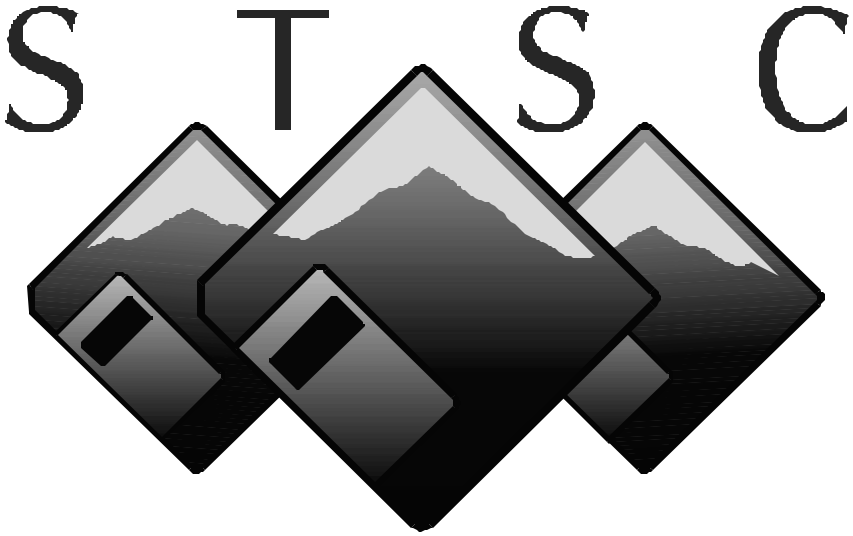
CMMI-SE/SW V. 1.1 to SW-CMM V 1.1



Mapping

This mapping was performed by the
USAF Software Technology Support Center (STSC)

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INTRODUCTION

The release of any new or revised Capability Maturity Model has always been accompanied with the questions "What does this mean to me?" and "How does this compare to what I am already doing with regard to an existing model?" The following mappings of the Capability Maturity Model for Software (SW-CMM) Version 1.1 to and from the Capability Maturity Model-Integrated – Systems Engineering/Software (CMMI-SE/SW/IPPD) Version 1.1 is the result of the Software Technology Support Center's effort to help you answer these questions.

The mappings were completed by the United States Air Force's Software Technology Support Center (STSC). The authors had no involvement with the development of the CMMI-SE/SW/IPPD; hence they had no preconceived notion of the intended mapping by the CMMI-SE/SW development team. These mappings are based on the author's understanding of the SW-CMM Version 1.1 and the CMMI-SE/SE/IPPD Version 1.1

The authors did their best not to "stretch" to show a mapping between the CMMs. On the other hand, there may have been times when a mapping could have been shown but was not

A few notable items. The phrase "…according to a documented procedure" so prevalent in the SW-CMM is absent in the CMMI-SE/SW/IPPD. The CMMI-SE/SW/IPPD places greater emphasis on "established and maintained" whereas the SW-CMM often only states "established."

Both the continuous and staged versions of CMMI-SE/SW/IPPD Version 1.1 are available in .pdf format on the SEI web site:

http://www.sei.cmu.edu/cmmi/products/models.html

The Capability Maturity Model for Software (SW-CMM) Version 1.1 is also available on the SEI web site as CMU/SEI-93-TR-024 and CMU/SEI-93-TR-025.

http://www.sei.cmu.edu/about/website/indexes/siteIndex/siteIndexTRnum.html#1993

SW-CMM KEY PROCESS AREAS

ALPHABETICAL BY ABBREVIATION

DP - Defect Prevention
IC - Intergroup Coordination
ISM - Integrated Software Management
OPD - Organizational Process Definition
OPF - Organizational Process Focus
PCM - Process Change Management
PR - Peer Reviews
QPM - Quantitative Process Management
RM - Requirements Management
SCM - Software Configuration Management
SPE - Software Product Engineering
SPP - Software Project Planning
SPT&O - Software Project Tracking and Oversight
SQA - Software Quality Assurance
SQM - Software Quality Management
SSM - Software Subcontract Management
TCM - Technology Change Management
TP - Training Program

ORDER OF OCCURRENCE BY MATURITY LEVEL

Level 2

RM - Requirements Management
SPP - Software Project Planning
SPT&O - Software Project Tracking and Oversight
SSM - Software Subcontract Management
SQA - Software Quality Assurance
SCM - Software Configuration Management

Level 3

OPF - Organizational Process Focus
OPD - Organizational Process Definition
TP - Training Program
ISM - Integrated Software Management
SPE - Software Product Engineering
IC - Intergroup Coordination
PR - Peer Reviews

Level 4

QPM - Quantitative Process Management
SQM - Software Quality Management

Level 5

DP - Defect Prevention
TCM - Technology Change Management
PCM - Process Change Management

CMMI-SE/SW/IPPD SPECIFIC PRACTICES

ALPHABETICAL BY ABBREVIATION

CAR - Causal Analysis and Resolution
CM - Configuration Management
DAR - Decision Analysis and Resolution
IT - Integrated Teaming
IPM - Integrated Product Management
M&A - Measurement and Analysis
OEI - Organizational Environment for Integration
OID - Organizational Innovation and Deployment
OPD - Organizational Process Definition
OPF - Organizational Process Focus
OPP - Organizational Process Performance
OT - Organizational Training
PI - Product Integration
PMC - Product Monitoring and Control
PP - Project Planning
PPQA - Process and Product Quality Assurance
QPM - Quantitative Project Management
RD - Requirements Development
RM - Requirements Management
RSKM - Risk Management
SAM - Supplier Agreement Management
TS - Technical Solution
VAL - Validation
VER - Verification

GP - Generic Practice The generic practices are similar to the common features of Commitment to Perform, Ability to Perform, Measurement and Analysis, and Verifying Implementation found in SW-CMM V. 1.1

ALPHABETICAL BY MATURITY LEVEL

(Staged Representation)

Level 2	Level 3	Level 4	Level 5
CM	DAR	OPP	CAR
M&A	IT	QPM	OID
PMC	IPM		
PP	OEI		
PPQA	OPD		
RM	OPF		
SAM	OT		
	PI		
	RD		
	RSKM		
	TS		
	VAL		
	VER		

ALPHABETICAL BY PROCESS AREA CATEGORY

(Continuous Representation)

Process Management	Project Management	Engineering	Support
OID	IPM	PI	CAR
OPD	IT	RD	CM
OPF	PMC	RM	DAR
OPP	PP	TS	M&A
OT	QPM	VAL	OEI
	RSKM	VER	PPQA
	SAM		

HOW TO READ THE MAPS

MAPPING OF CMMI-SE/SWIPPD V 1.1 TO SW-CMM V 1.1

The first column identifies the Maturity Level.

The second column identifies the CMMI process area.

The third column lists the CMMI process area goal

The fourth column lists the CMMI specific or generic practice associated with the goal

The fifth column provides the associated SW-CMM key process area goal or common feature. See the SW-CMM Key Process Areas section for the abbreviations used. Additional abbreviations for the common features are:

Co - Commitment to perform
Ab - Ability to perform
Ac - Activities performed
Meas - Measurements
Ver - Verification

For example, a notation of SPP Ac 1,4 refers to the Software Project Planning key process area, activities 1 and 4.

The sixth column provides our evaluation of how the two CMMs compare. No notation indicates equivalence.

MAPPING OF SW-CMM V 1.1 TO CMMI-SE/SW/IPPD V 1.1

The first column identifies the maturity level.

The second column identifies the SW-CMM key process area.

The third column is a header column for the goals and common features.

The fourth column lists the goals and common features of the key process area.

The fifth column provides the mapping to CMMI-SE/SW/IPPD V 1.1. For example, a notation of SAM G2 SP1,2 refers to the Supplier Agreement Management process area, goal 2, and specific practices 1 and 2. See the CMMI-SE/SW/IPPD Specific Practices section for the abbreviations used. Blanks in the fifth column indicate that no mapping was apparent.

The sixth column provides our evaluation of how the two CMMs compare. No notation indicates equivalence.

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2					
	Requirements Management	SG 1	Requirements are managed and inconsistencies with project plans and work products are identified.	RM Goals 1,2	
			SP 1.1 Develop an understanding with the requirements providers on the meaning of the requirements.	IC Ac 1 SPE Ac 2	See subpractice 10
			SP 1.2 Obtain commitment to the requirements from the project participants.	IC Goal 1 RM Ac 1,3 SPE Ac 2	
			SP 1.3 Manage changes to the requirements as they evolve during the project.	RM Ac 3 SCM Ac 5 SPE Ac 2,10 SPT&O Ac 2	
			SP 1.4 Maintain bi-directional traceability among the requirements and the project plans and work products.	SPE Ac 10	Sub-practice 3 elevated to Specific Practice
			SP 1.5 Identify inconsistencies between the project plans and work products and the requirements.	RM Ac 3 SPE Ac 10	
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the requirements management process	RM Co 1	
			GP 2.2 Establish and maintain the plan for performing the requirements management process.		Not Directly addressed
			GP 2.3 Provide adequate resources for performing the process, developing the work products, and providing the services of the requirements management process.	RM Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the requirements management process	RM Ab 1	
			GP 2.5 Train the people performing or supporting the requirements management process as needed.	RM Ab 4	
			GP 2.6 Place designated work products of the requirements management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholdersof the requirements management process as planned.		Not Directly addressed (See GP 2.2 above)
			GP 2.8 Monitor and control the requirements management process against the plan for performing the process and take appropriate corrective action.	RM Me 1, Ve 2	
			GP 2.9 Objectively evaluate adherence of the requirements management processagainst its process description standards and procedures, and address noncompliance.	RM Ve 3	
			GP 2.10 Review the activities, status, and results of the requirements management process with higher-level management and resolve issues.	RM Ve 1	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Project Planning	SG 1	Estimates of project planning parameters are established and maintained.	SPP Goal 1	
			SP 1.1 Establish a top-level work breakdown structure (WBS) to estimate of the scope of the project.	SPP Ac 5	
			SP 1.2 Establish and maintain estimates of the attributes of the work products and tasks.	SPP Ac 7,9,10	
			SP 1.3 Define the project life-cycle phases upon which to scope the planning effort.	SPP Ac 5,7	
			SP 1.4 Estimate the project effort and cost for the attributes of the work products and tasks based on estimation rationale.	SPP Ac 7,9,10,14	
		SG 2	A project plan is established and maintained as the basis for managing the project.	SPP Goal 2 SPP Ac 6,7	
			SP 2.1 Establish and maintain the project' s budget and schedule.	SPP Ac 7,12	
			SP 2.2 Identify and analyze project risks.	SPP Ac 7,13	See Ac 7 Subpractice 9
			SP 2.3 Plan for the management of project data.	QPM Ac 1,2,3 SPP Ac 7,8 SPT&O Ac 5,6,7,8,9,10,11 by implication	
			SP 2.4 Plan for necessary resources to perform the project.	SPE Ab 1 SPP Ac 7,11,14	
			SP 2.5 Plan for knowledge and skills needed to perform the project.	ISM Ac 4 SPP Ac 7 TP Ac 1	
			SP 2.6 Plan the involvement of identified stakeholders.	SPP Ac 1,3,6 SPTO Ab 1	
			SP 2.7 Establish and maintain the overall project plan content.	ISM Ac 3 SPP Ac 7 SPT&O Ab 1, Ac 2	
		SG 3	Commitments to the project plan are established and maintained.	IC Goal 2 SPP Goal 2,3	
			SP 3.1 Review all plans that affect the project to understand project commitments.	DP Ac 1 PCM Ac 3 QPM Ac 1 SCM Ac 1,2 SPP Ac 3,4,6 SQA Ac 1 SQM Ac 1 SSM Ac 1 TCM Ac 1 TP Ac 1	Informational materials in each usually direct review by the project.

