FSA Enterprise Change Management Plan

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FSA Enterprise Change Management Plan Update History

Document Version Control

VERSION	DATE	AUTHOR	DESCRIPTION
1.0	8/23/2012	Bill Myers	[TBD]
1.1	1/10/2013	Bill Myers	Updated Size definition in the Operational Risk Ratings Table 3-5
1.2	1/30/2013	Bill Myers	Corrected document title to remove the word Operational
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1.5	6/13/2013	Bill Myers	Updated the ECM Process Steps diagram
1.6	8/5/2013	Bill Myers	• Updated ECM Process Steps diagram in Section 3 • Replaced Release Request form with updated version • Removed Appendix E – Impact Analysis Report Template
2.0	9/04/2013	Teresa V. Toliaferro	Annual Updates • Grammatical Changes • Add definition for Services and Servicers
2.1	06/05/14	Robert Butler	Updated Section 1.3 to include EDUCATE information.

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Section 1. Introduction

The Enterprise Change Management Plan provides information on Federal Student Aid's approach in managing systems and technology changes. This document will be revised to address evolutionary changes to the Enterprise Change Management process.

1.1. Purpose

The Enterprise Change Management (ECM) Plan defines Federal Student Aid's approach to managing organizational needs and their relationship to systems and infrastructure changes required to maintain or improve delivery of student aid. This Plan provides guidance to individuals responsible for, or involved in these efforts.

As Federal Student Aid (FSA) conducts improvement activities, modifications will occur to the processes and procedures defined in this Plan addressing both integration with other FSA enterprise processes and improvement in oversight and reporting on those activities necessary to manage changes to student aid delivery systems.

1.1.1. Scope

This document defines the mandatory process that will be used by FSA and its support staff and contractors to manage all changes to systems and infrastructure. ECM provides for standardized documentation of all requests for system, technology, and process changes affecting FSA supported technologies. It addresses evaluation of impacts of any change before, during, and after a change is made. It also includes a plan for fall back from a change in the event implementation is not successful.

1.1.2. Objectives

This Plan provides the framework for implementing the ECM process. The objectives achieved through the implementation of it are as follows:

- Improved communication, coordination, and visibility of FSA changes
- Improved visibility and management of risks associated with system changes and delivery of FSA services
- Establishment and maintenance of a metrics program to track performance and make improvements
- Integration of other FSA key processes with the ECM process
- End-to-end visibility of all actions that support the process

1.2. Intended Audience

Table 1-1 lists the individuals this document applies to and the purpose for which they may utilize the information in this document:

INTENDED AUDIENCE	USES
FSA organizational staff involved in review and approval of technology changes	Provides guidance on participation in review of organizational needs and potential changes to systems that may be impacted by them
FSA development, operations and maintenance, and Infrastructure staff	Provides guidance on participation and responsibilities in review and approval of system and technology changes
System Support Staff	Provides guidance on participation and responsibilities in processing changes to systems or infrastructure

Table 1-1: Intended Audience and Uses

1.3. References

This section lists applicable and informational references:

- Clinger/Cohen Act of 1996, formerly the Information Technology Management Reform Act (Public Law 104-106)
- OMB Circular A-123, Management's Responsibility for Internal Control, OMB, December 21, 2004
- Lifecycle Management (LCM) Framework, ED OCIO, July 16, 2010
- Lifecycle Management Methodology (LMM), Federal Student Aid, TBD
- Investment Management, Federal Student Aid, TBD
- Federal Student Aid, End-to-End Planning, Federal Student Aid, TBD

Section 2. Overview and Governance

The Enterprise Change Management (ECM) process is designed to provide end-to-end visibility of changes to student aid delivery systems and infrastructure. The ECM process begins with the initial identification of an organizational need and continues through the implementation of the need within one or more systems. This section provides an overview of the process in order to explain and document the governance structures used to manage it. Specific details concerning each Phase and their steps can be found in Section 3, Enterprise Change Management Process.

2.1. Process

ECM is divided into two distinct parts called the Organizational Assessment Phase and the Technical Assessment Phase. The Organizational Assessment Phase provides visibility of the organizational needs that are being planned and forecasted concerning changes to systems or infrastructure. Organizational needs are changes that may impact the delivery of FSA products and services (including procedures) that can be driven by legislation, enhancements, environmental, or operational needs. An organizational need does not include departmental services, such as human resources, organizational staffing, personnel security, or facilities.

The Technical Assessment Phase provides the oversight function for managing system or infrastructure changes. It provides evaluation, coordination, and communication of proposed changes and ensures that there is a linkage between a release of a system or infrastructure project and an organizational need.

Figure 2-1, on page 4, provides a graphical representation of the ECM process, in the top swim lane. The other swim lanes, Investment Management, Individual Organizational Units, and System Configuration/Change Control Boards (CCBs) are necessary to provide a context for the phases of ECM and the interaction that occurs between them. A description of the interaction of the remaining swim lanes with the ECM process is as follows:

Investment Management – represents the funding decisions that may be required to support funding of organizational needs to perform system changes or infrastructure projects. For additional information on the process used by FSA to management its investment, please see the Federal Student Aid Investment Management document.

Individual Organizational Units – shows the origination of the ECM process within FSA.

- An organization identifies a need to be met and performs a preliminary impact analysis before sending it for enterprise review as part of the Organizational Assessment Phase.
- After the review, the organization conducts a thorough impact analysis.
- The organization sends the change request to the appropriate system for review and development of a solution. **Note:** If funding is required then the organization follows FSA's investment management process.

System CCBs – Shows the usual steps performed by a system in processing change requests.

