

GLOSSARY

-A-

Acceptance Testing – Formal testing conducted to determine whether or not a system satisfies its acceptance criteria and to enable the customer to determine whether or not to accept the system.

Accreditation – Formal declaration by an accrediting authority that a computer system is approved to operate in a particular security mode using a prescribed set of safeguards.

Activity – A unit of work to be completed in order to achieve the objectives of a work breakdown structure. In process modeling, an activity requires inputs and produces outputs.

Actual Cost of Work Performed – The cost actually incurred and recorded in accomplishing the work performed within a given time period.

Agency Chief Information Officer – See *Chief Information Officer*.

Agency Evaluation Committee – Group that follows a formal evaluation process to review and select a contractor using the previously defined evaluation method and evaluation criteria.

Analogous Estimates – A simple estimating technique normally employed to develop early rough-order-of magnitude estimates. The central theory around analogous estimating is that project costs can be estimated by comparison to other similar type project efforts.

Application – A system providing a set of services to solve some specific user problem.

Architecture – An integrated framework for evolving or maintaining existing technologies and acquiring new technologies to support the mission(s).

Asset Management Repository – A tool that stores multiple types of information about project and/or organizational assets (elements of software and hardware)

Audit – A formal review of a project (or project activity) for the purpose of assessing compliance with contractual obligations.

Availability – The degree to which a system (or system component) is operational and accessible when required for use.

-B-

Backup – *v.* To copy software files onto a different media that can be sorted separately from the original files and used to restore the original files, if needed. The act of creating these files. *n.* The set of copied files.

Baseline – A work product (such as software or documentation) that has been formally reviewed, approved, and delivered and can only be changed through formal change control procedures.

Best Practices – Techniques or methodologies that, through experience and research, have reliably led to a desired or optimum result.

Beta Testing – Testing a close-to-complete and stable system by making it available to selected users.

Bottom-up – The process of designing a system by designing the low-level components first; then integrating them into large subsystems until the complete system is designed; bottom-up testing tests these low-level components first, using software drivers to simulate the higher level components.

Bottom-up Estimates – Estimates that are decomposed into detailed parts. An estimate of what is needed to meet the requirements of each of the lower, detailed pieces of work is prepared, and these estimates are then aggregated. The accuracy of bottom-up estimating is driven by the size and complexity of the work identified at the lower levels.

Budgeted Cost of Work Performed – The value of work performed expressed in terms of the approved budget assigned to that work for a schedule activity or work breakdown structure component.

Budgeted Cost of Work Scheduled – The authorized budget assigned to the scheduled work to be accomplished for a schedule activity or work breakdown structure component.

Build – An operational version of a software product incorporating a specified subset of the complete system functionality.

Business Case – A detailed description of how an investment is expected to support agency mission functions. It includes an analysis of business process performance and associated needs or problems, proposed alternative systems, assumptions, constraints, and cost-benefits analysis.

Business Owner – The representative that leads the organization that requires or directly benefits from the product or services being provided by the project. The Business Owner is the ultimate champion and works with the Agency CIO to appoint a Project Sponsor to represent the interest of the organization.

Business Process – A collection of related, structured activities or chain of events that produce a specific service or product for a particular customer or group of customers.

Business Process Reengineering – The redesign of an organization, culture, and business processes to achieve significant improvements in costs, time, service, and quality.

-C-

Capability – A measure of the expected use of a system.

Capacity – A measure of the amount of input a system could process and/or amount of work a system can perform; for example, number of users, number of reports to be generated.

Certification – Comprehensive analysis of the technical and non-technical security features and other safeguards of a system to establish the extent to which a particular system meets a set of specified security requirements.

Change – In Configuration Management, a formally recognized revision to a specified and documented requirement.

Change Control – In Configuration Management, the process by which a change is proposed, evaluated, approved (or disapproved), scheduled, and tracked.

Change Implementation Notice – The formal Change Control Document used to report the actual implementation of a change in a system.

Chief Financial Officer – The Agency representative responsible for financial planning, reporting, and financial risk management.

Chief Information Officer – The Agency’s principal advisor on the effective application of information technology to business needs.

Code – *v.* To transform the system logic and data from design specifications into a programming language. *n.* The computer program itself; pseudo-code is code written in an English-like logical representation, source code is code written in a programming language, object code is code written in machine language.

Commercial-off-the-shelf – Software or hardware that is complete and available for sale, lease, or license to the general public.

Communication Management Plan – Document that describes: the communications needs and expectations for the project, how and in what format information will be communicated, when and where each communication will be made, and who is responsible for providing each type of communication. This plan is a subsidiary of the Project Management Plan.

Complete System – Includes all code – modules, components, and libraries – kept in the production version of the data repository.

Component – General term for a part of a software system (hardware or software).

Concept of Operations – A formal document that describes the user’s environment and process relative to a new or modified system; defines the users, if not already known. Called a CONOPS.

