation level characterization
  - Organizational unit (OU) level characterization
Confirming Practice Implementation

Goal is to substantiate and characterize the degree of practice implementation for all practices within the defined scope of the appraisal at

- Instantiation level (e.g., basic unit or support group)
- OU level

Recommended approach

- Assign primary responsibility to mini-teams (as applicable).
- Mini-teams operate in parallel with periodic synchronization checkpoints as needed.

Practice Implementation Determination

Determination of practice implementation is based upon the collection of objective evidence (OE) provided.

All practice instantiations within the scope of the appraisal are considered when determining practice implementation at the organizational unit level.

Appraisal teams are required to seek OE from the objective evidence data types (artifacts and affirmations) and to use the OE in determining

- practice implementation characterization and
- goal satisfaction
Team Consensus During the On-site Appraisal

Optional: Based on Reference Model

- Capability Level and/or Maturity Level Ratings
- Goal Satisfaction Ratings
- Practice Implementation Characterizations (organizational unit level)
- Practice Implementation Characterizations (practice instantiation level)

* at the discretion of the team leader

Mini-Team Tasks

1. Determine practice implementation at the instantiation level.
2. Perform continuous review and consolidation.
3. Determine practice implementation at the OU level.
Entry Criteria for Practice Implementation
Characterization

Practice implementation has been verified by objective evidence
Consensus exists (at the mini-team level) that the objective evidence available is adequate to make a determination of practice implementation.

Objective Evidence Types

Artifacts
- A tangible form of objective evidence indicative of work being performed that represents either the primary output of a model practice or a consequence of implementing a model practice.

Affirmations
- An oral or written statement confirming or supporting implementation (or lack of implementation) of a model practice provided by the implementers of the practice, provide via an interactive forum in which the appraisal team has control over the interaction.

[SCAMPI MDD glossary, v1.3]
Sampling

Appraisal results pertain only to the Organizational Unit.

Organization Unit is defined by the LA and the sponsor, based on organizational structure, business need, and SCAMPI method parameters.

Sampling strategy is defined in the SCAMPI MDD to assure evidence is reviewed to sufficiently represent the OU which has been defined.

Lead Appraiser is responsible for identifying the sampling strategy to appraisal team members, ensuring adequate coverage during the appraisal.

Sampling Factors Influencing Basic Units

<table>
<thead>
<tr>
<th>Sampling Factor</th>
<th>Comments</th>
<th>Process Area(s) affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>No effect on implementation</td>
<td>None</td>
</tr>
<tr>
<td>Customer</td>
<td>No effect on implementation</td>
<td>None</td>
</tr>
<tr>
<td>Funding Source</td>
<td>No effect on implementation</td>
<td>None</td>
</tr>
<tr>
<td>Management Structure</td>
<td>The flagship division differs</td>
<td>DAR, RSKM</td>
</tr>
<tr>
<td>Type of Work</td>
<td>Special projects differ from releases</td>
<td>All non-support process areas</td>
</tr>
<tr>
<td>Technology Base</td>
<td>The flagship division differs</td>
<td>TS, VER, VAL, PI, IPM</td>
</tr>
<tr>
<td>Depth of Product History</td>
<td>The flagship division differs</td>
<td>DAR, RSKM</td>
</tr>
</tbody>
</table>
Sampling to Establish a Representative Sample

Minimum number of Basic Units to be selected from a given subgroup

\[
\text{Number of subgroups} \times \text{Number of basic units in the given subgroup} \quad \text{Total number of basic units}
\]

<table>
<thead>
<tr>
<th>Subgroup Description</th>
<th># Basic Units</th>
<th># Sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Releases in the Flagship Division</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Releases in New Divisions A &amp; B</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Special Projects in New Divisions A &amp; B</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Characterizing Practice Implementation

