



ENTERPRISE PROGRAM MANAGEMENT OFFICE (EPMO)

Major Information Technology Development Projects (MITDP)

Standards Manual

Table of Contents

Initiating MITDP’s/MITDP Determinations	3
The Maryland System Development Lifecycle (SDLC)	4
DoIT EPMO Oversight Project Management	6
Reporting Requirements.....	7
Project Health Assessments and Reviews.....	12
Health Assessments	12
Portfolio Reviews	12
Independent Verification and Validation (IV&V)	15
MITDP Re-baseline	17
MITDP Closeout	19
Appendix A: IV&V Selection Framework.....	20
Appendix B: DoIT IV&V Initiation and Management Process	22
Appendix C: Agency IV&V Initiation Process.....	23
Appendix D: DoIT Re-Baselining Process	24
Appendix E: MITDP Determination Criteria by Statute Definition.....	25
Acronyms	26

Initiating MITDP's/MITDP Determinations

Introduction

A Major Information Technology Development Project (MITDP) is an information technology (IT) development project that meets one or more of the following criteria*:

1. Total estimated 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:
 - a. The significance of the project's potential benefits or risks;
 - b. The impact of the project on the public or local governments;
 - c. The public visibility of the project; or
 - d. Other reasons as determined by the Secretary.

*Source: Maryland Annotated Code, State Finance & Procurement sec. 3A-301 *et seq.*

MITDP Determination

The MITDP determination process begins with a request submitted to DoIT Intake for an overall understanding of the business need and level of support required by the Intake Steering Committee (*Reference: Special Request Portfolio Policy*). The Enterprise Project Management Office (EPMO) will evaluate this IT request against the established MITDP criteria as defined in **Appendix E: MITDP Determination Criteria by Statute Definition**

The EPMO performs an analysis of the IT request taking into consideration certain factors such as; scope, cost/funding, impact or criticality to the Agency/State, how it evaluates against the three fundamental criteria (See Appendix D) and via further discussion with the respective agency. EPMO also works with the DoIT Office of Enterprise Architecture (OEA) to ensure that State methods for IT solution development are being followed and that required technical standards are being incorporated (See the *DoIT Enterprise Architecture Handbook* for details).

Based on this analysis, the EPMO prepares a letter of recommendation presented to the Secretary of DoIT for review for MITDP and subsequent signature if deemed as such. The EPMO notifies the respective Chief Information Officer (CIO) or designee of the requesting agency of the outcome of their Agency's IT request with this MITDP Determination letter. If an MITDP, the Agency must proceed with the ITPR process.

Information Technology Project Request (ITPR)

DoIT has designed the Information Technology Project Request (ITPR) for these major IT development initiatives. An ITPR is used for documenting the business case and need for the project effort and supporting funding request. The ITPR must include the information necessary for DoIT, Department of Budget Management (DBM) and the Department of Legislative Services (DLS) to make a determination about whether project should be undertaken during that fiscal year.

This includes:

- Documenting a project description and status
- Identifying the risks, security and proposed architecture
- Funding expectations and spending plans
- Benefits and cost savings
- Acquisition strategy
- Business need justification
- Stakeholder involvement
- External dependencies
- Schedule, deliverables and milestones reporting
- Architecture standards alignment

Agencies existing MITDPs, or potential MITDPs must provide an ITPR each fiscal year until the completion of the project. All information contained within the ITPR must be accurate and up to date. An upcoming fiscal year ITPR must be submitted by each requested fiscal year deadline (estimated August 30th of each year) of the current fiscal year and updated yearly. In addition, DoIT may request agencies to fill out an ITPR in the event their project qualifies as an MITDP. Initially a preliminary estimate for the entire project cost SDLC Phases: Planning thru Implementation are necessary, and one year of Operations and Maintenance (O&M), to determine if the project meets the financial threshold of >\$1M (one of three potential thresholds) to qualify as a MITDP.

All project planning and implementation efforts must be reviewed and approved by DoIT prior to any work beginning or funds expended.

In the event there is a need identified outside of the standard fiscal year submission process, an Out-of-Cycle (OOC) request will be considered. This does not guarantee MITDP approval. It is important and imperative for agencies to submit MITDP requests during the annual budget process. For OOC requests, agencies are asked to contact [DoIT's EPMO](#).

The Maryland System Development Lifecycle (SDLC)

Introduction

Per Maryland Statute, a “*Systems development life cycle plan*” means a plan that defines all actions, functions, or activities to be performed by a unit of State government in the definition, planning, acquisition, development, testing, implementation, operation, enhancement, and modification of information technology system.

The State System Development Life Cycle (SDLC) is a framework intended to reduce the risk of project failure through the application of incremental and iterative solution delivery. This approach focuses on the benefits of agile to improve the delivery of, not only major IT development projects, but all information technology projects. Aligning our work with the Governor’s priorities and agency missions, breaking work down into loosely coupled components or services, and delivering iteratively in rapid learning cycles, delivers more value in less time and saves many millions of taxpayer dollars. A lean-agile approach forces delivery of value more frequently, allowing us to detect small failures early and treat them as learning opportunities leading to an improved product.