Concept Development Phase – Phase that begins after the need or opportunity has been identified in the Initiation Phase. The approaches for meeting this need are reviewed for feasibility and appropriateness (for example, cost-benefit analysis) and documented in the SBD.

Concept Proposal – a key deliverable of Phase 1 Initiation, this document captures the analysis of a project opportunity and describes the business need or opportunity. It identifies where strategic goals are not being met or areas where mission performance needs to be improved.

Configuration – The functional and/or physical collection of hardware and software components as set forth in formal documentation. Also, the requirements, design, and implementation that define a particular version of a system (or system component).

Configuration Audit – Formal review of a project for the purpose of assessing compliance with the Configuration Management Plan.

Configuration Control – The process of evaluating, approving or (disapproving), and coordinating changes to hardware/software configuration items.

Configuration Control Board – The formal entity charged with the responsibility of evaluating, approving (or disapproving), and coordinating changes to hardware/software configuration items.

Configuration Item – An aggregation of hardware and/or software that satisfy an end-use function and is designated by the customer for configuration management; treated as a single entity in the configuration management process. A component of a system requiring control over its development throughout the life cycle of the system.

Configuration Management – The discipline of identifying the configuration of a hardware/software system at each life cycle phase for the purpose of controlling changes to the configuration and maintaining the integrity and trace ability of the configuration through the entire life cycle.

Configuration Management Plan – A formal document that establishes formal configuration management practices in a systems development/maintenance project.

Configuration Management Repository – Controlled repository for source code.

COConstructive COst MOdel II (COCOMO II) – The COCOMO 2.0 model is an update of COCOMO 1981 to address software development practices in the 1990s and 2000s. It was developed by USC-CSE, UC Irvine, and 29 affiliate organizations. It is a model that allows one to estimate the cost, effort, and schedule when planning a new software development activity.

Configuration Status Accounting – The recording and reporting of the information that is needed to effectively manage a configuration; including a listing of the approved configuration

identification, status of proposed changes to the configuration, and the implementation status of approved changes.

Consulting and Technical Services – A master contract to enable State government to procure IT consulting and technical services in a timely and economical manner.

Conversion – The process of converting (or exchanging) data from an existing system to another hardware or software environment.

Conversion Plan – A formal document that describes the strategies and approaches for converting/migrating data from an existing system to another hardware or software environment.

Correctness – The degree to which a system or component is free from faults in its specification, design, and implementation.

Cost-Benefit Analysis – The comparison of alternative courses of action, or alternative technical solutions, for the purpose of determining which alternative would realize the greatest cost benefit; cost-benefit analysis is also used to determine if the system development or maintenance costs still yield a benefit or if the effort should stop.

Cost Estimate – the process of determining the total cost associated with a software development or maintenance project, to include the effort, time, and labor required.

Criteria – A standard on which a decision or judgment may be based; for example, acceptance criteria to determine whether or not to accept a system.

Customer – An individual or organization who specifies the requirements for and formally accepts delivery of a new or modified system; one who pays for the system. The customer may or may not be the user.

-D-

Data Dictionary – A repository of information about data, such as its meaning, relationships to other data, origin, usage and format. A data dictionary manages data categories such as aliases, data elements, data records, data structure, data store, data models, data flows, data relationships, processes, functions, dynamics, size, frequency, resource consumption and other user-defined attributes. It also supports the data model as the repository of information about the data, including details on entities, their attributes, and relationships between the entities.

Data Model – A model that documents the business processes and underlying data by depicting the data structure, its characteristics, and the relationships between the data using graphical notation.

Data Retention Plan – Document that describes the project policies for data and records management.

Database Administrator – The person responsible for managing data at a logical level, namely data definitions, data policies and data security.

Database – A collection of logically related data stored together in one or more computerized files; an electronic repository of information accessible via a query language interface.

Defect Log – Tracks and summarizes in a tabular format defects or bugs found during testing. Defects may be documented via multiple commercially available bug tracking tools or manually in a spreadsheet.

Deliverable – A formal product that must be delivered to (and approved by) the customer; called out in the Task Order.

Design Phase – The period of time in the systems development life cycle during which the designs for architecture, software components, interfaces, and data are created, documented, and verified to satisfy system requirements.

Development Phase – The period of time in the systems development life cycle to convert the deliverables of the Design Phase into a complete system.

Development Team – The group of resources that produces the primary deliverables associated with the design, development and/or configuration, testing, and implementation of the product or service.

Disaster Recovery Plan – An IT-focused plan designed to restore operability of targeted systems, applications, or a computer facility due to a natural or man-made extended interruption of an agency's business services.

Disposition Phase – The time when a system has been declared surplus and/or obsolete and the task performed is either eliminated or transferred to other systems.

Disposition Plan – Identifies how the termination of the system/data will be conducted, and when, as well as the system termination date, software components to be preserved, disposition of remaining equipment, and archiving of life cycle products.

