Lifecycle Phases

A central tenet of the federal approach to information technology (IT) investment management is the Select/Control/Evaluate model established by the Government Accountability Office (GAO). This model is reflected in the CMS Integrated IT Investment & System Life Cycle Framework via the following three investment lifecycle phases:

1) IT Investment Selection Phase
2) IT Investment Control Phase
3) IT Investment Evaluation Phase

During the **IT Investment Selection Phase**, CMS seeks to ensure that only sound and viable investments are selected (approved) for funding and inclusion in the CMS IT Investment Portfolio. CMS' focus is on investing money and resources in IT investments/projects that meet the following criteria:

- Align with strategic CMS business objectives and priorities;
- Anticipate a positive return on investment as determined by an analysis of project costs and benefits;
- Have an acceptable level of risk (especially with regard to an assessment of business and security risks), with an appropriate risk mitigation strategy;
- Have an acceptable technical strategy that is compliant with CMS' Enterprise Architecture; and
- Have an acceptable acquisition strategy.

During the **IT Investment Control Phase**, CMS seeks to ensure that selected IT investments/ projects continue to meet mission needs at expected levels of cost and risk as the projects are developed and investment expenditures continue. IT investments/projects are to be managed and implemented in a structured manner, using sound project management practices, and ensuring involvement by business stakeholders and technical experts throughout the remaining life cycle. If the investment/project is not meeting expectations or if problems arise, steps are quickly taken to address the deficiencies. If mission needs change, CMS is able to adjust its objectives for the investment/project and appropriately modify expected outcomes. Each selected CMS IT investment/project must ensure the following:

- Compliance of the proposed solution with CMS' Enterprise Architecture;
- Compliance with sound systems development life cycle and/or project management processes and practices (including implementation of adequate quality assurance and risk management initiatives);
- Compliance with applicable CMS systems security standards and requirements;
- Compliance with applicable Federal requirements concerning privacy compliance and the proper collection, storage, and sharing of data;
- Compliance with applicable Section 508 accessibility standards and requirements; and
- Compliance with applicable CMS infrastructure management standards and requirements.

During the **IT Investment Evaluation Phase**, when the IT investment/project is operating in the production environment, CMS seeks to determine how well the IT investment/project has achieved the business objectives that were initially set forth. Actual versus expected results are

compared to: (1) assess the impact of the investment/project on mission performance, (2) identify any enhancements or modifications that may be needed, and (3) revise the investment management process based on lessons learned. During the IT Investment Evaluation Phase, CMS seeks to determine if and when it may be appropriate to begin the life cycle again for major new enhancements (redesigns) to existing automated systems and/or to appropriately dispose of antiquated (i.e., legacy) systems.

Each of the three investment management phases are further partitioned or aligned with the phases of the system life cycle, as follows:

1.0 IT Investment Selection Phase

1.1 Initiation (Intake) Phase
1.2 Concept Phase

2.0 IT Investment Control Phase

2.1 Planning Phase
2.2 Requirements Analysis Phase
2.3 Design Phase
2.4 Development Phase
2.5 Test Phase
2.6 Implementation Phase
2.7 Initial part of Operations & Maintenance Phase

3.0 IT Investment Evaluation Phase

3.1 Later part of Operations & Maintenance Phase
3.2 Disposition Phase

Regardless of the system development methodology that is employed for a given IT project, the primary activities performed throughout the system life cycle generally remain the same, and are often referred to collectively in terms of the above phases. While the phases of the life cycle are graphically depicted in sequential order within the CMS Integrated IT Investment & System Life Cycle Framework, some of the phases may overlap on some projects or may occur iteratively for other projects, depending on the system development methodology selected for the project.

Initiation (Intake) Phase

Summary Description:

During the Initiation (Intake) Phase, a business need is identified, the business process is modeled, and a preliminary enterprise architecture review is conducted to determine if there is sufficient justification to proceed into the Concept Phase. The Initiation (Intake) Phase may be triggered by a new investment idea or a proposed major enhancement to an existing investment already in operation. Basic information is collected from the business owner and ostensibly assessed to determine if the proposed investment/project potentially duplicates, interferes, contradicts or can leverage off of another investment/project that already exists, is proposed, is under development, or is planned for near-term disposition.

