CMMI GLOSSARY

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Ability to perform : A common feature of CMMI model process areas with a staged representation that groups the generic practices related to ensuring that the project and/or organization has the resources it needs.

Acceptance criteria : The criteria that a product or product component must satisfy to be accepted by a user, customer, or other authorized entity.

Acceptance testing: Formal testing conducted to enable a user, customer, or other authorized entity to determine whether to accept a product or product component.

Achievement profile: In the continuous representation, a list of process areas and their corresponding capability levels that represent the organization's progress for each process area while advancing through the capability levels.

Acquisition: The process of obtaining, through contract, any discrete action or proposed action by the acquisition entity that would commit to invest for obtaining products and services.

Acquisition strategy: The specific approach to acquiring products and services that is based on considerations of supply sources, acquisition methods, requirements specification types, contract or agreement types, and the related acquisition risk.

Adequate : Adequate, appropriate, and as needed appear in CMMI to allow managers at all levels and practitioners to interpret the specific and generic goals and practices in light of the organization's business objectives. For example, a Generic Practice for the process area of Risk Management states: "Provide adequate resources for performing the risk management process, developing the work products, and providing the services of the process." Adequate could be satisfied by Numbers of people, People who must monitor the risks etc.

Advanced practices: In the continuous representation, all the specific practices with a capability level of two or higher.

Agreement/contract requirements: All technical and non-technical requirements related to an acquisition.

Allocated requirement: Requirement that levies all or part of the performance and functionality of a higher level requirement on a lower level architectural element or design component.

Alternative practice: A practice that is a substitute for one or more generic or specific practices contained in CMMI models that achieves an equivalent effect toward satisfying the generic or specific goal associated with model practices. Alternative practices are not necessarily one-for-one replacements for the generic or specific practices.

Appraisal: An appraisal is an examination of one or more processes by a trained team of professionals using an appraisal reference model as the basis for determining strengths and weaknesses.

Appraisal findings: The conclusions of an appraisal that identify the most important issues, problems, or opportunities within the appraisal scope. It includes, at a minimum, strengths and weaknesses based on valid observations.

Aappraisal participants: Members of the organizational unit who participate in providing information during the appraisal.

Appraisal rating: As used in CMMI appraisal materials, the value assigned by an appraisal team to either 1 a CMMI goal or process area, 2 the capability level of a process area, or 3 the maturity

level of an organizational unit. The rating is determined by enacting the defined rating process for the appraisal method being employed.

Appraisal reference model: As used in CMMI appraisal materials, the CMMI model to which an appraisal team correlates implemented process activities.

Appraisal scope: The definition of the boundaries of the appraisal encompassing the organizational limits and the CMMI model limits.

Appraisal team leader: A person who leads the activities of an appraisal and has satisfied the qualification criteria for experience, knowledge, and skills defined by the appraisal method.

Appropriate: See definition for Adequate.

As needed: See definition for Adequate.

Assessment: An assessment is an appraisal that an organization conducts for itself for the purposes of process improvement.

Assignable cause of process variation: In CMMI, the term "special cause of process variation" is used in place of "assignable cause of process variation" to ensure consistency. Both terms are defined identically.

Audit : An independent examination of a work product or set of work products to determine whether requirements are being met.

Base measure: A distinct property or characteristic of an entity and the method for quantifying it.

Base practices: In the continuous representation, all the specific practices with a capability level of 1.

Baseline: The term baseline is normally used to denote such a reference point. A baseline is an approved snapshot of the system at appropriate points in the development life cycle. A baseline establishes a formal base for defining subsequent change. Without this line or reference point, the notion of change is meaningless.

Business objectives: Senior-management-developed strategies designed to ensure an organization's continued existence and enhance its profitability, market share, and other factors influencing the organization.s success.

Capability evaluation: An appraisal by a trained team of professionals used as a discriminator to select suppliers, for contract monitoring, or for incentives. Evaluations are used to help decision makers make better acquisition decisions, improve subcontractor performance, and provide insight to a purchasing organization.

