SUITE Keys Terms and Acronyms

The following is a list of common terms and acronyms used within the components and products of SUITE. The format of the definitions is demonstrated below; not all definition components may be used for every term.

Term (ACRONYM) – (1) First definition language. (SOURCE1); (2) Second definition language. (SOURCE2)

If multiple definitions exist, they are listed in alphabetical order by their source. Their listing order does not indicate a preference for any definition.

If you would like further information on any of the subjects in the following list, please consult the State of Michigan Project Management Methodology, System Engineering Methodology, System Maintenance Guidebook, the PMO Guidebook and other SUITE process assets.

- A -

Acceptance criteria – The criteria that a software component, product, or system must satisfy in order to be accepted by the system owner or other authorized acceptance authority. (SEM)

Acceptance process – The process used to verify that a new or modified system is fully operational and meets the system owner's requirements. Successful completion of the acceptance process results in the formal transfer of the system responsibilities from development to maintenance personnel. (SEM)

Acceptance threshold – Any definition of acceptable quality based on the numeric scores that can be adjusted up or down according to the needs of the organization employing the metric. Such acceptance criteria are business decisions, not technical ones. (DAR)

Acquisition process – The process of acquiring personnel/goods/services for new or existing work within the general definitions of contracts requiring an offer and acceptance, consideration, lawful subject matter, and competent parties. (PMM)

Action item status – A list of problem issues including a description, point of contact, and dates of action and resolution. (PMM)

Action plan – A plan that describes what needs to be done and when it needs to be completed. Project plans are action plans. (PMM)

Activity – (1) The work or effort needed to achieve a result. An activity consumes time and usually consumes resources. (PMM); (2) A major unit of work to be completed in achieving the objectives of a project. An activity incorporates a set of tasks to be completed, consumes resources, and results in work products. An activity may contain other activities in a hierarchical manner. All project activities should be described in the Project Plan. (SEM)

Activity definition – Identifying the specific activities which must be performed in order to produce the various project deliverables. (PMM)

Activity duration – The time in calendar units between the start and finish of a schedule activity. (PMM)

Activity duration estimating – Estimating the number of work periods that will be needed to complete individual activities. (PMM)

Actual cost – Total costs incurred (direct and indirect) in accomplishing work during a given time period. (PMM)

Administrative closure – Generating, gathering, and disseminating information to formalize project completion. (PMM)

Agency – Used to define a general state organizational level consisting of the Agency and Departments interchangeably. Reference to Agency (with a capital "A") is used for reference to a specific agency or to that specific organizational level. (PMM)

Agile Methodology – A group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams. (Testing Manual)

Algorithm – A finite set of well-defined rules for the solution to a problem in a finite number of steps. Any sequence of operations for performing a specific task. (SEM)

Allocated requirements – The subset of the system requirements that are to be implemented within the scope of a given project, and forming the components of the system. (SEM)

Alternative – One of a number of things to be considered for selection, from which only one can be chosen. (DAR)

Alternatives analysis – (1) The study, appraisal, and evaluation of available alternatives. (DAR); (2) Breaking down a complex scope situation for the purpose of generating and evaluating different solutions and approaches. (PMM)

Analysis – The study and examination of something complex and the separation into its more simple components. Analysis typically includes discovering not only what are the parts of the item being studied, but also how they fit together. An example is the study of schedule variances for cause, impact, corrective action, and results. (PMM)

Analytic Hierarchical Process (AHP) – A structured technique for dealing with complex decisions. Based on mathematics and human psychology, it was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. The AHP provides a comprehensive and rational framework for structuring a problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions. It is used throughout the world in a wide variety of decision situations, in fields such as government, business, industry, healthcare, and education. (http://en.wikipedia.org/wiki/Analytic_Hierarchy_Process) (DAR)

Anomaly – Anything observed in the operation or documentation of software and systems that deviates from expectations based on previously verified system or software products, or documents. (SEM)

Application – Software or systems products designed to fulfill specific needs. (SEM)

Application area – A category of projects that have a common element not present in all projects. Application areas are usually defined in terms of either the product of the project (i.e., by similar

technologies or industry sectors) or the type of customer (e.g., internal vs. external, government vs. commercial). Application areas often overlap. (PMM)

Approve – To accept as satisfactory. Approval implies that the item approved has the endorsement of the approving entity. The approval may still require confirmation by somebody else, as in levels of approval. In management use, the important distinction is between “approve” and “authorize.” See “Authorization.” (PMM)

Areas of responsibility – Used to define the person or organizational entity responsible for specific policy areas, processes, and procedures as identified. The current levels of responsibility are Legislature, Department of Management and Budget, state agency, and customer. (PMM)

Arrow Diagramming Method (ADM) – A network diagramming technique in which activities are represented by arrows. The tail of the arrow represents the start and the head represents the finish of the activity (the length of the arrow does not represent the expected duration of the activity). Activities are connected at points called "nodes" (usually drawn as small circles) to illustrate the sequence in which the activities are expected to be performed. (PMM)

Assumption – (1) Factor that, for planning purposes, is considered to be true, real, or certain without proof or demonstration. (PMM); (2) A condition that is taken to be true without proof or demonstration. (SEM)

Audit – An independent examination of a work product to assess compliance with specifications, standards, quality or security requirements, contractual agreements, or other predetermined criteria. (SEM)

Authorization – The power granted by management to specified individuals allowing them to approve transactions, procedures, or total systems. Defined as the final organization authority. (PMM)

Authorized work – An effort that has been approved by higher authority and may or may not be defined. (PMM)

Automated Testing – The use of software to control the execution of tests, comparison of actual outcomes to predicted outcomes, setting up test preconditions, and other test control and test reporting functions. (Testing Manual)

- B -

Backward pass – The calculation of late finish dates and late start dates for the uncompleted portions of all network activities. Determined by working backwards through the network logic from the project's end date. (PMM)

Baseline – (1) The original plan (for a project, a work package, or an activity) plus or minus approved changes. Usually used with a modifier (e.g., cost baseline, schedule baseline performance measurement baseline). (PMM); (2) A set of configuration items (hardware, software, documents) that has been formally reviewed and agreed upon, that serves as the basis for further development, and that can be changed only through formal change control procedures. (SEM); (3) - (a) An agreed-to description of the attributes of a product, at a point in time, which serves as a basis for defining change; (b) An approved and released document, or a set of documents, each of a specific revision; the purpose of

which is to provide a defined basis for managing change; (c) The currently approved and released configuration documentation; (d) A released set of files comprising a software version and associated configuration documentation. (SMG)

Baselined requirements – The set of project requirements that have been approved and signed off by the system owner during the Requirements Definition Stage. The system design is based on these requirements. The baselined requirements are placed under configuration control. (SEM)

Black-Box Testing – Black-box testing implies that a tester does not know how an application is designed at the code level. The tester interacts with the software system via its interface and analyzes the application reaction. The tester uses specific input in an attempt to get expected output. (Testing Manual)

Budget – When unqualified, refers to an estimate of funds planned to cover a project or specified period of future time. (PMM)

Budget At Completion (BAC) – The estimated total cost of the project when done. (PMM)

Business impact analysis – Identifies project constraints, alternatives, and related assumptions as they apply to the initiation phase. (PMM)

Business plan – Model used by a manager for planning and scheduling project work. (PMM)

Business sponsor – The individual from the client Agency with decision-making authority over a project or group of projects. (SEM)

Business Subject Matter Expert (SME) – The individual who is the authority or expert on the business need being addressed by the Project. (SEM)

- C -

Calendar unit – The smallest unit of the calendar produced. This unit is generally in hours, days, or weeks. It can also be grouped in shifts. (PMM)

Champion – A person who takes on personal responsibility for the successful completion of a "visionary project." (PMM)

Change control – The process of controlling, documenting, and storing the changes to control items. This includes proposing the change, evaluating, approving or rejecting, scheduling and tracking. (PMM)

Change Control Board (CCB) – A formally constituted group of stakeholders responsible for approving or rejecting changes to the project baselines. (PMM)

Change in scope – A change in objectives, work plan, or schedule resulting in a material difference from the terms of previously granted approval to proceed. (PMM)

Change management process – A set of tasks or procedures established to ensure that project performance is measured to the baseline and changes are reviewed, approved or rejected, and the baseline is updated. (PMM)

Change request – Requests to expand or reduce the project scope, modify the costs or budgets, or revise schedules. (PMM)

Chart of accounts – Any numbering system used to monitor project costs by category (e.g., labor, supplies, materials). The project chart of accounts is usually based upon corporate chart of accounts of the primary performing organization. (PMM)

Charter – A document issued by the initiator of the project, usually the project sponsor, that formally authorizes the existence of the project, and provides the project manager with the authority to apply organizational resources to project activities. (PMM)

CMMI – Capability Maturity Model Integration (CMMI) is a process improvement approach that provides organizations with the essential elements of effective processes. It can be used to guide process improvement across a project, division, or an entire organization. CMMI helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes.

Code – Computer instructions and data definitions expressed in a development language or in a form that is output by an assembler, compiler, or other translator. (SEM)

Code of accounts – Any numbering system used to uniquely identify each element of the work breakdown structure. (PMM)

Code generator – A software tool that accepts as input the requirements or design for a computer program and produces source code that implements the requirements or design. (SEM)

Code inspection – A manual [formal] testing [error detection] technique where the programmer reads source code, statement by statement, to a group who ask questions analyzing the program logic, analyzing the code with respect to a checklist of historically common programming errors, and analyzing its compliance with coding standards. Contrast with code audit, code review, code walkthrough. This technique can also be applied to other software and configuration items.