Inputs:

- Identified business need(s)
- Identified Business Owner

Activities:

- Analyze business need(s) & document "Candidate" project information
- Establish Enterprise Architecture (EA) Categorization (I, II, III, or IV)
- Complete acquisition deliverables & activities, as necessary
- Model the "To Be" business process
- Define high-level business requirements in Business Process Model (BPM) narrative
- Prepare/update IT investment information / business case (Project Prospectus) in portfolio management tool
- Assign Project Manager
- Develop preliminary Project Charter (scope statement)
- Perform Architecture Review
- Identify & document issues, actions, & recommendations prior to moving to next phase
- Update EA & project repositories

Outputs:

- Candidate Project Fact Sheet
- Business Process Models (with companion narrative)
- Identified Project Manager
- Preliminary Project Charter (scope statement)
- Acquisition deliverables
- Project Prospectus
- Updated EA Repository
- Updated Project Repository
- Documented issues, actions, & recommendations
- Decision to move to Concept Phase or terminate

Review Checkpoint:

- Architecture Review (OIS Intake Team)

Concept Phase

Summary Description:

During the Concept Phase, high-level analysis and preliminary risk assessment are performed on the proposed investment/project to establish the business case for proceeding forward in the life cycle. Possible business and technical alternatives are identified. High-level system requirements, high-level technical design concept/alternatives and cost estimates are prepared. The Concept Phase ends with a decision by the Information Technology Investment Review Board (ITIRB) of whether or not to commit the necessary resources to solve the business need.

Inputs:

- Approval to enter Concept Phase
- Documented issues, actions, & recommendations from Initiation (Intake) Phase
- Identified Business Owner & Project Manager
- Business Process Models (with companion narrative)
- Project Repository information / Candidate Project Fact Sheet
- Preliminary Project Charter
- Project Prospectus
- EA Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), as necessary
- Continue identification & development of business & high-level system requirements & constraints
- Establish & approve initial requirements baseline
- Develop & document high-level business & technical concept of operations that includes high-level business risk assessment & analysis of alternatives
- Prepare Section 508 assessment for each alternative
- Estimate rough order of magnitude (ROM) & full lifecycle costs for each alternative
- Determine investment/project categorization (e.g., security level)
- Prepare initial Privacy Impact Assessment (PIA)
- Perform initial technical review of project concept & alternatives
- Finalize & approve Project Charter
- Perform Investment Selection Review (ISR)
- Terminate “Candidate” investment/project or convert to an approved investment/project & classify as “Major”, “Non-Major”, or “Unfunded”
- Complete IT investment information / business case in portfolio management tool (Exhibit 300)
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update project repository

Outputs:

- Requirements Document (Version 1)
- High-Level Technical Design Concept / Alternatives (includes cost estimates & Section 508 assessment)
- Project Charter (includes project classification & categorization)
- Initial PIA
- Acquisition deliverables
- Signed DUAs
- Funding (if available & project is approved) with associated spending plan
- Exhibit 300
- Documented issues, actions, & recommendations
- Updated Project Repository
- Decision to move to Planning Phase or terminate

Review Checkpoint:

- Investment Selection Review (ESC/ITIRB)

Planning Phase

Summary Description:

During the Planning Phase, funds and resources are allocated to the project and the project is officially chartered. Acquisition activities are performed, if necessary, to obtain contractor support. The project work is broken down into specific tasks and sub-tasks, including the identification of project deliverables and assignment of allocated resources to each task. The degree of project management rigor that is to be applied to the project is determined and milestones are established. Specific plans for management and governance of the project are established and documented to guide ongoing project execution and control. The Planning Phase ends with a formal review during which the scope, cost, and schedule baselines for the project are established and approved.