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Project Planning (cont.)		SP 3.2 Reconcile the project plan to reflect available and estimated resources.	SPP Ac 1,4,6,12,14	Not directly addressed
			SP 3.3 Obtain commitment from relevant stakeholders responsible for performing and supporting plan execution.	IC Ac 3,4,6 SPP Ac 6	
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the project planning process	SPP Co 2	
			GP 2.2 Establish and maintain the plan for performing the project planning process.	SPP Co 2 SPP Ac 6,7,9,10,11,12 SPT&O Ab1, Ac 2	SW-CMM v1.1 doesn't always specify "maintain" Addressed inconsistently in SW-CMM v1.1
			GP 2.3 Provide adequate resources for performing the project planning process, developing the work products, and providing the services of the process.	SPP Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the project planning process	SPP Ab 2 SPP Co 1	
			GP 2.5 Train the people performing or supporting the project planning process as needed.	SPP Ab 4	
			GP 2.6 Place designated work products of the project planning process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the project planning process as planned.	SPP Ac 1,3,6	
			GP 2.8 Monitor and control the project planning process against the plan for performing the process and take appropriate corrective action.	SPP Me 1, Ve 2	
			GP 2.9 Objectively evaluate adherence of the project planning process against its process description, standards and procedures, and address noncompliance.	SPP Ve 3	
			GP 2.10 Review the activities, status, and results of the project planning process with higher-level management and resolve issues.	SPP Ve 1	
	Project Monitoring and Control	SG 1	Actual performance and progress of the project is monitored against the project plan.	SPT&O Goal 1	
			SP 1.1 Monitor the actual values of the project planning parameters against the project plan.	ISM Ac 6 SPT&O Ac 1,5,6, 7,8,9	
			SP 1.2 Monitor commitments against those identified in the project plan.	SPT&O Ac 8,12	
			SP 1.3 Monitor risks against those identified in the project plan.	ISM Ac 10 SPT&O Ac 10	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Project Monitoring and Control (cont.)		SP 1.4 Monitor the management of project data against the project plan.	SPT&O Ac 11 SPT&O Ve 3	
			SP 1.5 Monitor stakeholder involvement against the project plan.	ISM Ac 9,11 SPT&O Ac 12,13	
			SP 1.6 Periodically review the project's progress, performance, and issues.	ISM Ac 11 SPT&O Ac 4,6,8, 9,12	
			SP 1.7 Review the accomplishments and results of the project at selected project milestones.	SPT&O Ac 12,13	
		SG 2	Corrective actions are managed to closure when the project's performance or results deviate significantly from the plan.	SPT&O Goal 2	SW CMM more rigorous
			SP 2.1 Collect and analyze the issues and determine the corrective actions necessary to address the issues.	SPT&O Ac 5,6,7,8,9	
			SP 2.2 Take corrective action on identified issues.	SPT&O Ac 5,6,7,8,9	
			SP 2.3 Manage corrective actions to closure.	SPT&O Ac 9	
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the project monitoring and control process	SPT&O Co 2	
			GP 2.2 Establish and maintain the plan for performing the project monitoring and control process.	SPT&O Ab 1, Ac 1,2	SW-CMM v1.1 doesn't directly address a plan for performing the SPT&O process.
			GP 2.3 Provide adequate resources for performing the project monitoring and control process, developing the work products, and providing the services of the process.	SPT&O Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the project monitoring and control process	SPT&O Ab 2,Co 1	
			GP 2.5 Train the people performing or supporting the project monitoring and control process as needed.	SPT&O Ab 4,5	
			GP 2.6 Place designated work products of the project monitoring and control process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the project monitoring and control process as planned.	ISM Ac 9,11 SPT&O Ac 12,13	
			GP 2.8 Monitor and control the project monitoring and control process against the plan for performing the process and take appropriate corrective action.	SPT&O Me 1 SPT&O Ve 2	
			GP 2.9 Objectively evaluate adherence of the project monitoring and control process against its process description, standards and procedures, and address noncompliance.	SPT&O Ve 3	
			GP 2.10 Review the activities, status, and results of the project monitoring and control process with higher-level management and resolve issues.	SPT&O Ve 1	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Supplier Agreement Management	SG 1	Agreements with the suppliers are established and maintained.	SSM Goal 2,3	
			SP 1.1 Determine the type of acquisition for each product or product component to be acquired.		Not addressed
			SP 1.2 Select suppliers based on an evaluation of their ability to meet the specified requirements and established criteria.	SSM Ac 2 SSM Goal 1	
			SP 1.3 Establish and maintain formal agreements with the supplier.	SSM Ac 6	
		SG 2	Agreements with the suppliers are satisfied by both the project and the supplier.	SSM Ac 3,8	
			SP 2.1 Review candidate COTS products to ensure they satisfy the specified requirements that are covered under a supplier agreement.		Not directly addressed
			SP 2.2 Perform activities with the supplier as specified in the supplier agreement.	SSM AC 3,7,8,9,13	
			SP 2.3 Ensure that the supplier agreement is satisfied before accepting the acquired product.	SSM Ac 12	
			SP 2.4 Transition the acquired products from the supplier to the project.		Not addressed
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the supplier agreement management process.	SSM Co 1	
			GP 2.2 Establish and maintain the plan for performing the supplier agreement management process.	SSM Co 1 SSM Ac 1, 6	SW-CMM v1.1 doesn't always specify "maintain"
			GP 2.3 Provide adequate resources for performing the supplier agreement management process, developing the work products, and providing the services of the process.	SSM Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the supplier agreement management process	SSM Co 2	
			GP 2.5 Train the people performing or supporting the supplier agreement management process as needed.	SSM Ab 2,3	
			GP 2.6 Place designated work products of the supplier agreement management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the supplier agreement management process as planned.	SSM Ac 1,3,7,8,9	
			GP 2.8 Monitor and control the supplier agreement management process against the plan for performing the process and take appropriate corrective action.	SSM Me 1,Ve 2	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Supplier Agreement Management (cont.)		GP 2.9 Objectively evaluate adherence of the supplier agreement management process against its process description, standards and procedures, and address noncompliance.	SSM Ve 3	
			GP 2.10 Review the activities, status, and results of the supplier agreement management process with higher-level management and resolve issues.	SSM Ve 1	
	Measurement and Analysis	SG 1	Measurement objectives and practices are aligned with identified information needs and objectives.		Not directly addressed
			SP 1.1 Establish and maintain measurement objectives that are derived from identified information needs and objectives.	QPM Co 2, Ac 1 (implied) SPT&O Ac 5,6,7, 8,9,11 (implied)	SW CMM less rigorous
			SP 1.2 Specify measures to address the measurement objectives.	QPM Ac 3	Implied
			SP 1.3 Specify how measurement data will be obtained and stored.	QPM Ac 3,4	
			SP 1.4 Specify how measurement data will be analyzed and reported.	QPM Ac 3,5,6 SPT&O Ac 11	
		SG 2	Measurement results that address identified information needs and objectives are provided.	TCM Ab 4	
			SP 2.1 Obtain specified measurement data.	QPM Ac 4	
			SP 2.2 Analyze and interpret measurement data.	QPM Ac 5	See subpractice 2
			SP 2.3 Manage and store measurement data, measurement specifications, and analysis results.	OPD Ac 5 QPM Ac 4 SPP Ac 15 SPT&O Ac 11	
			SP 2.4 Report results of measurement and analysis activities to all relevant stakeholders.	QPM Ac 6	
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the measurement and analysis process.	QPM Co 1	Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the measurement and analysis process.	OPF Ac 2 QPM Ac 1 SQM Ac 1,2	Not directly addressed
			GP 2.3 Provide adequate resources for performing the measurement and analysis process, developing the work products, and providing the services of the process.	OPF Ab 2 QPM Ab2,3 SQM Ab 1	Not directly addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Measurement and Analysis (cont.)		GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the measurement and analysis process		Not directly addressed
			GP 2.5 Train the people performing or supporting the measurement and analysis process as needed.	OPF Ab 3 QPM Ab4 SQM Ab 2,3	Not directly addressed
			GP 2.6 Place designated work products of the measurement and analysis process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the measurement and analysis process as planned.	SQM Ac 1	Not directly addressed
			GP 2.8 Monitor and control the measurement and analysis process against the plan for performing the process and take appropriate corrective action.	Most KPAs Ve 2	Not directly addressed
			GP 2.9 Objectively evaluate adherence of the measurement and analysis process against its process description, standards and procedures, and address noncompliance.	Most KPAs Ve 3	Not directly addressed
			GP 2.10 Review the activities, status, and results of the measurement and analysis process with higher-level management and resolve issues.	Most KPAs Ve 1	Not directly addressed
	Process and Product Quality Assurance	SG 1	Adherence of the performed process and associated work products and services to applicable process descriptions, standards and procedures is objectively evaluated.	SQA Goal 2	CMM v1.1 was often interpreted to call for independent SQA who reported directly to the senior management. In CMMI v1.1 the introductory material for PPQA points out that organizations can have other safeguards besides independence to ensure objectivity.
			SP 1.1 Objectively evaluate the designated performed processes against the applicable process descriptions, standards and procedures.	SPE Me 2,Ve 3 SQA Ac 4	
			SP 1.2 Objectively evaluate the designated work products and services against the applicable process descriptions, standards, and procedures.	SPE Me 1,Ve 3 SQA Ac 5	
		SG 2	Noncompliance issues are objectively tracked and communicated, and resolution is ensured.	SQA Goal 4	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Process and Product Quality Assurance (cont.)		SP 2.1 Communicate quality issues and ensure resolution of noncompliance issues with the staff and managers.	SQA Ac 6, 7	
			SP 2.2 Establish and maintain records of the quality assurance activities.	SQA Ac 4, 5, 7	Not directly addressed
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the process and product quality assurance process.	SQA Co 1	
			GP 2.2 Establish and maintain the plan for performing the process and product quality assurance process.	SQA Ac 1 SQM Ac 1,2	SW-CMM v1.1 doesn't always specify "maintain"
			GP 2.3 Provide adequate resources for performing the process and product quality assurance process, developing the work products, and providing the services of the process.	SQA Ab 2	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the process and product quality assurance process	SQA Ab 1	
			GP 2.5 Train the people performing or supporting the process and product quality assurance process as needed.	SQA Ab 3,4	
			GP 2.6 Place designated work products of the process and product quality assurance process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the process and product quality assurance process as planned.	SCM Ac 9 SQA Ac 1	"Relevant stakeholder" = "affected groups"
			GP 2.8 Monitor and control the process and product quality assurance process against the plan for performing the process and take appropriate corrective action.	SQA Me 1	
			GP 2.9 Objectively evaluate adherence of the process and product quality assurance process against its process description, standards and procedures, and address noncompliance.	SQA Ve 3	
			GP 2.10 Review the activities, status, and results of the process and product quality assurance process with higher-level management and resolve issues.	SQA Ve 1	
	Configuration Management	SG 1	Baselines of identified work products are established and maintained.	SCM Goal 2	
			SP 1.1 Identify the configuration items, components, and related work products that will be placed under configuration management.	SCM Ac 4	
			SP 1.2 Establish and maintain a configuration management and change management system for controlling work products.	SCM Ac 3,5	
			SP 1.3 Create or release baselines for internal use and for delivery to the customer.	SCM Ac 7	
		SG 2	Changes to the work products under configuration management are tracked and controlled.	SCM Goal 2,3	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 2 (cont.)	Configuration Management (cont.)		SP 2.1 Track change requests for the configuration items.	SCM Ac 5	
			SP 2.2 Control changes to the configuration items.	SCM Ac 5,6	
		SG 3	Integrity of baselines is established and maintained.	SCM Goal 3	
			SP 3.1 Establish and maintain records describing configuration items.	SCM Ac 4,8	
			SP 3.2 Perform configuration audits to maintain integrity of the configuration baselines.	SCM Ac 10, Ve 3	
		GG 2	The process is institutionalized as a managed process.		Implied by Level 2
			GP 2.1 Establish and maintain an organizational policy for planning and performing the configuration management process.	SCM Co 1	
			GP 2.2 Establish and maintain the plan for performing the configuration management process.	SCM Ac 1, 2	SW-CMM v1.1 doesn't specify "maintain"
			GP 2.3 Provide adequate resources for performing the configuration management process, developing the work products, and providing the services of the process.	SCM Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the configuration management process	SCM Ab 1, 2	
			GP 2.5 Train the people performing or supporting the configuration management process as needed.	SCM Ab 4, 5	
			GP 2.6 Place designated work products of the configuration management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the configuration management process as planned.	SCM Ac 1,2,9	
			GP 2.8 Monitor and control the configuration management process against the plan for performing the process and take appropriate corrective action.	SCM Me 1	
			GP 2.9 Objectively evaluate adherence of the configuration management process against its process description, standards and procedures, and address noncompliance.	SCM Ve 4	
			GP 2.10 Review the activities, status, and results of the configuration management process with higher-level management and resolve issues.	SCM Ve 1	
Maturity Level 3					
	Requirements Development	SG 1	Stakeholder needs, expectations, constraints, and interfaces are collected and translated into customer requirements.	SPE Ac 2	SW CMM less rigorous
			SP 1.1 Elicit stakeholder needs, expectations, constraints, and interfaces for all phases of the product' s life cycle.	IC Ac 1 SPE Ac 2	
			SP 1.2 Transform stakeholder needs, expectations, constraints, and interfaces into customer requirements.	IC Ac 1 SPE Ac 2	
		SG 2	Customer requirements are refined and elaborated to develop product and product component requirements for the product life cycle.	SPE Ac 2	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Requirements Development (cont.)		SP 2.1 Establish and maintain product and product-component requirements which are based on the customer requirements.	SPE Ac 2	
			SP 2.2 Allocate the requirements for each product component.	RM Ab 2 SPE Ac 3	
			SP 2.3 Identify interface requirements.	SPE Ac 3	Subpractice 8 elevated to Activity
		SG 3	The requirements are analyzed and validated, and a definition of required functionality is developed.	SPE Ac 2,3	
			SP 3.1 Establish and maintain operational concepts and associated scenarios.	SPE Ac 2	SW CMM less rigorous
			SP 3.2 Establish and maintain a definition of required functionality.	SPE Ac 2	
			SP 3.3 Analyze requirements to ensure that they are necessary and sufficient.	SPE Ac 2	
			SP 3.4 Analyze requirements to balance stakeholder needs and constraints.	SPE Ac 2	
			SP 3.5 Validate requirements to ensure the resulting product will perform as intended in the user's environment using multiple techniques as appropriate.	SPE Ac 2	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the requirements development process.		Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the requirements development process.	SPE Ac 3 SPP Ac 6	Not directly addressed
			GP 2.3 Provide adequate resources for performing the requirements development process, developing the work products, and providing the services of the process.	SPE Ab 1 SPP Ab 3	Not directly addressed
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the requirements development process	SPP Ab 2	Not directly addressed
			GP 2.5 Train the people performing or supporting the requirements development process as needed.	SPE Ab 2 SPP Ab 4	Not directly addressed
			GP 2.6 Place designated work products of the requirements development process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the requirements development process as planned.	IC Ac 1 RM Ac 1 SPE Ac 2 SPP Ac 1,3	
			GP 2.8 Monitor and control the requirements development process against the plan for performing the process and take appropriate corrective action.	SPE Me 2	
			GP 2.9 Objectively evaluate adherence of the requirements development process against its process description, standards and procedures, and address noncompliance.	SPE Ve 3	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Requirements Development (cont.)		GP 2.10 Review the activities, status, and results of the requirements development process with higher-level management and resolve issues.	SPE Ve 1 SPP Ve 1	
			GP 3.1 Establish and maintain the description of a defined requirements development process.	OPD Ac 3,4	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the requirements development process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 SPT&O Ac 11	
	Technical Solution	SG 1	Product or product component solutions, including applicable product related processes, are selected from alternative solutions.		Not addressed
			SP 1.1 Develop detailed alternative solutions and selection criteria.		Not addressed
			SP 1.2 Evolve the operational concept, scenarios, and environments to describe the conditions, operating modes, and operating states specific to each product component.		Not addressed
			SP 1.3 Select the product component solutions that best satisfy the criteria established.		Not addressed
		SG 2	Product or product component designs are developed	SPE Ac 3	
			SP 2.1 Develop a design for the product or product component.	SPE Ac 3	
			SP 2.2 Establish and maintain a technical data package.	SPE Ac 3	SW CMM less rigorous
			SP 2.3 Design comprehensive product component interfaces in terms of established and maintained criteria.	SPE Ac 3	
			SP 2.4 Evaluate whether the product components should be developed, purchased, or reused based on established criteria.	ISM Ac 6	See subpractice 3
		SG 3	Product components, and associated support documentation, are implemented from their designs.	SPE Ac 4,8	
			SP 3.1 Implement the designs of the product components.	SPE Ac 4	
			SP 3.2 Develop and maintain the end-use documentation.	SPE Ac 8	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the technical solution process.	SPE Co 1	
			GP 2.2 Establish and maintain the plan for performing the technical solution process.	SPP Ac 6,7	
			GP 2.3 Provide adequate resources for performing the technical solution process, developing the work products, and providing the services of the process.	SPE Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the technical solution process		Not directly addressed
			GP 2.5 Train the people performing or supporting the technical solution process as needed.	SPE Ab 2,3	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Technical Solution (cont.)		GP 2.6 Place designated work products of the technical solution process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the technical solution process as planned.	SPE Ac 3	
			GP 2.8 Monitor and control the technical solution process against the plan for performing the process and take appropriate corrective action.	SPE Me 2 STP&O Goal 1	Not directly addressed
			GP 2.9 Objectively evaluate adherence of the technical solution process against its process description, standards and procedures, and address noncompliance.	SPE Ve 3	Not directly addressed
			GP 2.10 Review the activities, status, and results of the technical solution process with higher-level management and resolve issues.	SPE Ve 1	Not directly addressed
			GP 3.1 Establish and maintain the description of a defined technical solution process.	OPD Ac 3,4	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the technical solution process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 SPT&O Ac 11	
	Product Integration	SG 1	Preparation for product integration is conducted.	SPE Ac 4,6	
			SP 1.1 Determine the product component integration sequence.	SPE Ac 4,6	
			SP 1.2 Establish and maintain the environment needed to support the integration of the product components.	SPE Ac 7	
			SP 1.3 Establish and maintain procedures and criteria for integration of the product components.		Not addressed
		SG 2	The product component interfaces, both internal and external, are compatible.	SPE Ac 3	See subpractice 8
			SP 2.1 Review interface descriptions for coverage and completeness.	SPE Ac 3	
			SP 2.2 Manage internal and external interface definitions, designs, and changes for products and product components.	SCM Ac 5 SPE Ac 3,10	
		SG 3	Verified product components are assembled and the integrated, verified, and validated product is delivered.	SPE Ac 5,6,7	Implied
			SP 3.1 Confirm, prior to assembly, that each product component required to assemble the product has been properly identifed, functions according to its description, and that the product component interfaces comply with the interface descriptions.	IC Ac 5	SW CMM less rigorous
			SP 3.2 Assemble product components according to the product integration sequence and available procedures.	SPE Ac 6	SW CMM less rigorous
			SP 3.3 Evaluate assembled product components for interface compatibility.	SPE Ac 6,7	
			SP 3.4 Package the assembled product or product component and deliver it to the appropriate customer.		Not addressed
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Product Integration (cont.)		GP 2.1 Establish and maintain an organizational policy for planning and performing the product integration process.		Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the product integration process.		Not directly addressed
			GP 2.3 Provide adequate resources for performing the product integration process, developing the work products, and providing the services of the process.	SPE Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the product integration process		Not addressed
			GP 2.5 Train the people performing or supporting the product integration process as needed.	SPE Ab 2,3,4	
			GP 2.6 Place designated work products of the product integration process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the product integration process as planned.	SPE Ac 5,6	
			GP 2.8 Monitor and control the product integration process against the plan for performing the process and take appropriate corrective action.	SPE Me 2	
			GP 2.9 Objectively evaluate adherence of the product integration process against its process description, standards and procedures, and address noncompliance.	SPE Ve 3	
			GP 2.10 Review the activities, status, and results of the product integration process with higher-level management and resolve issues.	SPE Ve 1	
			GP 3.1 Establish and maintain the description of a defined product integration process.	OPD Ac 3,4	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the product integration process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 SPT&O Ac 11	Not directly addressed
	Verification	SG 1	Preparation for verification is conducted.	PR Ac 1,2	SW CMM More rigorous
			SP 1.1 Select the work products to be verified and the verification methods that will be used for each.	SPE Ac 5,6,7	
			SP 1.2 Establish and maintain the environment needed to support verification.	SPE Ac 7	
			SP 1.3 Establish and maintain verification procedures and criteria for the selected work products.	SPE Ac 6	
		SG 2	Peer reviews are performed on selected work products.	PR Ac 2	
			SP 2.1 Prepare for peer reviews of selected work products.	PR Ac 1	
			SP 2.2 Conduct peer reviews on selected work products and identify issues resulting from the peer review.	PR Ac 2,3	
			SP 2.3 Analyze data about preparation, conduct, and results of the peer reviews.	PR Ac 3 QPM Ac 5 SPE Ac 9	

