

Society of PM Professionals 47th Professional Development Seminar

IT and IS Projects
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Working with the CMMI Framework A Workshop

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CMMI Framework

Framework addresses 2 perspectives

Development (and Maintenances)

Acquisition of Systems or Software

(Systems = Hardware + Software + People)

Category for each are the same

Difference in Process Areas for category

CMMI Framework

Category

Process Areas within Category

Process Areas classified by Maturity Level

Generic Practices classified by Capability Level

Framework has 2 views

Continuous – by Capability Level – for each Process Area

Staged – by Maturity Level – for a set of Process Areas

Category

Process Management

Project Management

Engineering

Support

Process Areas / Category

CONTINUOUS REPRESENTATION		
Category	Process Areas	
Process Management	Organizational Process Focus	OPF
	Organizational Process Definition+IPPD	OPD+IPPD
	Organizational Training	OT
	Organizational Process Performance	OPP
	Organizational Innovation and Deployment	OiD
Project Management	Project Planning	PP
	Project Monitoring and Control	PMC
	Supplier Agreement Management	SAM
	Integrated Project Management+IPPD	IPM+IPPD
	Risk Management	RSKM
	Quantitative Project Management	QPM
Engineering	Requirements Management	REQM
	Requirements Development	RD
	Technical Solution	TS
	Product Integration	PI
	Verification	VER
	Validation	VAL
Support	Configuration Management	CM
	Process and Product Quality Assurance	PPQA
	Measurement and Analysis	MA
	Decision Analysis and Resolution	DAR
	Causal Analysis and Resolution	CAR

Process Areas / Maturity Level

STAGED REPRESENTATION			
Level	Focus	Process Areas	
5 Optimizing	Continuous Process Improvement	Organizational Innovation and Deployment Causal Analysis and Resolution	OID CAR
4 Quantitatively Managed	Quantitative Management	Organizational Process Performance Quantitative Project Management	OPP QPM
3 Defined	Process Standardization	Requirements Development Technical Solution Product Integration Verification Validation Organizational Process Focus Organizational Process Definition+IPPD Organizational Training Integrated Project Management+IPPD Risk Management Decision Analysis and Resolution	RD TS PI VER VAL OPF OPD+IPPD OT IPM+IPPD RSKM DAR
2 Managed	Basic Project Management	Requirements Management Project Planning Project Monitoring and Control Supplier Agreement Management Measurement and Analysis Process and Product Quality Assurance Configuration Management	REQM PP PMC SAM MA PPQA CM
1 Initial			

Process Area and Practices

CMMI looks at two types of practices for each Process Area

Specific Practices

Generic Practices

Goals and Practices

For each Process Area

Specific and Generic Goals to accomplish

Specific Practices

Generic Practices

Generic Practices

Level 1 Generic Practices		Level 3 Generic Practices (Defined)	
GP 1.1	Perform Specific Practices	GP 3.1	Establish a Defined Process
Level 2 Generic Practices (Managed)		GP 3.2	Collect Improvement Information
GP 2.1	Establish an Organizational Policy	Level 4 Generic Practices (Quantitatively Managed)	
GP 2.2	Plan the Process	GP 4.1	Establish Quantitative Objectives for the Process
GP 2.3	Provide Resources	GP 4.2	Stabilize Subprocess Performance
GP 2.4	Assign Responsibility	Level 5 Generic Practices (Optimizing)	
GP 2.5	Train People	GP 5.1	Ensure Continuous Process Improvement
GP 2.6	Manage Configurations	GP 5.2	Correct Root Causes of Problems
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		

