Breaking the Ice with SCAMPI$^{(SM)}$ C Appraisals

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Agenda

n Introduction

n Challenges and Opportunities

n Lessons Learned

n Questions and Discussion

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Introduction

- **About The MITRE Corporation**
  - **Federally Funded Research and Development Center**
  - **Not for Profit**
  - **Specific Domain - systems engineering support**
  - **SEI Partner**

- **The kinds of SCAMPI Appraisals we do**
  - **Where our freedom from Conflicts of Interest is useful**
    - **Source Selection**
    - **Programs being reviewed**
  - **Often in programs with little or no CMMI/SCAMPI experience**
  - **Using both the CMMI DEV and CMMI ACQ**

- **Our goals in this presentation**
  - **Share lessons learned in first time SCAMPI C appraisals**
  - **Suggestions for mentoring first time Appraisal Team Members**

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Challenges

High Expectations	Harsh Reality
Enthusiastic support from Higher Level Management	Sponsor oversight delegated, sometimes more than once
Red carpet welcome	SCAMPI is "additional work", and, therefore, lower priority
Members of the Organizational Unit (OU) participate according to the appraisal plan	Rescheduled events Substitutes at affirmation sessions Low attendance at Preliminary and Final Findings No Executive Outbrief
Knowledgeable Participants	Few are trained in the model or the appraisal process
Abundant evidence	Discovery mode is predominant Direct evidence difficult to locate.
Adequate on-site support	Appraisal team working space is hard to find

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Opportunities
and
Lessons Learned

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#1 - Engage the Sponsor

n Productivity and efficiency are directly proportional to sponsor support

n Prepare for the first meeting with the sponsor
  - Emphasize the importance of the Sponsor's role
  - In addition to the standard introductory briefing
    - n Bring templates (for everything)
    - n Anticipate questions and ask the ones that aren't asked
    - n Give examples of what can happen without sponsor support
  - Try to achieve a shared understanding of
    - n Sponsor needs and expectations
    - n When the sponsor must participate
    - n The need for sponsor /team leader direct communications

n The appraisal sponsor must understand what is happening and stay engaged from start to finish

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When Deciding on Scope

- Scope is more than a list of process areas. It is what the team will do and deliver
  - Get the details of the sponsors needs and relate them to the business and appraisal objectives
  - Leave as little as possible to interpretation

- The team leader and sponsor must examine and agree on appraisal context
  - Why is the appraisal chartered?
  - What are the actual information requirements? What questions need to be answered?
  - What process areas are critical?
  - What non-model findings are important, and how will the appraisal team come to those findings?

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Insist on Detailed Planning

n Planning must be thorough and documented in the appraisal plan.   Every planning element is important and, if given short shrift, a potential element of risk.

n Of particular importance (in our experience)

- OU participants – make sure they are able to participate before putting them on the schedule. Keep track of substitutions and why they happened

- Detailed schedules, particularly during the execution phase

- Include the names of OU participants

- Publish revisions.

- Appraisal Results Delivery Method so the sponsor knows what to expect at the Final Findings

Insist on Detailed Planning - 2

- Of particular importance (in our experience)(Cont'd)
  - Constraints
    - Facilities: conference rooms and other working areas should be suitable for an appraisal team
    - Schedule: once the appraisal plan is signed, it is virtually impossible to change major scheduled events such as the on-site period or events that require travel

Committing to the Appraisal Plan

n All participants must understand that the plan defines the appraisal and conveys the sponsor's authority to the appraisal team

n Recommendations

– The sponsor and each Appraisal Team Member (ATM) sign the plan.

– Provide copies of the plan to all participants

– Revise and update the plan as necessary, and remember that changes need the sponsor's concurrence

– The appraisal team should review progress against the plan every day of the appraisal

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Selecting Appraisal Team Members

n It is not enough that an ATM be technically competent. There are other important considerations

n Recommendations
  – Domain experience: be as specific as possible
  – Appraisal experience:
    n More appraisal experience is better, but
    n First time ATMS should also be considered
  – Availability
    n ATMs must be able to commit to the appraisal schedule, including travel
    n Disappearing ATMs are detrimental to team productivity

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First Time Appraisal Team Members

- First time ATMs
  - Early on the learning curve, slow out of the starting gate, and "deer in the headlights"
  - Minimally productive in spite of their qualifications

- Special care and feeding
  - Full disclosure during team selection
  - Specific reading assignments
  - Team Training
  - Partner with a strong mini team leader or team member
  - Personal lessons learned
  - Lead collation discussions
  - Keep the book open
  - Support, encourage, and lead by example

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Appraisal Team Members
Some Personality types

- "The Adolescent" unable to focus or sit still for extended periods

- "The Executive" strong opinions, sometimes tries to work, but would rather supervise

