Tips and Hints for CMMI V1.3

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Purpose

The purpose of this presentation is to discuss the changes in CMMI V1.3 in the context of how you interpret and apply those changes.

You may ask, "Now that the CMMI Product Suite was released, how do I use it?" By the end of this presentation, I hope that you have some tips and hints that you can apply on your CMMI V1.3 journey.

Caveat: There are many different ways to interpret and apply this material.

One of the true advantages of using CMMI is the ability to use this material in many different contexts and situations. Therefore, only use this information if you agree with it.

- If it doesn't fit your organization understand why.
- Understand what you do differently.
- Adjust this guidance to fit your needs.

Topics

CMMI Model(s) Changes

CMMI-DEV Addison-Wesley Book

CMMI V1.3 Model(s) Changes

Three Constellations and Three Models: Which Do I Choose?

Because of harmonization, the models are more similar in V1.3.

Core PAs appear in all CMMI models; however...

- These PAs are not identical across all models.
- Informative material can be different so that users interpret goals and practices for their area of interest.
- Sometimes practices can be different in one model from another (i.e., PP, PMC).

CMMI-DEV

CMMI-SVC

16 Core Process Areas

CMMI-ACQ
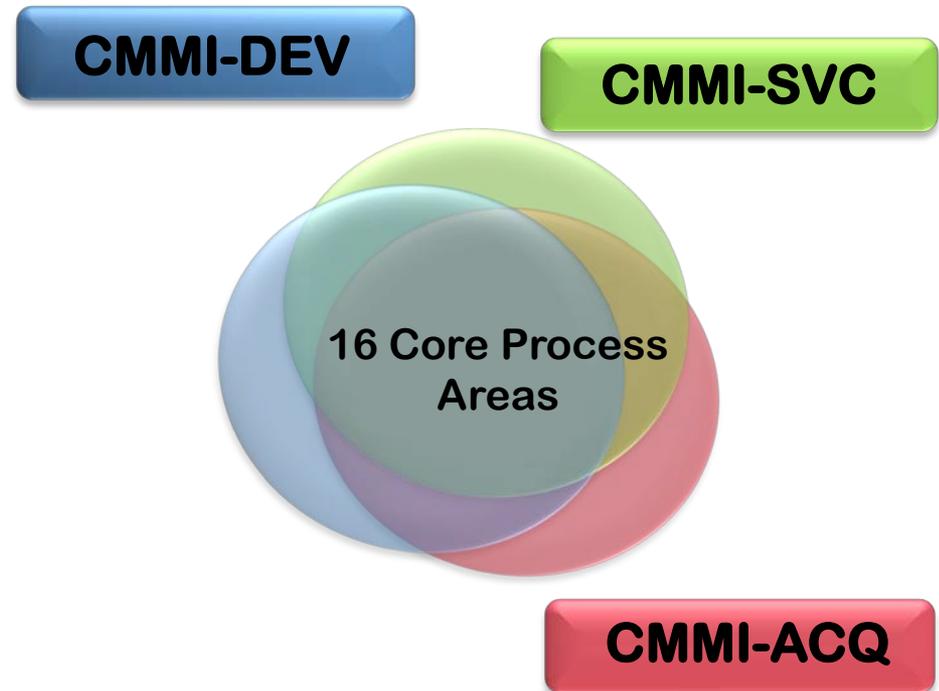
Pick the model that most closely aligns with your business needs.

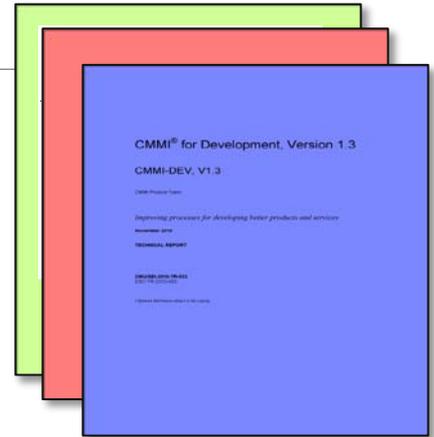# Picking the Right Model for Your Organization[1]

If you are just starting process improvement (i.e., working for two years or less),

- pick one of the models and use it,

- focus on the core process areas, and

- remember that some of the core process areas are slightly different (e.g., PP and PMC at the specific practice level, names of the PAs).

