



MANAGING PROJECTS WITH EPLC

Course Material

The purpose of this course is to provide an understanding of the Enterprise Performance Life Cycle (EPLC) and how state agencies can use it as a framework for managing their technology investments to achieve consistently successful outcomes that maximize alignment with enterprise-wide and agency specific goals and objectives. The EPLC framework supports the GTA standards, Performance Lifecycle Framework, SM-10-006 and Performance Lifecycle Management, SM-10-007. This course will explain the three (3) processes and seven (7) stages of the EPLC and the associated responsibilities, exit criteria, deliverables and reviews associated with each process and stage.

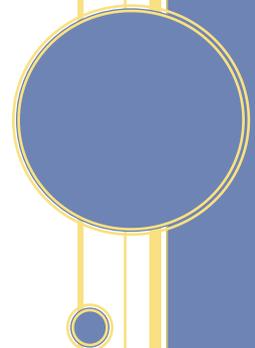


Table of Contents

Lesson 1: Introduction to the Enterprise Performance Lifecycle	1
Topic 1: Performance Lifecycle Definition.....	2
Topic 2: The EPLC Phases	6
Topic 3: The EPLC Stages	8
Topic 4: Roles and Responsibilities.....	11
Topic 5: Activities and Outcomes	13
Topic 6: Enterprise Governance	14
Exercise 1.1: The Enterprise Performance Lifecycle.....	16
Lesson 1 Summary: Learning Objectives Recap	17
Lesson 2: The Stage Gate Review Process.....	19
Topic 1: The Stage Gate Review Defined.....	20
Topic 2: Preparing for the Review	23
Topic 3: Conducting the Review	25
Exercise 2.1: The Stage Gate Review Process	26
Lesson 2 Summary: Learning Objectives Recap	27
Lesson 3: The Plan Phase.....	29
Topic 1: The Initiation Stage	30
Exercise 3.1: The Initiation Stage Deliverables.....	40
Topic 2: The Planning Stage.....	45
Exercise 3.2: The Planning Stage Deliverables	50
Topic 3: The Authorize Gate Review	52
Exercise 3.3: The Authorization Gate Review	54
Lesson 3 Summary: Learning Objectives Recap	55
Lesson 4: The Build Phase	57
Topic 1: The Design Stage.....	58
Topic 2: The Develop Stage	62
Topic 3: The Deploy Stage	67
Exercise 4.1: The Build Phase	69
Topic 4: The Build Stage Gate Review	70

Lesson 4 Summary: Learning Objectives Recap	72
Lesson 5: The Run Phase	75
Topic 1: The Operations Stage	76
Topic 2: The Application Assessment Review	78
Topic 3: The Disposition Plan	81
Topic 3: The Dispose Stage	84
Lesson 5 Summary: Learning Objectives Recap	86
Appendix I - Exercise Answers	88
Exercise 1.1: The Enterprise Performance Lifecycle.....	89
Exercise 2.1: The Stage Gate Review Process	90
Exercise 3.1: The Initiation Stage Deliverables.....	91
Exercise 3.2: The Planning Stage Deliverables	97
Exercise 3.3: The Authorization Gate Review	99
Exercise 4.1: The Build Phase	100
CASE STUDY – SPEEDY OFFICE SUPPLIES WEB EXPANSION PROJECT	101

Course Agenda

Day 1	Day2
8:30 – 9:00 Introductions	8:30 – 9:00 Review
9:00 - 9:30 Intro to EPLC	9:00 - 9:30 The Build Phase
9:30 - 9:45 BREAK	9:30 - 9:45 BREAK
9:45 - 11:30 Stage Gate Reviews	9:45 - 11:30 The Build Phase
11:30 -12:30 LUNCH	11:30 -12:30 LUNCH
12:30 - 2:00 The Plan Phase	12:30 - 2:00 The Run Phase
2:00 - 2:15 BREAK	2:00 - 2:15 BREAK
2:15 - 4:00 The Plan Phase	2:15 - 3:30 The Run Phase
	3:30 - 4:00 Exam and Evaluation

LESSON 1: INTRODUCTION TO THE ENTERPRISE PERFORMANCE LIFECYCLE

Topic 1: Performance Lifecycle Definition

Topic 2: The EPLC Phases

Topic 3: The EPLC Stages

Topic 4: Roles and Responsibilities

Topic 5: Activities and Outcomes

Topic 6: Enterprise Governance

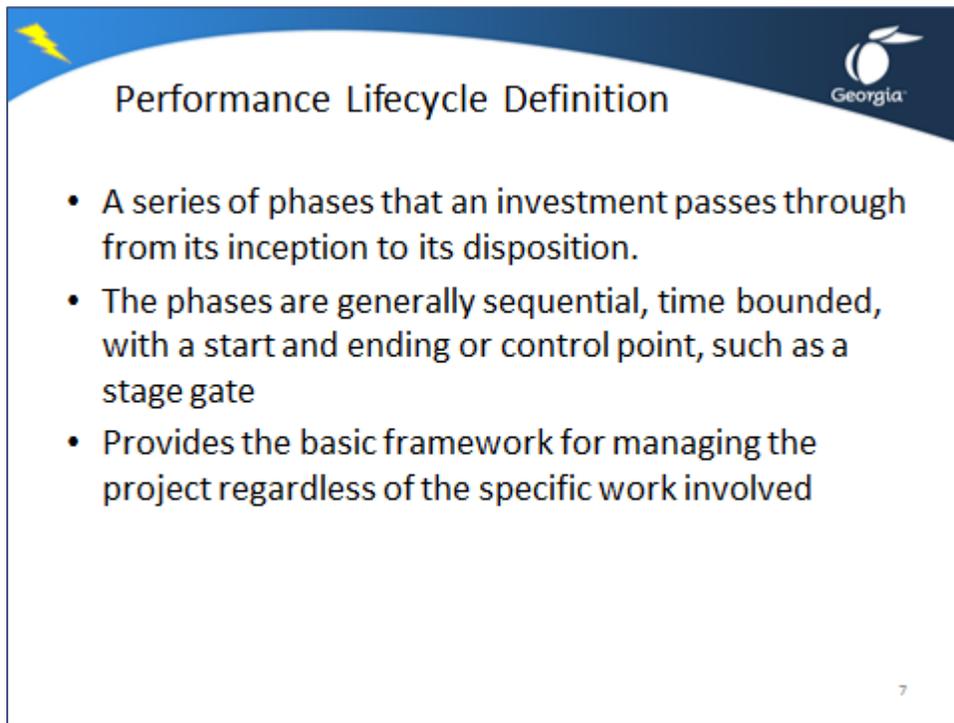
Student Learning Objectives

After completing this lesson you should be able to

- Understand definition of a lifecycle
- Identify the phases and stages of the EPLC
- Understand the roles and responsibilities in the EPLC
- Identify the activities and outcomes of the EPLC
- Identify the governance components of the EPLC

Approximate Presentation time: 1 hour

Topic 1: Performance Lifecycle Definition



Performance Lifecycle Definition

- A series of phases that an investment passes through from its inception to its disposition.
- The phases are generally sequential, time bounded, with a start and ending or control point, such as a stage gate
- Provides the basic framework for managing the project regardless of the specific work involved

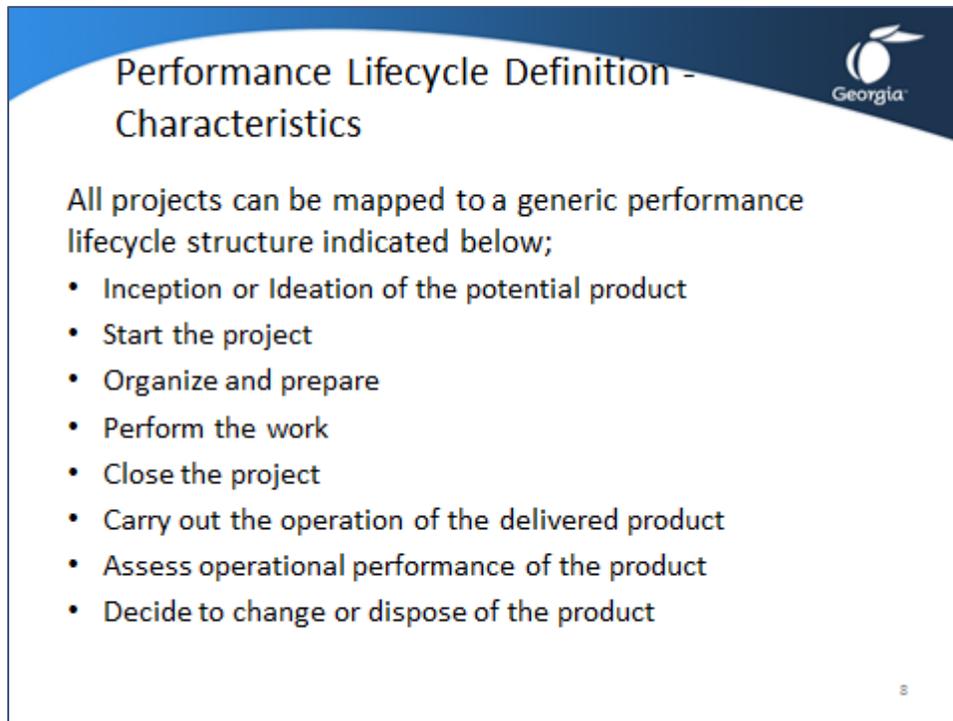
7

The Performance Lifecycle provides the basic framework for managing the project regardless of the specific work involved. It is comprised of a series of phases that an investment passes through from its inception to its disposition. The phases are generally sequential, and their names are determined by the management and control needs of the organization, the nature of the project, and its area of application.

The phases can be broken down by functional or partial objectives, intermediate results or deliverables, specific milestones, or financial availability.

Phases are generally time bounded, with a start and ending or control point, such as a stage gate.

Topic 1: Performance Lifecycle Definition - Characteristics



Performance Lifecycle Definition - Characteristics

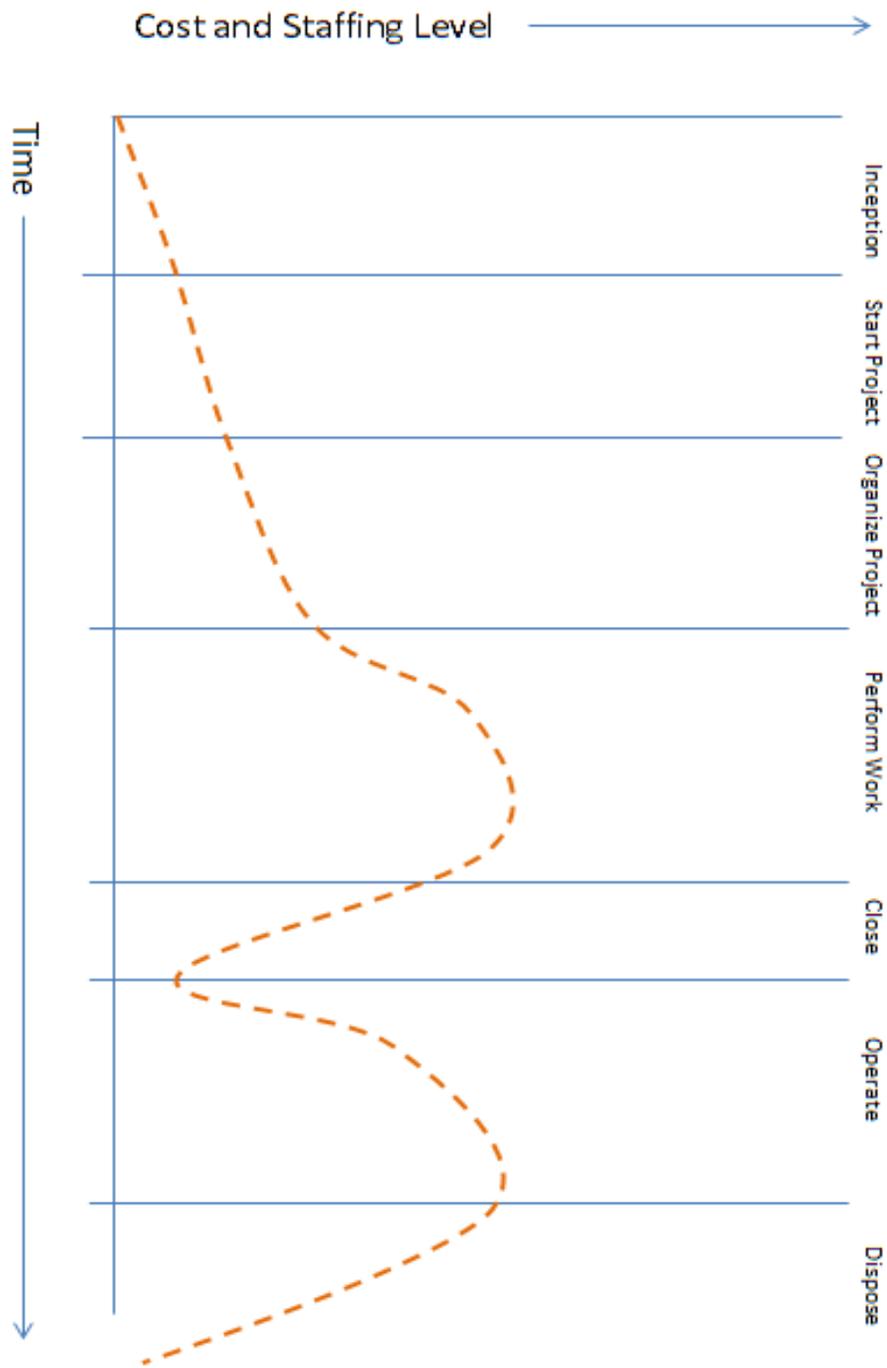
All projects can be mapped to a generic performance lifecycle structure indicated below;

- Inception or Ideation of the potential product
- Start the project
- Organize and prepare
- Perform the work
- Close the project
- Carry out the operation of the delivered product
- Assess operational performance of the product
- Decide to change or dispose of the product

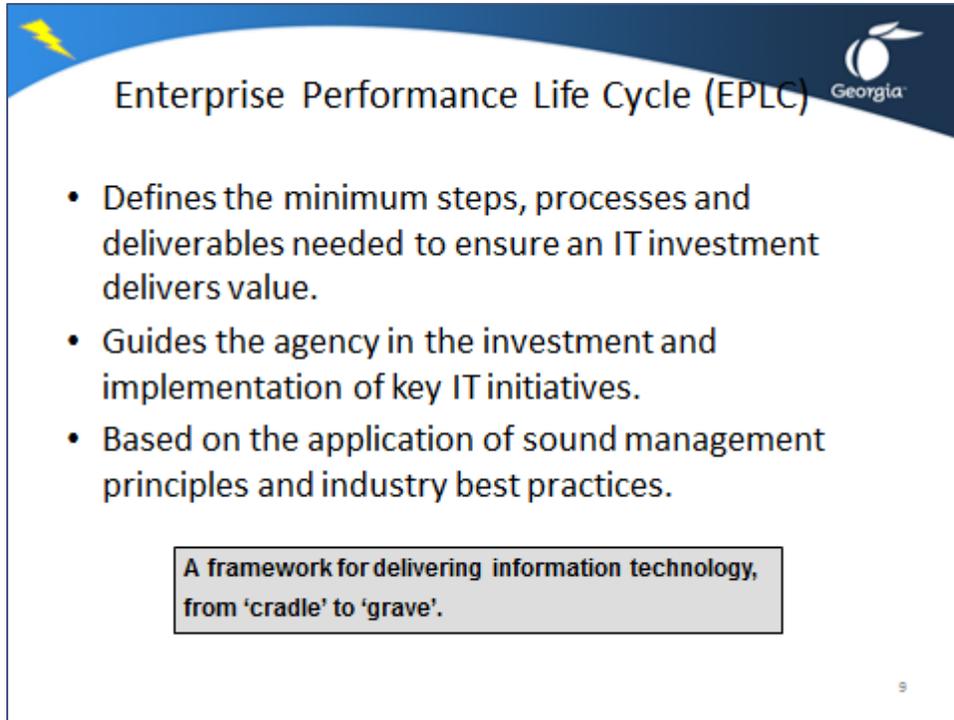
8

Projects vary in size and complexity. All projects can be mapped to a generic performance lifecycle structure indicated below;

- Inception or Ideation of the potential product, service, or result
- Start the project
- Organize and prepare
- Perform the work
- Close the project
- Carry out the operation of the delivered product, service, or result
- Assess operational performance of the product, service, or result
- Decide to change or dispose of the product, service, or result



Topic 1: Performance Lifecycle Definition – The EPLC



Enterprise Performance Life Cycle (EPLC)

- Defines the minimum steps, processes and deliverables needed to ensure an IT investment delivers value.
- Guides the agency in the investment and implementation of key IT initiatives.
- Based on the application of sound management principles and industry best practices.

A framework for delivering information technology, from 'cradle' to 'grave'.

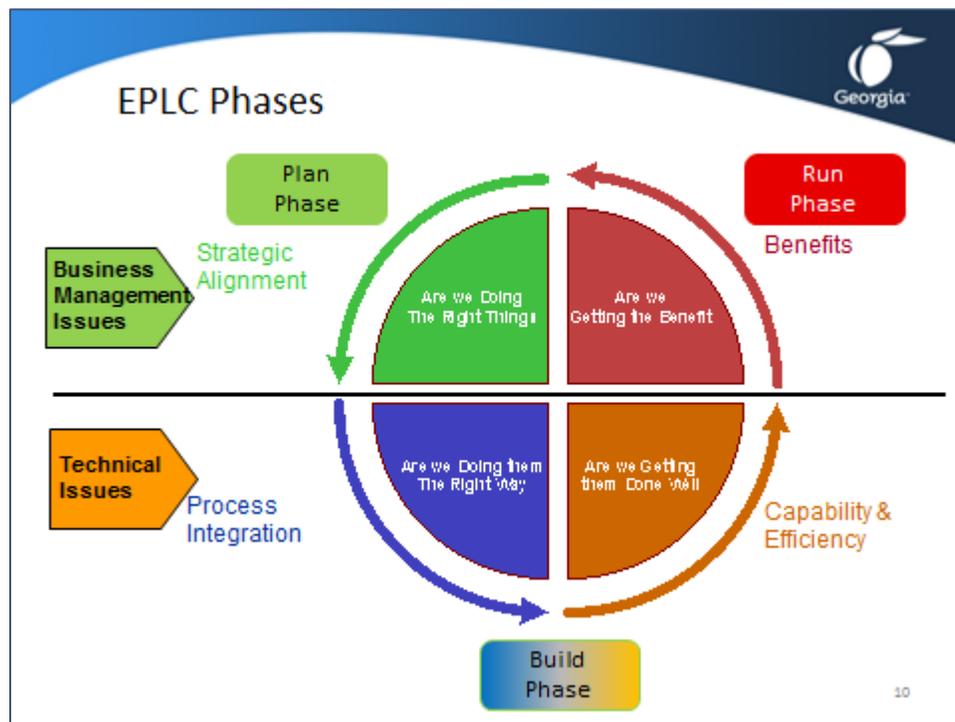
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The Enterprise Performance Lifecycle (EPLC) is composed of three (3) phases and seven (7) stages.

The underlying principle of the EPLC is that state agencies will select sound, viable initiatives and projects that will be managed and implemented in a structured manner using sound management practices, ensuring that stakeholders are involved throughout the investment's life cycle. These investments will be evaluated for how they will achieve established business expectations and outcomes, and will be subject to controlled change management, as appropriate.

The framework supports the GTA standards "Performance Lifecycle Framework, SM-10-006" and "Performance Lifecycle Management, SM-10-007".