- Change requests received that are not originated by a FSA organization responsible for oversight of the system are provided to the appropriate organization for review and processing.
- Once an organization approves the change, and the change is under contract, the system responsible for the change bundles it with other changes into a release for the system and proceeds with development of a solution.
- Once the release progresses through requirements and design, the system will submit a Release Request (RR) that describes the release, and its contents, for processing through the Technical Assessment Phase.
- Depending on the contents and infrastructure changes to support the release, as well as its operational risk (see Section 3 for details concerning operational risk assessments), it may require a Production Readiness Review (PRR) before implementation occurs, **Note:** The PRR is not part of the ECM process. However, it is included in Figure 2-1 to indicate that failure of a PRR may impact the scheduling and implementation of production changes. Once post-production verification is completed then the RR is closed out.
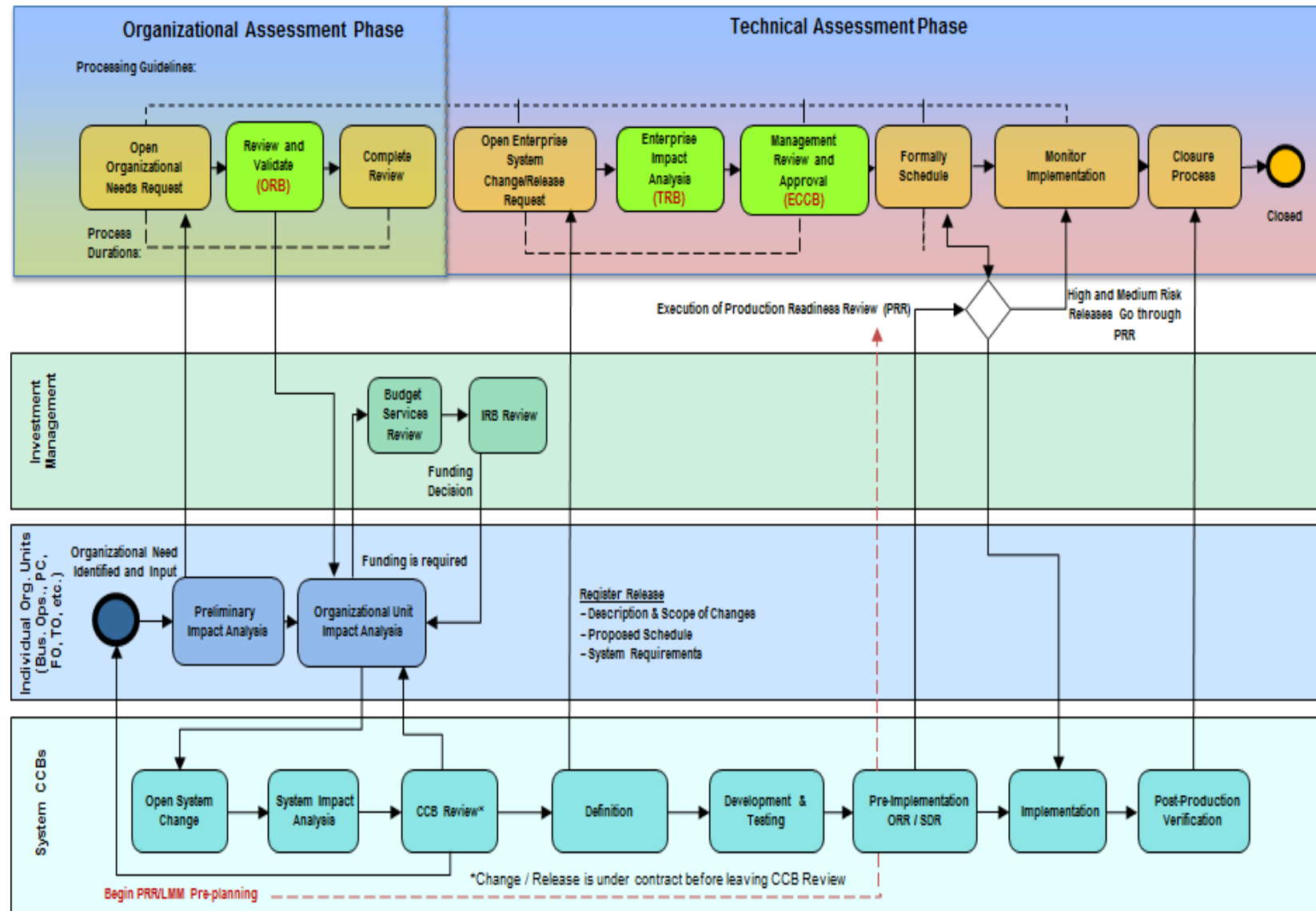
Figure 2-1: Enterprise Change Management – Process Steps

2.2. Governance

Three boards perform governance over the ECM process. The first is the Organizational Review Board (ORB) that oversees the Organizational Assessment Phase while the other two are the Technical Review Board (TRB) and the Enterprise Change Control Board (ECCB) that oversee the Technical Assessment Phase. Of the three boards, only the ECCB is a decision making board. Both the ORB and TRB conduct reviews and provide recommendations on organizational needs or changes. The remainder of this section provides information on each of these boards, their membership, responsibilities and meeting frequencies.

2.2.1. Organizational Review Board

The primary responsibility of the Organizational Review Board (ORB) is to review newly submitted organizational needs from a business perspective and validate impacted areas and create a Release Request (RR). The ORB will meet on a weekly basis, unless otherwise necessary. Submission of a need must occur at least 2 weeks in advance of the meeting.

2.2.2. Technical Review Board

The Technical Review Board (TRB) is the first level review conducted in the Technical Assessment Phase of the ECM process. The TRB is responsible for reviewing Release Requests (RRs) and associated Impact Assessments (IAs) that represent release packages or infrastructure projects. The TRB ensures coordination of resources, impacts of proposed schedules, interdependencies with other proposed releases or project schedules, and provides recommendations on operational risk to FSA to the ECCB. The TRB also ensures that appropriate reviews, including Architecture Reviews, Design Reviews, and Production Readiness Reviews are planned and scheduled in accordance with FSA policies and procedures.
The TRB will meet on a weekly basis to review new RRs as well as those requiring revisions. RRs must be submitted a minimum of 60 days before the meeting and 90 days before any production environment changes are required. For low risk and Urgent RRs, shorter time frames will be considered. Emergency RRs will be processed as needed in accordance with the procedure for emergency RRs.

2.2.3. Enterprise Change Control Board

The ECCB is the second level review board during the Technical Assessment Phase. It is authorized to review and approve or reject RRs The ECCB also oversees the ECM process and supporting tools and reviews the Enterprise Master Release Schedule to ensure schedules are coordinated and impacts to FSA's operational environment are minimized. The ECCB shall make a determination of the prioritization and operational risk of all RRs.

The ECCB Chairperson will be a 12-month rotating responsibility, chosen from and by the ECCB members. The ECCB Chairperson organizes the ECCB meetings, conducts votes, and may escalate unresolved issues to the FSA Operating Committee. When an RR is escalated, the ECCB Chairperson, or designated alternate, represents the ECCB at relevant discussions. Any ECCB member may attend the FSA Operating Committee session to discuss the issues associated with the RR.

The secretary of the ECCB is the FSA Enterprise Configuration Manager. The FSA Enterprise Configuration Manager schedules meetings, distributes agendas, and records board decisions within the minutes. Standard templates for agendas, meeting minutes, and other meeting materials will be used.

The ECCB will meet on a bi-weekly basis. Depending on the volume or urgency of RRs to be reviewed or monitored, meeting frequency may be adjusted. Emergency meetings may also be scheduled by the ECCB Chairperson to address emergency or urgent RRs. Such meetings may be held via teleconference or electronic mail.

The ECCB reviews all TRB recommendations associated with an RR during the course of ECCB meetings and either approves or rejects them. Details concerning voting, proxies, escalations and appeals are as follows:
- A quorum requires a majority of voting members either present or represented by proxy
- Proxy votes may be submitted in writing or through an alternate representing the ECCB member
- A consensus of the majority of voting members is required for a decision
- Any dissenting ECCB member may appeal to the FSA Operating Committee, with the Chairperson representing the ECCB at those discussions, and any ECCB member attending as desired
- The ECCB is only responsible for production RRs that are submitted for review

The following table outlines the responsibilities associated with each key role that supports the ECCB. Individual participants may be active in multiple roles.

