CMMI for Services Quick Reference

CAPACITY AND AVAILABILITY MANAGEMENT   **PROJECT & WORK MGMT (ML3)**

The purpose of Capacity and Availability Management (CAM) is to ensure effective service system performance and ensure that resources are provided and used effectively to support service requirements.

SG 1 Preparation for capacity and availability management is conducted.

 SP 1.1 Establish and maintain a strategy for capacity and availability management.

 SP 1.2 Select measures and analytic techniques to be used in managing the capacity and availability of the service system.

 SP 1.3 Establish and maintain service system representations to support capacity and availability management.

SG 2 Capacity and availability are monitored and analyzed to manage resources and demand.

 SP 2.1 Monitor and analyze capacity against thresholds.

 SP 2.2 Monitor and analyze availability against targets.

 SP 2.3 Report capacity and availability management data to relevant stakeholders.

CAUSAL ANALYSIS AND RESOLUTION   **SUPPORT (ML5)**

The purpose of Causal Analysis and Resolution (CAR) is to identify causes of selected outcomes and take action to improve process performance.

SG 1 Root causes of selected outcomes are systematically determined.

 SP 1.1 Select outcomes for analysis.

 SP 1.2 Perform causal analysis of selected outcomes and propose actions to address them.

SG 2 Root causes of selected outcomes are systematically addressed.

 SP 2.1 Implement selected action proposals developed in causal analysis.

 SP 2.2 Evaluate the effect of implemented actions on process performance.

 SP 2.3 Record causal analysis and resolution data for use across work groups and the organization.

CONFIGURATION MANAGEMENT   **SUPPORT (ML2)**

The purpose of Configuration Management (CM) is to establish and maintain the integrity of work products using configuration identification, configuration control, configuration status accounting, and configuration audits.

SG 1 Baselines of identified work products are established.

SP 1.1 Identify configuration items, components, and related work products to be placed under configuration management.

SP 1.2 Establish and maintain a configuration management and change management system for controlling work products.

SP 1.3 Create or release baselines for internal use and for delivery to the customer.

SG 2 Changes to the work products under configuration management are tracked and controlled.

SP 2.1 Track change requests for configuration items.

SP 2.2 Control changes to configuration items.

SG 3 Integrity of baselines is established and maintained.

SP 3.1 Established and maintain records describing configuration items.

SP 3.2 Perform configuration audits to maintain the integrity of configuration baselines.

DECISION ANALYSIS AND RESOLUTION   **SUPPORT (ML3)**

The purpose of Decision Analysis and Resolution (DAR) is to analyze possible decisions using a formal evaluation process that evaluates identified alternatives against established criteria.

SG 1 Decisions are based on an evaluation of alternatives using established criteria.

SP 1.1 Establish and maintain guidelines to determine which issues are subject to a formal evaluation process.

SP 1.2 Establish and maintain criteria for evaluating alternatives, and the relative ranking of these criteria.

SP 1.3 Identify alternative solutions to address issues.

SP 1.4 Select evaluation methods.

SP 1.5 Evaluate alternative solutions using established criteria and methods.

SP 1.6 Select solutions from alternatives based on evaluation criteria.

INCIDENT RESOLUTION AND PREVENTION   SVC ESTABLISHMENT & DELIVERY (ML3)

The purpose of Incident Resolution and Prevention (IRP) is to ensure timely and effective resolution of service incidents and prevention of service incidents as appropriate.

SG 1 Preparation for incident resolution and prevention is conducted.
   SP 1.1 Establish and maintain an approach to incident resolution and prevention.
   SP 1.2 Establish and maintain an incident management system for processing and tracking incident information.

SG 2 Individual incidents are identified, controlled, and addressed.
   SP 2.1 Identify incidents and record information about them.
   SP 2.2 Analyze individual incident data to determine a course of action.
   SP 2.3 Resolve incidents.
   SP 2.4 Monitor the status of incidents to closure.
   SP 2.5 Communicate the status of incidents.