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Verification (cont.)	SG 3	Selected work products are verified against their specified requirements.		Not directly addressed (See PR and SPE)
			SP 3.1 Perform verification on the selected work products.	SPE Ac 5,6,7 SQA Ac 5	
			SP 3.2 Analyze the results of all verification activities and identify corrective action.	SPE Ac 7,9 SQA Ac 5,7	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the verification process.	PR Co 1 SPE Co 1	Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the verification process.	PR Ac 1 SPP Ac 6,7 SQA Ac 1	Not directly addressed
			GP 2.3 Provide adequate resources for performing the verification process, developing the work products, and providing the services of the process.	PR Ab 1 SPE Ab 1 SQA Ab 1	Not directly addressed
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the verification process		Not directly addressed
			GP 2.5 Train the people performing or supporting the verification process as needed.	PR Ab 2,3 SPE Ab 2,3,4	Not directly addressed
			GP 2.6 Place designated work products of the verification process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the verification process as planned.	SPE Ac 5,6	
			GP 2.8 Monitor and control the verification process against the plan for performing the process and take appropriate corrective action.	PR Me 1 SPE Me 2 SPT&O Goal 1	Not directly addressed
			GP 2.9 Objectively evaluate adherence of the verification process against its process description, standards and procedures, and address noncompliance.	PR Ve 1 SPE Ve 3	Not directly addressed
			GP 2.10 Review the activities, status, and results of the verification process with higher-level management and resolve issues.	SPE Ve 1,3,4	Not directly addressed
			GP 3.1 Establish and maintain the description of a defined verification process.	OPD Ac 1,2	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the verification process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 PR Me 1 SPT&O Ac 11	Not directly addressed
	Validation	SG 1	Preparation for validation is conducted.		Not directly addressed
			SP 1.1 Select products and product components to be validated and the validation methods that will be used with each.	SPE Ac 2,7	

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Validation (cont.)		SP 1.2 Establish and maintain the environment needed to support validation.	SPE Ab1, Ac 1 SPP Ac 14	
			SP 1.3 Establish and maintain procedures and criteria for validation.	SPE Ac 7	
		SG 2	The product or product components are validated to ensure that they are suitable for use in their intended operating environment.		Not directly addressed
			SP 2.1 Perform validation on the selected products and product components.	SPE Ac 7	
			SP 2.2 Analyze the results of the validation activities and identify issues.	SPE Ac 7	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the validation process.	SPE Co 1 SQA Co 1	Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the validation process.	SPP Ac 6,7 SQA Ac 1	Not directly addressed
			GP 2.3 Provide adequate resources for performing the validation process, developing the work products, and providing the services of the process.	PR Ab 1 SPE Ab 1 SQA Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the validation process		Not directly addressed
			GP 2.5 Train the people performing or supporting the validation process as needed.	PR Ab 2,3 SPE Ab 2,3,4	
			GP 2.6 Place designated work products of the validation process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the validation process as planned.	SPE Ac 2,7	
			GP 2.8 Monitor and control the validation process against the plan for performing the process and take appropriate corrective action.	PR Me 1 SPE Me 2	
			GP 2.9 Objectively evaluate adherence of the validation process against its process description, standards and procedures, and address noncompliance.	PR Ve 1 SPE Ve 3	
			GP 2.10 Review the activities, status, and results of the validation process with higher-level management and resolve issues.	SPE Ve 1	
			GP 3.1 Establish and maintain the description of a defined validation process.	OPD Ac 3,4	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the validation process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 PR Me 1 SPT&O Ac 11	Not directly addressed
	Organizational Process Focus	SG1	Strengths, weaknesses, and improvement opportunities for the organization's processes are identified periodically and as needed.	OPF Goal 2	SW CMM more rigorous
			SP 1.1 Establish and maintain the description of the process needs and objectives for the organization.		Not directly addressed

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Organizational Process Focus (cont.)		SP 1.2 Appraise the processes of the organization periodically and as needed to maintain an understanding of their strengths and weaknesses.	OPF Ac 1	SW-CMM more rigorous
			SP 1.3 Identify improvements to the organization's processes and process assets.	OPF Ac 1,5 TCM Ac 2,4	
		SG2	Improvements are planned and implemented, process assets are deployed, and process-related experiences are incorporated into the organizational process assets.	OPF Goal 3 OPF Ac 2	
			SP 2.1 Establish and maintain process action plans to address improvements to the organization's processes and related process assets.	OPF Ac 1,2,3 PCM Ac 4	
			SP 2.2 Implement process action plans across the organization.	OPF Ac 3 PCM Ac 4	SW-CMM less rigorous
			SP 2.3 Deploy organizational process assets across the organization.	OPF Ac 5	
			SP 2.4 Incorporate process-related work products, measures, and improvement information derived from planning and performing the process into the organization's process assets.	ISM Ac 5 OPD Ac 5,6	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational process focus process.	OPF Co 1	
			GP 2.2 Establish and maintain the plan for performing the organizational process focus process.	OPF Ac 2	
			GP 2.3 Provide adequate resources for performing the organizational process focus process, developing the work products, and providing the services of the process.	OPF Ab 2	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process focus process	OPF Ab 1	
			GP 2.5 Train the people performing or supporting the organizational process focus process as needed.	OPF Ab 3,4	
			GP 2.6 Place designated work products of the organizational process focus process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the organizational process focus process as planned.	OPF Ac 7	
			GP 2.8 Monitor and control the organizational process focus process against the plan for performing the process and take appropriate corrective action.	OPF Me 1	
			GP 2.9 Objectively evaluate adherence of the organizational process focus process against its process description, standards and procedures, and address noncompliance.		Not directly addressed
			GP 2.10 Review the activities, status, and results of the organizational process focus process with higher-level management and resolve issues.	OPF Ve 1	

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Organizational Process Focus (cont.)		GP 3.1 Establish and maintain the description of a defined organizational process focus process.	OPF Ac 2	
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process focus process to support the future use and improvement of the organization' s processes and process assets.	OPF Me 1	
	Organizational Process Definition	SG1	A set of organizational process assets is established and maintained.	OPD Ac 5, 6	
			SP 1.1 Establish and maintain the organization's set of standard processes.	OPD Ac 1,2	
			SP 1.2 Establish and maintain descriptions of the life-cycle models approved for use in the organization.	OPD Ac 3	
			SP 1.3 Establish and maintain the tailoring criteria and guidelines for the organization's set of standard processes.	OPD Ac 4	
			SP 1.4 Establish and maintain the organization's measurement repository	OPD Ac 5	
			SP 1.5 Establish and maintain the organization's process asset library.	OPD Ac 5,6	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational process definition process.	OPD Co 1	
			GP 2.2 Establish and maintain the plan for performing the organizational process definition process.	OPD Ac 1	SW-CMM v1.1 Less rigorous
			GP 2.3 Provide adequate resources for performing the organizational process definition process, developing the work products, and providing the services of the process.	OPD Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process definition process		Not addressed
			GP 2.5 Train the people performing or supporting the organizational process definition process as needed.	OPD Ab 2	
			GP 2.6 Place designated work products of the organizational process definition process under appropriate levels of configuration management.	OPD Ac 2,3,4,5,6 SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the organizational process definition process as planned.		Not addressed
			GP 2.8 Monitor and control the organizational process definition process against the plan for performing the process and take appropriate corrective action.	OPD Me 1	
			GP 2.9 Objectively evaluate adherence of the organizational process definition process against its process description, standards and procedures, and address noncompliance.	OPD Ve 1	
			GP 2.10 Review the activities, status, and results of the organizational process definition process with higher-level management and resolve issues.		Not addressed

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Organizational Process Definition (cont.)		GP 3.1 Establish and maintain the description of a defined organizational process definition process.	OPD Ac 1,2	
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process definition process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5, Me 1	
	Organizational Training	SG1	A training capability that supports the organization's management and technical roles is established and maintained.	TP Goal 2	SW CMM more rigorous
			SP 1.1 Establish and maintain the strategic training needs of the organization.	TP Ac 2	SW CMM less rigorous
			SP 1.2 Determine which training needs are the responsibility of the organization and which will be left to the individual project or support group.	TP Ac 2	SW CMM less rigorous
			SP 1.3 Establish and maintain an organizational training tactical plan.	TP Ac 2	
			SP 1.4 Establish and maintain training capability to address organizational training needs.	TP Ab 2,3	
		SG2	Training necessary for individuals to perform their roles effectively is provided.	TP Goal 3 Also appropriate KPA abilities regarding training	
			SP 2.1 Deliver the training following the organizational training tactical plan.	TP Ac 3	
			SP 2.2 Establish and maintain records of the organizational training.	TP Ac 6	
			SP 2.3 Assess the effectiveness of the organization' s training program.	TP Me 2, Ve 2	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational training process.	TP Co 1	
			GP 2.2 Establish and maintain the plan for performing the organizational training process.	TP Ac 2	
			GP 2.3 Provide adequate resources for performing the organizational training process, developing the work products, and providing the services of the process.	TP Ab 2	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational training process	TP Ab 1	
			GP 2.5 Train the people performing or supporting the organizational training process as needed.	TP Ab 3,4	
			GP 2.6 Place designated work products of the organizational training process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the organizational training process as planned.	TP Ac 2	

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Organizational Training (cont.)		GP 2.8 Monitor and control the organizational training process against the plan for performing the process and take appropriate corrective action.	TP Me 1,2	
			GP 2.9 Objectively evaluate adherence of the organizational training process against its process description, standards and procedures, and address noncompliance.	TP Ve 2,3	
			GP 2.10 Review the activities, status, and results of the organizational training process with higher-level management and resolve issues.	TP Ve 1	
			GP 3.1 Establish and maintain the description of a defined organizational training process.	TP Ac 2	
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational training process to support the future use and improvement of the organization' s processes and process assets.	TP Me 1,2	
	Integrated Project Management	SG 1	The project is conducted using a defined process that is tailored from the organization's set of standard processes.	ISM Goals 1,2	
			SP 1.1 Establish and maintain the project's defined process.	ISM Ac 1,2	
			SP 1.2 Use the organizational process assets and measurement repository for estimating and planning the project' s activities.	ISM Ac 5	
			SP 1.3 Integrate the project plan and the other plans that affect the project to describe the project' s defined process.		Not directly addressed
			SP 1.4 Manage the project using the project plan, the other plans that affect the project, and the project' s defined process.	ISM Ac 4,9,11	SW CMM less rigorous
			SP 1.5 Contribute work products, measures, and documented experiences to the organizational process assets.	ISM Ac 5 OPD Ac 5,6	
		SG 2	Coordination and collaboration of the project with relevant stakeholders is conducted.	IC Ac 2,4,7 IC Goal 3 ISM Ac 11	
			SP 2.1 Manage the involvement of the relevant stakeholders in the project.	IC Ac 1,2,3,7	
			SP 2.2 Participate with relevant stakeholders to identify, negotiate, and track critical dependencies.	IC Ac 2,3,4,7	
			SP 2.3 Resolve issues with relevant stakeholders.	IC Ac 2,6 SQM Ac 4	
		SG 3	The project is conducted using the project's shared vision.		Not addressed
			SP 3.1 Identify expectations, constraints, interfaces, and operational conditions applicable to the project's shared vision		Not addressed
			SP 3.2 Establish and maintain a shared vision for the project.		Not addressed
		SG 4	Organize Integrated Teams for IPPD		Not addressed
			SP 4.1 Determine the integrated team structure that will best meet the project objectives and constraints.		Not addressed
			SP 4.2 Develop a preliminary distribution of requirements, responsibilities, authorities, tasks, and interfaces to teams in the selected integrated team structure.		Not addressed
			SP 4.3 Establish and maintain teams in the integrated team structure.		Not addressed