Code review – A meeting at which software code is presented to project personnel, managers, users, or other functional areas for review, comment, or approval. (SEM)

Code walkthrough – A manual testing [error detection] technique where program [source code] logic [structure] is traced manually [mentally] by a group with a small set of test cases, while the state of program variables is manually monitored, to analyze the programmer's logic and assumptions.

Comparative Evaluation Process (CEP) – A method to quantify criteria and account for credibility of the evaluation by weight factors. (DAR)

Component – One of the parts that make up a system. A component may be hardware, software, or firmware and may be subdivided into other components. (SEM / Testing Manual)

Composite index – Composite indexes are made up of many individual indicators that are combined to form an assessment of performance or suitability; the average of multiple scores (values) into a single number. (DAR)

Composite score – The practice of combining two or more subtest scores to create an average or

composite score. For example, a reading performance score may be an average of vocabulary and reading comprehension subtest scores. (DAR)

Computer-Aided Software Engineering (CASE) – The use of computers to aid in the systems engineering process. May include the application of software tools for software design, requirements tracing, code production, testing, document generation, and other systems engineering activities. (SEM)

Concept – An imaginative arrangement of a set of ideas. (PMM)

Conceptual project planning – The process of developing broad-scope project documentation from which the technical requirements, estimates, schedules, control procedures, and effective project management will all flow. (PMM)

Concurrent engineering – An approach to project staffing that, in its most general form, calls for implementers to be involved in the design phase. Sometimes confused with "fast tracking." (PMM)

Configuration control – (1) The process of evaluating, approving or disapproving, and managing changes to controlled items. (PMM); (2) An element of configuration management consisting of the evaluation, coordination, approval/disapproval, and implementation of changes to configuration items after formal establishment of their configuration identification. (SEM)

Configuration Control Board (CCB) – A group of people responsible for evaluating and approving/disapproving proposed changes to configuration items, and for ensuring implementation of approved changes. (SEM)

Configuration item (CI) – An aggregate of hardware, software, or documentation components that are designated for configuration management and treated as a single entity in the configuration management process. (SEM)

Configuration management – (1) The technical and administrative application of configuration control. It includes the maintenance of a configuration control unit, change and version control standards, and configuration of control facilities. Configuration Management is a formal discipline which provides project team members and customers with the methods and tools used to identify the product developed, establish baselines, control changes to these baselines, record and track status, and audit the product. (PMM); (2) – (a) A discipline that effectively controls and manages all modifications to system components, product, or system. Technical and administrative processes and tools are used to identify and document the functional and physical characteristics of the configuration items, manage and track changes to those items, record and report change processing and implementation status, and verify compliance with specified requirements; (b) A Software Engineering Institute Capability Maturity Model Integrated key process area designed to establish and maintain the integrity of the software work products throughout the project's lifecycle. (SEM)

Configuration manager – The individual responsible for identifying and defining Configuration Items in a system, recording and reporting the status of Configuration Items and Requests for Change, and verifying the completeness and correctness of Configuration Items. This role is also responsible for the build and deployment of Configuration Items and Configuration verification and auditing. (SEM)

Configuration testing – The process of testing a system with the configuration of software and hardware that is intended to support it. Encompasses testing various system configurations to assess the requirements and resources needed to support the system under development.

Constraint – (1) The state, quality, or sense of being restricted to a given course of action or interaction. An applicable restriction or limitation, either internal or external, to the project that will affect the performance of the project or a process. (PMM); (2) A restriction, limit, or regulation that limits a given course of action or inaction. (SEM)

Construction Stage – The period of time in the project/product lifecycle during which a product is created from the design specifications. Testing is performed on the individual software units/components that have been coded, or on the combination of coded and purchased components, (e.g., as a COTS package.) (SEM)

Contingency planning – The development of a management plan that identifies alternative strategies to be used to ensure project success if specified risk events occur. (PMM)

Contingency reserve – A separately planned quantity used to allow for future situations may be planned for only in part (sometimes called "known unknowns"). For example, rework is certain, the amount of rework is not. Contingency reserves involve cost, schedule, or both. Contingency reserves are intended to reduce the impact of missing cost or schedule objectives. Contingency reserves are not included in the project's cost and schedule baselines. (PMM)

Contract – A contract is a mutually binding agreement, which obligates the seller to provide the specified product, and obligates the buyer to pay for it. Contracts generally fall into one of three broad categories:

> **(1) Cost reimbursable contracts** – This category of contract involves payment (reimbursement) to the contractor for its actual costs. Costs are usually classified as direct costs (costs incurred directly by the project, such as wages for members of the project team) and indirect costs (costs allocated to the project by the performing organization as a cost of doing business, such as salaries for corporate executives). Indirect costs are usually calculated as a percentage of direct costs. Cost reimbursable contracts often include incentives for meeting or exceeding selected project objectives such as schedule targets or total cost.
> **(2) Fixed price or lump sum contracts** – This category of contract involves a fixed total price for a well-defined product. Fixed price contracts may also include incentives for meeting or exceeding selected project objectives such as schedule targets.
> **(3) Unit price contracts** – The contractor is paid a preset amount per unit of service (e.g., $70 per hour for professional services or $1.08 per cubic yard of earth removed) and the total value of the contract is a function of the quantities needed to complete the work. (PMM)

Contract administration – Managing the relationship with the seller. (PMM)

Contract closeout – Completion and settlement of the contract including resolution of all outstanding items. (PMM)

Control – Comparing actual performance with planned performance, analyzing variances, assessing trends to effect process improvements, evaluating possible alternatives, and recommending appropriate corrective action as needed. (PMO Guidebook)

Control – The process of comparing actual performance with planned performance, analyzing variances, evaluating possible alternatives, and taking appropriate corrective action as needed. (PMM)

Control charts – Control charts are a graphic display of the results, over time and against established control limits, of a process. They are used to determine if the process is in control or in need of adjustment. (PMM)

Control item – A project element that is considered a unit for the purpose of configuration management. This includes such items as software modules, versions of software systems, project design document, project plans, and other associated documents. (PMM)

Control system – A mechanism that reacts to the current project status in order to ensure accomplishment of project objectives. (PMM)

Core processes – Processes that have clear dependencies and that require the same order on most projects. (PMM)

Core team testing – A form of user testing. Core team usually consists of a small group of SME's/Super User's from the customer business unit. Core team testing may be performed on units of code or entire systems as in an end-to-end test.

Corrective action – Changes made to bring expected future performance of the project into line with the plan. (PMM)

Cost Benefit Analysis (CBA) – Provides information to make a balanced decision about the cost and benefits, or value, of various economic choices about various alternatives within the project. (PMM)

Cost budgeting – Allocating the cost estimates to individual project components. (PMM)

Cost control – Controlling changes to the project budget. (PMM)

Cost estimate – A formal estimate of the cost to develop and support a project. Estimates should reflect all activities such as design, development, coding, testing, distribution, service, support of the product, staffing, training and travel expenses, subcontractor activities, contingencies,; and cost for external services (e.g., technical documentation production and Quality Assurance audits and reviews). (SEM)

Cost estimating – Estimating the cost of the resources needed to complete project activities. (PMM)

Cost of quality – The costs incurred to ensure quality. The cost of quality includes quality planning, quality control, quality assurance, and rework. (PMM)

Cost Performance Index (CPI) – The ratio of budgeted costs to actual costs (BCWP/ACWP). CPI is often used to predict the magnitude of a possible cost overrun using the following formula: original cost estimate/CPI = projected cost at completion. (PMM)

Cost/Schedule Impact Analysis (CSIA) – The process followed to determine the cost and/or schedule impact of a specific change with a project. (PMM)

Cost Variance (CV) – Any difference between the estimated cost of an activity and the actual cost of that activity. (PMM)

COTS – Acronym for "commercial off the shelf."

Crashing – Taking action to decrease the total project duration after analyzing a number of alternatives to determine how to get the maximum duration compression for the cost. (PMM)

Criteria – Attributes by which choice alternatives are evaluated. (DAR)

Critical activity – Any activity on a critical path, most commonly determined by using the critical path method. Although some activities are "critical" in the dictionary sense without being on the critical path, this meaning is seldom used in the project context. (PMM)

Critical path – The sequence of tasks that determine the minimum schedule for a project. If one task on the critical path is delayed, the schedule will be late. (PMM)

Critical Path Method (CPM) – A network analysis technique used to predict project duration by analyzing which sequence of activities (which path) has the least amount of scheduling flexibility (the least amount of float). Early dates are calculated by means of a forward pass using a specified start date. Late dates are calculated by means of a backward pass starting from a specified completion date (usually the forward pass' calculated project early finish date). (PMM)

Critical success factors – Identified factors that must be present in order for the project to be successful in terms of scope/budget/schedule. Used to alert the sponsor to factors that the project needs to have in place. (PMM)

Current finish date – The current estimate of the point in time when an activity will be completed. (PMM)

Current start date – The current estimate of the point in time when an activity will begin. (PMM)

- D -

DAR – (1) Decision Analysis and Resolution. A CMMI Level 3 Process Area. (2) The SUITE publication that provides guidance on formalized decision making.