Document – Written and/or graphical information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, reviews, or results.

Document Repository – Tool for storing and managing documents.

-E-

Effectiveness – The degree to which a system's features and capabilities meet the user's needs.

Enhancement – Maintenance performed to provide additional functional or performance requirements.

Enterprise Architecture – A conceptual blueprint that defines the structure and operation of an organization.

Executive Sponsor – The representative of executive management with final decision-making authority regarding scope, cost, and schedule.

-F-

Fault Tolerance – The ability of a system (or system component) to continue normal operation despite the presence of hardware or software faults.

Feasibility – The extent to which the benefits of a new or enhanced system will exceed the total costs and also satisfies the business requirements.

Feasibility Study – A formal study to determine the feasibility of a proposed system (new or enhanced) in order to make a recommendation to proceed or to propose alternative solutions.

Fiscal Year – The 12-month period over which the State or agency manages its yearly budget.

Fixed-Price Contract – Contract that provides a firm price and places upon the contractor the risk and full responsibility for all costs and resulting profit or loss. This contract type provides additional incentive for the contractor to control costs and perform effectively.

Function Point Analysis – Function points are a measure of the size of computer applications and the projects that build them. The size is measured from a functional, or user, point of view. It is independent of the computer language, development methodology, technology or capability of the project team used to develop the application.

Functionality – The relative usefulness of a functional requirement as it satisfies a business need.

Functional Configuration Audit – An audit to ensure that the functional requirements have been met by the delivered configuration item.

Functional Requirement – A requirement that specifies a function (activity or behavior, based on a business requirement) that the system (or system component) must be capable of performing.

Functional Requirements Document – A formal document of the business (functional) requirements of a system including, but not limited to, functional process requirements, data requirements, system interface requirements, non-functional or operational requirements, and a requirements traceability matrix; the baseline for system validation.

-G-

-H-

Hardware – The physical portion of a system (or subsystem), including the electrical components.

Hosting – The computer that controls communications in a network that administers a database; the computer on which a program or file is installed; a computer used to develop software intended for another computer.

-I-

Implementation – Installing and testing the final system, usually at the user (field) site; the process of installing the system.

Implementation Notice – Formal request for approval for system changes made during the Implementation Phase.

Implementation Phase – The period of time in the systems development life cycle when the system is installed, made operational, and turned over to the user (for the beginning of the Operations and Maintenance Phase).

Implementation Plan – A formal document that describes how the system will be deployed as an operational system. The implementation procedures include migration strategies to support running parallel activities during the transition.

In-Process Review – Formal review conducted (usually annually) during the Operations and Maintenance Phase in which the System Manager evaluates system performance against baseline performance, user satisfaction with the system, adaptability to changing business needs, and new technologies that might improve the system. Project stakeholders may request ad hoc reviews when deemed necessary.

Incident Report – A document that describes an occurrence of a security incident, or a violation or imminent threat of violation of computer security policies, acceptable use of policies, or standard security practices (NIST SP800-61).

Independent Acceptance Testing – Acceptance testing performed conducted by persons separate from the management and operation of the investment or system.

Independent Security Testing – Security testing performed conducted by persons separate from the management and operation of the investment or system.

Independent Verification and Validation – An independent review conducted by persons separate from the management and operation of the investment or system.

Information System – A discrete set of information resources organized for the collection, processing, maintenance, transmission, and dissemination of information in accordance with defined procedures, whether automated or manual.

Information Technology – The application of engineering solutions in order to develop computer systems that process data.

Information Technology Architecture – The organizing logic for data, application and infrastructure, captured in a set of policies, relationships and technical choices to achieve desired business and technical standardization and integration. By providing a roadmap for infrastructure, applications and investment decisions, architecture decisions are pivotal to effective IT management and use.

Information Technology Master Plan – The annual State of Maryland plan that outlines state-wide information technology objectives and strategies.

Information Technology Project Request – The mechanism for requesting approval to begin a new project, continue an existing project, or fund a new or existing project. .

Infrastructure – The operating environment (e.g. hardware, software, and communications).

Initiation Phase – Life cycle phase in which the project starts because agency management determines that a business process requires enhancement through an agency information technology project and investment in the application of information technology assets.

Initiation Process Group – One of the five PMBOK process groups. Initiation tasks are those undertaken to define and authorize the project.

Input/Output – The process of entering information into a system (input) and its subsequent results (output). A hardware device that enables input (for example, a keyboard or card reader) and output (for example, a monitor or printer).

Inspection – A semiformal to formal technique in which software requirements, design, or code are examined in detail by a person or group other than the originator to detect errors.

Integration Document – A formal document that the assembly and interaction of the hardware, software, and any other components of the system.

Integration Testing – Testing in which software components, hardware components, or both are combined and tested to evaluate the interaction between them.

