

CMMI Version 1.3 Product Suite: What May Change

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CMMI Product Suite, Version 1.3¹

“Version 1.3 will focus upon but not be limited to:

- High Maturity
- More effective GPs
- Appraisal efficiency
- Consolidation across Constellations*”

As with previous versions, Version 1.3 will be change-request driven.

The purpose of this presentation is to share some of our ideas for V1.3 and solicit your ideas for change.

- We will be exercising the polling features available through the Webinar, **but you must submit a CR to ensure you are heard!**
- *from “Steering Group Summary Criteria,” January 13, 2009



CMMI Product Suite, Version 1.3²

In this Webinar, we present some ideas around certain topics.

For each topic, Rusty and Mike will briefly discuss:

- Our initial ideas on the topic
- Pros/Cons

For selected ideas, we may poll you for your preference

- Candidate questions (we'll ask as time permits) are in green font

The poll will give us insight into the will of the community.

- **But you must submit a CR to be sure you are heard!!**

The CR submission deadline for Version 1.3 is March 2, 2009.



High Maturity Topics

Overall goal: improve clarity of HM practices

Strengthen specification of CAR and OID

Introduce a lower-ML version of CAR

Show Practice Evolution through Amplifications



Overall Goal: Improve Clarity of HM Practices

Problem statement:

- HM practices are currently unclear, leading to a variety of interpretations

The goal in a nutshell:

- All CMMI users have a common understanding of the HM Practices

Involves:

- Utilizing results of the Sept. 23-24, 2008 HMLA Workshop
- Clarifying connection between statistical management of subprocesses and project management
- Improving/clarifying terminology
- Aligning required, expected, and informative
 - Also, clarify the role of informative material in the model
- Adding additional notes and examples describing typical “how to’s”



Strengthen Specification of CAR and OID

Problem statement:

- As currently written, level 5 practices are not dependent on level 4
- Rationale for placing CAR and OID at ML 5 is not universally understood
 - Quantitative basis for selection of issues to analyze
 - DAR-like approach to prioritizing attention and time
 - Determining if change was statistically significant vs. something within the range of variation

The goal in a nutshell:

- Increase depth and clarity of CAR and OID practices.

Involves:

- Utilizing results of the Sept. 23-24, 2008 HMLA Workshop
- Also, broadening CAR to include addressing how to repeat successes



Introduce a lower-ML version of CAR

Problem statement:

- Causal Analysis is viewed as valuable at any ML
 - Use of OSSP, and PDP does ‘stabilize’ performance to a degree
 - ML3 basis can assure some uniformity of impact

The goal in a nutshell:

- Create a lower ML version of CAR (e.g., as an SP[s] in IPM).

Involves:

- Strengthening CAR at ML 5
- Introducing practices (e.g., IPM) addressing causal analysis at ML 3

Should we introduce a ‘lower maturity’ version of CAR?

A. Yes.

B. Don’t care.

C. No



Show Practice Evolution through Amplifications

Problem statement:

- Some see ML 2-3 practices as static – not evolving as ML increases

The goal in a nutshell:

- Make it easier for an organization to interpret the practices as the organization matures.

Involves:

- Reviewing lower-ML practices for instances where an amplification would clarify how the practice “matures” at levels 4 and 5 (e.g., PP)
- Inserting clearly-delimited amplifications in lower-ML PAs

Should we introduce “amplifications” on practice evolution?

- A. Yes, use for both PI & appraisal**
- B. For PI only**
- C. Never**



More Effective GPs Topics

Overall goal: simplify the GPs

Reducing the GG 2 GPs to a Few

Improving the Clarity of GP 2.8

Improving the Clarity of GP 3.2

Eliminate Generic Practices at CL 4-5



Overall Goal: Simplify the GPs

Problem Statement:

- GPs have a multiplier effect on # of items that need to be addressed
 - GPs greatly affect the # of artifacts needed for an appraisal
 - If a GP is misunderstood, every PA is affected
- Redundancy: Almost all GPs have associated PAs

The goal in a nutshell:

- Simplify the GPs

Involves:

- Reviewing the need for GG 1, GG 4- 5, and their GPs
- Reducing the # of GPs at CL 2 (which are more important?)
- Rewording problematic GPs (per Pat O'Toole's ATLAS surveys)
- Clarifying that GPs can be implemented at single or multiple organizational or project levels, or both, depending on the PA.



Reducing the GG 2 GPs to a Few

We may propose reducing the GPs under GG 2 to just three:

- GP 2.1 Policy
- GP 2.2 Plan the Process
- GP 2.8 Monitor and Control the Process

Rationale:

- “Managed” in “managed process” (GG 2) implies GP 2.2 & 2.8
 - We would still have a PDCA cycle within the GG 2 GPs
- The informative material under GP 2.2 already mentions planning or performing every GP from GP 2.3-2.10.
- Incorporate GP 2.10 (Higher-level management) within GP 2.8
 - Clarify “higher-level management”

On the whole, is the elimination of the other 7 GPs a loss?

A. Yes, a big loss! B. A minor loss C. No, a gain!



Improving the Clarity of GP 2.8

Ensure GP 2.2 and GP 2.8 fully complement each other

- Introduce a note in GP 2.8 parallel to the one in GP 2.2 to help ensure identification of any shortcomings in the implementation of the plan
 - Coverage of what is monitored and controlled should extend to results of former GPs 2.3-2.7, 2.9-2.10

Measuring the process should be seen as *a means* (as opposed to *the means*) to monitoring and controlling the process

- GP 2.8 was never intended to require a measure for every PA
- Informative material should be updated to clarify this
- But if no measures ever involved in monitoring and controlling the process for any PA, this should raise a “red flag”



Improving the Clarity of GP 3.2

Propose rewording GP 3.2 from:

- “Collect **work products, measures, measurement results, and improvement** information derived from planning and performing the process to support the future use and improvement of the organization’s processes **and process assets**”

to:

- “Collect information derived from planning and performing the process to support the future use and improvement of the organization’s processes.”