Data date – The point in time that separates actual (historical) data from future (scheduled) data. Also called as-of date. (PMM)

Data integrity testing – Part of integration testing. Verification that converted data is accurate and functions correctly within a single subsystem or application.

Database administrator (DBA) – The individual responsible for the security and information classification of the shared data stored on a database system. The responsibility includes the design, definition and maintenance of the database. (SEM)

Database integrity testing – Part of integration testing. Ensures that database access methods and processes function properly and without data corruption.

Decision support model – A tool or process used to govern a decision making process. (DAR)

Decision tree analysis – The decision tree is a diagram that describes a decision under consideration and shows the implications of choosing one or another of the available alternatives. This analysis incorporates probabilities and the costs of each logical path of events. (PMM)

Decomposition – The process of breaking down activities and the work package to a manageable level. (PMM)

Defect – A lack of something necessary for completeness, adequacy, or perfection (a deficiency). Term used to describe an error, flaw, mistake, failure, or fault in a computer program or system that produces an incorrect or unexpected result, or causes it to behave in unintended ways. Also see Defect Reporting. (Testing Manual)

Defect Reporting – Recording the defects, identified at each stage of the test process, to create a complete record of the discrepancies identified during the life of the project. This is especially critical during the testing stage. The information captured identifies who reported the defect, when it was discovered, a description of the defect and the steps required to reproduce the problem, if applicable. The rest of the information captured is the status, priority and severity of the defect, who the defect was assigned to, when it was fixed and a description of the resolution. (Testing Manual)

Defined – Level 3 CMMI Process Level. The software process for both management and engineering activities is documented, standardized, and integrated into a standard software process for the organization. All projects use an approved, tailored version of the organization's standard software process for developing and maintaining software. (PMM)

Deflection – The act of transferring all or part of a risk to another party, usually by some form of contract. (PMM)

Deliverable – (1) Any measurable, tangible, verifiable outcome, result, or item that must be produced to complete a project or part of a project. Often used more narrowly in reference to an external deliverable, which is a deliverable that is subject to approval by the project sponsor or customer. (PMM); (2) A work product that is identified in the Project Plan and is formally delivered to the system owner and other project stakeholders for review and approval. Terms used in describing deliverables include:

- Initial – the Stage indicated is the first time the deliverable is worked on
- Final – all work on the deliverable has been completed during the Stage indicated
- Revised – the deliverable was worked on during the Stage indicated (SEM)

Dependency – A relationship of one task to another where the start or end date of the second task is related to the start or end date of the first task. (SEM)

Design – The process of defining the architecture, components, interfaces, and other characteristics of a system, product, or component. (SEM)

Design documents – Technical documents that lay out in great detail the anticipated design of the project deliverable. (PMM)

Design specification – A document that describes the design of a software component, product, or system. Typical contents include architecture, control logic, data structures, input/output formats, interface descriptions, and algorithms. (SEM)

Developer's reference manual – A work product deliverable that provides information necessary to maintain or modify components for a given computer system. Typically described are the equipment configuration, operational characteristics, coding features, input/output features, and compilation or

assembly features of the computer system. (SEM)

Development – The actual work performed to develop the Information Technology Project. (PMM)

Development Lifecycle – A process of creating or altering systems, which includes the models and methodologies that people use to develop these systems. (Testing Manual)

Discrete activity – A task that has a measurable deliverable and has a definite start and finish. An item on the Work Breakdown Structure would be an example of a discrete activity. (PMM)

Dummy activity – An activity of zero duration used to show a logical relationship in the arrow diagramming method. Dummy activities are used when logical relationships cannot be completely or correctly described with regular activity arrows. Dummies are shown graphically as a dashed line headed by an arrow. (PMM)

Duration – The number of work periods (not including holidays or other non-working periods) required to complete an activity or other project element. Usually expressed as workdays or workweeks. Sometimes incorrectly equated with elapsed time. (PMM)

Duration compression – Shortening the project schedule without reducing the project scope. Duration compression is not always possible and often requires an increase in project cost. (PMM)

- E -

Early finish date – In the critical path method, the earliest possible point in time on which the uncompleted portions of an activity (or the project) can be finished based upon the network logic and any schedule constraints. Early finish dates can change as the project progresses and changes are made to the Project Plan. (PMM)

Early start date – In the critical path method, the earliest possible point in time in which the uncompleted portions of an activity (or the project) can start, based upon the network logic and any schedule constraints. Early start dates can change as the project progresses and changes are made to the Project Plan. (PMM)

Earned value – A method for measuring project performance. It compares the amount of work that was planned with what was actually accomplished to determine if cost and schedule performance is as planned. (PMM)

Effort – The number of labor units required to complete an activity or other project element. Usually expressed as staff hours, staff days, or staff weeks. Should not be confused with duration. (PMM)

Estimate – An assessment of the likely quantitative result. Usually applied to project costs and durations and should always include some indication of accuracy (e.g., +/- x percent). Usually used with a modifier (e.g., preliminary, conceptual, feasibility). Some application areas have specific modifiers that imply particular accuracy ranges (e.g., order-of-magnitude estimate, budget estimate, and definitive estimate in engineering and construction projects). (PMM)

Estimate At Completion (EAC) – The expected total cost of an activity, a group of activities, or of the project when the defined scope of work has been completed. Most techniques for forecasting EAC

include some adjustment of the original cost estimate based on project performance to date. Also shown as "estimated at completion." Often shown as EAC = Actuals-to-date + ETC. (PMM)

Estimate To Complete (ETC) – The expected additional cost needed to complete an activity, a group of activities, or the project. Most techniques for forecasting ETC include some adjustment to the original estimate based on project performance to date. Also called "estimated to complete." (PMM)

Ethics – In the conduct of their operations, state organizations and their employees will employ information technology in a legal and ethical manner consistent with government statutes, rules, and regulations. Information technology will not be used for purposes that are unrelated to the state organization's mission or violates state or federal law. Contract provisions, including software licensing agreements, will be strictly enforced. (PMM)

Exception reporting – The process of documenting those situations where there are significant deviations from the specifications of a project. The assumption is made that the project will be developed within established boundaries. When the process falls outside of those boundaries, a report is made on why this deviation occurred. (PMM)

Expected monetary value – The product of an event's probability of occurrence and the gain or loss that will result. For example, if there is a 50 percent probability that it will rain, and rain will result in a $100 loss, the expected monetary value of the rain event is $50 (.5 x $100). (PMM)

Expected Outcome – The behavior predicted by the specification of a product under specified conditions (predicted outcome). (Testing Manual)

Expected Results – Defines a tolerable success rate that will render the system acceptable and operational. Expected results are the threshold of acceptance used to measure against actual results. (Testing Manual)

Execution testing – There are three types of execution testing: Integration testing, System testing and Unit testing.

- F -

Facilitating processes – Interactions among processes that are more dependent on the nature of the project. (PMM)

Fast tracking – Compressing the project schedule by overlapping activities that would normally be done in sequence, such as design and construction. Sometimes confused with concurrent engineering. (PMM)

Feasibility – The degree to which the requirements, design, or plans for a software product or system can be implemented under existing constraints. (SEM)

Feasibility study – A formal document in the Initiation Phase that analyzes and discusses the technical feasibility of a project. (PMM)

Financial audit – A thorough examination of a project by an evaluation team which includes a detailed overview of the project's financial procedures, budgets, records, etc. It may deal with a project as a whole or the separate individual parts of a project. (PMM)

Financial closure – The process of completing and terminating the financial and budgetary aspects of the project being performed. It includes both (external) contract closure and (internal) project account closure. (PMM)

Fix number – an indicator of small updates that are to be built into a regular modification or release at a later time. The version, release, modification, and fix levels together comprise the program level (or version) of a program. (SMG)

Float – The amount of time an activity may be delayed from its early start without delaying the project finish date. Float is a mathematical calculation and can change as the project progresses and changes are made to the Project Plan. Also called slack, total float, and path float. (PMM)

Forward pass – The calculation of the early start and early finish dates for the uncompleted portions of all network activities. (PMM)

Free float – The amount of time an activity can be delayed without delaying the early start of any immediately following activities. (PMM)

Function point – Unit of measure to quantify the overall size and complexity of a computer application. (PMM)

Function Test – Confirms that the logically-grouped modules function according to specifications. Developers write this test from a user's perspective. Testing is based on output only, without any knowledge of internal code or logic. Function tests tell a developer that the code is *working properly*. (Testing Manual)

Functional area – Any formally organized group involved in the development and maintenance of systems or the support of development and maintenance efforts, or other group whose input is required to successfully implement a systems project. Examples of functional areas include systems engineering services, technical writing, quality assurance, security, and telecommunications. (SEM)

Functional baseline – The baseline comprising documentation and possibly models that specify system functional, data, and technical requirements. (SMG)

Functional Configuration Audit (FCA) – An inspection to determine whether the (software) configuration item satisfies the functions defined in specifications. Consists of someone acknowledging having inspected or listed each item to determine it satisfies the functions defined in specifications. (SMG)

Functional Design Stage – The period of time in the project lifecycle during which the designs for architecture, software components, interfaces, and data are created, documented, and verified to satisfy project requirements. (SEM)

Functional manager – A manager responsible for activities in a specialized department or function (e.g., engineering, manufacturing, marketing). (PMM)

