OVERVIEW OF THE CAPABILITY MATURITY MODEL[sm] INTEGRATION DEVELOPMENT PROJECT

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OUTLINE

- Objective
- Background
- Scope
- Approach
- Organization
- Steering Group
- Product Development Team
- Stakeholder/Reviewer Activity
- Status

OBJECTIVE

To develop an integrated model and set of tools (product suite) which provides Industry and Government a set of integrated products to support engineering development process improvement.

BACKGROUND

- OUSD A&T Review of SEI Activities
  - Sept - Dec 1997
  - Endorsed need for Integrated CMMI development effort
  - Need to focus limited SEI resources on CMMI effort

BACKGROUND

- Current Situation
  - Multiple single-discipline capability models resulting in excessive effort and inconsistent results.
- Need Identified
  - Integrate the content, structure and characteristics of existing models.

BACKGROUND

CMMI Need Validation

- OUSD took the issue to Industry through the National Defense Industrial Association (NDIA) Systems Engineering Committee
- NDIA unanimously endorsed
  - Agreed to support the development effort
  - Industry providing resources
  - Endorsed combined industry, government, SEI team approach

SCOPE

- The Initial CMMI Product Suite includes
  - Framework for generating CMMI products
  - Capability Models
    - Software (SW)
    - Integrated Software-System Engineering
    - System Engineering (SE)
    - Integrated SW-SE with IPPD
  - Training Products
  - Assessment Products
  - Tailoring Guidance

APPROACH

- Specify User Requirements via

  A-Specification
- Concept Exploration
  - Establish Architecture/Design Approach
- Product Development
  - Develop initial CMMI Product Suite
- Public review, pilot test and publication

A SPEC

- A Spec provides the basis for the CMMI project
  - Defines the requirements for a Capability Maturity Model℠ Integration Product Suite
  - Serves as a criteria for evaluation of products from CMMI project

A SPEC APPROACH

- Used a standard performance spec format (MIL Std 961) as a guide
- Included different categories of applicable references
  - Applicable Documents (policy statements)
  - Source Documents (source material)
  - Reference Documents (relevant background)
- Added a definitions section
  - CMMI Framework, IPPD, staged and continuous representations, consistency, etc.

A SPEC APPROACH

- Included functional requirements section
  - Development User Requirements
  - Product Suite
  - Framework
  - Models
  - Assessment
  - Training Materials
- Included a verification section
  - Quality Assurance Provisions
- Added matrix with various verification methods

KEY REQUIREMENTS

- CMMI Product Suite to include integrated Capability Models (CMs) composed of
  - Software engineering discipline
  - Systems engineering discipline
  - Integrated Product and Process Development (IPPD) concepts
- Initial release of CMMI Product Suite comprised of
  - Framework
  - Capability models
  - Training products and Assessment products
  - Glossary and Tailoring guidance

KEY REQUIREMENTS

- Assessment methodology supports various types of assessments
- Training materials provided to support efficient use of the CMMI Product Suite
- Framework permits tailoring to meet an individual organization's goals
  - Tailoring guidance provided as part of training materials
- Framework supports both staged and continuous (with recommended staging) representations of CMs

KEY REQUIREMENTS

- Focus on development enterprise
- Consistent with ISO/IEC (the International Organization for Standards and the International Electrotechnical Commission) applicable documents
- Consistent with applicable DoD Directives and Regulations

SUMMARY OF A SPEC ACTIVITIES

- A Spec has gone through significant review by the Government and Industry members of the
  - CMMI Steering Group
  - CMMI Product Development Team (PDT)

DEVELOPMENT APPROACH

Form a collaborative effort sponsored by the Office of the Under Secretary of Defense (Acquisition & Technology), Systems Engineering with participation by:

- Government
- Industry
- Software Engineering Institute (SEI)

DEVELOPMENT APPROACH

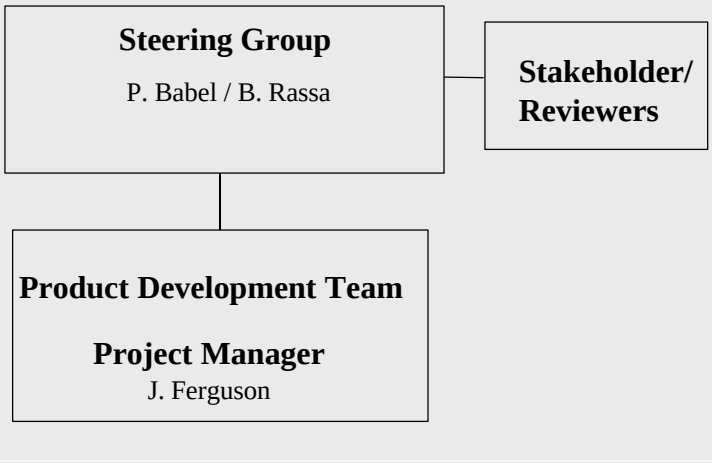
- Organized into four elements
  - Steering Group Ind, Gov, SEI
  - Project Manager* SEI
  - Expert author team* Ind, Gov, SEI
  - Stakeholder/Reviewer Ind, Gov, SEI

  * Combined into Product Development Team

PROJECT ORGANIZATION

- Product Development Team organized into IPTs
  - Development experience and expertise needed to get the model content right
    - Industry experts heavily involved in leading IPTs
    - Obtain industry buy-in
    - Government experience and expertise involved
    - SEI model construct experience

PROJECT ORGANIZATION



STEERING GROUP RESPONSIBILITIES

- Defining requirements (A Specification)
- Configuration control
- Tracking progress and approving products
- Resolving issues
- Planning transition and support
- Disseminating information

STEERING GROUP MEMBERS

Phil Babel	US Air Force (Chair)
Bob Rassa	Raytheon (Deputy Chair)
Clyde Chittister	SEI
David E. McConnell	US Navy
Michael Devine	US Army
Linda Ibrahim	FAA
Bob Lentz	General Dynamics
Mike Phillips	SEI
Joan Weszka	Lockheed Martin
Hal Wilson	Litton PRC
Mike Zsak	OUSD (A&T)
Joe Farinello	Support from OUSD (A&T)
Brenda Zettervall	Support from OUSD (A&T)

STEERING GROUP ACTIVITIES

- CMMI Steering Group monthly meetings
- Recent actions
  - Frequently Asked Questions now on web
  - Stakeholder/Reviewers Identified
  - Initial Stakeholder/Reviewer meeting 15 July 1998
  - Planning for CMMI transition and support
- For the latest info see CMMI web page

http://www.sei.cmu.edu/cmm/cmms/cmms.integration.htm1

PRODUCT DEVELOPMENT TEAM RESPONSIBILITIES

- Managing development activities
- Developing architecture
- Authoring
  - integrated models
  - assessment methods
  - training courses
  - pilot testing

STAKEHOLDER/REVIEWER RESPONSIBILITIES

- Review CMMI products
- Recommend improvements
- Represent and coordinate organizational review
- Nominate candidates for pilot testing

PRODUCT DEVELOPMENT PROGRESS

- Input architecture complete
- Output model representation in process
- Model Design - Process area abstracts complete, development in work
- Assessment & Training - design in work