Capability level: Achievement of process improvement within an individual process area. A capability level is defined by the appropriate specific and generic practices for a process area.

Capability level profile: In the continuous representation, a list of process areas and their corresponding capability levels. The profile may be an achievement profile when it represents the organization's progress for each process area while advancing through the capability levels. Or, the profile may be a target profile when it represents an objective for process improvement.

Capability maturity model: A capability maturity model *CMM* contains the essential elements of effective processes for one or more disciplines. It also describes an evolutionary improvement path from ad hoc, immature processes to disciplined, mature processes with improved quality and effectiveness.

Capable process: A process that can satisfy its specified product quality, service quality, and process performance objectives.

Causal analysis: The analysis of defects to determine their cause.

Change management: Judicious use of means to effect a change, or proposed change, on a product or service.

CMMI appraisal tailoring: Selection of options within the appraisal method for use in a specific instance. The intent of appraisal tailoring is to assist an organization in aligning application of the

method with its business objectives.

CMMI model component: Any of the main architectural elements that compose a CMMI model. Some of the main elements of a CMMI model include specific practices, generic practices, specific goals, generic goals, process areas, capability levels, and maturity levels.

CMMI model tailoring: The use of a subset of a CMMI model for the purpose of making it suitable for a specific application. The intent of model tailoring is to assist an organization in aligning application of a model with its business objectives.

CMMI Product Suite: This term has been used for a complete CMMI Framework.

Commitment to perform: A common feature of CMMI model process areas with a staged representation that groups the generic practices related to creating policies and securing sponsorship.

Common cause of process variation: The variation of a process that exists because of normal and expected interactions among the components of a process.

Concept of operations: A general description of the way in which an entity is used or operates.

Configuration audit: An audit conducted to verify that a configuration item conforms to a specified standard or requirement.

Configuration baseline: The configuration information formally designated at a specific time during a product's or product component's life. Configuration baselines, plus approved changes from those baselines, constitute the current configuration information.

Configuration control: An element of configuration management consisting of the evaluation, coordination, approval or disapproval, and implementation of changes to configuration items after formal establishment of their configuration identification.

Configuration control board: A group of people responsible for evaluating and approving or disapproving proposed changes to configuration items, and for ensuring implementation of approved changes.

Configuration identification: An element of configuration management consisting of selecting the configuration items for a product, assigning unique identifiers to them, and recording their functional and physical characteristics in technical documentation.

Configuration item: An aggregation of work products that is designated for configuration management and treated as a single entity in the configuration management process.

Configuration management: A discipline applying technical and administrative direction and surveillance to 1 identify and document the functional and physical characteristics of a configuration item, 2 control changes to those characteristics, 3 record and report change processing and implementation status, and 4 verify compliance with specified requirements. [IEEE Std 610.1990]

CMMI Model: Since the CMMI Framework can generate different models based on the needs of the organization using it, there are multiple CMMI models. Consequently, the phrase "CMMI MODEL" could be any one of many collections of information. The phrase "CMMI models" refers to one, some, or the entire collection of possible models that can be generated from the CMMI Framework.

Configuration status accounting: An element of configuration management consisting of the recording and reporting of information needed to manage a configuration effectively. This information includes a listing of the approved configuration identification, the status of proposed changes to the configuration, and the implementation status of approved changes.

Continuous representation: A capability maturity model structure wherein capability levels provide a recommended order for approaching process improvement within each specified process area.

Corrective action : Acts or deeds used to remedy a situation, remove an error, or adjust a condition.

COTS: Items that can be purchased from a commercial vendor.

Customer: A customer is the individual, project, organization, group, and so forth that is responsible for accepting the product or for authorizing payment. The customer is external to the project but not necessarily external to the organization. The term customer also serves as a variable when we discuss requirements gathering or elicitation.

Data management: Principles, processes, and systems for the sharing and management of data.

Defect density: Number of defects per unit of product size *e. g. , problemreportsper1000linesofcode*.

