

CAPABILITY MATURITY MODEL INTEGRATION (CMMI) FOR SERVICES, VERSION 1.3

PROJECT AND WORK MANAGEMENT

Requirements Management (REQM)

SC1.1 Manage Requirements
Requirements are managed and inconsistencies with plans and work products are identified.
SC1.2 Underline Requirements
Develop an understanding with the requirements providers on the meaning of the requirements.
SC1.3 Obtain Commitment to Requirements
Obtain commitment to requirements from participants.
SC1.4 Manage Requirements Change
Manage changes to requirements as they evolve.
SC1.5 Maintain Bidirectional Traceability of Requirements
Maintain bidirectional traceability among requirements and work products.
SC1.6 Ensure Alignment Between Work Products and Requirements
Ensure that plans and work products remain aligned with requirements.

Work Planning (WP)

SC1.1 Establish Estimates
Estimates of work planning parameters are established and maintained.
SC1.2 Estimate the Scope of the Work
Establish a top-level work breakdown structure (WBS) to estimate the scope of the work.
SC1.3 Define Lifecycle Phases
Establish estimates of work product and task attributes.
SC1.4 Define Lifecycle Phases
Define lifecycle phases on which to scope the planning effort.
SC1.5 Estimate Effort and Cost
Estimate effort and cost for work products and tasks based on estimation rationale.
SC1.6 Develop a Work Plan
A work plan is established and maintained as the basis for managing the work.
SC1.7 Establish the Budget and Schedule
Establish and maintain the budget and schedule.
SC1.8 Identify Risks
Identify and analyze risks.
SC1.9 Plan the Management of Data
Plan for the management of data.
SC1.10 Plan the Resources
Plan for resources to perform the work.
SC1.11 Plan Needed Knowledge and Skills
Plan for knowledge and skills needed to perform the work.
SC1.12 Plan Stakeholder Involvement
Plan for stakeholder involvement.
SC1.13 Obtain Commitment to the Plan
Commitments to the work plan are established and maintained.
SC1.14 Review Plans That Affect the Work
Review all plans that affect the work to understand work commitments.
SC1.15 Reconcile Work and Resource Levels
Adjust the work plan to reconcile available and estimated resources.
SC1.16 Obtain Plan Commitment
Obtain commitment from relevant stakeholders responsible for performing and supporting plan execution.

Work Monitoring and Control (WMC)

SC1.1 Monitor the Work Against the Plan
Actual progress and performance are monitored against the work plan.
SC1.2 Monitor Work Planning Parameters
Monitor the actual values of planning parameters against the work plan.
SC1.3 Monitor Commitments
Monitor commitments against those identified in the work plan.
SC1.4 Monitor Risks
Monitor risks against those identified in the work plan.
SC1.5 Monitor Data Management
Monitor the management of data against the work plan.
SC1.6 Monitor Stakeholder Involvement
Monitor stakeholder involvement against the plan.
SC1.7 Conduct Progress Reviews
Periodically review the work progress, performance, and issues.
SC1.8 Conduct Milestone Reviews
Review accomplishments and results at selected milestones.
SC1.9 Manage Corrective Action to Closure
Corrective actions are managed to closure when the work performance or results deviate significantly from the plan.
SC1.10 Analyze Issues
Collect and analyze issues and determine corrective actions to address them.
SC1.11 Take Corrective Action
Take corrective action on identified issues.
SC1.12 Manage Corrective Actions
Manage corrective actions to closure.

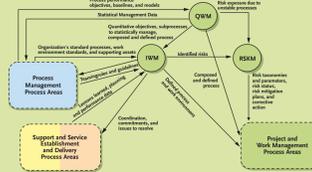
Capacity and Availability Management (CAM)

SC1.1 Prepare for Capacity and Availability Management
Preparation for capacity and availability management is conducted.
SC1.2 Establish a Capacity and Availability Management Strategy
Establish and maintain a strategy for capacity and availability management.
SC1.3 Select Measures and Analytic Techniques
Select measures and analytic techniques to be used in managing the capacity and availability of the service system.
SC1.4 Establish Service System Representations
Establish and maintain service system representations to support capacity and availability management.
SC1.5 Monitor and Analyze Capacity and Availability
Capacity and availability are monitored and analyzed to manage resources and demand.
SC1.6 Monitor and Analyze Availability
Monitor and analyze capacity against targets.
SC1.7 Report Capacity and Availability Management Data
Report capacity and availability management data to relevant stakeholders.

