



CMMI & OPM3

Capability Maturity Model Integration & Organizational Project Management Maturity Model

Shaken Not Stirred...

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14 November 2006





Connery

Lazenby

Moore

Dalton

Brosnan

Craig

So, Which Bond Is Best?



Any statements made during this presentation do not necessarily represent the views or opinions of the Project Management Institute (PMI) or the Software Engineering Institute (SEI)...

Mission Statement

Our mission tonight is to explore the use of two industry standard models to drive process improvement. Before setting out, just like 007, we need to get the required “gadgets”.



But, in this instance we look to the SEI and PMI (rather than “Q”) for the goodies...



Mission Agenda



- Revisit the rationale for using model-based process improvement
- Provide an overview of the SEI CMMI and PMI OPM3 models
- Compare and contrast the models and their supporting product suites
- Focus on potential synergies, explore some dual-mode strategies and conclude
- Q&A

Please hold questions/comments until the Q&A phase...

Model Based Improvement

(A License To Improve?)



Why Use A Model?



Dealing With Process

Whether we acknowledge it or not- process exists. The only question is- do we take a structured (and systematic) approach to managing it, or do we allow it to develop organically?

- **Avoids reinventing the wheel**
- **Diminishes risk of focusing on existing organizational bias and tendencies**
- **Provides a common frame of reference and roadmap**
- **Leverages discipline/industry best practice**
- **Neutral- third party source of information**

Selecting A Model

(Some factors)



- **Need?:**
 - **Process effectiveness (does it address org targets?)**
 - **Anti competitive (will it provide an edge?)**
 - **Acquisition of new business (expand into new mkts)**
 - **Required to do business (customer)**
- **What?:**
 - **Coverage/Utility (areas of focus)**
 - **Cost (training, assessments, licenses, tools)**
 - **Source/Stability (is it established/proven?)**
 - **Recognition (industry-wide, niche, customer)**
 - **Culture (will it fit- does it need to?)**

Overview

(SEI & PMI, our MI5)



PMI & SEI



- **Project Management Institute (PMI) established in 1969**
- **HQ in Newtown Square, PA**
- **PMI Chapters**
- **Specializes in Project Management**
- **Independent not for profit**
- **Collaborative development teams**
- **Direct licensing (except OPM3 training certification program)**
- **Global reach (150+ countries)**
- **Diverse user base (all sectors)**



- **Software Engineering Institute (SEI) established in 1984**
- **HQ in Pittsburgh, PA (CMU)**
- **SPIN Chapters**
- **Specializes IT, procurement, security, development**
- **Partially funded by US govt**
- **Collaborative development teams**
- **SEI Partnership Network**
- **Global reach (50+ countries)**
- **SW/SE-centric user base**

CMMI

(Architecture, Focus & Content)



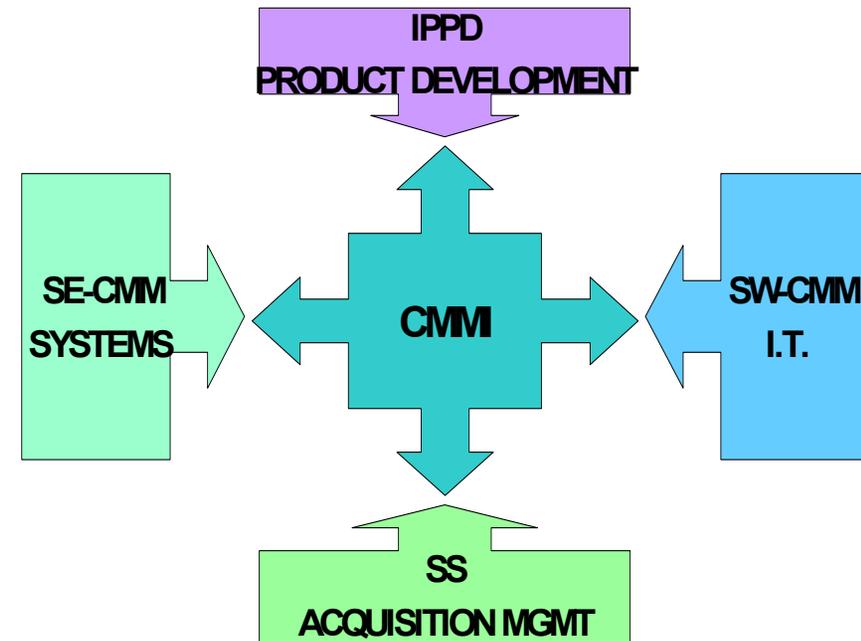
CMMI Overview

(Capability Maturity Model Integration)



- Collaborative effort between the Software Engineering Institute and industry
- Launched Aug'00 (V1.2 Aug'06)
- Product Suite:
 - Model, Training, Appraisal (Standard CMMI Appraisal Method for PI)
- Originally sourced from 4 Bodies Of Knowledge
- Current (new) version supports three “constellations” focusing on:
 - CMMI for Development
 - *CMMI for Services (future)*
 - *CMMI for Acquisition (future)*

Bodies Of Knowledge:



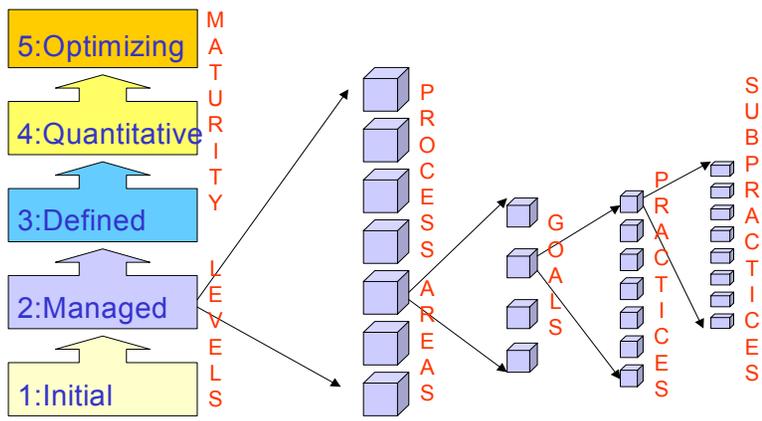
CMMI Representations



Staged

- Goals-Process Areas-Practices
- Process Areas pre-selected
- Maturity levels (1-5)

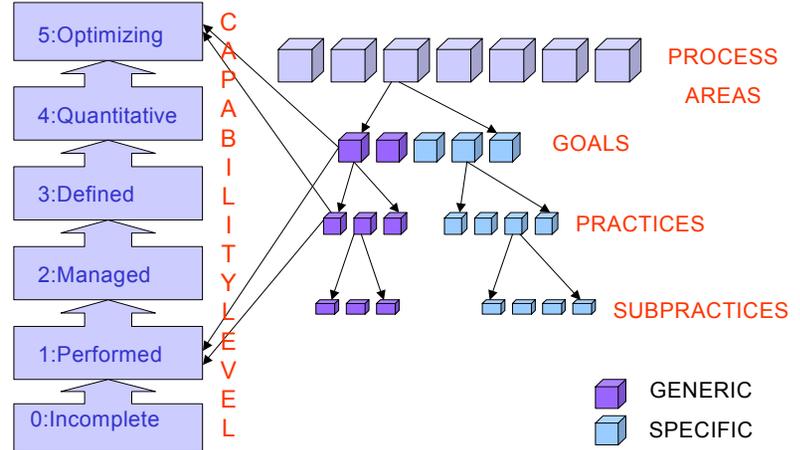
Staged CMMI Structure:



Continuous

- Goals-Process Areas-Practices
- Self selected Process Areas
- PA Capability levels (0-5)

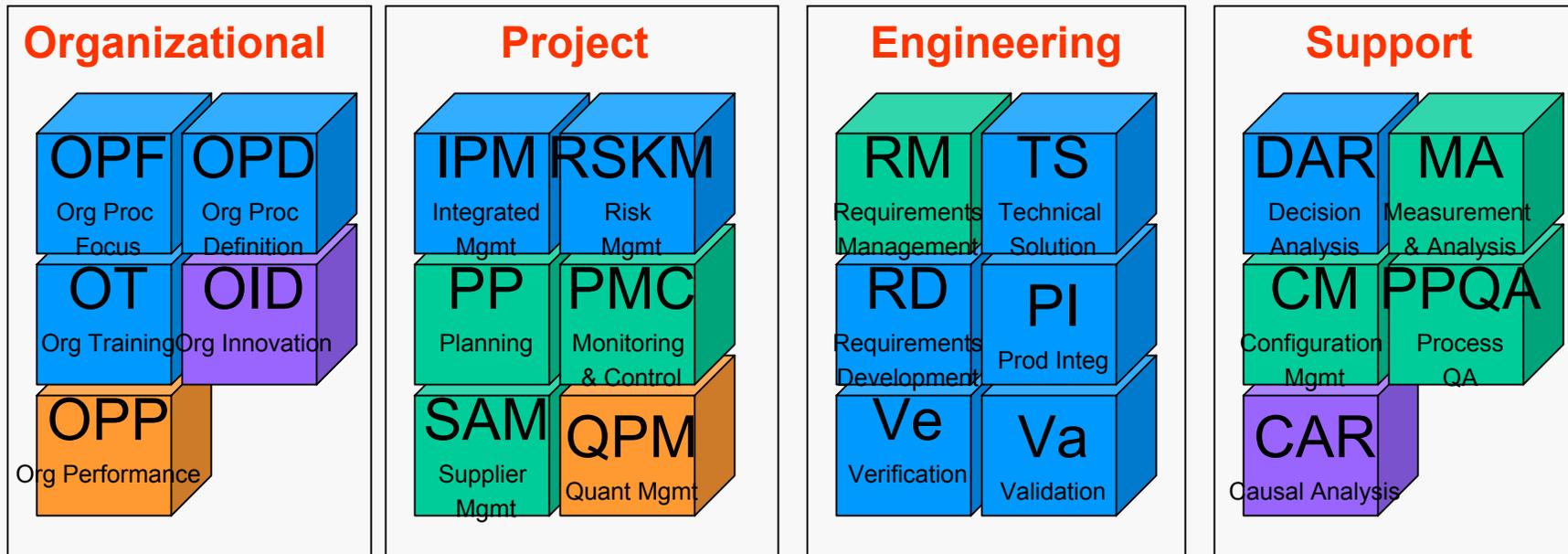
CMMI Continuous Structure:



-Analogous to 2 views of same data set-

CMMI Process Areas

(Basic building blocks)