<table>
<thead>
<tr>
<th>Fully Implemented (FI)</th>
<th>Sufficient artifacts and/or affirmations are present (per 1.1.4 and 2.4.1) and judged to be adequate to demonstrate practice implementation, and no weaknesses are noted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largely Implemented (LI)</td>
<td>Sufficient artifacts and/or affirmations are present (per 1.1.4 and 2.4.1) and judged to be adequate to demonstrate practice implementation, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Partially Implemented (PI)</td>
<td>Some or all data required (per 1.1.4 and 2.4.1) are absent or judged to be inadequate. Some data are present to suggest some aspects of the practice are implemented, and one or more weaknesses are noted. OR Data supplied to the team (artifacts and/or affirmations) conflict – some data indicate the practice is implemented and some data indicate the practice is not implemented, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Not Implemented (NI)</td>
<td>Some or all data required (per 1.1.4 and 2.4.1) are absent or judged to be inadequate. Data supplied does not support the conclusion that the practice is implemented, and one or more weaknesses are noted.</td>
</tr>
<tr>
<td>Not Yet (NY)</td>
<td>The basic unit or support function has not yet reached the stage in the sequence of work, or point in time to have implemented the practice.</td>
</tr>
</tbody>
</table>
What Is a Weakness?

A statement explaining a deficiency in the implementation of a practice

- Specific as to the nature of the deficiency
- Supported by and traceable to objective evidence (or the lack thereof)

For all characterizations other than FI or Not Yet, a weakness must be documented.

Weakness Examples (PP SP 1.1)

PP SP 1.1: Establish a top-level work breakdown structure (WBS) to estimate the scope of the project.

Weaknesses:

- The project does not use a WBS (or equivalent).
- The project’s WBS does not provide the details to support estimation of the project tasks, responsibilities, and schedule.
Characterization Steps

1. **Review the weakness** statements related to a practice for each instance.
2. Assign a **characterization** (FI, LI, PI, or NI) reflecting the extent of practice implementation for each instance using the characterization rules.
3. **Aggregate** practice characterizations to the organizational unit level using defined aggregation rules.
4. Iterate the steps and focus revisions according to the appraisal schedule and data collection plan.
5. **Generate** findings based on the aggregation of weaknesses and strengths.

Assumption:
- Appraisal team understands:
  - Context in which the practice is being implemented and
  - Practice intent
  - Coverage rules have been met

Practice Implementation Across Instantiations

<table>
<thead>
<tr>
<th>Practice x.y:</th>
<th>PI Char.</th>
<th>Preliminary Findings (Statements of gaps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instantiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Unit 1</td>
<td>LI</td>
<td>(W) Weakness words…</td>
</tr>
<tr>
<td>Basic Unit 2</td>
<td>PI</td>
<td>(W) Weakness words…</td>
</tr>
<tr>
<td>…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Unit (other)</td>
<td>FI</td>
<td></td>
</tr>
</tbody>
</table>
Mini-Team Tasks

1. Determine practice implementation at the instantiation level.
2. Perform continuous review and consolidation.
3. Determine practice implementation at the OU level.

We Are Here

* Hold Opening Briefing
* Review (Revise) Schedule of On-site Activities
  * Conduct Interviews
  * Review Collected Data
  * Generate Implementation Gap Statements
  * Characterize Instance Implementation

* More data needed
  * Interviews
  * Demos (Optional)
  * Presentations (Optional)
* Characterize Organizational Unit Implementation

* Where possible
Measures of Team Progress: Continuous Review and Consolidation

Team and mini-teams regularly monitor and focus the pace of their activities.

- Allows for continuous re-evaluation of practice implementation status and identified gaps, deficiencies or questions
- Allows mini-teams to calibrate the pace of their review activities

Each Cycle of Continuous Review and Consolidation

At each continuous review and consolidation cycle’s completion, each mini-team should have identified the following:

- practices that have significant indication of implementation
- practices that are still not clearly implemented
- areas where objective evidence requires clarification
- areas where additional objective evidence is still needed
- areas where further probing should occur to substantiate claimed implementation
- requests for additional objective evidence

A key output of the consolidation session is a prioritized list of questions for following interviews.
Mini-Team Tasks

1. Determine practice implementation at the instantiation level.
2. Perform continuous review and consolidation.
3. Determine practice implementation at the OU level.

Findings Aggregation

Findings at the instantiation level are carried forward to the OU level template with little or no aggregation.

As appropriate, findings at the OU level are further aggregated to the goal level in preparation for validation at the preliminary findings sessions.

