

SCAMPISM Maintenance Appraisals (SCAMPI M)

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Summary

SCAMPI A appraisal costs have been problematic for many businesses seeking to use CMMI and SCAMPI A to benchmark their organizational processes.

- Appraisals are expensive and often perceived as a burden to CMMI adoption.

After a SCAMPI A is completed, an organization must then conduct additional SCAMPI A appraisals every 3 years to maintain the previously achieved rating.

- Diverts valuable process improvement funding to a benchmarking activity that may offer little value in return.

SCAMPI Maintenance Appraisal (SCAMPI M):

- Removes the need for a full SCAMPI A appraisal every 3 years by defining a low cost maintenance appraisal method to extend the lifespan of a SCAMPI A rating without compromising rating integrity.
- Similar to ISO 9001/AS9100, TL9000 surveillance benchmarking activities.

SCAMPI M Objectives

A SCAMPI M appraisal should not be more than 25-30% of the cost of a SCAMPI A.

SCAMPI M appraisal must be rigorous enough to ensure full confidence in extending the results of a SCAMPI A appraisal.

A SCAMPI M appraisal will provide an extension of SCAMPI A results for 2 years from the completion date of the maintenance appraisal.

Maximum time between SCAMPI A appraisals is 5 years.

SCAMPI M appraisal can be used for all CMMI constellations and the People CMM. Both staged and continuous representations will be supported.

Status and Plans

SCAMPI M concept drafted by the NDIA CMMI Working Group in 2011.

- Presented at 2011 CMMI Workshop and 2011 NDIA CMMI Conference
- Briefed to CMMI Steering Group in November 2011

Feedback from the 2011 presentations and briefings was used to document a detailed SCAMPI M method written as Appendix J to the SCAMPI A MDD.

Appendix J was reviewed by the NDIA CMMI Working Group and SEI Appraisal Program.

- Updates to Appendix J followed each review
- Revised concepts were reviewed with CMMI Steering Group, which voted unanimously to proceed with community review and pilots.
- SEI distributed Appendix J for “small review” to 18 lead appraisers in August 2012
- Community review to follow analysis of lead appraiser comments
- Initial SCAMPI M pilot is in progress.

Planned release date is early 2013

SCAMPI M Key Definitions *(1 of 2)*

Model Scope - the set of reference model process areas that are investigated within the organizational unit in an appraisal, and, for CMMI models, the representation chosen as well as the associated maximum capability or maturity level targeted.

Model Sample Scope - a subset of the model scope that will be investigated in Stage 2 of a SCAMPI M appraisal to determine whether the organizational unit's SCAMPI A rating may be extended. The model sample scope consists of an investigative sample and random sample of model scope process area specific goals and generic practices.

- *The investigative sample is a set of specific goals and generic practices within the model scope that have been identified by the appraisal team based on objective evidence (artifacts and affirmations) reviewed during SCAMPI M Stage 1.*
- *The random sample is a set of specific goals and any generic practices within the model scope that are randomly selected to supplement the investigative sample.*