If you are a seasoned CMMI user,

- use all 3 models, especially if you are improving many different parts of your organization, and

- look at the "unique" PAs.

If you have been using only CMMI-DEV, you are missing out on useful practices.

Picking the Right Model for Your Organization$_2$

The V1.2 models were improved and released incrementally.
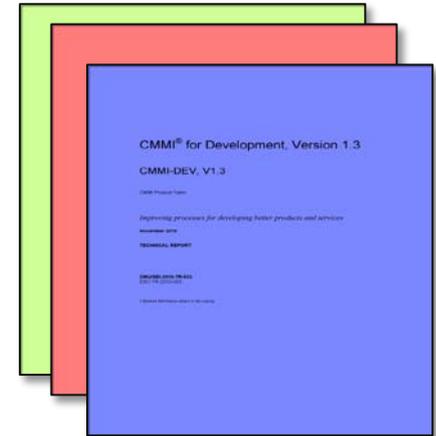
CMMI-DEV was released in 2006.

CMMI-ACQ was released in 2007.

Two years later, CMMI-SVC was released.

CMMI-DEV is where the most change occurred from V1.2 to V1.3.

In many instances, changes to CMMI-DEV for V1.3 were already incorporated into the other two models as part of their development efforts for V1.2.

As you would expect, CMMI-SVC has the least change.

Understanding the Changes

If you are a seasoned CMMI user, you will find the comparison files useful. They are available at http://www.sei.cmu.edu/cmmi/tools/cmmiv1-3/index.cfm

All model changes are included in the comparison files:

- Movement of material

- Editorial changes

- Harmonization changes

Comparison files do not help you find the major changes, however. The CMMI V1.3 Model Upgrade Training is a better source for understanding high-level changes.