Inputs:

- Approval to enter Planning Phase
- Available project funding & associated spending plan
- Documented issues, actions, & recommendations from Concept Phase
- Requirements Document (Version 1.0)
- High-Level Technical Design Concept/Alternatives
- Project Charter
- Initial PIA
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Create Project Management Plan (PMP)
  - Perform initial transition, implementation, & operations planning
  - Plan for records management archiving
- Establish and approve Project Process Agreement (PPA)
- Establish and baseline high-level Project Schedule
- Prepare preliminary draft of Release Plan, if needed
- Perform Integrated Baseline Review (IBR)
- Perform Project Baseline Review (PBR)
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update project repository

Outputs:

- Project Schedule
- Project Management Plan (PMP)
- Project Process Agreement (PPA)
- Acquisition deliverables
- Preliminary draft Release Plan
- IBR Artifacts

- Documented issues, actions, & recommendations
- Updated Project Repository
- Decision to move to Requirements Analysis Phase

Review Checkpoint:

- Project Baseline Review (ESC/ITIRB) – ESD Gate

Requirements Analysis Phase

Summary Description:

During the Requirements Analysis Phase, the business (project in-scope) requirements that were previously documented in an earlier phase are revalidated and further analyzed and decomposed into high-level system (functional and nonfunctional) requirements that define the automated system/application in more detail with regard to inputs, processes, outputs, and interfaces. If appropriate, a logical depiction of the data entities, relationships and attributes of the system/ application is also created. During the Requirements Analysis Phase, the initial strategy for testing and implementation is also begun. In addition, the work planned for future phases is redefined, if necessary, based on information acquired during the Requirements Analysis Phase. The Requirements Analysis Phase ends with a review to determine readiness to proceed to the Design Phase.

Inputs:

- Approval to enter Requirements Analysis Phase
- Documented issues, actions, & recommendations from Planning Phase
- Requirements Document
- High-Level Technical Design Concept/Alternatives
- Preliminary draft Release Plan
- Project Charter
- Project Management Plan (PMP)
- Project Schedule
- Project Process Agreement (PPA)
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), as necessary
- Complete project management deliverables & activities, as necessary (e.g., earned value management (EVM) reporting)
- Review, revalidate, & further decompose/refine requirements & constraints
- Develop Logical Data Model, if needed
- Establish & approve final requirements baseline
- Update Release Plan, if needed
- Develop initial draft of System Security Plan (SSP) and/or Information Security Risk Assessment (IS RA)
- Develop initial draft of Test Plan
  - Develop test scenarios & success criteria
- Initiate development of System of Records (SOR) Notice, if needed
- Perform Requirements Review
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update Project Repository

Outputs:

- Requirements Document (Version 2)
- Logical Data Model
- Updated Release Plan
- Initial draft SSP and/or IS RA
- Initial draft Test Plan
- Project management deliverables
- Acquisition deliverables
- Draft SOR Notice
- Signed DUAs
- Updated Project Repository / Cost Estimates
- Documented issues, actions, & recommendations
- Decision to move to Design Phase

Review Checkpoint:

- Requirements Review (?) – ESD Gate

Design Phase

Summary Description:

The Design Phase seeks to develop detailed specifications that emphasize the physical solution to the user's information technology needs. The system requirements and logical description of the entities, relationships, and attributes of the data that were documented during the Requirements Analysis Phase are further refined and allocated into system and database design specifications that are organized in a way suitable for implementation within the constraints of a physical environment (e.g., computer, database, facilities). A formal review of the high-level architectural design is conducted prior to detailed design of the automated system/application to achieve confidence that the design satisfies the system requirements, is in conformance with the enterprise architecture and prescribed design standards, to raise and resolve any critical technical and/or project-related issues, and to identify and mitigate project, technical, security, and/or business risks affecting continued detailed design and subsequent lifecycle activities. During the Design Phase, the initial strategy for any necessary training is also begun. Estimates of project expenses are updated to reflect actual costs and estimates for future phases. In addition, the work planned for future phases is redefined, if necessary, based on information acquired during the Design Phase.

