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DEFINING THE FUTURE

# Interpreting the CMMI: It Depends!

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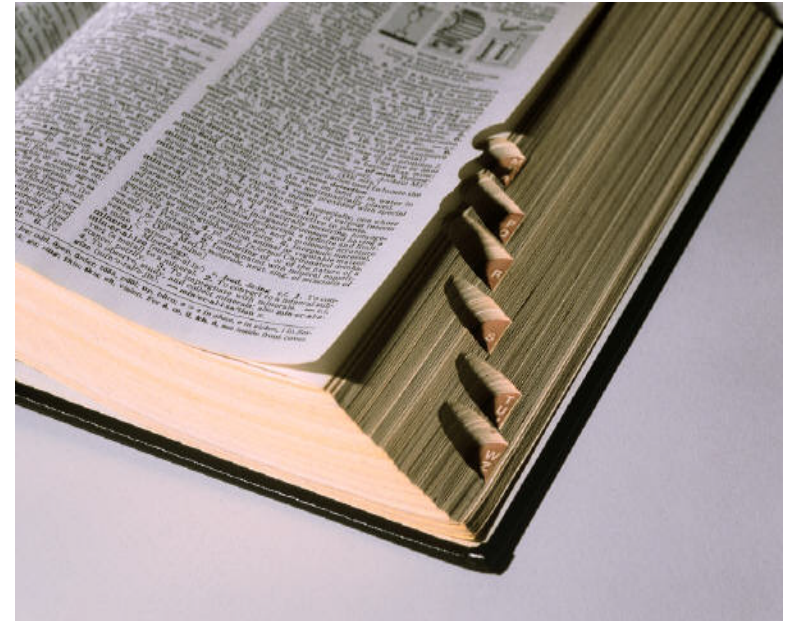
# Background

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- **Many organizations struggle with finding practical implementations of the CMMI model**
  - How does practice \_\_\_\_\_ apply to my time and materials contract?
  - How can a small project perform practice \_\_\_\_\_?
  - Is this evidence enough for practice \_\_\_\_\_?
- **The expert answer is frequently – *it depends!***
  
- **This presentation will show how to interpret the model in a variety of contexts, including small projects, maintenance efforts, and time and materials contracts**

# Interpretation – The Dictionary Meaning

- To explain or tell the meaning of
- To present in understandable terms
- To conceive in the light of
  - individual belief
  - judgment
  - circumstance



# Why Do Interpretation Issues Arise?

- The CMMI model is a collection of industry best-practices
- These best-practices are based on an assumed project and organizational context
  - These practices must be adapted for other situations

**Small projects**  
**Short projects**  
**Maintenance projects**  
**Research & development (internal) projects**  
**Time and materials contracts**

- **To better understand/interpret a practice:**
  - Review Process Area introductory material and Goals to understand the purpose of the process
  - Seek guidance from someone who has implemented that practice in your context
  - Understand the fundamental principles behind the practice

# Do You Have an Open Mind?

- **Some practitioners want to believe the model does not apply to their situation**
  - If it doesn't apply to me, I don't have to do it!
- **Adopting the model means learning new ways of performing**
  - Must be willing to embrace new ideas, conceive that other's approaches may be better than yours



# Underlying Principles of CMMI

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- 1. Process discipline leads to predictable project performance**
  - Say what you do; do what you say
  - Document the plans/processes
  - Communicate them to the performers and stakeholders
  - Audit to ensure we are following them
- 2. Conscious choices lead to better processes**
  - E.g., identify relevant stakeholders and their involvement; identify work products to be controlled and the control method; define validation procedures and criteria, ...
- 3. Organizational learning improves project performance**
  - Capture what works, and what doesn't
  - Make rules (policies) to guide projects
  - Define expected processes, and let projects tailor them to fit
  - Capture work products and measures, and learn from them

# Small Projects



- **All the CMMI practices typically apply, but must be performed in a highly efficient manner**
  - Focus on discipline, not bureaucracy
- **With smaller projects**
  - Communication/coordination is simpler
  - It is more tempting (but more dangerous) to abandon discipline
  - The ability to divert staff to recover from mistakes is often less
- **Examples of interpretations**
  - Plans/processes may be less detailed, less formal
  - “Configuration Control Board” may simply be the project manager
  - Peer review may be a “buddy check” by a single individual

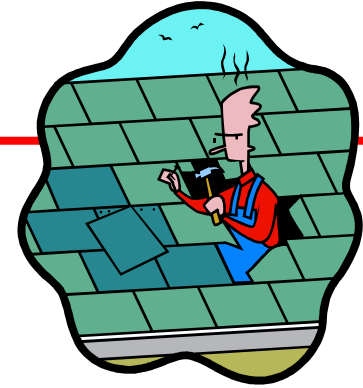
# Short Projects



- ***“A ‘project’ is a managed set of interrelated resources that delivers one or more products to a customer or end user.... A project can be composed of projects.”***
- **Proper application of CMMI involves proper definition of “project” to fit the work**
  - Modern contracts create tasks of various sizes and scopes
  - Some are too short/small to fit the CMMI definition of “project”
  - These tasks can be grouped together to better fit the CMMI context of “project”
- **Process discipline benefits longer projects by reducing the risk that something will go wrong over time**
  - Shorter projects have to focus on doing things right the first time, since little time is available for recovery



# Maintenance Projects



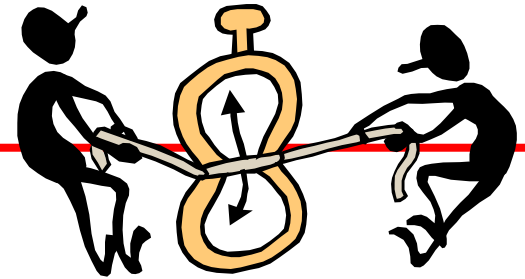
- The term “development” in CMMI does not exclude maintenance
- The Engineering process areas often need be interpreted in a smaller scope
- **Example**
  - A problem in the field requires a “bug fix”
  - The engineer explores whether the product is broken or has unanticipated new requirements (Requirements Development, Requirements Management)
  - Potential changes to the design are considered (Technical Solution)
  - The fix is incorporated (Product Integration), regression tested (Verification) and deployed to the field

# Research and Development Projects



- Some organizations exclude R&D/internal projects from their CMMI initiative
- **If you believe that CMMI is the fastest, cheapest way to develop a product, why wouldn't you use it everywhere?**
- Guidance about small/short projects applies

# Time and Materials Contracts



- **CMMI applies to any kind of work, but....**
- **Adopting the CMMI assumes the project has the autonomy to perform the work in the best possible way**
  - I.e., can define their own process
- **Sometimes the customer sets limits on cost and schedule**
  - Projects can still meet the CMMI (e.g., Project Planning), but must adjust the work to fit the cost and schedule available
  - Process discipline means you do not agree to a scope of work you cannot hope to perform
- **Sometimes the customer defines the process to be used**
  - These processes may or may not comply with the CMMI (i.e., include the industry best practices required to perform efficiently and effectively)
  - Can advise the customer on the success of your proven processes and the value of CMMI practices

# Summary

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- **Many organizations struggle with finding practical implementations of the CMMI model**
- **You can determine how to interpret the CMMI by:**
  - Keeping an open mind
  - Reviewing Process Area introductory material and Goals to understand the purpose of the process
  - Seeking guidance from someone who has implemented that practice in your context
  - Understanding the fundamental principles behind the practice

# Contact Information

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