Defined process: A defined set of steps to be followed as a part of improvment.

Derived measures: Data resulting from the mathematical function of two or more base measures.

Derived requirements: Requirements that are not explicitly stated in the customer requirements, but are inferred 1 from contextual requirements *e. g. , applicablestandards, laws, policies, commonpractices, andmanagementdecisions*, or 2 from requirements needed to specify a product component. Derived requirements can also arise during analysis and design of components of the product or system.

Design review: A formal, documented, comprehensive, and systematic examination of a design to evaluate the design requirements and the capability of the design to meet these requirements, and to identify problems and propose solutions.

Development: Development, as it is used throughout CMMI, implies maintenance activities as well as development activities. Experience has shown that best practices should be applied to both development and maintenance projects if an organization is in pursuit of engineering excellence.

Developmental plan: A plan for guiding, implementing, and controlling the design and development of one or more products.

Directing implementation: A common feature of CMMI model process areas with a staged representation that groups the generic practices related to managing the performance of the process, managing the integrity of its work products, and involving relevant stakeholders.

Discipline amplification: Model components that provide guidance for interpreting model information for specific disciplines *e. g. , systemsengineering, orsoftwareengineering* are called "DISCIPLINE AMPLIFICATIONS." Discipline amplifications are added to other model components where necessary. These are easy to locate because they appear on the right side of the page and have a title indicating the discipline that they address for example, "For Software Engineering".

Document: A document is a collection of data, regardless of the medium on which it is recorded. It generally has permanence and can be read by humans or machines. Documents include both paper and electronic documents.

Enterprise: Enterprise is used to refer to very large companies that consist of many organizations in many different locations with different customers.

Entry criteria: States of being that must be present before an effort can begin successfully.

Equivalent staging: Equivalent staging is a target staging, created using the continuous representation that is defined so that the results of using the target staging can be compared to the maturity levels of the staged representation.

Exit criteria: States of being that must be present before an effort can end successfully.

Expected CMMI components: CMMI components that explain what may be done to satisfy a required CMMI component. Model users can implement the expected components explicitly or implement equivalent alternative practices to these components. Specific and generic practices are expected model components

finding: See appraisal findings.

Formal evaluation process: In the Decision Analysis and Resolution process area, see the definition of a "formal evaluation process" in the introductory notes.

Functional analysis: Examination of a defined function to identify all the subfunctions necessary to the accomplishment of that function; identification of functional relationships and interfaces

internal and external and capturing these in a functional architecture; and flow down of upper level performance requirements and assignment of these requirements to lower level subfunctions.

Functional architecture: The hierarchical arrangement of functions, their internal and external external to the aggregation itself functional interfaces and external physical interfaces, their respective functional and performance requirements, and their design constraints.

Generic goal: GENERIC GOALS are called "generic" because the same goal statement appears in multiple process areas. In the staged representation, each process area has only one generic goal. Achievement of a generic goal in a process area signifies improved control in planning and implementing the processes associated with that process area, thus indicating whether these processes are likely to be effective, repeatable, and lasting. Generic goals are required model components and are used in appraisals to determine whether a process area is satisfied.

Generic practice: GENERIC PRACTICES provide institutionalization to ensure that the processes associated with the process area will be effective, repeatable, and lasting. Generic practices are categorized by generic goals and common features and are expected components in CMMI models. Only the generic practice title, statement, and elaborations appear in the process areas.

Generic practice elaboration: After the specific practices, the generic practice titles and statements appear that apply to the process area. After each generic practice statement, an elaboration may appear in plain text with the heading "Elaboration". The GENERIC PRACTICE ELABORATION provides information about how the generic practice should be interpreted for the process area. If there is no elaboration present, the application of the generic practice is obvious without an elaboration.

Goal: A "GOAL" is a required CMMI component that can be either a generic goal or a specific goal. When you see the word "goal" in a CMMI model, it always refers to model components for example, generic goal, specific goal.