ROLES	RESPONSIBILITIES
Chairperson	• Facilitates ECCB reviews of RRs and recommendations from TRB reviews • Calls for ECCB votes to make decisions, including approval or rejection of RRs • Escalates unresolved issues and RRs to the FSA Operating Committee (OC) for resolution • Distributes ECCB information to OC and their Direct Reports
Secretary	• Prepares agendas, reports, and documents decisions within meeting minutes • Prepares meeting minutes for distribution by the Chairperson • Works with assigned systems to ensure RR approvals or rejections are communicated
Members	• Actively participate in meetings and provide their organization's information on ECCB meetings • Review/approve RRs and recommendations from TRB reviews • Commit resources to implement approved RRs within their scope of authority • Ensure their organization's participation in ECM process • Actively monitor organization's RRs changes and notify the ECCB of issues as they occur • Review schedule of changes/RRs and manage issues with resource constraints or timing
FSA Operating Committee	• As required, reviews and resolves escalated RRs.

Table 2-1: ECCB Related Roles and Responsibilities

Membership includes representatives (managers with a system focus) from each FSA organizational area. ECCB members have sufficient authority over business unit CCBs to commit resources to implement approved RRs. Advisors are welcome to attend ECCB meetings at the request of their ECCB representative. Advisors provide relevant information on benefits and implementation considerations for RRs. The ECCB members and the Federal Student Aid organizational areas that they support are listed below with the voting members of the ECCB noted with an *.

ECCB MEMBERS	ORGANIZATIONAL AREAS SUPPORTED
Business Operations, Production*	Business Operations
Finance Office*	Finance Office
Technology Office, Application Development Group	Technology Office, Application Development Group
Technology Office, Enterprise IT Architecture and Strategic Infrastructure Group	Technology Office, Enterprise IT Architecture and Strategic Infrastructure Group
Technology Office, Infrastructure Operations Group*	Technology Office, Infrastructure Operations Group, Policy Liaison, Administrative Services Office

ECCB MEMBERS	ORGANIZATIONAL AREAS SUPPORTED
Technology Office, IT Risk Manager *	Technology Office IT Risk Management Group
Performance Management Office *	Performance Management Office
Technical and Business Support Services Group*	Program Compliance Office
Student Experience Group *	Customer Experience Office

Table 2-2: ECCB Voting Allocation

2.2.4. Relationship to Other Processes (EDUCATE)

Every week the Department of Education holds a weekly Change Advisory Board (CAB) meeting to which FSA has a standing member(s) present ensuring that any changes made that impact FSA are properly communicated to the various FSA governance boards (ORB, TRB, ECCB).

The US Department of Education (ED) makes updates and enhancements in order to address changes to the following areas:

- IT Infrastructure (e.g. – Servers, desktop refresh, etc.)
- Desktop Changes (e.g. – MS Office, IE, Java, and Operating Systems Upgrades)
- Security Patches
- Network (e.g. – Telecommunications, Routers, Firewalls).

2.3. Resources

The FSA Enterprise Configuration Manager is responsible for coordinating ECM activities. This includes monitoring, oversight, evaluation, and enforcement of policy. To ensure information is available to all FSA decision makers, the Technology Office is responsible for providing the necessary facilities and electronic tools to document, monitor, and maintain ORB, TRB, and ECCB artifacts and for coordinating and/or facilitating updates to enterprise artifacts.

Section 3. Enterprise Change Management Process

As mentioned in Section 2, the Enterprise Change Management (ECM) process is designed to provide end-to-end visibility of changes to student aid delivery systems and infrastructure. The ECM process begins with the initial identification of an organizational need and continues through the implementation of the need within one or more systems.

ECM is an enterprise-level process that operates in parallel to systems lifecycle management of Federal Student Aid systems or system components. The ECM process usage is mandatory and organizations must register a need prior to registering a release/change so that the relationship between a need and release/change is established.

ECM is divided into two distinct parts called the Organizational Assessment Phase and the Technical Assessment Phase. The Organizational Assessment Phase provides visibility of the organizational needs that are being planned and forecasted concerning changes to systems or infrastructure. The Technical Assessment Phase provides the oversight function for managing system or infrastructure changes. It provides evaluation, coordination, and communication of proposed changes and ensures that there is a linkage between a release of a system or infrastructure project and an organizational need.

Figure 3-1 is a high-level representation of the ECM process. The graphical representation of the ECM process is the top swim lane of the figure. The other swim lanes, Investment Management, Individual Organizational Units, and System Configuration/Change Control Boards (CCBs) are necessary to provide a context for the phases of ECM and the interaction that occurs between them. Information on these swim lanes can be found in Section 2, Overview and Governance.

To ensure timely processing of organizational needs and the changes necessary to meet them, FSA has developed processing guidelines that represent the time required for processing of changes prior to its required implementation. This information is contained in Figure 3-1 and is as follows:

- 6 months prior to the desired implementation date – open an organizational need request
- 3 – 5 months prior to implementation – open an enterprise system change/release request
- 2 – 4 months prior to implementation – management review and approval by the ECCB
- 1.5 – 2 months prior to implementation – open a detailed change requests

Additionally, the duration for processing of requests through key steps within each phase is represented in Figure 3-1 and is as follows:

- 2 – 4 weeks – time period from submission of an organizational need request to review by the Organizational Review Board
- 3 weeks – time period from submission of an release request (RR) to review and approval by the ECCB
- 1 week – the amount of time after ECCB approval of an RR in which detailed data center change requests should be opened

Since there are several types of changes that occur when managing technology and systems, FSA has grouped RRs into three types: new system development efforts, existing system releases, and infrastructure changes. Information required and the timing for submitting an RR as part of the Technical Assessment Phase is as follows:

- New Systems Development Efforts – should at least progress through the development of requirements (high level and detailed) and design.
- Existing Systems – should at least progress through the development of requirements and possibly the development of technical design if new technology or change in architecture is being projected.
- Infrastructure Changes –the scope of the effort should be grouped into segments and include systems affected and targeted timelines. Each segment would then be submitted as an infrastructure change request package.
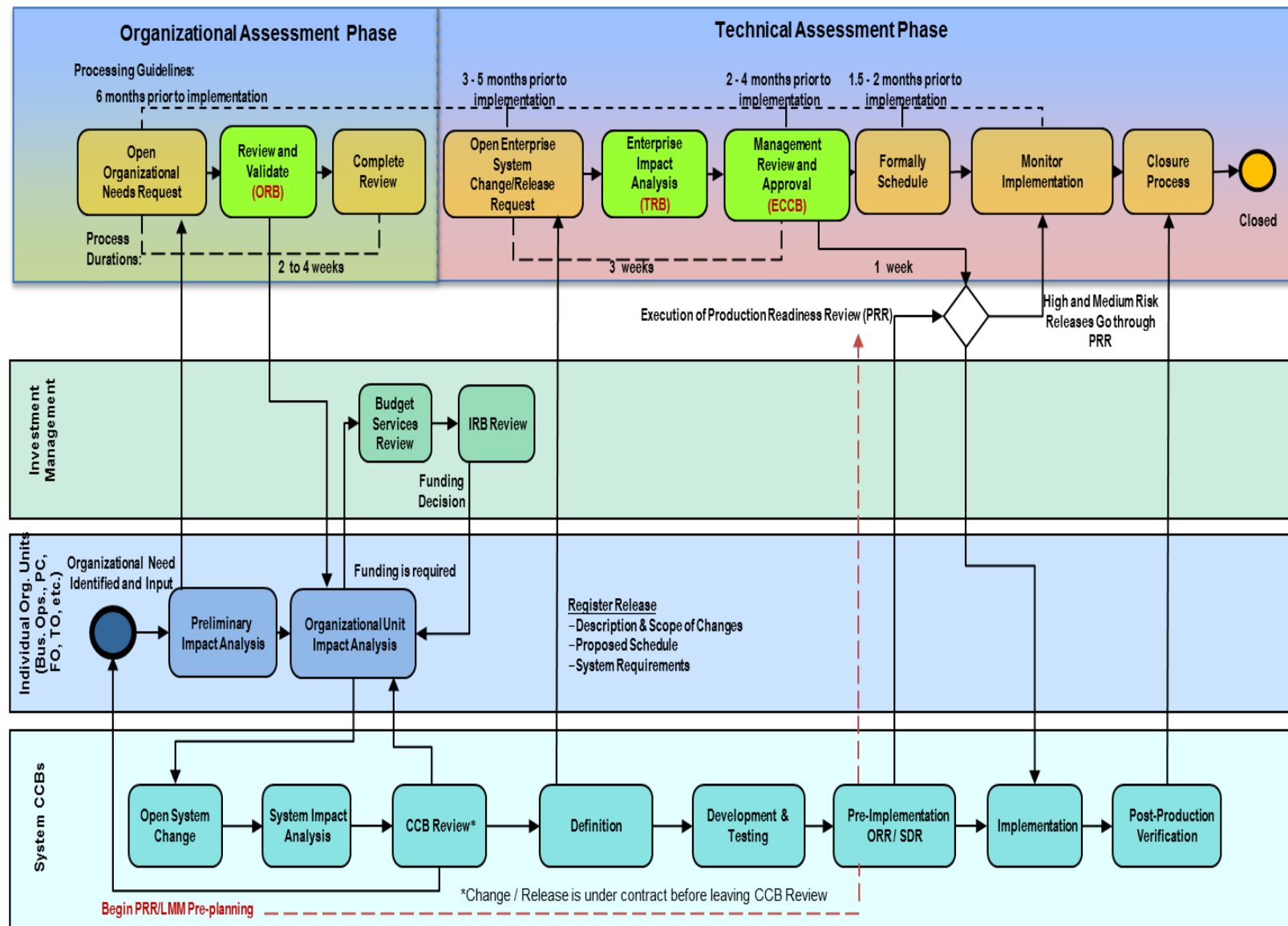
Figure 3-1: Enterprise Change Management – Process Steps with Timelines

This remainder of this section provides more detailed information on each phase of the ECM process, the involvement of Federal Student Aid organizational units, and system support staff required as the organizational need is identified and changes are initiated to meet them.

3.1. Organizational Assessment Phase

Each organization will define the detail level for which they will submit an organizational need. Appendix C - Organizational Need Form provides a form that organizations may use to submit their organizational needs if access is not available to the automated solution supporting the ECM process.

The organization initiating the change is responsible for conducting meetings with impacted systems as part of its impact analysis efforts to ensure the change is fully discussed, requirements are defined, and schedules for developing the changes or supporting testing are coordinated. Organizational Change Control Boards, System Specific Configuration (Change) Control Boards, and Requirement Change Management Boards will stay intact and be managed as they are today. Project managers may be assigned to manage system releases and infrastructure changes as necessary and the ECM process will not be relied on to resolve issues associated with the release or project.

To support consistent evaluation of system impacts concerning organizational needs, Appendix D provides a template that organizations should use to develop Release Requests.

3.1.1. Process Step Value Proposition

Each step in the ECM process provides unique value to various Federal Student Aid organizations. Table 3-1 identifies the value proposition for each Organizational Assessment Phase process step in support of meeting the objectives identified in Section 1.1.2.

PROCESS STEP	WHY IS IT REQUIRED	WHO REQUIRES IT
Open Organizational Need Request	• Identify the entity requesting the change • Determine who the change applies to	• General information for all parties
Review and Validate	• Review organizational need to determine impacted organizations, services, entities, or systems that need to be involved in assessment and coordination of changes • Determine level of tracking and monitoring/oversight required	• Organizational Review Board
Complete Review	• Accounting for requests that have been reviewed • Communication to organizations and systems of an organizational need that they should take action on	• Technology Office Enterprise Change Management (ECM) Team • Organizations that are affected by an organizational need request
Cancel (Issued from Review and Validate steps)	• To terminate Request for Organizational Need • To support updates in business priorities	• Participating projects and enterprise teams

Table 3-1: Organizational Assessment Process Step Value

3.1.2. Process Step Leadership, Inputs and Outputs

Each step in the ECM process requires information to process needs requests and results in outputs or deliverables. Table 3-2 provides the key inputs and outputs for each process step for the Organizational Assessment Phase.

PROCESS STEP OR NAME	WHO LEADS STEP	INFORMATION REQUIRED	PROCESS OUTPUT
Open Organizational Need Request	Organization Lead	• Summary of the required change needed • Justification for the required change needed • Organizations, services, and/or systems impacted • Target dates or date required to meet the need • Requestor Information (name, contact, organization) • Pre & post dependencies • Sponsor	• Promotion of the request to the next stage • Opened Organizational Need Request
Review and Validate	Organizational Review Board	• Completed Organizational Need Request • Any additional documentation supporting the request	• Reviewed Request with determination for next steps – including assignments • Transition to Complete Review • Canceled request as a result of review
Complete Review	Enterprise Configuration Manager	• Reviewed Request	• Completed/Reviewed Organizational Need Request

Cancel (Issued from Review and Validate steps)	Enterprise Configuration Manager	• Reason for cancellation such as:
		  o Management Decision
		  o Superseding Change
		  o Duplicate
			• Confirmation of cancelation

Table 3-2: Organizational Assessment Process Step Information Flow

3.1.3. Process Step Roles and Responsibilities

The roles and responsibilities associated with processing organizational needs are similar to functions that FSA performs today. The difference is the centralization and communication of the information to support enterprise visibility along with formalization of the functions in a defined process for FSA staff to follow. Table 3-3 lists each process step, the role and participants, and their responsibilities.