Inputs:

- Approval to enter Design Phase
- Documented issues, actions, & recommendations from Requirements Analysis Phase
- Requirements Document
- Logical Data Model
- High-Level Technical Design Concept/Alternatives
- Project Charter
- Project Management Plan (PMP)
- Project Schedule
- Project Process Agreement (PPA)
- Updated Release Plan
- Initial draft System Security Plan (SSP) and/or Information Security Risk Assessment (IS RA)
- Initial draft Test Plan
- Draft System of Records (SOR) Notice
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), as necessary
- Complete project management deliverables & activities, as necessary (e.g., EVM reporting)
- Develop, document, & approve high-level system architecture & detailed software & interfaces design solution for selected alternative, including requirements traceability & Section 508 compliance

- Develop, document, & approve physical database design & data conversion plan, if needed
- Update draft SSP and/or IS RA
- Develop draft Contingency Plan
- Finalize SOR Notice & start clearance process, if needed
- Develop Computer Match Agreement (CMA) & Inter/Intra-Agency Agreement (IA) & start clearance process, if needed
- Update Test Plan
- Develop draft Test Cast Specification, if needed
- Finalize Release Plan, if needed
- Create preliminary drafts of Implementation Plan, User Manual, O&M Manual, Training Plan, & Training Artifacts
- Identify Service Level Agreement (SLA) /MOU needs
- Perform Preliminary Design Review (PDR)
- Perform Detailed Design Review (DDR)
- Perform Independent Verification & Validation (IV&V) Assessment, if needed
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update cost & establish resource estimates
- Update Project Repository

Outputs:

- Updated draft SSP and/or IS RA
- System Design Document (SDD)
  - Requirements Traceability Matrix (RTM)
  - Section 508 Product Assessment
- Draft Contingency Plan
- Updated Test Plan
- Draft Implementation Plan
- Draft O&M Manual
- Project management deliverables
- Acquisition deliverables
- Interface Control Document (ICD)
- Physical Data Model / Database Design Document
- Data Conversion Plan
- Draft Test Case Specification
- Final Release Plan
- Final SOR Notice for clearance
- CMA & IA for clearance
- Preliminary drafts of User Manual, Training Plan, & Training Artifacts
- Results from IV&V Assessment
- Signed DUAs
- Documented SLA/MOU needs
- Updated cost & established resource estimates
- Updated Project Repository
- Documented issues, actions, & recommendations

- Decision to move to Development Phase

Review Checkpoints:

- Preliminary Design Review (Technical Review Panel)
- Detailed Design Review (Technical Review Panel) – ESD Gate

Development Phase

Summary Description:

During the Development Phase, the system developer takes the detailed logical information documented in the previous phase and transforms it into machine-executable form, and ensures that all of the individual components of the automated system/application function correctly and interface properly with other components within the system/application. As necessary and appropriate, system hardware, networking and telecommunications equipment, and COTS/GOTS software is acquired and configured. New custom-software programs are developed, database(s) are built, and software components (COTS, GOTS, and custom-developed software and databases) are integrated. Test data and test case specifications are finalized. Unit and integration testing is performed by the developer with test results appropriately documented. Data conversion and training plans are finalized and user procedures are baselined, while operations, office and maintenance procedures are also initially developed. The Development Phase ends with a review to determine readiness to proceed to the Test Phase.

Inputs:

- Approval to enter Development Phase
- Documented issues, actions, & recommendations from Design Phase
- Requirements Document
- Logical Data Model
- High-Level Technical Design Concept/Alternatives
- Project Charter
- Project Management Plan (PMP)
- Project Schedule
- Project Process Agreement (PPA)
- Release Plan
- Draft SSP and/or IS RA
- System Design Document (SDD)
- Draft Contingency Plan
- Updated Test Plan
- Interface Control Document (ICD)
- Physical Data Model / Database Design Document
- Data Conversion Plan
- Draft Test Case Specification
- Draft Implementation Plan
- Draft O&M Manual
- Draft User Manual, Training Plan, & Training Artifacts
- Final SOR Notice for clearance
- Final CMA & IA for clearance
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), if needed