Incomplete process: A process that is not performed or is only performed partially also known as capability level 0. One or more of the specific goals of the process area are not satisfied.

Independent group: In the Process and Product Quality Assurance process area, see the discussion of a "group that is independent" in the introductory notes.

Informative CMMI components: CMMI components that help model users understand the required and expected components of a model. These components may contain examples, detailed explanations, or other helpful information. Subpractices, notes, references, goal titles, practice titles, sources, typical work products, discipline amplifications, and generic practice elaborations are informative model components.

Institutionalization: The ingrained way of doing business that an organization follows routinely as part of its corporate culture.

Integrated Product and Process Development: A systematic approach to product development that achieves a timely collaboration of relevant stakeholders throughout the product life cycle to better satisfy customer needs.

Integrated team: A group of people with complementary skills and expertise who are committed to delivering specified work products in timely collaboration. Integrated team members provide skills and advocacy appropriate to all phases of the work products. life and are collectively responsible for delivering the work products as specified. An integrated team should include empowered representatives from organizations, disciplines, and functions that have a stake in the success of the work products.

Interface control: In configuration management, the process of 1 identifying all functional and physical characteristics relevant to the interfacing of two or more configuration items provided by one or more organizations, and 2 ensuring that the proposed changes to these characteristics are evaluated and approved prior to implementation. [IEEE 828-1983].

Lead appraiser: As used in the CMMI Product Suite, a person who has achieved recognition from an authorizing body to perform as an appraisal team leader for a particular appraisal method.

Life-cycle model: A partitioning of the life of a product into phases that guide the project from identifying customer needs through product retirement.

Manager: A project manager is the person responsible for planning, directing, controlling,structuring, and motivating the project. He or she may provide both technical and administrative direction and control to those performing project tasks or activities within his or her area of responsibility. The project manager is ultimately responsible to the customer.

Maturity level: Degree of process improvement across a predefined set of process areas in which all goals within the set are attained.

Memorandum of agreement: Binding documents of understanding or agreements between two or more parties.

Natural bounds: The inherent process reflected by measures of process performance, sometimes referred to as "voice of the process." Techniques such as control charts, confidence intervals, and prediction intervals are used to determine whether the variation is due to common causes i.e., the process is predictable or "stable" or is due to some special cause that can and should be identified and removed.

Non-developmental item: An item of supply that was developed previous to its current use in an acquisition or development process. Such an item may require minor modifications to meet the requirements of its current intended use.

Nontechnical requirements: Contractual provisions, commitments, conditions, and terms that affect how products or services are to be acquired. Examples include products to be delivered, data rights for delivered commercial off-the-shelf COTS non-developmental items NDIs, delivery dates, and milestones with exit criteria. Other nontechnical requirements include training requirements, site requirements, and deployment schedules.

Objective: The term objective is used in CMMI in the common everyday sense; this is our objective or goal to be accomplished.

Objective evidence: As used in CMMI appraisal materials, qualitative or quantitative information, records, or statements of fact pertaining to the characteristics of an item or service or to the existence and implementation of a process element, which are based on observation, measurement, or test and which are verifiable.

Objectively evaluate: To review activities and work products against criteria that minimize subjectivity and bias by the reviewer. An example of an objective evaluation is an audit against requirements, standards, or procedures by an independent quality assurance function.

Observation: As used in CMMI appraisal materials, a written record that represents the appraisal team members. understanding of information either seen or heard during the appraisal data collection activities. The written record may take the form of a statement or may take alternative forms as long as the information content is preserved.

Operational concept: A general description of the way in which an entity is used or operates.

Operational scenario: A description of an imagined sequence of events that includes the interaction of the product with its environment and users, as well as interaction among its product components. Operational scenarios are used to evaluate the requirements and design of the system and to verify and validate the system.

Optimizing process: A quantitatively managed process that is improved based on an understanding of the common causes of variation inherent in the process. A process that focuses on continually improving the range of process performance through both incremental and innovative improvements.