Functional organization – An organization structure in which staff are grouped hierarchically by specialty (e.g., production, marketing, engineering, and accounting at the top level; with engineering further divided into mechanical, electrical, and others). (PMM)

Functional requirement – (1) What the system/product is, does, or provides from the customer's point of view. (PMM); (2) A requirement that specifies a function that a software component, product, or system must be able to perform. (SEM)

Function Test
Confirms that the logically-grouped modules function according to specifications. Developers write this test from a user's perspective. Testing is based on output only, without any knowledge of internal code or logic. Function tests tell a developer that the code is *working properly*. (SEM / Testing Manual)

- G -

Glueware – Integration software that provides the proper interface for the component (i.e., wrappers) being integrated and serves as a mediator for its interactions with other components. (SEM)

Go/No-Go Decision – Determination to proceed with or abandon a plan or project. In Quality Control, "Go" denotes that a product conforms to the specifications or the agreed-upon success criteria has been met. When it does not, it is "No-Go". (Testing Manual)

Governance – The process by which an organization directs and controls its operational and strategic activities, and by which the organization responds to the legitimate rights, expectations and desires of its stakeholders. (PMO Guidebook)

Grade – A category or rank used to distinguish items having the same functional use (e.g., "hammer"), but do not share the same requirements for quality (e.g., different hammers may need to withstand different amounts of force). (PMM)

Graphical Evaluation and Review Technique (GERT) – A network analysis technique that allows for conditional and probabilistic treatment of logical relationships (i.e., some activities may not be performed). (PMM)

Guideline(s) – Used to define a collection of steps that are recommendations to be followed to meet a stated policy(s). (PMM)

- H -

Hammock – An aggregate or summary activity (a group of related activities is shown as one and reported at a summary level). A hammock may or may not have an internal sequence. (PMM)

Hanger – An unintended break in a network path. Hangers are usually caused by missing activities or missing logical relationships. (PMM)

Hardware – Physical computer and other equipment used to process, store, or transmit computer programs or data. (SEM)

Hierarchy – A structure in which components are ranked into levels of subordination. (SEM)

- I -

Impact statement – A cause and effect report generated at the manager level to show the impact that new projects will have on current schedules and resources as they enter the work stream. (PMM)

Implementation – Occurs when products have completed testing are moved into production or into their working environment. Normally used as a term on Information Technology projects. (PMM)

Implementation requirements – A requirement that supports the development and maintenance concepts and approaches in the areas of operating environment, conversion, installation, training, and documentation. (SEM)

Incremental development – A development technique in which requirements definition, design, implementation, and testing occur in an overlapping, iterative (rather than sequential) manner, resulting in incremental completion of the overall system or product. (SEM)

Independent project oversight – A process that employs a variety of quality control, inspection, testing measurement, and other observation processes to ensure that planned project objectives are achieved in accordance with an approved plan. Project oversight is usually done by an independent entity (separate from the project team) trained or experienced in a variety of management and technical review methods. Project oversight includes both technical and management oversight. (PMM)

Information engineering – A development methodology where models are created to improve the users' ability to understand and define the functions and flow of information within their organization. A business model is developed to identify the key areas of interest for the business, the tasks required for each area, and the activities that make up each task. The business model prioritizes and identifies top management goals and then establishes the information needs necessary to reach those goals. A data model is developed to describe the data and the relationships among data. The data model further divides the business model into user defined relationships (e.g., entity relationship model). (SEM)

Information Technology (IT) Analyst – The individual skilled in the development and definition of the techniques and technologies being used for the project. (SEM)

Information Technology (IT) Developer – The individual whose responsibility is the development of the software for the project. (SEM)

Information Technology (IT) Lead – The individual responsible for all aspects of the system design and construction. The IT Lead directs the development team. (SEM)

Information Technology (IT) Subject Matter Expert (SME) – The individual who is the authority or expert on the technology or technologies being implemented for the project. (SEM)

Initial – Level 1 CMMI Process Level. The software process is characterized as ad hoc and occasionally even chaotic. Few processes are defined, and success depends on individual effort and heroics. (PMM)

Initial risk identification – The process during the initial concept phase of identifying risks that might impact a project. The risk identification process is recommended for agencies to evaluate a project. (PMM)

Initiation – Committing the organization to begin a project phase. (PMM)

Initiation and Planning Stage – The initial stage in the project lifecycle during which the system

owner/users' needs and expectations are identified, the feasibility of the project is determined, and the Project Charter and Project Plan are developed. (SEM)

Input – Any item, whether internal or external to the project/program that is required by a process before that process proceeds. May be an output from a predecessor process. (PMO Guidebook)

Inspection – A static analysis technique that relies on visual examination of development products to detect errors, violations of development standards, and other problems. Code inspection and design inspection are two types. (SEM)

Installation testing – Installation testing is testing full, partial, upgrade, or install/uninstall processes. The installation test for a release is conducted with the objective of demonstrating production readiness. This type of testing includes the inventory of configuration items, performed by the application's System Administration, the evaluation of data readiness, and dynamic tests focused on basic system functionality. When necessary, a sanity test is performed, following installation testing.

Integration Test – Verifies the system components are integrated and working as an application. The technical development team performs this test to uncover errors that occur in the interactions and interfaces between components. (SEM / Testing Manual)

Integrity – The degree to which a software component, product, or system prevents unauthorized access to, or modification of, computer programs or data. (SEM)

Interactive analysis and design – A development methodology that uses facilitated team techniques, such as Joint Application Development or Rapid Application Development, to rapidly develop project requirements that reflect the users' needs in terminology that the users understand. Group facilitation techniques are especially important when several user organizations have unique project requirements that are specific to their mission and goals. (SEM)

Interface requirement – A requirement that specifies an external item with which a software product or system must interact, or that sets forth constraints on formats, timing, or other factors caused by such an interaction. (SEM)

Iteration – A distinct sequence of activities with a baselined plan and valuation criteria resulting in a release. (SMG / Testing Manual)

Iterative development – An approach to application development in which prototypes are continually refined into an increasingly complete and correct system. (Testing Manual)

Iterative testing – An approach to testing where an evaluation or assessment of quality is conducted continuously on smaller, more manageable units of work.

Interview technique – A technique for the identification, analysis, and documentation of the project requirements. The project team conducts a series of interviews with users to identify the users' perceived IT functional needs, analyzes the information gathered during the interviews, and develops the requirements. (SEM)

- J –

- K –

Key Process Area (KPA) – Software engineering processes identified by the Software Engineering Institute Capability Maturity Model Integrated where a project team should focus its efforts to achieve consistently high quality software products. (SEM)

- L -

Lag – The amount of time after one task is started or finished before the next task can be started or finished. For example, in a finish-to-start dependency with a 10-day lag, the successor activity cannot start until 10 days after the predecessor has finished. (PMM)

Late finish date – In the critical path method, the latest possible point in time that an activity may be completed without delaying a specified milestone (usually the finish date). (PMM)

Late start date – In the critical path method, the latest possible point in time that an activity may begin without delaying a specified milestone (usually the project date). (PMM)

Lead – The amount of time that precedes the start of work on another task. (PMM)

Lead business analyst – The individual responsible for analyzing the business needs of their Agency to help identify business problems and propose solutions. (SEM)

Leadership – The way in which the project manager influences the project team to behave in a manner that will facilitate project goal achievement. (PMM)

Lessons learned – The learning gained from the process of performing the project, so that other projects can be performed better. Lessons learned can be identified at any point in the project, and should be documented in the Project Notebook. (PMM)

Level of effort – Support-type activity (e.g., vendor or customer liaison) that does not readily lend itself to measurement of discrete accomplishment. It is generally characterized by a uniform rate of activity over a specific period of time. (PMM)

Life cycle – (1) The type of methodology to be used in project development, e.g. System Development Methodology, Information Engineering Methodology, or Rapid Application Development Methodology. (PMM); (2) See “Project lifecycle.” (SEM)

Life cycle costing – The concept of including acquisition, operating, and disposal costs when evaluating various alternatives. (PMM)

Line manager – The manager of any group that actually makes a product or performs a service. Often referred to as a functional manager. (PMM)

Load testing – To determine and ensure that the system functions properly beyond the expected maximum workload.

Logical relationship – A dependency between two project activities, or between a project activity and a milestone. See also “Precedence relationship.” The four possible types of logical relationships are:

- Finish-to-start: the "from" activity must finish before the "to" activity can start.