CMMI Framework

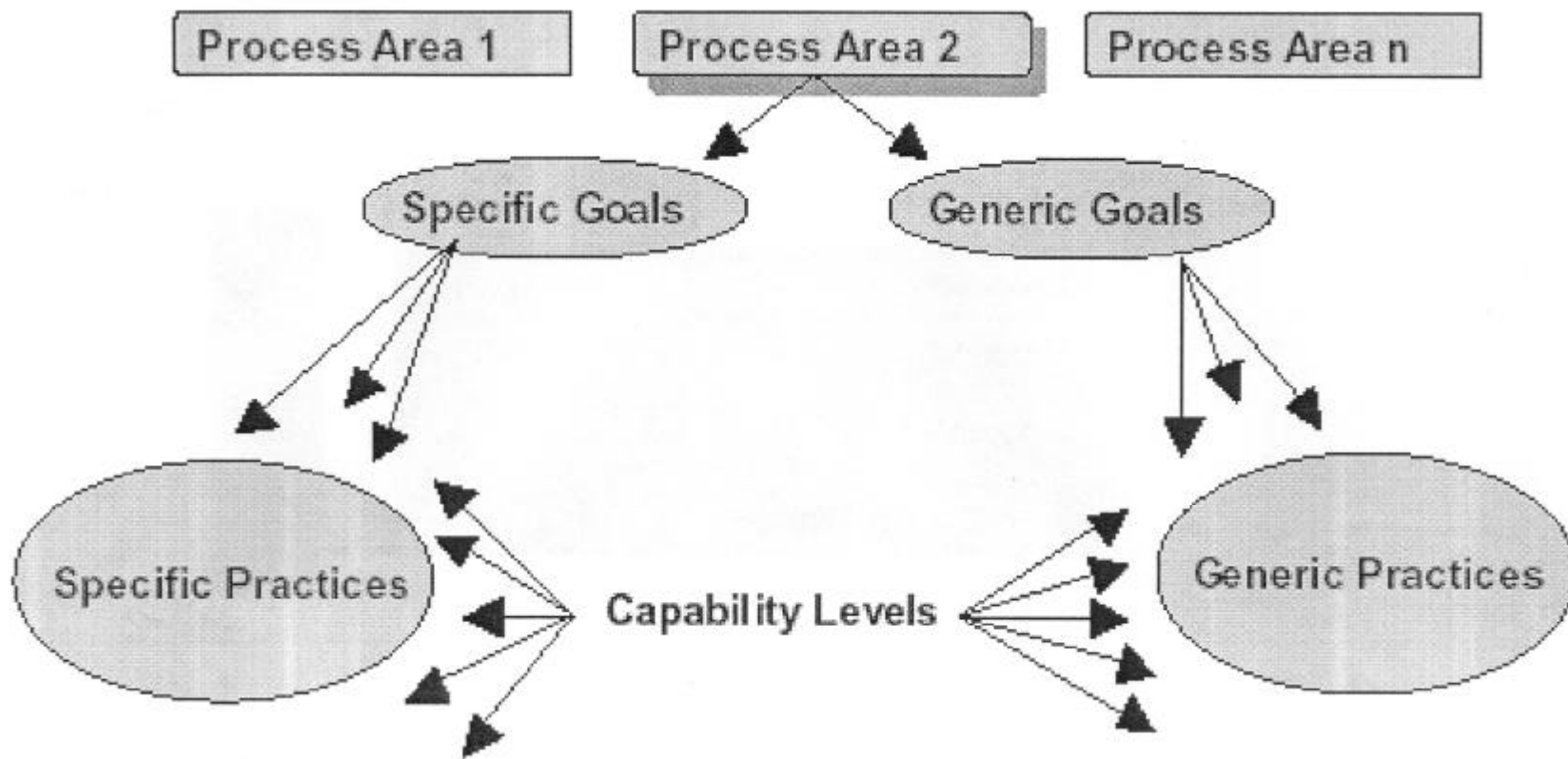
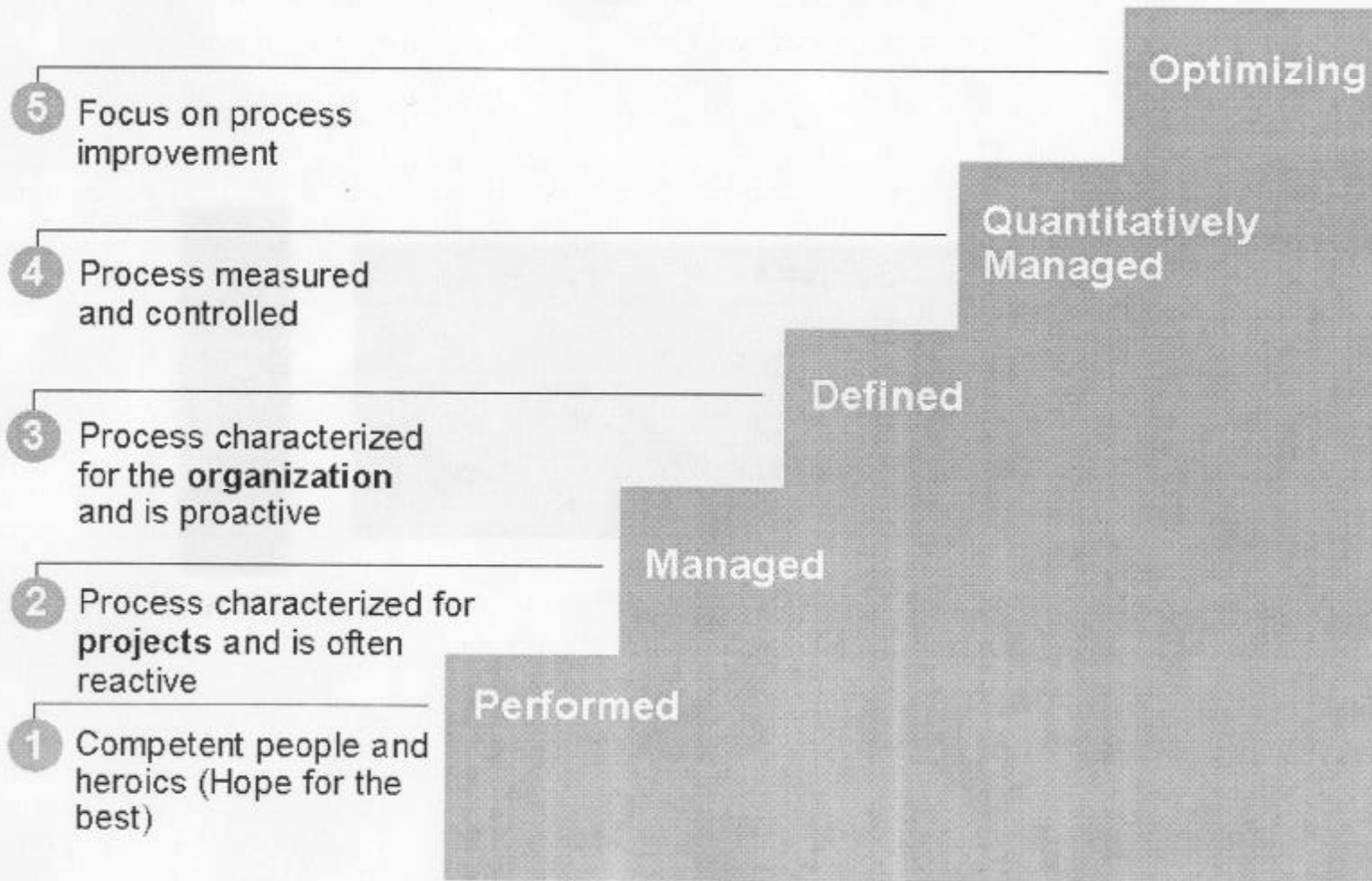