Organization: An organization is a structure in which people collectively manage one or more projects as a whole and whose projects share a senior manager and operate under the same policies.

Organization's business objectives: Senior-management-developed strategies designed to ensure an organization's continued existence and enhance its profitability, market share, and other factors influencing the organization's success.

Organizational maturity: The extent to which an organization has explicitly and consistently deployed processes that are documented, managed, measured, controlled, and continually improved. Organizational maturity may be measured via appraisals.

Organizational policy: A guiding principle typically established by senior management that is adopted by an organization to influence and determine decisions.

Organizational unit: That part of an organization that is the subject of an appraisal also known as the organizational scope of the appraisal.An organizational unit deploys one or more processes that have a coherent process context and operates within a coherent set of business objectives. An organizational unit is typically part of a larger organization, although in a small organization, the organizational unit may be the whole organization.

Outsourcing: The process of obtaining, through contract, any discrete action or proposed action by the acquisition entity that would commit to invest for obtaining products and services.

Peer review: A review done by the peer to find out defects in a deliverable

Performance parameters: The measures of effectiveness and other key measures used to guide and control progressive development.

Performed process: A process that accomplishes the needed work to produce identified output work products using identified input work products also known as capability level 1. The specific goals of the process area are satisfied.

Planned process: A process that is documented both by a description and a plan. The description and plan should be coordinated, and the plan should include standards, requirements, objectives, resources, assignments, etc.

Process: A set of activities, methods, practices, and transformations that people use to develop and maintain systems and associated products.

Process action plan: In the Organizational Process Focus process area, see the definition of "process action plan" in the introductory notes.

Process action team: A team that has the responsibility to develop and implement process-improvement activities for an organization as documented in the process-improvement action plan.

Process and technology improvements: In the Organizational Innovation and Deployment process area, see the discussion of "process and technology improvements" in the introductory notes.

Process area: A Process area is a cluster of related practices in an area that, when performed collectively, satisfy a set of goals considered important for making significant improvement in that area. All CMMI process areas are common to both continuous and staged representations. In the staged representation, process areas are organized by maturity levels.

Process asset: Anything that the organization considers useful in attaining the goals of a process area.

Process asset library: A collection of process asset holdings that can be used by an organization or project.

Process attribute: A measurable characteristic of process capability applicable to any process.

Process capability: The range of expected results that can be achieved by following a process.

Process context: The set of factors, documented in the appraisal input, that influences the judgment and comparability of appraisal ratings. These include, but are not limited to, the size of the organizational unit to be appraised; the demographics of the organizational unit; the application discipline of the products or services; the size, criticality, and complexity of the products or services; and the quality characteristics of the products or services.

Process definition: The act of defining and describing a process. The result of process definition is a process description.

Process description: A documented expression of a set of activities performed to achieve a given purpose that provides an operational definition of the major components of a process. The documentation specifies, in a complete, precise, and verifiable manner, the requirements, design, behavior, or other characteristics of a process. It also may include procedures for determining whether these provisions have been satisfied. Process descriptions may be found at the activity,

project, or organizational level.

Process element: The fundamental unit of a process. A process may be defined in terms of subprocesses or process elements. A subprocess can be further decomposed; a process element cannot. Each process element covers a closely related set of activities for example, estimating element, peer review element. Process elements can be portrayed using templates to be completed, abstractions to be refined, or descriptions to be modified or used. A process element can be an activity or task.

Process group: A collection of specialists that facilitate the definition, maintenance, and improvement of the processes used by the organization.

Process improvement: A program of activities designed to improve the performance and maturity of the organization's processes, and the results of such a program.

Process-improvement objectives: A set of target characteristics established to guide the effort to improve an existing process in a specific measurable way either in terms of resultant product characteristics e.g., quality, performance, conformance to standards, etc. or in the way in which the process is executed e.g., elimination of redundant process steps, combining process steps, improving cycle time, etc.

Process-improvement plan: In the Organizational Process Focus process area, see the definition of "process improvement plan" in the introductory notes.