- Finish-to-finish: the "from" activity must finish before the "to" activity can finish.
- Start-to-start: the "from" activity must start before the "to" activity can start.
- Start-to-finish: the "from" activity must start before the "to" activity can finish. (PMM)

- M -

Maintenance – The process of supporting a software product or system after delivery to maintain operational status, correct faults, improve performance or other attributes, or adapt to a changed environment. (SEM)

Managed – Level 4 CMMI Process Level. Detailed measures of the software process and product quality are collected. Both the software process and products are quantitatively understood and controlled. (PMM)

Management project oversight – The process of evaluating and monitoring the project management processes that exist for a given project and ensuring that the stated process conforms to the project plan. (PMM)

Management reserve – A separately planned quantity used to allow for future situations which are impossible to predict (sometimes called "unknown unknowns"). Management reserves may involve cost or schedule. Management reserves are intended to reduce the risk of missing cost or schedule objectives. Use of management reserve requires a change to the project's cost baseline. (PMM)

Master schedule – A comprehensive list of an approved project containing schedule and progress statistics. (PMM)

Matrix organization – Any organizational structure in which the project manager shares responsibility with the functional managers for assigning priorities and for directing the work of individuals assigned to the project. (PMM)

Menu-driven – Pertaining to a system or mode of operation in which the users direct the software through menu selections. (SEM)

Methodology – (1) Used to define the processes, policies, and guidelines that are included as part of the framework for project management. (PMM); (2) A collection of methods, procedures, and standards that defines an integrated synthesis of engineering approaches to the development of a work product. (SEM)

Milestone – (1) A significant event in the project usually completion of a major deliverable. (PMM); (2) A scheduled event for which an individual or team is accountable and that is used to measure progress. (SEM)

Milestone schedule – A summary-level schedule, which identifies the major milestones. (PMM)

Mission Statement – A concise statement, usually one paragraph, summarizing what the project is about and what it will accomplish. (PMM)

Mitigation – Taking steps to lessen risk by lowering the probability of a risk event's occurrence or reducing its effect should it occur. (PMM)

Modification number – The modification level of a program, which is an indicator of changes that do not affect the external interface of the program. The version, release, modification, and fix levels together comprise the program level (version) of a program. (SMG)

Module – A program unit that is discrete and identifiable with respect to compiling, combining with other units, and loading. A logically separable part of a program. (SEM / Testing Manual)

Monitoring – The capture, analysis, and reporting of project performance, usually as compared to plan. (PMM)

"Monte Carlo" analysis – A schedule risk assessment technique that performs a project simulation many times in order to calculate a distribution of likely results. (PMM)

- N -

Near critical activity – An activity that has low total float. (PMM)

Network analysis – The process of identifying early and late start and finish dates for the uncompleted portions of project activities. See also "Critical Path Method," "Program Evaluation and Review Technique," and "Graphical Evaluation and Review Technique." (PMM)

Node – One of the defining points of a network; a junction point joined to some or all of the other dependency lines. See also "Arrow diagramming method" and "Precedence diagramming method." (PMM)

Non-execution testing – There are two types of non-execution testing: code inspections and code walkthroughs. Non-execution tests are used to reduce the number of code defects as early in the system engineering lifecycle as possible.

- O -

Optimizing – Level 5 CMMI Process Level. Continuous process improvement is enabled by quantitative feedback from the process and from piloting innovative ideas and technologies. Predictability, effectiveness, and control of an organization's software processes are believed to improve as the organization moves up these five levels. While not rigorous, the empirical evidence to date supports this belief. (PMM)

Order of magnitude – This is an approximate estimate made without detailed data that is usually produced from cost data. This type of estimate is used during the formative stages of an expenditure program for initial evaluation of the project. (PMM)

Organization – An organization is a unit within a company or other entity within which projects are managed as a whole. Examples of an organization include, MDIT, a contractor organization, a program (e.g., RW, or a laboratory.) All projects within an organization share a common top-level manager and common policies. (SEM)

Organizational Breakdown Structure (OBS) – A depiction of the project organization arranged so as to relate work packages to organizational units. (PMM)

Organizational planning – Identifying, documenting, and assigning project roles, responsibilities, and reporting relationships. (PMM)

Output – A product, result, or service generated by a process. May be an input to a successor process. (PMO Guidebook)

Overall change control – Coordinating changes across the entire project. (PMM)

- P -

Parametric estimating – An estimating technique that uses a statistical relationship between historical data and other variables (e.g., square footage in construction, lines of code in software development) to calculate an estimate. (PMM)

Pareto diagram – A histogram that, ordered by frequency of occurrence, shows how many results were generated by each identified cause. (PMM)

Path – A set of sequentially connected activities in a project network diagram. (PMM)

Path convergence – In mathematical analysis, the tendency of parallel paths of approximately equal duration to delay the completion of the milestone where they meet. (PMM)

Percent complete – An estimate, expressed as a percent, of the amount of work which has been completed on an activity or group of activities. (PMM)

Percent satisfaction score – How well an alternative meets a specific criteria expressed in terms of percentage. (DAR)

Performance reporting – Collecting and disseminating information about project performance to help ensure project progress. (PMM)

Performance requirement – A requirement that imposes conditions on a functional requirement (e.g., a requirement that specifies the speed, accuracy, or memory usage with which a given function must be performed). (SEM)

Performance Test – Measures software performance of batch data, under actual or anticipated volume, as well as on-line transaction response times. Executed by the technical team, this test verifies performance requirements, throughput and growth capacity. Performance tuning continues throughout the system lifecycle. (Testing Manual)

Performing organization – The enterprise whose employees are most directly involved in doing the work of the project. (PMM)

PERT chart (PMM) – A specific type of project network diagram. See “Program Evaluation” and “Review Technique.”

Physical Configuration Audit (PCA) – The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish or verify the configuration item's product baseline. (SMG)

Plan – An intended future course of action. (PMM)

Planned value – The sum of the approved cost estimates including any overhead allocation) for activities (or portions of activities) scheduled to be performed during a given period (usually project-to-date). (PMM)

Platform – A specific computer and operating system on which a software product or system is developed or operated. (SEM)

PMO Guidebook – A SUITE publication that provides guidance for MDIT Program Management Offices.

Policy – A succinct statement that gives direction to state organizations to support IT implementation. Policies are high-level, overall statements that do not dictate specific procedural steps or processes. Directives issued by management for guidance and direction where uniformity of action is essential. (PMM)

Portability – The ease with which a software component, product, or system can be transferred from one hardware or software environment to another. (SEM)

Portfolio – (1) A collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet objectives. (PMM); (2) A collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives. The projects or programs of the portfolio may not necessarily be interdependent or directly related. (PMO Guidebook)

Portfolio management – The centralized management of one or more portfolios, which includes identifying, prioritizing, authorizing, managing, and controlling projects, programs, and other related work, to achieve specific strategic business objectives. (PMM)

Post Implementation Evaluation Report (PIER) – Documents the successes and failures of the project. It provides a historical record of the planned and actual budget and schedule. Other selected metrics on the project can also be collected based upon state organization procedures. The report also contains recommendations for other projects of similar size and scope. (PMM)

Precedence Diagramming Method (PDM) – A network diagramming technique in which activities are represented by boxes (or nodes). Activities are linked by precedence relationships to show the sequence in which the activities are to be performed.

Precedence relationship – The term used in the precedence diagramming method for a logical relationship. In current usage, however, precedence relationship, logical relationship, and dependency are widely used interchangeably regardless of the diagramming method in use. (PMM)

Predecessor activity – A task or activity that precedes, or comes before, another task or activity. In the precedence diagramming method, the "from" activity. (PMM)

Priority – The imposed sequences desired with respect to the scheduling of activities within previously imposed constraints. (PMM)

Priority (defects) – A preferential rating; the ranking that is given to a defect to signify the level of

importance (i.e., Low, Medium, High). (Testing Manual)

Procedure – Used to define a collection of steps that the organization is responsible for implementing to ensure that policies and process requirements are met. The agency may use guidelines to develop these procedures. (PMM); (2) A written description of a course of action to be taken to perform a given task. (SEM)

Process – (1) A series of actions, changes, or functions bringing about a result. (DAR); (2) A set of interrelated actions and activities performed to achieve a pre-specified set of products, results, or services. (PMM); (3) A set of interrelated actions and activities performed to achieve a specific set of products. (PMO Guidebook); (4) An ordered set of steps performed for a given purpose. Processes define or control the development of the project work products. The use of processes will ensure a consistent methodology across all platforms in producing the lifecycle deliverables. (SEM)

Process owner – An individual held accountable and responsible for the workings and improvement of one of the organization's defined processes and its related sub-processes. (DAR)

Process user – Someone who applies, makes use of, brings into play, or avails themselves of a process. (DAR)

Product – (1) General terms used to define the end result of a project delivered to a customer. (PMM); (2) See "Work product." (SEM)

Product description statement – A non-formal, high level document that describes the characteristics of the product/process to be created. (PMM)

Program – (1) A group of related projects managed in a coordinated way. Programs usually include an element of ongoing activity. (PMM); (2) A group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may include elements of related work outside of the scope of the discrete projects in the program. (PMO Guidebook)

Program level (SMG) – The version, release, modification, and fix levels of a program. (SMG)

Program management – The centralized coordination of a program to achieve the program's strategic objectives and benefits. (PMO Guidebook)

Program management process – Program Management processes accomplish program management by receiving inputs and generating outputs, with the use of tools and techniques. In order to ensure that the outputs are delivered as required, the processes need to operate subject to controls. (PMO Guidebook)

Program management process group – The process groups for program management comprise Initiating, Planning, Executing, Monitoring and Controlling, and Closing processes. (PMO Guidebook)

Program stakeholders – Individuals and organizations that are actively involved in the program or whose interests may be positively or negatively affected by the program. (PMO Guidebook)

Program Evaluation and Review Technique (PERT) – An event-oriented network analysis technique used to estimate project duration when there is a high degree of uncertainty with the individual activity

duration estimates. PERT applies the critical path method to a weighted average duration estimate. (PMM)

Progress analysis – The evaluation of progress against the approved schedule and the determination of its impact. For cost, this is the development of performance indices. (PMM)