Topic 2: The EPLC Phases



The EPLC Phases

In order to provide guidance for enterprise wide investments in technology, it is necessary to organize the investments at the key points of decision making. We start by segmenting investments into three key processes in their life cycle:

Plan – *Are we investing in the right things?*

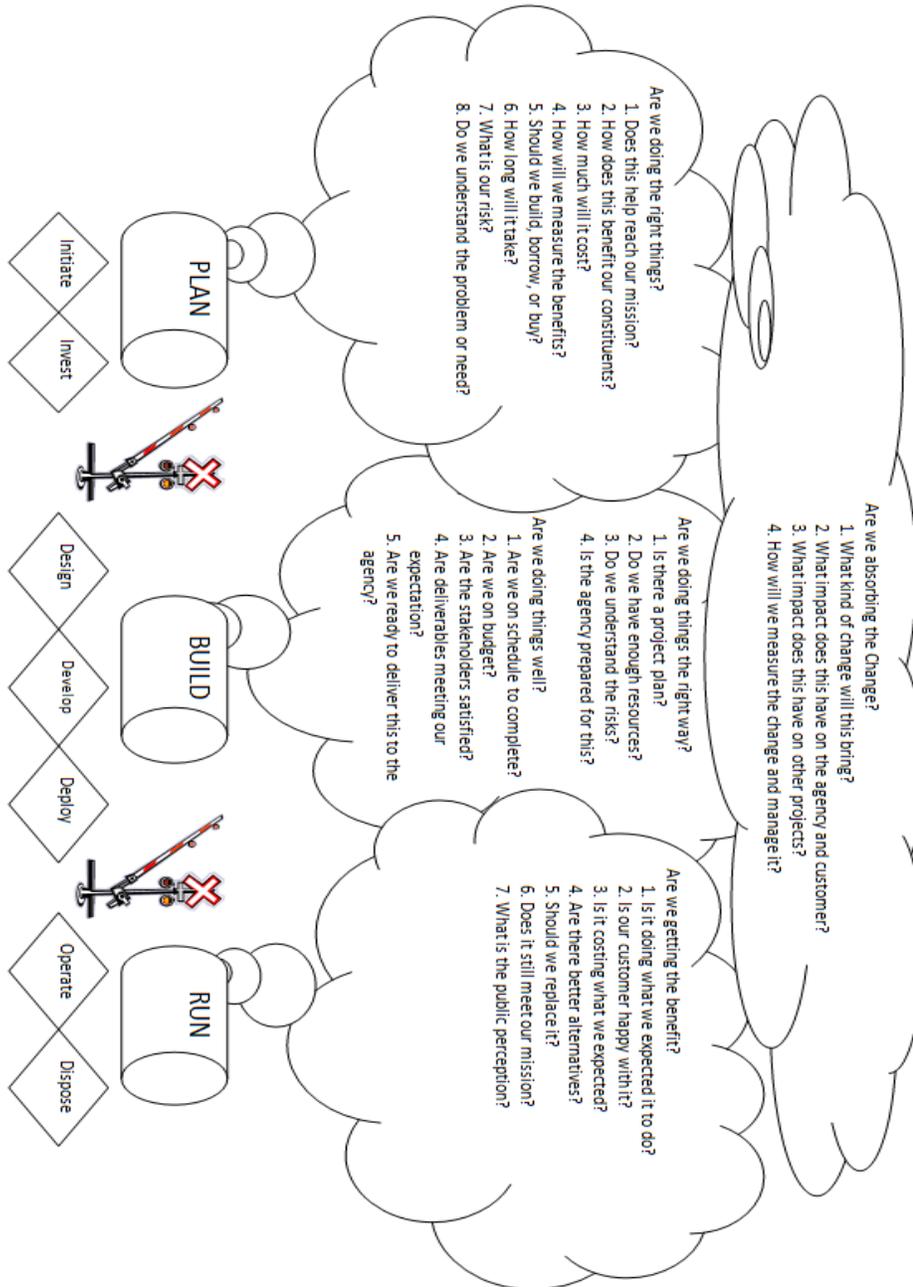
In this phase, we organize to determine whether to make the investment. The outcome of this phase is a determination of whether this initiative has the prerequisites and the potential to make the investment of time, resources and funds worth the benefits that will be realized once it is complete.

Build – *Are we doing them the right way and doing them well?*

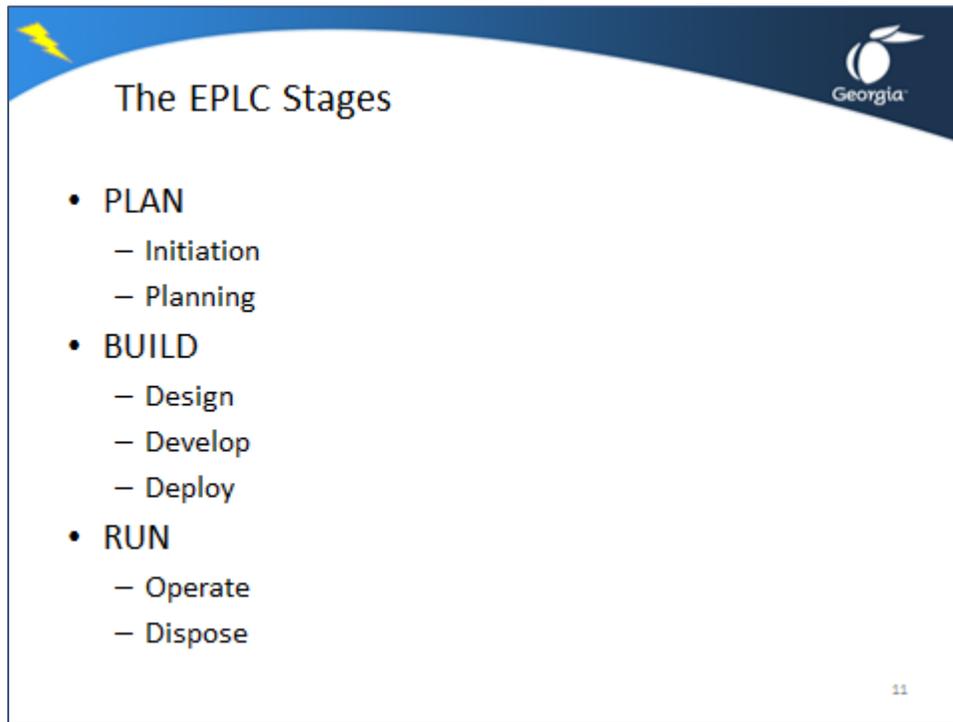
In this phase, we organize to determine whether the investment is sufficiently ready to be deployed and whether it will generate the benefits defined in the Plan Process. The outcome of this phase is a determination on whether this initiative has the pre-requisites and the ability to run and operate based on the services defined.

Run – Are we getting the benefits expected?

In this phase, we organize to determine whether the investment is sufficiently able to deliver on-going benefits as compared to the investment of time, resources and funds. The outcome of this phase is a determination on whether this investment has a justifiable benefit for the costs of operation.



Topic 3: The EPLC Stages



The EPLC Stages

- PLAN
 - Initiation
 - Planning
- BUILD
 - Design
 - Develop
 - Deploy
- RUN
 - Operate
 - Dispose

11

The EPLC Stages

In each of the three phases, there are a number of steps or stages that an investment will go through. The stages within each phase help guide the investment through the specific criteria, deliverables and outcomes that are necessary before the stakeholders and decision-makers can support moving from one stage to the next and ultimately to successfully exit the phase.

PLAN

Initiation – Identify the high level business and functional requirements to develop the product(s)/service(s) and the overall benefits of the proposed investment. Identify the business need, Rough Order of Magnitude (ROM) cost and schedule, and basic business and technical risks. The outcomes of this stage are the approval by Agency Stakeholders of the initial project benefits, scope, cost, schedule and performance rough order of magnitude estimates.

Planning – Complete development of the Project Management Plan and refinement of project cost, schedule and performance baselines. Outcome of the Planning stage is a Project Management Plan, business, and resource requirements, and an acquisition plan for project resources, including vendor contracts, if needed.

BUILD

Design – Finalize technical requirements and prepare the design for development based on the business & technical requirements. The outcome of this stage is completion of business product/service design and successful completion of preliminary and detailed design reviews.

Development – Develop code/configuration and/or capabilities required to deploy the business product/service. The outcome of this stage is completion of all product(s)/service(s) and associated documentation; user, operator, security and maintenance documentation, and test planning.

Deploy – Thorough audit and testing of the requirements, design, coding and documentation. Create and establish operational performance measures, operating manuals, customer service plans and baselines. The outcome of this stage is completed acceptance testing, training, establishment of full production capability and completion of the Post-Implementation Review.

RUN

Operations – Operate and maintain the system and conduct annual operational analyses. The outcome of the Operations stage is successful operation of the investment against current cost, schedule and performance benchmarks. At some point in the lifecycle of the investment, when the annual operational analysis indicates that the investment should be terminated due to reduced cost-effectiveness in operations, changes in business requirements, changes in technology, or that the investment's planned retirement date arrives a decision is made to dispose of the investment. The Operations stage transitions to the Disposition stage.

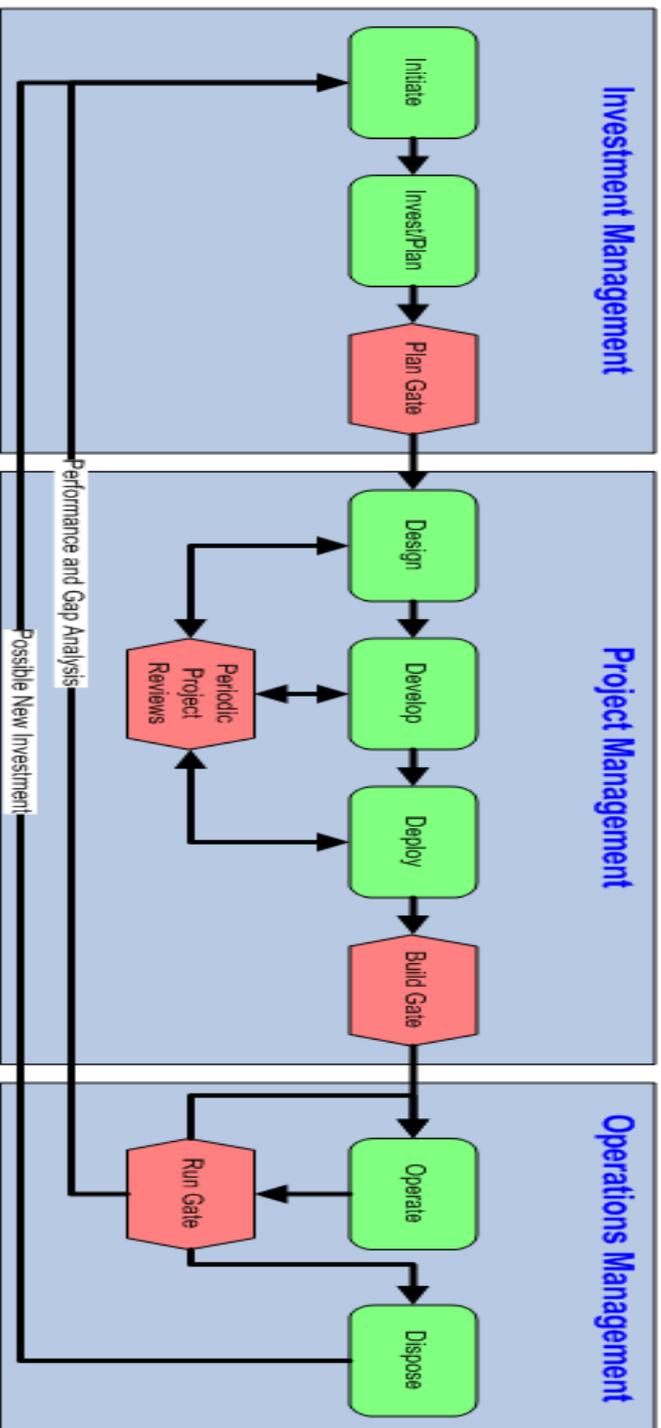
Disposition – The outcome of the Disposition Phase is the deliberate and systematic decommissioning of the business product(s)/service(s) with appropriate consideration of data archiving, security, migration of data or functionality to new assets, and incorporation of lessons learned over the investment life cycle.

Enterprise Performance Life Cycle

Plan

Build

Run



Topic 4: Roles and Responsibilities



Roles and Responsibilities

Critical Partners are subject matter experts in the areas of: Security, Procurement Management, Human Resources, Finance, Budget, and Project Assurance who are independent of the investment.

- Business Owner
- Key Stakeholders
- Project Manager

12

Critical Partners Roles and Responsibilities within the EPLC

Critical Partners are subject matter experts in the areas of: Security, Procurement Management, Human Resources, Finance, Budget, and Project Assurance who are independent of the investment. The Critical Partners are considered expert participation roles in the IT project reviews and governance decisions to ensure compliance with policies in their respective areas and to make timely tradeoff decisions where conflicts arise during the planning and execution of an investment. Because organizational structures vary in the Agencies, the expertise for these Critical Partner roles may be fulfilled from a mixture of organizations, as appropriate. The Project Assurance Critical Partner Role is responsible for reviewing the Project documentation and cost and schedule as key measures of Project Management performance.

Additionally, Critical Partners have the primary responsibility to review progress of IT projects at specified Stage Gate Reviews to ensure that the projects meet the Stage Gates' respective requirements. Critical Partners are responsible for evaluating the completeness, accuracy and adequacy of phase deliverables and for evaluating whether the investment meets exit criteria for advancement to the next phase. These stakeholders will provide recommendations and any issues identified to the IT governance organization and the Business Owner based on their review.

Business Owner (BO): The person who serves as the primary stakeholder and advocate for the investment. The Business Owner is responsible and accountable for The Stage Gate Review process is the business owner's mechanism to ensure the viability of the investment and the compliance with agency, state and federal laws and regulations, as required.

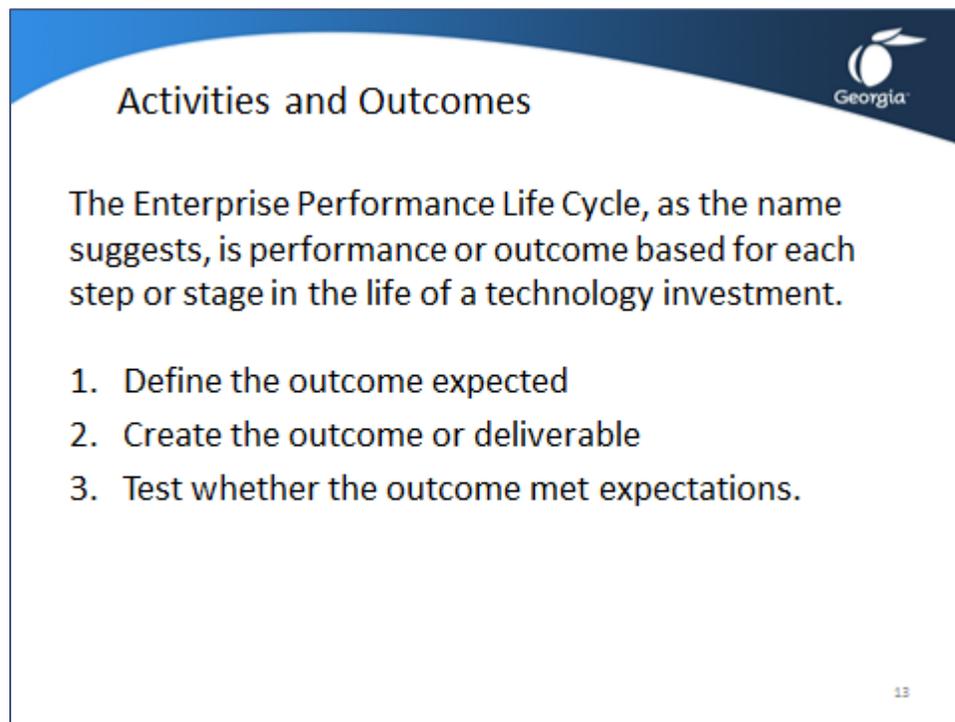
Key Stakeholders (SH): Stakeholders are individuals with vested interests in the success of the investment. Certain stakeholders are considered critical partners because of their expertise and/or roles in the reviews and governance of the investment. Their purpose is to ensure compliance with policies, standards, practices, legislative requirements and environmental limitations. Their contributions are on behalf of and at the request of the Business Owner, as needed and based on their respective areas of expertise. Because organizational structures vary in the Agencies, the expertise for these roles may be fulfilled from a mixture of organizations, as appropriate. Key Stakeholder roles include:

- Strategic Planner
- Technology Architect
- Information Security Officer
- Procurement Officer
- Budget/Finance Officer
- Workforce/HR, and
- Federal authorities, Office of Planning & Budget (OPB), Georgia Technology Authority (GTA), Department of Administrative Services (DOAS), and State Accounting Office (SAO)

Project Manager (PM): The Project Manager is responsible for overall planning, execution and performance of the investment or initiative within approved cost, schedule and performance baselines. The project manager maintains information and reports on investment status, control, performance, risk, corrective action(s) and outlook. This person is accountable to the Business Owner for meeting business requirements and performance. This role provides a connectivity and guidance for the investment with the following roles during the lifecycle of the investment:

- Investment Manager (Plan Process)
- Project Manager (Build Process)
- Operations Manager (Run Process)

Topic 5: Activities and Outcomes



Activities and Outcomes

The Enterprise Performance Life Cycle, as the name suggests, is performance or outcome based for each step or stage in the life of a technology investment.

1. Define the outcome expected
2. Create the outcome or deliverable
3. Test whether the outcome met expectations.

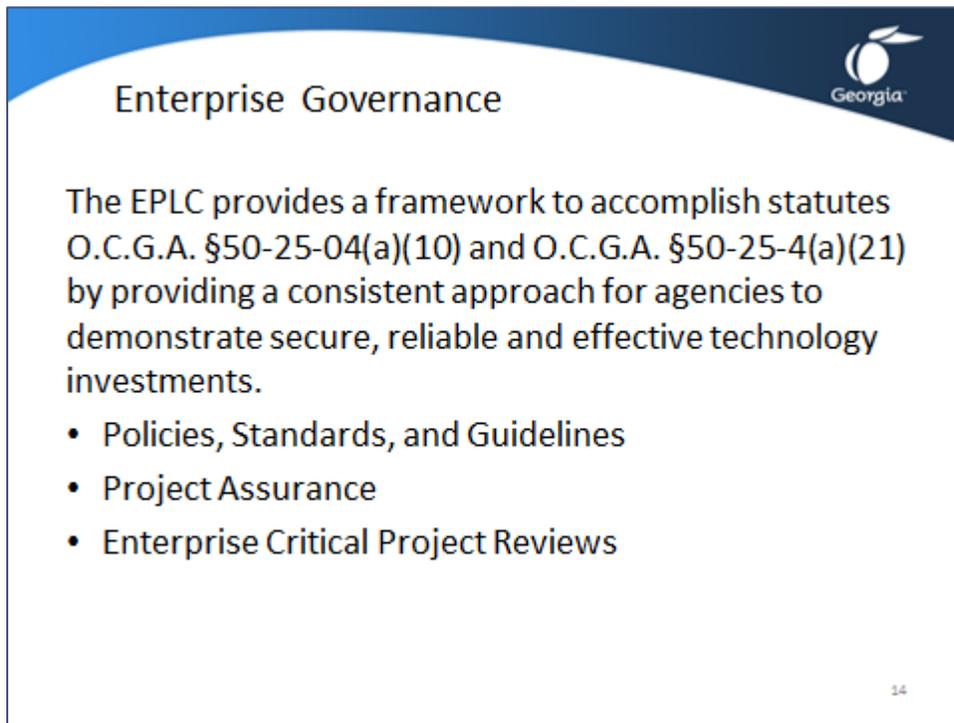
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EPLC Activities and Outcomes

The Enterprise Performance Life Cycle, as the name suggests, is performance or outcome based for each step or stage in the life of a technology investment. First one must **define the outcome** expected, then **create the outcome** or deliverable, and then **test whether the outcome met expectations**. This simple concept forms the basis for EPLC.

At each stage, there are defined, specific deliverables expected for technology investments. The business owner is responsible to test and assure the deliverables meet the business needs. The business owner relies upon the key stakeholders and subject matter experts to give advice on the quality of those deliverables. The project manager is responsible to provide the deliverables to the key stakeholders and business owner, ready for sign-off. By decomposing the investment into these simple stages or steps, we are able to iteratively work towards a successful outcome and manage the risks involved.

Topic 6: Enterprise Governance



The slide features a blue header with the Georgia logo in the top right corner. The main content is centered on a white background with a blue border. The text describes the EPLC's role in providing a framework for technology investments, supported by a bulleted list of three key areas: Policies, Standards, and Guidelines; Project Assurance; and Enterprise Critical Project Reviews.

Enterprise Governance

The EPLC provides a framework to accomplish statutes O.C.G.A. §50-25-04(a)(10) and O.C.G.A. §50-25-4(a)(21) by providing a consistent approach for agencies to demonstrate secure, reliable and effective technology investments.

- Policies, Standards, and Guidelines
- Project Assurance
- Enterprise Critical Project Reviews

14

The Georgia Technology Authority (GTA) has responsibility for enterprise technology management and enterprise portfolio management. Part of GTA’s responsibilities include oversight and reporting on technology investments. The EPLC provides a framework to accomplish these responsibilities by providing a consistent approach for agencies to demonstrate secure, reliable and effective technology investments. The following areas enable agency business owners to plan, build and run technology investments.