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

Issue Logs – Lists of project issues and issue information such as description, date identified, corrective actions, resources assigned, etc.

Iterative – A procedure in which repetition of a sequence of activities yields results successively close to the desired state; for example, an iterative life cycle in which two or more phases are repeated until the desired product is developed.

Interface – To interact or communicate with another system (or system component). An interface can be software and/or hardware.

Information Technology Systems Security Certification and Accreditation – A formal set of documents showing that the installed security safeguards for a system are adequate and work effectively.

-L-

Lessons Learned – A formal or informal set of examples collected from experience (for example, experience in system development) to be used as input for future projects to know what went well and what did not; collected to assist other projects.

Life Cycle – All the steps or phases a project passes through during its system life; from concept development to disposition. There are nine life cycle phases in the SDLC.

-M-

Maintenance – In software engineering, the activities required to keep a software system operational after implementation.

Maintenance Manual – Formal document that details effective system maintenance. Appendices might document maintenance procedures, standards, or other essential information on areas such as backup, networking and connectivity, access and authentication, cabling, and critical services.

Major Information Technology Development Project – any information technology development project that meets one or more of the following criteria:

1. the estimated total cost of development equals or exceeds \$1 million;
2. the project is undertaken to support a critical business function associated with the public health, education, safety, or financial well-being of the citizens of Maryland; or
3. the Secretary determines that the project requires the special attention and consideration given to a major information technology development project due to:
 - (i) the significance of the project's potential benefits or risks;
 - (ii) the impact of the project on the public or local governments;
 - (iii) the public visibility of the project; or
 - (iv) other reasons as determined by the Secretary.

Managing for Results – A statewide program that links agency activities to agency goals.

Maryland Enterprise Architecture Repository – A super-database supporting enterprise planners in identifying modernization and transformation opportunities. The Repository bridges islands of information throughout the State by combining and comparing related data and turning it into useful information. State agency representatives are responsible for populating it with data and using the reports to support their daily IT decision-making processes.

Maryland Information Technology Non-Visual Access (MD IT NVA) Regulatory Standards – The general requirements and responsibilities for ensuring that information technologies are compliant with the regulatory requirements for nonvisual access.

Measurement – In project management, the process of collecting, analyzing and reporting metrics data.

Methodology – A set of methods, procedures, and standards that define the approach for completing a system development or maintenance project.

Metrics – A quantitative measure of the degree to which a system, component, or process possesses a given attribute.

Migration – Porting a system, subsystem, or system component to a different hardware platform.

Milestone – In project management, a scheduled event that is used to measure progress against a project schedule and budget.

Mission Goals – The goals or objectives of an organization or activity.

Model – A simplified representation or abstraction (for example, of a process, activity, or system) intended to explain its behavior.

Module – In system design, a software unit that is a logically separate part of the entire program.

-N-

National Institute of Standards and Technology – A federal technology agency that develops and promotes measurement, standards, and technology.

Net Present Value – The total present value of a time series of cash flows. It is a standard method for using the time value of money to appraise long-term projects.

Non-functional Requirements – Non-functional requirements describe characteristics or specific parameters of the system and include audit, availability, capacity, performance, and security requirements. Other non-functional requirements include compliance with regulations and standards such as data retention and the Maryland Information Technology Non-Visual Access (MD IT NVA) Regulatory Standards.

Non-technical – Relating to agreements, conditions, and/or requirements affecting the management activities of a project.

-O-

Operations Manual – A formal document that provides a detailed operational description of the operations of the mainframe system and its interfaces.

Operations and Maintenance – Activities related to the performance of routine, preventive, predictive, scheduled, and unscheduled actions aimed at preventing equipment failure or decline with the goal of increasing efficiency, reliability, and safety.

Operations and Maintenance (O&M) Phase – The period of time in the systems development life cycle during which a software product is employed in its operational environment, monitored for satisfactory performance, and modified as necessary to correct problems or to respond to changing requirements.

-P-

Parametric Estimates – Estimating technique that uses a statistical relationship between historical data and other variables to calculate an estimate for activity parameters, such as scope, cost, budget and duration.

Phase – A defined stage in the systems development life cycle; there are nine phases in the full, sequential life cycle.

Phase Review – A formal review conducted during a life cycle phase; usually at the end of the phase or at the completion of a significant activity.

Performance Measurement – Method used to determine the success of an initiative by assessing the investment contribution to predetermined strategic goals. Measures are quantitative (e.g., staff hours saved, dollars saved, reduction in errors, etc.) or qualitative (e.g., quality of life, customer satisfaction, etc.).

Planning Phase – The period of time in the systems development life cycle in which a comprehensive plan for the recommended approach to the systems development or maintenance project is created. Follows the Systems Concept Development Phase, in which the recommended approach is selected.

Planning Process Group – One of the five *PMBOK* process groups. Planning tasks are those undertaken to define and refine project objectives and plan a course of action required to attain project objectives.