Project – (1) A temporary endeavor undertaken to create a unique product or service. (PMM); (2) A temporary endeavor undertaken to create a unique product, service or result. (PMO Guidebook); (3) An undertaking requiring concerted effort that is focused on developing or maintaining a specific software product or system. A project has a distinct beginning and end, and has its own funding, cost accounting, and delivery schedule. (SEM)

Project administration – Entails making Project Plan modifications that may result from such things as: new estimates of work still to be done, changes in scope/functionality of end-product(s), resource changes and unforeseen circumstances. It also involves monitoring the various Execution Phase activities, monitoring risks, status reporting, and reviewing/authorizing project changes as needed. (PMM)

Project Charter – A document issued by senior management that provides the project manager with the authority to apply organizational resources to project activities. (PMM)

Project communications management – A subset of project management that includes the processes required to ensure proper collection and dissemination of project information. It consists of communications planning, information distribution, performance reporting, and administrative closure. (PMM)

Project Concept Document – The document that is the foundation for making a decision to initiate a project. It describes the project purpose and high level planning information to determine project viability. (PMM)

Project control – A project management function that involves comparing actual performance with planned performance, and taking corrective action to yield the desired outcome, when significant differences exist. (PMM)

Project cost management – A subset of project management that includes the processes required to ensure that the project is completed within the approved budget. It consists of resource planning, cost estimating, cost budgeting, and cost control. (PMM)

Project duration – The elapsed time from project start date through to project finish date. (PMM)

Project file – A central repository of material and artifacts pertinent to a project. Contents typically include all work products, memos, plans, technical reports, and related items. (SEM)

Project human resource management – A subset of project management that includes the processes required to make the most effective use of the people involved with the project. It consists of organizational planning, staff acquisition, and team development. (PMM)

Project initiation – A process that occurs before the organization has begun the Project Planning Phase and denotes a series of steps to have the project externally approved and started, including selection of the project manager. (PMM)

Project integration management – A subset of project management that includes the processes required to ensure that the various elements of the project are properly coordinated. It consists of Project Plan development, Project Plan execution, and overall change control. (PMM)

Project lifecycle – Covers all activities conducted within the scope of an entire project, from project startup to project closeout. (SEM)

Project management – The application of knowledge, skills, tools, and techniques to project activities in order to meet project requirements. (PMM)

Project Management Methodology (PMM) – A component of the of the State Unified Information Technology Environment (SUITE) which provides standard methods and guidelines to ensure that projects are conducted in a disciplined, well-managed, and consistent manner that promotes the delivery of quality products that meet the customer's needs and results in projects that are completed on time and within budget. (SEM / Testing Manual)

Project Management Plan – See "Project Plan." Synonymous with software development plan and project plan. (SEM)

Project Manager – (1) The individual appointed and given responsibility for management of the project. (PMM); (2) The individual responsible for all activities of a project. The Project Manager plans, directs, controls, administers, and regulates a project. (SEM)

Project network diagram – Any schematic display of the logical relationships of project activities. Always drawn from left to right to reflect project chronology. Often incorrectly referred to as a "PERT chart." (PMM)

Project oversight – A process that employs a variety of quality control, inspection, testing measurement, and other observation processes to ensure that planned project objectives are achieved in accordance with an approved plan. Project oversight is usually done by an independent entity (separate from the project team) trained or experienced in a variety of management and technical review methods. Project oversight includes both technical and management oversight. (Same as Independent project oversight). (PMM)

Project phase – A collection of logically-related project activities, usually culminating in the completion of a major deliverable. (PMM)

Project Plan – (1) A formal, approved document used to guide both project execution and project control. The primary uses of the Project Plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines. (PMM); (2) A document that describes the technical and management approach to be followed for a project. The plan typically describes the work to be done, the resources required, the methods to be used, the procedures to be followed, the schedules to be met, and the way the project will be organized. (SEM)

Project planning – A Software Engineering Institute Capability Maturity Model Integrated key process area designed to establish reasonable plans for performing systems engineering and for managing the project. (SEM)

Project procurement management – A subset of project management that includes the processes required to acquire goods and services from outside the performing organization. It consists of procurement planning, solicitation planning, solicitation, source selection, contract administration, and con tract closeout. (PMM)

Project quality management – A subset of project management that includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning, quality assurance, and quality control. (PMM)

Project risk management – A subset of project management that includes the processes concerned with identifying, analyzing, and responding to project risk. It consists of risk identification, risk quantification, risk response development, and risk response control. (PMM)

Project schedule – The planned dates for performing activities and the planned dates for meeting milestones. (PMM)

Project scope management – A subset of project management that includes the processes required to ensure that the project includes all of the work required, and only the work required, to complete the project successfully. It consists of initiation, scope planning, scope definition, scope verification, and scope change control. (PMM)

Project team – The project manager, analysts, developers, and other staff assigned as the core group for a project. The project team may include representatives of the other functional areas (e.g., technical writer and telecommunications expert) responsible for contributing to the development, installation, and maintenance of the software product. (SEM)

Project time management – A subset of project management that includes the processes required to ensure timely completion of the project. It consists of activity definition and activity sequencing, activity duration estimating, schedule development, and schedule control. (PMM)

Project tracking and oversight – A Software Engineering Institute Capability Maturity Model Integrated key process area designed to provide adequate visibility into actual project progress so that management can take effective actions when the project's performance deviates significantly from the plans. (SEM)

Project transition checklist – A document that ensures that the activities of the Planning Phase have been finished, reviewed, and signed off so that the project may move from the Planning Phase into the Execution Phase. (PMM)

Projectized organization – Any organizational structure in which the project manager has full authority to assign priorities and to direct the work of individuals assigned to the project. (PMM)

Prototyping – A technique for developing and testing a preliminary version of the software product (either as a whole or in modular units) in order to emulate functionality without such encumbering features as error handling, help messages, security controls, and other utilities that are not part of the design logic. This allows the project team to test the overall logic and workability of required functions and provides a model by which the project team and users can jointly determine if the software requirements meet the intended objectives. Prototyping is often used in conjunction with interactive analysis and design techniques. (SEM)

Pseudocode – A combination of development language constructs and natural language used to express a computer program design. (SEM)

- Q -

QA Build – When the executable code (complied code) is deployed to the QA/Test environment. (Testing Manual)

QA Build Cycle – The frequency with which the code is promoted (e.g., daily or weekly) to the QA/Test environment. (Testing Manual)

Quality – A composite of attributes (including performance features and characteristics) of the product, process, or service required to satisfy the need for which the project is undertaken. (PMM)

Quality Assurance (QA) – A process designed to provide management with appropriate visibility into the work products being built and the systems engineering processes being used by the project team. It is one of the Software Engineering Institute Capability Maturity Model Integrated (CMMI) Level 2 key process areas. (SEM / Testing Manual)

Quality assurance analyst – The individual who audits and approves project deliverables from a QA perspective. Reviews plans and deliverables for compliance with applicable standards. Provides guidance and assistance on process matters and defining standards. Primary focus is on defect prevention. (SEM)

Quality Control (QC) – The process of monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance. (PMM) Processes to find and fix defects (e.g., walkthroughs and testing). (Testing Manual)

Quality control analyst – The individual responsible for checking the product or service after it has been developed. Primary focus is to find defects. (SEM)

Quality Improvement (QI) – A process to reduce variation and defects in any process or product. (Testing Manual)

Quality management – A collection of quality policies, plans, procedures, specifications, and requirements is attained through quality assurance (Managerial) and quality control (Technical). (PMM)

Quality planning – Identifying which quality standards are relevant to the project and determining how to satisfy them. (PMM)

- R -

Rapid prototyping – A type of prototyping in which emphasis is placed on developing prototypes earlier in the development - process to permit early feedback and analysis in support of the development process. (SEM)

Recoverability – The capability of the software product to re-establish a specified level of performance and recover the data directly affected in case of failure.

Recoverability testing – The process of testing to determine the recoverability of a software product.