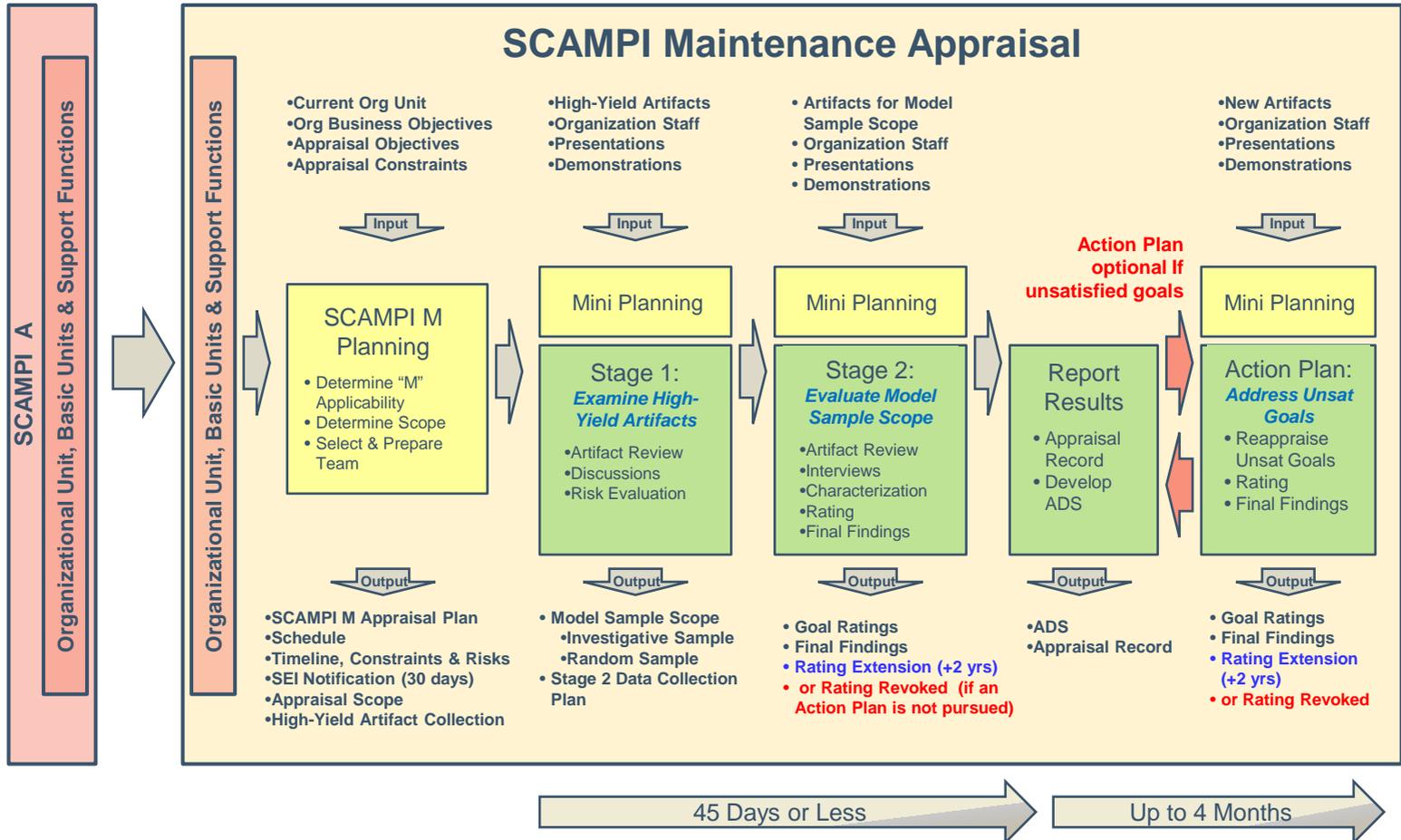
SCAMPI M Key Definitions *(2 of 2)*

High Yield Artifact – a work product which may be used as an objective evidence artifact for multiple practices in the appraisal reference model. Examples of high yield artifacts include plans, schedules, financial reports, and review packages.

Action Plan - a bounded set of activities performed to address weaknesses that led to unsatisfied goals in a SCAMPI M appraisal. The action plan includes an appraisal plan, organizational unit corrective action activities, a reappraisal of SCAMPI M unsatisfied goals, and reporting of results to the CMMI Steward.

SCAMPI M Appraisals

- Operational Concept



SCAMPI M Appraisal Planning

Organizational unit change must be within SCAMPI M appraisal method constraints.

- Sampling factors and sampling factor values must be the same, or a subset of, those used in SCAMPI A.

Model scope cannot be greater than the SCAMPI A baseline model scope.

- Can't add PAs that weren't in baseline, including previously not applicable PAs.
- Can't increase maturity levels or capability levels using a SCAMPI M appraisal.

Organizational Scope and Sampling *(1 of 2)*

Basic Unit and Support Function Sampling

- Organizational scope is determined using SCAMPI A V1.3 MDD rules.
 - Sampling factors beget subgroups which beget sample basic units and support functions.
 - Sampled basic units and support functions may or may not be the same as those sampled in baseline SCAMPI A.
 - All sampled basic units in each subgroup and support functions undergo Stage 1 high yield artifact review and determine model sample scope.
 - Stage 2 data coverage is based upon applicable SCAMPI A V1.3 MDD rules applied to Stage 2 model sample scope.
 - Coverage Rule 1 for Process Areas is not applicable by design of the SCAMPI M appraisal method.
 - Process Area practice coverage is determined by SGs and GPs identified during Stage 1.

Organizational Scope and Sampling *(2 of 2)*

Model Sampling Methodology

- Specific Goals and Generic Practices are identified in Stage 1 high yield artifact review for inclusion in Stage 2 sample scope (**investigative sample**).
- **Random sample** of SGs and GPs in model scope supplements investigative sampling performed.
- A minimum of 33% of SGs and GPs in model scope must be included in Stage 2 sample scope.
 - At least two SGs must be selected by random sampling (even if investigative sample SGs are $\geq 33\%$).
 - At least one SG from each Process Area Category (within model scope) must be included in the Stage 2 sample.
 - At least one SG from each Maturity Level (within model scope) must be included in the Stage 2 sample.
 - GPs identified for Stage 2 sample are sampled for all Process Areas with SGs in Stage 2 sample scope.