POLICIES, STANDARDS AND GUIDELINES

The Official Code of Georgia Annotated, O.C.G.A. §50-25-04(a)(10), vests GTA with authority to “set technology policy for all agencies except those under the authority, direction or control of the General Assembly or statewide elected officials other than the Governor.” The GTA Board of Directors has implemented technology policies pursuant to state statute through the policy on Information Technology Policies, Standards and Guidelines, PM-04-001.03. The Official Code of Georgia Annotated, O.C.G.A. §50-25-4(a)(21), related to **security policies, standards and guidelines** is broader than the general statutory authority granted GTA with respect to technology policies. It authorizes GTA to establish statewide security policies and standards that are binding on all agencies. The GTA Board of Directors has implemented security policies pursuant to state statute through the Enterprise Information Security Charter, PS-08-005.01. Agency Business Owners are

required to follow the policies and standards as defined by GTA. Guidelines provide additional support by articulating best practices in the industry.

PROJECT ASSURANCE

Project Assurance is a structured review of projects to evaluate and determine how they can be successful. Project Assurance looks at project organization, sponsorship, plans, risks, issues, change, dependencies, resources, and processes, among other things, to determine how well they are being executed in context of the specific project, and then makes recommendations to mitigate risks. It does not conduct 'Quality Assurance' of project deliverables but is concerned with the way projects are being managed. It provides line management with an independent view of the project status and makes recommendations as needed.

Some projects that are large and complex represent a critical risk to the business of the state and require extra care in their project assurance. In these cases we use Independent Verification and Validation (IV&V). The key difference with IV&V is the emphasis on 'Independent'. GTA procures independent, 3rd party assurance services to perform project assurance for the largest and most critical technology projects.

ENTERPRISE CRITICAL PROJECT REVIEWS

Industry research has shown that one of the most significant contributors to technology project success is executive involvement. In the state of Georgia, the Critical Project Review Panel has the primary objective of understanding and responding to the business implications and issues associated with critical technology projects. Technology issues are not addressed in the panel review, only business issues. These can involve agency priorities, vendor relations, inter-agency dependencies, and budget and schedule challenges. The Panel provides a forum for the agency head to ensure they have the commitments and resources needed to deliver on their initiative successfully. GTA facilitates this forum and discussion through a disciplined approach. The criteria to become a critical project are one or more of the following:

- Technology product and/or services that significantly impact the State of Georgia;
- Project budget is greater than \$5 million;
- Critical to meeting agency business objectives; and
- Duration is one year or more.

On a monthly basis, GTA conducts a preliminary review of all critical projects and highlights issues or concerns for the panel to consider. These are presented to the panel in a summary report with key project measures, issues and risks identified, and any recommendations. Where follow-up is deemed necessary, GTA facilitates a meeting with the panel and with the agency head, business owner, project manager, vendor manager and project assurance. The panel then interviews, questions and evaluates the project team on the relevant business issues, and takes appropriate actions or decisions on behalf of the agency.

Exercise 1.1: The Enterprise Performance Lifecycle

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.		Performance lifecycle	A. composed of three (3) phases and seven (7) stages
2.		Critical Partners	B. concerned with the way projects are being managed. It provides line management with an independent view of the project status and makes recommendations as needed
3.		Critical Project Review Panel	C. the deliberate and systematic decommissioning of the business product(s)/service(s)
4.		Build Phase	D. a series of phases that an investment passes through from its inception to its disposition
5.		phases	E. serves as the primary stakeholder and advocate for the investment
6.		Business Owner	F. is comprised of the Design, Develop, and Deploy stages
7.		The Enterprise Performance Lifecycle (EPLC)	G. responsible for evaluating the completeness, accuracy and adequacy of phase deliverables and for evaluating whether the investment meets exit criteria for advancement to the next phase
8.		Project Assurance	H. Are we investing in the right things?
9.		Disposition Stage	I. objective of understanding and responding to the business implications and issues associated with critical technology projects
10.		Plan Phase	J. generally sequential, and their names are determined by the management and control needs of the organization, the nature of the project, and its area of application

Lesson 1 Summary: Learning Objectives Recap

- **Understand definition of a lifecycle**

A Performance lifecycle is a series of phases that an investment passes through from its inception to its disposition. The phases are generally sequential, and their names are determined by the management and control needs of the organization, the nature of the project, and its area of application.

- **Identify the phases and stages of the EPLC**

PLAN

Initiation

Planning

BUILD

Design

Development

Deploy

RUN

Operations

Disposition

- **Understand the roles and responsibilities in the EPLC**

Business Owner (BO): The person who serves as the primary stakeholder and advocate for the investment.

Key Stakeholders (SH): Stakeholders are individuals with vested interests in the success of the investment. Certain stakeholders are considered critical partners because of their expertise and/or roles in the reviews and governance of the investment. Their purpose is to ensure compliance with policies, standards, practices, legislative requirements and environmental limitations. Key Stakeholder roles include:

- Strategic Planner
- Technology Architect
- Information Security Officer
- Procurement Officer
- Budget/Finance Officer
- Workforce/HR, and
- Federal authorities, Office of Planning & Budget (OPB), Georgia Technology Authority (GTA), Department of Administrative Services (DOAS), and State Accounting Office (SAO)

Project Manager (PM): The Project Manager is responsible for overall planning, execution and performance of the investment or initiative within approved cost, schedule and performance baselines. This person is accountable to the Business Owner for meeting business requirements and performance.

- **Identify the activities and outcomes of the EPLC**

First one must **define the outcome** expected, then **create the outcome** or deliverable, and then **test whether the outcome met expectations**.

- **Identify the governance components of the EPLC**

Policies, Standards and Guidelines, Project Assurance, Enterprise Critical Project Reviews

LESSON 2: THE STAGE GATE REVIEW PROCESS

Topic 1: The Stage Gate Review Defined

Topic 2: Preparing for the Review

Topic 3: Conducting the Review

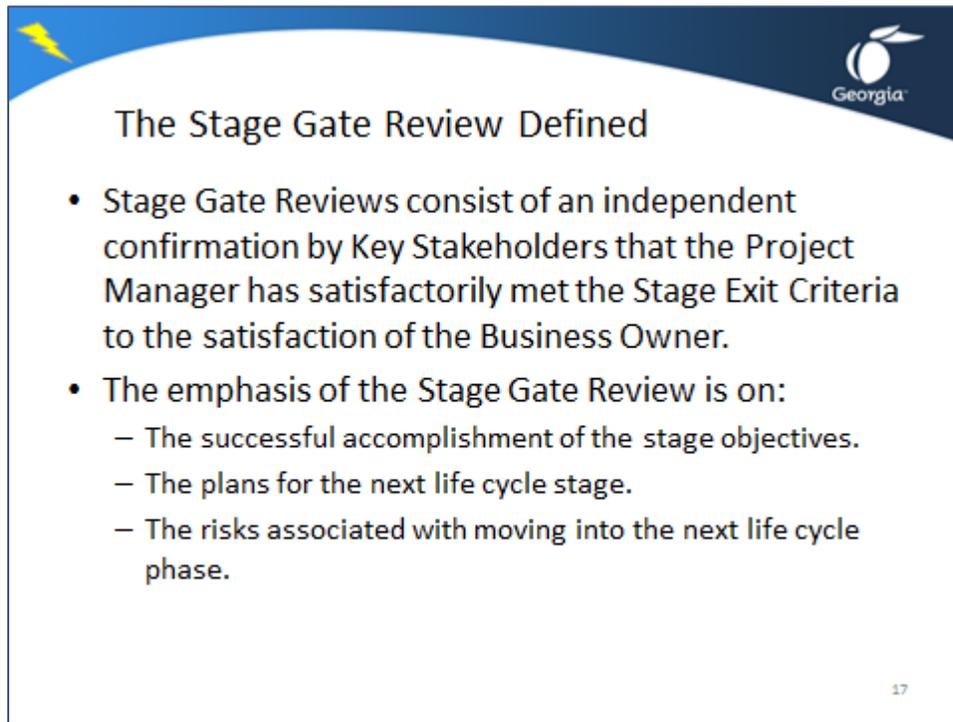
Student Learning Objectives

After completing this lesson you should be able to

- Understand the purpose and function of a Stage Gate Review
- Understand the role of the Project Manager in the Stage Gate process
- Understand the outcomes of the Stage Gate Review

Approximate Presentation time: 1 hour

Topic 1: The Stage Gate Review Defined



The Stage Gate Review Defined

- Stage Gate Reviews consist of an independent confirmation by Key Stakeholders that the Project Manager has satisfactorily met the Stage Exit Criteria to the satisfaction of the Business Owner.
- The emphasis of the Stage Gate Review is on:
 - The successful accomplishment of the stage objectives.
 - The plans for the next life cycle stage.
 - The risks associated with moving into the next life cycle phase.

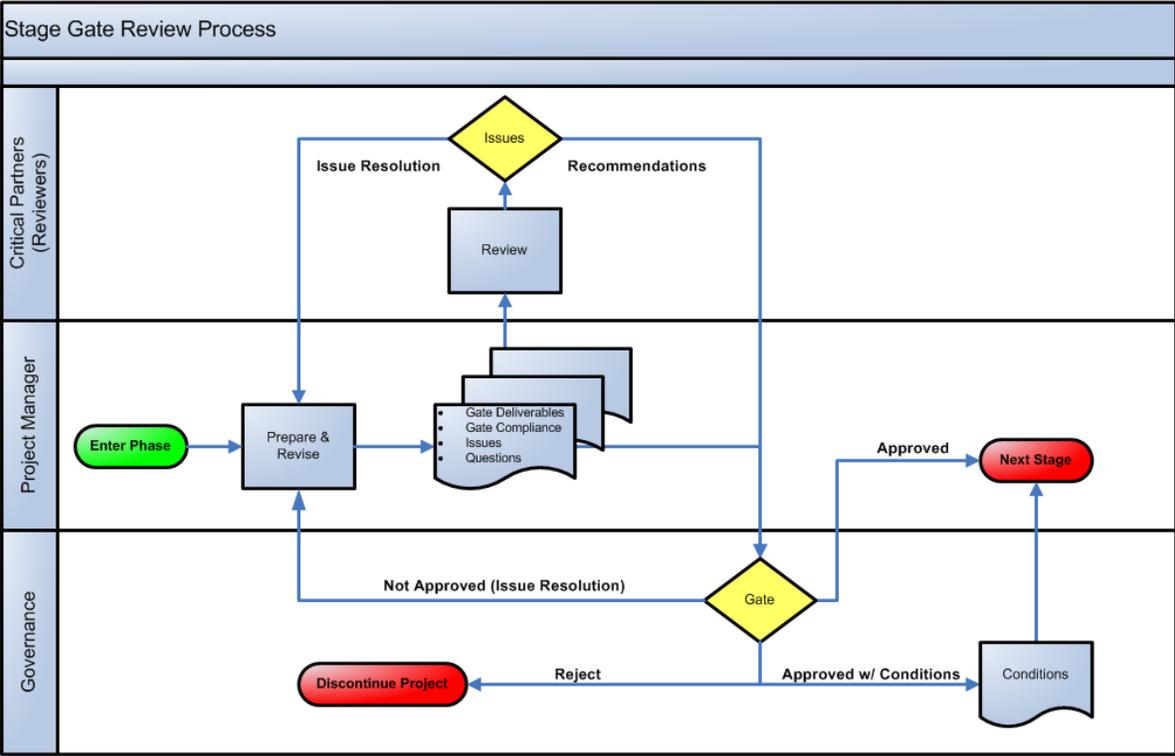
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STAGE GATE REVIEWS

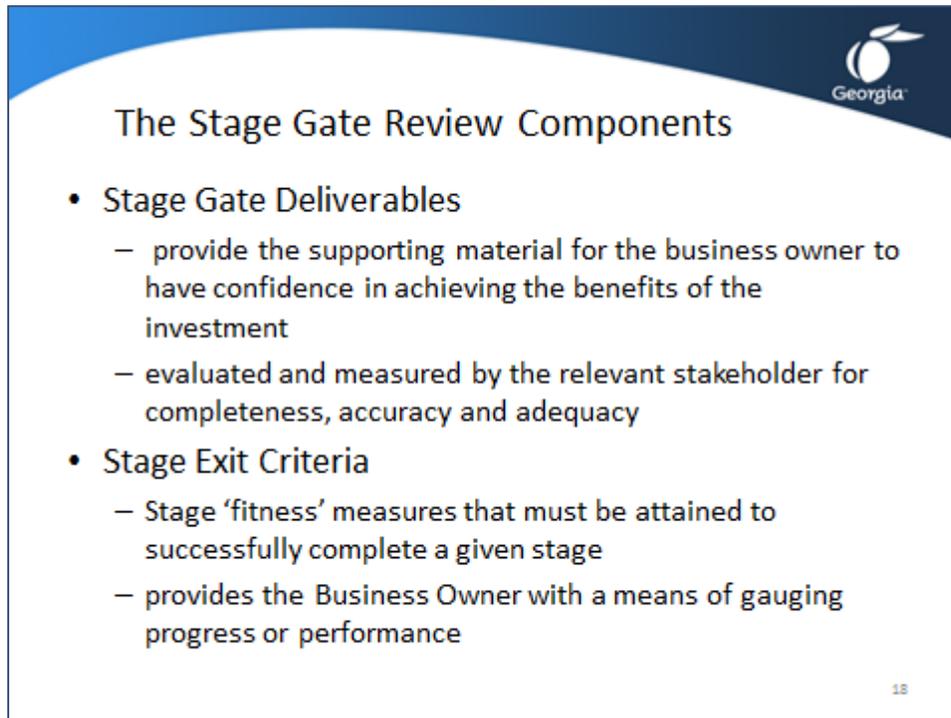
Stage Gate Reviews are required at the end of the Plan and Build phases to provide a formal review of the Stage Exit Criteria. Periodic Project Reviews may be required during the Build phase depending on the complexity and criticality of the investment. In addition, annual Application Assessments will be required to revalidate the operational investment, depending on the complexity and criticality of the investment.

Stage Gate Reviews consist of an independent confirmation by Key Stakeholders that the Project Manager has satisfactorily met the Stage Exit Criteria to the satisfaction of the Business Owner. Stage Gate Reviews also address the availability of resources to execute the subsequent life cycle stages. The results of the review by the Stakeholders are provided with recommended action(s) to the Business Owner. The emphasis of the Stage Gate Review is on:

- The successful accomplishment of the stage objectives.
- The plans for the next life cycle stage.
- The risks associated with moving into the next life cycle phase.



Topic 1: The Stage Gate Review Defined - Components



The Stage Gate Review Components

- **Stage Gate Deliverables**
 - provide the supporting material for the business owner to have confidence in achieving the benefits of the investment
 - evaluated and measured by the relevant stakeholder for completeness, accuracy and adequacy
- **Stage Exit Criteria**
 - Stage 'fitness' measures that must be attained to successfully complete a given stage
 - provides the Business Owner with a means of gauging progress or performance

18

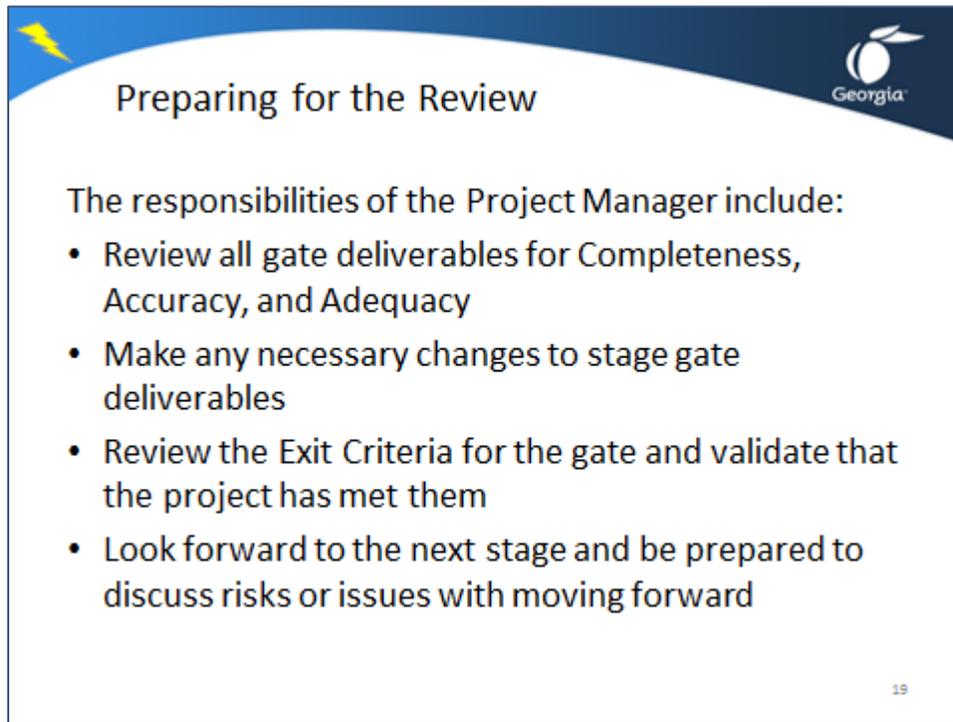
STAGE DELIVERABLES

All deliverables are created in support of the investment objectives. Their purpose in each stage is to provide the supporting material for the business owner to have confidence in achieving the benefits of the investment. The specific deliverables outlined in the EPLC come from industry standards and independent research. In general, each deliverable will be evaluated and measured by the relevant stakeholder for completeness, accuracy and adequacy.

STAGE EXIT CRITERIA

Exit Criteria are established as Stage 'fitness' measures that must be attained to successfully complete a given stage. This creates a defined measure of performance at key points in the life of an investment and provides the Business Owner with a means of gauging progress or performance. Exit criteria can be documents, deliverables or specific actions that must be accomplished. Generic Exit criteria are set to monitor the overall status of the investment. Stage Exit Criteria can include any necessary corrective actions needed to bring the project into alignment with the original goals, objectives and performance requirements.

Topic 2: Preparing for the Review



Preparing for the Review

The responsibilities of the Project Manager include:

- Review all gate deliverables for Completeness, Accuracy, and Adequacy
- Make any necessary changes to stage gate deliverables
- Review the Exit Criteria for the gate and validate that the project has met them
- Look forward to the next stage and be prepared to discuss risks or issues with moving forward

19

The responsibilities of the Project Manager include:

- Review all gate deliverables for Completeness, Accuracy, and Adequacy
- Make any necessary changes to stage gate deliverables
- Review the Exit Criteria for the gate and validate that the project has met them
- Look forward to the next stage and be prepared to discuss risks or issues with moving forward

Scoring Deliverables:

Deliverables for each Phase of the EPLC are scored based on the criteria below. Projects must complete each of the required deliverables unless otherwise agreed to with the Business Owner.

Prior to the initiation of the Stage Gate Review, reviewers should read the content of each deliverable in the Phase and score each between 1 and 3 on the following criteria:

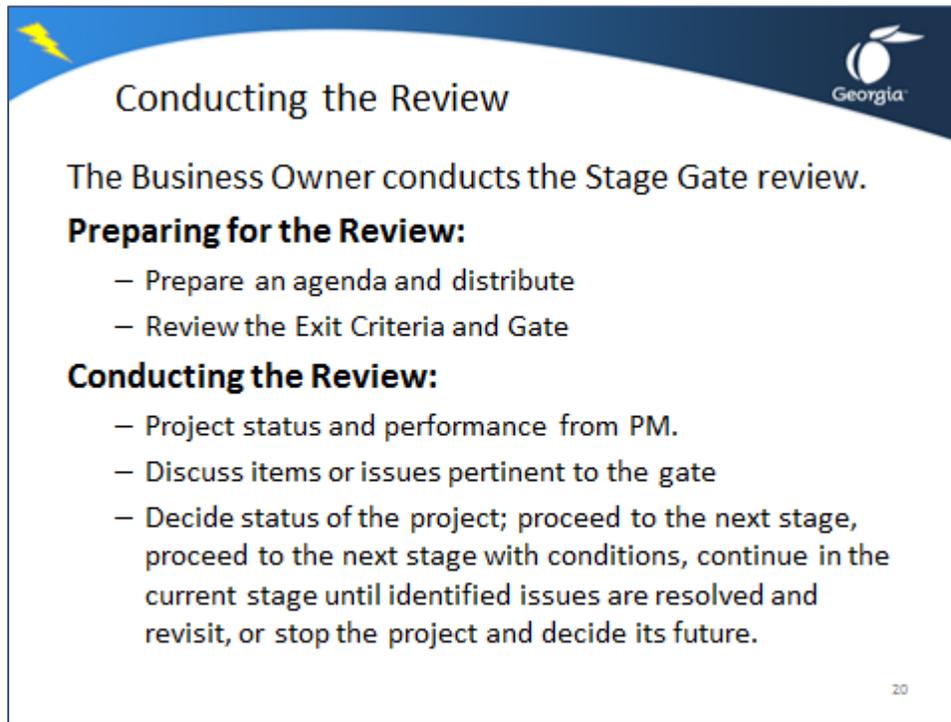
- Completeness
 - 1=incomplete deliverable or deliverable does not exist
 - 2=deliverable needs to be more detailed
 - 3= deliverable is complete
- Accuracy
 - 1=deliverable information is not accurate or is inconsistent
 - 2=deliverable needs to be more detailed
 - 3=deliverable is accurate
- Adequacy
 - 1= deliverable does not follow best practices

- 2=deliverable needs to be more detailed
- 3=deliverable is adequate and meets the defined purpose for which it was designed and follows best practices

The following table represents how the scoring may be determined with a project scenario.