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Integrated Project Management (cont.)	GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the integrated project management process.	ISM Co 1	
			GP 2.2 Establish and maintain the plan for performing the integrated project management process.	IC Ac 3 ISM Ac 2,3	SW-CMM v1.1 doesn't specify "maintain" SW-CMM not as rigorous
			GP 2.3 Provide adequate resources for performing the integrated project management process, developing the work products, and providing the services of the process.	ISM Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the integrated project management process		Not addressed
			GP 2.5 Train the people performing or supporting the integrated project management process as needed.	ISM Ab 2,3	
			GP 2.6 Place designated work products of the integrated project management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the integrated project management process as planned.	ISM Ac 9,10,11	
			GP 2.8 Monitor and control the integrated project management process against the plan for performing the process and take appropriate corrective action.	ISM Me 1	
			GP 2.9 Objectively evaluate adherence of the integrated project management process against its process description, standards and procedures, and address noncompliance.	ISM Ve 3	
			GP 2.10 Review the activities, status, and results of the integrated project management process with higher-level management and resolve issues.	ISM Ve 1	
			GP 3.1 Establish and maintain the description of a defined integrated project management process.	ISM Ac 2	Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the integrated project management process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 SPT&O Ac 11	
	Risk Management	SG 1	Preparation for risk management is conducted.		Not directly addressed
			SP 1.1 Determine risk sources and categories.	ISM Ac 10 RM Ac 3 SPP Ac 7,13	Detail often in subpractices
			SP 1.2 Define the parameters used to analyze and categorize risks, and the parameters used to control the risk management effort.		Not addressed

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Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Risk Management (cont.)		SP 1.3 Establish and maintain the strategy to be used for risk management.	ISM Ac 10	
		SG 2	Risks are identified and analyzed to determine their relative importance.	ISM Ac 10 SPP Ac 13	Detail often in subpractices
			SP 2.1 Identify and document the risks.	ISM Ac 6,10 SPP Ac 7,13	Detail often in subpractices
			SP 2.2 Evaluate and classify each identified risk using the defined risk categories and parameters, and determine its relative priority.	ISM Ac 10 SPP Ac 13	
		SG 3	Risks are handled and mitigated, where appropriate, to reduce adverse impacts on achieving objectives.	ISM Ac 10	Detail often in subpractices
			SP 3.1 Develop a risk mitigation plan for the most important risks to the project, as defined by the risk management strategy.	ISM Ac 10	Detail often in subpractices
			SP 3.2 Monitor the status of each risk periodically and implement the risk mitigation plan as appropriate.	ISM Ac 10 SPT&O Ac 10	Detail often in subpractices
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the risk management process.	ISM Co 1 SPT&O Co 2	Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the risk management process.	ISM Ac 2,3 SPT&O Ab 1, Ac 1,2	SW-CMM v1.1 doesn't specify "maintain"
			GP 2.3 Provide adequate resources for performing the risk management process, developing the work products, and providing the services of the process.	ISM Ab 1 SPT&O Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the risk management process	SPT&O Ab 2	
			GP 2.5 Train the people performing or supporting the risk management process as needed.	ISM Ab 2,3 SPT&O Ab 4,5	
			GP 2.6 Place designated work products of the risk management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the risk management process as planned.	ISM Ac 10	
			GP 2.8 Monitor and control the risk management process against the plan for performing the process and take appropriate corrective action.	ISM Me 1	
			GP 2.9 Objectively evaluate adherence of the risk management process against its process description, standards and procedures, and address noncompliance.	ISM Ve 3 SPT&O Ve 3	
			GP 2.10 Review the activities, status, and results of the risk management process with higher-level management and resolve issues.	ISM Ve 1 SPT&O Ve 1	
			GP 3.1 Establish and maintain the description of a defined risk management process.	OPD Ac 3,4	Not directly addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Risk Management (cont.)		GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the risk management process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 SPT&O Ac 11	
	Integrated Teaming	SG 1	A team composition that provides the knowledge and skills required to deliver the team's product is established and maintained.		Not addressed
			SP 1.1 Identify and define the team's specific internal tasks to generate the team's expected output.		Not addressed
			SP 1.2 Identify the knowledge, skills, and functional expertise needed to perform team tasks.		Not addressed
			SP 1.3 Assign the appropriate personnel to be team members based on required knowledge and skills.		Not addressed
		SG 2	Operation of the integrated team is governed according to established principles.		Not addressed
			SP 2.1 Establish and maintain a shared vision for the integrated team that is aligned with any overarching or higher-level vision.		Not addressed
			SP 2.2 Establish and maintain a team charter based on the integrated team's shared vision and overall team objectives.		Not addressed
			SP 2.3 Clearly define and maintain each team member's roles and responsibilities.		Not addressed
			SP 2.4 Establish and maintain collaboration among interfacing teams.	IC Ac 2,4,7	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the integrated teaming process.		Not directly addressed
			GP 2.2 Establish and maintain the plan for performing the integrated teaming process.		Not addressed
			GP 2.3 Provide adequate resources for performing the integrated teaming process, developing the work products, and providing the services of the process.		Not addressed
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the integrated teaming process		Not addressed
			GP 2.5 Train the people performing or supporting the integrated teaming process as needed.		Not addressed
			GP 2.6 Place designated work products of the integrated teaming process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the integrated teaming process as planned.		Not addressed
			GP 2.8 Monitor and control the integrated teaming process against the plan for performing the process and take appropriate corrective action.		Not directly addressed
			GP 2.9 Objectively evaluate adherence of the integrated teaming process against its process description, standards and procedures, and address noncompliance.		Not directly addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Integrated Teaming (cont.)		GP 2.10 Review the activities, status, and results of the integrated teaming process with higher-level management and resolve issues.		Not directly addressed
			GP 3.1 Establish and maintain the description of a defined integrated teaming process.		Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the integrated teaming process to support the future use and improvement of the organization' s processes and process assets.		Not directly addressed
	Decision Analysis and Resolution	SG 1	Decisions are based on an evaluation of alternatives using established criteria.		Not addressed
			SP 1.1 Establish and maintain guidelines to determine which issues are subject to a formal evaluation process.		Not addressed
			SP 1.2 Establish and maintain the criteria for evaluating alternatives, the relative ranking of these criteria.		Not addressed
			SP 1.3 Identify alternative solutions to address issues.		Not addressed
			SP 1.4 Select evaluation methods.		Not addressed
			SP 1.5 Evaluate alternative solutions using the established criteria and methods.		Not addressed
			SP 1.6 Select solutions from the alternatives based on the evaluation criteria.		Not addressed
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the decision analysis and resolution process.		Not addressed
			GP 2.2 Establish and maintain the plan for performing the decision analysis and resolution process.		Not addressed
			GP 2.3 Provide adequate resources for performing the decision analysis and resolution process, developing the work products, and providing the services of the process.		Not addressed
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the decision analysis and resolution process		Not addressed
			GP 2.5 Train the people performing or supporting the decision analysis and resolution process as needed.		Not addressed
			GP 2.6 Place designated work products of thedecision analysis and resolution process under appropriate levels of configuration management.		Not addressed
			GP 2.7 Identify and involve the relevant stakeholders of the decision analysis and resolution process as planned.		Not addressed
			GP 2.8 Monitor and control the decision analysis and resolution process against the plan for performing the process and take appropriate corrective action.		Not addressed
			GP 2.9 Objectively evaluate adherence of the decision analysis and resolution process against its process description, standards and procedures, and address noncompliance.		Not addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Decision Analysis and Resolution (cont.)		GP 2.10 Review the activities, status, and results of the decision analysis and resolution process with higher-level management and resolve issues.		Not addressed
			GP 3.1 Establish and maintain the description of a defined decision analysis and resolution process.		Not addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the decision analysis and resolution process to support the future use and improvement of the organization' s processes and process assets.		Not addressed
	Organizational Environment for Integration	SG1	An infrastructure that maximizes the productivity of people and affects the collaboration necessary for integration is provided.		Not addressed
			SP 1.1 Establish and maintain a shared vision for the organization.		Not addressed
			SP 1.2 Establish and maintain an integrated work environment that supports IPPD by enabling collaboration and concurrent development.		Not addressed
			SP 1.3 Identify the unique skills needed to support the IPPD environment.		Not addressed
		SG 2	People are managed to nurture the integrative and collaborative behaviors of an IPPD environment		Not addressed
			SP 2.1 Establish and maintain leadership mechanisms to enable timely collaboration		Not addressed
			SP 2.2 Establish and maintain incentives for adopting and demonstrating integrative and collaborative behaviors at all levels of the organization.		Not addressed
			SP 2.3 Establish and maintain organizational guidelines to balance team and home organization responsibilities.		Not addressed
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational environment for integration process.		Not addressed
			GP 2.2 Establish and maintain the plan for performing the organizational environment for integration process.		Not addressed
			GP 2.3 Provide adequate resources for performing the organizational environment for integration process, developing the work products, and providing the services of the process.		Not addressed
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational environment for integration process		Not addressed
			GP 2.5 Train the people performing or supporting the organizational environment for integration process as needed.		Not addressed
			GP 2.6 Place designated work products of the organizational environment for integration process under appropriate levels of configuration management.		Not addressed
			GP 2.7 Identify and involve the relevant stakeholders of the organizational environment for integration process as planned.		Not addressed
			GP 2.8 Monitor and control the organizational environment for integration process against the plan for performing the process and take appropriate corrective action.		Not addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 3 (cont.)	Organizational Environment for Integration (cont.)		GP 2.9 Objectively evaluate adherence of the organizational environment for integration process against its process description, standards and procedures, and address noncompliance.		Not addressed
			GP 2.10 Review the activities, status, and results of the organizational environment for integration process with higher-level management and resolve issues.		Not addressed
			GP 3.1 Establish and maintain the description of a defined organizational environment for integration process.		Not addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational environment for integration process to support the future use and improvement of the organization' s processes and process assets.		Not addressed
Maturity Level 4					
	Organizational Process Performance	SG 1	Baselines and models that characterize the expected process performance of the organization's set of standard processes are established and maintained.	QPM Goal 3	
			SP 1.1 Select the processes or process elements in the organization's set of standard processes that are to be included in the organization's process performance analyses.	QPM Ac 2, Ac 7	SW CMM (QPM Ac 2) addresses project not Org Process. QPM Ac 7 addresses baselines of the org processes, but this could be interpreted to be less rigorous than detailed analyses of processes or process elements.
			SP 1.2 Establish and maintain definitions of the measures that are to be included in the organization's process performance analyses.	QPM Ac 4	SW CMM addresses project not Org Process

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 4 (cont.)	Organizational Process Performance (cont.)		SP 1.3 Establish and maintain quantitative objectives for quality and process performance for the organization.	QPM Ac 1 SQM Ac 1,2	Informative in SW CMM. CMMI more rigorous. Related practices in the SW CMM are completely focused on project and product, not organization. Project data is rolled up to document an organizational baseline.
			SP 1.4 Establish and maintain the organization's process performance baselines.	QPM Ac 7	
			SP 1.5 Establish and maintain the process performance models for the organization's set of standard processes.	QPM Ac 7	Process models are not explicitly mentioned in SW CMM. QPM Ac 7 is probably the practice that would cover the concept, but you might not ever have thought to create process models by reading the SW CMM.
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational process performance process.	QPM Co 1,2	SW-CMM addresses projects rather than the organization.
			GP 2.2 Establish and maintain the plan for performing the organizational process performance process.	QPM Ac 1 SQM Ac 1,2	SW-CMM v1.1 doesn't always specify "maintain" Addressed inconsistently in SW-CMM v1.1

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 4 (cont.)	Organizational Process Performance (cont.)		GP 2.3 Provide adequate resources for performing the organizational process performance process, developing the work products, and providing the services of the process.	QPM Ab 2, 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process performance process	QPM Ab 1	
			GP 2.5 Train the people performing or supporting the organizational process performance process as needed.	QPM Ab 4,5 SQM Ab 2, 3	
			GP 2.6 Place designated work products of the organizational process performance process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the organizational process performance process as planned.	QPM Ac 1, 2	
			GP 2.8 Monitor and control the organizational process performance process against the plan for performing the process and take appropriate corrective action.	QPM Me 1 SQM Me 1	
			GP 2.9 Objectively evaluate adherence of the organizational process performance process against its process description, standards and procedures, and address noncompliance.	QPM Ve 3 SQM Ve 3	
			GP 2.10 Review the activities, status, and results of the organizational process performance process with higher-level management and resolve issues.	QPM Ve 1 SQM Ve 1	
			GP 3.1 Establish and maintain the description of a defined organizational process performance process.	OPD Ac 1,2	
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process performance process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 QPM Me 1 SPT&O Ac 11 SQM Me 1	
	Quantitative Project Management	SG 1	The project is quantitatively managed using quality and process performance objectives.	SQM Goal 3	SW CMM less rigorous
			SP 1.1 Establish and maintain the project' s quality and process performance objectives.	QPM Ac 1,2 SQM Ac 1,3,4	
			SP 1.2 Select the processes and process elements that comprise the project' s defined process based on historical stability and capability data.		Not addressed