-  Maturity Level 5 (Optimizing)
-  Maturity Level 4 (Quantitative)
-  Maturity Level 3 (Defined)
-  Maturity Level 2 (Managed)

Appraisals

(Standard CMMI Appraisal Method for Process Improvement)



- **A CLASS (Full- SCAMPI)**
Robust, consumptive, formal



- **B CLASS (Initial/incremental)**
Reduced sample/ROE and team



- **C CLASS (Quick check/self)**
Informal, typically small-scale



Appraisal Governance

- Lead Appraisers (Class A and B)
- Entry Criteria, Training & SEI Partner
- SEI quality controls

- Class A appraisals should be deployed sparingly
- Class B appraisals are best deployed to both gauge progress, stimulate Process Improvement, and establish readiness for Class A appraisal
- Class C appraisals should be used for base-lining and “quick look” self assessments

OPM3

(Architecture, Focus & Content)



OPM3 Overview

(Organizational Project Management Maturity Model)



- Collaborative effort between the Project Management Institute and industry
- Launched Sep'03 (major update due Dec'08)
- Product Suite:
 - OPM3 Knowledge Foundation, Assessment Tool, Training, Consultant/Assessor certification
- Originally sourced from Project Management Body Of Knowledge (PMBOK)-extended

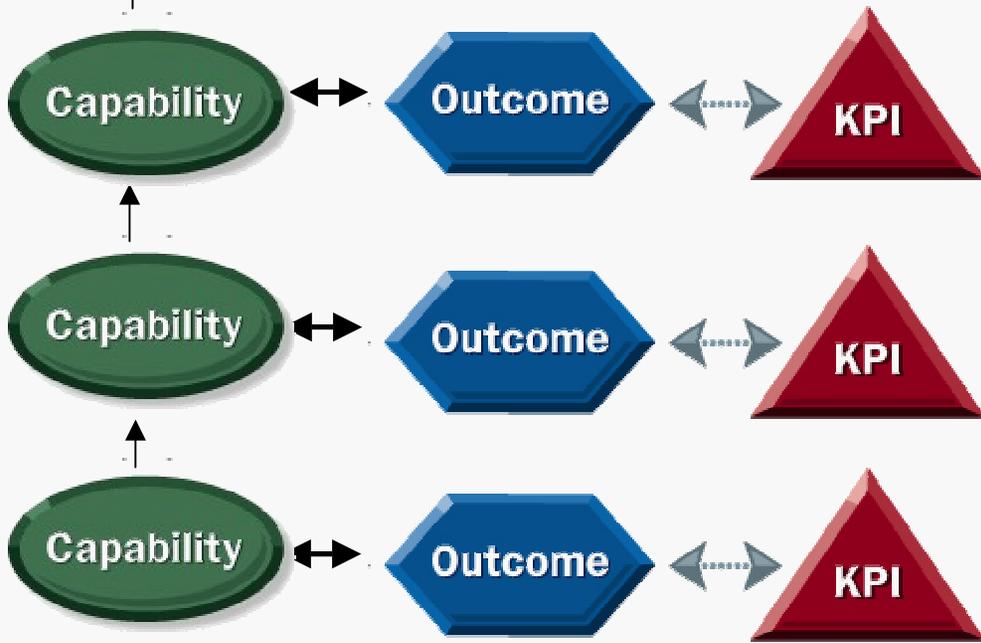


OPM3 Best Practices & Capabilities



Best Practice ~ 600
A **Best Practice** is an optimal way recognized by industry to achieve a stated goal or objective

Capabilities are steps along the path to increased maturity of a Best Practice



An **Outcome** is the tangible or intangible result of demonstrating or applying a Capability

A **Key Performance Indicator (KPI)**, represents the means to measure an Outcome