Eliminate Generic Practices at CL 4-5

Problem statement:

- CL 4-5 GPs inadequately cover PAs with which they are associated
- Used in only a minority of appraisals
 - Not necessary for Staged representation
- Encourage suboptimization

The goal in a nutshell:

- Remove the CL 4-5 GPs until a broad and shared understanding of the associated PAs at ML4-5 is achieved.

Involves:

- Simplifying insitutionalization discussion for both representations (e.g., equivalent staging)

Should the CL 4-5 GPs be eliminated from V1.3?

A. Yes.

B. Don't care.

C. No



Appraisal Efficiency

Possible changes to the model to improve efficiency include:

- Simplifying # of GPs (see earlier slides)
- Resolve practice ambiguities
 - E.g., PP SP 1.1, “Establish ... WBS to estimate ... scope ...”
- Make applicability of SPs more “solid” (e.g., evaluating supplier processes)

Refinements to SCAMPI itself include:

- Using directed sampling (during Discovery)
 - Constructing an appropriate indicator set (rotating, random)
 - Readiness review (ensuring indicators have been identified)
- Using Inverted PIIDs?
 - Documents tagged with all the SPs and GPs they map to



Consolidation Across Constellations¹

Overall goal:

- Achieve balance between:
 - “Naturalness” of model content within each area of interest
 - Commonality of model content across constellations
- Help ensure CMMI Models are usable in combination
- Provide clarity as to what is specific to an area of interest vs. common

Reference:

- CMMI-DEV V1.2, CMMI-ACQ V1.2, forthcoming CMMI-SVC V1.2

Involves:

- Applying DAR to evaluate alternatives, e.g.:
 - The 16 Core PAs can only differ in notes and examples
 - The 16 Core PAs can differ in goals and practices but not ML etc.
- Implementing the selected alternative



Consolidation Across Constellations²

Covering Integrated/Self-Directed Teams in CMMI:

- In CMMI-DEV, this topic is optional but at goal level (OPD SG 2, IPM SG 3)
- In CMMI-ACQ, this topic is expected (OPD SP 1.7, IPM SP 1.6)
- People CMM has considerable material on teams

Definitions

- IPT = Integrated Product Team (all disciplines having a significant role in product lifecycle are represented)
- Self-directed team = A team that establishes its own plans and processes; measures, analyzes, and improves its performance; and adjusts in response to change

Select type of team (A) and how included (B)

A1. IPT

A2. Self-directed team

A3. Both

B1. Optional as in DEV

B2. Expected as in ACQ, SVC

B3. Don't include



Miscellaneous Topics

Multiple model implementations

Agile methods

“Lean” the Model

Additional Guidance



Multiple Model Implementations

The goal in a nutshell:

- Enable organizations to implement multiple models, frameworks, etc.

Reference:

- Jeannine Sivy's and Patrick Kirwin's SEI Webinar, "Process Improvement in Multi-Model Environments (PrIME)," July 2008

Involves:

- Ensuring CMMI constellations have common Architecture & Glossary
- A methodology to efficiently trace to multiple frameworks

Will you likely be using multiple models, frameworks, etc.?

A. Yes, only CMMI

B. Yes, CMMI + other(s)

C. No



Agile Methods

The goal in a nutshell:

- Enable CMMI and Agile users to make synergistic use of both

Reference:

- Hillel Glazer, Jeff Dalton, David Anderson, Inc.), Mike Konrad, and Sandy Shrum, “CMMI® or Agile: Why Not Embrace Both!” SEI Technical Note CMU/SEI-2008-TN-003. November 2008.

Involves:

- Inserting notes that help adopters of Agile methods correctly interpret practices (e.g., evaluating alternative technical solutions [TS SG 1])

Should Agile guidance be added as part of V1.3?

A. Yes

B. Don't Care

C. No



“Lean” the Model

The goal in a nutshell:

- Make the essence of the “underlying model” visible

Reference:

- Results of Beyond V1.2 Workshops

Involves:

- Identifying material that does not need to be in the model
- Moving this material to a Web page, Wiki, or separate technical note
- Making the external material easy to locate
- Eliminating/consolidating low-value practices

Example:

- Move the GP Elaborations out of the model and into supplementary material



Provide Additional Guidance

The goal in a nutshell:

- Identify particular challenges (or opportunities) affecting the CMMI user community that complicate interpretation and implementation of CMMI practices
- Make additional guidance, notes, and examples available (not necessarily within the model)

Should Version 1.3 cover these topics:

- A. Six Sigma, Lean**
- B. System-of-system**
- C. COTS, GOTS**
- D. SSE-CMM**
- E. OPM3**
- F. People CMM**
- G. Six Sigma**



Summary

This is your last opportunity to influence Version 1.3!

Four drivers for Version 1.3:

- Clarify high maturity, simplify GPs, increase appraisal efficiencies, and improve commonality across the constellations.

But we need your CRs!

- Submitted no later than March 2, 2009
- URL is given on the last slide.

Thank you for participating in this Webinar!

- And to those who participated in:
 - the NDIA or SEI-led “Beyond V1.2 Workshops” in 2007 and 2008
 - “Future Directions” Workshops in 2008



What Have We Missed?

Please submit your CRs:

http://www.sei.cmu.edu/cmmi/models/cha_requests.html