Planning Team – The team that contributes to project deliverables developed from the Concept Development Phase through the Requirements Analysis Phase.

Post-Implementation Review – A formal evaluation of the information technology investment’s systems development effort after the system fully implemented (usually for at least six months) to determine whether the targeted outcome of the investment has been achieved.

Post-Implementation Review Report – Summarizes the assessment of Implementation activities at the end of the Implementation Phase.

Post-Termination Review – A formal review that documents the findings of the Disposition Phase Review and the lessons learned from shutting down and archiving the terminated system; this report also identifies the repository for all archived products and documentation.

Post-Termination Review Report – A formal document detailing the findings of the Post-Termination Review.

Procedure – A series of steps (or instructions) required to perform an activity. Defines “how” to perform an activity.

Process – A finite series of activities as defined by its inputs, outputs, controls (for example, policy and standards), and resources needed to complete the activity. Defines “what” needs to be done.

Process Model – A graphical representation of a process.

Procurement Documents – Documents such as a Request For Proposal or a Task Order Request For Proposal distributed to elicit competitive and comprehensive offers from potential contractors for a product or service. The document specifies the scope of the desired procurement, defines the evaluation process, and delineates the deliverables and requirements associated with the project.

Procurement Officer – The State official responsible for planning and implementing procedures in the acquisition of goods and services.

Progressive Elaboration – A project management technique to continuously improve and detail a project plan as more specific information and more accurate estimates become available as the project progresses. The result is that plans are more accurate and complete, resulting from multiple iterations of the planning process.

Product – General term for an item produced as the result of a process; can be a system, subsystem, software component, or a document.

Production – A fully documented system, built according to the SDLC, fully tested, with full functionality, accompanied by training and training materials, and with no restrictions on its distribution or duration of use.

Project – The complete set of activities associated with all life cycle phases needed to complete a systems development or maintenance effort from start to finish (may include hardware,

software, and other components); the collective name for this set of activities. Typically a project has its own funding, cost accounting, and delivery schedule.

Project Charter – A key deliverable of Phase 1 Initiation, this document formally authorizes the work to begin on a project and links the project work to the organization.

Project Management – The process of planning, organizing, staffing, directing, and controlling the development and/or maintenance of a system.

Project Management Body of Knowledge – Project management resource developed by the Project Management Institute.

Project Management Plan – Document that defines the technical and management approach to carrying out the project schedule and a defined scope of work, including the project organization, resources, methods, and procedures.

Project Management Professional – A person who has completed Project Management Institute's certification. Each holder of the certification must adhere to a formal code of professional conduct and accumulate a certain minimum amount of relevant experience over a period of three years starting January 1 after successfully completing the examination process.

Project Manager – The person with the overall responsibility and authority for the day-to-day activities associated with a project.

Project Organization Chart – A document that graphically depicts the project team members and their interrelationships.

Project Scope Statement – A key deliverable of Phase 2 Concept Development, this document describes in detail the project deliverables and the work required to create those deliverables. It establishes a common understanding of project scope among project stakeholders and describes the project's major objectives.

Project Sponsor – The principle authority regarding the expression of business needs, the interpretation of functional requirements language, and the mediation of issues regarding the priority, scope, and domain of the business requirement. The Project Sponsor must understand what constitutes the project's scope and be accountable for the project's execution. The Project Sponsor should have the following skills: Sufficient domain and managerial experience, interest in the project, capacity to attend to the project, and political acumen to assist the team in solving problems and removing roadblocks to progress. The Project Sponsor ensures adequate funding for the project and oversees performance of the Planning and Development Teams. The Project Sponsor participates in managing the project activities, principally approving key deliverables, resolving issues and risks, and measuring progress to move forward. The Project Sponsor must have a firm grasp of the obligations of this role and have the time and resources to ensure the proper execution of the project.

Project Staffing Estimates – A preliminary estimate of resources required to complete the project; serves as an input for the project staffing management plan.

Project Stakeholders – People or organizations actively involved in the project or whose interests may be positively or negatively affected by execution or completion of the project. A stakeholder may also exert influence over the project and its deliverables.

Prototype – A system development methodology to evaluate the design, performance, and production potential of a system concept (it is not required to exhibit all the properties of the final system). Prototypes are installed in a laboratory setting and not in the field, nor are they available for operational use. Prototypes are maintained only long enough to establish feasibility.

-Q-

Quality – The degree to which a system, component, product, or process meets specified requirements.

Quality Assurance – A discipline used by project management to objectively monitor, control, and gain visibility into the development or maintenance process.

Quality Assurance Review – A formal review to ensure that the appropriate Quality Assurance activities have been successfully completed, held when a system is ready for implementation.

Quality Management Plan – A subsidiary plan to the Project Management Plan. Identifies relevant quality standards and determines how those standards will be satisfied.