Supplier Agreement Management (SAM)

SC1.1 Establish Supplier Agreements
Agreements with suppliers are established and maintained.
SC1.2 Determine Acquisition Type
Determine the type of acquisition for each product or product component to be acquired.
SC1.3 Select Suppliers
Select suppliers based on an evaluation of their ability to meet the specified requirements and established criteria.
SC1.4 Establish Supplier Agreements
Establish and maintain supplier agreements.
SC1.5 Satisfy Supplier Agreements
Agreements with suppliers are satisfied by both the work group and the supplier.
SC1.6 Execute the Supplier Agreement
Perform activities with the supplier as specified in the supplier agreement.
SC1.7 Manage the Acquired Product
Manage the acquisition of the product.
SC1.8 Ensure Transition of Products
Ensure the transition of products acquired before the acquisition process.
SC1.9 Resolve Coordination Issues
Resolve issues with relevant stakeholders.

Advanced Management Process Areas



Service Continuity (SCON)

SC1.1 Identify Essential Service Dependencies
The essential functions and resources on which services depend are identified and documented.
SC1.2 Identify and Prioritize Essential Resources
Identify and prioritize essential functions that must be performed to ensure service continuity.
SC1.3 Identify and Prioritize Essential Resources
Identify and prioritize the essential resources required to ensure service continuity.
SC1.4 Prepare for Service Continuity
Preparation for service continuity is conducted.
SC1.5 Establish Service Continuity Plans
Establish and maintain service continuity plans that enable the organization to resume performance essential functions.
SC1.6 Establish Service Continuity Training
Establish and maintain training for service continuity.
SC1.7 Provide and Evaluate Service Continuity Training
Provide and evaluate training for the execution of the service continuity plan.
SC1.8 Verify and Validate the Service Continuity Plan
The service continuity plan is verified and validated.
SC1.9 Prepare for the Verification and Validation of the Service Continuity Plan
Prepare for the verification and validation of the service continuity plan.
SC1.10 Verify and Validate the Service Continuity Plan
Verify and validate the service continuity plan.
SC1.11 Analyze Results of Verification and Validation of the Service Continuity Plan
Analyze the results of verifying and validating the service continuity plan.

Risk Management (RSM)

SC1.1 Prepare for Risk Management
Preparation for risk management is conducted.
SC1.2 Determine Risk Sources and Categories
Determine risk sources and categories.
SC1.3 Define Risk Parameters
Establish and maintain risk analysis and categorization criteria and to control the risk management effort.
SC1.4 Identify and Prioritize Risk Management Strategy
Establish and maintain the strategy to be used for risk management.
SC1.5 Identify and Analyze Risks
Risks are identified and analyzed to determine their relative importance.
SC1.6 Evaluate Categories and Prioritize Risks
Identify and document risks.
SC1.7 Identify, Categorize, and Prioritize Risks
Evaluate and categorize each identified risk using defined risk categories and parameters, and determine its relative priority.
SC1.8 Mitigate Risks
Risks are handled and mitigated as appropriate to reduce adverse impacts on achieving objectives.
SC1.9 Develop Risk Mitigation Plans
Develop risk mitigation plans in accordance with the risk management strategy.
SC1.10 Implement Risk Mitigation Plans
Implement risk mitigation plans.
SC1.11 Monitor the Status of Each Risk Periodically and Implement the Risk Mitigation Plan as Appropriate
Monitor the status of each risk periodically and implement the risk mitigation plan as appropriate.