~2,100

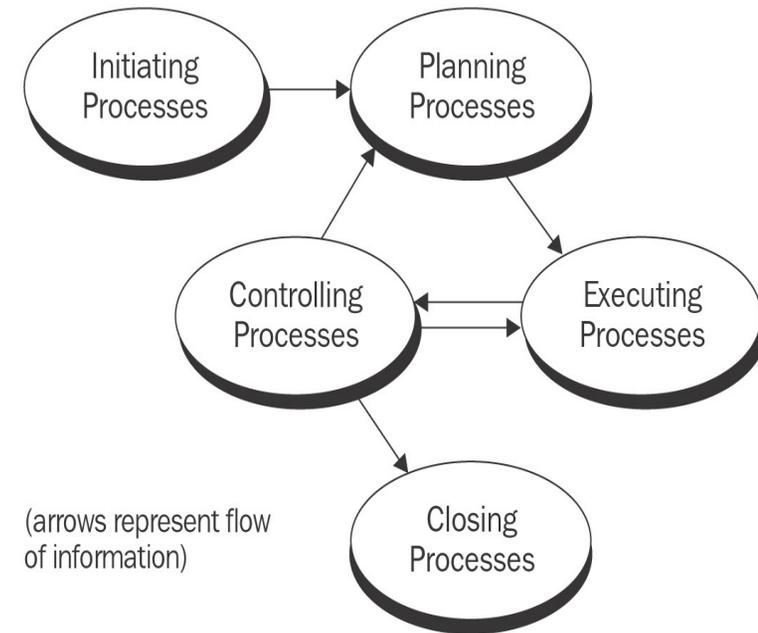
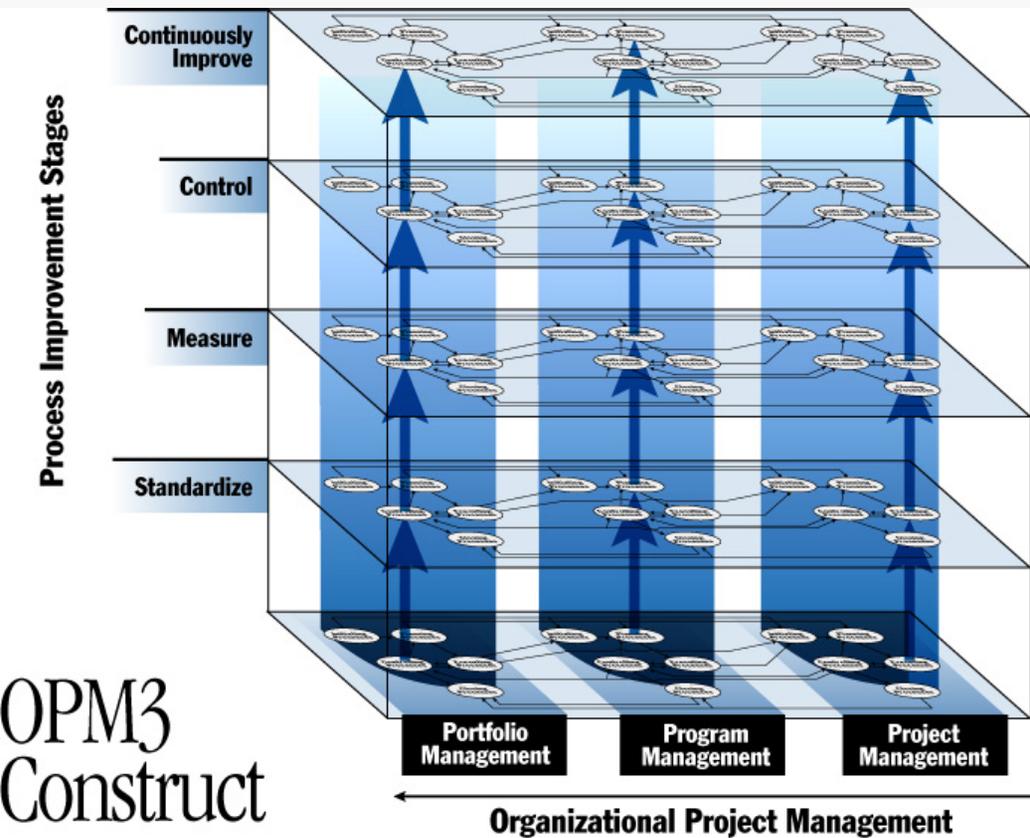
Process Improvement Stages

(SMCI & IPECC Categorization)



Best Practices are categorized by PPP and SMCI:

Capabilities are further categorized by (PMBOK) Process Group:





OPM3 Assessment

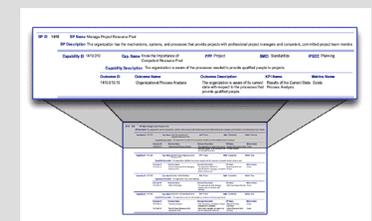
(Full & Self Assessment)

- Two levels of assessment:
 - SELF ASSESSMENT (Light)- distilled 151 best practice questionnaire
 - FULL ASSESSMENT (Robust)- Self selected sub-set of best practices and their capabilities
- Lack of governance. But, Den Norske Veritas (DNV) were recently contracted to certify OPM3 consultants and assessors
- Tool based (previously CD-Rom, now online) cost- \$4,495 (multi user) \$695 (single user) licenses

OPM3 TOOL

Best Practice/Capability Directories:

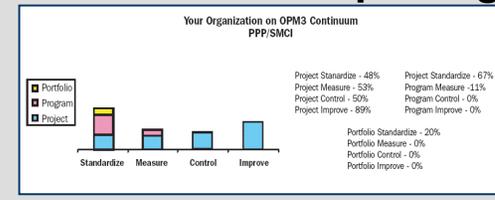
BP ID	Title	Description	Physical	Human	Material	Information
2002	Establish Organizational Project Management Process	The organization has policies in place for the identification, development, control, and continuous improvement of organizational project management processes.	X	X	X	X
10101	Project Selection Process	Project Selection Process standards are established.	X	X		
10102	Project Charter Development Process	Project Charter Development Process standards are established.	X	X		
2004	Project Scope Definition Process	Project Scope Definition Process standards are established.	X	X		
2005	Project Budget Definition Process	Project Budget Definition Process standards are established.	X	X		
2006	Project Resource Management Process	Project Resource Management Process standards are established.	X	X		
10103	Project Activity Duration Estimation Process	Project Activity Duration Estimation Process standards are established.	X	X		



Improvement Planning Directory:

Best Practice	1410	Name	Manage Project Resource Pool	Prerequisite	Outcome
Description: The organization has the mechanisms, systems, and processes that provide projects with professional project managers and competent, committed project team members.					
<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
Capability	Name	Outcome Checklist			
1410.010	Know the Importance of Competent Resource Pool	<input type="checkbox"/>			
1410.020	Identify Process Requirements for Resource Pool	<input type="checkbox"/>			
5220.030	Implement Staff Acquisition Policies and Procedures	<input type="checkbox"/>			
1410.050	Develop a Skills Database	<input type="checkbox"/>			
1400.060	Review Human Resource Plan	<input type="checkbox"/>			
3100.030	Staff Technical and Administrative Resources	<input type="checkbox"/>			
5030.010	Assign Professional Project Managers	<input type="checkbox"/>			
1410.040	Determine Training Requirements	<input type="checkbox"/>			
1410.050	Match Project Resource Requirements	<input type="checkbox"/>			
Best Practice 1410 has 5 capabilities, 4 prerequisites, and 11 outcomes.					