Process measurement: The set of definitions, methods, and activities used to take measurements of a process and its resulting products for the purpose of characterizing and understanding the process.

Process owner: The person or team responsible for defining and maintaining a process. At the organizational level, the process owner is the person or team responsible for the description of a standard process; at the project level, the process owner is the person or team responsible for the description of the defined process. A process may therefore have multiple owners at different levels of responsibility.

Process performance: A measure of actual results achieved by following a process. It is characterized by both process measures e.g., effort, cycle time, and defect removal efficiency and product measures e.g., reliability, defect density, and response time.

Process performance baseline: A documented characterization of the actual results achieved by following a process, which is used as a benchmark for comparing actual process performance against expected process performance.

Process performance model: A description of the relationships among attributes of a process and its work products that are developed from historical process performance data and calibrated using collected process and product measures from the project and which are used to predict results to be achieved by following a process.

Process tailoring: To make, alter, or adapt a process description for a particular end. For example, a project tailors its defined process from the organization's set of standard processes to meet the objectives, constraints, and environment of the project.

Product: A product may be thought of as any tangible output or service that is the result of following a process and is intended for delivery to a customer or end user. A product can also be any work product that is delivered to the customer according to contract.

Product component: Product components are generally lower-level components of the product and are integrated to "build" the product. Product components may be a part of the product delivered to the customer or serve in the manufacture or use of the product. For example, for those companies that manufacture mobile phone batteries, the mobile phone battery is a product. For those companies that build and deliver mobile phones, the battery is a product component.

Product baseline: In configuration management, the initial approved technical data package including, for software, the source code listing defining a configuration item during the production, operation, maintenance, and logistic support of its life cycle.

Product-component requirements: Product-component requirements provide a complete specification of a product component, including fit, form, function, performance, and any other requirement.

Product life cycle:A work product is any artifact produced by a life-cycle process and can also be referred to as a life-cycle work product. Life-cycle work products can include Requirements specifications, Interface specifications, Architecture specifications, Project plans, Design documents, Unit test plans, Integration and system test plans, A process such as a manufacturing product assembly process.

Project: A project is a managed set of interrelated resources that delivers one or more products to a customer or end user. The set of resources has a definite beginning and end and operates according to a plan.

Product line: A group of products sharing a common, managed set of features that satisfy specific needs of a selected market or mission.

Product-related life-cycle processes: Processes associated with a product throughout one or more phases of its life i.e., from conception through disposal, such as the manufacturing and support processes.

Product requirements: A refinement of the customer requirements into the developers' language, making implicit requirements into explicit derived requirements.

Program: 1 A project. 2 A collection of related projects and the infrastructure that supports them, including objectives, methods, activities, plans, and success measures.

Project manager: A project manager is the person responsible for planning, directing, controlling, structuring, and motivating the project. He or she may provide both technical and administrative direction and control to those performing project tasks or activities within his or her area of responsibility. The project manager is ultimately responsible to the customer. The project manager takes on different roles and responsibilities as the size, diversity, and complexity of the project changes.

Project progress and performance: What a project achieves with respect to implementing project plans, including effort, cost, schedule, and technical performance.

Project's defined process: In the Integrated Project Management process area, see the definition of "Project's defined process" in the introductory notes and in the Establish the Project"s Defined Process specific practice.

Prototype: A preliminary type, form, or instance of a product or product component that serves as a model for later stages or for the final, complete version of the product.

Quality: The ability of a set of inherent characteristics of a product, product component, or process to fulfill requirements of customers.

Quality assurance: A planned and systematic means for assuring management that defined standards, practices, procedures, and methods of the process are applied.

Quality control: The operational techniques and activities that are used to fulfill requirements for quality.

Quantitative objective: Desired target value expressed as quantitative measures.

Quantitatively managed process: A defined process that is controlled using statistical and other quantitative techniques. The product quality, service quality, and process performance attributes are measurable and controlled throughout the project.