SG 3 Causes and Impacts of selected incidents are analyzed and addressed.
   SP 3.1 Analyze the underlying causes of selected incidents.
   SP 3.2 Establish and maintain solutions to respond to future incidents.
   SP 3.3 Establish and apply solutions to reduce the occurrence of selected incidents.

INTEGRATED WORK MANAGEMENT   PROJECT & WORK MGMT (ML3)

The purpose of Integrated Work Management (IWM) is to establish and manage the work and the involvement of relevant stakeholders according to an integrated and defined process that is tailored from the organization's set of standard processes.

SG 1 The work is conducted using a defined process tailored from the organization's set of standard processes.
   SP 1.1 Establish and maintain the defined process from startup and throughout the work.
   SP 1.2 Use organizational process assets and the measurement repository for estimating and planning work activities.
   SP 1.3 Establish and maintain the work environment based on the organization's work environment standards.
   SP 1.4 Integrate the work plan and other plans that affect the work to describe the defined process for the work.
   SP 1.5 Manage the work using the work plan, other plans that affect the work, and the defined process for the work.
   SP 1.6 Establish and maintain teams.
   SP 1.7 Contribute process related experiences to organizational process assets.

SG 2 Coordination and collaboration of relevant stakeholders are conducted.
   SP 2.1 Manage the involvement of relevant stakeholders in the work.
   SP 2.2 Participate with relevant stakeholders to identify, negotiate, and track critical dependencies.
   SP 2.3 Resolve issues with relevant stakeholders.

MEASUREMENT AND ANALYSIS   **SUPPORT (ML2)**

The purpose of Measurement and Analysis (MA) is to develop and sustain a measurement capability used to support management information needs.

SG 1 Measurement objectives and activities are aligned with identified information needs and objectives.

SP 1.1 Establish and maintain measurement objectives derived from identified information needs and objectives.

SP 1.2 Specify measures to address measurement objectives.

SP 1.3 Specify how measurement data are obtained and stored.

SP 1.4 Specify how measurement data are analyzed and communicated.

SG 2 Measurement results, which address identified information needs and objectives, are provided.

SP 2.1 Obtain specified measurement data.

SP 2.2 Analyze and interpret measurement data.

SP 2.3 Manage and store measurement data, measurement specifications, and analysis results.

SP 2.4 Communicate results of measurement and analysis activities to all relevant stakeholders.

ORGANIZATIONAL PROCESS DEFINITION   **PROCESS MANAGEMENT (ML3)**

The purpose of Organizational Process Definition (OPD) is to establish and maintain a usable set of organizational process assets, work environment standards, and rules and guidelines for teams.

SG 1 A set of organizational process assets is established and maintained.

SP 1.1 Establish and maintain the organization's set of standard processes.

SP 1.2 Establish and maintain descriptions of lifecycle models approved for use in the organization.

SP 1.3 Establish and maintain tailoring criteria and guidelines for the organization's set of standard processes.

SP 1.4 Establish and maintain the organization's measurement repository.

SP 1.5 Establish and maintain the organization's process asset library.

SP 1.6 Establish and maintain work environment standards.

SP 1.7 Establish and maintain organizational rules and guidelines for the structure, formation, and operation of teams.

ORGANIZATIONAL PROCESS FOCUS   **PROCESS MANAGEMENT (ML3)**

The purpose of Organizational Process Focus (OPF) is to plan, implement, and deploy organizational process improvements based on a thorough understanding of current strengths and weaknesses of the organization's processes and process assets.

SG 1 Strengths, weaknesses, and improvement opportunities for the organization's processes are identified periodically and as needed.

SP 1.1 Establish and maintain the description of process needs and objectives for the organization.

SP 1.2 Appraise the organization's processes periodically and as needed to maintain an understanding of their strengths and weaknesses.

SP 1.3 Identify improvements to the organization's processes and process assets.

SG 2 Process actions that address improvements to the organization's processes and process assets are planned and implemented.

SP 2.1 Establish and maintain process action plans to address improvements to the organization's processes and process assets.

SP 2.2 Implement process action plans.

SG 3 Organizational process assets are deployed across the organization and process related experiences are incorporated into organizational process assets.

SP 3.1 Deploy organizational process assets across the organization.