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 4 (cont.)	Quantitative Project Management (cont.)		SP 1.3 Select the subprocesses of the project's defined process that will be statistically managed	QPM Ac 2,3	Suprocesses are never mentioned. SW-CMM v1.1 does not explicitly say that you will only focus on areas of the overall process that are important to achieving your project goals.
			SP 1.4 Monitor the project to determine whether the project' s objectives for quality and process performance will be satisfied, and identify corrective action as appropriate.	QPM Ac 2,5 SQM Ac 3,4	SW CMM less rigorous
		SG 2	The performance of selected subprocesses within the project's defined process is statistically managed.	QPM Goal 2	SW CMM less rigorous
			SP 2.1 Select the measures and analytic techniques to be used in statistically managing the selected subprocesses.	QPM Ac 2,3,5 SQM Ac 2	
			SP 2.2 Establish and maintain an understanding of the variation of the selected subprocesses using the selected measures and analytic techniques.	QPM Ac 5	SW-CMM is less explicit about what is meant by quantitative control. A variety of quantitative charts and diagrams are sugggested as possible tools. The CMMI in SP 2.2 (or Goal 2) doesn't mention control charts in the goal or practice statements, but there is little doubt left by the subpractices that this is what they had in mind.
			SP 2.3 Monitor the performance of the selected subprocesses to determine their capability to satisfy their quality and process performance objectives, and identify corrective action as necessary.	QPM Ac 5	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 4 (cont.)	Quantitative Project Management (cont.)		SP 2.4 Record statistical and quality management data in the organization' s measurement repository.	QPM Ac 7	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the quantitative project management process.	QPM Co 1	
			GP 2.2 Establish and maintain the plan for performing the quantitative project management process.	QPM Ac 1 SQM Ac 1,2	SW-CMM v1.1 not as rigorous
			GP 2.3 Provide adequate resources for performing the quantitative project management process, developing the work products, and providing the services of the process.	QPM Ab 2 SQM Ab 1	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the quantitative project management process	QPM Ab 1	
			GP 2.5 Train the people performing or supporting the quantitative project management process as needed.	QPM Ab 4,5	
			GP 2.6 Place designated work products of the quantitative project management process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the quantitative project management process as planned.	QPM Ac 1, 2 SQM Ac 1,4	
			GP 2.8 Monitor and control the quantitative project management process against the plan for performing the process and take appropriate corrective action.	QPM Me 1	
			GP 2.9 Objectively evaluate adherence of the quantitative project management process against its process description, standards and procedures, and address noncompliance.	QPM Ve 3	
			GP 2.10 Review the activities, status, and results of the quantitative project management process with higher-level management and resolve issues.	QPM Ve 1	
			GP 3.1 Establish and maintain the description of a defined quantitative project management process.	QPM Ac 1	
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the quantitative project management process to support the future use and improvement of the organization' s processes and process assets.	OPD Ac 5 OPF Ac 4 QPM Me 1 SPT&O Ac 11	
Maturity Level 5					
	Organizational Innovation and Deployment	SG 1	Process and technology improvements that contribute to meeting quality and process performance objectives are selected.	TCM Ac 5	
			SP 1.1 Collect and analyze process and technology improvement proposals.	PCM Ac 5 TCM Ac 2,4	SW CMM less rigorous
			SP 1.2 Identify and analyze innovative improvements that could increase the organization' s quality and process performance.	TCM Ac 2,4	SW CMM less rigorous

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 5 (cont.)	Organizational Innovation and Deployment (cont.)		SP 1.3 Pilot process and technology improvements to select which ones to implement.	PCM Ac 7 TCM Ac 6	
			SP 1.4 Select process and technology improvement proposals for deployment across the organization.	OPF Ac 5 PCM Ac 5 TCM Ac 5	
		SG 2	Measurable improvements to the organization's processes and technologies are continually and systematically deployed.	PCM Goal 3	
			SP 2.1 Establish and maintain the plans for deploying the selected process and technology improvements.	PCM Ac 3,5,8 TCM Ac 1,7	
			SP 2.2 Manage the deployment of the selected process and technology improvements.	DP Ac 4 PCM Ac 5,7,8 TCM Ac 5,6,7,8	
			SP 2.3 Measure the effects of the deployed process and technology improvements.	PCM Ac 9, Me 1 TCM Me 1	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the organizational innovation and deployment process.	PCM Co 1 TCM Co 1	
			GP 2.2 Establish and maintain the plan for performing the organizational innovation and deployment process.	PCM Ac 3 TCM Ac 1,5	
			GP 2.3 Provide adequate resources for performing the organizational innovation and deployment process, developing the work products, and providing the services of the process.	PCM Ab 1 TCM Ab 2,3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational innovation and deployment process	PCM Ac 2 TCM Ab 1	SW CMM less rigorous
			GP 2.5 Train the people performing or supporting the organizational innovation and deployment process as needed.	PCM Ab 2,3,4 TCM Ab 5	
			GP 2.6 Place designated work products of the organizational innovation and deployment process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the organizational innovation and deployment process as planned.	PCM Ac 3,4,6,10 TCM Ac 3,5,6	
			GP 2.8 Monitor and control the organizational innovation and deployment process against the plan for performing the process and take appropriate corrective action.	PCM Me 1 TCM Me 1	
			GP 2.9 Objectively evaluate adherence of the organizational innovation and deployment process against its process description, standards and procedures, and address noncompliance.	PCM Ve 2 TCM Ve 2	
			GP 2.10 Review the activities, status, and results of the organizational innovation and deployment process with higher-level management and resolve issues.	PCM Ve 1 TCM Ve 1	
			GP 3.1 Establish and maintain the description of a defined organizational innovation and deployment process.	PCM Ac 3 TCM Ac 1	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 5 (cont.)	Organizational Innovation and Deployment (cont.)		GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational innovation and deployment process to support the future use and improvement of the organization' s processes and process assets.	PCM Me 1 TCM Me 1	
	Causal Analysis and Resolution	SG 1	Root causes of defects and other problems are systematically determined.	DP Goal 2 SPE Ac 9	
			SP 1.1 Select the defects and other problems for analysis.	SPE Ac 9 DP Ac 3	
			SP 1.2 Perform causal analysis of selected defects and other problems and propose actions to address them.	DP Ac 3	
		SG 2	Root causes of defects and other problems are systematically addressed to prevent their future occurrence.	DP Goal 3	
			SP 2.1 Implement the selected action proposals that were developed in causal analysis.	DP Ac 7	
			SP 2.2 Evaluate the effect of changes on process performance.	DP Ac 4 PCM Ac 7 QPM Ac 7	
			SP 2.3 Record causal analysis and resolution data for use across the project and organization.	DP Ac 5 PCM Ac 9	
		GG 3	The process is institutionalized as a defined process.		Implied by Level 3
			GP 2.1 Establish and maintain an organizational policy for planning and performing the causal analysis and resolution process.	DP Com 1,2	
			GP 2.2 Establish and maintain the plan for performing the causal analysis and resolution process.	DP Ac 1	SW-CMM v1.1 not as rigorous
			GP 2.3 Provide adequate resources for performing the causal analysis and resolution process, developing the work products, and providing the services of the process.	DP Ab 3	
			GP 2.4 Assign responsibility and authority for performing the process, developing the work products, and providing the services of the causal analysis and resolution process	DP Ab 1,2	
			GP 2.5 Train the people performing or supporting the causal analysis and resolution process as needed.	DP Ab 4	
			GP 2.6 Place designated work products of the causal analysis and resolution process under appropriate levels of configuration management.	SCM Goal 2	
			GP 2.7 Identify and involve the relevant stakeholders of the causal analysis and resolution process as planned.	DP Ab 1,2,3 DP Ac 2,3,4	
			GP 2.8 Monitor and control the causal analysis and resolution process against the plan for performing the process and take appropriate corrective action.	DP Me 1	
			GP 2.9 Objectively evaluate adherence of the causal analysis and resolution process against its process description, standards and procedures, and address noncompliance.	DP Ve 3	
			GP 2.10 Review the activities, status, and results of the causal analysis and resolution process with higher-level management and resolve issues.	DP Ve 1	

Mapping of CMMI-SE/SW/IPPD Staged V.1.1 QA3 to SW-CMM V. 1.1

Process Maturity Level	CMMI Process Area	CMMI Goal	CMMI Specific Practice or Generic Practice	SW-CMMv1.1 Goal/ Common Feature	Comments
Maturity Level 5 (cont.)	Causal Analysis and Resolution (cont.)		GP 3.1 Establish and maintain the description of a defined causal analysis and resolution process.		Not directly addressed
			GP 3.2 Collect work products, measures, measurement results, and improvement information derived from planning and performing the causal analysis and resolution process to support the future use and improvement of the organization' s processes and process assets.	DP Me 1	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable					
	Requirements Management	Goals	Goal 1 - System requirements allocated to software are controlled to establish a baseline for software engineering and management use.	RM SG 1	
			Goal 2 - Software plans, products, and activities are kept consistent with the system requirements allocated to software.	RM SG 1	
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for managing the system requirements allocated to software.	RM GP 2.1	
		Ability to Perform	Ability 1 - For each project, responsibility is established for analyzing the system requirements and allocating them to hardware, software, and other system components.	RM GP 2.4	
			Ability 2 - The allocated requirements are documented.	RD SP 2.2	
			Ability 3 - Adequate resources and funding are provided for managing the allocated requirements.	RM GP 2.3	
			Ability 4 - Members of the software engineering group and other software-related groups are trained to perform their requirements management activities.	OT SG 2 RM GP 2.5	
		Activities Performed	Activity 1 - The software engineering group reviews the allocated requirements before they are incorporated into the software project.	RD GP 2.7 RM SP 1.2	
			Activity 2 - The software engineering group uses the allocated requirements as the basis for software plans, work products, and activities.		Not directly addressed
			Activity 3 - Changes to the allocated requirements are reviewed and incorporated into the software project.	RM SP 1.2, 1.3, 1.5 RSKM SP 1.1	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the activities for managing the allocated requirements.	RM GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for managing the allocated requirements are reviewed with senior management on a periodic basis.	RM GP 2.10	
			Verification 2 - The activities for managing the allocated requirements are reviewed with the project manager on both a periodic and event-driven basis.	RM GP 2.8	Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for managing the allocated requirements and reports the results.	RM GP 2.9	CMMI not as specific
	Software Project Planning	Goals	Goal 1 - Software estimates are documented for use in planning and tracking the software project.	PP SG 1	
			Goal 2 - Software project activities and commitments are planned and documented.	PP SG 2,3	
			Goal 3 - Affected groups and individuals agree to their commitments related to the software project.	PP SG 3	
		Commitment to Perform	Commitment 1 - A project software manager is designated to be responsible for negotiating commitments and developing the project's software development plan.	PP GP 2.4	
			Commitment 2 - The project follows a written organizational policy for planning a software project.	PP GP 2.1, 2.2	
		Ability to Perform	Ability 1 - A documented and approved statement of work exists for the software project.		Not directly addressed
			Ability 2 - Responsibilities for developing the software development plan are assigned.	PP GP 2.4 RD GP 2.4	
			Ability 3 - Adequate resources and funding are provided for planning the software project.	PP GP 2.3 RD GP 2.3	
			Ability 4 - The software managers, software engineers, and other individuals involved in the software project planning are trained in the software estimating and planning procedures applicable to their areas of responsibility.	PP GP 2.5 RD GP 2.5	
		Activities Performed	Activity 1 - The software engineering group participates on the project proposal team.	PP GP 2.7 PP SP 2.6, 3.2 RD GP 2.7	
			Activity 2 - Software project planning is initiated in the early stages of, and in parallel with, the overall project planning.		Not directly addressed
			Activity 3 - The software engineering group participates with other affected groups in the overall project planning throughout the project's life.	PP GP 2.7 PP SP 2.6, 3.1 RD GP 2.7	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Project Planning (cont.)		Activity 4 - Software project commitments made to individuals and groups external to the organization are reviewed with senior management according to a documented procedure.	PP SP 3.1, 3.2	
			Activity 5 - A software life cycle with predefined stages of manageable size is identified or defined.	PP SP 1.1, 1.3	
			Activity 6 - The project's software development plan is developed according to a documented procedure.	RD GP 2.2 PP SG 2 PP GP 2.2, 2.7 PP SP 2.6,3.1, 3.2, 3.3 TS GP 2.2 VAL GP 2.2 VER GP 2.2	
			Activity 7 - The plan for the software project is documented.	PP GP 2.2 PP SG 2 PP SP 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7 RSKM SP 1.1, 2.1 TS GP 2.2 VAL GP 2.2 VER GP 2.2	
			Activity 8 - Software work products that are needed to establish and maintain control of the software project are identified.	PP SP 2.3	
			Activity 9 - Estimates for the size of the software work products (or changes to the size of software work products) are derived according to a documented procedure.	PP GP 2.2 PP SP 1.2, 1.4	
			Activity 10 - Estimates for the software project's effort and costs are derived according to a documented procedure.	PP GP 2.2 PP SP 1.2, 1.4	
			Activity 11 - Estimates for the project's critical computer resources are derived according to a documented procedure.	PP GP 2.2 PP SP 2.4	
			Activity 12 - The project's software schedule is derived according to a documented procedure.	PP GP 2.2 PP SP 2.1, 3.2	
			Activity 13 - The software risks associated with the cost, resource, schedule, and technical aspects of the project are identified, assessed, and documented.	PP SP 2.2 RSKM SG 2 RSKM SP 1.1, 2.1, 2.2	
			Activity 14 - Plans for the project's software engineering facilities and support tools are prepared.	PP SP 1.4, 2.4, 3.2 VAL SP 1.2	
			Activity 15 - Software planning data are recorded.	M&A SP 2.3	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the software planning activities.	PP GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for software project planning are reviewed with senior management on a periodic basis.	PP GP 2.10 RM GP 2.10	
			Verification 2 - The activities for software project planning are reviewed with the project manager on both a periodic and event-driven basis.	PP GP 2.8	Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for software project planning and reports the results.	PP GP 2.9	CMMI not as specific
	Software Project Tracking and Oversight	Goals	Goal 1 - Actual results and performances are tracked against the software plans.	PMC SG 1 TS GP 2.8 VER GP 2.8	
			Goal 2 - Corrective actions are taken and managed to closure when results and performance deviate significantly from the software plans.	PMC SG2	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Project Tracking and Oversight (cont.)		Goal 3 - Changes to software commitments are agreed to by the affected groups and individuals.		Not directly addressed
		Commitment to Perform	Commitment 1 - A project software manager is designated to be responsible for the project's software activities and results.	PMC GP 2.4	
			Commitment 2 - The project follows a written organizational policy for managing the software project.	PMC GP 2.1 RSKM GP 2.1	
		Ability to Perform	Ability 1 - A software development plan for the software project is documented and approved.	PP GP 2.2 PP SP 2.6, 2.7 PMC GP 2.2 RSKM GP 2.2	
			Ability 2 - The project software manager explicitly assigns responsibility for the software work products and activities.	PMC GP 2.4 RSKM GP 2.4	
			Ability 3 - Adequate resources and funding are provided for tracking the software project.	PMC GP 2.3 RSKM GP 2.3	
			Ability 4 - The software managers are trained in managing the technical and personnel aspects of the software project.	OT SG 2 PMC GP 2.5 RSKM GP 2.5	
			Ability 5 - First-line software managers receive orientation in the technical aspects of the software project.	PMC GP 2.5 RSKM GP 2.5	Not directly addressed
		Activities Performed	Activity 1 - A documented software development plan is used for tracking the software activities and communicating status.	PMC GP 2.2 PMC SP 1.1 RSKM GP 2.2	
			Activity 2 - The project's software development plan is revised according to a documented procedure.	PMC GP 2.2 PP GP 2.2 PP SP 2.7 RM SP1.3 RSKM GP 2.2	
			Activity 3 - Software project commitments and changes to commitments made to individuals and groups external to the organization are reviewed with senior management according to a documented procedure.		
			Activity 4 - Approved changes to commitments that affect the software project are communicated to the members of the software engineering group and other software-related groups.	PMC SP 1.6	
			Activity 5 - The size of the software work products (or size of changes to the software work products) are tracked, and corrective actions are taken as necessary.	M&A SP 1.1 PMC SP 1.1, 2.1, 2.2 PP SP 2.3	
			Activity 6 - The project's software effort and costs are tracked, and corrective actions are taken as necessary.	M&A SP 1.1 PMC SP 1.1, 1.6, 2.1, 2.2 PP SP 2.3	
			Activity 7 - The project's critical computer resources are tracked, and corrective actions are taken as necessary.	M&A SP 1.1 PP SP 2.3 PMC SP 1.1, 2.1, 2.2	
			Activity 8 - The project's software schedule is tracked, and corrective actions are taken as necessary.	M&A SP 1.1 PMC SP 1.1, 1.2, 1.6, 2.1, 2.2 PP SP 2.3	
			Activity 9 - Software engineering technical activities are tracked, and corrective actions are taken as necessary.	M&A SP 1.1 PMC SP 1.1, 1.6, 2.1, 2.2, 2.3 PP SP 2.3	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Project Tracking and Oversight (cont.)		Activity 10 - The software risks associated with cost, resource, schedule, and technical aspects of the project are tracked.	PMC SP 1.3 PP SP 2.3 RSKM SP 3.2	
			Activity 11 - Actual measurement data and replanning data for the software project are recorded.	M&A SP 1.1, 1.4, 2.3 PMC SP 1.4 PP SP 2.3 Also, most Level 3 and higher GP 3.2	
			Activity 12 - The software engineering group conducts periodic internal reviews to track technical progress, plans, performance, and issues against the software development plan.	PMC GP 2.7 PMC SP 1.2,1.5, 1.6, 1.7	
			Activity 13 - Formal reviews to address the accomplishments and results of the software project are conducted at selected project milestones according to a documented procedure.	PMC GP 2.7 PMC SP 1.5,1.7	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the software tracking and oversight activities.	PMC GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for software project tracking and oversight are reviewed with senior management on a periodic basis.	PMC GP 2.10 RSKM GP 2.10	
			Verification 2 - The activities for software project tracking and oversight are reviewed with the project manager on both a periodic and event-driven basis.	PMC GP 2.8	Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for software project tracking and oversight and reports the results.	PMC GP 2.9 PMC SP 1.4 RSKM GP 2.9	CMMI not as specific
	Software Subcontract Management	Goals	Goal 1 - The prime contractor selects qualified software subcontractors.	SAM SP 1.2	
			Goal 2 - The prime contractor and the software subcontractor agree to their commitments to each other.	SAM SG1	
			Goal 3 - The prime contractor and the software subcontractor maintain ongoing communications.	SAM SG 1	
			Goal 4 - The prime contractor tracks the software subcontractor's actual results and performance against its commitments.		Not directly addressed
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for managing software subcontracts.	SAM GP 2.1, 2.2	
			Commitment 2 - A subcontract manager is designated to be responsible for establishing and managing the software subcontract.	SAM GP 2.4	
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for selecting the software subcontractor an managing the subcontract.	SAM GP 2.3	
			Ability 2 - Software managers and other individuals who are involved in establishing and managing the software subcontract are trained to perform these activities.	OT SG 2 SAM GP 2.5	
			Ability 3 - Software managers and other individuals who are involved in managing the software subcontract receive orientation in the technical aspects of the subcontract.	SAM GP 2.5	Not directly addressed
		Activities Performed	Activity 1 - The work to be subcontracted is defined and planned according to a documented procedure.	PP SP 3.1 SAM GP 2.2, 2.7	
			Activity 2 - The software subcontractor is selected, based on an evaluation of the subcontract bidder's ability to perform the work, according to a documented procedure.	SAM SP 1.2	
			Activity 3 - The contractual agreement between the prime contractor and the software subcontractor is used as the basis for managing the subcontract.	SAM GP 2.7 SAM SG 2 SAM SP 2.2	
			Activity 4 - A documented subcontractor's software development plan is reviewed and approved by the prime contractor.		Not directly addressed
			Activity 5 - A documented and approved subcontractor's software development plan is used for tracking the software activities and communicating status.		Not directly addressed
			Activity 6 - Changes to the software subcontractors statement of work, subcontract terms and conditions, and other commitments are resolved according to a documented procedure.	SAM GP 2.2 SAM SP 1.3	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Subcontract Management (cont.)		Activity 7 - The prime contractor's management conducts periodic status/coordination reviews with the software subcontractor's management.	SAM GP 2.7 SAM SP 2.2	
			Activity 8 - Periodic technical reviews and interchanges are held with the software subcontractor.	SAM GP 2.7 SAM SG 2 SAM SP 2.2	
			Activity 9 - Formal reviews to address the subcontractor's software engineering accomplishments and results are conducted at selected milestones according to a documented procedure.	SAM GP 2.7 SAM SP 2.2	
			Activity 10 - The prime contractor's software quality assurance group monitors the subcontractor's software quality assurance activities according to a documented procedure.		Not directly addressed
			Activity 11 - The prime contractor's software configuration management group monitors the subcontractor's activities for software configuration management according to a documented procedure.		Not directly addressed
			Activity 12 - The prime contractor conducts acceptance testing as part of the delivery of the subcontractor's software products according to a documented procedure.	SAM SP 2.3	
			Activity 13 - The software subcontractor's performance is evaluated on a periodic basis, and the evaluation is reviewed with the subcontractor.	SAM SP 2.2	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the activities for managing the software subcontract.	SAM GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for managing the software subcontract are reviewed with senior management on a periodic basis.	SAM GP 2.10	
			Verification 2 - The activities for managing the software subcontract are reviewed with the project manager on both a periodic and event-driven basis.	SAM GP 2.8	Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for managing the software subcontract and reports the results.	SAM GP 2.9	CMMI not as specific
	Software Quality Assurance	Goals	Goal 1 - Software quality assurance activities are planned.		Not directly addressed
			Goal 2 - Adherence of software products and activities to the applicable standards, procedures, and requirements is verified objectively.	PPQA SG 1	
			Goal 3 - Affected groups and individuals are informed of software quality assurance activities and results.		Not directly addressed
			Goal 4 - Noncompliance issues that cannot be resolved within the software project are addressed by senior management.	PPQA SG2	
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for implementing software quality assurance (SQA).	PPQA GP 2.1 VAL GP 2.1	
		Ability to Perform	Ability 1 - A group that is responsible for coordinating and implementing SQA for the project (i.e., the SQA group) exists.	PPQA GP 2.4 VAL GP 2.3 VER GP 2.3	
			Ability 2 - Adequate resources and funding are provided for performing the SQA activities.	PPQA GP 2.3	
			Ability 3 - Members of the SQA group are trained to perform their SQA activities.	OT SG2 PPQA GP 2.5	
			Ability 4 - The members of the software project receive orientation on the role, responsibilities, authority, and value of the SQA group.	PPQA GP 2.5	
		Activities Performed	Activity 1 - A SQA plan is prepared for the software project according to a documented procedure.	PP SP 3.1 PPQA GP 2.2, 2.7 VAL GP 2.2 VER GP 2.2	
			Activity 2 - The SQA group's activities are performed in accordance with the SQA plan.		Not directly addressed