-R-

RACI Chart – A matrix describing the participatory role types of various teams or people in completing tasks or deliverables for a project or business process. It is especially useful in clarifying roles and responsibilities in cross-functional/departmental projects and processes.

Rapid Application Development - In a RAD work pattern, the Requirements Definition and Design phases are iteratively conducted; in this process, a rough set of requirements is used to create an initial version of the system, giving users visibility into the look, feel, and system capabilities. User evaluation and feedback provide revisions to the requirements, and the process is repeated until the requirements are considered to be complete.

Readiness Document – Consolidates summary information regarding the current status of the system and the project and provides decision makers with the information necessary to make a “Go-No Go” decision. It should include a checklist for all work products, User Acceptance Test results, other quality control checks such a peer review, and results of the system walkthroughs.

Records Management – The formal set of system records (for example, files, data) that must be retained during the Disposition Phase; the plan for collecting and storing these records.

Recoverability – The ability of a software system to continue operating despite the presence of errors.

Regression Test - In software maintenance, the rerunning of test cases that previously executed correctly in order to detect errors introduced by the maintenance activity.

Release – A configuration management activity wherein a specific version of software is made available for use.

Release Notes – Summary information regarding the current release of the system being built; typically includes major new features and changes and identifies known problems and workarounds.

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

Request for Proposal – Document to elicit competitive and comprehensive offers from potential contractors for a product or service. The document should specify the scope of the desired procurement, define the evaluation process, and delineate the deliverables and requirements associated with the project.

Requirement – A capability needed by a user; a condition or capability that must be met or possessed by a system (or system component) to satisfy a contract, standard, specification, or other formally imposed documents.

Requirements Analysis Phase – The period of time in the systems development life cycle during which the requirements for a software product are formally defined, documented and analyzed.

Requirements Traceability Matrix – A table that links requirements to their origins and traces them throughout the project life cycle.

Reserve Analysis – A method for determining the amount required for project reserves. It is generally based on the risk profile of the project.

Resource – In management, the time, staff, capital and money available to perform a service or build a product; also, an asset needed by a process step to be performed.

Responsibility Assignment Matrix – Defines in detail the roles, authority, responsibility, skills, and capacity requirements for all project tasks needed to complete the project. The agency and contractor responsibilities are addressed in the RAM.

Reverse Engineering – A software engineering approach that derives the design and requirements of a system from its code; often used during the maintenance phase of a system with no formal documentation.

Review – A formal process at which an activity or product (for example, code, document) is presented for comment and approval; reviews are conducted for different purposes, such as peer reviews, user reviews, management reviews (usually for approval) or done at a specific milestone, such as phase reviews (usually to report progress).

Review Report – A formal document that records the results of a review.

Risk – A potential occurrence that would be detrimental to the project; risk is both the likelihood of the occurrence and the consequence of the occurrence.

Risk Assessment – The process of identifying areas of risk; the probability of the risk occurring, and the seriousness of its occurrence; also called risk analysis.

Risk Management – The identification, measurement, control, and minimization of risk in order to optimize the probability of success (that is, minimize the risk).

Risk Management Plan – A formal document that identifies project risks and specifies the plans to reduce these risks.

Role – A defined responsibility (usually task) to be carried out by one or more individuals.

Rough Order of Magnitude – An estimate used when a project is in nascent, and requirements are not yet detailed.

-S-

Schedule Variance – Earned value minus the planned budget for the completed work.

Scope – The established boundary (or extent) of what must be accomplished; during planning, the scope defines what the project will comprise (and just as important, what the project will not comprise).

Scope of Work – Document that defines the project boundaries. One of the most critical parts of a procurement document, the statement of work describes, in detail, the project deliverables, deliverable requirements, and the work required to create those deliverables.

Secretary of the Department of Information Technology – The senior State IT manager who serves as the Governor's principle advisor in information technology matters.

Security – The establishment and application of safeguards to protect data, software, and hardware from accidental or malicious modification, destruction, or disclosure. Measures and controls that ensure the confidentiality, integrity, availability, and accountability of the information processes stored by a computer.

Security Officer – The team member responsible for 1) monitoring the secure operations of the system and site by the business operations community, and 2) ensuring the system and site is deployed and operated according to the documented security requirements through integration of all security disciplines (Management, Operational, and Technical) to maintain an acceptable level of risk.

Security Plan – Plan documenting system security considerations such as access, physical or architectural modifications, and adherence to State security requirements.

Security Risk Assessment – Tool that permits developers to make informed decisions relating to the acceptance of identified risk exposure levels or implementation of cost-effective measures to reduce those risks. Addresses threats, vulnerabilities, risks, outcomes, and security controls. It also evaluates compliance with baseline security requirements, identifies threats and vulnerabilities, and assesses alternatives for mitigating or accepting residual risks.

Security Test – A formal test performed on an operational system, based on the results of the security risk assessment in order to evaluate compliance with security and data integrity guidelines, and address security backup, recovery, and audit trails.