Agile SDLC Purpose

To establish an agile System Development Life Cycle (SDLC) as the standard for the State of Maryland's executive branch agencies. The intent is to promote agility in a pragmatic, not dogmatic, way as it pertains to delivering extreme value to our end users and the people of Maryland.

Scope

This standard applies to all information technology development as defined in Maryland Annotated Code, State Finance & Procurement sec. 3A-301 et seq.

Standard

State of Maryland Executive Branch agencies must adopt an SDLC which adheres to agile values and principles, outlined below. The "Waterfall" SDLC is no longer a supported methodology.

The following agile values shall be applied to all IT solution implementations:

- End-to-end value stream alignment over the silo mindset
- Strategic alignment to the Governor's priorities, State IT Master Plan & agency missions
- Cross-agency collaboration and cooperation
- State IT architecture standards are being followed
- Measurable, data driven decision making and prioritization
- Optimizing the end-to-end customer experience
- Agile delivery over large batch, sequential processes
- Cross-functional small team-based execution
- Frequent, incremental delivery of modular solutions
- Visibility and lean management of work in process
- Intentional, continuous improvement through rapid learning cycles
- Modern development over outdated approaches
- Innovation with modern technology and consideration of open source options
- Ongoing development and technical debt management of production systems
- Built in security, accessibility, quality, and compliance
- Maximum integration of systems and data (with appropriate governance)

Exceptions

Exceptions to this standard or parts herein may be granted at the discretion of the DoIT Secretary if an unavoidable impediment to agility prevents adoption.

Enforcement

The DoIT Secretary will exercise the authority granted under the Maryland Annotated Code, State Finance & Procurement sec. 3A-301 et seq. in order to enforce this standard.

The SDLC webpages will be updated to incorporate the agile SDLC. For questions or comments, please contact the Enterprise Program Management Office (EPMO): epmo.doit@maryland.gov

DoIT EPMO Oversight Project Management

The Enterprise Program Management Office (EPMO) has been established in order to provide governance for all Major IT Development Projects. This includes conveying the technically and financially sound project management practices from initiation through closeout of MITDPs, evaluating and overseeing the health and viability of these MITDPs, and ensuring compliance with statutory regulations. The EPMO supports state law set forth in MD State Fin & Pro Code §§ 3A 301-309. This law addresses MITDP development, oversight, and funding and issues direction related to IT program management needed to successfully initiate, budget, plan, manage, and complete MITDPs.

Our goal is to establish repeatable processes and provide guidance to improve the success rate of and value delivered by MITDPs. This includes the responsibility for:

- System Development Life Cycle - Project Health Tracking, Performance Metrics, Reporting & Deliverables/Templates
- Portfolio Governance- Policies, Processes & Standards
- Project Management Guidance- Best Practices & Lessons Learned
- Solution Architecture – Best Practices & Lessons Learned

The EPMO works with agencies to:

- Understand the compliance and reporting practices under the MITDP statute.
- Obtain necessary information and documentation to facilitate accurate assessments of the project's performance and risk factors.
- Ensure value is being delivered for the appropriated funding.

While EPMO provides oversight, it does not participate in the execution of MITDPs. Project execution remains the responsibility of a project or program team independent of the EPMO.

The State's approach to project management is based on the [System Development Life Cycle](#) (SDLC), which provides project managers with a repeatable process to guide them through the planning and execution of successful IT projects. The SDLC is a key aspect of the [State's Oversight Methodology](#) and should be used by all project managers to promote the development of safe, secure and reliable systems.

The benefits of good project management and following the SDLC are the improved ability to deliver projects on time, in scope and within budget, as well as satisfy an agency's business needs. [Templates](#) are available to provide assistance through the main phases of the SDLC.

This direction, guidelines and support also assist agencies in understanding the roles and responsibilities and requirements relating to Major IT development (MITDP) projects.

Role of the Oversight Project Manager (OPM)

The role of the DoIT OPM is to provide oversight project management. This is essential to maintain a clear understanding of the project's objectives, funding, risks, milestones and successes. A variety of MITDP activities are performed during the Planning through Implementation Phases to ensure projects are well managed, visible to the DoIT executive team, on-track for success and follow adherence to the State's System Development Life Cycle (SDLC). Duties of the DoIT OPM include the following:

- Guidance regarding adherence to the State's System Development Life Cycle (SDLC) methodology
- Guidance regarding adherence to value driven iterative development
- Periodic assessments of team and organizational agility
- Provide guidance to promote lean principles and eliminate waste
- Working with DoIT OEA to ensure that effective IT architecture methods are being used
- Guidance on Project Planning Request (PPR) and Project Implementation Request (PIR) Phases for MITDPs
- Independent project management oversight:
 - Create and update templates, work instructions, guidance, and samples for agencies to use in procurements and SDLC activities
 - Advise agency on proposed project timelines and assessments on project resource needs
 - Track and communicate funding and approvals or budget guidance (such as encumbering funds, deficiency requests or Out-of-Cycle (OOC) requests
 - Support the MITDP budget allocation process with project budget reviews based on projected spending and past project performance
 - Educate agency regarding the State SDLC, rules for MITDPs and required SDLC documentation
 - Conduct periodic Health Assessments or Portfolio Reviews
 - Perform Mid-Year and End-of-Year project Reporting to Department of Legislative Services (DLS) for all MITDPs
 - Perform Fiscal Year Financial Project Reporting to the Department of Budget and Management (DBM)
 - Provide policy and guidance on Re-Baselining and Independent Verification & Validation (IV&V)
 - Preparing Oversight Observations Reports to address any potential deficiencies surrounding scope, schedule, cost, and/or process with outlined recommendations
 - Conduct project Closeout activities upon completion of the project

Reporting Requirements

DoIT is required to provide oversight to the various State MITDP', by performing assessments of each projects health and progress periodically, inclusive of the Oversight Observations Reports. In order to do this effectively, reporting requirements of the Agencies are critical as these provide the information DoIT uses to determine that project goals and objectives are being met. It is imperative that the Agencies ensure proper project management practices are in place and that project stakeholders are provided timely and accurate information showing the projects state of health, periodic progress, and if goals/objectives are being met on a consistent basis.

Below is a high-level Agency oversight and reporting activities table for Major Information Technology Development Projects (MITDPs) broken down into four sections:

- General Oversight and Procurement
- Project Management
- Reporting
- Budgeting

This table is not inclusive of all the oversight that is to be provided or required for MITDPs but is intended to provide an overview of standard activities and oversight frequency that can be expected when

a project is deemed a MITDP. Please note: This table below is subject to change at any time.
(<https://doit.maryland.gov/epmo/Pages/MITDP/oversight.aspx>)

1. GENERAL OVERSIGHT AND PROCUREMENT

Activity	Description	Frequency
OPM involvement	<ol style="list-style-type: none"> 1. OPM to oversee planning and implementation phases of Agency MITDP projects. This includes actively monitoring project status through review of project artifacts and observe project activities with team members and stakeholders to maintain a thorough understanding of project health and progress. 2. Review and facilitate mitigation of project risks, and recommend intervention measures that may include identification and determination of an Independent Verification and Validation (IV&V) assessment. 3. Provide strategic support and thought leadership on technology acquisition strategy, business process impact assessment, and human-social collaboration issues related to system implementation and adoption. 4. In collaboration with DoIT OEA, ensure that proper IT architecture standards are being followed and proven, re-usable solutions are considered. 	On going
Submit procurements for review and approval through the proper Procurement and Oversight channels	<p>Agencies are required to follow the respective DGS and DoIT (Intake)* processes for procurement requests, reviews, awards. Additional information is provided in the reference below.</p> <p>Reference: https://doit.maryland.gov/policies/Pages/default.aspx</p>	On going

2. PROJECT MANAGEMENT

Activity	Description	Frequency
Agency is accountable for MITDP Project Management	Work with DoIT on the proper resource plan for acquiring resources and managing the MITDP and perform necessary activities in these efforts for MITDP success, including adherence to the State’s System Development	On going

Activity	Description	Frequency
	Life Cycle (SDLC) implementation methodology.	
Agency to provide State Required SDLC documents/deliverables per DoIT website	Provide requisite documentation in keeping with the State's SDLC implementation methodology. Documentation needs to include an iterative implementation approach with clearly identifiable activities and milestones resulting in incremental product release(s). System Development Life Cycle	On going
Agency to review and approve SDLC deliverables prior to submission to DoIT for review/recommendations	Per activity above, SDLC documents should reflect standard/best Project Management Practices; DoIT will review and provide any recommendations for compliance to the SDLC.	On going
Agency to adhere to State requirements for the MITDP and respective Oversight	As required by Maryland State Finance and Procurement articles 3A-301-3A-309	On going
Agency to baseline and re-baseline	Re-Baseline represents updating or modification of a project's baseline, as a result of any significant change to the schedule, cost, or deliverable content.	Baseline- Required; Re-baseline as needed per DoIT Re-Baseline policy

3. REPORTING

Activity	Description	Frequency
Fiscal Year ITPR	Information Technology Project Requests (ITPRs) are required for all MITDPs on a yearly basis. The information contained in the ITPR include project specific information such as; identifying stakeholders, describing the project need, providing a scope, identifying the risks, and estimating costs of the project, including implementation.	Yearly/Due around August 30 th ; System access available early July (communication distributed).