Characterizations and Ratings* (1 of 2)

Sampled practices (SPs and GPs) are characterized using SCAMPI A V1.3 MDD rules.

Specific Goal Rating

- Sampled SGs are rated using SCAMPI A V1.3 MDD rules.

Generic Goals

- If the model sample scope contains just a subset of the generic goal's associated practices, and weaknesses identified in the sampled generic practices have a significant negative impact on goal achievement, the generic goal is rated **Unsatisfied**.
- Ratings of **Satisfied** or **Not Rated** do not apply to generic goals for which all associated practices are not contained in the model sample scope.

- * - **Characterizations and Ratings slides in this presentation address staged representation and maturity levels. SCAMPI M also supports continuous representation and capability levels.**

Characterizations and Ratings *(2 of 2)*

If all sampled SGs are rated Satisfied, and no GGs are rated Unsatisfied

- The SCAMPI A maturity level rating can be extended.

If any sampled SGs or GGs are rated Unsatisfied

- The SCAMPI A maturity rating cannot be extended, at which point two options are available:
 1. The organization's maturity level rating is revoked.
 2. The organization may undergo an **Action Plan** to address weaknesses that led to unsatisfied goals, and re-appraise the unsatisfied goals.

Action Plan constraints:

- ADS is submitted within 30 days of final findings indicating negative outcome and specifying an action plan is being implemented to address weaknesses.
- Actions plan and reappraisal of goal-impacting weaknesses must be complete within 4 months of SCAMPI M final findings.
- Once the action plan is completed, the appraisal team must re-characterize the practices and reappraise the previously unsatisfied goal(s). This must take place within the 4 month action plan window.
- Successful completion of action plan (including reappraisal) extends SCAMPI A rating for 2 years. Revised ADS is submitted.
 - If the action plan is not completed in the 4 month window, the SCAMPI A rating is revoked.
 - If the action plan is not successfully completed prior to the current SCAMPI A rating expiration date, the current rating expires.

Team Qualifications *(1 of 2)*

SCAMPI M Appraisal Team member qualifications are more stringent than SCAMPI A requirements

- Experienced team members able to reach accurate conclusions with less evidence

SCAMPI A	SCAMPI M
Minimum team size is 4, including the lead appraiser	Minimum team size is 2, including the lead appraiser •Members of the appraised organization are allowed to be team members but the team must have a minimum of 2 team members external to the OU (including the lead appraiser).
Team members complete Introductory to model course	Team members must have previous experience as appraisal team members on at least two SCAMPI A appraisals
Average of 6 years field experience wrt reference model, aggregate of 10 yrs management experience, 1 team member with 6 yrs mgt. experience	Each team member must have minimum of 6 yrs field experience, (including experience performing practices from the process areas that the team member is reviewing)
Aggregate of 25 years field experience	N/A

Team Qualifications *(2 of 2)*

High Maturity

SCAMPI A	SCAMPI M
Certified High Maturity Lead Appraiser (HMLA)	Certified High Maturity Lead Appraiser (HMLA)
All members of high maturity mini-team have high maturity experience	Team members reviewing high maturity process areas must have been on a previous SCAMPI A high maturity appraisal
HMLA or ATM with statistical analysis & other high maturity training assigned to high maturity mini-teams	At least one team member reviewing high maturity process areas must: <ul style="list-style-type: none"> • have been on a previous SCAMPI A high maturity appraisal as part of a high maturity mini-team or • be a certified HMLA who has been on a high maturity appraisal as lead or team member
Team as a whole has collective experience implementing high maturity activities	N/A

Summary

Goal: Define a *low cost SCAMPI Maintenance Appraisal* method to extend the lifespan of a SCAMPI A rating *without compromising rating integrity*.

Lower costs...	...without compromising integrity
Less evidence collection and review by the organizational unit and appraisal team	Organizational Unit has already undergone a recent baseline SCAMPI A appraisal
Fewer, but more experienced team members	Team member qualifications are more stringent than SCAMPI A V1.3 MDD team member qualifications
Fewer SCAMPI A appraisals performed just to maintain ratings. Action plan option to address weaknesses.	Combines investigative sampling and random sampling of specific goals and generic practices.

For More Information....



NDIA CMMI Working Group

http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Pages/CMMI_Working_Group.aspx

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