Deliverable	Completeness	Accuracy	Adequacy	Total Rating
Business Case	2	2	1	5
Project Charter	3	3	3	9
Project Management Plan	3	3	3	9

Topic 3: Conducting the Review



Conducting the Review

The Business Owner conducts the Stage Gate review.

Preparing for the Review:

- Prepare an agenda and distribute
- Review the Exit Criteria and Gate

Conducting the Review:

- Project status and performance from PM.
- Discuss items or issues pertinent to the gate
- Decide status of the project; proceed to the next stage, proceed to the next stage with conditions, continue in the current stage until identified issues are resolved and revisit, or stop the project and decide its future.

20

The Business Owner should conduct the Stage Gate review. Follow best practice processes for preparing and conducting a meeting.

Preparing for the Review:

- Prepare an agenda and distribute in advance of the decided upon meeting date.
- Review the Exit Criteria and Gate deliverables to be discussed during the review.

Conducting the Review:

- Ask the project manager to report the project status and performance to this point in time.
- Discuss any prepared questions or items pertinent to the gate for which the project is being reviewed.
- Discuss with the team any issues or findings you have discovered after reviewing the Gate deliverables and Exit Criteria.
- Come to a decision with the governance team and project manager as to the status of the project;
 - proceed to the next stage,
 - proceed to the next stage with conditions,
 - continue in the current stage until identified issues are resolved and revisit, or
 - stop the project and decide its future.

Exercise 2.1: The Stage Gate Review Process

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.		Project Manager responsibility	A. the degree to which the stage deliverable is complete or exists
2.		decision made as to the status of the project	B. conducts the Stage Gate review
3.		Completeness	C. the degree to which a stage deliverable meets the defined purpose for which it was designed
4.		Stage Gate Review	D. the degree to which the information in the stage deliverable is accurate and consistent
5.		Completeness, Accuracy, and Adequacy	E. proceed to the next stage, proceed to the next stage with conditions, continue in the current stage until identified issues are resolved and revisit, or stop the project and decide its future
6.		Exit Criteria	F. an independent confirmation by Key Stakeholders that the Project Manager has satisfactorily met the Stage Exit Criteria to the satisfaction of the Business Owner
7.		Business Owner responsibility	G. Review all gate deliverables for completeness, accuracy, and adequacy, make any necessary changes to deliverables
8.		Adequacy	H. Criteria by which stage deliverables are scored
9.		Accuracy	I. established as Stage 'fitness' measures that must be attained to successfully complete a given stage

Lesson 2 Summary: Learning Objectives Recap

- **Understand the purpose and function of a Stage Gate Review**

Stage Gate Reviews are required at the end of the Plan and Build phases to provide a formal review of the Stage Exit Criteria. Stage Gate Reviews consist of an independent confirmation by Key Stakeholders that the Project Manager has satisfactorily met the Stage Exit Criteria to the satisfaction of the Business Owner.

The emphasis of the Stage Gate Review is on:

- The successful accomplishment of the stage objectives
- The plans for the next life cycle stage
- The risks associated with moving into the next life cycle phase

- **Understand the role of the Project Manager in the Stage Gate process**

The Project Manager is responsible for the following activities in the Stage Gate Review process:

- Review all gate deliverables for Completeness, Accuracy, and Adequacy
- Make any necessary changes to bring deliverables into compliance
- Review the Exit Criteria for the gate and validate that the project has met them
- Look forward to the next stage and be prepared to discuss risks or issues with moving forward

- **Understand the outcomes of the Stage Gate Review**

The Business Owner and governance team will come to one of the following conclusions about the project status upon completing the Stage Gate Review:

1. Proceed to the next stage. The Exit Criteria have been met and the gate deliverables are complete, accurate, and adequate enough to proceed
2. Proceed to the next stage with conditions. The governance team will make recommendations directing the Project Manager on what items need correcting, but the issues are not severe enough to hold the project back.
3. Continue in the current stage until identified issues are resolved and revisit. The governance team discovered issues serious enough to prevent the project from moving forward. The Project Manger should address these immediately and reschedule the gate review.
4. Stop the project and decide its future. The governance team decided that enough of the Exit Criteria had not been met sufficiently or the deliverables were incomplete, inaccurate, or inadequate enough to stop the project.

LESSON 3: THE PLAN PHASE

Topic 1: The Initiation Stage

Topic 2: The Planning Stage

Topic 3: The Authorize Gate Review

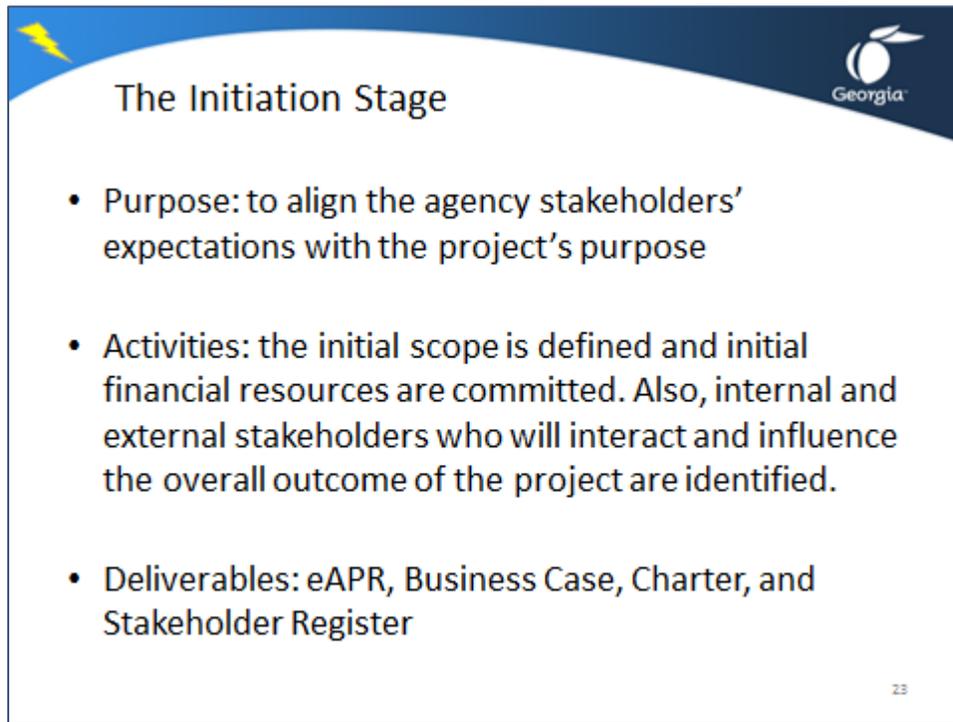
Student Learning Objectives

After completing this lesson you should be able to

- Understand the stages within the Plan Phase
- Understand the key deliverables of the Plan Phase
- Understand Exit Criteria for the Authorization Gate Review

Approximate Presentation time: 3 hours

Topic 1: The Initiation Stage



The Initiation Stage

- **Purpose:** to align the agency stakeholders' expectations with the project's purpose
- **Activities:** the initial scope is defined and initial financial resources are committed. Also, internal and external stakeholders who will interact and influence the overall outcome of the project are identified.
- **Deliverables:** eAPR, Business Case, Charter, and Stakeholder Register

23

Purpose:

The purpose of the Initiation stage is to align the agency stakeholders' expectations with the project's purpose, give them visibility about the scope and objectives, to show them how their participation in the project and its associated phases can ensure their expectations are achieved. These processes help set the vision of the project – what is needed to be accomplished. Within the Initiation processes, the initial scope is defined and initial financial resources are committed. Also, internal and external stakeholders who will interact and influence the overall outcome of the project are identified.

Activities:

The following activities are performed as a part of this stage;

- Develop the Business Case for the investment
- Develop the Project Charter
- Submit an eAPR to GTA
- Identify Stakeholders

Critical Partner Responsibilities:

Critical Partners review and comment on the Business Case, eAPR, and Project Charter.

- **Security:** Conclude that all applicable security and privacy standards have been considered in sufficient detail as part of the Business Case. Verify that a high level security analysis and

a preliminary risk assessment are complete and justify proceeding to the Planning Phase. Verify that the investment has been appropriately categorized according to FIPS-199 and that an initial accreditation boundary has been established.

- **Procurement:** Ascertain if a preliminary Procurement Strategy that is appropriate to the level of the requirements definition is part of the business justification, and includes performance-based acquisitions. Verify that the overall procurement strategy includes consideration of internal versus external acquisition, re-use, the use of commercial off-the-shelf technologies, and, if Requests for Information are necessary, how contracting work will be divided, and expected contract types.
- **Budget:** Establish that the business justification includes a financing and budgeting plan and that there is sufficient requirements detail to support the detailed cost and schedule estimates needed during the Plan Phase.
- **Workforce:** Ensure a high-level workforce impact plan has been developed for the proposed perform organization and as well as the targeted business areas that will be impacted by the delivery of this project. Determine the probability and/or impact of any anticipated workforce changes or disruptions. Make certain the need for staffing classifications such as new positions, position changes, job classifications, and grade levels have been reviewed by the organizations HR. Determine the need for workforce planning such as employee education and training activities have been evaluated.
- **Project Assurance:** Ensure that the approval of the performance baselines is completed. Determine that appropriate potential performance goals are established as part of the Business Case and Project Charter. Conclude that the required authority and project structural foundation is in place. Ensure that IV&V activities are performed where required.

Deliverables:

The following deliverables should be produced during the Initiation stage.

- eAPR
- Business Case
- Project Charter
- Stakeholder Register

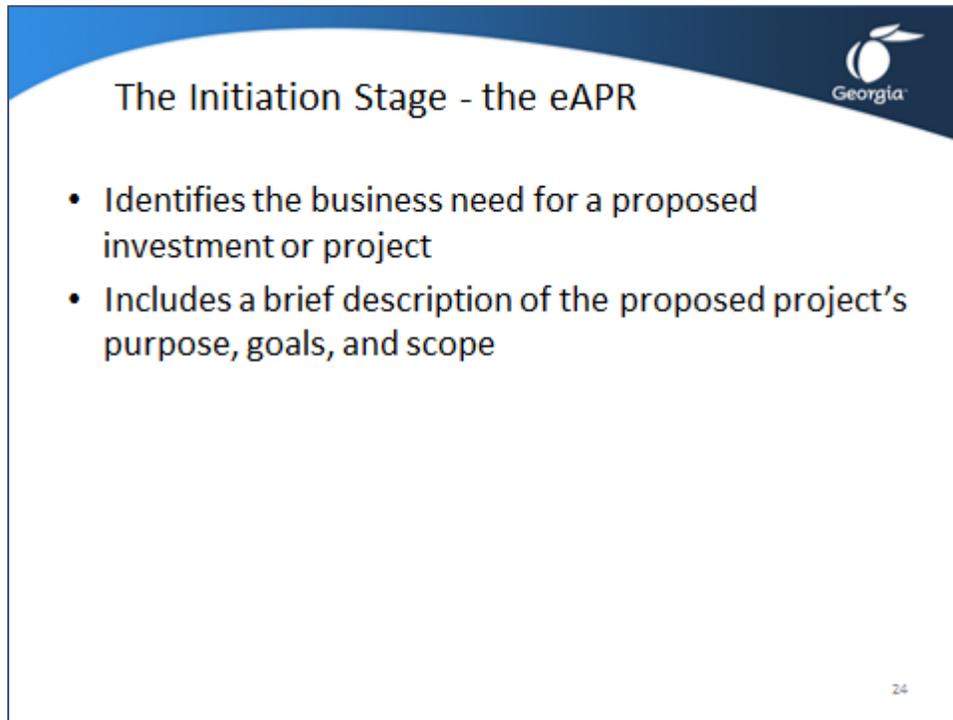
Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- The Business Case adequately describes the following:
 - The business problem or opportunity that the proposed investment will address
 - The benefits that will be achieved by this project
 - The capability/functionality that is to be included in the solution and those not.
 - Analysis of alternative solutions to addressing the problem (including the option of doing nothing)
 - The alignment to the current strategic goals of both state and agency

- The project charter has been reviewed and approved by all key stakeholders, including the project sponsor?
- The critical success factors have been documented
- The Sponsor concurs with the critical success factors
- Key Stakeholders have been identified and expectations/needs understood

Topic 1: The Initiation Stage - eAPR



The Initiation Stage - the eAPR

- Identifies the business need for a proposed investment or project
- Includes a brief description of the proposed project's purpose, goals, and scope

24

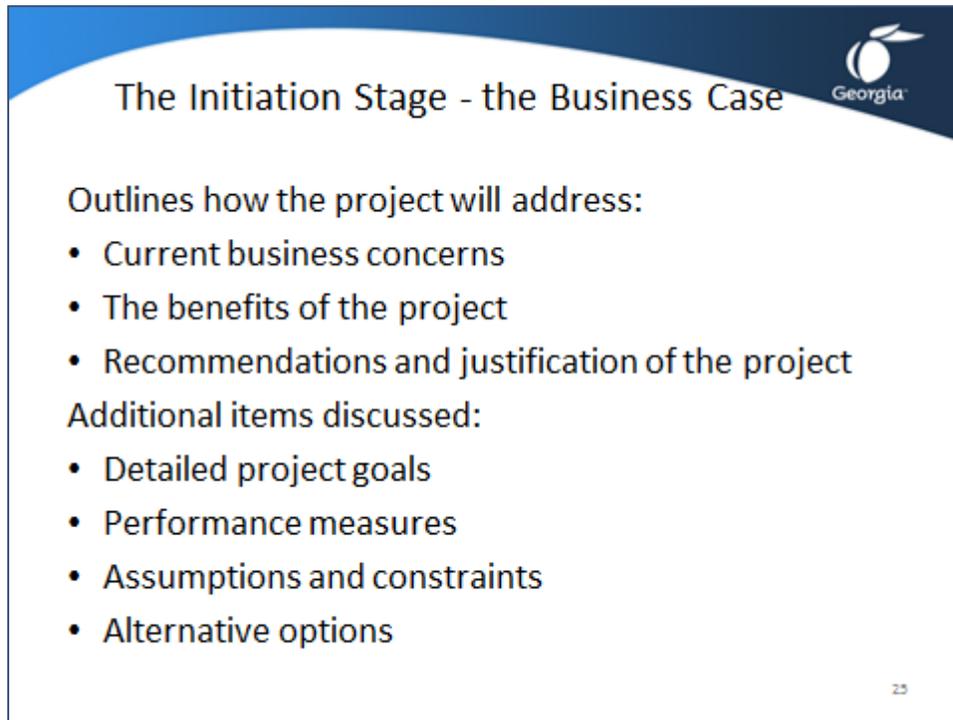
The eAPR identifies the business need for a proposed investment or project. It includes a brief description of the proposed project's purpose, goals, and scope. Sufficient information is also supplied to justify a decision whether or not the organization should move forward with the development of a full business case.

Components of the eAPR include:

- Agency Name:
- Brief Name of Initiative:
- Business Owner/Executive Sponsor: (or primary point of contact)
- Preparer:
- Identify the business need that you are addressing with this investment:
- What are the business drivers that are leading you to make an investment at this time?
- What strategy (agency and/or state) will this investment support (or be aligned with)?
- Will this require new technology not currently in use or are you planning to enhance an existing process and/or system? (If existing, please name the application/system to be affected)
- Where are you in the process?
 - Initiation – conceptual discussions, feasibility studies
 - Planning – Business case development; funding approvals; resource planning

- Procurement – RFI/RFQ/RFP/RFS development and/or execution
- What is the expected source of funds for this investment? (Some possible options: allocated in current budget, budget amendment request, bonds, federal grant, other grant, etc.) Are they currently committed or requested? What is the estimate of funds required?
 - In State budget
 - Federal grant, bonds, other grant
 - Blended (state and federal monies)
 - Funds have been committed – (Y/N)
- Estimated cost:
- Estimated time for implementation/completion:
 - Is there a time constraint that requires completion by a date certain?
 - If yes, what is that date?
- What are the benefits you expect your organization to receive once this investment has been made?

Topic 1: The Initiation Stage – Business Case



The Initiation Stage - the Business Case

Outlines how the project will address:

- Current business concerns
- The benefits of the project
- Recommendations and justification of the project

Additional items discussed:

- Detailed project goals
- Performance measures
- Assumptions and constraints
- Alternative options

25

The Business Case outlines how the project will address current business concerns, the benefits of the project, and recommendations and justification of the project. The business case also discusses detailed project goals, performance measures, assumptions, constraints, and alternative options.

Components of the Business Case include:

Executive Summary

Issue - describe the business problem that the proposed project will address

Anticipated Outcomes - describe the anticipated outcome if the proposed project or initiative is implemented

Recommendation - summarizes the approach for how the project will address the business problem

Justification - why the recommended project should be implemented and why it was selected over other alternatives

Business Case Analysis Team - describes the roles of the team members who developed the business case

Problem Definition

Problem Statement - describes the business problem that this project was created to address

Organizational Impact - how the proposed project will modify or affect the organizational processes, tools, hardware, and/or software

Technology Migration - provides a high-level overview of how the new technology will be implemented

Project Overview

Project Description - describes the approach the project will use to address the business problem

Goals and Objectives - lists the business goals and objectives which are supported by the project and how the project will address them

Project Performance - describes the measures that will be used to gauge the project's performance

Project Assumptions - lists the preliminary assumptions for the proposed project

Project Constraints - lists the preliminary constraints for the proposed project

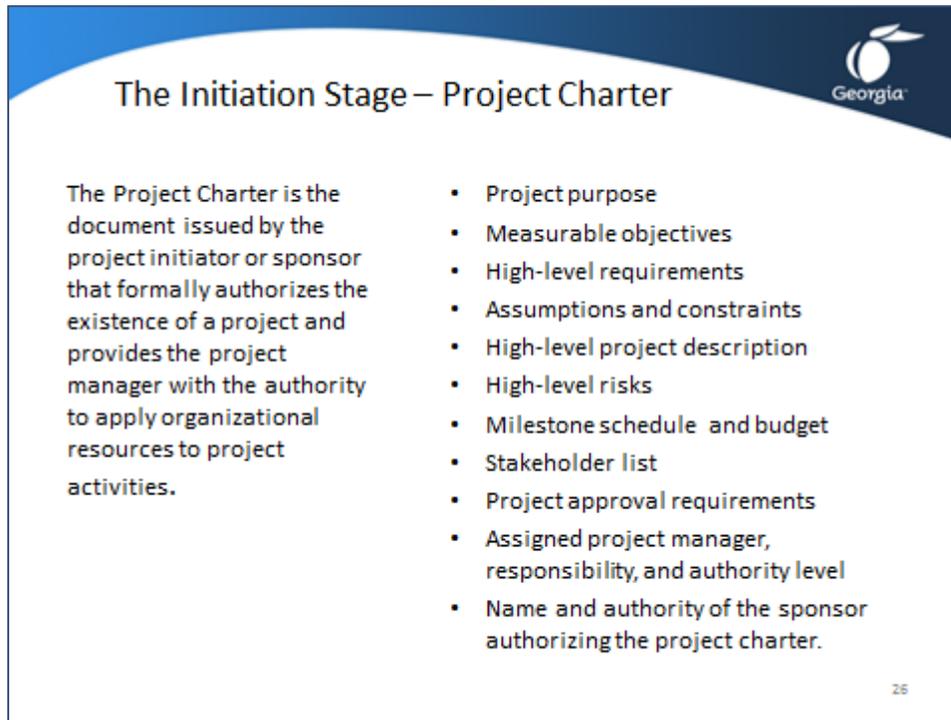
Major Project Milestones - lists the major project milestones and their target completion dates

Strategic Alignment - provides an overview of the organizational strategic plans that are related to the project

Cost Benefit Analysis - to illustrate the costs of the project and compare them with the benefits and savings to determine if the project is worth pursuing

Alternative Analysis - summary of considered alternatives should also be included—one of which should be the status quo, or doing nothing

Topic 1: The Initiation Stage – Project Charter



The Initiation Stage – Project Charter

The Project Charter is the document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

- Project purpose
- Measurable objectives
- High-level requirements
- Assumptions and constraints
- High-level project description
- High-level risks
- Milestone schedule and budget
- Stakeholder list
- Project approval requirements
- Assigned project manager, responsibility, and authority level
- Name and authority of the sponsor authorizing the project charter.