PROCESS STEP	STEP PARTICIPANTS	ACTIONS/RESPONSIBILITY
Open Organizational Need Request	Organization Lead	• Document and register organizational need.
Review and Validate	Organizational Review Board	• Evaluate completeness of the request and cancel any that may be duplicates or already in process • Determine impacted organizations, services, entities and systems • Make assignments to organizations to review and take action on • Determine related need or change requests • Determine level of tracking and monitoring/oversight required and request assignment of a project manager, if appropriate

PROCESS STEP	STEP PARTICIPANTS	ACTIONS/RESPONSIBILITY
	Enterprise Configuration Manager	• Act as secretary for Organizational Review Board by providing agendas, reports, and meeting minutes. Cancel requests that are duplicates and process requests that have completed reviews.
Complete Review	Enterprise Configuration Manager	• Notify organizations, systems of changes affecting them
Cancel (issued from Review and Validate steps)	Enterprise Configuration Manager	• Notify requestor as to the cancelation and reason for it

Table 3-3: Organizational Assessment Roles and Responsibilities

3.2. Technical Assessment Phase

The Technical Assessment Phase is prepared and initiated by the sponsoring system's organization based upon the establishment of a system release or infrastructure project. Every registered release request (RR), including maintenance activities that result in baseline changes for systems or infrastructure, must relate to at least one organizational need. Appendix D includes a form to be used for submitting RRs. To support management and tracking of RRs, they will be prioritized and assigned an operational risk rating. Other enterprise processes and the ECCB will use this information when reviewing RRs. Also, usage of these priorities and risk assignments provide metric information that will assist FSA in making process improvements.

There are three priority levels for RRs. Each priority level will be handled in accordance with procedures established by the ECCB. Table 3-4 provides the definitions for RR priorities.

PRIORITY	DEFINITION
Emergency	• Correct an application/system halt (abnormal termination) in the production environment • Correct a hazardous condition that may result in injury to personnel or damage to equipment • Effect a change in operational characteristics that, if not accomplished expeditiously, may seriously compromise security or business mission
Urgent	• Effect a change that, if not accomplished, may compromise effectiveness, contractual commitments, life cycle costs, or business mission • Correct a condition that is affecting the system or system component that is critical • Effect a change in operational characteristics to implement regulatory requirements with stringent completion date requirements
Routine	• Assigned when emergency or urgent implementation is not applicable, required, or justifiable

Table 3-4: RR Priorities

Operational risks must be considered for all changes. A systematic process will be used for identifying, analyzing, and assigning risk that an RR's impact will have on IT services or systems operations, the system, the system's purpose (mission), or FSA's mission. The Technical Review Board will initially evaluate the RR and recommend the risk rating. The ECCB will then review the risk rating and approve it.

The risk ratings are high, medium, and low and are based on seven categories. The categories assess the maturity of the system and support staff as well as the importance of the system to FSA. The categories are as follows:

• System Criticality – system is categorized as Mission Essential, Essential, or Non-Essential.

- System End User Type and Volume – external or internal to FSA and the volume/audience impacted
- Interfaces – Number of interfacing systems that will be impacted by the release (this includes any system that has to perform intersystem testing)
- Size – the change in configuration items or functionality to the system or system components (major, minor, patch – see definitions in the glossary under System Release Type)
- Technology – new to the market or FSA's operating environment, or out-of-support
- Maturity –support organization's time and experience in supporting system
- Business Cycle – Proposed time for the change to be implemented based on the system's use and processing schedule and potential peak processing of other systems.

To obtain a risk rating, an RR will be evaluated using the information in Table 3-5. For categories 3-7, if a single item falls into the higher category, then the higher risk rating is used. If category 2 is the only category listed as high (i.e. a fairly insignificant change/release on a system with a large end-user population), then the overall risk may be reduced to medium based on recommendation by the TRB and approval by the ECCB.

CATEGORY	HIGH	MEDIUM	LOW
1. System Criticality	Mission Essential, Essential	Mission Essential, Essential, or Non-Essential	Essential or Non-Essential
2. System End User Type and Volume	External – Public / Students / Schools Internal – organization-wide audience of ED / FSA Employees or contractors	External – Title IV Partners Internal – Significant audience of ED / FSA Employees or contractors	Internal – Limited audience of ED / FSA employees, contractors, or auditors
3. Interfaces	More than two	One or two	None
4. Size	Major	Minor	Patch
5. Technology	New to FSA, new to market, or out-of-support	Currently supported in FSA environment, but not the exact version/ model	Exact version/ model used is currently supported in FSA environment or this change is an upgrade to the newest, n-1, or n-2 release of a COTS product that is already used by the system implementing the change.
6. Maturity	Federal project management team is new to FSA or releases of this scope. OR Development team (contractor) is new to FSA.	Federal project management team has performed similar releases. OR Development team (contractor) has completed similar projects at FSA.	Federal project management team has performed previous releases of this system. AND Development team (contractor) has performed previous releases of this system.
7. Business Cycle	During peak processing period for the system or another impacted system's peak processing period	Prior to peak processing period, but inadequate time to complete first live batch and make corrections	During low point(s) in the processing cycle(s)

Table 3-5: Operational Risk Ratings

3.2.1. Process Step Value Proposition

Each step in the ECM process provides unique value to various FSA organizations. Table 3-6 identifies the value proposition for each Technical Assessment Phase process step in support of meeting the objectives identified in Section 1.1.2.

PROCESS STEP	WHY IS IT REQUIRED	WHO REQUIRES IT
Open Enterprise System Change/Release Request	• Identify the entity requesting the change • Confirm scope and who the change applies to • Provide Enterprise Visibility	• General information for all parties
Enterprise Impact Analysis (Technical)	• Review each system change/release package's technical solution to ensure: • Identification of all changes required • Impacts and interdependencies are evaluated • Resource allocations have been identified • Schedules can be met • Risk to FSA has been reviewed	• Technical Review Board (Technology Office and Technical PMs/Technical Leads from all systems)
Management Review & Approval (ECCB)	• Review system change/release packages and assess impacts and risk to FSA. If a consensus is reached, approve, approve with modifications, or require modifications to ensure the request can be met	• Entire Enterprise
Formally Schedule	• Schedule system changes/releases in appropriate systems and ensure communication and coordination of all changes for all environments	• Entire Enterprise
Monitor Implementation (Weekend Production Window)	• To ensure implementation activities are tracked and managed, appropriate escalation of incidents occur, and communication with the enterprise is maintained before, during, and after all change activities	• Entire Enterprise
Closure	• To ensure records are updated reflecting the weekend's activities and completion of the system change/release package	• Technical PMs / Technical Leads • Support Staff (Virtual Data Center (VDC) and system support)
Cancel (Issued from the Open Enterprise System Change/Release Request step)	• To terminate a Request without Implementation activities and ensure FSA priorities are maintained	• Technical PMs / Technical Leads • Support Staff (VDC and system support)
Revisions Required (issued from Enterprise Impact Analysis, Management Review and Approval, Formally Schedule, or Monitor Implementation states)	• Analysis of issues identified during Enterprise Impact Analysis • Revisions to schedules due to changes in solution or priorities • Analysis of issues resulting in rollback and rework required for successful implementation	• Technical PMs/Technical Leads • Support Staff (VDC and system support

Table 3-6: Technical Assessment Process Step Value

3.2.2. Process Step Leadership, Inputs and Outputs

Each step in the ECM process requires information to process RRs and results in outputs or deliverables. To support the submission of an RR, key information will be required to ensure coordination and scheduling can occur. An RR, which represents a release package, will need to include a schedule for changes in all environments and identify the resources necessary to complete them. Additionally, draft rollback and hour-by-hour plans need to be submitted and include time for both implementation and rollback activities.

