

SwA Community's Assurance Process Reference Model - Mapping to Foundational Practices

In the following table, all references to “assurance” are intended to include system and software assurance, information assurance, and cybersecurity in support of the business/mission functions supported by systems and software.

Goal	Practice	CMMI-ACQ	CMMI-DEV	CMMI-SVC
Development – Engineering				
DE 1 Establish assurance requirements	Understand the operating environment and define the operating constraints for assurance within the environments of system deployment.	PP SG1	IPPD SG1	
	Develop customer assurance requirements.	ARD SG1, SG3	RD SG1	
		REQM SG1		
	Define product and product component assurance requirements	CM SG1	RD SG2	
	Identify operational concepts and associated scenarios for intended and unintended use and associated assurance considerations.	RSKM SG1 - SG2	RD SG3	
	Identify appropriate controls for integrity and availability of the system in support of organizational objectives.	RSKM SG1	RSKM SG1	
	Analyze assurance requirements.	ARD SG3	RD SG3	
Balance assurance needs against cost benefits.	ARD SG3	RD SG3		
Obtain Agreement of risk for Assurance level.	RSKM SG2	RSKM SG2		
DE 2 Create IT solutions with integrated business objectives and assurance	Develop alternative solutions and selection criteria for assurance.	ATM SG2	TS SG1	
		AVAL SG2		
	Architect for assurance.	ATM SG2	TS SG2	
		AVAL SG2	TS SG2	
	Design for assurance.		TS SG2	
	Implement the assurance designs of the product components.		TS SG3	
Identify deviations from assurance coding standards. Implement appropriate mitigation to meet defined assurance objectives.	AVER SG3	TS SG3		
DE 3 Verify and Validate an implementation for assurance	Establish and maintain the environment for assurance validation.	AVAL SG1	VAL SG1	
	Analyze the results of assurance validation activities.	AVAL SG2	VAL SG2	
	Establish and maintain verification procedures and criteria for the assurance of selected work products.	AVER SG3	VER SG3	
	Conduct peer reviews according to assurance standards and guidelines	ATM SG1	VAL SG1 - SG2	
AVAL SG1 - SG2				
Analyze the results of assurance verification activities	AVER SG3	VER SG3		

SwA Community's Assurance Process Reference Model - Mapping to Foundational Practices

In the following table, all references to “assurance” are intended to include system and software assurance, information assurance, and cybersecurity in support of the business/mission functions supported by systems and software.

Goal	Practice	CMMI-ACQ	CMMI-DEV	CMMI-SVC
Development – Project				
DP 1 Identify and manage risks due to vulnerabilities throughout the product and system lifecycle.	Define/select strategy for management of risk due to vulnerabilities.	RSKM SG1	RSKM SG1	
	Identify assurance defects and effectiveness of corrective actions in other products/systems/operations (and apply to past, present, and future activities).	RSKM SG3	RSKM SG3	
	Determine root causes of mission and assurance defects that are identified during development and operations.	PMC	PMC	
	Identify and document risks associated with the identified threats, vulnerabilities, and hazards.	RSKM SG2	RSKM SG2	
	Prioritize risks according to a defined methodology.	RSKM SG2	RSKM SG2	
	Identify mitigation controls and strategies.	RSKM SG1	RSKM SG1	
	Implement corrective action.	RSKM SG3	RSKM SG3	
	Monitor assurance risk.		PMC SG1	
	Identify, analyze and mitigate risks to IT assets that could adversely affect the operation and delivery of services	RSKM SG1 - SG2	RSKM SG1 - SG2	
DP 2 Establish and maintain assurance support from the project.	Plan for assurance	PP SG2 - SG3	PP SG1	
			PP SG2	
			PP SG3	
	Manage for assurance	PMC	PMC	PMC
	Plan for team members with appropriate levels of assurance knowledge	PP SG2	PP SG2	
	Establish and maintain the technical infrastructure to support information and mission assurance	CM SG3	IPP SG1	
	Communicate and coordinate all assurance decisions and recommendations.		IPP SG1	
	Identify, understand, and mitigate risks to the assurance objectives.	RSKM SG2 - SG3	PP SG2	
			RSKM SG2	
			RSKM SG3	
	Measure effectiveness of project assurance objectives.	MA SG1 - SG2	MA SG1	
		PMC SG1	MA SG2	
		PMC SG1		

SwA Community's Assurance Process Reference Model - Mapping to Foundational Practices

In the following table, all references to “assurance” are intended to include system and software assurance, information assurance, and cybersecurity in support of the business/mission functions supported by systems and software.