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Quality Assurance (cont.)		Activity 3 - The SQA group participates in the preparation and review of the project's software development plan, standards, and procedures.		Not directly addressed
			Activity 4 - The SQA group reviews the software engineering activities to verify compliance.	PPQA SP 1.1, 2.2	
			Activity 5 - The SQA group audits designated software work products to verify compliance.	PPQA SP 1.2,2.2 VER SP 3.1, 3.2	
			Activity 6 - The SQA group periodically reports the results of its activities to the software engineering group.	PPQA SP 2.1	Not directly addressed
			Activity 7 - Deviations identified in the software activities and software work products are documented and handled according to a documented procedure.	PPQA SP 2.1,2.2 VER SP 3.2	
			Activity 8 - The SQA group conducts periodic reviews of its activities and findings with the customer's SQA personnel, as appropriate.		Not directly addressed
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the cost and schedule status of the SQA activities.	PPQA GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The SQA activities are reviewed with senior management on a periodic basis.	PPQA GP 2.10	
			Verification 2 - The SQA activities are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - Experts independent of the SQA group periodically review the activities and software work products of the project's SQA group.	PPQA GP 2.9	CMMI not as specific
	Software Configuration Management	Goals	Goal 1 - Software configuration management activities are planned.		Not directly addressed
			Goal 2 - Selected software work products are identified, controlled, and available.	CM SG 1,2 Also, most GP 2.6	
			Goal 3 - Changes to identified software work products are controlled.	CM SG 2,3	
			Goal 4 - Affected groups and individuals are informed of the status and content of software baselines.		Not directly addressed
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for implementing software configuration management (SCM).	CM GP 2.1	
		Ability to Perform	Ability 1 - A board having the authority for managing the project's software baselines (i.e., a software configuration control board - SCCB) exists or is established.	CM GP 2.4	Not directly addressed
			Ability 2 - A group that is responsible for coordinating and implementing SCM for the project (i.e., the SCM group) exists.	CM GP 2.4	Not directly addressed
			Ability 3 - Adequate resources and funding are provided for performing the SCM activities.	CM GP 2.3	
			Ability 4 - Members of the SCM group are trained in the objectives, procedures, and methods for performing their SCM activities.	CM GP 2.5 OT SG 2	
			Ability 5 - Members of the software engineering group and other software-related groups are trained to perform their SCM activities.	CM GP 2.5	
		Activities Performed	Activity 1 - A SCM plan is prepared for each software project according to a documented procedure.	CM GP 2.2, 2.7 PP SP 3.1	
			Activity 2 - A documented and approved SCM plan is used as the basis for performing the SCM activities.	CM GP 2.2, 2.7 PP SP 3.1	
			Activity 3 - A configuration management library system is established as a repository for the software baselines.	CM SP 1.2	
			Activity 4 - The software work products to be placed under configuration management are identified.	CM SP 1.1, 3.1	
			Activity 5 - Change requests and problem reports for all configuration items/units are initiated, recorded, reviewed, approved, and tracked according to a documented procedure.	CM SP 1.2, 2.1, 2.2 PI SP 2.2 RM SP 1.3	
			Activity 6 - Changes to baselines are controlled according to a documented procedure.	CM SP 2.2	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
2 Repeatable (cont.)	Software Configuration Management (cont.)		Activity 7 - Products from the software baseline library are created and their release is controlled according to a documented procedure.	CM SP 1.3	
			Activity 8 - The status of configuration items/units is recorded according to a documented procedure.	CM SP 3.1	
			Activity 9 - Standard reports documenting the SCM activities and the contents of the software baseline are developed and made available to affected groups and individuals.	CM GP 2.7,2.9	Not directly addressed
			Activity 10 - Software baseline audits are conducted according to a documented procedure.	CM SP 3.2	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the SCM activities.	CM GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The SCM activities are reviewed with senior management on a periodic basis.	CM GP 2.10	
			Verification 2 - The SCM activities are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The SCM group periodically audits software baselines to verify that they conform to the documentation that defines them.	CM SP 3.2	
			Verification 4 - The software quality assurance group reviews and/or audits the activities and work products for SCM and reports the results.	CM GP 2.9	CMMI not as specific
3 Defined					
	Organization Process Focus	Goals	Goal 1 - Software process development and improvement activities are coordinated across the organization.		Not directly addressed
			Goal 2 - The strengths and weaknesses of the software processes used are identified relative to a process standard.	OPF SG 1	
			Goal 3 - Organization-level process development and improvement activities are planned.	OPF SG 2	
		Commitment to Perform	Commitment 1 - The organization follows a written organizational policy for coordinating software process development and improvement activities across the organization.	OPF GP 2.1	
			Commitment 2 - Senior management sponsors the organization's activities for software process development and improvement.		Not directly addressed
			Commitment 3 - Senior management oversees the organization's activities for software process development and improvement.		Not directly addressed
		Ability to Perform	Ability 1 - A group that is responsible for the organization's software process activities exists.	OPF GP 2.4	
			Ability 2 - Adequate resources and funding are provided for the organization's software process activities.	OPF GP 2.3	
			Ability 3 - Members of the group responsible for the organization's software process activities receive required training to perform these activities.	M&A GP 2.5 OPF GP 2.5 OT SG2	
			Ability 4 - Members of the software engineering group and other software-related groups receive orientation on the organization's software process activities and their roles in those activities.	OPF GP 2.5	
		Activities Performed	Activity 1 - The software process is assessed periodically, and action plans are developed to address the assessment findings.	OPF SP 1.2, 1.3, 2.1	
			Activity 2 - The organization develops and maintains a plan for its software process development and improvement activities.	M&A GP 2.2 OPF GP 2.2, 3.1 OPF SG 2 OPF SP 2.1	
			Activity 3 - The organization's and projects' activities for developing and improving their software processes are coordinated at the organization level.	OPF SP 2.1, 2.2	
			Activity 4 - The use of the organization's software process database is coordinated at the organization level.	Most Level 3 and higher GP 3.2	Not directly addressed
			Activity 5 - New processes, methods, and tools in limited use in the organization are monitored, evaluated, and, where appropriate, transferred to other parts of the organization.	OID SP 1.4 OPF SP 1.3, 2.3	
			Activity 6 - Training for the organization's and projects' software processes is coordinated across the organization.		Not directly addressed