Also, many of the presentations at this conference address changes to V1.3 and are good sources of information.
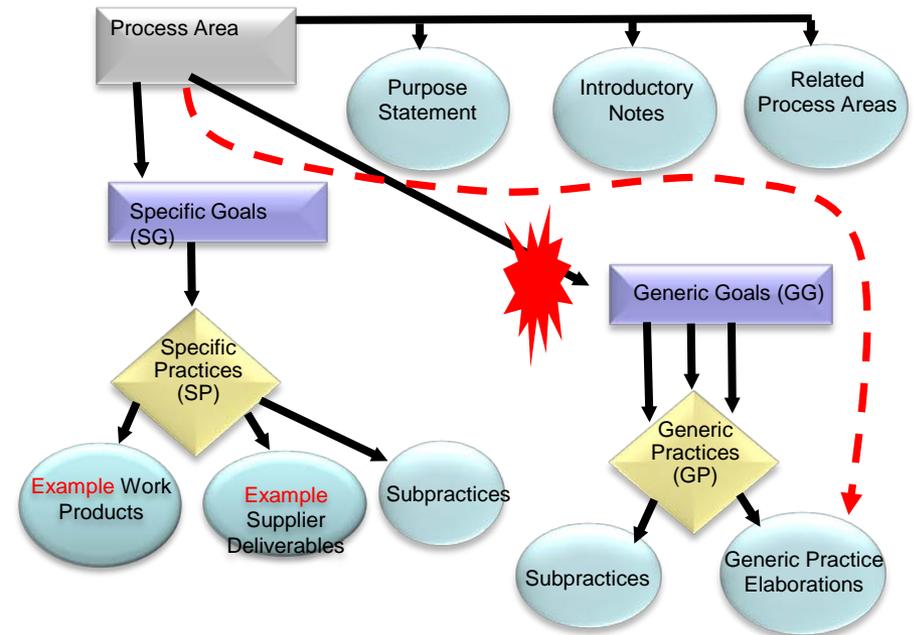
Architecture Changes
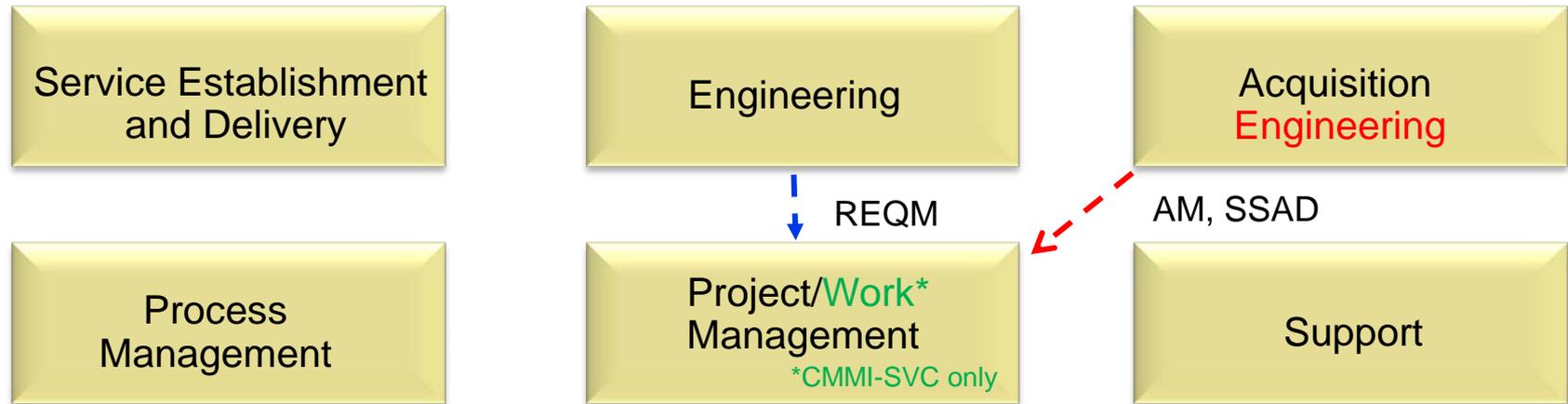
Most components did not change.

One primary change was that "typical" was replaced by "example" when presenting work products.

The result should be that this component is easier to interpret and more usable.

Your organization is more likely to be successful in developing the work products that are right for your organization instead of those presented in CMMI.

Changes to PA Categories

Service Establishment and Delivery	Engineering	Acquisition Engineering

Engineering → REQM → Project/Work Management

Acquisition Engineering → AM, SSAD → Project/Work Management

Process Management	Project/Work* Management *CMMI-SVC only	Support

These changes should provide a more natural fit to align with PA content.

If you have tools or documents that use PA categories, slight adjustments will be needed.

Changes to Generic Goals and Practices[1]

In CMMI-DEV, the location of generic goals (GGs) and generic practices (GPs) was changed.

- Don't let this change minimize the importance of the GGs and GPs.

- Use this change as an enabler to stress the importance of establishing the "process improvement" infrastructure in your organization.

- If you have different teams interpreting and applying PAs, don't let them forget to look at the GGs and GPs, especially the elaborations.

  — Remember that elaborations only exist in CMMI-DEV and CMMI-SVC.

Changes to Generic Goals and Practices$_2$

Generic Goals	Generic Practices
GG1: Achieve Specific Goals	GP 1.1: Perform Specific Practices
GG2: Institutionalize a Managed Process	GP 2.1: Establish an Organizational Policy GP 2.2: Plan the Process GP 2.3: Provide Resources GP 2.4: Assign Responsibility GP 2.5: Train People GP 2.6: Control Work Products GP 2.7: Identify and Involve Relevant Stakeholders GP 2.8: Monitor and Control the Process GP 2.9: Objectively Evaluate Adherence GP 2.10: Review Status with Higher Level Management
GG3: Institutionalize a Defined Process	GP 3.1: Establish a Defined Process GP 3.2: Collect Improvement Information

Adapted from
Cepeda Systems &
Software Analysis, Inc.