Reference mode: A model that is used as a benchmark for measuring some attribute.

Relevant stakeholder: A relevant stakeholder is used to designate a stakeholder that is identified for involvement in specified activities and is included in an appropriate plan such as the project plan.

Required CMMI components: CMMI components that are essential to achieving process improvement in a given process area. These components are used in appraisals to determine process capability. Specific goals and generic goals are required model components.

Requirement: 1 A condition or capability needed by a user to solve a problem or achieve an objective. 2 A condition or capability that must be met or possessed by a product or product

component to satisfy a contract, standard, specification, or other formally imposed documents. 3 A documented representation of a condition or capability as in 1 or 2.

Requirements analysis: The determination of product-specific performance and functional characteristics based on analyses of customer needs, expectations, and constraints; operational concept; projected utilization environments for people, products, and processes; and measures of effectiveness.

Requirements elicitation: Using systematic techniques, like prototypes and structured surveys, to proactively identify and document customer and end-user needs.

Requirements management: The management of all requirements received by or generated by the project, including both technical and nontechnical requirements as well as those requirements levied on the project by the organization.

Requirements traceability: The evidence of an association between a requirement and its source requirement, its implementation, and its verification.

Return on investment: The ratio of revenue from output product to production costs, which determines whether an organization benefits from performing an action to produce something.

Risk analysis: The evaluation, classification, and prioritization of risks.

Risk identification: An organized, thorough approach to seek out probable or realistic risks in achieving objectives.

Risk management: An organized, analytic process to identify what might cause harm or loss identify risks, assess and quantify the identified risks, and to develop and, if needed, implement an appropriate approach to prevent or handle risk causes that could result in significant harm or loss.

Risk management strategy: An organized, technical approach to identify what might cause harm or loss identify risks, assess and quantify the identified risks, and to develop and if needed implement an appropriate approach to prevent or handle risk causes that could result in significant harm or loss. Typically, risk management is performed for project, organization, or product-developing organizational units.

Root cause: A root cause is a source of a defect such that if it is removed, the defect is decreased or removed.

Senior manager: The term senior manager as it is used in CMMI refers to a management role at a high enough level in an organization that the primary focus of the person is the long-term health and success of the organization rather than the shortterm project and contractual concerns and pressures. A senior manager may be responsible for the oversight of a program that may contain many projects that are managed by project managers.

Software engineering: 1 The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software. 2 The study of approaches as in 1.

Solicitation: The process of preparing a solicitation package and selecting a supplier contractor.

Solicitation package: A formal document delineating technical and nontechnical requirements that is used to request offers on invitations for bids bids and requests for proposal proposals, or to request statements of capabilities and price quotations quotes. It is otherwise used as a basis for selecting a supply source or sources to provide products or services.

Special cause of process variation: A cause of a defect that is specific to some transient circumstance and not an inherent part of a process.

Specific goal: SPECIFIC GOALS apply to a process area and address the unique characteristics that describe what must be implemented to satisfy the process area. Specific goals are required model components and are used in appraisals to help determine whether a process area is satisfied.

Specific practice: A SPECIFIC PRACTICE is an activity that is considered important in achieving the associated specific goal. The specific practices describe the activities expected to result in achievement of the specific goals of a process area. Specific practices are expected model components.

Stable process: The state in which all special causes of process variation have been removed and prevented from recurring so that only the common causes of process variation of the process remain.

Staged representation: A model structure wherein attaining the goals of a set of process areas establishes a maturity level; each level builds a foundation for subsequent levels.

Stakeholder: A stakeholder is a group or individual that is affected by the outcome of a project or can affect the activities or output of the project.

Standard process: An operational definition of the basic process that guides the establishment of a common process in an organization. A standard process describes the fundamental process elements that are expected to be incorporated into any defined process. It also describes the relationships e.g., ordering and interfaces between these process elements.

Statement of work: A description of contracted work required to complete a project.

Statistical predictability: The performance of a quantitative process that is controlled using statistical and other quantitative techniques.