SP 3.2 Deploy the organization's set of standard processes to work groups at their startup and deploy changes to them as appropriate throughout the work.

SP 3.3 Monitor the implementation of the organization's set of standard processes and use of process assets on all work.

SP 3.4 Incorporate process related experiences derived from planning and performing the process into organizational process assets.

From CMMI-SVC v1.3, Nov. 2010

ORGANIZATIONAL PERFORMANCE MANAGEMENT   PROCESS MANAGEMENT (ML5)

The purpose of Organizational Performance Management (OPM) is to proactively manage the organization's performance to meet its business objectives.

SG 1 The organization's business performance is managed using statistical and other quantitative techniques to understand process performance shortfalls, and to identify areas for process improvement.

SP 1.1 Maintain business objectives based on an understanding of business strategies and actual performance results.

SP 1.2 Analyze process performance data to determine the organization's ability to meet identified business objectives.

SP 1.3 Identify potential areas for improvement that could contribute to meeting business objectives.

SG 2 Improvements are proactively identified, evaluated using statistical and other quantitative techniques, and selected for deployment based on their contribution to meeting quality and process performance objectives.

SP 2.1 Elicit and categorize suggested improvements.

SP 2.2 Analyze suggested improvements for their possible impact on achieving the organization's quality and process performance objectives.

SP 2.3 Validate selected improvements.

SP 2.4 Select and implement improvements for deployment throughout the organization based on an evaluation of costs, benefits and other factors.

SG 3 Measurable improvements to the organization's processes and technologies are deployed and evaluated using statistical and other quantitative techniques.

SP 3.1 Establish and maintain plans for deploying selected improvements.

SP 3.2 Manage the deployment of selected improvements.

SP 3.3 Evaluate the effects of deployed improvements on quality and process performance using statistical and other quantitative techniques.

ORGANIZATIONAL PROCESS PERFORMANCE   **PROCESS MANAGEMENT (ML4)**

The purpose of Organizational Process Performance (OPP) is to establish and maintain a quantitative understanding of the performance of selected processes in the organization's set of standard processes in support of achieving quality and process performance objectives, and to provide process performance data, baselines, and models to quantitatively manage the organization's work.

SG 1 Baselines and models, which characterize the expected process performance of the organization's set of standard processes, are established and maintained.

SP 1.1 Establish and maintain the organization's quantitative objectives for quality and process performance, which are traceable to business objectives.

SP 1.2 Select processes or subprocesses in the organization's set of standard processes to be included in the organization's process performance analyses and maintain traceability to business objectives.

SP 1.3 Establish and maintain definitions of measures to be included in the organization's process performance analyses.

SP 1.4 Analyze the performance of the selected processes, and establish and maintain the process performance baselines.

SP 1.5 Establish and maintain process performance models for the organization's set of standard processes.

ORGANIZATIONAL TRAINING   **PROCESS MANAGEMENT (ML3)**

The purpose of Organizational Training (OT) is to develop skills and knowledge of people so they perform their roles effectively and efficiently.

SG 1 A training capability, which supports the roles in the organization, is established and maintained.

SP 1.1 Establish and maintain strategic training needs of the organization.

SP 1.2 Determine which training needs are the responsibility of the organization and which are left to the individual work group or support group.

SP 1.3 Establish and maintain an organizational training tactical plan.

SP 1.4 Establish and maintain a training capability to address organizational training needs.

SG 2 Training for individuals to perform their roles effectively is provided.

SP 2.1 Deliver training following the organizational training tactical plan.

SP 2.2 Establish and maintain records of organizational training.

SP 2.3 Assess the effectiveness of the organization's training program.

From CMMI-SVC v1.3, Nov. 2010

PROCESS AND PRODUCT QUALITY ASSURANCE   SUPPORT (ML2)

The purpose of Process and Product Quality Assurance (PPQA) is to provide staff and management with objective insight into processes and associated work products.

SG 1 Adherence of the performed process and associated work products to applicable process descriptions, standards, and procedures is objectively evaluated.

SP 1.1 Objectively evaluate selected performed processes against applicable process descriptions, standards, and procedures.