Activity	Description	Frequency
End of Year (EOY) Report Narrative	Yearly project update to show: Project description, project status, scope, cost and schedule changes, and risks/ issues	Yearly/ Due around August 30th
End of Year (EOY) Report Financial Table	Yearly financial status project update to show: cost to date, out year costs, and funding for the respective reporting period.	Yearly/ Due around September 15 th
Mid-Year (MY) Report Narrative	Mid-Year project update since EOY to detail: Project description, project status, scope, cost and schedule changes, and risks/ issues	Yearly/ Due around November 25 th
Weekly Project Status Report	Agency provided status reports that provide the following minimum information: Project status, periodic accomplishments, risks, issues, and mitigation strategies.	Weekly
Weekly Project Status Meeting	Project Meetings with the Vendor and State Teams that OPMs attend/observe and engage in project level activities at a suitable level to maintain a clear understanding of the project progress, activities, risks, and finances.	Bi-weekly, at minimum
Stakeholder Meetings and Steering Committee Meetings, as applicable	Stakeholder/Steering Committee meetings with key members that OPMs attend and provide any respective oversight status and responses to questions/concerns.	Monthly and/or as applicable
Risk Register	Frequently updated Risk Register document that details all relevant risks and issues, along with supporting details that prioritizes mitigation strategies based on impact, and probability of occurrence.	Monthly, at minimum
Project Health Assessment Charts (prior Quad Chart)	Monthly update on the project status/accomplishments, program increments progress, budget, milestones, risks etc.	10 th of Every Month
Portfolio Review Meeting	Stakeholder(s) Executive review of the project; A forum to present and discuss project status,	As requested by DoIT Management or Agency Stakeholders

Activity	Description	Frequency
	issues/risks, corrective action plans, additional support needed, etc.	

4. BUDGETING

Activity	Description	Frequency
Initial and Yearly Budget Planning	Initial budget estimates submitted within the IT Project Request (ITPR) form require a solid foundation and proven forecasting methodology and should account for the entire project lifecycle; Budget estimates must be updated on a Fiscal Year basis	Initially and yearly fiscal updates to the ITPR
Monthly Spending Reports	Updated spending plans and actuals must be included with the monthly health assessment chart and other respective agency financial tracking documents in preparation for the health assessment. OPMs may require additional spending information.	Monthly- included with Health Assessment Chart and other agency tracking documents
Contract Management Reviews	Ongoing reviews of staffing/resourcing, contract modifications and renewals, and any other contractual related items may be requested and reviewed.	As requested by DoIT
Budget Amendments	Budget amendment information is required prior to funding/spending approval. This information will be reviewed by the OPM.	As requested by DoIT
Financial Information Requests (Financial/Budget/Invoicing Documents)	DoIT review of any related financial/budgeting/invoicing documents related to the execution of the MITDP including spending and funding.	As requested by DoIT

Project Health Assessments and Reviews

Health Assessments and, when requested, Portfolio Reviews are performed on all MITDPs.

Health Assessments

The Health Assessment is a monthly project performance health check between the Oversight Project Managers (OPMs) and Senior Leaders of DoIT, which provides a regular up to date status of critical project performance metrics (overall status, scope, schedule, cost, risk, quality, resource) and visibility into project information and architecture solutioning to ensure that risks and issues are identified and mitigated early on in the process.

The Agency reporting responsibility for these health assessment meetings is outlined in the Reporting Requirements section and templates are provided each Fiscal Year. The monthly report required provides key information and an overall view of the health of the project.

In the event DoIT Senior Leadership wants to further discuss a projects progress the DoIT OPM may be requested to provide a more detailed MITDP Health Evaluation and/or initiate an MITDP Portfolio Review with the Agency.

Portfolio Reviews

A Portfolio Review is a more in-depth review on current risks and issues. Portfolio Reviews may be requested at any time by DoIT Senior Leadership. These reviews are between the key stakeholders and managers respective to the project: the OPM, Senior Leaders of DoIT, and the Agency stakeholders. Requests for a Portfolio Review may be necessary in the event a project's Overall Status is flagged "Red or Yellow". This may occur during the Health Assessment or deemed necessary due to new or upcoming critical path tasks/items needing attention.

Portfolio Reviews are conducted in order to:

- Ensure a mutual understanding of project objectives and status
- Monitor the overall project plans, milestones and intended expenditures
- Report on Overall Status, Scope, Schedule, Cost, Risk, Quality and Resources
- Acknowledge successful phase or project completeness
- Flag any significant issues and risks for awareness and possible mitigation
- Provide guidance and recommendations regarding policy, regulations and best practices
- Proposed architecture solutions are consistent with DoIT standards

The DoIT OPM schedules the agency Portfolio Review meeting at the request of DoIT Leadership and works with the stakeholders to determine the most suitable meeting date and time. Agencies should be prepared to provide the most updated versions of project documentation to their DoIT OPM in advance of the meetings.

The Agency Project Manager(s) should create a list of action items generated through the review and submit to the OPM for confirmation prior to distributing the list to meeting participants. If no action items are recorded, the Agency Project Manager should email the OPM stating no action items being held.

Fiscal Year Budget Process

The Major Information Technology Development Project Fund (MITDPF) is the fund that supports Major Information Technology Development projects throughout the State, by transferring general fund appropriations and other funds to projects that have been reviewed and approved for consistency with statewide plans, policies, and standards, including a systems development life cycle.

Funding sources include: General, Special, Federal, or Reimbursable.