Example:

```
<table>
<thead>
<tr>
<th>PPQA Practice SP1.1</th>
<th>PPQA Practice SP1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instantiation 1 finding(s)</td>
<td>OU Findings</td>
</tr>
<tr>
<td>Instantiation 2 finding(s)</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
<tr>
<td>Instantiation N finding(s)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPQA Practice SP1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instantiation 1 finding(s)</td>
</tr>
<tr>
<td>Instantiation 2 finding(s)</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>Instantiation N finding(s)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPQA SG 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Findings</td>
</tr>
</tbody>
</table>
```
Deriving OU Level Practice Implementation Characterization

<table>
<thead>
<tr>
<th>Instantiations</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>All FI/NY with at least one FI</td>
<td>FI</td>
</tr>
<tr>
<td>All LI/FI/NY with at least one LI</td>
<td>LI</td>
</tr>
<tr>
<td>At least one LI/FI and at least one PI/NI</td>
<td>LI or PI*</td>
</tr>
<tr>
<td>All PI/NI/NY with at least one PI</td>
<td>PI</td>
</tr>
<tr>
<td>All NI/NY with at least one NI</td>
<td>NI</td>
</tr>
<tr>
<td>All NY</td>
<td>NY**</td>
</tr>
</tbody>
</table>

* Team judgment is applied to choose LI or PI based on whether the weaknesses, in aggregate, have a significant negative impact on goal achievement
** If all instantiations in the OU have not reached the stage in the OU to have implemented a practice, no associated goal rating can be given

What is the OU Characterization?

Practice x.y:

<table>
<thead>
<tr>
<th>Instantiation ID</th>
<th>Prac. Impl Char.</th>
<th>Preliminary Findings (Statements of gaps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>NI</td>
<td>(W) ...</td>
</tr>
<tr>
<td>P2</td>
<td>PI</td>
<td>(W) ...</td>
</tr>
<tr>
<td>P3</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>PI</td>
<td>(W) ...</td>
</tr>
<tr>
<td>OU Level</td>
<td>[aggregated OU Level PI characterization]</td>
<td>[preliminary findings summarizing above findings]</td>
</tr>
</tbody>
</table>
What is the OU Characterization for each of these?

1. LI, LI, LI, LI =
2. FI, LI, FI, FI =
3. LI, LI, FI, LI =
4. NI, LI, FI, LI =
5. LI, PI, FI, FI =
6. NI, FI, FI, FI =
7. LI, LI, FI, NY =
8. NY, NY, NY, NY =

Exercise 6A - Assigning Instantiation Level Characterizations
Exercise 6B - Assigning OU Level Characterizations

We Are Here
On-site Activities: The Preliminary Findings

Sponsored by the U.S. Department of Defense
© 2011 by Carnegie Mellon University
This material is approved for public release. Distribution is limited by the Software Engineering Institute to attendees.

SATT 0311, Module H

We Are Here

Note: The Report Results phase is included in this graphic.
Module Topics

- Validating preliminary findings
- Completing the validation task

Preliminary Findings Purpose

Validate preliminary findings by seeking input from appraisal participants.

Mechanism for doing this can be varied as long as certain minimum requirements are met:

- Appraisal participants are allowed opportunity to review and comment on accuracy of findings.
- At least one representative from each APPRAISED basic unit and support function present
- Non-attribution to the appraisal participants who provide input is enforced.

Recommended mechanism is to conduct a series of structured presentations during the on-site phase.
Creation of Preliminary Findings

Extract findings from practice implementation (OU level) worksheets; may be appropriate to roll up to the level of process area goals.

- Wording should be succinct and unambiguous.
- Avoid absolutes.
- Group common themes as global findings.
- Ensure that the findings are written to support non-attribution.

Group findings for presentation by process area.

Any weakness finding that may impact the goal must be presented.

Creation of Requests for Additional Information

Review “information needed” notes to identify outstanding information requirements.

- At this point of appraisal, very little information should be needed.
- The preliminary findings presentations are the last opportunity to get more data.