26

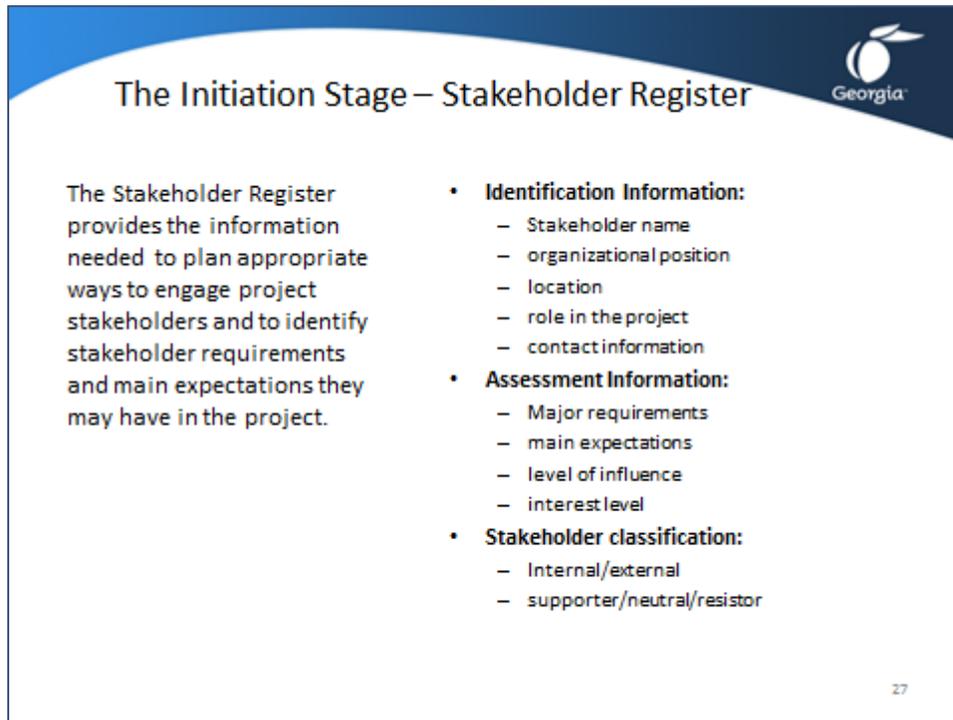
The Project Charter is the document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities. It documents the business needs, assumptions, constraints, the understanding of the customer’s needs and high-level requirements, and the new product, service, or result that it is intended to satisfy. The project charter is used as an input to Collecting Requirements to provide high-level requirements of the product, service, or result of the project so that the detailed requirements can be developed.

Components of the Project Charter include:

- Project purpose or justification
- Measurable project objectives and related success criteria
- High-level requirements
- Assumptions and constraints
- High-level project description and boundaries
- High-level risks
- Summary milestone schedule
- Summary budget
- Stakeholder list

- Project approval requirements (i.e., what constitutes project success, who decides the project is successful, and who signs off on the project)
- Assigned project manager, responsibility, and authority level
- Name and authority of the sponsor or other person(s) authorizing the project charter.

Topic 1: The Initiation Stage – Stakeholder Register



The Stakeholder Register provides the information needed to plan appropriate ways to engage project stakeholders and to identify stakeholder requirements and main expectations they may have in the project.

- **Identification Information:**
 - Stakeholder name
 - organizational position
 - location
 - role in the project
 - contact information
- **Assessment Information:**
 - Major requirements
 - main expectations
 - level of influence
 - interest level
- **Stakeholder classification:**
 - Internal/external
 - supporter/neutral/resistor

27

The Stakeholder Register provides the information needed to plan appropriate ways to engage project stakeholders and to identify stakeholder requirements and main expectations they may have in the project. The Stakeholder Register should be consulted and updated on a regular basis, as stakeholders may change – or new ones identified – throughout the life cycle of the project.

Components of the Stakeholder Register may include but is not limited to:

- **Identification Information:**
 - Stakeholder name
 - organizational position
 - location
 - role in the project
 - contact information
- **Assessment Information:**
 - Major requirements
 - main expectations
 - level of influence
 - interest level
- **Stakeholder classification:**
 - Internal/external
 - supporter/neutral/resistor

Exercise 3.1: The Initiation Stage Deliverables

Instructions:

Divide the class into 4 teams. Each team will produce one of the Initiation stage deliverables using the Case Study and templates provided below.

TEAM 1: Develop the eAPR to include the following items:

Agency Name:	_____
Initiative Name:	_____
Business Owner Executive Sponsor	_____
Preparer:	_____
Identify the Business Need that you are addressing with this investment	

What are the business drivers that are leading you to make an investment at this time?	

What strategy (agency and/or state) will this investment support (or be aligned with)?	

Will this require new technology not currently in use or are you planning to enhance an existing process and/or system? (If existing, please name the application/system to be affected)	

Where are you in the process? (Initiation - conceptual discussions; Planning - Business Case development; Procurement - RFX development or execution)	

What is the expected source of funds for this investment? (Some possible options: allocated in current budget, budget amendment request, bonds, federal grant, other grant, etc.) Are they currently committed or requested? What is the estimate of funds required?	

Estimated time for completion	_____
Is there a time constraint (Y/N)	_____
What is the date?	_____
What are the benefits you expect your organization to receive once this investment has been made?	

TEAM 2: Develop the **Business Case** using the template below:

Executive Summary	
Issue	_____
Outcomes	_____
Justification	_____
Problem Definition	
Problem Statement	_____
Organizational Impact	_____
Project Overview	
Description	_____
Objectives	_____
Assumptions	_____
Constraints	_____
Milestones	_____
Strategic Alignment	_____
Cost Benefit Analysis	_____
Alternatives Analysis	_____

TEAM 3: Develop the **Project Charter** using the template below:

Project Purpose or Justification	<hr/> <hr/>
Project Objectives	<hr/> <hr/> <hr/>
High-level Requirements	<hr/> <hr/> <hr/>
Assumptions and Constraints	<hr/> <hr/> <hr/>
High-level project description	<hr/> <hr/> <hr/>
High-level risks	<hr/> <hr/> <hr/>
Summary Milestone Schedule	<hr/> <hr/> <hr/>
Summary Budget	<hr/> <hr/> <hr/>
Project manager, authority level	<hr/> <hr/> <hr/>

Topic 2: The Planning Stage



The Planning Stage

- **Purpose:** to complete the development of the Project Management Plan and refine project cost, schedule and performance baselines.
- **Activities:** Develop the Project Management Plan, Perform requirements gathering and documentation, perform procurement activities
- **Deliverables:** Project Management Plan, Requirements Documents, and Procurement Documents including contracts

29

Purpose:

The purpose of the Planning stage is to complete the development of the Project Management Plan and refine project cost, schedule and performance baselines. The outcome of the Planning stage is a Project Management Plan, business, and resource requirements, and a procurement plan for project resources, including vendor contracts, if needed.

Activities:

The following activities are performed as a part of this stage;

- Develop the complete Project Management Plan
- Perform Requirements gathering activities
- Develop Requirements documentation
- Perform Procurement activities

Deliverables:

The following deliverables should be produced during the Planning stage.

- The Project Management Plan
- Requirements Documents
- Procurement documents including contracts

Critical Partner Responsibilities:

Critical Partners assess completeness of Planning Stage activities which include providing oversight, advice and counsel to the Project Manager to ensure that the Requirements Document addresses relevant standards, robustness of the plans for the next life cycle phase, availability of resources to execute the next phase, and acceptability of the acquisition risk of entering the next phase. For applicable projects, this assessment also includes the readiness to award any major contracting efforts needed to execute the next phase.

- **IT Infrastructure:** Conclude that compliance with Network and IT Infrastructure has been maintained.
- **Security:** Ensure that an assessment of the required security controls has been completed and determine if requirements reflect alignment with established security standards including the FIPS-199 Categorization and Accreditation Boundary. Ensure the Risk Management Plan accurately establishes that the security and privacy requirements have been identified and planned for.
- **Acquisition:** Review acquisition strategy to ensure it includes necessary requirements analysis, alternatives analysis. Make certain that acquisition activities to obtain contractor support have been completed in compliance with the Project Management Plan. Confirm that detailed activities and timelines for preparing acquisition documents, selecting vendors, and awarding contracts are developed.
- **Budget:** Determine if there is a realistic budget to accomplish all planned work and that the Total Cost of Ownership has been evaluated.
- **Finance:** Ensure that planning for financial management issues has been properly addressed and that interactions with financial systems are planned in compliance with financial standards and regulations.
- **Workforce:** Find out if required staff development has been documented and planned.
- **Project Assurance:** Ensure that expected performance benefits are fully defined, that business product deliverables are well-planned, and that funding and resources are allocated. Ensure that IV&V activities are performed where required.

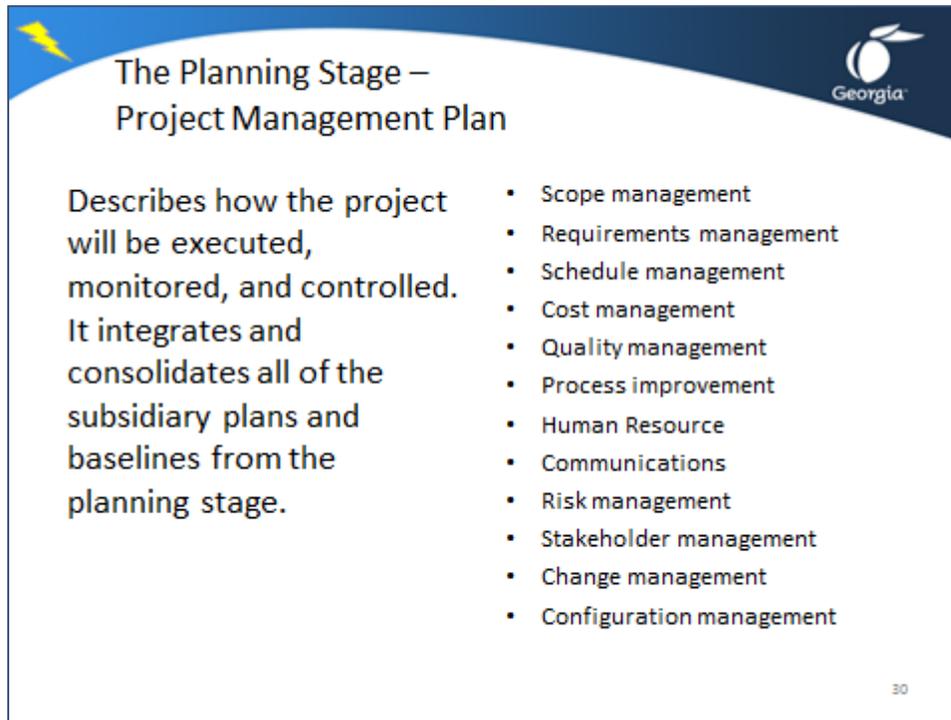
Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for adequate, complete, and correct.

- Business requirements are clearly defined, including outcomes and benefits for each individual sponsor
- Project constraints are clearly identified, including time, cost, and required procedures
- Scope boundaries are clearly documented
- Delivery criteria have been specified, including cost, quality, and time
- Project documentation includes a plan for managing organizational change
- Quality assurance methods have been defined and documented
- Procurement strategy has been defined and documented

- Procurement documents contain all required state standards language and GETS attachments (for GETS agencies)
- Appropriate SMEs have been engaged to support the project (legal, procurement, security, budget, technology, business, etc.)
- For GETS Agencies - Decisions have been made regarding infrastructure support models and exemption requests have been processed, if needed
- Key risks been identified
- Resources with appropriate skill sets have been identified and assigned for participation in the next phase of the project
- A documented timeline for the next phase of the project has been established
- The executive sponsor for the project has expressed agreement with and support for the plan
- All necessary resources (equipment, software, office space, etc.) for the next phase of the project are readily available
- The business case has been updated to reflect any changes in approach, benefits, and/or costs as a result of planning
- Open issues relating to the integration with other projects that could impact the completion of key milestones have been addressed
- A Project Assurance Manager role has been defined
- An appropriate contingency amount has been set aside to address any potential cost increases

Topic 2: The Planning Stage – The Project Management Plan



**The Planning Stage –
Project Management Plan**

Describes how the project will be executed, monitored, and controlled. It integrates and consolidates all of the subsidiary plans and baselines from the planning stage.

- Scope management
- Requirements management
- Schedule management
- Cost management
- Quality management
- Process improvement
- Human Resource
- Communications
- Risk management
- Stakeholder management
- Change management
- Configuration management

30

The Project Management Plan is the document that describes how the project will be executed, monitored, and controlled. It integrates and consolidates all of the subsidiary plans and baselines from the planning stage.

Components of the Project Management Plan may include but are not limited to:

- Scope management plan
- Requirements management plan
- Schedule management plan
- Cost management plan
- Quality management plan
- Process improvement plan
- Human Resource management plan
- Communications management plan
- Risk management plan
- Stakeholder management plan
- Description of how work will be executed to accomplish the project objectives
- Change management plan
- Configuration management plan

Topic 2: The Planning Stage – Requirements Documents



The Planning Stage – Requirements Documents

Describe how individual requirements meet the need for the project. The format of a requirements document may range from a simple document listing all requirements categorized by stakeholder and priority, to more elaborate forms containing an executive summary, detailed descriptions, and attachments.

- Business Requirements
- Solution Requirements
 - Functional and non-functional requirements
 - Technology and standard compliance requirements
 - Support and training requirements
 - Quality requirements
 - Reporting requirements
- Project Requirements
 - Levels of service, performance, safety, compliance, etc.
 - Acceptance criteria
- Transition Requirements
- Requirements Traceability

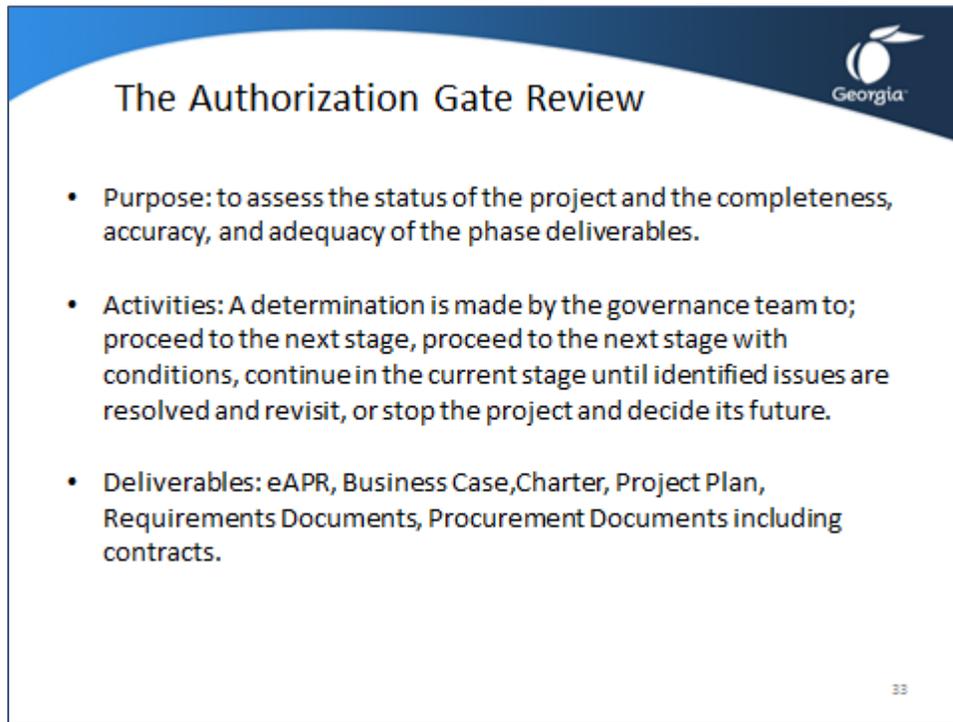
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Requirements Documents describe how individual requirements meet the need for the project. The format of a requirements document may range from a simple document listing all requirements categorized by stakeholder and priority, to more elaborate forms containing an executive summary, detailed descriptions, and attachments.

Components of the Requirements Documents may include but are not limited to:

- Business Requirements
- Solution Requirements
 - Functional and non-functional requirements
 - Technology and standard compliance requirements
 - Support and training requirements
 - Quality requirements
 - Reporting requirements
- Project Requirements
 - Levels of service, performance, safety, compliance, etc.
 - Acceptance criteria
- Transition Requirements
- Requirements Traceability

Topic 3: The Authorize Gate Review



The Authorization Gate Review

- **Purpose:** to assess the status of the project and the completeness, accuracy, and adequacy of the phase deliverables.
- **Activities:** A determination is made by the governance team to; proceed to the next stage, proceed to the next stage with conditions, continue in the current stage until identified issues are resolved and revisit, or stop the project and decide its future.
- **Deliverables:** eAPR, Business Case, Charter, Project Plan, Requirements Documents, Procurement Documents including contracts.

33

Purpose:

The purpose of the Authorization Review is to assess the status of the project and the completeness, accuracy, and adequacy of the phase deliverables. A determination is then made by the governance team to; proceed to the next stage, proceed to the next stage with conditions, continue in the current stage until identified issues are resolved and revisit, or stop the project and decide its future.

Exit Criteria:

The objective in the Authorization Review is to determine if the project has been clearly defined, if project planning is completed, and defined initialized baselines and requirements have been established which will allow the project to proceed to the Build Phase. Certain Exit Criteria must be met before the project can advance forward.

- The Business Case fully defines the business need and justification for the project
- The Project Charter adequately describes the product, service, or result to be created
- The Project Management Plan is fully scaled and details all appropriate components
- All deliverables have been defined

Deliverables to Review and Approve:

The following deliverables must be approved to pass the Authorize Gate Review.

- eAPR
- Business Case

- Project Charter
- The Project Management Plan
- Requirements Documents
- Procurement documents including contracts

Review and Scoring:

- Exit Criteria should be reviewed and resolved as “yes”, or “no”
- Deliverables will be reviewed and scored based on their completeness, accuracy, and adequacy

Exercise 3.3: The Authorization Gate Review

Instructions:

Select several participants (8) to play the role of the Critical Partners. The Instructor will act as the Business Owner and conduct the Authorization Review.

Critical Partners and Business Owner: Take 20 minutes to review the Business Case, Project Charter, Requirements Document, and the Project Plan. Score the deliverables on their completeness, accuracy, and adequacy using the Deliverable table below to record your scores. Then, decide if the project has met the Exit Criteria for the stage using the Exit Criteria table below. Discuss the findings with the Business Owner and recommend an Approval status.

Exit Criteria	Y/N
The Business Case fully defines the business need and justification for the project	
The Project Charter adequately describes the product, service, or result to be created	
The Project Management Plan is fully scaled and details all appropriate components	
All deliverables have been defined	

Deliverable	Completeness	Accuracy	Adequacy	Total Rating
Business Case				
Project Charter				
Requirements Documents				
Project Management Plan				

Approval Level (check one)	Explanations or Conditions
Approve	
Approve with conditions	
Disapprove with Issues	
Discontinue Project	

Lesson 3 Summary: Learning Objectives Recap

- **Understand the stages within the Plan Phase**

The purpose of the **Initiation stage** is to align the agency stakeholders' expectations with the project's purpose, give them visibility about the scope and objectives, to show them how their participation in the project and its associated phases can ensure their expectations are achieved.

The purpose of the **Planning stage** is to complete the development of the Project Management Plan and refine project cost, schedule and performance baselines. The outcome of the Planning stage is a Project Management Plan, business, and resource requirements, and a procurement plan for project resources, including vendor contracts, if needed.

- **Understand the key deliverables of the Plan Phase**

The following deliverables should be produced during the Initiation stage.

- eAPR
- Business Case
- Project Charter
- Stakeholder Register

The following deliverables should be produced during the Planning stage.

- The Project Management Plan
- Requirements Documents
- Procurement documents including contracts

- **Understand Exit Criteria for the Authorization Gate Review**

The objective in the Authorization Review is to determine if the project has been clearly defined, if project planning is completed, and defined initialized baselines and requirements have been established which will allow the project to proceed to the Build Phase. Certain Exit Criteria must be met before the project can advance forward.