Statistical process control: Statistically based analysis of a process and measurements of process performance, which will identify common and special causes of variation in the process performance, and maintain process performance within limits.

Statistical techniques: An analytic technique that employs statistical methods e.g., statistical process control, confidence intervals, prediction intervals.

Statistically managed process : A process that is managed by a statistically based technique in which processes are analyzed, special causes of process variation are identified, and performance is contained within well-defined limits.

Strength: As used in CMMI appraisal materials, an exemplary or noteworthy implementation of a CMMI model practice.

Subprocess: A process that is part of a larger process.

Supplier: 1) An entity delivering products or performing services being acquired. 2 An individual, partnership, company, corporation, association, or other service having an agreement contract with an acquirer for the design, development, manufacture, maintenance, modification, or supply of items under the terms of an agreement contract.

Sustainment: The processes used to ensure that a product can be utilized operationally by its end users or customers. Sustainment ensures that maintenance is done such that the product is in an operable condition whether the product is in use or not by customers or end users.

Systems engineering: The interdisciplinary approach governing the total technical and managerial effort required to transform a set of customer needs, expectations, and constraints into a product solution and support that solution throughout the product.s life.This includes the definition of technical performance measures, the integration of engineering specialties towards the establishment of a product architecture, and the definition of supporting life-cycle processes that balance cost, performance, and schedule objectives.

Tailoring guidelines: Tailoring a process makes, alters, or adapts process descriptions, normally described at the organizational level, for use on a particular project. For most organizations, one organizational process definition cannot or will not be followed 100% for all of the projects. Some adaptation is normally needed. Tailoring guidelines then describe what can and cannot be modified and identify process components that are allowable candidates for modification.

Target profile: In the continuous representation, a list of process areas and their corresponding capability levels that represent an objective for process improvement.

Target staging: In the continuous representation, a sequence of target profiles that describes the path of process improvement to be followed by the organization.

Technical data packag: A collection of items that may include the following if such information is appropriate to the type of product and product component.

Technical requirements: Properties attributes of products or services to be acquired or

developed.

Test procedure: Detailed instructions for the setup, execution, and evaluation of results for a given test.

Trade study: An evaluation of alternatives based on criteria and systematic analysis, to select the best alternative for attaining determined objectives.

Training: In the Organizational Training process area, see the definition of .training. in the introductory notes.

Unit testing: Testing of individual hardware or software units or groups of related units.

Validation: Validation demonstrates that the product, as provided, or as it will be provided will fulfill its intended use in the operational environment. Validation assures that "You built the right thing."

Verification: Verification includes verification of the product and intermediate work products against all selected requirements, including customer, product, and product component requirements. Verification is inherently an incremental process. It begins with the verification of the requirements, progresses through the verification of the evolving work products, and culminates in the verification of the completed product. Verification addresses whether the work product properly reflects the specified requirements. Verification assures "You built it right."

Verifying implementation: A common feature of CMMI model process areas with a staged representation that groups the generic practices related to review by higher level management, and objective evaluation of conformance to process descriptions, procedures, and standards.

Version control: The establishment and maintenance of baselines and the identification of changes to baselines that make it possible to return to the previous baseline.

Weakness: As used in CMMI appraisal materials, the ineffective, or lack of, implementation of one or more CMMI model practices.

Work breakdown structure: An arrangement of work elements and their relationship to each other and to the end product.

Work product: he term WORK PRODUCT is used throughout the CMMI Product Suite to mean any artifact produced by a process. These artifacts can include files, documents, parts of the product, services, processes, specifications, and invoices. Examples of processes to be considered as work products include a manufacturing process, a training process, and a disposal process for the product. A key distinction between a WORK PRODUCT and a product component is that a work product need not be engineered or part of the end product.

Work product and task attributes: Characteristics of products, services, and project tasks used to help in estimating project work. These characteristics include items such as size, complexity, weight, form, fit, or function. They are typically used as one input to deriving other project and resource estimates e.g., effort, cost, schedule