SUPPORT

Measurement and Analysis (MA)

SC1.1 Align Measurement and Analysis Activities
Measurement objectives and activities are aligned with identified information needs and objectives.
SC1.2 Establish Measurement Objectives
Establish and maintain measurement objectives derived from identified information needs and objectives.
SC1.3 Specify Data Collection and Storage Procedures
Specify how measurement data are obtained and stored.
SC1.4 Verify and Validate the Service Continuity Plan
Verify and validate the service continuity plan.
SC1.5 Analyze Results of Verification and Validation of the Service Continuity Plan
Analyze the results of verifying and validating the service continuity plan.
SC1.6 Provide Measurement Results
Measurement results, which identify identified information needs and objectives, are provided.
SC1.7 Obtain Measurement Data
Obtain specified measurement data.
SC1.8 Store Data and Results
Manage and store measurement data, measurement specifications, and analysis results.
SC1.9 Communicate Results
Communicate results of measurement and analysis activities to all relevant stakeholders.

Configuration Management (CM)

SC1.1 Establish Baselines
Establish baselines of identified work products and related work products to be placed under configuration management.
SC1.2 Establish Configuration Management System
Establish and maintain a configuration management and change management system for controlling work products.
SC1.3 Create or Release Baselines
Create or release baselines for internal use and for delivery to the customer.
SC1.4 Track and Control Changes
Changes to the work products under configuration management are tracked and controlled.
SC1.5 Track Change Requests
Track change requests for configuration items.
SC1.6 Establish Integrity
Integrity of baselines is established and maintained.
SC1.7 Establish Configuration Management Records
Establish and maintain records describing configuration items.
SC1.8 Perform Configuration Audits
Perform configuration audits to maintain the integrity of configuration baselines.

Process and Product Quality Assurance (PPQA)

SC1.1 Objectively Evaluate Processes and Work Products
Adherence of the performed process, and associated work products to applicable process descriptions, standards, and guidelines is objectively evaluated.
SC1.2 Objectively Evaluate Work Products
Objectively evaluate selected work products against applicable process descriptions, standards, and procedures.
SC1.3 Provide Objective Insight
Nonconformance issues are objectively tracked and communicated, and resolution is initiated.
SC1.4 Communicate and Resolve Nonconformance Issues
Communicate quality issues and ensure the resolution of nonconformance issues with the staff and management.
SC1.5 Establish Records
Establish and maintain records of quality assurance activities.

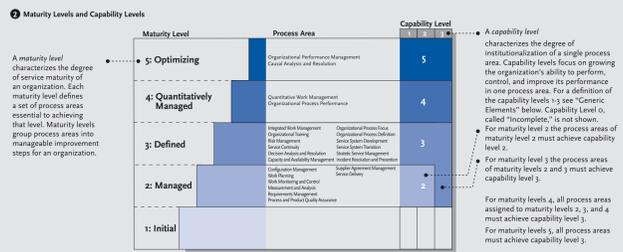
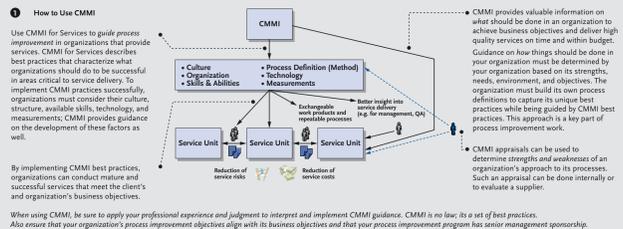
Decision Analysis and Resolution (DAR)

SC1.1 Evaluate Alternatives
Decisions are based on an evaluation of alternatives using established criteria.
SC1.2 Establish Guidelines for Decision Making
Establish and maintain guidelines to determine which issues are subject to a formal evaluation process.
SC1.3 Establish Evaluation Criteria
Establish and maintain criteria for evaluating alternatives and the relative ranking of these criteria.
SC1.4 Identify Alternative Solutions
Identify alternative solutions to address issues.
SC1.5 Select Evaluation Methods
Select evaluation methods.
SC1.6 Evaluate the Effect of Implemented Actions
Evaluate the effect of implemented actions on process performance.
SC1.7 Record Causal Analysis Data
Record causal analysis and resolution data for use across work groups and the organization.