The ITPR process (as stated above in *Initiating MITDPs/MITDP Determinations*) supports the need for project funding. All requests must be supported by a Spend Plan outlining planned expenditures for the budget requested and any unspent prior year funds, when applicable. Spend Plan templates are available/provided by the EPMO.

Appropriations/Budget Amendment/Revenue Transfer

When funds are appropriated each Fiscal Year, a Budget Amendment (BA) is required for authorization to spend the appropriated funds. Spend plans are required for approval of the BA. At the close of each fiscal year, DoIT Finance will process the appropriate Revenue Transfers (RT) for the expended funds. DoIT Oversight will require all associated documentation with the expenditures in order to validate these transfers.

Agencies are responsible for estimating, requesting, forecasting, and tracking MITDP funding and spending. Spending of funds allocated to an MITDP, regardless of funding type, applies to the scope defined during the planning for the work to be performed in implementation.

Timely estimates and budget requests are critical activities to ensure funding is properly allocated. Funding requests included with the ITPR process are submitted with the yearly budget. Upon approval by the Legislature, the funds are appropriated to the MITDP program. At that time, the appropriation is confirmed by the OPM, and an appropriation letter is sent to the requesting agency. Since the budget cycle is annual, there are variances to this process for OOC ITPR requests and Over the Target (OTT) funding requests.

Oversight Funding

Oversight funds are required for all MITDPs. Oversight should be budgeted in ITPR at the minimum \$50,000 or 5% up to \$500,000 maximum, whichever is greater for each fiscal year of the project until closeout. This amount is in addition to project costs.

Depending on the level of oversight needed, any funding deficiencies, or other unforeseen situations, general oversight funds may be realigned in the MITDP fund to offset any shortages each fiscal year for any general funded MITDP in the portfolio.

Please note: Oversight general funds are withheld from project appropriation funds in the budget amendment process.

OPMs continuously work with the [Office of Budget Analysis \(OBA\)](#) with regards to reviewing project funding for concurrence, supplemental funding alignment, spending reviews, oversight realignment, and any issues or questions related to MITDP funding.

For further budget structure information and the appropriations process, please reference the [General Assembly of Maryland](#) and the [Operating Budget Submission Requirements](#)

For additional DoIT Finance related information, please refer to the MITDP Funds Disbursement Policy.

Independent Verification and Validation (IV&V)

Introduction

The Maryland State Finance and Procurement Code Ann. § 3A-308, provides the Maryland Department of Information Technology (DoIT) with a legislative mandate to provide oversight to Major IT Development Projects (MITDPs) in the State of Maryland.

DoIT oversight efforts include determination of MITDP need for Independent Verification and Validation (IV&V) oversight. IV&V is the performance of an independent assessment of a deliverable, process, or project by a third-party assessor who has no direct involvement with the development and implementation of the project under IV&V review. By focusing on the management of the project and its compliance with specified requirements through its development stages, the primary objective of the IV&V is to provide an independent and objective view of an MITDP with the intent of protecting the state of Maryland's interests. Independence is established by ensuring the following:

- Technical Independence- IV&V personnel are not developers, originators, or managers in any stage project lifecycle
- Managerial Independence- IV&V responsibility will be assigned to an organization that is separate from the development and program management organizations.
- Contractual Independence- IV&V contract is separate from the MITDP contract(s).
- Operational Independence- IV&V operates under functional independence enabling the self-determining selection of processes and artifacts to examine or test, the techniques used, and the methods to report findings.

The goal of an IV&V is to derive recommendations to management to achieve defined goals and objectives. Benefits of having an IV&V performed on a project include:

- An objective appraisal of each facet of the project enabling increased management visibility
- Improved project planning and execution through independent consultation
- The “watchdog effect” where greater focus on quality is derived with staff knowledge that the project is under assessment.

Standards

1. DoIT maintains the final decision authority determining if, when, and the duration of an IV&V review.
2. DoIT will oversee the IV&V in accordance with IV&V policy, contract, and any further stated objectives.
3. Prior to initiating the project, DoIT will determine viability all IV&V reviews. This viability determination follows criteria as noted in **Appendix A: IV&V Selection Framework**.

4. An IV&V review requested by DoIT will progress under the process as noted in **Appendix B: DoIT IV&V Initiation & Management Process**.
5. An IV&V review may be requested by the sponsor or agency that owns the project as noted in **Appendix C: Agency IV &V Initiation Process**. DoIT may initiate an IV&V on their behalf if DoIT determines that the IV&V review is warranted.
6. The Agency maintains the responsibility to budget and pay for the IV&V cost out of its project funds.
7. DoIT considers information required for and derived from IV&V reviews to be sensitive. DoIT will follow the records retention policy for the IV&V findings report(s). IV&V will only share identifying information and findings with DoIT and the Agency for which the IV&V is conducted.
8. DoIT and the Agency are to receive IV&V reports for limited and internal distribution as required.
9. It is expected that the agreed upon determinations communicated in IV&V reporting will be used by agency project management to implement efficient and effective processes, pursue risk reduction and enable project success. As part of ongoing oversight responsibility, DoIT will continuously review IV&V results and implementation of recommended actions to assess project changes and continuation.
10. Should an agency feel that the IV&V review is not warranted, a waiver from IV&V may be produced with agreement from DoIT. The project remains obligated to support ongoing review by DoIT (OPM) to further enablement of project goals, risk reduction and mitigation, and the implementation of expected management practices.