You may want to include controversial findings as “information needed” to test team assumptions.
Creation of Preliminary Findings Slides

Slides for each process area and the set of non-model findings

<table>
<thead>
<tr>
<th>Name of process area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Short description of process area</td>
</tr>
<tr>
<td>Strengths (optional)</td>
</tr>
<tr>
<td>Strengths identified in the implementation of this process area</td>
</tr>
<tr>
<td>Weaknesses</td>
</tr>
<tr>
<td>Ineffective, or lack of, implementation of one or more reference model practices</td>
</tr>
<tr>
<td>Notes</td>
</tr>
<tr>
<td>Suggestions for improving efficiency or effectiveness of the implementation</td>
</tr>
<tr>
<td>Information Needed</td>
</tr>
<tr>
<td>Any additional information that is still needed</td>
</tr>
</tbody>
</table>

Example Findings: Global Weaknesses

Management review of development activities other than basic unit resource and schedule tracking is not performed.

Documented organizational policies providing guidance for most process areas do not exist.

There is a lack of training provided to developers in all appraised areas of the model.
Example Findings: Global Strengths

CEO and senior management team are proactive and continually involved in the process improvement activities.

Relationships with customers throughout all aspects of the projects’ activities enables real time resolution of potential problems.

Example Non-Model Findings

Strengths

- The organization exhibits a strong cooperative spirit.
- Excellent on-site facilities enable many to be more productive.

Weaknesses

- In some areas, inadequate facilities impair effectiveness and efficiency.
- The chain of command is not always followed.
Closing Questions May Be Grouped (Optional)

Slides capturing the closing questions may be generated. Many times the responses may be grouped by categories of answers:

**What has improved the most over the last year?**
Category (e.g., Processes, Management)

**What would you like to see improved?**
Category (e.g., Processes, Management)

Planning the Presentation

Plan the number of sessions:
- basic unit leaders
- support function practitioners
- middle managers

Only appraisal participants are invited to the presentation.

Site coordinator should make arrangements to ensure no uninvited personnel attend.
Planning the Presentation

Plan the roles:

- **Presenter(s)** give the briefing
- Team members **capture feedback**
  - Should be sitting among the participants to better see and hear their reactions and comments
- **Librarian** records additional information to be provided
- Mini-team support
  - Provide clarifying information as needed

Conducting the Presentation Session -1

Team leader starts session with **update of appraisal activities** and purpose of session.

Designated briefer(s) **presents the preliminary findings** one at a time to the audience and waits for comments.

- Read the findings **verbatim** - don’t freewheel.
- Be straightforward and **non-apologetic**.
- If challenged, **do not commit to change a finding**; commit to carefully consider the input.

Encourage feedback from audience.

- Are the **findings true** for their **project**?
- Are they **true** for the **organization**?
Conducting the Presentation Session -2

Designated recorders (team members) capture verbatim comments and body language.

At end of session, team leader asks audience for any other comments.
Session ends with a reminder
• final findings presentation
• confidentiality and non-attribution are still in effect

Module Topics

Validating preliminary findings
>Completing the validation task
After the Presentation

Comments (and data) received are processed by the team:

- Mini-team follows up any comments that have the potential to alter:
  - Objective evidence collected to date
  - Practice characterizations at the instantiation or OU level
  - Preliminary findings
- Appropriate modifications are made to objective evidence recorded in the database of objective evidence Team Worksheets.
- Appraisal team discusses any comments affecting the wording of preliminary findings, as well as any item that previously had team consensus (e.g. OU characterizations).

Completing the Validation Task

Appraisal results produced to date are “closed” when previous step is complete:

- All objective evidence collected
- Preliminary findings are ready to evolve into final findings
- Practice implementation characterizations are complete (instantiation and OU levels)
- Finalized appraisal team comments and notes
Exercise 7 - Preliminary Findings

We Have Been Here
Assign Appraisal Ratings

We Are Here

Note: The Report Results phase is included in this graphic.
Module Topics

> Goal ratings
  Capability level ratings
  Maturity level ratings

Preconditions for Rating Goals

Before a goal can be rated, the following conditions must be met for all associated practices:

- All relevant information requested by the appraisal team has been received and considered.
- All practice characterizations have been assigned at the OU level and team consensus on the characterization has been achieved.
- Preliminary findings presentations have been conducted.
  - any additional actions have been completed
  - appraisal information is updated by team
Rule for Rating Goals Satisfied

A goal is rated satisfied (S) if and only if

- all associated practices at the organizational unit level are categorized either
  - fully implemented (FI) or
  - largely implemented (LI)

AND

- the aggregation of weaknesses does not have a significant negative impact on goal achievement

For a goal to be rated unsatisfied (U), the team must be able to describe how the weakness(es) led to this rating

---

Example 1 – Goal X

<table>
<thead>
<tr>
<th>Practice</th>
<th>OU Characterization</th>
<th>Implementation Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>X.1</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td>X.2</td>
<td>LI</td>
<td>(w) …..</td>
</tr>
<tr>
<td>X.3</td>
<td>PI</td>
<td>(w) …..</td>
</tr>
<tr>
<td>X.4</td>
<td>NI</td>
<td>(w) …..</td>
</tr>
</tbody>
</table>

In this instance the goal must be rated unsatisfied. Why?
Example 2 – Goal X

<table>
<thead>
<tr>
<th>Practice</th>
<th>OU Characterization</th>
<th>Implementation Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>X.1</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td>X.2</td>
<td>LI</td>
<td>(w) .....</td>
</tr>
<tr>
<td>X.3</td>
<td>LI</td>
<td>(w) .....</td>
</tr>
<tr>
<td>X.4</td>
<td>FI</td>
<td></td>
</tr>
</tbody>
</table>

Here is a situation where the goal may be rated either satisfied or unsatisfied based on team judgment.

Guidelines for Determining “Significant Impact”

Ultimately a judgment call by the appraisal team. However, it is incumbent on the appraisal team to consider:

- How confident is the appraisal team that future instantiations of the associated practices will be consistent with the observed practices?
- Will rating the goal “satisfied” give the OU an unjustified confidence in their implementation of this portion of the reference model?
- Will rating the goal “satisfied” undermine or weaken other aspects of the organization’s process improvement efforts?
- Is rating the goal “satisfied” consistent with other goal ratings already determined?
Example Goal Rating Profile for Continuous Representation

| Specific Goal 1 | S | S | U | S | S | NR | S | U | U | U |
| Specific Goal 2 | S | U | S | S | NR | S | U | U |
| Specific Goal 3 | U | S | S | U | U |
| Generic Goal 1  | S | U | U | S | U | NR | U | U | U | U |
| Generic Goal 2  | U | U | U | U |

**Legend:**
- S: Satisfied
- U: Unsatisfied
- NR: Not Rated
- Does not exist in this PA

Exercise 8 - Determine Goal Level Ratings

Team Solution
Module Topics

Goal ratings
  > Capability level ratings
  Maturity level ratings

Rating Capability Levels

To achieve a particular capability level, all of the generic goals at that level and all levels below it must be satisfied.

AND

All specific goals are rated satisfied.
## Capability Level Rating Criteria

| CL | Condition | 0 | Default Rating | 1 | Generic goal (GG) for CL1 is rated Satisfied. All specific goals (SGs) are rated Satisfied. | 2 | GGs for CLs 1 and 2 are rated Satisfied. All SGs are rated Satisfied | 3 | GGs for CLs 1, 2, and 3 are rated Satisfied. All SGs are rated Satisfied |

### Process Area Profile (Continuous)

![Process Area Profile Chart](chart.png)
## Equivalent Staging

Assigning a Maturity Level when using the Continuous Representation:

<table>
<thead>
<tr>
<th>Maturity level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maturity level 2</td>
<td>All applicable process areas assigned to maturity level 2 must be rated capability level 2 (or above).</td>
</tr>
<tr>
<td>Maturity level 3</td>
<td>All applicable process areas assigned to maturity levels 2 and 3 must be rated capability level 3.</td>
</tr>
<tr>
<td>Maturity level 4</td>
<td>All applicable process areas assigned to maturity levels 2, 3 and 4 must be rated capability level 3, plus selected critical subprocesses are statistically managed.</td>
</tr>
<tr>
<td>Maturity level 5</td>
<td>All applicable process areas must be rated capability level 3, plus selected critical subprocesses are statistically managed.</td>
</tr>
</tbody>
</table>