Sensitive System – A system or subsystem that requires an IT Systems Security Certification and Accreditation; contains data requiring security safeguards.

Software – Computer programs (code), procedures, documentation, and data pertaining to the operation of a computer system.

Software-as-a-service – Web-based software purchased on a subscription basis.

Software Development Document – Contains all of the information pertaining to the development of each unit or module, including the test cases, software, test results, approvals, and any other items that will help explain the functionality of the software.

Software Reuse – Involves reusing segments of source code to add new functionalities with slight or no modification.

Standard – Mandatory requirements to prescribe a disciplined uniform approach to software development and maintenance activities.

Standard Operating Procedures – Define in detail how the Operations & Maintenance (O&M) team will perform the business processes related to the maintenance O&M of the system. Whereas the User Guide is focused on the use of the system specifically, the SOP addresses all related business processes.

State Archivist – The Senior Manager who oversees the Maryland State Archives and is responsible for the Archive's collection of government and private materials.

Subject Matter Expert – A person with extensive expertise in a particular area.

Subsystem – A collection of components that meets the definition of a system, but is considered part of a larger system.

System – A collection of components (hardware, software, interfaces) organized to accomplish a specific function or set of functions; generally considered to be a self-sufficient item in its intended operational use.

System (Application) Software – This file or set of files contains the application or software code on discs or other media.

System Boundary Document – A legacy SDLC document, replaced by the *PMBOK* Project Scope Statement.

System Component – Any of the discrete items that comprise a system or subsystem.

System Design Document – A formal document that describes the system architecture, file and database design, interfaces, and detailed hardware/software design; used as the baseline for system development. Specifies the details of the system and each system component and their interaction with each other and external systems and the interface that allows users to operate the system and its functions.

System Documentation – Includes all technical documentation delivered during the project (e.g. the System Design Document (SDD) and the User Guide).

System Security Consensus Document – Single document containing all information relevant to completing the system's Certification & Accreditation.

System Security Plan – A formal document that establishes the processes and procedures for identifying all areas where security could be compromised within the system (or subsystem).

System Testing – The process of testing an integrated hardware/software system to verify that the system meets its documented requirements, including performance requirements

Systems Administration Manual – A manual, oriented toward distributed (client/server) applications, that provides details about system operations.

Systems Development Life Cycle – A formal model of a hardware/software project that depicts the relationship among activities, products, reviews, approvals, and resources. Also, the period of time that begins when a need is identified (initiation) and ends when the system is no longer available for use (disposition).

System Manager – The individual, or group, responsible for post-implementation system maintenance, configuration management, change control, and release control. This may or may not include members of the development team.

System Software – Software designed to facilitate the operation of a computer system and associated computer programs (for example, operating systems, code compilers, utilities).

Systems Team – A highly technical group of people that provide Maintenance and Operational support to the product or services delivered by the Development Team at implementation.

-T-

Target – The computer that is the destination for a host communication; See *Host*. In programming, a language into which another language is to be translated.

Task – In project management, the smallest unit of work subject to management accountability; a work assignment for one or more project members fulfilling a role, as defined in a work breakdown structure.

Technical – Relating to agreements, conditions, and/or requirements affecting the functionality and operation of a system.

Technical Requirements – Description of hardware, software, and communications requirements associated with the initiative.

Test – The process of exercising the product to identify differences between expected and actual results and performance. Typically testing is bottom-up: unit test, integration test, system test, and acceptance test.

Test Analysis Approval Determination – Summarizes the system's perceived readiness and is attached to the Test Analysis Report as a final result of the test reviews for all testing levels above the Integration test.

Test Analysis Reports – Formal documentation of the software testing as defined in the Test Plan. Presents a description of the unit tests and the results mapped to the system requirements and identifies system capabilities and deficiencies.

Test Data – Dummy files/data, which are not live or sensitive, developed for the purpose of executing a test; becomes part of a test case.

Test Phase – Life cycle phase during which subsystem integration, system, security, and user acceptance testing are conducted; done prior to the Implementation Phase.

Test Master Plan – The formal document that identifies the tasks and activities so the entire system can be adequately tested to assure a successful implementation.

Test Problem Reports – Document problems encountered during testing; attached to the Test Analysis Report.

Time and Materials Contract – Services based on direct labor hours at a fixed hourly rate, which typically includes wages, overhead, general and administrative expenses, and profit.

Tools – Software application products that assist in the design, development, and coding of software.

Traceability – In requirements management, the identification and documentation of the derivation path (upward) and allocation path (downward) of requirements in the hierarchy.

Training – The formal process of depicting, simulating, or portraying the operational characteristics of a system or system component in order to make someone proficient in its use.

Training Plan – A formal document that outlines the objectives, needs, strategy, and curriculum to be addressed for training users of the new or enhanced system.