- "Mad Dog" would rather argue, makes consensus difficult

- "The Watcher" listens to discussions, rarely contributes, occasionally agrees with other peoples' conclusions

- "The Homer" is from the OU being appraised and is less than objective

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More Personality types

- "Grumpy" does not play well with others

- "Betty Crocker" always brings great munchies for the whole team, and never gets tired

- "The Submarine" who agrees with you up to a point, then abruptly torpedoes you

- "Alpha Dog" is the know-it-all who uses intimidation to influence other ATMs

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More Personality types

n "Sasquatch" (rumored to exist, some sightings…)

- Understands the SCAMPI Appraisal method and the intent of the model, but still uses the book
- Studies the relevant materials, always comes prepared
- Cheerful, works well with others
- Always on schedule
- Great note taker
- Leads discussions
- Volunteers for additional work
- Contributes lessons learned
- A strong voice in development of appraisal findings.

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Productive Use of Mini Teams

- Mini teams can reduce "intrusion time" and overall impact on an appraised organization
    - Important in first-time appraisals because the OU may already be under schedule pressure
    - Mini teams provide better focus

- Recommendations:
    - Use experienced ATMs with proven leadership skills as mini team leaders
    - Ensure that all teams use the same methods for evidence collection and review
    - Conduct frequent status checks and collation of evidence

PIIDs, Artifacts, and Evidence

- In first-time appraisals these are probably new concepts, and they need to be explained

- Recommendations
  - Training for OU participants as soon as scope is defined
    - Some Lead Appraisers insist on this training before SCAMPI As
  - Side by side search for artifacts
    - The OU may try to delegate the document search to their contractor support - not a good idea
    - A list of "typical work products" is a good starting point, but being able to recognize a good artifact is better
    - Side by side search may extend into the execution phase
  - As artifacts are identified and accepted, help the OU to build their own directory

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Affirmation Sessions

- Affirmation sessions can be unproductive if OU personnel are unfamiliar with the process
  - Unless adequately prepared, interviewees may "freeze" or become defensive
  - Preparing the interviewees will help to prevent that

- Recommendations
  - In depth explanation of affirmation sessions during the In Brief
  - Prepare an opening script for the sessions that fully explains
    - The role of affirmations in the appraisal process
    - Non- attribution and confidentiality
    - How questions will be worded and why
    - Why the appraisal team cannot respond positively or negatively to responses and why there is so much note taking
  - Allow/invite questions during the session
  - Keep it casual as well as professional

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Dealing with the Anxiety of Preliminary Findings - 1

- This event in first time appraisals is not well-understood
  - Despite full explanations at the in-brief to the OU and immediately before the preliminary findings are presented
  - Findings may be misinterpreted as criticism
  - Findings are often seen as incorrect

- Recommendations
  - During the in-brief, emphasize:
    - Findings are often based on minimal objective evidence
    - Findings are not about right or wrong, good or bad, pass or fail
    - Findings are based on how well the OU meets the intent of the model
  - More time for questions/discussion during the presentation
  - Use Special Language slides
    - Explain model terms like "Weakness," and "Strength,"
    - Explain CMMI terms like "Establish and Maintain"

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Dealing with the Anxiety of Preliminary Findings - 2

n Include a slide that explains degrees of instantiation:

- "No evidence was found" means that a practice was not seen in the project appraised, based on documents reviewed and affirmation sessions

- "Little evidence was found" means that a practice or partial practice was found at least once

- "Some evidence was found" means that a practice or partial practice was found occasionally

- "Substantial evidence was found" means that a practice was found in most areas

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Summary

Lesson	Lesson Learned
Sponsor Support is essential	Educate, over-communicate
Scope must very specific	Get details, relate to objectives
Planning must be complete	Every element is a source of risk
Appraisal Plans become shelfware	Signatures, updates, copies
Special considerations for ATMs	Specific domain/appraisal experience, and availability
Rookie ATMs need special handling	Mentoring and monitoring
Use mini teams if possible	Qualified leaders, consistency
Good objective evidence is rare	Educate the OU, side-by-side search
Affirmation sessions can be scary	Introductory comments
Validation of preliminary findings	Explain terminology and purpose

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Questions and Discussion

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Author Biographies

n **John Kennedy is a Principal Systems Engineer with The MITRE Corporation. He has 30 years of experience in DOD acquisition systems engineering and program management, test and evaluation, research and development, aviation shipboard facility system development and integration, and process improvement. He is a certified SCAMPI B/C Team Leader and has participated in or led appraisals of government, industry, and foreign software development programs using both the CMMI DEV and ACQ. He has also led Independent Expert Reviews of software source code, software suitability, and software program viability.**

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