### Module Topics

- Goal ratings
- Capability level ratings
- Maturity level ratings
### Rating of Process Areas (Staged)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>If and only if all of the process area’s relevant goals are rated as satisfied.</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>One or more relevant goals of the process area are rated unsatisfied.</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Process area is determined to be outside the organization unit’s scope of work during planning by the Team Leader and Sponsor.</td>
</tr>
<tr>
<td>Not rated</td>
<td>One or more of the goals in a PA is rated Not Rated and none of the other goals are rated Unsatisfied.</td>
</tr>
<tr>
<td>Out of Scope</td>
<td>Process area is outside reference model scope.</td>
</tr>
</tbody>
</table>

### Maturity Level Assignment (Staged)

To achieve a maturity level:

- All process areas at that level and all levels below it must be satisfied or determined to be not applicable.

AND

- To achieve maturity level 3 or higher, the generic goal 3 for each applicable maturity level 2 PA must also be rated satisfied for maturity level 3 or higher.
Example Process Area Profile (Staged)

Using CMMI-DEV V1.3

- **Optimizing**
  - Causal Analysis & Resolution
  - Organizational Performance Management

- **Quantitatively Managed**
  - Quantitative Project Management
  - Organizational Process Performance

- **Defined**
  - Decision Analysis & Resolution
  - Risk Management
  - Integrated Project Management
  - Organizational Training
  - Organization Process Definition
  - Organization Process Focus
  - Validation
  - Verification
  - Product Integration
  - Technical Solution
  - Requirements Development

- **Managed**
  - Configuration Management
  - Process & Product Quality Assurance
  - Measurement & Analysis
  - Supplier Agreement Management
  - Project Monitoring & Control
  - Project Planning
  - Requirements Management

**Satisfied**

**Unsatisfied**

**Not Applicable**

**Out of Scope**

**Not Rated**

We Have Been Here
Concluding Appraisal Activities

Develop and Present Preliminary Findings
Characterize Organizational Unit Implementation
Consolidate and Rate
Prepare & Present Final Findings
Conduct Executive Session (Optional)
Wrap-Up

Note: The Report Results phase is included in this graphic.
Module Topics

> Preparing the final findings presentation
Conducting the final findings presentation
The executive session
The appraisal wrap-up

Final Findings Presentation – Purpose

Report the appraisal results to the sponsor.
Build further organizational buy-in.
Raise the visibility of the planned improvement effort.
Provide an opportunity for demonstration of sponsorship.
Final Findings Presentation – Generating Consequences (optional)

Based on final appraisal results

- Final findings
- Other appraisal outcomes

Craft consequences resulting from the findings.

Consequences: Example for Requirements Management Weaknesses

Project cost and schedule may be jeopardized by rework:

- resulting from negotiation of mutually acceptable criteria for customer acceptance of products
- associated with correcting performance problems
- associated with development of related work products

User acceptance of work products may be jeopardized if such rework is not successfully accomplished.
Final Findings Presentation: Template

Objectives of the appraisal
Overview of appraisal
Appraisal scope
  • organization
  • reference model
Findings
  • global findings
  • PA findings
  • non-model findings
Ratings (optional)
  • definitions
  • PA profile
Next steps
Appraisal Disclosure Statement (option within presentation)

Template: Findings for Each Process Area in Scope

Name of process area
Description
Short description of process area or listing of the goals
Strengths (optional)
Strengths identified in the implementation of this process area
Weaknesses
Ineffective, or lack of, implementation of one or more reference model practices
Notes
Suggestions for improving efficiency or effectiveness of the implementation
Template: Ratings

Definitions for ratings are provided
- not applicable, not rated, satisfied, unsatisfied

Appropriate PA profile chart(s) is completed according to the team’s ratings

Goal rating:
Continuous:
Staged:

Legend:
S: Satisfied
U: Unsatisfied
NR: Not Rated

Possible options:
- Complete the final report.
- Conduct the recommendations briefing.
- Create a process improvement plan to be implemented.
I support the findings in this presentation and affirm that to the best of my knowledge it represents an accurate portrayal of the state of the process in the appraised organization.