Assessment Reporting:



Comparison

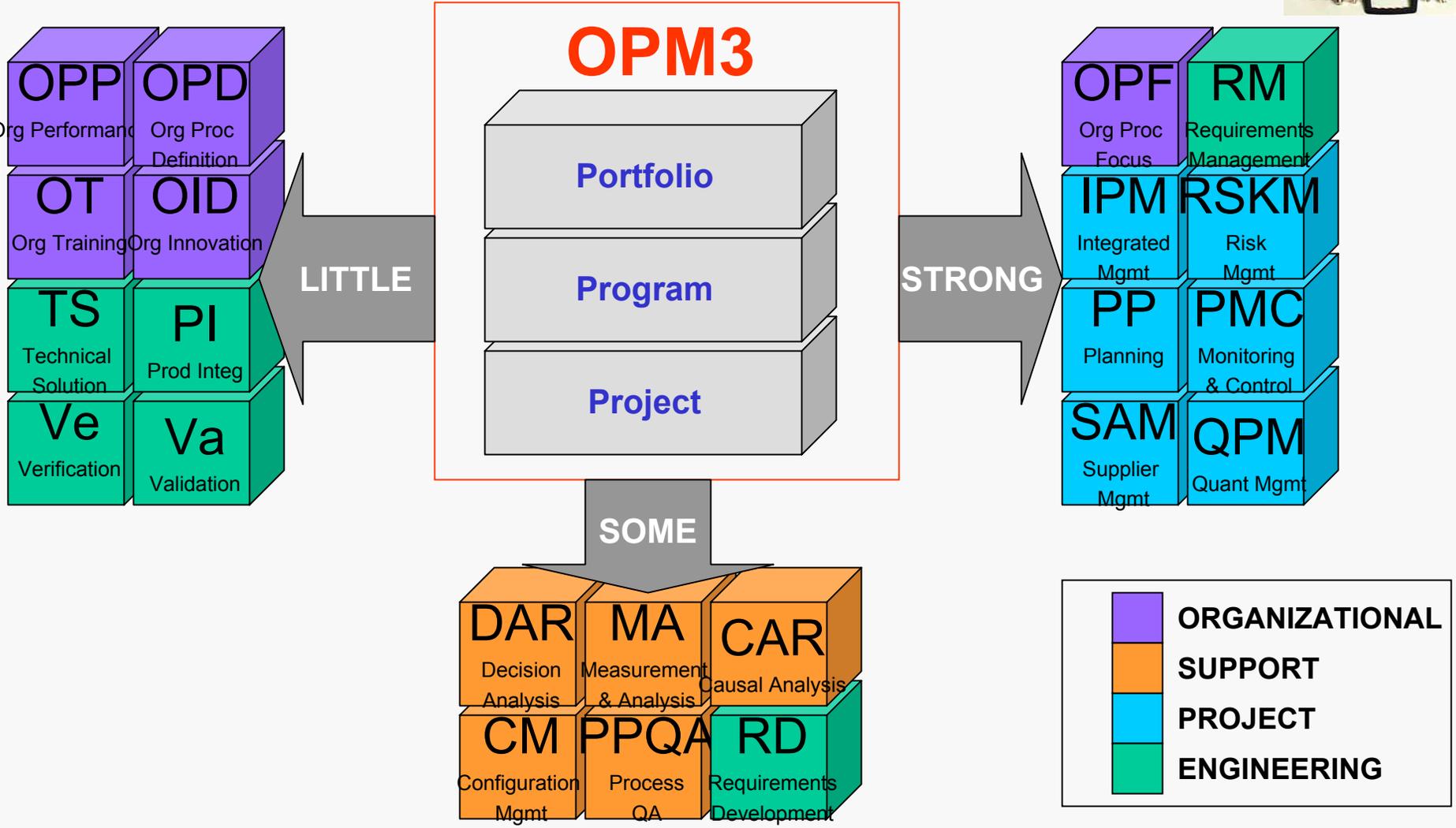
(CMMI & OPM3)





OPM3/CMMI Model Alignment

(Relative Alignment Of Model Components)



CMMI & OPM3: Model & Scope

(High-level Comparative Summary)



CMMI

- +IT specific/public domain
- +Emphasis- process metrics
- +Flexible architecture
(progressive/evolutionary)
- +Scalable and interpretive

- Complexity
- Limited PM coverage
- PM elements too basic?
- Doesn't provide solutions

OPM3

- +Not domain specific
- +Emphasis- PM metrics
- +Addresses portfolio and program mgt
- +Tool: more explicit guidance on solutions

- Complexity
- Too generic?
- Doesn't explicitly address IT
- Too prescriptive?

