



**Carnegie Mellon**  
**Software Engineering Institute**

Pittsburgh, PA 15213-3890

# The Best Intentions of SCAMPI V1.1

What We Meant and  
What *Some People* Heard

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## **SCAMPI Essential Characteristics**

Accuracy	<p>Ratings are truly reflective of organization's maturity, reflect the reference model, and can be used for comparisons across organizations</p> <p>Appraisal results reflect the strengths and weaknesses of the appraised organization (i.e., no significant strengths and weaknesses are left undiscovered)</p>
Repeatability	<p>Ratings and findings likely to be consistent with those of another independent appraisal conducted under comparable conditions</p>
Cost/Resource Effectiveness	<p>Efficient in terms of person-hours spent planning, preparing, and executing an appraisal</p> <p>Accounting for organizational investment in obtaining the appraisal results, including resources of the host organization, impact on appraised projects, and the appraisal team</p>
Meaningfulness of Results	<p>Appraisal results are useful to the sponsor in supporting decision-making</p>
ARC Compliance	<p>Compliance with requirements for ARC Class A method</p>

**References:** SCAMPI v1.1 MDD; GEIA workshop (2000); AMIT team charter



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## Lost In Translation

The *true intentions* of the SCAMPI v1.1 development team are not always being realized in practice.

Our thesis is that some of these intentions were *lost in translation* during deployment.

CMMI users may not get the *performance intended* from SCAMPI Appraisals.

*With apologies to Bill Murray*





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## **Presentation Outline**

Design Constraints For SCAMPI

Best Intentions Worth Revisiting

Implications For SCAMPI V1.2



## **Design Constraints for SCAMPI**

### New Realities

- Broader Organizational Scope
- Larger (More Robust) Model
- Multiple Uses for the Same Benchmark

### Performance Attributes

- Efficiency and Affordability
- Standardization and Reliability
- Accuracy and Validity



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## **Best Intentions Worth Revisiting?**

Shifting from ***discovery*** to ***verification***

- Moving the effort to the “pre-onsite” time frame
- Leveraging existing organizational assets
- Implementation of the “PII” concept
- Intent of the “Readiness Review”

Formalizing the concept of ***objective evidence***

- Direct Artifacts, Indirect Artifacts and Affirmations
- So-called “continuous consolidation”
- Implementation of “Characterization”

Rigorous standards for ***planning*** and ***reporting***

- Appraisal Input and Appraisal Plan
- Appraisal Disclosure Statement

## Shifting Effort to Preparation from Onsite

Additional effort expended in preparing for a SCAMPI has often led to loss of efficiency over all in many situations.

The team never intended to simply move sand from one hour-glass to another.

The innovations in the appraisal method were focused on significant efficiency gains without increasing total effort.

**AMIT charter - 100 hr performance goal:**  
***“...This goal should be evaluated in terms of the overall impact on the organization; i.e., don’t locally optimize the on-site period at the greater expense of the overall assessment.”***





## Practice Implementation Indicators

“Practice Implementation Indicator DESCRIPTIONS (PIID)” is being interpreted to mean the entire set of Objective Evidence.

Lead Appraisers sometimes imply that an appraisal can be conducted with NO discovery – almost like a checklist-based approach.

Effort spent perfecting PIIDs may not always be worthwhile.





## Readiness Review

In some cases, the readiness review is being conducted as a 'pre-appraisal' with a focus on predicting the rating outcome of the SCAMPI.

The intent was to assure that the SCAMPI can be conducted efficiently, by determining the feasibility of the appraisal plan.

Doing the appraisal twice is not the goal.





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## Types of Objective Evidence

Definitions are provided for:

- Direct Artifacts
- Indirect Artifacts
- Affirmations

The intent was to simplify corroboration and data sufficiency criteria – not to over-specify them.

Some Lead Appraisers insist on 100% Indirect Artifacts, and 100% affirmations, when they may not be needed.





## Corroboration

SCAMPI MDD requires:

Direct artifacts AND (Indirect artifacts OR Affirmations)  
for each practice, for each instantiation, with separate  
coverage requirements for *Face-to-Face* affirmations

Some appraisers ask for up to:

Direct AND Indirect AND Written Affirmations AND  
*Face-to-Face* Affirmations, for each practice, for each  
instantiation

- Is there a detectable increase in accuracy that justifies the increased cost of collecting all of this evidence?
- Does this level of detailed “accounting” for evidence help, or hinder, accuracy and repeatability of results?

## Continuous Consolidation – Data Triage

Benefits expected from dynamically inventorying the objective evidence and choosing options for collecting information does not seem to be realized very often.

Parallel interviews, autonomous mini-teams, and revisions to the data collection plan do not appear to be used as frequently as we expected.

It seems to be difficult to give up the old way of doing things.





## Characterization vs. Rating

A 4-point characterization is used:

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

***Intent was to focus*** team investigation, judgment, and resources on areas where they were most needed.

These were not intended to serve the same purpose as ratings. The characterizations are applied to ***expected*** content of the model.

Rather than merely steering the team discussion characterizations are being used deterministically in reference to ***required*** content.





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## Appraisal Planning Requirements

Separation of *Appraisal Input* and *Appraisal Plan* was intended to promote a clear differentiation of concerns – and harmonize with ISO 15504.

Most Lead Appraisers saw it as a burden to create & maintain two different forms that have to be filled out “for the SEI.”

Differentiating types of planning data and appropriate levels of change control was the intent – not administrative overhead.





## Appraisal Disclosure Statement

The intent was to ensure “**truth in advertising**” by creating a standard way of reporting results.

It is not clear that the traditional “**press release strategy**” has been altered significantly.

New and creative ways to be vague are appearing in ADS content that describes the Organizational Unit.





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## **Implications for SCAMPI V1.2**

### Need to Clarify

- Organizational Scoping
- Documenting Planning Data
- Definitions of Objective Evidence
- Role of Data Collection Mechanisms
- Characterization and Rating Procedures
- Content of Appraisal Disclosure Statement

***Data and lessons learned from the conduct of SCAMPI V1.1 appraisals should contribute to our thinking and act as a baseline for comparison.***



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