Standard maintenance changes that are low risk, such as patching and domain name additions or revisions, will go through the process but may not require as much documentation for review and approval. The determination of what will be considered standard maintenance changes will need to be determined by the ECCB as the process evolves. Table 3-7 provides the key inputs and outputs for each process step for the Technical Assessment phase.

PROCESS STEP	WHO LEADS STEP	INFORMATION REQUIRED	PROCESS OUTPUT
Open Enterprise System Change/Release Request	Technical Project Manager (PM) or Technical Lead	- Link to Organization Need - General Information concerning the change/contents of the release as follows: - Short Title of Release/Change - System Change/Release Scope - System Impact Analysis - Proposed Development Schedule, including Security Assessment, SDR and PRR if appropriate - Communication Plan/message to end users (draft or final) - Infrastructure Resource Requirements (Service Requests) - Listing of known technical changes required to support the release/change - Draft Rollback Plan	- Promotion of the change request to the next stage - Opened Request for System Change/Release - Canceled request as a result of review
Enterprise Impact Analysis (Technical)	Enterprise Configuration Manager (Escalations handled by Enterprise Change Control Board (ECCB))	- Registered or Revised Package - IT Policies and Technical Standards: - Enterprise architecture - Middleware - Data Center Standards and Operations - Master Release Schedule - Organizational Calendar of Events	- Recommendation concerning release or change - Revisions to package required to support sequencing, dependencies, or updates to proposed schedule - Meeting agendas & minutes

PROCESS STEP	WHO LEADS STEP	INFORMATION REQUIRED	PROCESS OUTPUT
Management Review & Approval	ECCB	• Final Change/Release Package • Master Release Schedule • Organizational Calendar of Events	• Approval to move forward, or decision to modify change package • Meeting agendas & minutes
Formally Schedule	Enterprise Configuration Manager	• Change/Release Package with approved/revised dates for implementation • Detailed Hour-by-Hour Schedule for Implementation weekend • Final Rollback Plan • Final Communication Plan/message • Listing of any technical changes from original submission of package	• Official Enterprise Master Release Schedule • Weekend Change Management Report • Weekend Hour-by-hour schedule • Proposed changes to schedules for Technical Review Board and ECCB reviews based upon reviews or request for changes from support contractors (loop back required to Enterprise Impact Analysis step)
Monitor Implementation (Weekend Production Window)	Enterprise Configuration Manager	• PRR Results and Approval • Master Release Schedule • Weekend Change Management Report	• Updates to data center baselines, as required • Weekend Implementation Results Report, including rollbacks • Incidents recorded as a result of rollback activities • Change Requests updated to reflect closure (successful implementation) or rollback (re-evaluation of change and schedule required)
Closure	Enterprise Configuration Manager	• Confirmation of Change in Production	• Updated Master Release Schedule to incorporate results of weekend activities
Cancel (Issued from the Open Enterprise System Change/Release Request step)	Enterprise Configuration Manager	Reason for cancellation such as: • Management Decision • Technical Feasibility • Superseding Change • Duplicate Change Requests	• Confirmation of cancelation

PROCESS STEP	WHO LEADS STEP	INFORMATION REQUIRED	PROCESS OUTPUT
Revisions Required (issued from Enterprise Impact Analysis, Management Review and Approval, Formally Schedule, or Monitor Implementation states)	Technical PMs/Technical Leads	• Reason for package revisions Reason for rollback, such as: • Management Decision • Technical Issue encountered	• Determination on how to proceed (revision to change package will be required).

Table 3-7: Technical Assessment Process Step Information Flow

3.2.3. Process Step Roles and Responsibilities

The roles and responsibilities associated with processing RRs are similar to functions that FSA and support staff performs today. The difference is the centralization and communication of the information to support enterprise visibility along with formalization of the functions in a defined process for FSA staff to follow. Table 3-8 lists each process step, the role and participants, and their responsibilities.

PROCESS STEP	STEP PARTICIPANT(S)	ACTIONS/RESPONSIBILITY
Open Enterprise System Change/Release Request	Technical Project Manager / Technical Lead	• Register system change/release requests and relate it to at least one organizational need. Attach all required documentation to ensure a complete package is submitted for review.
	Enterprise Configuration Manager	• Confirm completeness of system change/release package and determine it is neither a duplicate nor already included in any existing requests. Cancel requests that are duplicates.
Enterprise Impact Analysis (Technical)	Technical Review Board	• Review interdependencies and ensure communication occurred to all affected areas/systems • Review and confirm all changes (system, middleware, telecommunication, and infrastructure) and costs have been identified • Ensure technology changes concur with standards and reviews are scheduled • Review schedules to ensure proposed timelines can be met and resources are available • Review proposed revisions to previous implementation schedules and rollback issues (loop back from Revisions required) • Evaluate risk of making / not making change (operational risk) and provide a recommendation for Enterprise Change Control Board review
	Enterprise Configuration Manager	• Chair the Technical Review Board and lead discussions concerning each system change/release package. Provide agendas, reports, and meeting minutes. Process requests that have completed reviews. Notify organizations/systems of changes affecting them.
	Technical PMs / Technical Leads	• Participate in Technical Review Board Meetings and respond to questions concerning their changes