- The Business Case fully defines the business need and justification for the project
- The Project Charter adequately describes the product, service, or result to be created
- The Project Management Plan is fully scaled and details all appropriate components
- All deliverables have been defined

LESSON 4: THE BUILD PHASE

Topic 1: The Design Stage

Topic 2: The Develop Stage

Topic 3: The Deploy Stage

Topic 4: The Build Stage Gate Review

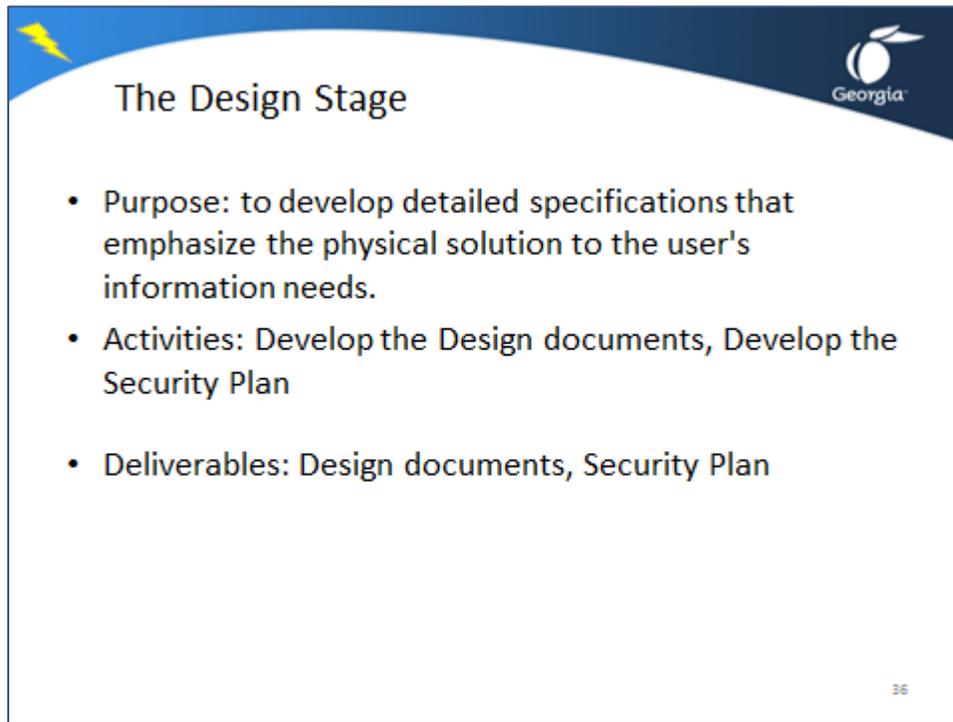
Student Learning Objectives

After completing this lesson you should be able to

- Understand the stages of the Build Phase
- Identify the key deliverables of the Build Phase
- Understand the Exit Criteria for the Build Gate Review

Approximate Presentation time: 2.5 hours

Topic 1: The Design Stage



The Design Stage

- **Purpose:** to develop detailed specifications that emphasize the physical solution to the user's information needs.
- **Activities:** Develop the Design documents, Develop the Security Plan
- **Deliverables:** Design documents, Security Plan

36

Purpose:

The purpose of the Design stage is to develop detailed specifications that emphasize the physical solution to the user's information needs. The system requirements and logical description of the entities, relationships, and attributes of the data that were documented during the requirements gathering activities 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).

Activities:

The following activities are performed as a part of this stage;

- Develop the Design documents
- Develop the Security Plan

Critical Partner Responsibilities:

The Critical Partners participate in a Design Review to ensure compliance with policies in their respective areas and to make any necessary tradeoff decisions if conflicting goals have arisen during the Design.

- **Security:** Establish that Security documents (C&A, Privacy Impact Assessment, System of Record Notice, and Computer Match Agreement) are reviewed for completeness and accuracy. Verify that project security risks are identified and response strategies are made.

- **Procurement:** Verify that contracts are being fulfilled according to award or approved changes.
- **Budget:** Guarantee that the budget is sufficient to meet the needs of the project. Determine if project business risks are identified and mitigation plans are made.
- **Finance:** Guarantee that estimates of project expenses have been updated to reflect actual costs and estimates for future phases. Determine if project business risks are identified and mitigation plans are made.
- **Workforce:** Confirm that issues related to staffing, workforce, or other HR areas have been addressed.
- **Project Assurance:** Determine if project technical risks are identified and response strategies are made. Verify that performance goals are agreed upon. Ensure that IV&V activities are performed where required.

Deliverables:

The following deliverables should be produced during the Design stage.

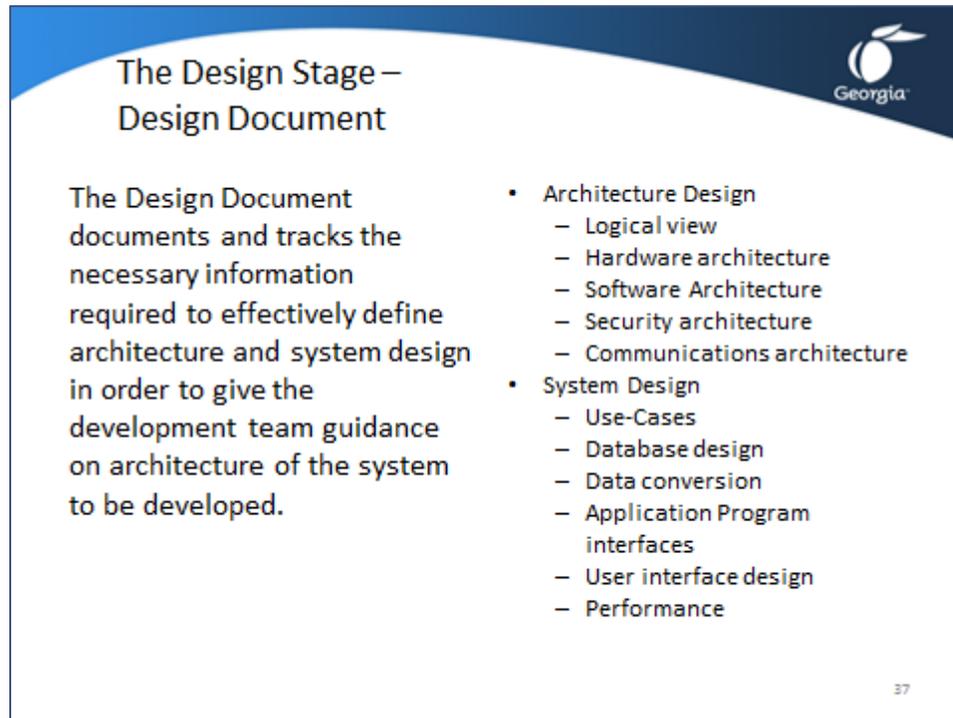
- Design Document
- Security Plan (Developed by the Agency Information Security Officer)

Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- No outstanding concerns among stakeholders regarding design adequacy or feasibility
- Design is adequately documented to allow effective and efficient development
- Security Documents are as complete and accurate as possible

Topic 1: The Design Stage – The Design Document



The Design Stage –
Design Document

The Design Document documents and tracks the necessary information required to effectively define architecture and system design in order to give the development team guidance on architecture of the system to be developed.

- Architecture Design
 - Logical view
 - Hardware architecture
 - Software Architecture
 - Security architecture
 - Communications architecture
- System Design
 - Use-Cases
 - Database design
 - Data conversion
 - Application Program interfaces
 - User interface design
 - Performance

37

The Design Document documents and tracks the necessary information required to effectively define architecture and system design in order to give the development team guidance on architecture of the system to be developed.

Components of the Design Document include;

Architecture Design

This section outlines the system and hardware architecture design of the system that is being built.

Logical View

Describe any related logical views of the system

Hardware Architecture

Describe related hardware architecture

Software Architecture

Describe related software architecture

Security Architecture

Describe related security architecture

Communications Architecture

Describe related communication architecture

System Design

Use-Cases

Discuss use cases that describe the functional requirements

Database Design

Discuss any necessary database design guidelines

Data Conversions

Discuss any necessary data conversions

Application Program Interfaces

Discuss any application program interface requirements

User Interface Design

Discuss any user interface design requirements

Performance

Discuss any performance requirements

Topic 2: The Develop Stage



The Develop Stage

- **Purpose:** to execute the approved Project Management Plan that will build the deliverables required to produce the Business Product.
- **Activities:**
 - Build the Business Product
 - Develop the Test Plan, Implementation Plan, O&M Manual, Training Plan and Materials, and User Manual
 - Produce Test Reports
 - Conduct Security Risk Assessment
- **Deliverables:**
 - Business Product
 - Test Plan and Reports
 - Implementation Plan
 - Operations and Maintenance (O&M) Manual
 - Security Risk Assessment
 - Training Plan and Materials
 - User Manual

38

Purpose:

The purpose of the Develop stage is to execute the approved Project Management Plan that will build the deliverables required to produce the Business Product. The outcome of the Develop stage is completion of all work and associated documentation; user, operator and maintenance documentation, and test planning.

Activities:

The following activities are performed as a part of this stage;

- Build the Business Product
- Develop the Test Plan
- Produce Test Reports
- Develop the Implementation Plan, describing how the business product will be installed, deployed, and transitioned to the operational environment
- Develop the Operations and Maintenance (O&M) Manual, describing the Business Product, operating environment, production processing requirements, ongoing maintenance activities, and problem tracking and change management procedures.
- Conduct a Security Risk Assessment, documenting the analysis of security functional requirements, threat impacts, and system protection requirements
- Develop the Training Plan, describing overall goals and learning objectives; activities to develop, conduct, control, and evaluate training; and staff resource requirements.

- Develop the Training Materials, comprising all artifacts used to train system users, such as instructor and student guides, audio and visual aids, computer-based and other media
- Develop the User Manual, explaining how a business user operates the system

Critical Partner Responsibilities:

The Critical Partners provide oversight, advice and counsel to the Project Manager on the conduct and requirements of the Develop stage.

- **Security:** Make sure that all development plans address safety, security, and privacy concerns. Validate that the test plan includes explicit testing of security controls and functional capabilities. Confirm that the Systems Security Plan and the Security Risk Assessment address all required topics.
- **Procurement:** Conclude that contracts are being fulfilled according to award or approved changes and required assets (e.g., system hardware, COTS/GOTS software) have been acquired according to regulations.
- **Budget:** Verify that the budget is sufficient to meet the needs of the project and project business risks are identified and response strategies are made.
- **Finance:** Verify that actual expenses are in accordance with the budget plan.
- **Workforce:** Ensure that issues related to staffing, workforce, or other HR areas have been addressed.
- **Project Assurance:** Make sure the Business Product covering the requirements is ready for integration and formal testing. Confirm that Test Plans are complete. Ensure that IV&V activities are performed where required.

Deliverables:

The following deliverables should be produced during the Develop stage.

- Business Product
- Test Plan
- Test Reports
- Implementation Plan
- Operations and Maintenance (O&M) Manual
- Security Risk Assessment
- Training Plan
- Training Materials
- User Manual

Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- Business Product satisfies the requirements established and refined during the Plan and Design stages

- Test Plan ensures that all test cases will be adequately evaluated and executed, and system tested to ensure requirements are met
- Security plans and risk assessments are complete and in compliance with regulatory requirements
- Implementation Plan provides detailed information on the move of the Business Product into production

Topic 2: The Develop Stage – Implementation Plan

Purpose:

The Implementation Plan describes how the business product will be installed, deployed, and transitioned into the operational environment.

Components of the Implementation Plan are described below.

Implementation Scope									
Define the scope of the Implementation effort, listing all potential sites that the new application will be deployed to. Provide estimates of the number of users that the system will be deployed to at each site, and the functionality that will be delivered at each site.									
Implementation Approach									
Describe the recommended approach to be used for the implementation, along with advantages and disadvantages. Specify if the approach will be one or a combination of the following: <ul style="list-style-type: none"> • Direct implementation of the proposed system • Parallel operation of both the existing system and the proposed system for a period of time • Implementation of the proposed system at a pilot site • Phased implementation of functional components of the system • Staged implementation, such as by location, division, department, agency <p>If a decision is made to adopt any form of partial implementation, specify the implementation sequence of all sub-systems, noting any sub-system dependencies. Also make sure that the implementation plan shows separate testing, installation, training, and conversion activities for each phase of work to be implemented.</p> <p>Be sure to note any organizational constraints on the implementation (e.g., year-end).</p>									
Implementation Schedule									
Provide a high-level schedule that estimates the time required to complete each implementation and depicts the sequence of the implementation.									
<table border="1"> <thead> <tr> <th>Activity</th> <th>Implementation Date</th> </tr> </thead> <tbody> <tr> <td>Initial Pilot</td> <td>8/14 – 9/8</td> </tr> <tr> <td>Other departments in Atlanta</td> <td>TBD</td> </tr> <tr> <td>Other locations outside Atlanta</td> <td>TBD</td> </tr> </tbody> </table>		Activity	Implementation Date	Initial Pilot	8/14 – 9/8	Other departments in Atlanta	TBD	Other locations outside Atlanta	TBD
Activity	Implementation Date								
Initial Pilot	8/14 – 9/8								
Other departments in Atlanta	TBD								
Other locations outside Atlanta	TBD								
Implementation Roles and Responsibilities									
Specify the various roles that need to be involved in the implementation, and what their primary responsibilities will be. If using an offshore firm for post implementation support, contact the service provider									

for necessary lead time and contacts.

Implementation Role	Responsibility
Communication (Example)	Ed Executive (Executive Sponsor) and Paul Performance (Project SME) will be responsible for communicating the rollout of PROJECT to the user community.
Quality Analyst (Example)	Responsible for promoting all application code into the production environment. This includes code for database, application, interfaces and any other files necessary to configure and execute PROJECT.
DBA (Example)	Responsible for configuration of the production database, creating tables, indexes, stored procedures, etc. necessary to run PROJECT.
Production Support (Example)	Responsible for preparing and configuring the production web environment. This includes configuring the necessary WebSphere instance, ensuring the URL is mapped appropriately and any other tasks necessary on the web and application servers.
Production Environment Shakeout (Example)	Tammy Testing (QA Lead) and her team will be responsible for testing the production environment to ensure the appropriate data has been imported and cleansed, the environment is stable and performance in that environment is acceptable.
Application Support Development/Test (Example)	These roles will be filled by the current project team. Any defects will be prioritized by the business with the help of Paul Project, the project manager, and released into production or incorporated into future releases as appropriate.

Support Turnover Strategy

Specify the strategy for turning over the new system to the support organization. For example, specify if a developer on the project will roll to support, if a support person will participate in development and then support the system, or if a support person will be trained at the end of the project. Note whether support procedures have been supplied to the Help desk.

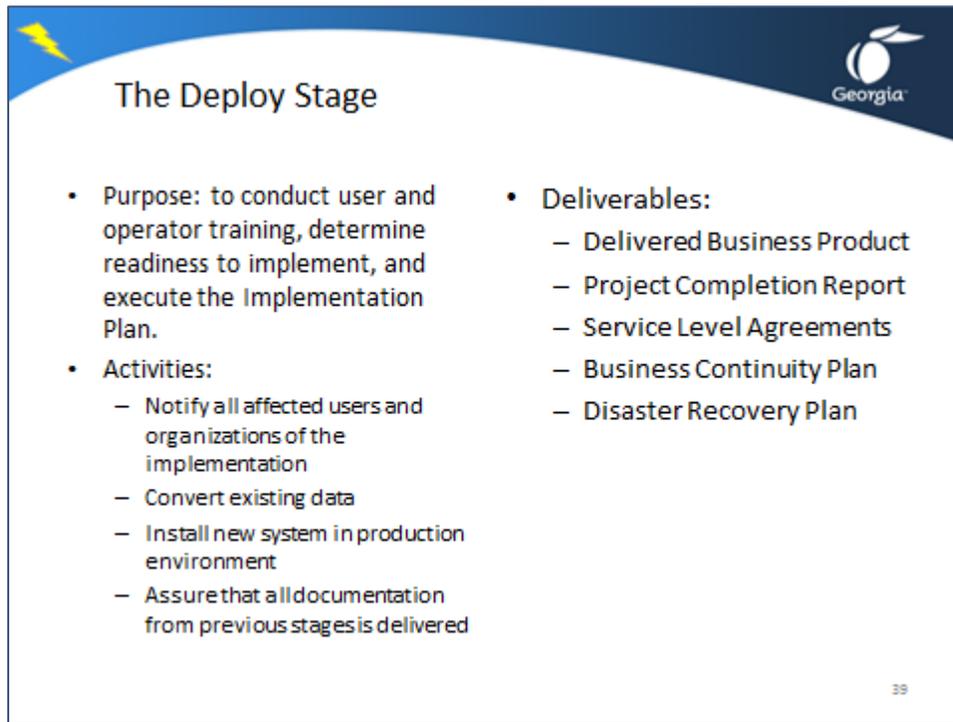
Initial Communication Plan

Define a communication plan for the implementation of the new system. Ensure the communication plan works in conjunction with the implementation strategy.

Assumptions

Document any assumptions made in creation of the Implementation Strategy.

Topic 3: The Deploy Stage



The Deploy Stage

- **Purpose:** to conduct user and operator training, determine readiness to implement, and execute the Implementation Plan.
- **Activities:**
 - Notify all affected users and organizations of the implementation
 - Convert existing data
 - Install new system in production environment
 - Assure that all documentation from previous stages is delivered
- **Deliverables:**
 - Delivered Business Product
 - Project Completion Report
 - Service Level Agreements
 - Business Continuity Plan
 - Disaster Recovery Plan

39

Purpose:

The purpose of the Deploy stage is to conduct user and operator training, determine readiness to implement, and execute the Implementation Plan, including any phased implementation. The outcome of the Deploy stage is successful establishment of full production capability and completion of the Build Stage Gate Review.

Activities:

The following activities are performed as a part of this stage;

- Notify all affected users and organizations of the implementation
- Convert existing data for use in the new system
- Install the system in a production environment
- Assure that all documentation from previous stages is finalized and delivered with system

Critical Partner Responsibilities:

The Critical Partners provide oversight, advice and counsel to the Project Manager on the conduct and requirements of the Deploy stage.

- **Security:** Determine if the Authority to Operate, including the System Certification and Accreditation, is complete and System of Record Notice is published.
- **Procurement:** Guarantee that the contracts are being fulfilled according to award or approved changes and completed contracts are closed appropriately.

- **Budget:** Ascertain if change requests are reviewed to determine if a new financial analysis is required.
- **Finance:** Ascertain if actual expenses are in accordance with the budget plan.
- **Project Assurance:** Confirm that the completed Business Product is operating as expected and is positioned to meet performance targets. Ensure that IV&V activities are performed where

Deliverables:

The following deliverables should be produced during the Deploy stage.

- Delivered Business Product
- Project Completion Report
- Service Level Agreements (SLAs)
- Business Continuity/Disaster Recovery Plan

Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- Business Product ready for production service and notification of the new solution is provided to all users and staff who are affected.
- No outstanding concerns among stakeholders regarding implementation.
- Security and authorization to operate documents are complete and the system is considered Certified and Accredited

Exercise 4.1: The Build Phase

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.		Design stage	A. The purpose is to execute the approved Project Management Plan that will build the deliverables required to produce the Business Product
2.		Implementation Plan	B. Key deliverable for the Design stage
3.		Delivered Business Product	C. The purpose is to develop detailed specifications that emphasize the physical solution to the user's information needs
4.		Deploy stage	D. Key deliverable for the Deploy stage
5.		Security Plan	E. Key deliverable for the Develop stage
6.		Develop stage	F. The purpose is to conduct user and operator training, determine readiness to implement, and execute the Implementation Plan

Topic 4: The Build Stage Gate Review

The Build Gate Review



- **Purpose:** to assess the readiness of the product to be released into the production environment for sustained operations and close the project.
- **Activities:** A determination is made by the governance team to;
 - proceed to the Operations stage,
 - proceed to the Operations stage with conditions,
 - continue in the Deploy stage until identified issues are resolved and revisit, or
 - stop the project and decide its future.
- **Exit Criteria**
 - Business Product is ready for production service
 - No outstanding concerns exist among stakeholders
 - Security documentation is complete

41

Purpose:

The purpose of the Build Gate Review is to assess the readiness of the product to be released into the production environment for sustained operations and close the project.

Activities:

The governance team will review the final deliverables and determine if the business product is ready for release into the production environment. The following Exit Criteria are to be reviewed along with the Key deliverables listed below. After their review, the governance team will use the approval criteria in the table below to decide the status of the project.

Exit Criteria	Y/N
Business product is ready for production service	
No outstanding concerns exist among stakeholders	
Security documentation is complete	
All previous stage deliverables have been completed	

Deliverable	Completeness	Accuracy	Adequacy	Total Rating
Delivered Business Product				
Project Completion Report				
Security Plan				
Business Continuity/Disaster Recovery Plan				
Service Level Agreements				
Operations and User Manuals				

Approval Level (check one)	Explanations or Conditions
Approve, proceed to Operations stage	
Approve with conditions	
Disapprove with Issues	
Discontinue Project	

Lesson 4 Summary: Learning Objectives Recap

- **Understand the stages within the Build Phase**

The purpose of the **Design stage** is to develop detailed specifications that emphasize the physical solution to the user's information needs.