CMMI & OPM3: Assessment & Training

(High-level Comparative Summary)



CMMI

- +Team based (pre-trained and authorized)
- +Well defined robust appraisal stds and method
- +Scalable appraisals (A,B,C)
- +Comprehensive, well structured training

-No tool, model expertise required

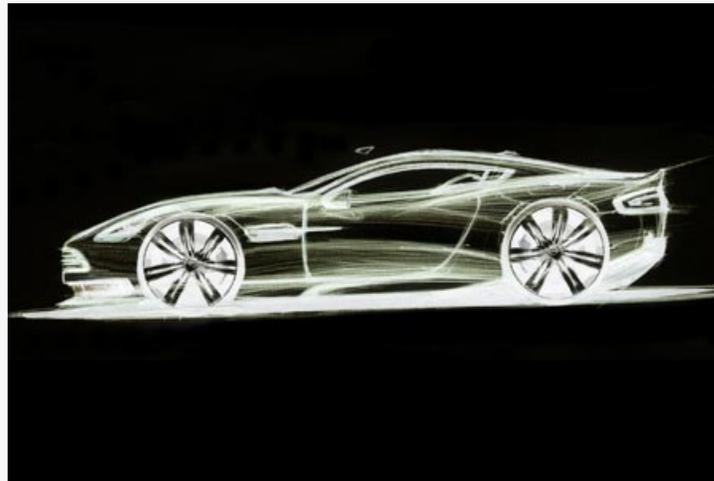
OPM3

- +No requirement for credentialed assessor/team
- +Informal approach to conducting assessment
- +Two levels of assessment (self and full)

-Dependent on tool (cost)
-Very loosely defined method and prescriptive
-Limited training (new)

Synergy & Conclusions

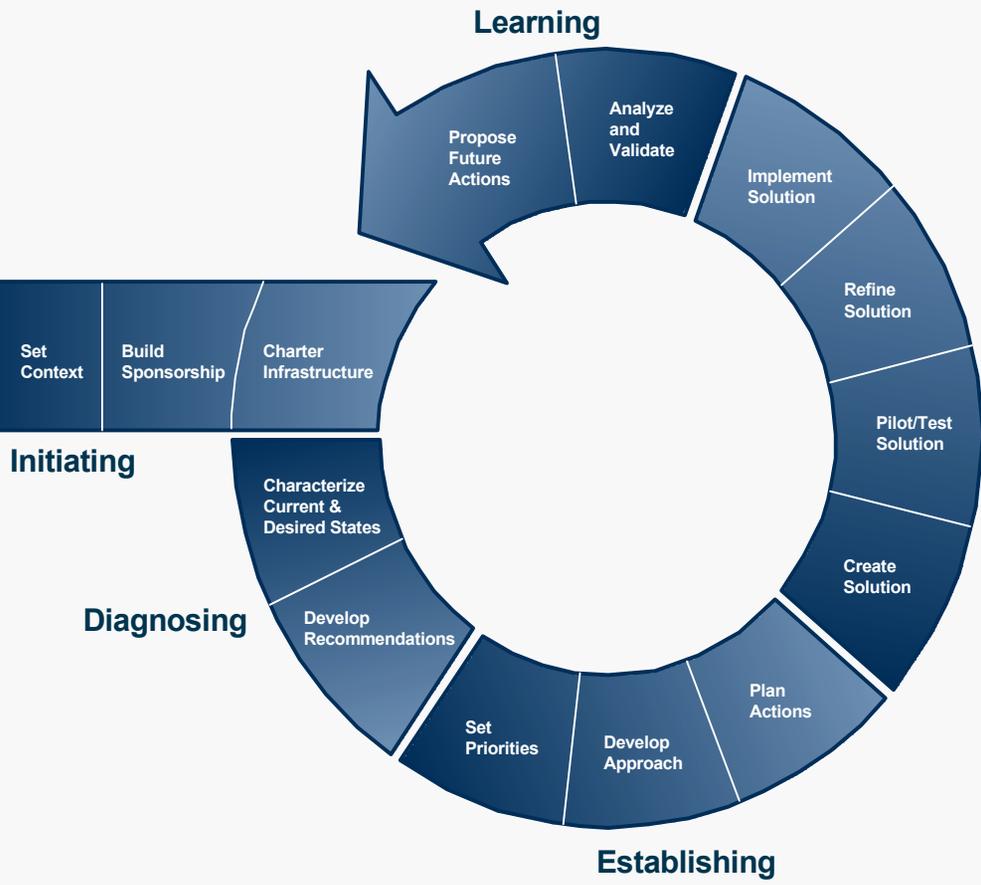
(Scenarios)