IV&V Procurement Options

Once DoIT renders the decision to initiate an IV&V, the solicitation and procurement of IV&V services from qualified vendors can proceed. DoIT has established master contract as the primary vehicle for Agencies wishing to obtain the services of an IV&V Contractor. The objective of this Master Contract is to enable Agencies to procure IT assessment services in a timely and economical manner.

DoIT oversight will help guide non-MITDP efforts through this process after the agency has made DoIT aware of its decision to initiate an IV&V.

MITDP Re-baseline

Introduction

This re-baselining standard is established to ensure that the State's major Information Technology (IT) investments are managed effectively and that the performance of those investments is measured and reported to the Maryland Department of Information Technology (DoIT) on a regular basis. This standard applies to all Major Information Technology Development Projects (MITDP's) as defined by The Maryland State Finance and Procurement Code Ann. § 3A-308, which are under DoIT's legislative mandate to provide oversight to MITDP's in the State of Maryland. Oversight includes but is not limited to the determination that a project requires re-baselining at any point during its lifecycle.

General

Baselining is considered an agreed-to set of requirements, cost, schedule, designs and documents that will have changes controlled through a formal approval and monitoring process. Essentially, it is the act of recording your original project estimates so you can compare them to actual results at a later time.

Re-Baseline by implication represents updating or modification of a projects baseline, as a result of any approved change to the schedule, cost, or deliverable content. This may result in changes to the entire project or just one phase/module/component with no downstream impact. The decision to re-baseline is made for any of the following reasons, with the goal being to establish a new planned baseline:

- Current baseline is no longer useful as a management tool for realistic performance measurement.
- Scope, requirements or objectives change resulting from internal or external management decisions, changes in funding level/ availability, or contract issues (including contract protests).
- Where an incremental or iterative system development and planning lifecycle is in use, re-baselining may be necessary when transitioning from one iteration or increment to the next, as scope and objectives evolve.

Upon completion, re-baselining generally yields the following benefits:

- The ability to accurately assess a projects performance.
- Improve the accuracy of future schedule and cost estimates.
- Provide an opportunity for scope evaluation.

Standard

The Department of Information Technology maintains the following standard on Re-Baselining:

DoIT may initiate re-baselining process if:

- It is anticipated that an ongoing project estimated completion cost exceeds the current baseline by 10% or more.
- A major deliverable or milestone is forecast to slip by more than 60 days.
- The estimated completion schedule exceeds the current baseline by 10% or more.
- The project or the customer proposes to add or modify either scope elements or functional requirements that would result in changes that exceed the cost and schedule thresholds previously agreed upon.

- The project or customer proposes to defer or eliminate functional requirements previously determined to be significant, even if current cost or schedule baselines are unaffected.
- The project is unable to proceed from the Project Planning Request (PPR) phase to the Project Implementation Request (PIR) phase.
- 50% or more of scheduled targets in the preceding 6 months have been missed.

Agencies will be required:

1. To have a re-baselining plan developed for all MITDP's. The plan must state that the new baseline is to be validated, reviewed and approved by management and furthermore reviewed by DoIT.
2. To document all re-baselining decisions, including the reasons, specific changes, management reviews and approval.

Request

A request to re-baseline must describe in detail, the portions of the original baseline (scope, cost, and/or schedule) that are to be re-baselined by comparing the currently approved baseline to the requested baseline. The level of detail required is as follows:

- If budget or reserves are to be changed, provide a side-by-side comparison of the previously approved budget vs. the proposed re-baseline.
- If the project completion date is to be extended, provide a side-by-side comparison of the previously approved master schedule vs. the proposed re-baselined master schedule.
- If project success criteria or technical objectives are to be modified (e.g., de-scoped), provide a detailed side-by-side comparison of the previously approved scope baseline vs. the proposed re-baseline.
- For all major investments, provide an updated Analysis of Alternatives of the chosen alternative's cost data at a minimum (or a new analysis if any of the original alternatives is no longer valid) and related recommendation.

Approvals

All MITDP re-baseline decisions must be approved by the Agency sponsor, in consultation with DoIT. Once a re-baselining request is approved, the Project managers must follow the re-baselining process described in **Appendix D: DoIT Re-Baselining Process** to establish new Performance Measurement Baseline which will be agreed to by all parties and against which performance will be measured henceforth.

Exceptions

A project sponsor may request an exception to Re-baselining. In the request for an exception, the project sponsor must explain fully how the performance risk of the MITDP has been mitigated sufficiently to justify the exception.

Enforcement

Any Agency found not to be implementing this policy for their MITDPs will be in danger of having the MITDP suspended or terminated.