The purpose of the **Develop stage** is to execute the approved Project Management Plan that will build the deliverables required to produce the Business Product. The outcome of the Develop stage is completion of all work and associated documentation; user, operator and maintenance documentation, and test planning.

The purpose of the **Deploy stage** is to conduct user and operator training, determine readiness to implement, and execute the Implementation Plan, including any phased implementation. The outcome of the Deploy stage is successful establishment of full production capability and completion of the Build Stage Gate Review.

- **Understand the key deliverables of the Build Phase**

The following deliverables should be produced during the **Design** stage.

- Design Document
- Security Plan (Developed by the Agency Information Security Officer)

The following deliverables should be produced during the **Develop** stage.

- Business Product
- Test Plan
- Test Reports
- Implementation Plan
- Operations and Maintenance (O&M) Manual
- Security Risk Assessment
- Training Plan
- Training Materials
- User Manual

The following deliverables should be produced during the **Deploy** stage.

- Delivered Business Product
- Project Completion Report
- Service Level Agreements (SLAs)
- Business Continuity/Disaster Recovery Plan

- **Understand the Exit Criteria for the Build Gate Review**

The objective in the Build Gate Review is to determine if the product has been built to meet the established requirements and has been sufficiently tested which will allow it to proceed to the Run Phase. Certain Exit Criteria must be met before the project can advance forward.

- Business Product satisfies the requirements established and refined during the Plan and Design stages
- Test Plan ensures that all test cases will be adequately evaluated and executed, and system tested to ensure requirements are met
- Security plans and risk assessments are complete and in compliance with regulatory requirements
- Implementation Plan provides detailed information on the move of the Business Product into production
- Business Product ready for production service and notification of the new solution is provided to all users and staff who are affected.
- No outstanding concerns among stakeholders regarding implementation.
- Security and authorization to operate documents are complete and the system is considered Certified and Accredited

LESSON 5: THE RUN PHASE

Topic 1: The Operations Stage

Topic 2: The Application Assessment Review

Topic 3: The Dispose Stage

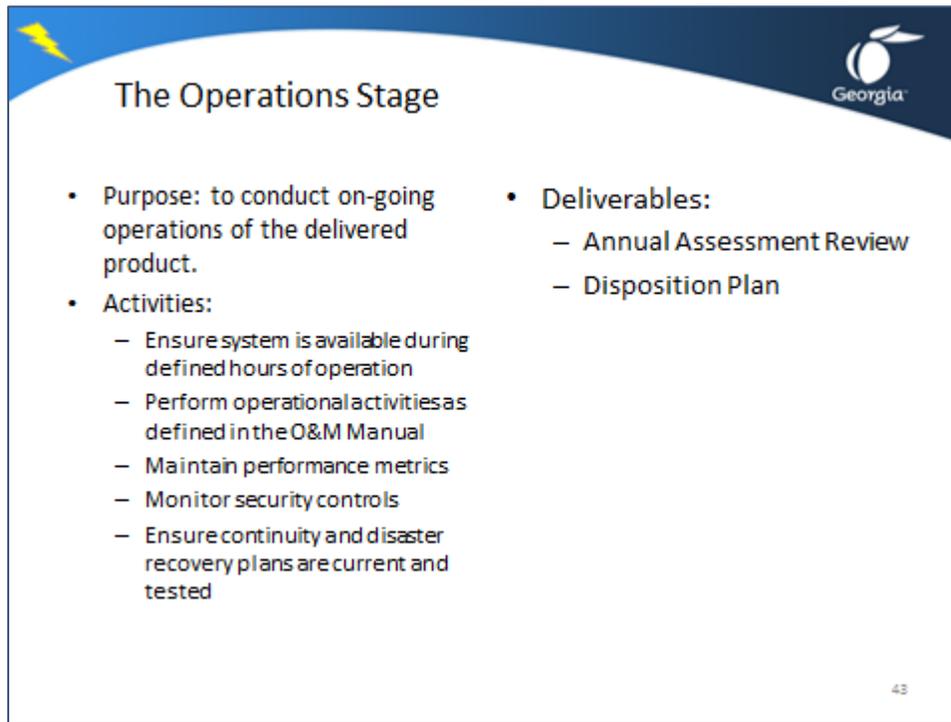
Student Learning Objectives

After completing this lesson you should be able to

- Understand the Annual Assessment Review
- Understand the cyclical nature of the EPLC

Approximate Presentation time: 1.5 hours

Topic 1: The Operations Stage



The Operations Stage

- **Purpose:** to conduct on-going operations of the delivered product.
- **Activities:**
 - Ensure system is available during defined hours of operation
 - Perform operational activities as defined in the O&M Manual
 - Maintain performance metrics
 - Monitor security controls
 - Ensure continuity and disaster recovery plans are current and tested
- **Deliverables:**
 - Annual Assessment Review
 - Disposition Plan

43

Purpose:

During the Operations stage the delivered product is now operating in the production environment and annual application assessments are performed. The outcome of the Operations stage is successful operation of the asset against current cost, schedule and performance benchmarks. When the time comes that the automated system/application will no longer be needed or will be replaced, then a plan for final disposition of the system/application must be prepared and approved prior to moving into the Dispose stage.

Activities:

The following activities are performed as a part of this stage;

- Ensure that systems and networks are running and available during the defined hours of operation
- Implement non-emergency requests during scheduled outages
- Ensure all processes, manual and automated, are documented in the operating procedures
- Perform and test backups (day-to-day protection, continuity, and recovery)
- Perform the physical security functions including ensuring adequate uninterruptible power supply and ensuring that personnel have proper clearances and proper access privileges, etc.
- Ensure continuity planning for disaster recovery is current, tested, and funded
- Ensure users are trained on current processes and new processes
- Ensure that service level objectives are kept accurate and are monitored
- Maintain performance measurements, statistics, and system logs

- Monitor security controls and performance statistics, report the results, and escalate problems when they occur

Critical Partner Responsibilities:

The Critical Partners provide oversight, advice and counsel to the Business Owner during the Operations stage.

- **Security:** Determine if the Authority to Operate, System Certification and Accreditation and Privacy Impact Assessments are reviewed and updated at the appropriate times for continued operation. Ensure that Security documents are updated as necessary in response to continuous testing and monitoring. Confirm that system backups, physical security, contingency planning, and continuous security monitoring and testing are operated in accord with established security controls.
- **Procurement:** Guarantee that contracts are being fulfilled according to award or approved changes.
- **Budget:** Determine if modification requests include appropriate justification and cost benefit analysis.
- **Finance:** Ascertain if actual expenses are in accordance with the budget plan.
- **Project Assurance:** Confirm service level objectives are being met and that performance measurements and system logs are being maintained. Determine that modifications needed to resolve errors or performance problems are made in accord with change control procedures. Ensure that annual Operational Analysis is performed to evaluate system performance and user satisfaction to verify that risk and performance goals are under control. Ensure that IV&V activities are performed where required.

Deliverables:

The following deliverables should be produced during the Initiation stage.

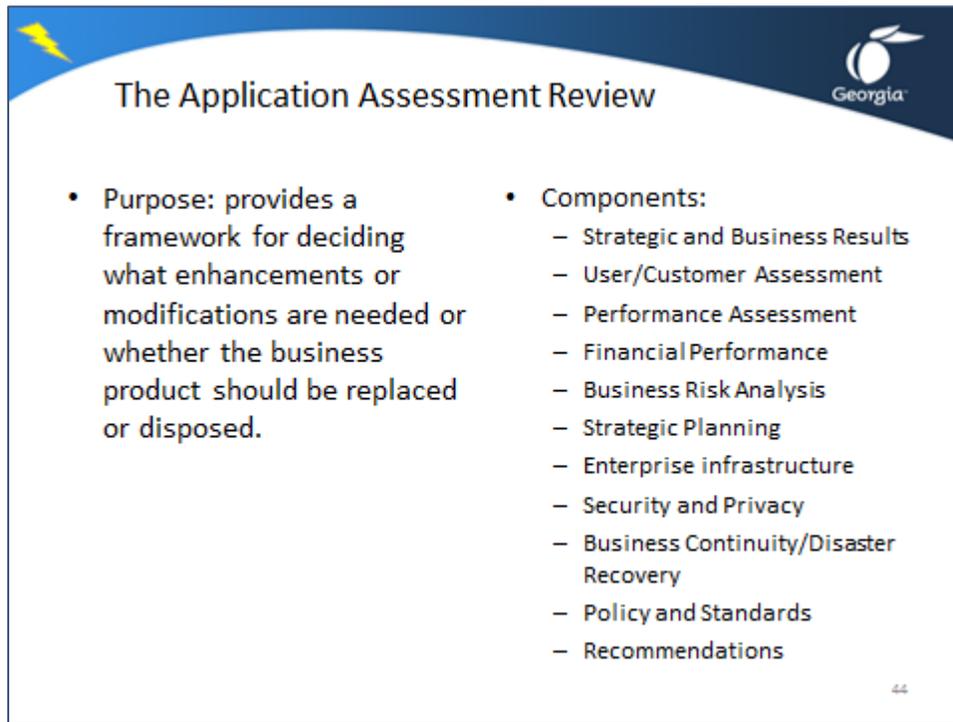
- Annual review of the operation provides a framework for deciding what enhancements or modifications are needed or whether the business product should be replaced or disposed of
- Disposition Plan, describing how the retirement of the system will be conducted and how records management will be addressed for both the system documentation and the Business Product

Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- Business Product ready for production service and notification of the new solution is provided to all users and staff who are affected.
- No outstanding concerns among stakeholders regarding implementation.
- Security and authorization to operate documents are complete and the system is considered Certified and Accredited

Topic 2: The Application Assessment Review



The Application Assessment Review

- **Purpose:** provides a framework for deciding what enhancements or modifications are needed or whether the business product should be replaced or disposed.
- **Components:**
 - Strategic and Business Results
 - User/Customer Assessment
 - Performance Assessment
 - Financial Performance
 - Business Risk Analysis
 - Strategic Planning
 - Enterprise infrastructure
 - Security and Privacy
 - Business Continuity/Disaster Recovery
 - Policy and Standards
 - Recommendations

44

Purpose:

The Annual Application Assessment review of the operation provides a framework for deciding what enhancements or modifications are needed or whether the business product should be replaced or disposed of.

Components of the Application Assessment are described below.

Strategic and Business Results
Provide a brief summary describing the asset and a description of the business processes that the investment supports. Description should include an explanation of how the investment is continuing to meet each Agency mission or strategic goals and how it supports the State's Strategy.
USER/CUSTOMER Assessment
Briefly describe the investment's users and the process (e.g., surveys, user group meetings, customer focus groups, etc.) used to assess user or customer satisfaction. Summarize the results of surveys or other user or customer inputs, and usage trends. Is the existing system providing customers the needed functionality and performance? Based on your user or customer inputs, is actual performance consistent with user or customer expectations, or do the current performance goals reflect current user or customer functional or performance requirements? Has the investment exceeded expectations, and the performance measures need to be re-

baselined? Discuss how your project addresses the following operational indicators: efficiency, effectiveness, maintainability, productivity, security, availability, reliability, energy usage.

Performance Assessment

For the prior and current fiscal year, provide the Performance Goals and Measures table(s) with prior year actual results and current year interim results, if known. If the investment collects, manages or reports to other performance goals and measures, add rows to record those goals and measures.

Fiscal Year	Measurement Area	Measurement Category	Measurement Indicator	Baseline	Planned Improvements to the Baseline	Actual Results

Financial Performance

Provide a Chart of Accounts break out of fiscal year expenditures that corresponds to the IT Expenditures Report.

Business Risk Analysis

Describe the risks associated with the current investment. Use of a SWOT Analysis may be useful in identifying risks. Sample language follows, which can be used and modified where applicable: The Strengths of the investment are..., while Weaknesses are The Opportunities for this investment are ..., and the Threats are

Strategic Planning

Describe the new initiatives that anticipate changing customer needs. Also, discuss or reference the Disposition Plan for this investment. Sample language follows, which can be used and modified where applicable: *The following investment is being implemented to address future challenges, better meet customer needs, make better use of technology, and lower operation costs. The Disposition Plan can be found at xxx*

Enterprise infrastructure

In this section, describe how this investment is consistent with Enterprise Infrastructure. Include information about “As-Is” and “To-Be” infrastructure. Also, discuss system integration and data feeds to other applications. For example: *The system was evaluated against <Agency/Division> Enterprise “As-Is” and “To-Be” Infrastructures. It has been determined that this system is/is not included in the “As-Is” infrastructure. It has also been determined that this system supports/does not support the “To-Be” (target) infrastructure.*

Security and Privacy

In this section, describe how this investment complies with State and Federal Security requirements. Does the system have a security plan, updated third party security risk assessment, and accreditation documentation?

Business Continuity/Disaster Recovery

In this section, describe how the investment will be recovered from a disaster.

Policy and Standards Compliance

In this section, indicate if the investment is or is not in compliance with the policies or standards listed and indicate plans to correct or improve.

Policy or Standard	Plan to Correct or Improve

Recommendations

Justify if the existing system should continue in operation as is, be enhanced, or terminated. If the system is to be enhanced or terminated, summarize the actions to be taken this fiscal year

Business Owner Recommendations

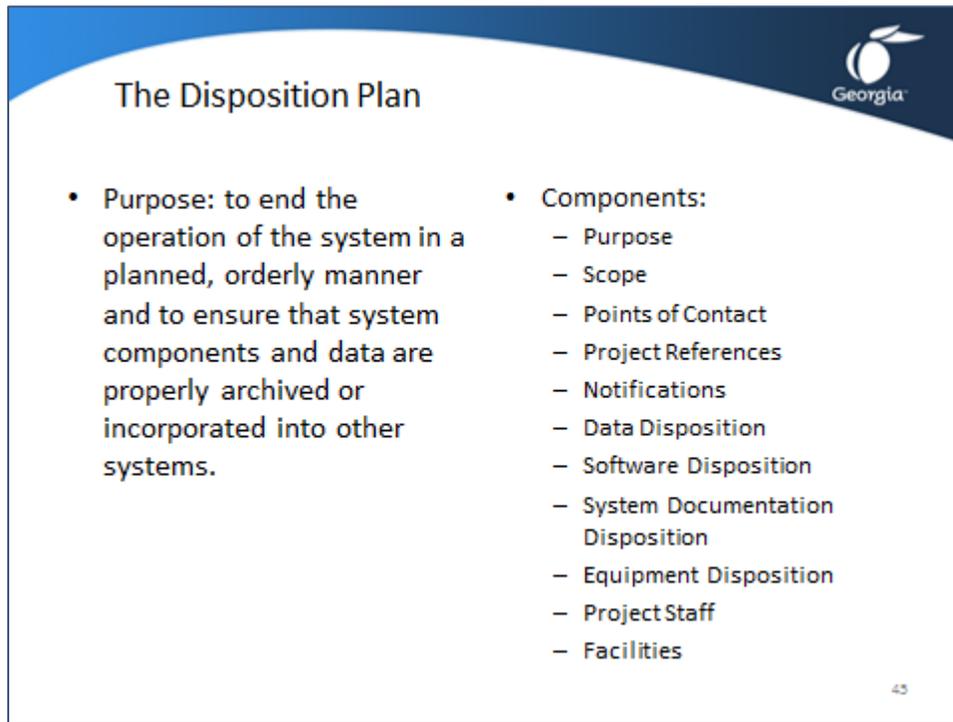
Investment [is ___ is not ___] meeting its performance goals as identified within the scope of the operational analysis

___ Investment should remain in steady state for foreseeable future

___ Investment team should commence planning for DME (Development, Modernization, & Enhancement) in order to ensure continued investment viability. Attach a Business Case.

___ Decommission and replace. Attach a Business Case for the new investment.

Topic 3: The Disposition Plan



The Disposition Plan

- **Purpose:** to end the operation of the system in a planned, orderly manner and to ensure that system components and data are properly archived or incorporated into other systems.
- **Components:**
 - Purpose
 - Scope
 - Points of Contact
 - Project References
 - Notifications
 - Data Disposition
 - Software Disposition
 - System Documentation Disposition
 - Equipment Disposition
 - Project Staff
 - Facilities

45

Purpose:

The objectives of the Disposition Plan are to end the operation of the system in a planned, orderly manner and to ensure that system components and data are properly archived or incorporated into other systems. At the end of this task, the system will no longer exist as an independent entity. The completion of the systems life cycle is carefully planned and documented to avoid disruption of the organizations using the system or the operation of other systems that will use the data and/or software of the present system.

Components of the Disposition Plan are described below.

Purpose
The Disposition Plan addresses how the various components of the system are handled at the completion of operations, including software, data, hardware, communications, and documentation. The plan also notes any future access to the system. The plan is led or performed by the Project Manager; supported by the records management staff, the project team, and the functional staff; and reviewed by the QA manager.
Scope

Describe the purpose and scope of the Disposition Plan. Reference the information system name and provide identifying information about the system undergoing disposition.

Points of Contact

Identify the System Owner. Provide the name of the responsible organization and staff (and alternates, if appropriate) who serve as points of contact for the system disposition. Include telephone numbers of key staff and organizations.

Name	Role	Phone	email

Project References

Provide a bibliography of key project references and deliverables that have been produced before this point in the project development. These documents may have been produced in a previous development life cycle that resulted in the initial version of the system now undergoing disposition or may have been produced in subsequent enhancement efforts as appropriate.

Notifications

Describe the plan for notifying known users of the system being shut down, and other affected parties, such as those responsible for other, interfacing systems, and operations staff members involved in running the system.

Data Disposition

Describe the plan for archiving, deleting, or transferring to other systems the data files and related documentation in the system being shut down.

Software Disposition

Describe the plan for archiving, deleting, or transferring to other systems the software library files and related documentation in the system being shut down.

System Documentation Disposition

Describe the plan for archiving, deleting, or transferring to other systems the hardcopy and softcopy systems and user documentation for the system being shut down.

Equipment Disposition

Describe the plan for archiving, deleting, or transferring to other systems the hardware and other equipment used by the system being shut down.

Project Staff

Describe the plan for notifying project team members of the shutdown of the system, and the transfer of these team members to other projects.

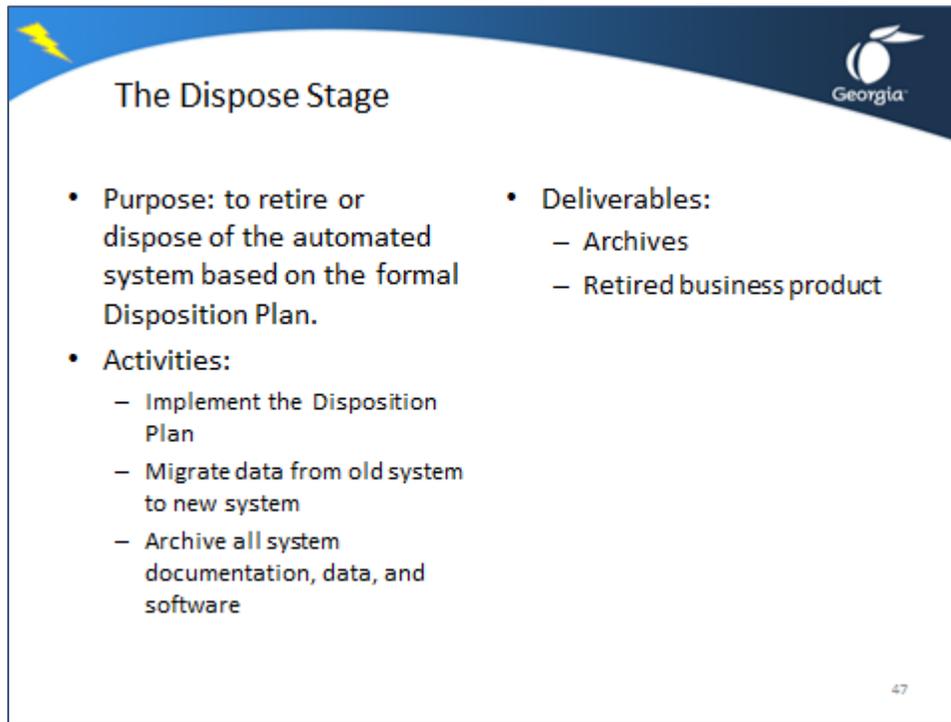
Facilities

This section describes the plan for transferring or disposing of facilities used by the project staff for the system being shut down.

Plan Approval

Signature: _____ Date: _____
Print Name: _____
Title: _____
Role: _____

Topic 3: The Dispose Stage



The Dispose Stage

- **Purpose:** to retire or dispose of the automated system based on the formal Disposition Plan.
- **Activities:**
 - Implement the Disposition Plan
 - Migrate data from old system to new system
 - Archive all system documentation, data, and software
- **Deliverables:**
 - Archives
 - Retired business product

47

Purpose:

During the Dispose stage, the operation of an automated system/application is formally ended in accordance with organization needs and pertinent laws and regulations. The automated system/application is retired or disposed of based on the formal Disposition Plan approved during the Operations stage. 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.