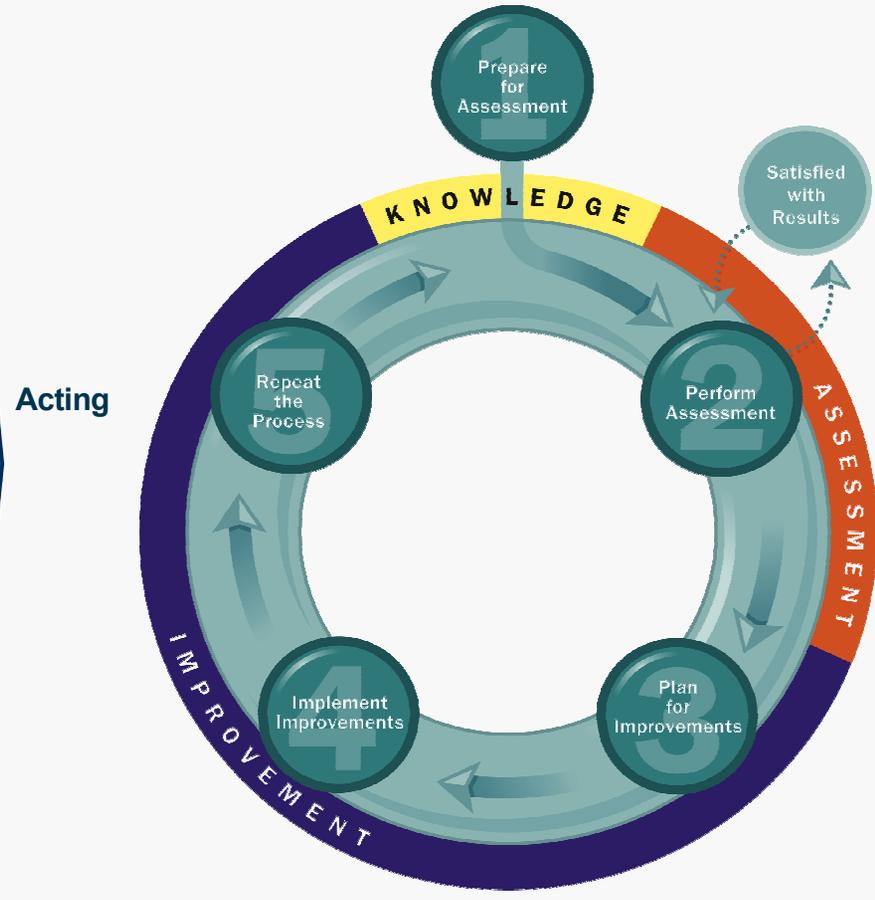
CMMI & OPM3 Approach



SEI IDEAL MODEL



PMI PRODUCT SUITE LIFECYCLE





CMMI/OPM3: Working Together?

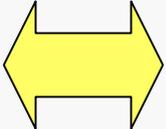
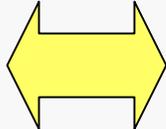
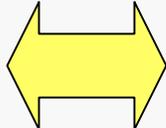
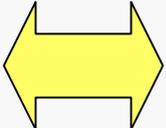
(Scenarios For Meeting Needs & Synergy)

Improvement Need:

CMMI:

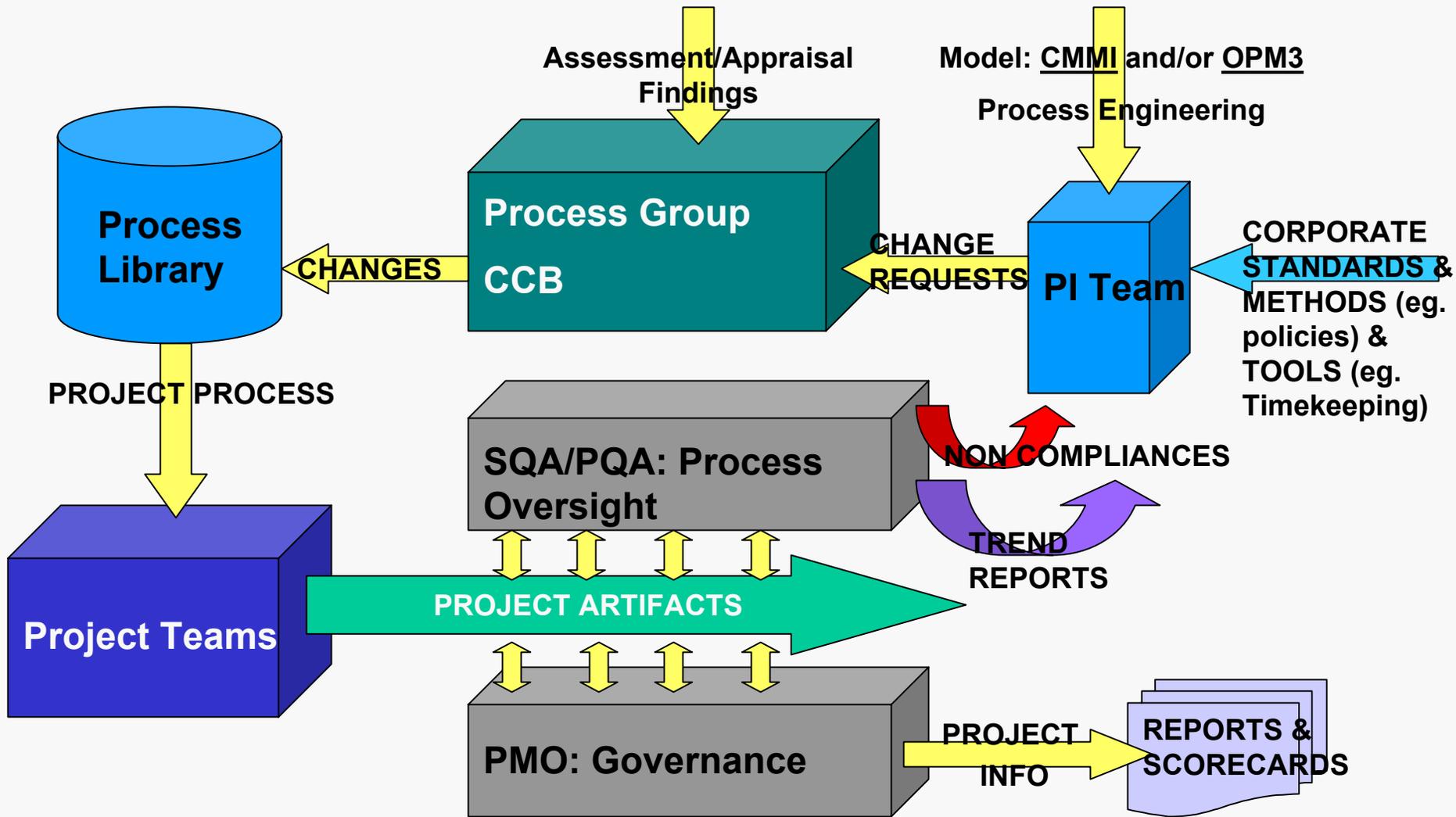
OPM3:

Observation:

IT Process Improvement			CMMI provides all the elements required, OPM3 has little on IT.
IT Proj Mgt & Proc Imp			CMMI is strong on IT and PI, OPM3 provides excellent PM.
Enterprise Project Mgt			OPM3 is inherently geared to P,P,P CMMI provides limited focus on PM.
IT Outsourcing			CMMI provides specific material, OPM3 coverage is limited.
Project Mgt Excellence			OPM3 has deep coverage from basic to advanced. CMMI some, but less.
Enterprise Proc Imp			CMMI has good PI coverage, but biased to IT. OPM3 is PM centric.

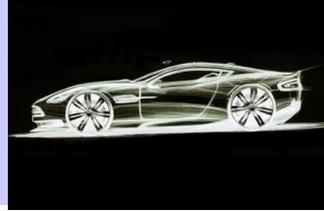
So, use OPM3 where enterprise (or local) PM excellence is required, CMMI where IT related process improvement is in order, or both if a combination is needed...

A Process Improvement Organization In Action



007 Summary

(Some Final Observations)

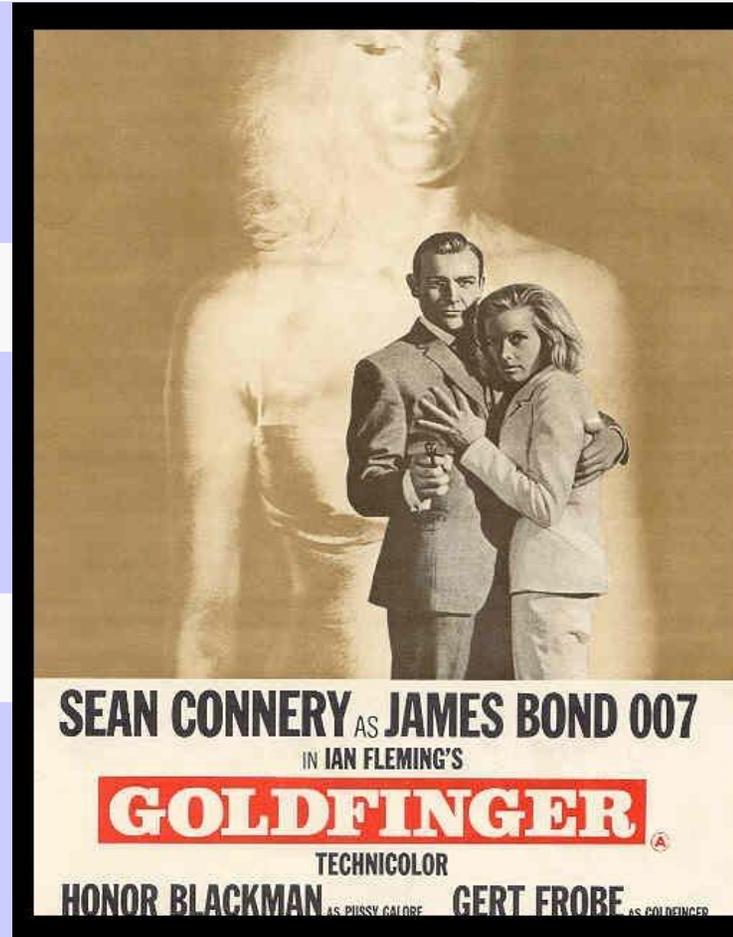


- 001** OPM3 may be generically applied, CMMI is more IT-centric
- 002** CMMI is public domain, OPM3 isn't, both cost to assess
- 003** OPM3 focuses on improving PM capability, CMMI on IT
- 004** CMMI is largely interpretive, OPM3 is more prescriptive
- 005** OPM3 assessments are tool based, CMMI method based
- 006** Depending on need, both may be used independently or together
- 007** So, which is best? The straight answer is neither, as we have seen, both have strengths. But, in terms of model maturity, given that OPM3 is being significantly re-worked, CMMI is probably more robust right now...

Further Information:

CMMI:
<http://www.sei.cmu.edu/cmmi/>

OPM3:
<http://www.opm3productsuite.com/>



Mission Accomplished!

(Thanks for listening...)

Q&A...

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