SP 1.2 Objectively evaluate selected work products against applicable process descriptions, standards, and procedures.

SG 2 Noncompliance issues are objectively tracked and communicated, and resolution is ensured.

SP 2.1 Communicate quality issues and ensure the resolution of noncompliance issues with the staff and managers.

SP 2.2 Establish and maintain records of quality assurance activities.

QUANTITATIVE WORK MANAGEMENT   PROJECT & WORK MGMT (ML4)

The purpose of Quantitative Work Management (QWM) is to quantitatively manage the work to achieve the established quality and process performance objectives for the work.

SG 1 Preparation for quantitative management is conducted.

SP 1.1 Establish and maintain the quality and process performance objectives for the work.

SP 1.2 Using statistical and other quantitative techniques, compose a defined process that enables the work to achieve its quality and process performance objectives.

SP 1.3 Select subprocesses and attributes critical to evaluating performance and that help to achieve the quality and process performance objectives for the work.

SP 1.4 Select measures and analytic techniques to be used in quantitative management.

SG 2 The work is quantitatively managed.

SP 2.1 Monitor the performance of selected subprocesses using statistical and other quantitative techniques.

SP 2.2 Manage the work using statistical and other quantitative techniques to determine whether or not the quality and process performance objectives for the work will be satisfied.

SP 2.3 Perform root cause analysis of selected issues to address deficiencies in achieving the work group's quality and process performance objectives.

REQUIREMENTS MANAGEMENT   **PROJECT & WORK MGMT (ML2)**

The purpose of Requirements Management (REQM) is to manage requirements of products and product components and ensure alignment between those requirements and the work plans and work products.

SG 1 Requirements are managed and inconsistencies with plans and work products are identified.

SP 1.1 Develop an understanding with the requirements providers on the meaning of the requirements.

SP 1.2 Obtain commitment to requirements from participants.

SP 1.3 Manage changes to requirements as they evolve.

SP 1.4 Maintain bidirectional traceability among requirements and work products.

SP 1.5 Ensure that plans and work products remain aligned with requirements.

RISK MANAGEMENT   **PROJECT & WORK MGMT (ML3)**

The purpose of Risk Management (RSKM) is to identify potential problems before they occur so that risk handling activities can be planned and invoked as needed across the life of the product or work to mitigate adverse impacts on achieving objectives.

SG 1 Preparation for risk management is conducted.

SP 1.1 Determine risk sources and categories.

SP 1.2 Define parameters used to analyze and categorize risks and to control the risk management effort.

SP 1.3 Establish and maintain the strategy to be used for risk management.

SG 2 Risks are identified and analyzed to determine their relative importance.

SP 2.1 Identify and document risks.

SP 2.2 Evaluate and categorize each identified risk using defined risk categories and parameters, and determine its relative priority.

SG 3 Risks are handled and mitigated as appropriate to reduce adverse impacts on achieving objectives.

SP 3.1 Develop a risk mitigation plan in accordance with the risk management strategy.

SP 3.2 Monitor the status of each risk periodically and implement the risk mitigation plan as appropriate.

SUPPLIER AGREEMENT MANAGEMENT   **PROJECT & WORK MGMT (ML2)**

The purpose of Supplier Agreement Management (SAM) is to manage the acquisition of products and services from suppliers.

SG 1 Agreements with the suppliers are established and maintained.

SP 1.1 Determine the type of acquisition for each product or product component to be acquired.

SP 1.2 Select suppliers based on an evaluation of their ability to meet the specified requirements and established criteria.

SP 1.3 Establish and maintain supplier agreements.

SG 2 Agreements with suppliers are satisfied by both the work group and the supplier.

SP 2.1 Perform activities with the supplier as specified in the supplier agreement.

SP 2.2 Ensure that the supplier agreement is satisfied before accepting the acquired product.

SP 2.3 Ensure the transition of products acquired from the supplier.

SERVICE CONTINUITY   **PROJECT & WORK MGMT (ML3)**

The purpose of Service Continuity (SCON) is to establish and maintain plans to ensure continuity of services during and following any significant disruption of normal operations.