MITDP Closeout

All Agencies must formally close MITDPs with DoIT. This process is in place to ensure a formal review and closeout activities are performed for final closure and/or dissolution of a MITDP. The Project Closeout process is in place to:

- Ensure a consistent process is followed when projects are completed/dissolved
- Obtain final project status and required MITDP documentation
- Provide formal notification of the MITDP closeout

A formal closeout is initiated once a project has implemented/went live and is in its first year of O&M; or has been deemed closed/cancelled by other situation or accepted by DoIT for closure for any other reason. Closeouts are typically conducted between the Agency and DoIT within six (6) months of occurrence.

The DoIT EPMO will initiate closeout meetings with the Agency project representative to ensure there is an understanding of the requirements for closeout. The MITDP Closeout template for Agency completion is posted on the DoIT website (<https://doit.maryland.gov/SDLC/Pages/templates-phases.aspx>) and *additional final project documents will be requested during this meeting*. An MITDP closeout authorization letter will be provided to the Agency once all documentation has been accepted and validated, and financial obligations satisfied.

Appendix A: IV&V Selection Framework

Upon DoIT conclusion that an IV&V review is needed, project initiation as noted in Appendix B: DoIT IV&V Initiation and Management Process is to be followed. If there is Agency determination (under its own discretion) that there is a need for an IV&V review, the process outlined in **Appendix C: Agency IV & V Initiation Process** is to be followed.

IV&V Considerations/Selection:

Entrance Criteria (IV&V Discussion Triggers)	
<ul style="list-style-type: none"> Budget/Cost Risk Organizational Project Management Maturity Vendor Performance Project Management Performance Project Risk/ Issues Scope Concerns 	<ul style="list-style-type: none"> Deficient documentation and/or communication Project in transition from one SDLC Phase to another Major schedule slippage Indefinite Agency or DoIT concerns and strategic requirements
Entrance Criteria	Selection Parameters
The entrance criteria and selection parameters are meant to be baseline indicators and are not in whole or part prescriptive for entering an IV&V project. Actual selection of IV&V candidate projects is based on both objective and subjective triggers, including input from DoIT, Procurement, and the Agency.	If met, any parameters or a combination thereof may indicate need for IV&V.
Budget/Cost Risk	<ul style="list-style-type: none"> Realized or anticipated overruns greater than 2.5% Budgeted project cost over \$1M Mismatch between requirements and funding expectations Serious discrepancies in cost and funds tracking.
Organizational Project Management	<ul style="list-style-type: none"> Agency performs very few MITDPs Agency has performed poorly on prior MITDPs Immature project management practice or lack of adequate management support
Vendor Performance	<ul style="list-style-type: none"> Demonstrated vendor performance is unsatisfactory as validated by: <ol style="list-style-type: none"> OPM Oversight Portfolio Reviews Excessive turnover leading to performance issues
Project Management Performance	<ul style="list-style-type: none"> Inability to accurately report on project management processes Inability to manage scope, cost or schedule Repeated failure to mitigate known issues or risks

	<ul style="list-style-type: none"> • Lack of required documentation for the proposed methodology • Change requests affecting cost, schedule, and/or scope
Project Risk/Issues	<ul style="list-style-type: none"> • Major risks & issues are identified that may be beyond project team's ability to mitigate • Excessive number of major risks • Inability to adequately identify risk
Scope Concerns	<ul style="list-style-type: none"> • Requirements updates indicate major shift in project scope • Baseline requirements cannot be adequately documented and controlled
Deficient documentation and/or communication	<ul style="list-style-type: none"> • Documentation required to communicate structure, control, and progress is not complete
Project in transition from one SDLC phase to another	<ul style="list-style-type: none"> • IV&V used as part of a gate review of high-risk projects
Major schedule slippage	<ul style="list-style-type: none"> • Critical path anticipated to exceed 10% over target • Consistent milestone slippage • Missed Certification Deadline
Indefinite Agency or DoIT concerns and strategic requirements	<ul style="list-style-type: none"> • Concerns specific to the organization that can encompass intensified strategic interest or any combination of factors increasing management concerns
<p>Selection Frequency:</p> <p>-Each MITDP should be assessed to determine need for an IV&V based on DoIT's oversight plans. -Large projects over \$100M with significant risks should be assessed for the need of a Lifecycle IV&V. -DoIT can initiate an IV&V as needed throughout the course of conducting the Project Oversight.</p>	

Appendix B: DoIT IV&V Initiation and Management Process

Appendix B: DoIT IV&V Initiation & Management Process

Step 1: The DoIT IV&V Project Manager manages the IV&V through completion.

Step 2: OPM performs assessment using IV&V framework (Appendix A).

Review project documentation and status reports to determine overall project risks. Projects with “medium” to “high” risk factors may benefit from IV&V process, for example:

- Project includes new technology
 - Project has high visibility
 - Agency is inexperienced with the MITDP process
 - Cost or schedule variance from original budget
 - Significant changes to the scope of the project that may impact the project delivery date
-

Step 3: OPM meets with the DoIT IV&V Project Manager and DoIT Leadership to justify IV&V request.