PROCESS STEP	STEP PARTICIPANT(S)	ACTIONS/RESPONSIBILITY
Management Review and Approval	Enterprise Change Control Board (ECCB)	• Discuss changes with a recommendation of low risk and determine any concerns with needing to review before approving them • Discuss changes with a recommendation of medium or high-risk and determine any impacts or schedules requiring adjustments • Review previously approved change packages and ensure adjustments and issues that required rollback have been addressed (loop back from Revisions Required step) • Evaluate risk recommendations on all change packages and adjust if appropriate
	Enterprise Configuration Manager	• Act as secretary for Enterprise Change Control Board by providing agendas, reports, and meeting minutes. Process requests that have completed reviews. Notify organizations/systems of changes affecting them.
Formally Schedule	System Support Staff	• Submit detailed change requests that link to their enterprise system request. Review release request reports, Master Release Schedule, and Hour-by-hour Schedule and notify Technical PM / Technical Lead of any issues or changes.
	Technical PMs / Technical Leads	• Review change requests submitted by system support staff to ensure they map back to contents of enterprise system change request package. Review release request reports, Master Release Schedule, and Hour-by-hour Schedule and notify ECM Team of any issues or changes.
	Enterprise Configuration Manager	• Review change requests for accuracy and completeness, and ensure they map back to contents of enterprise system change request package • Review implementation schedules with Technical PMs/Technical Leads and support staff to ensure resource availability and FSA priorities are maintained • Manage all changes required to support release/change packages • Maintain and distribute Enterprise Master Release Schedule • Develop and distribute Weekend Change Management Report • Develop and distribute Hour-by-hour Schedule
Monitor Implementation	System Support Staff	• Provide status of implementation activities and escalate any issues to the Technical PM / Technical Lead and ECM Team. • Take appropriate action to rollback changes if necessary • Update System Specific Configuration Management records
	Technical PMs / Technical Leads	• Provide status of implementation activities and escalate any issues to the ECM Team

PROCESS STEP	STEP PARTICIPANT(S)	ACTIONS/RESPONSIBILITY
	Enterprise Configuration Manager	• Review changes scheduled for implementation and ensure last minute adjustments have been approved and communicated • Track success or failure of changes and escalate issues or incidents as necessary • Ensure any incidents resulting in a rollback are documented and appropriate change requests or packages are opened or rejected • Develop and distribute Weekend Implementation Results Report
Closure Process	Enterprise Configuration Manager	• Confirm completion of enterprise system change/release package with Technical PM/Technical Leads • Update system specific change requests, reports, and records to indicate completion of implementation/system change/release package • Communicate closure to ECCB
	Technical PMs / Technical Leads	• Communicate completion of enterprise system change/release package with ECM Team
Cancel (issued from the Open Enterprise System Change/Release step)	Enterprise Configuration Manager	• Communicate cancelation to requestor and ECCB • Update records to indicate cancelation and its reason
	Technical PMs / Technical Leads	• Confirm cancelation of enterprise system change/release request with ECM Team
Revisions Required (issued from Enterprise Impact Analysis, Management Review and Approval, Formally Schedule, or Monitor Implementation states)	Technical PMs / Technical Leads	• Performs analysis of issues identified during Enterprise Impact Analysis or issues resulting in rollback and rework required for successful implementation • Performs revisions to schedules due to changes in solution or priorities • Modifies the enterprise system change/release package to incorporate changes • Notifies ECM Team of enterprise change/release request status and identifies change requests that require rescheduling in order to address issues • Notifies ECM Team when change package is ready for processing (return to Enterprise Impact Analysis step)
	Enterprise Configuration Manager	• Provide assistance with addressing changes to packages • Promotes enterprise system change/release package to Enterprise Impact Analysis • Coordinates review with the Technical Review Board

Table 3-8: Technical Assessment Roles and Responsibilities

Appendix A - Acronyms and Abbreviations

ACRONYM	DEFINITION
CCB	Configuration (Change) Control Board
EA	Enterprise Architecture
ECCB	Enterprise Change Control Board
ECM	Enterprise Change Management
ED	U.S. Department of Education
EPMS	Enterprise Performance Management Services
FMS	Financial Management System
FSA	Federal Student Aid
IRB	Investment Review Board
IT	Information Technology
LCM	Lifecycle Management
LMM	Lifecycle Management Methodology
OC	FSA Operating Committee
ON	Organizational Need
ONR	Organizational Need Request
ORB	Organizational Review Board
PM	Project Manager
PRR	Production Readiness Review
RR	Release Request
SDR	System Design Review
TO	Technology Office
TRB	Technical Review Board
VDC	Virtual Data Center

Table A-1: Acronyms and Abbreviations

Appendix B - Glossary

TERM	DEFINITION
Baseline	Established hardware and software configuration that provides a point of reference for system changes.
Change Control Board	A review committee that is responsible for defining the change, evaluation, coordination, approval/disapproval and implementation of changes to a Configuration Item after the item has been formally defined and baselined.
Change Management	A set of management disciplines and best practices used to ensure a smooth transition and minimal disruption when process or system changes are introduced in an organization.
Change Categories	A mechanism to define the type of a change being made (FSA Enterprise Configuration Management Plan Template): • Enhancement: request for new functionality for the system or to modify/augment an existing requirement (non-standard routine changes). • Maintenance: request to perform routine changes or patches to keep the system operational and do not change requirements (standard routine changes). • Correction: request to make a correction that arises when a configuration item fails to satisfy a previously established requirement, a requirement was misinterpreted, a functional error is identified.
Change Requests	A request that once performed will change an established baseline of a system or its components, including infrastructure. Types of CR's include but are not limited to: • Custom software releases or patches • Upgrades or patches of COTS • Upgrades or patches that affect networks, operating systems, or databases • Network Changes (new domain names, revisions to ports, new lines/circuits) • Renaming or repurposing servers for a different system or system component or function • Adding resources to an existing system (for example, servers, disk space, CPUs or memory) • Changes to policies and/or standards • Incidents when the results of a solution result in a change to the requirements or software baseline
Configuration Management	A discipline applying technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a configuration item, control changes to those characteristics, record and report change processing and implementation status, and verify compliance with specified requirements.
Enterprise	An organization, in this instance the Federal Student Aid, supporting a defined mission. It includes interdependent resources (people, organizations, technology) that must be integrated for effective operation of the organization.
Enterprise Change Control Board	The Federal Student Aid enterprise-level decision board that has the authority and responsibility to review, question, and ultimately approve or disapprove changes related to Enterprise Events, managed through the Enterprise Change Management process.
Enterprise Change Management	The set of management practices used to manage change from change inception through implementation across layers and functions of an organization. An IT initiative may require a change or updating to its baseline cost and schedule milestones. Enterprise Change Management is the formalized change control and management practices used for review, authorization, and tracking baseline changes.