-U-

Unit – the smallest logical entity specified in the design of a software system; must be of sufficient detail to allow the code to be developed and tested independent of other units.

Unit/Module Testing – In testing, the process of ensuring that the software unit executes as intended; usually performed by the developer.

Unit and Integration Test Plans – The detailed scripts used in the Development and Test Phases for evaluating the completeness and correctness of the smallest parts of the system and the components created from those parts. The test scripts are more specific than the Test Master Plan, which is high-level and more focused on processes.

Upgrade – A new release of a software system for the purpose of including a new version of one or more system components.

Usability – The capability of the software product to be understood, learned, used and is of value to the user, when used under specified conditions.

User – An individual or organization who operates or interacts directly with the system; one who uses the services of a system. The user may or may not be the customer.

User Acceptance Test – Formal testing conducted to determine whether or not a system satisfies its acceptance criteria and to enable the user to determine whether or not to accept the system.

User Interface – The software, input/output devices, screens, procedures, and dialogue between the user of the system (people) and the system (or system component) itself. See *Interface*.

User Manual – Describes to end users how to make full use of the information system, including system functions and capabilities, contingencies and alternate modes of operation, and step-by-step procedures for system access and use.

-V-

Validation – The process of determining the correctness of the final product, system, or system component with respect to the user’s requirements. Answers the question, “Am I building the right product?”

Variance at Completion – The difference between the total budgets assigned to a contract, WBS element, organizational entity, or cost account and the estimate at completion; represents the amount of expected overrun or under run.

Verification – The process of determining whether the products of a life cycle phase fulfill the requirements established during the previous phase; answers the question, “Am I building the product right?”

Version – An initial release or re-release of a computer software configuration item, associated with a complete compilation or recompilation of the computer software configuration item; sometimes called a build.

Version Description Document – Primary configuration control document used to track and control versions of software released to the operational environment. It also summarizes features and contents for the software build and identifies and describes the version of software delivered.

-W-

Work Breakdown Structure – In project management, a deliverables-oriented hierarchical decomposition of the project team activities associated with developing the project objectives and required deliverables; often used to develop a Gantt chart, its development is a method used to identify, organize and define the total scope of the project.

Work Package – A subset of a project that can be assigned to a specific party for execution. Because of the similarity, work packages are often misidentified as projects. Estimates of Work Packages are used in Earned Value Management to calculate the Planned Value of a project. Progress made against each work package is used to calculate the Earned Value. Actual costs charged to each work package are used in variance analysis.

ACRONYMS

-A-

ADPICS	Advance Purchasing and Inventory Control System
AEC	Agency Evaluation Committee

-B-

BIA	Business Impact Analysis
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-C-

C&A	Certification & Accreditation
CATS	Consulting and Technical Services
CFO	Chief Financial Officer
CIO	Chief Information Officer
COCOMO II	COConstructive COst Model II
ConOps	Concept of Operations
COTS	Commercial Off-The-Shelf
COMAR	Code of Maryland Regulations

-D-

DAA	Designated Approval Authority
DBM	Department of Budget and Management
DRP	Disaster Recovery Plan

-E-

EA	Enterprise Architecture
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-F-

FDD	Feature-Driven Development
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FP	Fixed-price
FISMA	Federal Information Security Management Act
FRD	Functional Requirements Document
FY	Fiscal Year

-G-

-H-

-I-

IEEE	Institute of Electrical and Electronics Engineering
IFB	Invitation for Bid
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITMP	Information Technology Master Plan
ITPR	Information Technology Project Request
IV&V	Independent Verification and Validation

-J-

-L-

-M-

MFR	Managing for Results
MITDP	Major Information Technology Development Project
MTAF	Maryland Technical Architecture Framework

-N-

NIST	National Institute of Standards and Technology
NSA	National Security Agency
-O-	
O&M	Operations and Maintenance
OBA	Office of Budget Analysis
-P-	
PIR	Post-Implementation Review
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMO	Project Management Office
PMP	Project Management Professional/Project Management Plan
PSS	Project Scope Statement
-Q-	
-R-	
RACI	Responsible, Accountable, Consulted, Informed
RAM	Responsibility Assignment Matrix
RFP	Request for Proposal
RMP	Risk Management Plan
ROM	Rough Order of Magnitude
RTM	Requirements Traceability Matrix
RUP	Rational Unified Process
-S-	
SaaS	Software-as-a-Service

SBD	System Boundary Document
SDD	Systems Design Document
SDLC	Systems Development Life Cycle
SOP	Standard Operating Procedures
SOW	Statement of Work
SSCD	System Security Consensus Document

-T-

T&M	Time and Materials
TMP	Test Master Plan
TO	Task Order
TORFP	Task Order Request for Proposal

-U-

UAT	User Acceptance Test
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-V-

-W-

WBS	Work Breakdown Structure
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-X-

-Y-

-Z-