SG 1 The essential functions and resources on which services depend are identified and documented.

SP 1.1 Identify and prioritize the essential functions that must be performed to ensure service continuity.

SP 1.2 Identify and prioritize the essential resources required to ensure service continuity.

SG 2 Preparations are made for service continuity.

SP 2.1 Establish and maintain service continuity plans that enable the organization to resume performing essential functions.

SP 2.2 Establish and maintain training for service continuity.

SP 2.3 Provide and evaluate training in the execution of the service continuity plan.

SG 3 The service continuity plan is verified and validated.

SP 3.1 Prepare for the verification and validation of the service continuity plan.

SP 3.2 Verify and validate the service continuity plan.

SP 3.3 Analyze the results of verifying and validating the service continuity plan.

SERVICE DELIVERY   **SVC ESTABLISHMENT & DELIVERY (ML2)**

The purpose of Service Delivery (SD) is to deliver services in accordance with service agreements.

SG 1 Service agreements are established and maintained.

SP 1.1 Analyze existing service agreements and service data to prepare for expected new agreements.

SP 1.2 Establish and maintain the service agreement.

SG 2 Preparation for service delivery is conducted.

SP 2.1 Establish and maintain the approach to be used for service delivery and service system operations.

SP 2.2 Confirm the readiness of the service system to enable the delivery of services.

SP 2.3 Establish and maintain a request management system for processing and tracking request information.

SG 3 Services are delivered in accordance with service agreements.

SP 3.1 Receive and process service requests in accordance with service agreements.

SP 3.2 Operate the service system to deliver services in accordance with service agreements.

SP 3.3 Maintain the service system to ensure the continuation of service delivery.

SERVICE SYSTEM DEVELOPMENT ADDITION SVC ESTABLISHMENT & DELIVERY (ML3)

The purpose of Service System Development (SSD) is to analyze, design, develop, integrate, verify, and validate service systems, including service system components, to satisfy existing or anticipated service agreements.

SG 1 Stakeholder needs, expectations, constraints, and interfaces are collected, analyzed, and transformed into validated service system requirements.

SP 1.1 Collect and transform stakeholder needs, expectations, constraints, and interfaces into prioritized stakeholder requirements.

SP 1.2 Refine and elaborate stakeholder requirements to develop service system requirements.

SP 1.3 Analyze and validate requirements, and define required service system functionality and quality attributes.

SG 2 Service system components are selected, designed, implemented, and integrated.

SP 2.1 Select service system solutions from alternative solutions.

SP 2.2 Develop designs for the service system and service system components.

SP 2.3 Manage internal and external interface definitions, designs, and changes for service systems.

SP 2.4 Implement the service system design.

SP 2.5 Assemble and integrate implemented service system components into a verifiable service system.

SG 3 Selected service system components and services are verified and validated to ensure correct service delivery.

SP 3.1 Establish and maintain an approach and an environment for verification and validation.

SP 3.2 Perform peer reviews on selected service system components.

SP 3.3 Verify selected service system components against their specified requirements.

SP 3.4 Validate the service system to ensure that it is suitable for use in the intended delivery environment and meets stakeholder expectations.

SERVICE SYSTEM TRANSITION   **SVC ESTABLISHMENT & DELIVERY (ML3)**

The purpose of Service System Transition (SST) is to deploy new or significantly changed service system components while managing their effect on ongoing service delivery.

SG 1 Preparation for service system transition is conducted.

    SP 1.1 Analyze the functionality, quality attributes, and compatibility of the current and future service systems to minimize impact on service delivery.

    SP 1.2 Establish and maintain plans for specific transitions of the service system.

    SP 1.3 Prepare relevant stakeholders for changes in services and service systems.

SG 2 The service system is deployed to the delivery environment.

    SP 2.1 Systematically deploy service system components into the delivery environment based on transition planning.

    SP 2.2 Assess the impacts of the transition on stakeholders and service delivery, and take appropriate corrective action.

STRATEGIC SERVICE MANAGEMENT   **SVC ESTABLISHMENT & DELIVERY (ML3)**

The purpose of Strategic Service Management (STSM) is to establish and maintain standard services in concert with strategic needs and plans.