- A. Outline the risk factors of the project
 - B. Identify the purpose, focus, and objectives that may qualify
 - C. Recommend deliverables or artifacts needed to complete the specific IV&V review
 - D. Approval from DoIT Leadership to initiate IV&V procurement
 - E. Informs the agency of the IV&V
-

Step 4: The DoIT IV&V Project Manager initiates procurement of an IV&V Vendor.

- DoIT IV&V Project Manager will work with Agency responsible for the MITDP to refine the objectives of the IV&V
 - Prepare and release a solicitation (See IV&V Procurement Options) to solicit IV&V services
 - Select the best value proposal from the pool of responding IV&V Vendors
-

Step 4: DoIT IV&V Project Manager will work with DoIT Procurement to Award.

- DoIT IV&V Project Manager will work with the IV&V Vendor for kick-off activities and management of the contract
 - DoIT IV&V Project Manager will keep the DoIT OPM informed as well as setting agency expectations and managing concerns or issues
-

Step 5: The IV&V Vendor completes IV&V assessments throughout the project lifecycle.

Step 6: The DoIT IV&V Project Manager reviews the draft IV&V assessments and works with the IV&V Vendor, DoIT OPM and Agency to complete the assessments and reviews throughout the IV&V engagement.

Step 7: The DoIT IV&V Project Manager leads the closeout of the engagement.

Appendix C: Agency IV&V Initiation Process

-
- Step 1: Agency determines that an IV&V is necessary for its MITDP project.**
-
- Step 2: Agency reaches out to DoIT/DoITOPM to hold discussion on need for IV&V including proposed objectives for the IV&V.**
-
- Step 3: DoIT OPM communicates with DoIT IV&V Project Manager concerning request for IV&V.**
-
- Step 4: DoIT IV&V Project Manager request approval from DoIT Leadership on moving forward with IV&V using IV&V selection framework (Appendix A).**
-
- Step 5: DoIT IV&V Project Manager works with Agency to determines funding source (MITDP Funds, Agency Funds or others)**
-
- Step 6: DoIT IV&V Project Manager works with DoIT OPM and Agency to determine objectives.**
-
- Step 7: DoIT IV&V Project Manager presents plan with expected funding to DoIT Leadership for approval.**
-
- Step 8: If approved, go to DoIT IV&V Initiation Process, Appendix B: Step 4 and continue.**
-

Appendix D: DoIT Re-Baselining Process

Step 1: Determine that the project should be re-baselined

- An explanation of how the revised baseline will lead to success. This explanation must identify the problems that led to the need to re-baseline, why the current plan is not feasible, and remediation plans to prevent problem recurrence, if applicable.
- DoIT leadership makes the final determination of whether or not to re-baseline

Step 2: Develop the proposed new baseline

- Pre-defined decision criteria to be used to determine if the plan is valid.

Step 3: Validate the proposed new baseline with stakeholders

Step 4: Go through Review and Approval process

Step 5: Ensure all re-baseline decisions are documented

- A requirement for the proposed baseline to be well-documented, comprehensive, complete, and credible and consistent with industry best practices.
- Documentation of risks associated with cost, schedule, technical performance and management.

Step 6: Establish New Baseline

- Notification of the baseline revision by updating the Integrated Master Schedule and reporting to DoIT within 30 days of approval of the new baseline.
-

Appendix E: MITDP Determination Criteria by Statute Definition

Question	Answer	State Finance and Procurement - Statute Definition (§ 3A-301)
Is it an IT project?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(d) Information technology. – “Information technology” means all electronic information processing hardware and software, including: (1) maintenance; (2) telecommunications; and (3) associated consulting services.
Does it involve development (i.e. it is not in O&M)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(1) “Development” means all expenditures for a new information technology system or an enhancement to an existing system including system: (i) planning; (ii) procurement; (iii) creation; (iv) installation; (v) testing; and (vi) initial training. (2) “Development” does not include: (i) ongoing operating costs, software or hardware maintenance, routine upgrades, or modifications that merely allow for a continuation of the existing level of functionality; or (ii) expenditures made after a new or enhanced system has been legally accepted by the user and is being used for the business process for which it was intended.
Is it Major?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(f) Major information technology development project. -- "Major information technology development project" means any information technology development project that meets one or more of the following criteria: 1. Estimated total development cost equals/exceeds \$1,000,000; 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) Significance of the project's potential benefits or risks; (ii) Impact of the project on the public or local governments; (iii) Public visibility of the project; or (iv) Other reasons as determined by the Secretary.

Acronyms

DBM	Department of Budget Management
DLS	Department of Legislative Services
DoIT	Department of Information Technology
EOY	End of Year
EPMO	Enterprise Project Management Office
IT	Information Technology
ITPR	Information Technology Procurement Request
IV & V	Independent Verification and Validation
MITDP	Major Information Technology Project
MY	Mid- Year
OBA	Office of Budget Allocation
OOB	Out of Cycle
OPM	Oversight Project Manager
PCA	Program Cost Account
PIR	Project Implementation Request
PPR	Project Planning Request
SDLC	System Development Lifecycle