<table>
<thead>
<tr>
<th>Team Role</th>
<th>Name (printed/typed)</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Module Topics

- Preparing the final findings presentation
- Conducting the final findings presentation
- The executive session
- The appraisal wrap-up
Conducting the Final Findings Presentation

Team Roles

- Appraisal team leader usually conducts
- Team members support as required

Present comments on the general background and conduct of the appraisal.

Present the process area findings one at a time.

Present non-model findings.

Present the process area profile (and ratings).

Present closing remarks.

Appraisal Disclosure Statement (ADS)

Summarizes the appraisal results and conditions under which the appraisal was performed

- Contains essential information to adequately interpret the meaning of assigned maturity and/or capability level rating

Prepared by the Team Leader and provided to the appraisal sponsor at the conclusion of the appraisal

ADS is generated by the SCAMPI Appraisal System.
ADS Contents -1

Name and organizational affiliation of sponsor, team leader and team members

Identification of organizational unit, including any basic units or support functions specifically excluded

Identification of organizational scope, including all basic units and support functions which supplied OE

Organizational sample size

Critical factors that influence implementation of practices

Reference model and appraisal method used

Itemization of process areas rated, and those not rated

Maturity level and/or capability level ratings assigned

Dates of on-site activities and appraisal expiration date

ADS Contents -2

For ML 4/5 ratings producing appraisals

- Description of the processes or sub processes under statistical management that were examined and their associated organizational process and performance objectives

Team Leader affirms that:

- Information in ADS is accurate

- All SCAMPI requirements are met

- Organizational scope is representative of Organizational Unit

- (for High Maturity appraisals) a substantial portion of the organization’s and project’s quality and process performance objectives and statistically managed subprocesses can be mapped to the organizations business objectives and needs of the stakeholders
ADS Contents -3

Sponsor affirms:

- Organizational scope is representative of the Organizational Unit
- Information in the ADS is accurate and that the SEI may review the appraisal record and/or conduct interviews deemed necessary upon request

Sponsor also agrees to maintain the appraisal record through the appraisal expiration date

Module Topics

Preparing the final findings presentation
Conducting the final findings presentation
The executive session
The appraisal wrap-up
The Executive Session (Optional): Purpose

This is an optional activity conducted at the discretion of the appraisal sponsor.

Allows the appraisal sponsor to discuss any of the findings with the appraisal leader.

Confirm the appraisal sponsor’s understanding of the issues.

Provides an opportunity for appraisal sponsor to provide guidance on any follow-on activities.

- e.g., focus, timing, priorities

The Executive Session: Conduct

Private session with the appraisal sponsor and sponsor’s invitees

- Appraisal team members may be included in this meeting

Provides an opportunity for the appraisal sponsor to informally ask questions about the findings without embarrassment.

If appraisal team members are included, they should be:

- Ready to answer questions
- Ready to help set the stage for process improvement

Confidentiality and non-attribution are still in effect.
Module Topics

Preparing the final findings presentation
Conducting the final findings presentation
The executive session
The appraisal wrap-up

Appraisal Wrap-Up: Purpose

Improve the appraisal process for this team by collecting lessons learned.

Collect information to be submitted to the SEI.
Assign responsibilities for any follow-on activities, if applicable.
Appraisal Wrap-Up: Conduct

Team leader gathers lessons learned from the appraisal team.

- What went right, wrong, and ideas for improvements in the appraisal process

Team leader completes the reporting templates to send required appraisal data back to the SEI.

Appraisal sponsor and appraisal team members complete on-line feedback forms.

Assignments are made for the follow-on work (optional).

- e.g., final findings report generation (optional)

Appraisal artifacts and data are archived or disposed of as documented in the appraisal plan.

We Have Been Here

- Hold Opening Briefing
- Confirming Practice Implementation
- Develop and Present Preliminary Findings
- Characterize Organizational Unit Implementation
- Consolidate and Rate
- Prepare & Present Final Findings
- Conduct Executive Session (Optional)
- Wrap-Up