CMMI-DEV v1.3 Goals and Practices, Generic and Specific

A performed process is a process that accomplishes the work necessary to satisfy the specific goals of a process area.

A managed process is a performed process that is planned and executed in accordance with policy; employs skilled people having adequate resources to produce controlled outputs; involves relevant stakeholders; is monitored, controlled, and reviewed; and is evaluated for adherence to its process description.

A defined process is a managed process that is tailored from the organization's set of standard processes according to the organization's tailoring guidelines; has a maintained process description; and contributes process related experiences to the organizational process assets.

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 Specific Practices

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 an Organizational Policy

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

GP 2.2 Plan the Process

Establish and maintain the plan for performing the process.

GP 2.3 Provide Resources

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

GP 2.4 Assign Responsibility

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

GP 2.5 Train People

Train the people performing or supporting the process as needed.

GP 2.6 Control Work Products

Place selected work products of the process under appropriate levels of control. *(Configuration management)*

GP 2.7 Identify and Involve Relevant Stakeholders

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

GP 2.8 Monitor and Control the Process

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

GP 2.9 Objectively Evaluate Adherence

Objectively evaluate adherence of the process and selected work products against the process description, standards, and procedures, and address noncompliance. *(Quality assurance)*

GP 2.10 Review Status with Higher Level Management

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 a Defined Process

Establish and maintain the description of a defined process.

GP 3.2 Collect Process Related Experiences

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.

Purpose and Specific Practices for the Process Areas

52 Specific Goals

177 Specific Practices

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

SG 1 Determine Causes of Selected Outcomes

Root causes of selected outcomes are systematically determined.

SG 2 Address Causes of Selected Outcomes

Root causes of selected outcomes are systematically addressed.

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 Establish Baselines

Baselines of identified work products are established.

SG 2 Track and Control Changes

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

SG 3 Establish Integrity

Integrity of baselines is established and maintained.

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 Evaluate Alternatives

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

The purpose of Integrated Project Management (IPM) is to establish and manage the project 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 Use the Project's Defined Process

The project is conducted using a defined process tailored from the organization's set of standard processes.

SG 2 Coordinate and Collaborate with Relevant Stakeholders

Coordination and collaboration between the project and relevant stakeholders are conducted.

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

SG 1 Align Measurement and Analysis Activities

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

SG 2 Provide Measurement Results

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

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 Establish Organizational Process Assets

A set of organizational process assets is established and maintained.

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 Determine Process Improvement Opportunities

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

SG 2 Plan and Implement Process Actions

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

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

SG 1 Manage Business Performance

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.

SG 2 Select Improvements

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.

SG 3 Deploy Improvements

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

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 projects.

SG 1 Establish Performance Baselines and Models

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

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

SG 1 Establish an Organizational Training Capability

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

SG 2 Provide Training

Training for individuals to perform their roles effectively is provided.

The purpose of Product Integration (PI) is to assemble the product from the product components, ensure that the product, as integrated, behaves properly (i.e., possesses the required functionality and quality attributes), and deliver the product.

SG 1 Prepare for Product Integration

Preparation for product integration is conducted.

SG 2 Ensure Interface Compatibility

The product component interfaces, both internal and external, are compatible.

SG 3 Assemble Product Components and Deliver the Product

Verified product components are assembled and the integrated, verified, and validated product is delivered.

The purpose of Project Monitoring and Control (PMC) is to provide an understanding of the project's progress so that appropriate corrective actions can be taken when the project's performance deviates significantly from the plan.

SG 1 Monitor the Project Against the Plan

Actual project progress and performance are monitored against the project plan.

SG 2 Manage Corrective Action to Closure

Corrective actions are managed to closure when the project's performance or results deviate significantly from the plan.

The purpose of Project Planning (PP) is to establish and maintain plans that define project activities.

SG 1 Establish Estimates

Estimates of project planning parameters are established and maintained.

SG 2 Develop a Project Plan

A project plan is established and maintained as the basis for managing the project.

SG 3 Obtain Commitment to the Plan

Commitments to the project plan are established and maintained.

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 Objectively Evaluate Processes and Work Products

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

SG 2 Provide Objective Insight

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

The purpose of Quantitative Project Management (QPM) is to quantitatively manage the project to achieve the project's established quality and process performance objectives.

SG 1 Prepare for Quantitative Management

Preparation for quantitative management is conducted.

SG 2 Quantitatively Manage the Project

The project is quantitatively managed.

The purpose of Requirements Development (RD) is to elicit, analyze, and establish customer, product, and product component requirements.

SG 1 Develop Customer Requirements

Stakeholder needs, expectations, constraints, and interfaces are collected and translated into customer requirements.

SG 2 Develop Product Requirements

Customer requirements are refined and elaborated to develop product and product component requirements.

SG 3 Analyze and Validate Requirements

The requirements are analyzed and validated.

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

SG 1 Manage Requirements

Requirements are managed and inconsistencies with project plans and work products are identified.

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 project to mitigate adverse impacts on achieving objectives.

SG 1 Prepare for Risk Management

Preparation for risk management is conducted.

SG 2 Identify and Analyze Risks

Risks are identified and analyzed to determine their relative importance.

SG 3 Mitigate Risks

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

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

SG 1 Establish Supplier Agreements

Agreements with the suppliers are established and maintained.

SG 2 Satisfy Supplier Agreements

Agreements with suppliers are satisfied by both the project and the supplier.

The purpose of Technical Solution (TS) is to select, design, and implement solutions to requirements. Solutions, designs, and implementations encompass products, product

components, and product related lifecycle processes either singly or in combination as appropriate.

SG 1 Select Product Component Solutions

Product or product component solutions are selected from alternative solutions.

SG 2 Develop the Design

Product or product component designs are developed.

SG 3 Implement the Product Design

Product components, and associated support documentation, are implemented from their designs.

The purpose of Validation (VAL) is to demonstrate that a product or product component fulfills its intended use when placed in its intended environment.

SG 1 Prepare for Validation

Preparation for validation is conducted.

SG 2 Validate Product or Product Components

The product or product components are validated to ensure they are suitable for use in their intended operating environment.

The purpose of Verification (VER) is to ensure that selected work products meet their specified requirements.

SG 1 Prepare for Verification

Preparation for verification is conducted.

SG 2 Perform Peer Reviews

Peer reviews are performed on selected work products.

SG 3 Verify Selected Work Products

Selected work products are verified against their specified requirements.