Transitioning to CMMI from Software CMM

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AGENDA

• What should we consider doing FIRST?
• Where should the focus be?
• Can we continue using Software CMM in spite of CMMI?
• In what ways will CMMI help if CMM failed meeting our expectations?
• Discussions, Questions & Answers
WHAT SHOULD WE CONSIDER DOING FIRST? (1 OF 2)

- Appraise the merits of the CMMI Model – first hand
  - Obtain senior management attention by creating awareness
  - Have the SEPG trained on the Introduction to CMMI
  - Decide which representation best fits your needs
  - Establish a migration plan and now,
  - Re-establish contact with senior management and request sponsorship
WHAT SHOULD WE CONSIDER DOING FIRST? (2 OF 2)

• Decide what the migration strategy ought to be
  – Establish sponsorship and senior management commitment to CMMI
  – Conduct a mini-assessment of your process using the CMMI (Internally or by using external help)
  – Study recommendations and develop an action plan
  – Commit your best resources to the initiative
WHERE SHOULD THE FOCUS BE?

(1 OF 2)

- What is your current response to SPI?
  - Provides an opportunity to transition ineffective people into SQA functions
  - Yet another corporate initiative
  - For the sake of proving a point to our customers and competitors
  - We have found value in adopting a systematic approach to change management
  - Process and Product QA is an organizational core competency
  - Those assigned Process and Product QA responsibilities are mentors and coaches to the organization – advisors to the CEO
WHERE SHOULD THE FOCUS BE?

(2 OF 2)

- Developing a Shared Vision (Possible Attitudes)
  - Commitment - Wants it. Will make it happen
  - Enrollment - Wants it. Will do whatever can be done
  - Genuine Compliance - See benefits. Does what is expected & more. Good soldiers.
  - Formal Compliance - On the whole, see a vision. Does what’s expected BUT NO MORE.
  - Grudging Compliance - Does not see the benefits, BUT ALSO DOES NOT WANT TO LOSE THE JOB.
  - Noncompliance - Does not even attempt to see benefits. “I won’t do it, … and you can’t make me do it”
  - Apathy - Neither for nor against vision. Retired on the job. No energy. “Why is eight hours so long?”
To answer this question, we will need to know what are the major differences between SW-CMM and CMMI?

Does our process infrastructure support most of what the SW-CMM advocates up to the Level 5?
SW-CMM In spite of CMMI?
The SW-CMM Has 5 Levels of Maturity (2 OF 10)

**Level 1: INITIAL**

**Level 2: REPEATABLE** (Project Level)
Know what to do about things that have been done in the past

**Level 3: DEFINED** (Organization Level)
Choices well defined when process decisions have to be taken. Process is still only qualitative.

**Level 4: MANAGED** (Project Level)
Managing according to data. Choices driven by data.

**Level 5: OPTIMIZING**
Continuous Data Collection using better collection techniques

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SW-CMM In spite of CMMI?
Staged CMMI has 5 Levels of Maturity (3 OF 10)

Level 1: INITIAL

Level 2: MANAGED (Project Level)
Uses project management techniques to manage projects

Level 3: DEFINED (Organization Level)
Organizational process that is proactive to process management based on common definitions

Level 4: QUANTITATIVELY MANAGED (Project Level)
Choices driven by data with a sense to contain special causes

Level 5: OPTIMIZING
Focus on process improvement and to contain common causes of variation

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SW-CMM In spite of CMMI? Software CMM Maturity Framework (4 OF 10)

LEVEL 1: INITIAL
- Process Discipline
- Project Management

LEVEL 2: REPEATABLE
- Process Definition
- Process Control

LEVEL 3: DEFINED
- Continuous Process Improvement
- Engineering Management

LEVEL 4: MANAGED
- Change Management
- Quantitative Management

LEVEL 5: OPTIMIZING
- Excellence Combining Expertise™
SW-CMM In spite of CMMI?
Structure of the Software CMM

Maturity Levels
- Process Capability
- Goals
- Implementation

KPAs
- Common Features
- Key Practices

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SW-CMM In spite of CMMI?
Structure of the Staged CMMI

Maturity Levels

PAs

contain

Specific Goals

Addressed by

Specific Practices/Activities Performed

Commitment to Perform
Ability to Perform
Directing Implementation
Verifying Implementation

Generic Goals

Organized into common features

PAs

contain

and

Excellence Combining Expertise™

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SW-CMM In spite of CMMI?
Structure of the Continuous CMMI

- PAs
  - Specific Goals
    - Addresses Process Dimension
    - Specific Practices/Activities Performed
  - At CL 0 to CL 3
  - Commitment to Perform
  - Ability to Perform
  - Directing Implementation
  - Verifying Implementation
- PAs
  - Generic Goals
    - Addresses Capability Dimension
    - At CL 0 to CL 5
    - Excellence Combining Expertise™
The Capability Levels of the Continuous CMMI are:

- 5 Optimizing
- 4 Quantitatively Managed
- 3 Defined
- 2 Managed
- 1 Performed
- 0 Incomplete

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There is an explicit distinction between what you do (activities performed) and how well you do (as institutionalized process).

Process Area gets assessed for applicability based on whether or not Specific Goals are fulfilled:
- No longer an arbitrary decision
- Best rule, don’t rule not applicability until validated by business needs
- **SPONSORS BEWARE**: When you rule not applicability of a PA, it might be interpreted as NOT RATED
• Degree of detail and process richness can be decided by organizational sponsor
  – Generic Goal 1 – Achieve Specific Goals
  – Generic Goal 2 – Institutionalize a Managed Process
  – Generic Goal 3 – Institutionalize a Defined Process
  – Generic Goal 4 – Institutionalize a Quantitatively Managed Process
  – Generic Goal 5 – Institutionalize an Optimizing Process
IN WHAT WAYS WILL CMMI HELP IF SW-CMM FAILED MEETING EXPECTATIONS?

• May be, it will
  – Help to establish a criteria for “reasonableness” for what constitutes richness of a process
  – Help you to decide which PA needs to be addressed first and how well should we do it
  – Help you to identify which category holds the maximum RoI opportunities and go after it
  – Better integrate your operational teams by giving dedicated focus to Process Management, Project Management, Engineering and Support
• Whatever your process is capable of doing now, it was at one time an effective and successful response to the environment surrounding it

• A blend of strong technical and process skills is needed to succeed with CMMI
• In order to be effective with process change management, we may have to change relationship styles and model the right behavior through Shared Vision.

• I hope today’s session has expanded your awareness on CMMI and provided a range of choices to make.
SOURCES OF INFORMATION

- Software Engineering Institute, Carnegie Mellon University, Pittsburgh PA
  - Customer Relations (412) 268-5800
  - http://www.sei.cmu.edu

- Local SPIN Chapters

- SITARA Technologies
  - Raghav Nandyal (raghav_nandyal@SITARATECH.com)
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THANK YOU!