- Complete project management deliverables & activities, as necessary (e.g., EVM reporting)
- Develop business product/code based on SDD, ICD, Database Design Document, & Release Plan
  - Conduct code walkthroughs
  - Unit test developed software & integration test build components
  - Manage versions & configurations
  - Prepare Version Description Document (VDD) for final build
- Update physical database design & data conversion plan, if needed
- Finalize SSP and/or IS RA
- Finalize Contingency Plan
- Finalize Test Plan & Test Case Specification
- Finalize Training Plan
- Continue clearance of SOR Notice, if needed
- Continue clearance of CMA & IA, if needed
- Update drafts of Implementation Plan, User Manual, O&M Manual, & Training Artifacts
- Identify Service Level Agreement (SLA)/MOU needs
- Perform Validation Readiness Review (VRR)
- Perform IV&V Assessment, if needed
- Release build for test & configuration management
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update cost & resource estimates
- Update Project Repository

Outputs:

- Developed Business Product/ Code ready for CMS testing
- Version Description Document (VDD) for final build
- Final SSP and/or IS RA
- Final Contingency Plan
- Final Test Plan
- Updated draft Implementation Plan
- Updated draft O&M Manual
- Project management deliverables
- Acquisition deliverables
- Final Test Case Specification
- Final Data Conversion Plan
- Final Training Plan
- Updated drafts of User Manual & Training Artifacts
- Results from IV&V Assessment
- Signed DUAs
- Documented SLA/MOU needs
- Updated cost & resource estimates
- Updated Project Repository
- Documented issues, actions, & recommendations
- Decision to move to Test Phase

Review Checkpoint:

- Validation Readiness Review (?) – ESD Gate

Test Phase

Summary Description:

The primary purpose of the Test Phase is to determine whether the automated system/application software or other IT solution developed or acquired and preliminarily tested during the Development Phase is ready for implementation. During the Test Phase, formally controlled and focused testing is performed to uncover errors and bugs in the IT solution that need to be resolved. There are a number of specific validation tests that are performed during the Test Phase (e.g., requirements validation, system integration, interface, regression, security, performance, stress, usability, and user acceptance). Additional tests may be conducted to validate documentation, training, contingency plans, disaster recovery, and installation depending upon the specific circumstances of the project. The Test Phase ends with a review to determine readiness to proceed to the Implementation Phase.

Inputs:

- Approval to enter Test Phase
- Documented issues, actions, & recommendations from Development Phase
- Requirements Document
- Logical Data Model
- High-Level Technical Design Concept/Alternatives
- Project Charter
- Project Management Plan (PMP)
- Project Schedule
- Project Process Agreement (PPA)
- Release Plan
- SSP and/or IS RA
- System Design Document (SDD)
- Contingency Plan
- Test Plan
- Developed Business Product/ Code ready for CMS testing
- Version Description Document (VDD) for CMS test build
- Interface Control Document (ICD)
- Physical Data Model / Database Design Document
- Data Conversion Plan
- Test Case Specification
- Training Plan
- Final SOR Notice for clearance
- Final CMA & IA for clearance
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), if needed
- Complete project management deliverables & activities, as necessary (e.g., EVM reporting)

- Test developed business product/code based on corresponding VDD, Test Plan, & Test Case Specification
  - Tests include installation, system integration, user acceptance, Section 508, regression, stress, & performance testing
- Conduct Security Test & Evaluation (ST&E)
- Fix defects, retest, & re-baseline as necessary
  - Perform ST&E corrective actions & report results, as needed
- Prepare & review Test Summary Report
- Finalize Implementation Plan
- Update SSP and/or IS RA
- Update Contingency Plan
- Continue clearance of SOR Notice, if needed
- Continue clearance of CMA & IA, if needed
- Update draft of O&M Manual
- Finalize User Manual & Training Artifacts
- Perform Implementation Readiness Review (IRR)
- Perform IV&V Assessment, if needed
- Release build for implementation or return to development, as appropriate
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update cost & e resource estimates
- Update Project Repository

Outputs:

- Tested Business Product/ Code, corrected as needed to fix identified defects
- VDD for implementation build
- Test Summary Report
  - ST&E Report
- Final Implementation Plan
- Updated SSP and/or IS RA
- Updated Contingency Plan
- Updated draft O&M Manual
- Project management deliverables
- Acquisition deliverables
- Final User Manual
- Final Training Artifacts
- Results from IV&V Assessment
- Signed DUAs
- Updated cost & resource estimates
- Updated Project Repository
- Documented issues, actions, & recommendations
- Decision to move to Implementation Phase