TERM	DEFINITION
Enterprise Management	The FSA Operating Committee is the executive decision-making body for the Federal Student Aid enterprise, within the Enterprise Change Management process.
Impact Analysis – Change Management	Identifying the potential consequences of a change, or estimating what needs to be modified to accomplish a change (Bohner and Arnold). The evaluation of the many risks associated with the change, including estimates of the effects on resources, effort, and schedule (Pfleeger and Atlee).
Incident	An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example, Failure of one disk from a mirror set (ITILv3). An event which is not part of the standard operation of a service and which causes or may cause disruption to or a reduction in the quality of services and Customer productivity (ITILv2).
Life Cycle	The stages of an information system, from development and selection, through implementation, to termination.
Lifecycle Management Framework	The U.S. Department of Education structured approach, outlining required stages, key activities and core deliverables that provides a foundation for aligning existing interrelated processes, such as the Office of the Chief Information Officer's (OCIO) Information Technology Investment Management (ITIM) process, the Office of the Chief Financial Officer's (OCFO) Contracts and Acquisition Management (CAM) process and processes associated with project management, used in delivering information technology (IT) solutions.
Lifecycle Management Methodology	Federal Student Aid's approach of using the Department's Lifecycle Management Framework for developing and maintaining systems and determining what and when artifacts are produced during the effort.
Organizational Need	Changes that may impact the delivery of FSA products and services (includes procedures). Driven by legislation, enhancements, environmental, or operational needs. Does not include departmental services, such as human resources, organizational / staffing, personnel security, or facilities.
Production Readiness Review (PRR)	The Federal Student Aid PRR is a tool designed to provide detailed project development information to management and senior leadership in support of the decision process to implement a production system.
Release Management	A process that protects the live environment by ensuring that proper procedures and controls are in place for the release of IT components. The focus is on protecting the production environment and its services by using formal procedures and checks. Release management should be carried out based upon a configuration management database to ensure that IT infrastructure is up to date.
Release Request	Formally submitted change request that seeks approval of an Enterprise Event, managed through the Enterprise Change Management process.
Risk – Operational	The systematic process of identifying, analyzing, and responding to the impact a change will have on IT services or systems operations, the system, the system's purpose (mission), or FSA's mission.
System	The discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposal of information.
System Change/Release	Packages of modified components to address new development, enhancements, maintenance, or production corrections.
System Component	A functional unit that publishes and/or processes information with an independent code base that provides specific functionality for a system that is produced through a software development process or a commercial off the shelf (COTS) implementation.

TERM	DEFINITION
System Release Types	A method to determine and define the scope of system changes (FSA Enterprise Configuration Management Plan Template): • Major: a significant change in the functionality or technical characteristics of the system or a system component. Typically, there is 50% or more change to the configuration items or significant new functionality has been added; whole number version increments, which also includes operating system and software upgrades. • Minor: this is a less significant functional or technical change. Typically, less than 50% of configuration items will have been changed and no new major functionality will have been added. Also applies to operating system and software upgrades that are less than whole number version increments. • Patch: a change to fix a deficiency in the controlled item with no new functionality added.
Work Request (WR)	Affects systems or system components within but does not change the established baseline as an end result of the work performed. Types of WR's include but are not limited to: • Installations of new systems and servers to support them that are not part of the VDC CMDB baseline (after implementation the new system is included in the baseline and will be required to process CRs for further changes as appropriate) • System or server restorations that do not change the original configuration • System or server reboots • Security scans • Password changes • Investigation Requests • Analysis Efforts • Questions / Inquiries requiring research

Table B-1: Glossary

Appendix C - Organizational Need Form

In the event that the ECM system is not available, this form will be used. Once the ECM system is available, the information in this form will be made available in the ECM system.

ORGANIZATIONAL NEED REQUEST FORM 1.0

General
Organizational Need Request Number (assigned after opening):
Organizational Need Request Title:
Justification:

Contact Names	
Request Originator, Organization	
Sponsor Name	

Change Description	
Provide a description of the need with the business reason and the scope.	
List any related Organizational Needs or Change Requests	
List systems, system components impacted by this change.	
List business areas/external groups impacted by this change.	
System CRs.	

Scheduling Dependencies

Provide the target date for need to be met.

List events, milestones, systems releases, or request that precede or follow implementation of this organizational need.

List other scheduling assumptions, such as blackout periods, legislative dates, etc.

For Enterprise Team Use Only

Date ONR Submitted:		Disposition Date:	
Disposition:	☐ Open	☐ Cancel/Close	
Notes:			

Appendix D - Release Request Form

In the event that the ECM system is not available, this form will be used. Once the ECM system is available, the information in this form will be made available in the ECM system.

RELEASE REQUEST FORM 1.0

General
Release Request Number (assigned after opening):
Project/System Affected:
Release Request Title:
Priority Level:
☐ Emergency ☐ Urgent ☐ Routine
Date Created:
Target Implementation Date:
Provide a description of the change with the business reason for the change and the scope of the change. (*Include a description of the purpose and scope of the upgrade or change*)

Contact Names	
Request Originator, Organization	
Sponsor Name	

List systems or system component impacted by this change. (*Provide an overall summary of the systems impacted by the change. List all the systems and components that are impacted with the description and risk level (L/M/H) in the table below*)

SYSTEM/COMPONENT	IMPACT DESCRIPTION	TECHNICAL RISK

List business areas/external groups impacted by this change.

Dependencies:

Associated ONRs:

ONR NUMBER	TITLE

External System CRs:

ID	TITLE

VDCCRs

ID	Title

Other Related Requests

Scheduling Dependencies

List events, milestones, applications/systems releases, and requests that precede implementation of this request.
List other scheduling assumptions, such as blackout periods, legislative dates, etc.

Impact Assessment:

Scope of Change *(Brief synopsis of the scale of variation)*

Possible Alternatives (*Summarize any alternatives that were considered for the change and provide the detailed information of the alternatives)*

Back Out Strategy (*Provide the back out strategy that will allow the system to return to its original state, prior to the change. The back out strategy could be something simple such as restoring from the back up tape, removing the patches, etc.)*

Communication Strategy (*Provide the communication strategy that will be used in communicating to the system owners and affected parties about the change*)

Impact Assessment Risks:

Risk Assessment *(This section addresses risks associated with the change. Identify and list all associated risks appropriately for each of the categories and identify remediation)*

Cost Sensitivity (*List any cost related risks that are associated with the change request(s). Provide the funding information/contract information if the project is funded.*)

Schedule Risk (*List any scheduling conflict risks related with the change such as overlap with recurring peak or other activity periods*)

Technical Risk (*List all technical risks that are associated with the change*)

Security Risk (*List any scheduling conflict risks related with the change, such as overlap with recurring peak or other activity periods.*)

Organizational Risk (*List any organization risks associated with the change, such as meeting legislative requirements or maintaining public trust. Summarize communication plan to support the change.*)

Functional Risk (*List any functional risks associated with the change*)

Risk of Doing Nothing (*List the risks of doing nothing and continuing business as usual*).

Risk Rating (To be completed at the TRB meeting)			
System Criticality	☐ H	☐ M	☐ L
System End User Type and Volume	☐ H	☐ M	☐ L
Interfaces	☐ H	☐ M	☐ L
Change Size	☐ H	☐ M	☐ L
Technology	☐ H	☐ M	☐ L
System Maturity	☐ H	☐ M	☐ L
Business Cycle	☐ H	☐ M	☐ L
Operational Risk: ☐ H ☐ M ☐ L	**PRR Required:** ☐ Y		☐ N

TRB Disposition

Operational Risk Assessment

For Enterprise Team Use Only

Date RR Submitted:		Disposition Date:	
TRB Recommendation:	☐ Open	☐ Reject/Close	
ECCB Disposition:	☐ Open	☐ Reject/Close	
Notes:			