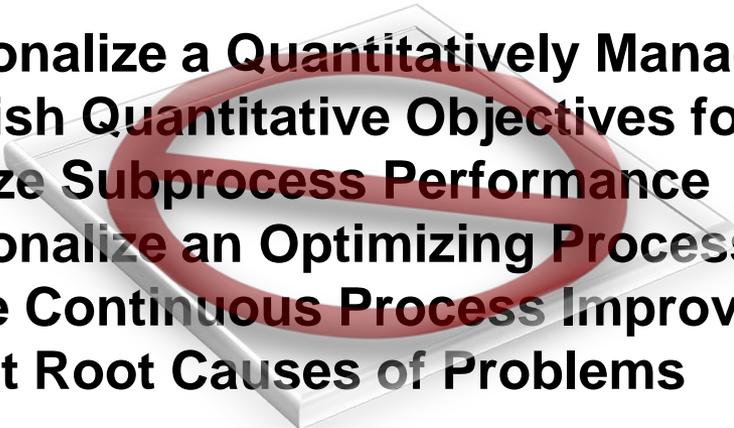These changes were always implied but now they are explicitly stated.

Changes to Generic Goals and Practices[3]

The biggest change – level 4 and 5 generic goals and practices were eliminated to appropriately focus high maturity on the achievement of business objectives.

Thus, the concept of capability levels 4 and 5 was removed also.

GG 4 Institutionalize a Quantitatively Managed Process
GP 4.1 Establish Quantitative Objectives for the Process
GP 4.2 Stabilize Subprocess Performance
GG 5 Institutionalize an Optimizing Process
GP 5.1 Ensure Continuous Process Improvement
GP 5.2 Correct Root Causes of Problems

What Happened to IPPD and Amplifications?

Fewer than 5% of recent appraisals have included IPPD. However, in today's environment most people work in teams.

Teaming has been embedded consistently in all 3 models.

- This change allows you to address these concepts as intended.

- You don't have to worry about whether to include teaming practices or not.

In CMMI-DEV there were about 20 amplifications for SE, SW, and HW and none in CMMI-ACQ or CMMI-SVC. Therefore, amplifications were removed. Useful amplifications were converted to examples and notes.

- The concept of amplification was often confusing.

- This change should allow CMMI users to look at this information like other informative material.

Terminology Was Improved$_1$

CMMI terminology evolved and wasn't always consistent with the release of new constellations.

The model component descriptions were revised. If defined in the glossary the following occurred:

- The redundant text in the description was minimized.

- Inconsistent text was eliminated.

- A reference to the glossary was added.

Some glossary terms were not consistent with how the same terms were described in other parts of the model and they did not accurately reflect their relationships with other terms.

The glossary had a "good scrub."

Therefore, when you don't understand a term, first refer to the glossary.

Terminology Was Improved$_2$

Certain words and phrases that appear in goal and practice statements unnecessarily complicate their interpretation.

Words and phrases that were considered problematic include: appropriate, best, designated, effectively, essential, most important, necessary, realistic, reasonable, and relevant.

When implementing these practices, it should be a given that you implement what is "appropriate" for the project and organization.

This change should minimize some of the interpretation wars that occurred during appraisals.
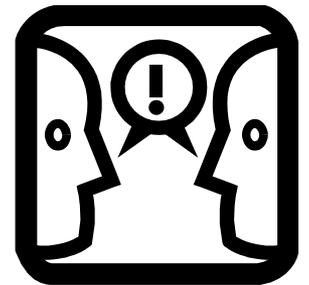
Informative Material

Informative material was improved, including revision of the Engineering practices to reflect industry best practice and additional guidance for organizations that use Agile methods.

References were revised so that users can easily find the information that the reference points to by searching for a goal or practice title or purpose statement in the destination PA

A standard sequence of references was introduced when there are multiple adjacent references:

- Constellation-unique PAs appear first.

