Maintenance Pack Migration
Strategy
# REVISION CONTROL

**Document Title:** Maintenance Pack Migration Strategy  
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1.0 Purpose
The CSU-CI Maintenance Pack Migration Process Guide supports and coordinates analyzing, installing, testing, securing, and migrating CMS Central maintenance packs into our production environment. Each maintenance pack contains updates for our CMS systems, including Campus Solutions, Finance, and Human Capital Management. This document is designed to outline this process for scheduled and unscheduled maintenance packs.

CMS Central introduced maintenance packs in response to many complaints about the former update/fix and release process. Information about this transition can be found on the CMS Website. See Appendix B for more resources.

2.0 Overview
Maintenance Pack migrations involve many individuals within various departments. This section catalogs the roles and responsibilities throughout the process and the security requirements for participating.

2.1 Roles & Responsibilities
The Maintenance Pack Migration process requires the following roles & responsibilities:

   Module Lead – The Module Lead is responsible for analyzing each maintenance pack, overseeing functional testing, and approving security changes.

   Functional Analyst – The Functional Analyst is responsible for analyzing each maintenance pack, supporting functional testing, and providing security requirements. The functional analyst may be a member of ASG or a member of an external department.

   Production Control – Production Control is responsible for installing each maintenance pack into our non-production environments and scheduling implementation into our production environment.

   Security Analyst – The Security Analyst works with the Module Lead and Functional Analyst to gather the necessary security requirements, test the requirements in a non-production environment, and ensuring all security is in place after migration.

   CMS Testing Group – Comprised of the Module Leads, Functional Analysts, and ASG who participate in the analysis, testing, and migration of maintenance packs into our production environment.

2.2 Security Considerations
The Maintenance Pack Migration process contains the following security considerations:

   CMS Testing Role – All members of the CMS Testing Group should have the CI CMS Testing role attached to their User IDs within the system. This role is populated with all the new security changes in our non-production environment to allow the team to explore new or updated pages within the system to help determine their own security requirements.
### 3.0 Scheduled Maintenance Pack Migrations

Scheduled Maintenance Packs are determined in advance to coincide with Oracle’s scheduled releases. Oracle releases four or five bundles of fixes a year, mostly focused around Financial Aid regulatory updates and Global Payroll tax updates. Each bundle collects all the previously released updates and fixes released by Oracle into one easy-to-install package. Additionally, CMS Central may add updates to the baseline functionality provided. Testing for scheduled maintenance packs requires a lot of coordination between ASG and the CMS Testing Group to ensure everything is installed, analyzed, tested, and migrated well.

### 3.1 Business Process Flow

The following business process flow supports the scheduled maintenance pack migration process. The business process is split into three phases to focus on the tasks that are required prior to migration. Each step will be addressed in the upcoming sections.

#### Phase 1 – Analysis and Planning

- Maintenance Pack Released
- CMS Central
- Release Notes Compiled
- Production Control
- Kickoff Meeting Held
- CMS Testing Group
- Release Notes Analyzed
- CMS Testing Group

#### Phase 2 – Installation, Testing, and Security

- Maintenance Pack Installed for Testing
- Production Control
- Maintenance Pack Tested
- CMS Testing Group
- Issues Accommodated
- CMS Testing Group
- Security Changes Installed for Testing
- Security Analyst
- Go / No Go Meeting Held
- CMS Testing Group
- Security Changes Tested
- CMS Testing Group

#### Phase 3 - Migration

- Maintenance Pack Scheduled
- Production Control
- Maintenance Pack Migrated
- CMS Central
- Security Changes Migrated
- Security Analyst
- Follow-up
- CMS Testing
3.2 Phase 1 – Analysis and Planning

All scheduled maintenance packs should be analyzed prior to installation and testing. The first phase focuses on compiling and reviewing the release notes. The CMS Testing Group attends the kickoff meeting to review the timeline to migration. The goal is to complete the analysis portion of the worksheet to prepare for testing.

3.2.1 Maintenance Pack Released

CMS Central notifies the campuses every Monday if a maintenance pack will be posted that week. Scheduled maintenance packs are placed onto a CMS Central migration timeline. The CMS Migration Timeline documents confirm dates for releasing maintenance packs to the campuses for analysis, installation, and testing. Campuses use this document for planning migration windows and testing timelines.

3.2.2 Release Notes Compiled

Production Control compiles the CSU-CI Release Notes based upon the Oracle Bundle release notes and the CMS Central release notes included with each scheduled maintenance pack. Unscheduled maintenance packs which were deferred to a scheduled testing timeline may also be included within these release notes. Each incident is classified, detailed, and assigned to the appropriate module lead and functional analyst for the analysis portion.