Reference – A document(s) or other material that is useful in understanding more about an activity. (SEM)

Regression Test – Re-execution of specific test cases to ensure defects are fixed, find new defects that may have been introduced, and confirm that module(s) are functioning properly. Any testing stakeholder can conduct this test. (SEM / Testing Manual)

Release number – An indicator of changes to the external programming interface of the program. The version, release, modification, and fix levels together comprise the program level (version) of a program. (SMG)

Reliability – The ability of a software or system component to perform its required functions under stated conditions for a specified period of time. (SEM)

Remaining duration – The time, expressed in calendar units, needed to complete an activity. (PMM)

Repeatable – Level 2 CMMI Process Level. Basic project management processes are established to track cost, schedule, and functionality. The necessary process disciplines are in place to repeat earlier successes on projects with similar applications. Key practice areas (processes) are associated with each level of maturity. An in-depth description of the key practice areas can be found in the CMMI v1.2 (PMM)

Requirement – A condition or capability needed by a system owner/user to solve a problem or achieve an objective. A condition or capability that must be met or possessed by the software product or system to satisfy a contract, standard, specification, or other formally imposed documents. (SEM)

Requirements analysis – The process of analyzing and understanding the scope and feasibility of identified requirements; of developing a preliminary plan to arrive at a detailed definition of system, hardware, or software requirements; and of crystallizing a preliminary system solution. (SEM)

Requirements Definition Stage – The period of time in the project lifecycle during which the requirements for an IT product are defined and documented. (SEM)

Requirements Document – A formal document that outlines the high level requirements of a technical project. (PMM)

Requirements management – A process designed to establish a common understanding between the system owner/users and the project team regarding the system owner/users' software and system requirements. This understanding forms the basis for estimating, planning, performing, and tracking the project's activities throughout the lifecycle. One of the Software Engineering Institute Capability Maturity Model Integrated Level 2 key process areas. (SEM)

Requirements Specification – A work product deliverable that specifies the manual and automated requirements for a software product or system in non-technical language that the system owner/users can understand. Typically included are functional requirements, performance requirements, and interface requirements. Describes in detail what will be delivered in the product or system release. (SEM)

Reserve – A provision in the Project Plan to mitigate cost and/or schedule risk. Often used with a modifier (e.g., management reserve, contingency reserve) to provide further detail on what types of risk are meant to be mitigated. The specific meaning of the modified term varies by application area. (PMM)

Resource – Something that lies ready for use or that can be drawn upon for aid or to take care of a need. (PMM)

Resource leveling – Any form of network analysis in which scheduling decisions (start and finish dates) are driven by resource management concerns (e.g., limited resource availability or difficult-to-manage changes in resource levels). (PMM)

Resource-limited schedule – A project schedule whose start and finish dates reflect expected resource availability. The final project schedule should always be resource-limited. (PMM)

Resource loading profiles – Detailed staffing plan including number of personnel by type over time. (PMM)

Resource planning – Determining what resources (people, equipment, materials) are needed in what quantities to perform project activities. (PMM)

Responsibility assignment matrix – A structure which relates the project organization structure to the work breakdown structure to help ensure that each element of the project's scope of work is assigned to a responsible individual. (PMM)

Retainage – A portion of a contract payment that is held until contract completion in order to ensure full performance of the contract terms. (PMM)

Retirement – Permanent removal of a system or software product from its operational environment. (SEM)

Reusability – The degree to which a software module or other work product or system component can be used in more than one computer program or software system. (SEM)

Reverse engineering – A development methodology in which the software development process is performed in reverse. The technique involves the examination of an existing software product that has characteristics that are similar to the desired product. Using the existing code as a guide, the requirements for the product are defined, analyzed, and abstracted all the way back to specifications. Any required code changes can be made based on a specification-like format. Ideally, the specifications would be edited and passed to a code generator that would trigger automatic documentation and revisions. Once testing is complete, the revised code is placed into production. (SEM)

Risk – An uncertain event or condition that, if it occurs, has a positive or negative effect on a project’s objectives. (PMM)

Risk assessment – Review, examination, and judgment of whether or not the identified risks are acceptable. Initial risk assessment is used as a tool to determine project oversight requirements. (PMM)

Risk event – A discrete occurrence that may affect the project for better or worse. (PMM)

Risk identification – Determining which risk events are likely to affect the project. (PMM)

Risk management – (1) The art and science of identifying, analyzing, and responding to risk factors throughout the life of a project and in the best interests of its objectives. (PMM); (2) An approach to problem analysis that is used to identify, analyze, prioritize, and control risks. (SEM)

Risk mitigation – The act of revising the project's scope, budget, schedule, or quality in order to reduce uncertainty on the project. (PMM)

Response development – Defining enhancement steps for opportunities and mitigation steps for threats. (PMM)

- S -

Sanity testing – Sanity testing is performed whenever cursory testing is sufficient to prove the application is functioning according to specifications. This level of testing is a subset of regression testing. It normally includes a set of core tests of basic GUI functionality to demonstrate connectivity to the database, application servers, printers, etc.

Schedule – The planned dates for performing activities and for meeting deliverables. (PMM)

Schedule compression – Shortening the project schedule duration without reducing the project scope. (PMM)

Schedule development – Analyzing activity sequences, activity durations, and resource requirements to create the project schedule. (PMM)

Schedule Performance Index (SPI) – The ratio of work performed to work scheduled. (PMM)

Schedule Variance (SV) – Any difference between the scheduled completion of an activity and the actual completion of that activity. (PMM)

Scope – The sum of the products and services to be provided as a project. (PMM)

Scope change – Any change to the project scope. A scope change almost always requires an adjustment to the project cost or schedule. (PMM)

Scope creep – The gradual addition of new requirements to the original product specifications. (PMM)

Scope definition – Decomposing the major deliverables into smaller, more manageable components to provide better control. (PMM)

Scope planning – Developing a written scope statement that includes the project justification, the major deliverables, and the project objectives. (PMM)

Scope Statement – A document capturing the sum of products and services to be provided as a project. The Scope Statement is part of the Project Plan. (PMM)

Scope verification – Ensuring that all identified project deliverables have been completed satisfactorily. (PMM)

Scoring threshold – The lowest score an alternative can receive and still be considered for possible selection or further consideration. Alternatives are rejected when they fail to meet or exceed the established scoring threshold. (DAR)

Security analyst – The individual skilled in the development and definition of the security controls of the project environment. (SEM)

Security and access control testing – To ensure that only those users, who have been granted access to the system, are capable of accessing the applications and only through the appropriate gateways.

Selection criteria – The set of attributes that describe the suitability factors to be considered by decision makers. (DAR)

SEM – Systems Engineering Methodology. A SUITE publication that provides guidance for Application Developers.

Severity (defects) – Of a great degree; a classification of the degree of impact that error or fault has on the product (i.e., Low, Medium, High and Show-Stopper). (Testing Manual)

Slack – Term used in PERT or arrow diagramming method for float. (PMM)

Specific, Measurable, Achievable, Realistic and Time-based (SMART) – Standard criteria to review requirements against. (Testing Manual)

SME – See "Business Subject Matter Expert" and "Information Technology (IT) SME."

SMG – Systems Maintenance Guidebook. A SUITE publication that provides guidance for maintaining application systems.

Software – Computer programs, procedures, and associated documentation and data pertaining to the operation of a software product or system. (SEM)

Software Quality Assurance (SQA) – See "Quality assurance." (SEM)

Specification – A document that specifies in a complete, precise, verifiable manner the requirements, design, behavior, and other characteristics of a software component, product, or system. (SEM); (2) A document that explicitly states essential technical attributes/requirements for a product and procedures to determine that the product's performance meets its requirements/attributes. (SMG)

Specification documents – Documents that provide specific information about the project deliverable characteristics. (PMM)

Slippage – The tendency of a project to exceed original estimates of budget and time. (PMM)

Spiral development model – A software development process in which the constituent activities, typically requirements analysis, design, coding, integration, and testing are performed iteratively until the software product is complete. (SEM)

Sponsor – The individual or group that provides the financial resources, in cash or in kind, for the project. (PMM)

Stage – A partition of the project lifecycle that reduces a project to manageable pieces and represents a meaningful and measurable set of related tasks that are performed to obtain specific work products. (SEM)

Stakeholder – Individuals and organizations that are involved in or may be affected by project activities. (PMM); (2) The State of Michigan individual(s) with decision-making authority over a project or group of projects. (SEM)

Standard – Mandatory requirements employed and enforced to prescribe a disciplined, uniform approach to software and systems development and maintenance. (SEM)

Statement of Work (SOW) – A narrative description of products or services to be supplied under contract. (PMM)

State organization – Used to define a general state organizational level consisting of the Agency and Departments interchangeably. Reference to Agency (with a capital "A") is used for specific reference to an Agency or that specific organizational level. (PMM)

Status reports – A report containing information on a specific project, indicating if the project is ahead of schedule, on schedule, or behind schedule in relation to the project plan. (PMM)

Stress testing – To test the system in a manner that demands resources in abnormal quantity, frequency or volume.

Structured analysis – An analysis technique that uses a graphical language to build models of software products or systems. The four basic features in structured analysis are data flow diagrams, data dictionaries, procedure logic representations, and data store structuring techniques. (SEM)

Structured Walkthrough (SWT) – An organized procedure for a group of peers to review and discuss the technical aspects of software development work products. The major objectives of a structured walkthrough are to find errors and to improve the quality of the product. (Testing Manual)

SUITE – State Unified Information Technology Environment. The State of Michigan's implementation of a standard methodology, procedures, training, and tools for projects and systems development lifecycle management throughout the Michigan Department of Information Technology (MDIT), in order to implement repeatable processes and conduct development activities according to the Capability Maturity Model Integrated (CMMI) Level 3 requirements.

Success Criteria – The metrics and measurements established to determine whether the product has satisfied its objectives. It is also used as input to determine if the project should proceed to the next step. (Testing Manual)

Successor activity – A task or activity that succeeds, or comes after, another task or activity. In the precedence diagramming method, the "to" activity. (PMM)

System – (1) A collection of hardware, software, firmware, and documentation components organized to accomplish a specific function or set of functions. (2) A product and the documentation, hardware, and communications needed to implement and operate the product and accomplish a specific function or set of functions. (SEM)

System & Standards Test – Verifies functional business requirements, business processes, data flows and other system criteria are met. The technical team tests specific end-to-end business processes until the complete application environment mimics real-world use. Verifies that Federal, State of Michigan and department standards are met. (SEM / Testing Manual)

System Design Document – A work product deliverable that describes the solution to the automation task as described by the requirements. Contains sufficient detail to provide necessary direction for writing the Program Specifications and allows developers maximum technical freedom. (SEM)

System Design Stage – A stage in the lifecycle model during which the designs for the software product or system architecture, software components, interfaces, and data are refined and expanded to the extent that the design is sufficiently complete to be implemented. (SEM)

System owner – The enterprise unit that funds and has approval authority for the project. Typically, system owners are also system users. (SEM)

Systems engineering – An inter-disciplinary approach and means to enable the realization of successful systems. (SEM)

Systems Engineering Methodology (SEM) – The MDIT methodology that identifies the processes, activities, tasks, management responsibilities, and work products that are required for each system development and maintenance project. Deviations from the methodology require the approval of all stakeholders who have approval rights on the project. A key objective of the methodology is to provide measurable, repeatable processes to assure that project development and maintenance methodologies are consistent throughout the MDIT information technology environment.