Review Checkpoint:

- Implementation Readiness Review (OIS/EDCG) – ESD Gate

Implementation Phase

Summary Description:

During the Implementation Phase, the automated system/application or other IT solution is moved from development status to production status. The process of implementation is dependent on the characteristics of the project and the IT solution, and thus may be synonymous with installation, deployment, rollout, or go-live. If necessary, data conversion, pilot testing, and training for using, operating, and maintaining the system are accomplished during the Implementation Phase. From a system security perspective, the final system must be certified and accredited for use in the production environment during the Implementation Phase. The Implementation Phase ends with a formal decision to release the final IT solution into the Operations and Maintenance Phase.

Inputs:

- Approval to enter Implementation Phase
- Documented issues, actions, & recommendations from Test Phase
- Business Product/Code ready for implementation
- Version Description Document (VDD) for implementation build
- Project Charter
- Project Management Plan (PMP)
- Project Schedule
- Project Process Agreement (PPA)
- Release Plan
- Implementation Plan
- Test Summary Report
- Draft O&M Manual
- SSP and/or IS RA
- Contingency Plan
- System Design Document (SDD)
- Interface Control Document (ICD)
- Physical Data Model / Database Design Document
- Data Conversion Plan
- User Manual
- Training Plan & Training Artifacts
- Final SOR Notice for clearance
- Final CMA & IA for clearance
- Project Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), if needed
- Complete project management deliverables & activities, as necessary (e.g., EVM reporting)

- Perform installation, deployment, and/or rollout of the final approved business product/code in the planned pilot or production environment(s) in accordance with the Implementation Plan & User Manual
- Perform data conversion based on the Data Conversion Plan, if needed
- Finalize SSP and/or IS RA
- Finalize Contingency Plan
- Complete System Certification & System Accreditation
- Prepare Corrective Action Plan (CAP), if necessary
- Finalize O&M Manual
- Conduct training based on Training Plan & Training Artifacts, as needed
- Complete SOR Notice clearance/publication, if needed
- Complete CMA & IA clearance/publication, if needed
- Establish Service Level Agreements (SLAs)/MOUs
- Perform Operational Readiness Review (ORR)
- Perform IV&V Assessment, if needed
- Release build for final cutover to operations & maintenance
- Conduct project closeout & document lessons learned
- Review & address previous issues, actions, & recommendations & identify/document any new ones prior to moving to next phase
- Update cost & resource estimates
- Update Project Repository

Outputs:

- Business Product/Code ready for CMS operations & maintenance
- VDD for production release
- Final Section 508 Product Assessment for production release
- Final SSP and/or IS RA
- Final Contingency Plan
- Final O&M Manual
- Signed System Accreditation or Authority to Operate
- Project management deliverables
- Acquisition deliverables
- Fully cleared/published SOR Notice
- Fully cleared/published CMA (with IA)
- Results from IV&V Assessment
- Signed DUAs
- Approved CAP
- Signed SLAs/MOUs
- Updated cost & resource estimates
- Updated Project Repository
- Documented issues, actions, & recommendations
- Decision to move to Operations & Maintenance Phase

Review Checkpoint:

- Operational Readiness Review (OIS/EDCG) – ESD Gate

Operations & Maintenance Phase

Summary Description:

During the Operations & Maintenance Phase, the certified and accredited system is released into the full-scale production environment for sustained use and operations/maintenance support. Changes and problems with the automated system/application or other IT solution may continually be identified and resolved to ensure that the system/application or other technological solution meets ongoing functional and non-functional needs. Periodically the automated system/ application will also need to be re-certified and re-accredited for continued operation in the production environment. When the time comes that the automated system/application or other technological solution will no longer be needed or will be replaced, then a plan for final disposition of the system/application or IT solution must be prepared and approved prior to moving into the Disposition Phase.