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Organization Process Focus (cont.)		Activity 7 - The groups involved in implementing the software processes are informed of the organization's and projects' activities for software process development and improvement.	OPF GP 2.7	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the organization's process development and improvement activities.	OPF GP 2.8, 3.2	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for software process development and improvement are reviewed with senior management on a periodic basis.	OPF GP 2.10	
	Organization Process Definition	Goals	Goal 1 - A standard software process for the organization is developed and maintained.		Not directly addressed
			Goal 2 - Information related to the use of the organization's standard software process by the software projects is collected, reviewed, and made available.		Not directly addressed
		Commitment to Perform	Commitment 1 - The organization follows a written policy for developing and maintaining a standard software process and related process assets.	OPD GP 2.1	
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for developing and maintaining the organization's standard software process and related process assets.	OPD GP 2.3	
			Ability 2 - The individuals who develop and maintain the organization's standard software process and related process assets receive required training to perform these activities.	OPD GP 2.5 OT SG 2	
		Activities Performed	Activity 1 - The organization's standard software process is developed and maintained according to a documented procedure.	OPD GP 2.2, 3.1 OPD SP 1.1 OPP GP 3.1 VER GP 3.1	
			Activity 2 - The organization's standard software process is documented according to established organization standards.	OPD GP 2.6, 3.1 OPD SP 1.1 OPP GP 3.1 VER GP 3.1	
			Activity 3 - Descriptions of software life cycles that are approved for use by the projects are documented and maintained.	OPD GP 2.6 OPD SP 1.3 PI GP 3.1 RD GP 3.1 TS GP 3.1 RSKM GP 3.1 VAL GP 3.1	
			Activity 4 - Guidelines and criteria for the projects' tailoring of the organization's standard software process are developed and maintained.	OPD GP 2.6 OPD SP 1.2 PI GP 3.1 RD GP 3.1 TS GP 3.1 RSKM GP 3.1 VAL GP 3.1	
			Activity 5 - The organization's software process database is established and maintained.	IPM SP 1.5 M&A SP 2.3 OPD SG 1 OPD GP 2.6, 3.2 OPD SP 1.4, 1.5 OPF SP 2.4 Also, most Level 3 and higher GP 3.2	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Organization Process Definition (cont.)		Activity 6 - A library of software process-related documentation is established and maintained.	IPM SP 1.5 OPD GP 2.6 OPD SG 1 OPD SP 1.5 OPF SP 2.4	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the organization's process definition activities.	OPD GP 2.8,3.2	CMMI not as specific
		Verifying Implementation	Verification 1 - The software quality assurance group reviews and/or audits the organization's activities and work products for developing and maintaining the organization's standard software process and related process assets and reports the results.	OPD GP 2.9	CMMI not as specific
	Training Program	Goals	Goal 1 - Training activities are planned.		Not directly addressed
			Goal 2 - Training for developing the skills and knowledge needed to perform software management and technical roles is provided.	OT SG 1	
			Goal 3 - Individuals in the software engineering group and software-related groups receive the training necessary to perform their roles.	OT SG 2	
		Commitment to Perform	Commitment 1 - The organization follows a written policy for meeting its training needs.	OT GP 2.1	
		Ability to Perform	Ability 1 - A group responsible for fulfilling the training needs of the organization exists.	OT GP 2.4	
			Ability 2 - Adequate resources and funding are provided for implementing the training program.	OT GP 2.3 OT SP 1.4	
			Ability 3 - Members of the training group have the necessary skills and knowledge to perform their training activities.	OT GP 2.5 OT SP 1.4	
			Ability 4 - Software managers receive orientation on the training program.	OT GP 2.5	
		Activities Performed	Activity 1 - Each software project develops and maintains a training plan that specifies its training needs.	PP SP 2.5, 3.1	
			Activity 2 - The organization's training plan is developed and revised according to a documented procedure.	OT GP 2.2 ,2.7, 3.1 OT SP 1.1, 1.2, 1.3	
			Activity 3 - The training for the organization is performed in accordance with the organization's training plan.	OT SP 2.1	
			Activity 4 - Training courses prepared at the organization level are developed and maintained according to organization standards.		Not directly addressed
			Activity 5 - A waiver procedure for required training is established and used to determine whether individuals already possess the knowledge and skills required to perform in their designated roles.		Not directly addressed
			Activity 6 - Records of training are maintained.	OT SP 2.2	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the training program activities.	OT GP 2.8, 3.2	CMMI not as specific
			Measurement 2 - Measurements are made and used to determine the quality of the training program.	OT GP 2.8, 3.2 OT SP 2.3	
		Verifying Implementation	Verification 1 - The training program activities are reviewed with senior management on a periodic basis.	OT GP 2.10	
			Verification 2 - The training program is independently evaluated on a periodic basis for consistency with, and relevance to, the organization's needs.	OT GP 2.9 OT SP 2.3	
			Verification 3 - The training program activities and work products are reviewed and/or audited and the results are reported.	OT GP 2.9	
	Integrated Software Management	Goals	Goal 1 - The project's defined software process is a tailored version of the organization's standard software process.	IPM SG 1	
			Goal 2 - The project is planned and managed according to the project's defined software process.	IPM SG 1	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Integrated Software Management (cont.)	Commitment to Perform	Commitment 1 - The project follows a written organizational policy requiring that the software project be planned and managed using the organization's standard software process and related process assets.	IPM GP 2.1 RSKM GP 2.1	
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for managing the software project using the project's defined software process.	IPM GP 2.3 RSKM GP 2.3	
			Ability 2 - The individuals responsible for developing the project's defined software process receive required training in how to tailor the organization's standard software process and use the related process assets.	IPM GP 2.5 OT SG 2 RSKM GP 2.5	
			Ability 3 - The software managers receive required training in managing the technical, administrative, and personnel aspects of the software project based on the project's defined software process.	IPM GP 2.5 OT SG 2 RSKM GP 2.5	
		Activities Performed	Activity 1 - The project's defined software process is developed by tailoring the organization's standard software process according to a documented procedure.	IPM SP 1.1	
			Activity 2 - Each project's defined software process is revised according to a documented procedure.	IPM GP 2.2, 3.1 IPM SP 1.1 RSKM GP 2.2	
			Activity 3 - The project's software development plan, which describes the use of the project's defined software process, is developed and revised according to a documented procedure.	IPM GP 2.2 PP SP 2.7 RSKM GP 2.2	
			Activity 4 - The software project is managed in accordance with the project's defined software process.	IPM SP 1.4 PP SP 2.5	
			Activity 5 - The organization's software process database is used for software planning and estimating.	IPM SP 1.2, 1.5 OPF SP 2.4	
			Activity 6 - The size of the software work products (or size of changes to the software work products) is managed according to a documented procedure.	PMC SP 1.1 RSKM SP 2.1 TS SP 2.4	
			Activity 7 - The project's software effort and costs are managed according to a documented procedure.		Not directly addressed
			Activity 8 - The project's critical computer resources are managed according to a documented procedure.		Not directly addressed
			Activity 9 - The critical dependencies and critical paths of the project's software schedule are managed according to a documented procedure.	IPM GP 2.7 IPM SP 1.4 PMC GP 2.7 PMC SP 1.5	
			Activity 10 - The project's software risks are identified, assessed, documented, and managed according to a documented procedure.	IPM GP 2.7 PMC SP 1.3 RSKM GP 2.7 RSKM SG 2, 3 RSKM SP 1.1, 1.3, 2.1, 2.2, 3.1, 3.2	
			Activity 11 - Reviews of the software project are periodically performed to determine the actions needed to bring the software project's performance and results in line with the current and projected needs of the business, customer, and end users, as appropriate.	IPM GP 2.7 IPM SG 2 IPM SP 1.4 PMC GP 2.7 PCM SP 1.5, 1.6	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the effectiveness of the integrated software management activities.	IPM GP 2.8 RSKM GP 2.8	CMMI not as specific
		Verifying Implementation	Verification 1 - The activities for managing the software project are reviewed with senior management on a periodic basis.	IPM GP 2.10 RSKM GP 2.10	
			Verification 2 - The activities for managing the software project are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for managing the software project and reports the results.	IPM GP 2.9 RSKM GP 2.9	CMMI not as specific

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Software Product Engineering	Goals	Goal 1 - The software engineering tasks are defined, integrated, and consistently performed to produce the software.		Not directly addressed
			Goal 2 - Software work products are kept consistent with each other.		Not directly addressed
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for performing the software engineering activities.	TS GP 2.1 VAL GP 2.1 VER GP 2.1	Not directly addressed
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for performing the software engineering task.	PI GP 2.3 PP SP 2.4 RD GP 2.3 TS GP 2.3 VAL GP 2.3 VAL SP 1.2 VER GP 2.3	
			Ability 2 - Members of the software engineering technical staff receive required training to perform their technical assignments.	OT SG 2 PI GP 2.5 RD GP 2.5 TS GP 2.5 VAL GP 2.5 VER GP 2.5	
			Ability 3 - Members of the software engineering technical staff receive orientation in related software engineering disciplines.	PI GP 2.5 TS GP 2.5 VAL GP 2.5 VER GP 2.5	
			Ability 4 - The project manager and all software managers receive orientation in the technical aspects of the software project.	PI GP 2.5 VAL GP 2.5 VER GP 2.5	Not directly addressed
		Activities Performed	Activity 1 - Appropriate software engineering methods and tools are integrated into the project's defined software process.	VAL SP 1.2	Not directly addressed
			Activity 2 - The software requirements are developed, maintained, documented, and verified by systematically analyzing the allocated requirements according to the project's defined software process.	RD SG 1, 2, 3 RD GP 2.7 RD SP 1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5 RM SP 1.1, 1.2, 1.3 VAL GP 2.7 VAL SP 1.1	
			Activity 3 - The software design is developed, maintained, documented, and verified, according to the project's defined software process, to accommodate the software requirements and to form the framework for coding.	PI SG 2 PI SP 2.1, 2.2 RD GP 2.2 RD SG 3 RD SP 2.2, 2.3 TS GP 2.7 TS SG 2 TS SP 2.1, 2.2, 2.3	
			Activity 4 - The software code is developed, maintained, documented, and verified, according to the project's defined software process, to implement the software requirements and software design.	PI SG 1 PI SP 1.1 TS SG 3 TS SP 3.1	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Software Product Engineering (cont.)		Activity 5 - Software testing is performed according to the project's defined software process.	PI GP 2.7 PI SG 3 VER GP 2.7 VER SP 1.1, 3.1	
			Activity 6 - Integration testing of the software is planned and performed according to the project's defined software process.	PI GP 2.7 PI SG 1, 3 PI SP 1.1, 3.2, 3.3 VER GP 2.7 VER SP 1.1, 1.3, 3.1	
			Activity 7 - System and acceptance testing of the software are planned and performed to demonstrate that the software satisfies its requirements.	PI SG 3 PI SP 1.2, 3.3 VER SP 1.1, 1.2, 3.1, 3.2 VAL GP 2.7 VAL SP 1.1, 1.3, 2.1, 2.2	
			Activity 8 - The documentation that will be used to operate and maintain the software is developed and maintained according to the project's defined software process.	TS SG 3 TS SP 3.2	
			Activity 9 - Data on defects identified in peer reviews and testing are collected and analyzed according to the project's defined software process.	CAR SG 1 CAR SP 1.1 VER SP 2.3, 3.2	
			Activity 10 - Consistency is maintained across software work products, including the software plans, process descriptions, allocated requirements, software requirements, software design, code, test plans, and test procedures.	PI SP 2.2 RM SP 1.3, 1.4, 1.5	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine to functionality and quality of the software products.	PPQA SP 1.2	CMMI not as specific
			Measurement 2 - Measurements are made and used to determine the status of the software product engineering activities.	PI GP 2.8 PPQA SP 1.1 RD GP 2.8 TS GP 2.8 VAL GP 2.8 VER GP 2.8	Not directly addressed
		Verifying Implementation	Verification 1 - The activities for software product engineering are reviewed with senior management on a periodic basis.	PI GP 2.10 RD GP 2.10 TS GP 2.10 VAL GP 2.10 VER GP 2.10	
			Verification 2 - The activities for software product engineering are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for software product engineering and reports the results.	PI GP 2.9 PPQA SP 1.1, 1.2 RD GP 2.9 TS GP 2.9 VAL GP 2.9 VER GP 2.9, 2.10	CMMI not as specific regarding SQA Group
	Intergroup Coordination	Goals	Goal 1 - The customer's requirements are agreed to by all affected groups.	RM SP 1.2	
			Goal 2 - The commitments between the engineering groups are agreed to by the affected groups.	PP SG 3	
			Goal 3 - The engineering groups identify, track, and resolve intergroup issues.	IPM SG 2	
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for establishing interdisciplinary engineering teams.		Not directly addressed