Goal	Practice	CMMI-ACQ	CMMI-DEV	CMMI-SVC
DP 3 Protect project and organizational assets.	Properly configure and use assurance controls.	RSKM SG3	RSKM SG3	
	Detect and track both internal and external assurance related events.	RSKM SG3	RSKM SG3	
	Respond to incidents according to organizational policy.	RSKM SG3	RSKM SG3	
	Identify changes to the operational assurance posture of the project and organizational environments and ensure they are addressed in accordance with the assurance objectives.	CM SG2	CM SG2	
	Plan for continuous availability of project and organizational environment.	OPD SG1	ODP SG1	
	Properly maintain process and organizational information labeled with the appropriate assurance classifications.	OPD SG1	ODP SG1	
Development – Organization				
DO 1 Establish the assurance resources to achieve key business objectives.	Establish and maintain the description of the assurance context and objectives for the organization.	PMC SG2	OPF SG1	
		OPF SG1		
	Establish organizational processes to achieve the assurance business objectives.	OPF SG2 - SG3	OPF SG2	
			OPF SG3	
Establish acceptable deviations and alternatives for assurance processes and policy	OPF SG3	OPF SG3		
Establish and maintain the technical infrastructure to support information and mission assurance	CM SG3	CM SG3		
Establish and implement an assurance roadmap as part of the plan for the organization	PP SG2	PP SG2		
DO 2 Establish the environment to sustain the assurance program within the organization.	Integrate and maintain process assets for assurance across the organization in conjunction with the other system development processes.	OPF SG2 - SG3	OPD SG1	
	Monitor for effective implementation and expected results of the assurance processes	PPQA SG1	PPQA SG1	
	Establish and maintain collaborations with external organizations promoting assurance.	OPF SG3	OPF SG3	
	Identify , document, and manage IT assets during their lifecycle to ensure sustained assurance	CM SG1 - SG3	CM SG1 - SG3	

SwA Community's Assurance Process Reference Model - Mapping to Foundational Practices

In the following table, all references to "assurance" are intended to include system and software assurance, information assurance, and cybersecurity in support of the business/mission functions supported by systems and software.

Goal	Practice	CMMI-ACQ	CMMI-DEV	CMMI-SVC
Enterprise - Assurance Support				
ES 1 Establish and maintain organizational culture where assurance is an integral part of achieving the mission.	Coordinate organizational mission and strategy while defining the role of assurance in the <u>engineering and related processes</u> .	PP SG3	PP SG3	
	Communicate the plan for assurance.			
	Establish and maintain the strategic assurance training needs of the organization	OT SG2	OT SG1	
			OT SG2	
ES 2 Establish and maintain the ability to support continued delivery of assurance capabilities	Plan for effective delivery of assurance capabilities			CAM SG1, SC SG1 - SG2
	Identify, track, and resolve concerns about effective delivery of assurance capabilities			CAM SG2, IRP SG2, SC SG3
	Establish, deliver, and maintain effective delivery of assurance capabilities			SC SG2, SD SG1 - SG3
ES 3 Monitor and improve enterprise support to IT assets	Establish, monitor, analyze, and manage an internal control system that ensures the effectiveness and efficiency of operations through assuring mission success of high-value services and the IT assets that support them.	MA SG1 - SG2	MA SG1 - SG2	MA SG1 - SG2
	Ensure awareness of and compliance with an established set of relevant internal and external guidelines, standards, practices, policies, regulations, and legislation, and other obligations related to managing IT assets that support the mission	OPF SG1 - SG3	OPF SG1 - SG3	OPF SG1 - SG3
	Ensure the continuity of essential operations of services and related IT assets if a disruption occurs as a result of an incident, disaster, or other disruptive event.			CAM SG1 - SG2
	Identify, analyze, and manage IT vulnerabilities in the operating environment			
	Determine root causes of mission and assurance defects that are identified during development and operations.			
	Establish processes to identify and analyze events, detect incidents, and determine an appropriate organizational response.			IRP SG1 - SG3
	Proactively manage changes to the assurance requirements for services and associated IT assets	REQM SG1	REQM SG1	REQM SG1

SwA Community's Assurance Process Reference Model - Mapping to Foundational Practices

In the following table, all references to "assurance" are intended to include system and software assurance, information assurance, and cybersecurity in support of the business/mission functions supported by systems and software.

Goal	Practice	CMMI-ACQ	CMMI-DEV	CMMI-SVC
Acquisition and Supplier Management				
AM 1 Select, manage, and use effective suppliers and third party applications based upon their assurance capabilities.	Select suppliers based on an evaluation of their ability to meet specified assurance requirements and established criteria	RSKM SG2	SAM SG1	
		REQM SG1		
		SSAD SG1		
		SSAD SG2		
		SSAD SG2		
		SSAD SG3		
		ARD SG2		
	Document supplier agreements for assurance.	AM SG1	SAM SG1	
		SSAD SG3		
	Monitor supplier work processes and work products.	AM SG1	SAM SG2	
Evaluate supplier deliverables against assurance acceptance criteria	AM SG1	SAM SG2		