Inputs:

- Approval to enter O&M Phase
- Documented issues, actions, & recommendations from Implementation Phase
- Business Product/ Code for initial O&M release
- Version Description Document (VDD) for initial O&M release
- SSP and/or IS RA
- Contingency Plan
- O&M Manual
- User Manual
- Training Plan & Training Artifacts
- Requirements Document
- Logical Data Model
- High-Level Technical Design Concept/Alternatives
- System Design Document (SDD)
- Interface Control Document (ICD)
- Physical Data Model / Database Design Document, if needed
- Test Plan
- Test Case Specification
- Published SOR Notice
- Published CMA
- Release Plan
- Initial Privacy Impact Assessment (PIA)
- Signed Service Level Agreements (SLAs) / MOUs
- Project Repository information

Activities:

- Review & address issues, actions, & recommendations
- Complete acquisition deliverables & activities, as necessary
- Prepare Data Use Agreements (DUAs), if needed
- Complete project management deliverables & activities, as necessary (e.g., EVM reporting)

- Establish change control process & procedures
- Transition business product/code to O&M (production) environment for configuration management, production control, & sustained O&M support in accordance with O&M Manual & Contingency Plan
- Perform Post-Implementation Review (PIR)
- Analyze, implement, test, & document Change Requests as needed in accordance with change control procedures
- Resolve & document Problem Reports, as needed
- Create new VDDs, as needed
- Update SSP and/or IS RA , as needed
- Update Contingency Plan, as needed
- Update SOR and/or CMA, as needed
- Establish and/or renew SLAs/MOUs, as needed
- Perform annual budget planning & update business case/Exhibit 300
- Prepare annual PIA
- Perform Annual Operational Analysis Review
- Perform annual security testing
- Track & evaluate corrective actions & prepare/update Corrective Action Plan (CAP), as needed
- Perform System Re-Certification & System Re-Accreditation every 3 years
- Perform IV&V Assessment, if needed
- Prepare System Disposition Plan, when needed
- Update EA & Project Repositories

Outputs:

- Business Product/Code operating in production environment
- New VDDs
- Updated SSP and/or IS RA,
- Updated Contingency Plan
- Updated O&M Manual
- Signed System Re-Accreditation or Continued Authority to Operate
- Annual budget/funding deliverables (e.g., Exhibit 300)
- Annual PIAs
- Project management deliverables
- Acquisition deliverables
- Completed Change Requests
- Resolved Problem Reports
- Updated User Manual
- Training Plan & Training Artifacts
- New or updated CAP
- Signed DUAs
- Updated SOR and/or CMA
- Results from IV&V Assessment
- System Disposition Plan
- New or renewed SLAs/MOUs
- Updated EA Repository

- Updated Project Repository
- Decision to move to Disposition Phase

Review Checkpoints:

- Post-Implementation Review (ESC/ITIRB)
- Annual Operational Analysis Review (ESC/ITIRB)

Disposition Phase

Summary Description:

During the Disposition Phase, the operation of an automated system/application or other IT solution is formally ended in accordance with organization needs and pertinent laws and regulations. The automated system/application or other IT solution is retired or disposed of based on the formal disposition plan approved during the Operations & Maintenance Phase. The disposition activities ensure the orderly termination of the automated system/application and preserve vital information about the system so that some or all of the information may be reactivated in the future if necessary. Particular emphasis is given to proper preservation of the data processed by the system/application, so that the data is effectively migrated to another system/application or archived in accordance with applicable records management regulations and policies for potential future access.

Inputs:

- Approval to enter Disposition Phase
- System Disposition Plan
- System configuration items (e.g., software, data, documentation, etc.)
- EA Repository information

Activities:

- Complete acquisition deliverables & activities, as necessary
- Archive configuration items (e.g., software, data, documentation, etc.)
- Perform records management, as appropriate
- Purge & properly dispose of infrastructure components
- Update EA Repository
- Perform Disposition Review

Outputs:

- Acquisition deliverables
- Project & system archives
- Updated EA Repository
- Disposition closeout certification

Review Checkpoint:

- Disposition Review (Technical Review Panel)