The following columns are used within the Release Notes template:

- Source – The maintenance pack that contains the incident.
- Incident ID – The ID attached by Oracle or CMS Central for the incident.
- Product – The major system (HCM, CS, or FIN) for the incident.
- Category – The module for the incident.
- Problem Description – A brief description of the problem resolved for each incident.
- Resolution Description – A brief description of the resolution for each incident.
- Module Lead – The module lead primarily responsible for each incident.
- Functional Analyst – The functional analyst primarily responsible for each incident.
- CI Functionality Affected – Flags if the incident affects CSU-CI functionality.

Keep in mind that unscheduled maintenance packs may be approved for accelerated testing within a scheduled maintenance pack cycle. This information will be added to the release notes on the fly and will require targeted analysis throughout the testing phase.

3.2.3 Kickoff Meeting Held

The CMS Testing Group gathers to kickoff migration planning. The kickoff meeting has multiple goals. The previous migration and any outstanding issues are reviewed. The release notes are discussed in a general manner. The timeline for analysis, testing, security, and migration are reviewed. Finally, long-term goals and timelines are discussed to keep the group apprised of any future system needs. This meeting requires representation from at least one individual in every module to be effective.

3.2.4 Release Notes Analyzed

The CMS Testing Group analyzes the compiled release notes to verify the assignments made by Production Control. All changes are noted on the CSU-CI Maintenance Pack Migration Worksheet.
template to help guide the analysis efforts. Each incident is first reviewed to ensure the correct Module Lead and Functional Analyst have been assigned. Additionally, incidents that do not affect CSU-CI functionality are marked on the release notes. All changes are reported on the worksheet for re-assignment by Production Control.

Each incident is then reviewed in detail to determine what functionality has been affected. It is recommended that all changes for a particular piece of functionality are placed into a single testing strategy. Each incident is assigned a tester and testing actions required.

Lastly, each Module Lead will list functionality not directly affected but worth testing during the scheduled migration. Each piece of functionality is given a tester and a list of the testing required. This analysis is usually reserved for high-profile functionality, important processes, custom campus enhancements and seasonal processes.
3.3 Phase 2 – Installation, Testing, and Security

The second phase has two parallel tracks. The maintenance packs are installed and tested, which allows the opportunity to identify and resolve any issues. Security notes are also compiled and analyzed to determine what changes need to be made with a particular migration cycle. A Go / No Go Meeting is held towards the end to determine whether the maintenance packs are cleared for migration.

3.3.1 Maintenance Pack Installed for Testing

Production Control installs all maintenance packs into our non-production migration testing database. Each maintenance pack is a pre-requisite for the next, so the maintenance packs are installed in the order they were received. Special attention is paid to how long it takes to install every maintenance pack to ensure the total migration window is not exceeded. Production Control notifies the CMS Testing Group when the database is ready for testing.

3.3.2 Maintenance Pack Tested

The CMS Testing Group tests the installed maintenance packs based upon the analysis placed into their worksheets. Testing results are placed into the migration worksheets and all issues are identified and reported to ASG for review and resolution.

3.3.3 Issues Accommodated

The CMS Testing Group works together to accommodate any issues discovered during the migration testing. Each issue is reviewed to determine any workarounds or solutions for resolving the issue. All unresolved issues are evaluated to determine the official Go / No Go decision for the module. These issues and workarounds are tracked in the worksheet.

3.3.4 Security Notes Compiled

Production Control produces the security notes based upon the security changes identified in the delivered release notes. All security is granted to the CI CMS Testing role so that the CMS Testing Group may view new and updated security items.

The following columns are used within the Security Notes template:

- Rolename – The role that contains the new or updated security.
- Permission List – The permission list that contains the new or updated security.
- Menu – The technical menu name which contains the new or updated security.
- Component – The technical component name which contains the new or updated security.
- Page – The technical page name which contains the new or updated security.
- Path – The navigation to reach the new or updated page within the system.
- View Only? – Flagged if the component is only set to View Only.
- Authorized Actions – Lists the available actions that can be taken on the new or updated page.

3.3.5 Security Notes Analyzed

The CMS Testing Group analyzes the security notes to determine if any changes are necessary to the established security. Each page is evaluated and security needs are tallied on the worksheet and submitted with appropriate documentation and signatures to the Security Analyst.
3.3.6 **Security Changes Installed for Testing**
The Security Analyst will install all the requested changes into our non-production migration testing database. The security changes will only become apparent after the global security provided to the CI CMS Testing role has been removed. The Security Analyst removes this role after the Go / No Go Meeting is held or cancelled.