Causal Analysis and Resolution (CAR)

SC1.1 Determine Causes of Selected Outcomes
Root causes of selected outcomes are systematically determined.
SC1.2 Select Outcomes for Analysis
Select outcomes for analysis.
SC1.3 Analyze Causes
Perform causal analysis of selected outcomes and propose actions to address them.
SC1.4 Address Causes of Selected Outcomes
Root causes of selected outcomes are systematically addressed.
SC1.5 Implement Action Proposals
Implemented selected action proposals developed in causal analysis.
SC1.6 Evaluate the Effect of Implemented Actions
Evaluate the effect of implemented actions on process performance.
SC1.7 Record Causal Analysis Data
Record causal analysis and resolution data for use across work groups and the organization.

HOW TO USE



MANAGEMENT

Capability Level 1: Performed
A performed process is a process that accomplishes the work necessary to satisfy the specific goals of a process area.
SC1.1 Achieve Specific Goals
The specific goals of the process area are supported by the process by transforming identifiable input work products into identifiable output work products.
SC1.2 Institutionalize a Managed Process
The process is institutionalized as a managed process.
SC1.3 Establish an Organizational Policy
Establish and maintain an organizational policy for planning and performing the process.
SC1.4 Plan the Process (see WP)
Provide adequate resources for performing the process, developing the work products, and providing the services of the process.
SC1.5 Assign Responsibility (see WP)
Assign responsibility and authority for performing the process, developing the work products, and providing the services of the process.
SC1.6 Train People (see OT and WP)
Train the people performing or supporting the process as needed.
SC1.7 Control Work Products (see CM)
Place selected work products of the process under appropriate levels of control.
SC1.8 Monitor and Control the Process (see WMC and MA)
Monitor and control the process against the plan for performing the process and take appropriate corrective action.
SC1.9 Identify and Involve Relevant Stakeholders (see WP, WMC, and RSM)
Establish and involve the relevant stakeholders in the process and selected work products against the process description, standards, and procedures, and address nonconformance.
SC1.10 Review Status with Higher Level Management (see WMC)
Review the activities, status, and results of the process with higher level management and resolve issues.

Capability Level 2: Managed
A managed process is a performed (capability level 1) process that is planned and executed in accordance with policy, employs validated people having adequate resources to produce controlled outputs, involves relevant stakeholders, is maintained, controlled, and reviewed, and is evaluated for adherence to its process description.
SC1.1 Institutionalize a Defined Process
The process is institutionalized as a defined process.
SC1.2 Establish a Defined Process (see WP and OPM)
Establish and maintain the description of a defined process.
SC1.3 Collect Process Related Experiences (see WMC, OPM, and OPR)
Collect process related experiences derived from planning and performing the process to support the future use and improvement of the organization's processes and process assets.
SC1.4 Monitor the Implementation
Monitor the implementation of the process against the plan for performing the process and take appropriate corrective action.
SC1.5 Objectively Evaluate Adherence (see PPQA)
Objectively evaluate adherence of the process and selected work products against the process description, standards, and procedures, and address nonconformance.
SC1.6 Review Status with Higher Level Management (see WMC)
Review the activities, status, and results of the process with higher level management and resolve issues.



SERVICE ESTABLISHMENT AND DELIVERY

Service Delivery (SD)