- Within each PA reference grouping, the references are listed alphabetically by the destination PA.
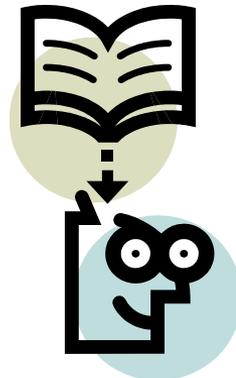
Front Matter Changes

The history of CMMI was added to accompany Figure 1.2.

With a few exceptions, the mention of "source models" was removed.

Biases favoring maturity levels or capability levels were removed.

Clarifications were added that CMMI models are not processes or process descriptions.

Information was added about selecting the right CMMI model.

Clarifications were added that Chapter 2, Process Area Components, contains descriptions, not definitions.

In DEV only, it is now mentioned that recursion among PAs can also apply to Project Management PAs. (In V1.2, some inferred the idea of recursion might apply to Engineering PAs only.)

Changes were made to explicitly state what was always implied.

PA Changes at Maturity Levels 2 and 3

All PAs have changed.

Five PAs were changed at the goal level:

- IPM, IRP, OPD, OT, and RD

Fourteen PAs were changed at the specific practice level:

- IPM, OPD, PI, PPQA, REQM, RSKM, SAM,

- SSAD

- PI, RD

- IRP, SCON, SSD, SST, STSM

Be sure to plan adjustments to your process improvement efforts. And don't forget to mine the changes to the informative material to determine how those changes may benefit your organization.

High Maturity Changes[1]

High maturity concepts and terminology were confusing in V1.2.

High maturity requirements were implied, not explicitly stated and were sometimes contained in documents other than the model.

Explanations were not central or consistent.

There were inaccurate perceptions about high maturity.

High maturity concepts were present in ALL constellations, but in much of the material examples focused on development.

If you are a high maturity organization or are pursuing high maturity, move to V1.3 as quickly as possible!

High Maturity Changes$_2$

High maturity process areas are significantly improved to reflect industry best practices, including a new specific goal and several new specific practices in the process area that was renamed from Organizational Innovation and Deployment (OID) to Organizational Performance Management (OPM).

Organizational Process Performance was reordered.

Quantitative Project Management was reordered and modified.

The scope of Causal Analysis and Resolution was changed.

- "Defects and other problems" was replaced by "outcomes," which can be successes as well as deficiencies.

- The emphasis on "proactive" defect prevention was increased.

CMMI-DEV Addison-Wesley Book

The Book Changes

The design of the Addison-Wesley book stayed basically the same as the second edition (Version1.2).

- Some perspectives stayed the same, some were updated, and new ones were added.

- The case study was replaced with three shorter case studies.

- Tips and hints were only modified where needed. The Engineering and high maturity PAs had the most change.

The book is scheduled for release at SEPG North America, March 21-24, 2011.
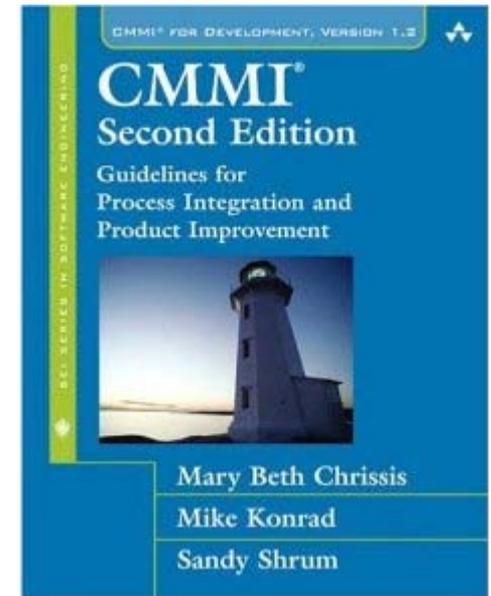
Summary

The V1.3 changes are improvements to the model.

The model should be easier to implement and interpret if you have been following sound process improvement principles.

These changes should not have a noticeable effect on what you have been doing.

They should be more of a *natural* fit.

Does it surprise you that most of the change occurred in the informative material?

The End of this presentation and the continuation of your journey.

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