- T -

Task – (1) Well defined components of project work. Often referred as a work package. (PMM); (2) The smallest unit of work subject to management accountability. A task is a well-defined work assignment for one or more project team members. Related tasks are usually grouped to form activities. A task is the lowest level of work division typically included in the Project Plan and Work Breakdown Structure. (SEM)

Team member – The individuals, reporting either part time or full time to the project manager, responsible for some aspect of the project's activities. (PMM)

Technique – A defined systematic procedure employed by a human resource to perform an activity to produce a product or result or deliver a service, and that may employ one or more tools. (PMO Guidebook)

Telecommunications – The science and technology of communications by electronic transmission of impulses, as by telephone or e-mail. (SEM)

Template – A document in a predefined format that provides a defined structure for collecting, organizing and presenting information and data. Templates are often based upon documents created during prior projects. Templates can reduce the effort needed to perform work and increase the consistency of results. (PMM)

Test bed – An environment containing the hardware, instrumentation, simulators, software tools, and other support elements needed to conduct a test. (SEM)

Test case – A set of conditions or variables under which a tester determines whether or not an application or software system is working correctly. It is the mechanism for determining whether a software program or system has passed or failed. It can require many test cases to determine that a software program or system is functioning correctly.

Test cases are also often referred to as "test scripts", particularly when written. Another common term is "test scenarios", which is often the term used when referencing User Acceptance Testing (UAT). (SEM / Testing Manual)

Test criteria – The criteria that a software product or system component must meet in order to pass a given test. (SEM)

Test cycle – Consists of the following tasks; execution of a full pass of the functionality & workflow tests, regression, and documentation review. (Testing Manual)

Test documentation – Documentation describing plans for, or outcomes of, the testing of a system component or product. (SEM)

Test item – A system component that is the object of testing. (SEM)

Test log – A chronological record of all relevant details about the execution and results of a test cycle. (SEM)

Test plan – A document specifying the scope, approach, resources, and schedule of intended testing activities. The plan identifies test items, the features to be tested, the testing tasks, who will do each task, and any risks requiring contingency planning. (SEM / Testing Manual)

Test Script or Test Scenario – See Test Cases.

Test Type Approach and Report (TTAR) – A document which contains an agreed-upon testing scope, approach, success criteria, expected results, actual results and documentation to support the final decision to proceed to the next test type or implementation stage. (Testing Manual)

Testing – (1) The actual test of the products or processes created within the development phase of an Information Technology project. (PMM); (2) An activity in which a software or system component or product is executed under specified conditions, the results are observed and recorded, and an evaluation is made. (SEM)

Testing Lifecycle – A testing process which is defined and has structure. (Testing Manual)

Testing Stage – The period of time in the project lifecycle in which the components of a system are evaluated and integrated, and the product is evaluated to determine whether or not the requirements have been satisfied. (SEM)

Time-scaled network diagram – Any project network diagram drawn in such a way that the positioning and length of the activity represents its duration. Essentially, it is a bar chart that includes network logic. (PMM)

Tool – Something tangible, such as a template or software program, used in performing an activity to produce a product or result. (PMO Guidebook)

Traceability – The degree to which a relationship can be established between two or more products of the development process, especially products having a predecessor-successor relationship to one another. (SEM)

Training coordinator – The individual who is the key person and point of contact for all training required for the project. (SEM)

Transaction analysis – A technique used to derive structured charts for a software product that will process transactions. Transaction analysis is used to divide complex data flow diagrams into smaller, simpler data flow diagrams--one for each transaction that the product or system will process. Structure charts are developed from the simple data flow diagrams. The individual structure charts for the separate transactions are then combined to form one large structure chart that is very flexible and can accommodate user changes. (SEM)

- U -

Unit – A separately testable element specified in the design of a computer system or software component. A software or system component that is not subdivided into other components. (SEM)

Unit Test – Confirms that the program logic within an application module produces the expected output when given a known input. Written from a developer's perspective, this ensures that the smallest testable module of an application successfully performs a specific task(s). Unit tests tell a developer that the code is *working properly*. (SEM / Testing Manual)

Usability – The ease with which a user can learn to operate, prepare inputs for, and interpret outputs of an IT product or system. (SEM)

Use Case – A description of a system's behavior as it responds to a request originating from outside of the system (e.g., a user). In other words, a use case describes "who" can do "what" with the given system. (Testing Manual)

User – Within the context of information systems, the general population of individuals who use a software product or system. User activities can include data entry; read only; add, change and delete capabilities; querying; and report generation. (SEM)

User Acceptance Test (UAT)
Validates the system as a whole meets mutually agreed-upon requirements. UAT is completed by end-users of the application and occurs before a client or customer accepts the new system. (SEM / Testing Manual)

User interface – An interface that enables information to be passed between a user and hardware or software components of a computer system. (SEM)

User manual – A document that presents the information necessary to use a software product or system to obtain desired results. Typically described are product or component capabilities, limitations, options, permitted inputs, expected outputs, possible error messages, and special instructions. (SEM)

User Stories – A software system requirement formulated as one or more sentences in the everyday or business language of the user. (Testing Manual)

- V -

V-Model (software development) – A software development process which can be presumed to be the extension of the waterfall model. Instead of moving down in a linear fashion, the process steps are bent upwards after coding to form the typical V shape. The V-Model demonstrates the relationships between each stage of the development lifecycle and the associated stage of testing.

The V-model deploys a well-structured method in which each stage can be implemented by the detailed documentation of the previous stage. Testing activities such as test designing are initiated at the beginning of the project well before coding and they can therefore save a huge amount of project time. (Testing Manual)

Validation – The process of evaluating software or systems at the end of the development process to assure compliance with established software and system requirements. (SEM)

Verification – The process of evaluating a software product or system to determine whether or not the work products of a stage of the project lifecycle fulfill the requirements established during the previous stage. (SEM)

Verification Test – Verifies that a product or product component fulfills its intended use when placed in its intended environment. (Testing Manual)

Version – (1) One of several sequentially created configurations of a data/document product. (2) A supplementary identifier used to distinguish a changed body or set of computer-based data (software) from the previous configuration with the same primary identifier. Version identifiers are usually associated with data (such as files, databases and software) used by, or maintained in, computers. (SMG)

Version Description Document (VDD) – A document associated with a product release that describes the version released and describes the versions of the items included in the product. (SMG)

Version number – An indicator of the hardware and basic operating system upon which the program operates. The version, release, modification, and fix levels together comprise the program level (version) of a program. (SMG)

Volume testing – To verify that the application/system successfully functions under the following high volume scenarios:

- Maximum (actual or physically capable) number of clients connected (or simulated) all performing the same, worst-case (performance) business function for an extended period.
- Maximum database size has been reached (actual or scaled) and multiple queries/report transactions are executed simultaneously.

- W -

Walkthrough – An analysis technique in which a team of subject matter experts review a segment of

code, documentation, or other work product, ask questions, and make comments about possible errors, violation of development standards, and other problems. (SEM)

Waterfall Development Methodology – A sequential software development process, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of Conception, Initiation, Analysis, Design (validation), Construction, Testing and Maintenance. (Testing Manual)

Weight – An arbitrary value assigned to an attribute (criteria). The more critical or important an attribute is considered to the analysis, the higher the value that is assigned (weight), creating weight value. (DAR)

Weight values – See "Weight." (DAR)

Weighted – Adjusted to reflect value or proportion. (DAR)

Weighted average – An average in which each value to be averaged is assigned a weight. These weightings determine the relative importance of each value on the average. (DAR)

Weighted average composite index – A result of totaling up a series of weighted averages and then dividing by that total by the number of weighted averages in the series. (DAR)

White-Box Testing – In this case a tester knows the internal program structure and its code. As a result, the tester can execute each program statement and function, check intended error handling, etc. This testing involves source code reviews, walkthroughs, as well as design and execution of tests, based on the access to the program code. (Testing Manual)

Work Breakdown Structure (WBS) – A deliverable-oriented grouping of project elements which organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project component. Project components may be products or services. (PMM)

Work package – A deliverable at the lowest level of the work breakdown structure. A work package may be further decomposed into activities. (PMM)

Work product – Any tangible item that results from a project function, activity, or task. Examples of work products include process descriptions, plans, procedures, computer programs, and associated documentation, which may or may not be intended for delivery to the system owner and other project stakeholders.

Workaround – A response to a negative risk event. Distinguished from contingency plan in that a workaround is not planned in advance of the occurrence of the risk event. (PMM)

- X -

- Y -

- Z -