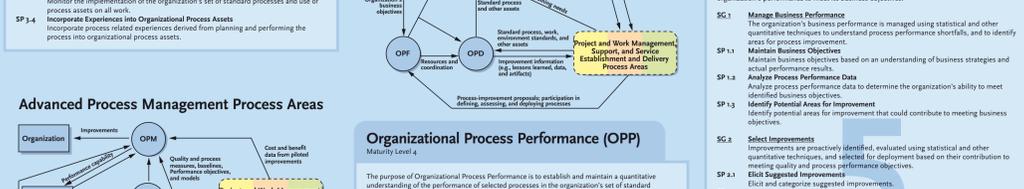
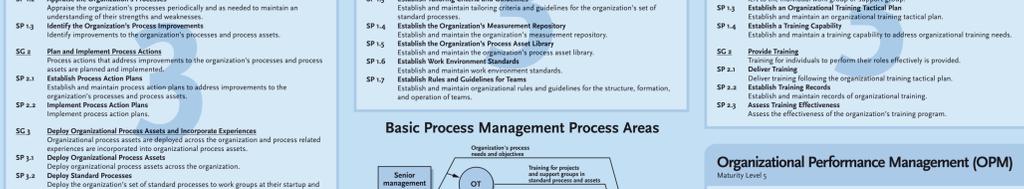
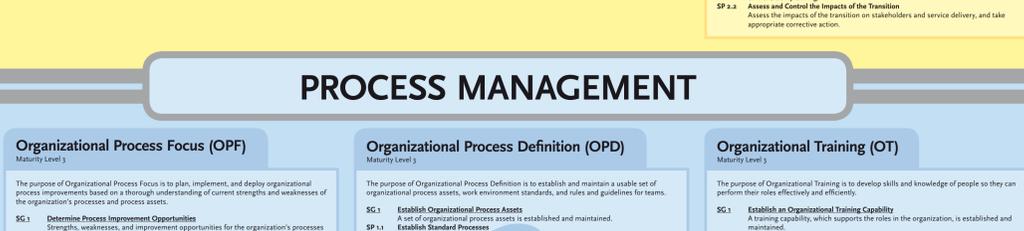
SC1.1 Establish Service Agreements
Service agreements are established and maintained.
SC1.2 Analyze Existing Agreements and Service Data
Analyze existing service agreements and service data to prepare for expected new agreements.
SC1.3 Establish the Service Agreement
Establish and maintain the service agreement.
SC1.4 Prepare for Service Delivery
Preparation for service delivery is conducted.
SC1.5 Establish the Service Delivery Approach
Establish and maintain the approach to be used for service delivery and service system operations.
SC1.6 Prepare for Service System Operations
Confirm the readiness of the service system to enable the delivery of services.
SC1.7 Establish a Request Management System
Establish and maintain a request management system for processing and tracking request information.
SC1.8 Deliver Services
Services are delivered in accordance with service agreements.
SC1.9 Receive and Process Service Requests
Receive and process service requests in accordance with service agreements.
SC1.10 Operate the Service System
Operate the service system to deliver services in accordance with service agreements.
SC1.11 Maintain the Service System
Maintain the service system to ensure the continuation of service delivery.

Incident Resolution and Prevention (IRP)

SC1.1 Prepare for Incident Resolution and Prevention
Preparation for incident resolution and prevention is conducted.
SC1.2 Establish an Incident Management System
Establish an incident management system for processing and tracking incident information.
SC1.3 Identify, Control, and Address Individual Incidents
Individual incidents are identified, controlled, and addressed.
SC1.4 Identify and Record Incident Information about Them
Identify and record incident information about them.
SC1.5 Analyze Individual Incident Data
Analyze the underlying causes of individual incidents to determine a course of action.
SC1.6 Resolve Incidents
Resolve incidents.
SC1.7 Monitor the Status of Incidents to Closure
Monitor the status of incidents to closure.
SC1.8 Communicate the Status of Incidents
Communicate the status of incidents.
SC1.9 Analyze and Address Causes and Impacts of Selected Incidents
Causes and impacts of selected incidents are analyzed and addressed.
SC1.10 Analyze Selected Incidents
Analyze the underlying causes of selected incidents.
SC1.11 Establish Solutions to Respond to Future Incidents
Establish and maintain solutions to respond to future incidents.
SC1.12 Analyze and Apply Solutions to Reduce Incident Occurrence
Establish and apply solutions to reduce the occurrence of selected incidents.

Strategic Service Management (STSM)

SC1.1 Establish Strategic Needs and Plans for Standard Services
Strategic needs and plans for standard services are established and maintained.
SC1.2 Gather and Analyze Data
Gather and analyze data about the strategic needs and capabilities of the organization.
SC1.3 Establish Plans for Standard Services
Establish and maintain plans for standard services.
SC1.4 Establish Standard Services
A set of standard services is established and maintained.
SC1.5 Establish Properties of Standard Services and Service Levels
Establish and maintain properties of the organization's set of standard services and service levels.
SC1.6 Establish Descriptions of Standard Service
Establish and maintain descriptions of the organization's defined standard services.
SC1.7 Establish and Maintain Standard Services
Establish and maintain standard services in concert with strategic needs and plans.



MORE INFORMATION

Software Engineering Institute: www.sei.cmu.edu/cmmi
wibas GmbH: www.wibas.com