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Intergroup Coordination (cont.)	Ability to Perform	Ability 1 - Adequate resources and funding are provided for coordinating the software engineering activities with other engineering groups.		Not directly addressed
			Ability 2 - The support tools used by the different engineering groups are compatible to enable effective communication and coordination.		Not directly addressed
			Ability 3 - All managers in the organization receive required training in teamwork.	OT SG 2	
			Ability 4 - All task leaders in each engineering group receive orientation in the processes, methods, and standards used by the other engineering groups.		Not directly addressed
			Ability 5 - The members of the engineering groups receive orientation in working as a team.		Not directly addressed
		Activities Performed	Activity 1 - The software engineering group and the other engineering groups participate with the customer and end users, as appropriate, to establish the system requirements.	IPM SP 2.1 RD GP 2.7 RD SP 1.1, 1.2 RM SP 1.1	
			Activity 2 - Representatives of the project's software engineering group work with representatives of the other engineering groups to monitor and coordinate technical activities and resolve technical issues.	IPM SG 2 IPM SP 2.1, 2.2, 2.3 IT SP 2.4	
			Activity 3 - A documented plan is used to communicate intergroup commitments and to coordinate and track the work performed.	IPM GP 2.2 IPM SP 2.1, 2.2 PP SP 3.3	
			Activity 4 - Critical dependencies between engineering groups are identified, negotiated, and tracked according to a documented procedure.	IPM SG 2 IPM SP 2.2 IT SP 2.4 PP SP 3.3	
			Activity 5 - Work products produced as inputs to other engineering groups are reviewed by representatives of the receiving groups to ensure that the work products meet their needs.	PI SP 3.1	
			Activity 6 - Intergroup issues not resolvable by the individual representatives of the project engineering groups are handled according to a documented procedure.	IPM SP 2.3 PP SP 3.3	
			Activity 7 - Representatives of the project engineering groups conduct periodic technical reviews and interchanges.	IPM SP 2.1, 2.2 IPM SG2 IT SP 2.4	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the intergroup coordination activities.		Not directly addressed
		Verifying Implementation	Verification 1 - The activities for intergroup coordination are reviewed with senior management on a periodic basis.		Not directly addressed
			Verification 2 - The activities for intergroup coordination are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for intergroup coordination and reports the results.		Not directly addressed
	Peer Reviews	Goals	Goal 1 - Peer review activities are planned.		Not directly addressed
			Goal 2 - Defects in the software work products are identified and removed.		Not directly addressed
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for performing peer reviews.	VER GP 2.1	
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for performing peer reviews on each software work product to be reviewed.	VAL GP 2.3 VER GP 2.3	
			Ability 2 - Peer review leaders receive required training in how to lead peer reviews.	OT SG 2 VAL GP 2.5 VER GP 2.5	
			Ability 3 - Reviewers who participate in peer reviews receive required training in the objectives, principles, and methods of peer reviews.	OT SG 2 VAL GP 2.5 VER GP 2.5	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
3 Defined (cont.)	Peer Reviews (cont.)	Activities Performed	Activity 1 - Peer reviews are planned, and the plans are documented.	VER GP 2.2 VER SG 1 VER SP 2.1	
			Activity 2 - Peer reviews are performed according to a documented procedure.	VER SG 1, 2 VER SP 2.2	
			Activity 3 - Data on the conduct and results of the peer reviews are recorded.	VER SP 2.2, 2.3	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the peer review activities.	VAL GP 2.8, 3.2 VER GP 2.8, 3.2	CMMI not as specific regarding Measurements
		Verifying Implementation	Verification 1 - The software quality assurance group reviews and/or audits the activities and work products for peer reviews and reports the results.	VAL GP 2.9 VER GP 2.9	CMMI not as specific regarding SQA Group
4 Managed					
	Quantitative Process Management	Goals	Goal 1 - The quantitative process management activities are planned.		Not directly addressed
			Goal 2 - The process performance of the project's defined software process is controlled quantitatively.	QPM SG 2	
			Goal 3 - The process capability of the organization's standard software process is known in quantitative terms.	OPP SG 1	
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for measuring and quantitatively controlling the performance of the project's defined software process.	M&A GP 2.1 OPP GP 2.1 QPM GP 2.1	
			Commitment 2 - The organization follows a written policy for analyzing the process capability of the organization's standard software process.	M&A SP 1.1 OPP GP 2.1	
		Ability to Perform	Ability 1 - A group that is responsible for coordinating the quantitative process management activities for the organization exists.	OPP GP 2.4 QPM GP 2.4	Not directly addressed
			Ability 2 - Adequate resources and funding are provided for the quantitative process management activities.	M&A GP 2.3 OPP GP 2.3 QPM GP 2.3	
			Ability 3 - Support exists for collecting, recording, and analyzing data for selected process and product measurements.	M&A GP 2.3 OPP GP 2.3	
			Ability 4 - The individuals implementing or supporting quantitative process management receive required training to perform these activities.	M&A GP 2.5 OPP GP 2.5 OT SG 2 QPM GP 2.5	
			Ability 5 - The members of the software engineering group and other software-related groups receive orientation on the goals and value of quantitative process management.	OPP GP 2.5 OT SG 2 QPM GP 2.5	
		Activities Performed	Activity 1 - The software project's plan for quantitative process management is developed according to a documented procedure.	M&A SP 1.1 M&A GP 2.2 OPP GP 2.2, 2.7 OPP SP 1.3 PP SP 2.3, 3.1 QPM GP 2.2, 2.7, 3.1 QPM SP 1.1	
			Activity 2 - The software project's quantitative process management activities are performed in accordance with the project's quantitative process management plan.	OPP GP 2.7 OPP SP 1.1 PP SP 2.3 QPM SP 1.1, 1.3, 1.4, 2.1 QPM GP 2.7	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
4 Managed (cont.)	Quantitative Process Management (cont.)		Activity 3 - The strategy for the data collection and quantitative analysis to be performed are determined based on the project's defined software process.	M&A SP 1.2, 1.3, 1.4 PP SP 2.3 QPM SP 1.3, 2.1	
			Activity 4 - The measurement data used to control the project's defined software process quantitatively are collected according to a documented procedure.	M&A SP 1.3, 2.1, 2.3 OPP SP 1.2	
			Activity 5 - The project's defined software process is analyzed and brought under quantitative control according to a documented procedure.	M&A SP 1.4, 2.2 QPM SP 1.4, 2.1, 2.2, 2.3 VER SP 2.3	
			Activity 6 - Reports documenting the results of the software project's quantitative process management activities are prepared and distributed.	M&A SP 1.4, 2.4	
			Activity 7 - The process capability baseline for the organization's standard software process is established and maintained according to a documented procedure.	CAR SP 2.2 OPP SP 1.1, 1.4, 1.5 QPM SP 2.4	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the activities for quantitative process management.	OPP GP 2.8, 3.2 QPM GP 2.8, 3.2	CMMI not as specific regarding Measurements
		Verifying Implementation	Verification 1 - The activities for quantitative process management are reviewed with senior management on a periodic basis.	OPP GP 2.10 QPM GP 2.10	
			Verification 2 - The software project's activities for quantitative process management are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for quantitative process management and reports the results.	OPP GP 2.9 QPM GP 2.9	CMMI not as specific regarding SQA Group
	Software Quality Management	Goals	Goal 1 - The project's software quality management activities are planned.		Not directly addressed
			Goal 2 - Measurable goals for software product quality and their priorities are defined.		Not directly addressed
			Goal 3 - Actual progress toward achieving the quality goals for the software products is quantified and managed.	QPM SG 1	
		Commitment to Perform	Commitment 1 - The project follows a written organizational policy for managing software quality.	QPM GP 2.1	
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for managing the quality of the software products.	M&A GP 2.3 QPM GP 2.3	
			Ability 2 - The individuals implementing and supporting software quality management receive required training to perform their activities.	M&A GP 2.5 OPP GP 2.5 OT SG 2	
			Ability 3 - The members of the software engineering group and other software-related groups receive required training in software quality management.	M&A GP 2.5 OPP GP 2.5 OT SG 2	
		Activities Performed	Activity 1 - The project's software quality plan is developed and maintained according to a documented procedure.	M&A GP 2.2, 2.7 OPP GP 2.2 OPP SP 1.3 PP SP 3.1 PPQA GP 2.2 QPM GP 2.2, 2.7 QPM SP 1.1	

Mapping of SW-CMM V. 1.1 to CMMI-SE/SW/IPPD V. 1.1 QA3 Staged

Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
4 Managed (cont.)	Software Quality Management (cont.)		Activity 2 - The project's software quality plan is the basis for the project's activities for software quality management.	M&A GP 2.2 OPP GP 2.2 OPP SP 1.3 PPQA GP 2.2 QPM GP 2.2 QPM SP 2.1	
			Activity 3 - The project's quantitative quality goals for the software products are defined, monitored, and revised throughout the software life cycle.	QPM SP 1.1, 1.4	
			Activity 4 - The quality of the project's software products is measured, analyzed, and compared to the product's quantitative quality goals on an event-driven basis.	IPM SP 2.3 QPM GP 2.7 QPM SP 1.1, 1.4	
			Activity 5 - The software project's quantitative quality goals for the products are allocated appropriately to the subcontractors delivering software products to the project.		Not directly addressed
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the software quality management activities.	OPP GP 2.8, 3.2	CMMI not as specific regarding Measurements
		Verifying Implementation	Verification 1 - The activities for software quality management are reviewed with senior management on a periodic basis.	OPP GP 2.10	
			Verification 2 - The activities for software quality management are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for software quality management and reports the results.	OPP GP 2.9	CMMI not as specific regarding SQA Group or SQM
5 Optimizing					
	Defect Prevention	Goals	Goal 1 - Defect prevention activities are planned.		Not directly addressed
			Goal 2 - Common causes of defects are sought out and identified.	CAR SG 1	
			Goal 3 - Common causes of defects are prioritized and systematically eliminated.	CAR SG 2	
		Commitment to Perform	Commitment 1 - The organization follows a written policy for defect prevention activities.	CAR GP 2.1	
			Commitment 2 - The project follows a written organizational policy for defect prevention activities.	CAR GP 2.1	
		Ability to Perform	Ability 1 - An organization-level team to coordinate defect prevention activities exists.	CAR GP 2.4, 2.7	
			Ability 2 - A team to coordinate defect prevention activities for the software project exists.	CAR GP 2.4, 2.7	Not directly addressed
			Ability 3 - Adequate resources and funding are provided for defect prevention activities at the project and organization levels.	CAR GP 2.3, 2.7	
			Ability 4 - Members of the software engineering group and other software-related groups receive required training to perform their defect prevention activities.	CAR GP 2.5 OT SG 2	
		Activities Performed	Activity 1 - The software project develops and maintains a plan for its defect prevention activities.	CAR GP 2.2 PP SP 3.1	
			Activity 2 - At the beginning of a software task, the members of the team performing the task meet to prepare for the activities of that task and the related defect prevention activities.	CAR GP 2.7	Not directly addressed
			Activity 3 - Casual analysis meetings are conducted according to a documented procedure.	CAR GP 2.7 CAR SP 1.1, 1.2	
			Activity 4 - Each of the teams assigned to coordinate defect prevention activities meets on a periodic basis to review and coordinate implementation of action proposals from the casual analysis meetings.	CAR GP 2.7 CAR SP 2.2 OID SP 2.2	
			Activity 5 - Defect prevention data are documented and tracked across the teams coordinating defect prevention activities.	CAR SP 2.3	
			Activity 6 - Revisions to the organization's standard software process resulting from defect prevention actions are incorporated according to a documented procedure.		Not addressed
			Activity 7 - Revisions to the project's defined software process resulting from defect prevention actions are incorporated according to a documented procedure.	CAR SP 2.1	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
5 Optomizing (cont.)	Defect Prevention (cont.)		Activity 8 - Members of the software engineering group and software-related groups receive feedback on the status and results of the organization's and project's defect prevention activities on a periodic basis.		Not directly addressed
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the defect prevention activities.	CAR GP 2.8, 3.2	CMMI not as specific regarding Measurements
		Verifying Implementation	Verification 1 - The organization's activities for defect prevention are reviewed with senior management on a periodic basis.	CAR GP 2.10	
			Verification 2 - The software project's activities for defect prevention are reviewed with the project manager on both a periodic and event-driven basis.		Not directly addressed
			Verification 3 - The software quality assurance group reviews and/or audits the activities and work products for defect prevention and reports the results.	CAR GP 2.9	CMMI not as specific regarding SQA Group
	Technology Change Management	Goals	Goal 1 - Incorporation of technology changes are planned.		Not directly addressed
			Goal 2 - New technologies are evaluated to determine their effect on quality and productivity.		Not directly addressed
			Goal 3 - Appropriate new technologies are transferred into normal practice across the organization.		Not directly addressed
		Commitment to Perform	Commitment 1 - The organization follows a written policy for improving its technology capability.	OID GP 2.1	
			Commitment 2 - Senior management sponsors the organization's activities for technology change management.		Not directly addressed
			Commitment 3 - Senior management oversees the organization's technology change management activities.		Not directly addressed
		Ability to Perform	Ability 1 - A group responsible for the organization's technology change management activities exists.	OID GP 2.4	Not directly addressed
			Ability 2 - Adequate resources and funding are provided to establish and staff a group responsible for the organization's technology change management activities.	OID GP 2.3	
			Ability 3 - Support exists for collecting and analyzing data needed to evaluate technology changes.	OID GP 2.3	
			Ability 4 - Appropriate data on the software processes and software work products are available to support analyses performed to evaluate and select technology changes.	M&A SG 2	
			Ability 5 - Members of the group responsible for the organization's technology change management activities receive required training to perform these activities.	OID GP 2.5 OT SG 2	
		Activities Performed	Activity 1 - The organization develops and maintains a plan for technology change management.	OID GP 2.2, 3.1 OID SP 2.1 PP SP 3.1	
			Activity 2 - The group responsible for the organization's technology change management activities works with the software projects in identifying areas of technology change.	OID SP 1.1, 1.2 OPF SP 1.3	CMMI not as specific
			Activity 3 - Software managers and technical staff are kept informed of new technologies.	OID GP 2.7	
			Activity 4 - The group responsible for the organization's technology change management systematically analyzes the organization's standard software process to identify areas that need or could benefit from new technology.	OID SP 1.1, 1.2 OPF SP 1.3	CMMI not as specific
			Activity 5 - Technologies are selected and acquired for the organization and software projects according to a documented procedure.	OID GP 2.2, 2.7 OID SG 1 OID SP 1.4, 2.2	
			Activity 6 - Pilot efforts for improving technology are conducted, where appropriate, before a new technology is introduced into normal practice.	OID GP 2.7 OID SP 1.3, 2.2	
			Activity 7 - Appropriate new technologies are incorporated into the organization's standard software process according to a documented procedure.	OID SP 2.1, 2.2	
			Activity 8 - Appropriate new technologies are incorporated into the projects' defined software processes according to a documented procedure.	OID SP 2.2	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the organization's activities for technology change management.	OID GP 2.8, 3.2 OID SP 2.3	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
5 Optimizing (cont.)	Technology Change Management (cont.)	Verifying Implementation	Verification 1 - The organization's activities for technology change management are reviewed with senior management on a periodic basis.	OID GP 2.10	
			Verification 2 - The software quality assurance group reviews and/or audits the activities and work products for technology change management and reports the results.	OID GP 2.9	CMMI not as specific regarding SQA Group
	Process Change Management	Goals	Goal 1 - Continuous process improvement is planned.		Not directly addressed
			Goal 2 - Participation in the organization's software process improvement activities is organization wide.		Not directly addressed
			Goal 3 - The organization's standard software process and the projects' defined software processes are improved continuously.	OID SG 2	
		Commitment to Perform	Commitment 1 - The organization follows a written policy for implementing software process improvement.	OID GP 2.1	
			Commitment 2 - Senior management sponsors the organization's activities for software process improvement.		Not directly addressed
		Ability to Perform	Ability 1 - Adequate resources and funding are provided for software process improvement activities.	OID GP 2.3	
			Ability 2 - Software managers receive required training in software process improvement.	OID GP 2.5 OT SG 2	
			Ability 3 - The managers and technical staff of the software engineering group and other software-related groups receive required training in software process improvement.	OID GP 2.5 OT SG 2	
			Ability 4 - Senior management receives required training in software process improvement.	OID GP 2.5 OT SG 2	
		Activities Performed	Activity 1 - A software process improvement program is established which empowers the members of the organization to improve the processes of the organization.		Not directly addressed
			Activity 2 - The group responsible for the organization's software process activities (e.g., software process engineering group) coordinates the software process improvement activities.	OID GP 2.4	
			Activity 3 - The organization develops and maintains a plan for software process improvement according to a documented procedure.	OID GP 2.2, 2.7, 3.1 OID SP 2.1 PP SP 3.1	
			Activity 4 - The software process improvement activities are performed in accordance with the software process improvement plan.	OID GP 2.7 OPF SP 2.1, 2.2	
			Activity 5 - Software process improvement proposals are handled according to a documented procedure.	OID SP 1.1, 1.4, 2.1, 2.2	
			Activity 6 - Members of the organization actively participate in teams to develop software process improvements for assigned process areas.	OID GP 2.7	
			Activity 7 - Where appropriate, the software process improvements are installed on a pilot basis to determine their benefits and effectiveness before they are introduced into normal practice.	CAR SP 2.2 OID SP 1.3, 2.2	
			Activity 8 - When the decision is made to transfer a software process improvement into normal practice, the improvement is implemented according to a documented procedure.	OID SP 2.1, 2.2	
			Activity 9 - Records of software process improvement activities are maintained.	CAR SP 2.3 OID SP 2.3	
			Activity 10 - Software managers and technical staff receive feedback on the status and results of the software process improvement activities on an event-driven basis.	OID GP 2.7	
		Measurement and Analysis	Measurement 1 - Measurements are made and used to determine the status of the software process improvement activities.	OID GP 2.8, 3.2 OID SP 2.3	
		Verifying Implementation	Verification 1 - The activities for software process improvement are reviewed with senior management on a periodic basis.	OID GP 2.10	

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Level		Common Feature	Goals and Common Feature	CMMI Process Area & Activity or Goal & Specific Practice	Comments
5 Optimizing (cont.)	Process Change Management (cont.)		Verification 2 - The software quality assurance group reviews and/or audits the activities and work products for software process improvement and reports the results.	OID GP 2.9	CMMI not as specific regarding SQA Group