SG 1 Strategic needs and plans for standard services are established and maintained.

    SP 1.1 Gather and analyze data about the strategic needs and capabilities of the organization.

    SP 1.2 Establish and maintain plans for standard services.

SG 2 A set of standard services is established and maintained.

    SP 2.1 Establish and maintain properties of the organization's set of standard services and service levels.

    SP 2.2 Establish and maintain descriptions of the organization's defined standard services.

WORK MONITORING AND CONTROL   **PROJECT & WORK MGMT (ML2)**

The purpose of Work Monitoring and Control (WMC) is to provide an understanding of the ongoing work so that appropriate corrective actions can be taken when the performance deviates significantly from the plan.

SG 1 Actual progress and performance are monitored against the work plan.

SP 1.1 Monitor actual values of planning parameters against the work plan.

SP 1.2 Monitor commitments against those identified in the work plan.

SP 1.3 Monitor risks against those identified in the work plan.

SP 1.4 Monitor the management of data against the work plan.

SP 1.5 Monitor stakeholder involvement against the plan.

SP 1.6 Periodically review the work progress, performance, and issues.

SP 1.7 Review accomplishments and results at selected milestones.

SG 2 Corrective actions are managed to closure when the work performance or results deviate significantly from the plan.

SP 2.1 Collect and analyze issues and determine corrective actions to address them.

SP 2.2 Take corrective action on identified issues.

SP 2.3 Manage corrective actions to closure.

WORK PLANNING   **PROJECT & WORK MGMT (ML2)**

The purpose of Work Planning (WP) is to establish and maintain plans that define work activities.

SG 1 Estimates of work planning parameters are established and maintained.

SP 1.1 Establish and maintain the service strategy.

SP 1.2 Establish a top-level work breakdown structure (WBS) to estimate the scope of the work.

SP 1.3 Establish and maintain estimates of work product and task attributes.

SP 1.4 Define lifecycle phases on which to scope the planning effort.

SP 1.5 Estimate effort and cost for work products and tasks based on estimation rationale.

SG 2 A work plan is established and maintained as the basis for managing the work.

SP 2.1 Establish and maintain the budget and schedule.

SP 2.2 Identify and analyze risks.

SP 2.3 Plan for the management of data.

SP 2.4 Plan for resources to perform the work.

SP 2.5 Plan for knowledge and skills needed to perform the work.

SP 2.6 Plan the involvement of identified stakeholders.

SP 2.7 Establish and maintain the overall work plan.

SG 3 Commitments to the work plan are established and maintained.

SP 3.1 Review all plans that affect the work to understand work commitments.

SP 3.2 Adjust the work plan to reconcile available and estimated resources.

SP 3.3 Obtain commitment from relevant stakeholders responsible for performing and supporting plan execution.

GENERIC GOALS

GG 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.

GP 1.1   Perform the specific practices of the process area to develop work products and provide services to achieve the specific goals of the process area.

GG 2 Institutionalize a Managed Process

The process is institutionalized as a managed process.

GP 2.1   Establish and maintain an organizational policy for planning and performing the process.

GP 2.2   Establish and maintain the plan for performing the process.

GP 2.3   Provide adequate resources for performing the process, developing the work products, and providing the services of the process.

GP 2.4   Assign responsibility and authority for performing the process, developing the work products, and providing the services of the process.

GP 2.5   Train the people performing or supporting the process as needed.

GP 2.6   Place selected work products of the process under appropriate levels of control.

GP 2.7   Identify and involve the relevant stakeholders of the process as planned.

GP 2.8   Monitor and control the process against the plan for performing the process and take appropriate corrective action.

GP 2.9   Objectively evaluate adherence of the process and selected work products against the process description, standards, and procedures, and address noncompliance.

GP 2.10 Review the activities, status, and results of the process with higher level management and resolve issues.

GG 3 Institutionalize a Defined Process

The process is institutionalized as a defined process.

GP 3.1   Establish and maintain the description of a defined process.

GP 3.2   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.