Activities:

The following activities are performed as a part of this stage;

- The Disposition Plan is implemented
- The data from the old system are migrated into the new system or archived.
- Similar to the data that is archived or transferred, the software components will need to be transferred to the new system
- The documentation that resulted from the development of the application or system needs to be archived, where it can be referenced, if needed, at a later date.

Critical Partner Responsibilities:

The Critical Partners handle transition reviews in their areas.

- **Security:** Guarantee that access authorities are removed, that data is properly migrated, and that all hardware and data storage devices have been sanitized to ensure no sensitive data is compromised.
- **Procurement:** Verify that completed contracts are closed appropriately.
- **Budget:** Ascertain that the financial implications of the transition are reviewed for budget impacts.
- **Finance:** Make certain that final payments to contractors are made; project financial information/status is updated accordingly.

Deliverables:

The following deliverables should be produced during the Initiation stage.

- Archived documentation
- Retired business product

Checklist:

The Business Owner and Project Manager should review the following items to verify that the deliverables meet the criteria for complete, accurate, and adequate.

- Data archiving, security, and data and systems migrations are complete
- If appropriate, has the migration of data and the function to a new system been well-planned

Lesson 5 Summary: Learning Objectives Recap

- **Understand the Annual Assessment Review**
The purpose of the **Design stage** is to develop detailed specifications that emphasize the physical solution to the user's information needs.
- **Understand the cyclical nature of the EPLC**
The following deliverables should be produced during the **Design** stage.

APPENDIX I - EXERCISE ANSWERS

Exercise 1.1: The Enterprise Performance Lifecycle

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.	D	Performance lifecycle	A. composed of three (3) phases and seven (7) stages
2.	G	Critical Partners	B. concerned with the way projects are being managed. It provides line management with an independent view of the project status and makes recommendations as needed
3.	I	Critical Project Review Panel	C. the deliberate and systematic decommissioning of the business product(s)/service(s)
4.	F	Build Phase	D. a series of phases that an investment passes through from its inception to its disposition
5.	J	phases	E. serves as the primary stakeholder and advocate for the investment
6.	E	Business Owner	F. is comprised of the Design, Develop, and Deploy stages
7.	A	The Enterprise Performance Lifecycle (EPLC)	G. responsible for evaluating the completeness, accuracy and adequacy of phase deliverables and for evaluating whether the investment meets exit criteria for advancement to the next phase
8.	B	Project Assurance	H. Are we investing in the right things?
9.	C	Disposition Stage	I. objective of understanding and responding to the business implications and issues associated with critical technology projects
10.	H	Plan Phase	J. generally sequential, and their names are determined by the management and control needs of the organization, the nature of the project, and its area of application

Exercise 2.1: The Stage Gate Review Process

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.	G	Project Manager responsibility	A. the degree to which the stage deliverable is complete or exists
2.	E	decision made as to the status of the project	B. conducts the Stage Gate review
3.	A	Completeness	C. the degree to which a stage deliverable meets the defined purpose for which it was designed
4.	F	Stage Gate Review	D. the degree to which the information in the stage deliverable is accurate and consistent
5.	H	Completeness, Accuracy, and Adequacy	E. proceed to the next stage, proceed to the next stage with conditions, continue in the current stage until identified issues are resolved and revisit, or stop the project and decide its future
6.	I	Exit Criteria	F. an independent confirmation by Key Stakeholders that the Project Manager has satisfactorily met the Stage Exit Criteria to the satisfaction of the Business Owner
7.	B	Business Owner responsibility	G. Review all gate deliverables for completeness, accuracy, and adequacy, make any necessary changes to deliverables
8.	C	Adequacy	H. Criteria by which stage deliverables are scored
9.	D	Accuracy	I. established as Stage 'fitness' measures that must be attained to successfully complete a given stage

Exercise 3.1: The Initiation Stage Deliverables

Instructions:

Divide the class into 4 teams. Each team will produce one of the Initiation stage deliverables using the Case Study and templates below.

TEAM 1: Develop the eAPR to include the following items:

Agency Name:	_____
Initiative Name:	<u>Web Expansion Project</u>
Business Owner	_____
Executive Sponsor	<u>Speedy Smith, President</u>
Preparer:	<u>Bill Pencil</u>
Identify the Business Need that you are addressing with this investment	
<u>The Retail Division has shown a declining trend in profitability for 5 years. Rising energy and healthcare costs are contributing factors. Declining sales in the brick and mortar stores along with increased demand from customers for on-line sales has prompted the management team to take this action</u>	
What are the business drivers that are leading you to make an investment at this time?	
<u>Increasing Customer satisfaction and cost reduction</u>	

What strategy (agency and/or state) will this investment support (or be aligned with)?	
<u>This initiative aligns to our strategy to increase market share by 10% over 5 years and streamline operations</u>	

Will this require new technology not currently in use or are you planning to enhance an existing process and/or system? (If existing, please name the application/system to be affected)	
<u>This will require new technology which will integrate into existing systems</u>	

Where are you in the process? (Initiation - conceptual discussions; Planning - Business Case development; Procurement - RFX development or execution)	
<u>Planning</u>	

What is the expected source of funds for this investment? (Some possible options: allocated in current budget, budget amendment request, bonds, federal grant, other grant, etc.)	
Are they currently committed or requested? What is the estimate of funds required?	
<u>In State Budget</u>	

Estimated time for completion	<u>18 months</u>
Is there a time constraint (Y/N)	<u>No</u>
What is the date?	_____
What are the benefits you expect your organization to receive once this investment has been made?	
<u>Increase customer satisfaction, decrease operating costs by 20%, increase revenues by 15% over 5 years</u>	

TEAM 2: Develop the **Business Case** using the template below:

Executive Summary

Issue

For the last 5 years, Speedy Office Supply has been experiencing a decline in sales and increased operating costs in the Retail Division. Customer survey's increasingly show a demand for on-line shopping. In order to more effectively manage our administration, costs, and improve the customer shopping experience, Speedy Office Supply must move to a web-based ordering application as outlined in this business case for the Web Expansion Project.

Outcomes

Moving to a web-based ordering platform will enable Speedy Office Supply to manage its order entry, and supply chain functions in a seamless and consolidated manner. Part of the consolidation is to also close all retail outlets which will reduce overhead costs associated with the large workforce currently required to manage these operations.

Justification

The migration of order entry functions from the legacy mainframe system to the web-based platform will result in greater efficiency with regards to company resources and business processes. The WP Project is also aligned with corporate strategy and objectives since it uses technology to improve the way we do business. Other alternatives assumed greater risk, provided less benefits, were too difficult to define, or were not suitably aligned with current corporate strategy and/or objectives. Initial estimates for the WP Project are:
20% reduction in overhead costs, 10% increase in customer satisfaction,
50% immediate decrease in time to generate orders all in the first 12 months

Problem Definition

Problem Statement

Since its inception, Speedy Office Supply has relied upon a network of retail outlets to generate sales. A catalog ordering system was added to compliment the retail stores. In the last five years, Speedy Office Supply has seen a steady decline in retail sales with increasing operational costs at the retail outlets. These costs are rising faster than sales are increasing causing a decline in operational profitability. All efforts to increase sales have fallen short as customers continue to inquire about buying there office products on-line.

Organizational Impact

The biggest impact will be the closing of 2000 retail stores and the reduction in the labor force. This will also cause a major change in or product ordering processes, order fulfillment, and distribution networks. Along with this change, this project will cause a major shift in the shopping experience of our customer and our processes to handle customer concerns.

Project Overview

Description

The Web Expansion Project will review and analyze several potential products to replace Speedy Office Supply's legacy system with a web-based platform. This will be done by determining and selecting a product which adequately replaces our existing system and still allows for growth for the next 10 years. Once selected, the project will replace our existing system in a phased implementation approach and be completed once the new system is operational and the legacy system is archived and no longer in use.

Objectives

The Web Expansion Project directly supports several of the corporate goals and objectives established by Speedy Office Supply. These goals are:

Timely and accurate order fulfillment, Improve operating efficiency, Reduce overhead costs, Increase sales, and Increase customer satisfaction.

Assumptions

The following assumptions apply to the Web Expansion Project. As project planning begins and more assumptions are identified, they will be added accordingly.

All sales and order fulfillment staff will be trained on the new web-based system, Funding is available for training, Funding is available for purchasing hardware/software for web-based system, All department heads will provide necessary support for successful project completion, Project has executive-level support and backing.

Constraints

The following constraints apply to the Web Expansion Project. As project planning begins and more constraints are identified, they will be added accordingly.

There are limited resources available to support the project and other ongoing initiatives, there are a limited number of COTS products to support order fulfillment activities, there will be limited support from the hardware/software providers.

Milestones

Project Charter - 01/01/20xx; Project Plan Review and Completion - 03/10/20xx;

Phase I Complete - 04/15/20xx; Phase II Complete - 06/15/20xx;

Closeout/Project Completion - 12/31/20xx

Strategic Alignment

This initiative aligns to our strategy to increase market share by 10% over 5 years and streamline operations

Cost Benefit Analysis

Initial investment: -\$4,000,000

Installation: -\$1,000,000

Overhead Reduction: \$5,000,000

Additional Sales: \$1,000,000

Net Savings 1st year: \$1,000,000

Alternatives Analysis

The following alternatives were reviewed and rejected

Keep the mainframe legacy system in place - continued inefficiencies

Outsource the implementation - significantly higher cost

Develop software internally - lack of qualified resources

TEAM 3: Develop the **Project Charter** using the template below:

<p>Project Purpose or Justification</p> <p><u>The migration of order entry functions from the legacy mainframe system to the web-based platform will result in greater efficiency with regards to company resources and business processes. Moving to a web-based ordering platform will enable Speedy Office Supply to manage its order entry, and supply chain functions in a seamless and consolidated manner.</u></p>
<p>Project Objectives</p> <p><u>Timely and accurate order fulfillment, Improve operating efficiency, Reduce overhead costs, Increase sales, and Increase customer satisfaction.</u></p>
<p>High-level Requirements</p> <p><u>Web-based order entry and processing system that allows customer to scan product listings, order selected products, confirm order and set up a profile. System must interface with current legacy inventory and accounts receivable systems and external credit card and shipping systems for authorization and order tracking.</u></p>
<p>Assumptions and Constraints</p> <p><u>All sales and order fulfillment staff will be trained on the new web-based system, Funding is available for training, Funding is available for purchasing hardware/software for web-based system, All department heads will provide necessary support for the project.</u></p>
<p>High-level project description</p> <p><u>The Web Expansion Project will review and analyze several potential products to replace Speedy Office Supply's legacy system with a web-based platform. This will be done by determining and selecting a product which adequately replaces our existing system.</u></p>
<p>High-level risks</p> <p><u>Invalid or incomplete requirements. Unavailable resources. Incompatibility with legacy system. Missing functionality between new and legacy system.</u></p>
<p>Summary Milestone Schedule</p> <p><u>Project Charter - 01/01/20xx; Project Plan Review and Completion - 03/10/20xx;</u> <u>Phase I Complete - 04/15/20xx; Phase II Complete - 06/15/20xx;</u> <u>Closeout/Project Completion - 12/31/20xx</u></p>
<p>Summary Budget</p> <p><u>Hardware/Software cost: \$4,000,000</u> <u>Installation cost: \$1,000,000</u></p>
<p>Project manager, authority level</p> <p><u>John Q. Doe is the project manager. His level of authority includes the development and execution of the project plan with managerial oversight of designated resources allocated to the project.</u></p>

TEAM 4: Develop the **Stakeholder Register** using the template below:

Stakeholder Name	Phone	Major Requirements	Impact	Infl	Intrst	IntExt	Suppt
Marketing Dept	404-555-4567	Review customer orders, profiles, and sales history	3	3	3	Int	S
Customer Service Dept	404-555-3434	Access customer orders for problem resolution	2	2	3	Int	N
Accts Recv Dept	404-555-8756	Must know when preferred accts request direct billing	3	2	2	Int	S
Inventory Dept	404-555-1254	System must reduce inventory for ordered products and deal with returns	3	3	3	Int	S
Order Fulfillment	404-555-6543	Must receive order information for fulfillment	3	2	2	Int	N
Shipping Dept	404-555-9899	Must receive correct order from Fulfillment Dept	2	2	2	Int	N
Shipping Company	645-555-3432	Must receive order for customer tracking	3	2	2	Ext	S
Credit Card Company	702-555-2313	Must receive and send authorization information	3	2	2	Ext	N

Impact/Influence/Interest: 1=Low, 2=Medium, 3=High
 Internal/External: Int=Internal Stakeholder, Ext=External Stakeholder
 Suppt: S=Supporter, N=Neutral, R=Resistor

Exercise 3.2: The Planning Stage Deliverables

Instructions:

Divide the class into 2 teams. Each team will produce one of the Planning stage deliverables using the Case Study. Results from Exercise 1.1 may also be useful.

TEAM 1: Write an approach to how the team plans to execute the work to meet the objectives of the project. You should refer to the components of the **Project Management Plan** for this exercise. You will need to write only a few paragraphs at most.

The Web Expansion Project will take the following approach to achieve a successful outcome. After conducting a Stakeholder Identification and Analysis the team will develop the functional, non-functional, transitional, and technical requirements. These requirements will be used to develop the RFP to select a COTS solution for the on-line ordering system. Once the contract has been signed, the product will be installed in a testing environment and requirements will be validated. When testing is complete and stakeholders are satisfied that the system operates as expected it will be phased in to an operational environment. During this time, the retail outlets will begin to close down and staff reassigned or released. Existing staff in other departments will be trained on their particular functions relating to the new system. The legacy system and data will be archived.

Exercise 3.3: The Authorization Gate Review

Instructions:

Select several participants (8) to play the role of the Critical Partners. The Instructor will act as the Business Owner and conduct the Authorization Review.

Critical Partners and Business Owner: Take 20 minutes to review the Business Case, Project Charter, Requirements Document, and the Project Plan. Score the deliverables on their completeness, accuracy, and adequacy using the Deliverable table below to record your scores. Then, decide if the project has met the Exit Criteria for the stage using the Exit Criteria table below. Discuss the findings with the Business Owner and recommend an Approval status.

Exit Criteria	Y/N
The Business Case fully defines the business need and justification for the project	Y
The Project Charter adequately describes the product, service, or result to be created	Y
The Project Management Plan is fully scaled and details all appropriate components	Y
All deliverables have been defined	Y

Deliverable	Completeness	Accuracy	Adequacy	Total Rating
Business Case	3	3	3	9
Project Charter	3	3	3	9
Requirements Documents	2	3	3	8
Project Management Plan	2	3	3	8

Approval Level (check one)		Explanations or Conditions
Approve	X	
Approve with conditions		
Disapprove with Issues		
Discontinue Project		

Exercise 4.1: The Build Phase

Instructions:

Review the terms in the table below and match each term to its definition.

	?	Term	Definition
1.	C	Design stage	A. The purpose is to execute the approved Project Management Plan that will build the deliverables required to produce the Business Product
2.	E	Implementation Plan	B. Key deliverable for the Design stage
3.	D	Delivered Business Product	C. The purpose is to develop detailed specifications that emphasize the physical solution to the user's information needs
4.	F	Deploy stage	D. Key deliverable for the Deploy stage
5.	B	Security Plan	E. Key deliverable for the Develop stage
6.	A	Develop stage	F. The purpose is to conduct user and operator training, determine readiness to implement, and execute the Implementation Plan

CASE STUDY – SPEEDY OFFICE SUPPLIES WEB EXPANSION PROJECT

Company Overview

Speedy Office Supplies has been in business for 15 years and is recognized as the leader in discount office supplies. We have a reputation of providing high quality products at reasonable prices and offering superior customer service. We are selling to corporate clients, governmental agencies, and individuals. Our customers are served by over 40,000 employees through direct sales, catalogs, e-commerce and more than 2,000 stores. Eighty percent of our business is currently done in our 2,000 retail stores.

Over the past five years the Retail Store Division has shown a steady decline in sales and profitability; energy costs have increased by 30% for our fleet vehicles and retail stores; employee health care costs have increased by 75% and continue to rise. Market trends and customer preferences are indicating that customers desire the ability to order their products on-line at times convenient to them. The SOS management team believes if we phase-out the Retail Store Division and replace it with a web-based ordering system and consolidation of our distribution network, we anticipate a savings of nearly 10 million dollars per year. This would also need to integrate into the existing supply chain systems. Customer satisfaction surveys also indicate a favorable reaction to the concept of web-based sales, which could increase our current sales by at least 25% over the next 5 years. Based on this information SOS management has made a decision to close all the brick and mortar stores within 18 months. We believe this decision will significantly cut costs and that we can be just as successful selling our products on our website.

Currently orders for products are received via in-store requests, phone calls, or catalog mail-in from customers. We access our online system to check inventory, prices, and estimated shipping dates. If the order total is over \$100,000 we turn it over to a supervisor. We then call the Credit Card Authorization Company to check the customer's credit card account. If the credit card charge is authorized we enter the order into the system. The current system is an old mainframe application and is very cumbersome.

There are purchasing agreements, special discounts, and payment terms for our clients purchasing over \$50,000 per year. In the past, we have billed these customers on a monthly basis, providing them with a detailed listing by location of their purchases. We want to make it easier for them to pay via credit card each time they place an order to increase our cash flow and lower our Accounts Receivable. If possible, we still want to provide select customers the same reporting on a monthly basis for their purchases by location.

Federal Express and UPS are currently bidding on the exclusive rights for delivery of all customer office supplies. Each company is proposing an online interface to track shipments, including the name of the person who signs for the delivery. The shipment will need to have a label and detailed purchase order slip with the package. The cost of shipping is determined by the size of the package, weight, location, insurance, and timeliness of delivery. The customer will need an accurate shipping cost at the time of purchase.

Project Request

Our main focus for this project is to create the shopping experience for our retail customer on the website and to place product orders on the Internet. We want to have real time information regarding product description; quantities; pricing; availability; payment processing; shipping method options with associated costs; delivery date; and order tracking. All information currently available at the retail stores and in the catalogs should be available and consistent with the Internet.

It would be nice if there were a place on the Internet for the customer to build a profile and store frequently purchased items in a list to use for future purchases. This would be very beneficial for large organizations that purchase the same products frequently.

We envision using our existing customer number and allowing each customer to create a password to ensure security. Anyone could look at the products online, but only registered customers would be allowed to place orders. The web site should have search ability by several options: product item number (from the catalog), product type, color, and size.

Hopefully when a customer places an order the software would quickly calculate a shipping charge and present the order total to the customer. We would not allow orders totaling more than \$1000 to be placed on the web. The software should also email a confirmation to the customer if requested.

Departments Involved

The **Marketing Department** is responsible for customer reporting and the negotiations for preferred customer status including volume discounts. Our largest customers receive one monthly bill for all their departments' purchases and a report showing the detailed purchases. Additionally, marketing maintains the customer profiles, which are used to process orders, verify billing information, discounts, and reduce redundancy by eliminating the need for the customer to always enter their company information.

The **Customer Service Department** will need access to all information regarding customer orders to assist with the web site usage and handle any possible complaints.

Accounts Receivable is responsible for processing and sending bills to our preferred customers. The web ordering system will need to notify accounts receivable when one of our preferred customers request their order to be direct billed. Some customers have negotiated payment terms and discount rates based on volumes. They work with the Collections Department for any outstanding receivables beyond 90 days. On a monthly basis Accounts Receivable produces an aging report.

Inventory Management is impacted by a reduction in inventory from placed orders and an increase in inventory from cancellations and returns. They are responsible for managing the inventory and placing orders with vendors. Inventory Management is also responsible for handling returns, including items that have to be returned to the suppliers as defective.

Order Fulfillment receives an order notification from the order processing system containing all necessary information required to assemble the order. They are responsible for producing the packaging slips, retrieving the supplies, assembling the order into a bin or crate, and delivering the order to the Shipping Department.

The **Shipping Department** receives the order from the Order Fulfillment department and prepares the order for shipment. The packing slip contains the shipping method requested by the customer and the estimated shipping timeframe. The Shipping Department is responsible for notifying the shipping company and updating the order status.

Outside Organizations

The **Shipping Company** currently has an online tracking system. Our web ordering system will have a direct link to the shipping company's web site for the customer to track packages using the tracking number provided by the Shipping Department to the order status system.

The **Credit Card Processor** currently authorizes customer purchases made in the stores, over the phone, or via fax. An additional interface will need to be established between the web application to receive the customer and order information and to return an authorization code.