Figure 2: CMMI Model Components

CMMI Maturity Levels



CMMI Process Areas and their Associated Categories and Maturity Levels

#	<i>Process Area</i>	<i>Category</i>	<i>Maturity Level</i>
1	Causal Analysis and Resolution	Support	5
2	Configuration Management	Support	2
3	Decision Analysis and Resolution	Support	3
4	Integrated Project Management +IPPD	Project Management	3
5	Measurement and Analysis	Support	2
6	Organizational Innovation and Deployment	Process Management	5
7	Organizational Process Definition +IPPD	Process Management	3
8	Organizational Process Focus	Process Management	3
9	Organizational Process Performance	Process Management	4
10	Organizational Training	Process Management	3
11	Product Integration	Engineering	3
12	Project Monitoring and Control	Project Management	2
13	Project Planning	Project Management	2
14	Process and Product Quality Assurance	Support	2
15	Quantitative Project Management	Project Management	4
16	Requirements Development	Engineering	3
17	Requirements Management	Engineering	2
18	Risk Management	Project Management	3
19	Supplier Agreement Management	Project Management	2
20	Technical Solution	Engineering	3
21	Validation	Engineering	3
22	Verification	Engineering	3

CMMI Framework

Project Management

Within the CMMI Framework for Generic Practices.
What are the characteristics of having Level 2
Capability?

Project Management – Process Area

Project Planning

Project Monitoring and Control

Supplier Agreement Management

Integrated Project Management

Risk Management

Quantitative Project Management

Process Areas / Category

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Generic Practices

Level 1 Generic Practices

GP 1.1 Perform Specific Practices

Level 2 Generic Practices (Managed)

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 Manage Configurations

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

Level 3 Generic Practices (Defined)

GP 3.1 Establish a Defined Process

GP 3.2 Collect Improvement Information

Level 4 Generic Practices (Quantitatively Managed)

GP 4.1 Establish Quantitative Objectives for the Process

GP 4.2 Stabilize Subprocess Performance

Level 5 Generic Practices (Optimizing)

GP 5.1 Ensure Continuous Process Improvement

GP 5.2 Correct Root Causes of Problems

CMMI Framework – Exercise

Is your organization performing the Level 2
generic practices for the process area?

YES – How/What are you doing it?

NO – What can be done?

(Time – 30 minutes)

One topic for each group

6 Groups

CMMI Framework – Exercise

Is your organization performing the Level 2
generic practices for the process area?

Time – 30 minutes

Project Planning

Project Monitoring and Control

Supplier Agreement Management

Risk Management

Process & Product Quality Assurance

Configuration Management