3.3.7 **Go/No Go Meeting Held**
The CMS Testing Group gathers to make a collective Go / No Go decision. This meeting may be cancelled if consensus is reached via submitted worksheets prior to the meeting. If not, conflicts in Go / No Go decisions must be resolved. This decision process needs to balance the need for new/updated functionality against the potential of disrupting critical functionality affected by the maintenance packs. A decision is made and the group determines a new migration evening or workarounds within the system to permit migration.

3.3.8 **Security Changes Tested**
Production Control removes the CI CMS Testing role and the CMS Testing Group tests that their security access. It has either remained the same or contains the new/updated security from the maintenance packs. All individuals are encouraged to review their security during this time. Occasionally undocumented updates will adjust or remove security. After testing, security changes are finalized and scheduled for migration.
3.4 Phase 3 – Migration
The final phase covers the tasks required to migrate the maintenance pack and any security changes into our production environment.

3.4.1 Maintenance Pack Scheduled
Production Control schedules the migration evening based upon the official decision reached within the Go / No Go Meeting. A ticket is opened with CMS Central listing the scheduled and unscheduled maintenance packs which will be installed into our production environment. The official date/time is confirmed, a notice is sent out to the downtime notification listserv, and a message is posted to myCSUCI about the downtime. The CMS Testing Group works together each semester to determine which migration evenings may and may not be used.

3.4.2 Maintenance Pack Migrated
CMS Central installs the scheduled maintenance packs into our production environment. Production Control is notified of any issues during each migration and gives the signal for campus-specific processes to run. Production Control is responsible for shutting down and rescheduled any scheduled processes in the system. Delays on restarting processes should be expected the day after a migration window.

3.4.3 Security Changes Migrated
The Security Analyst migrates the security changes detailed during the testing phase. All changes may not be apparent until the Portal Synchronization process is run later in the day. Users should expect install delays with new security as it is synchronized.

3.4.4 Follow-up
The CMS Testing Group follows up with affected users to ensure all the functionality and security changes were performed correctly. Any issues are filed with the Help Desk and analyzed for priority.
4.0 Technical Maintenance Pack Migrations

Technical Maintenance Packs include updates to PeopleTools and the Oracle Database. Each maintenance pack contains very technical changes to how PeopleSoft and the Oracle Database store and process data. Additionally, CMS Central may add updates to the baseline functionality provided as necessary to support the upgrade. Testing for technical maintenance packs cannot be done on an incident basis, but rather a coordinated testing plan with the CMS Testing Group to ensure everything is still working as expected.

4.1 Business Process Flow

The following business process flow supports the technical maintenance pack migration process. The business process is split into three phases to focus the tasks that are required prior to migration. Each step will be addressed in the upcoming sections.

Phase 1 – Analysis and Planning

- Maintenance Pack Released
  - CMS Central
- Kickoff Meeting Held
  - CMS Testing Group
- Functionality Identified
  - CMS Testing Group

Phase 2 – Installation, Testing, and Security

- Maintenance Pack Installed for Testing
  - Production Control
- Maintenance Pack Tested
  - CMS Testing Group
- Issues Accommodated
  - CMS Testing Group
- Go / No Go Meeting Held
  - CMS Testing Group
- Security Verified
  - CMS Testing Group

Phase 3 - Migration

- Maintenance Pack Scheduled
  - Production Control
- Maintenance Pack Migrated
  - CMS Central
- Follow-up
  - CMS Testing Group
4.2 Phase 1 – Analysis and Planning

All technical maintenance packs should be coordinated prior to installation and testing. The first phase focuses on identifying key functionality and coordinating efforts among the CMS Testing Group. The CMS Testing Group attends the kickoff meeting to review the timeline to migration. The goal is to complete the analysis portion of the worksheet to prepare for testing.

4.2.1 Maintenance Pack Released

CMS Central notifies the campuses every Monday if a maintenance pack will be posted that week. Technical maintenance packs are placed onto a CMS Central migration timeline. The CMS Migration Timeline documents confirm dates for releasing maintenance packs to the campuses for analysis, installation, and testing. Campuses use this document for planning migration windows and testing timelines.

4.2.2 Kickoff Meeting Held

The CMS Testing Group gathers to kickoff the migration weekend planning. The kickoff meeting has multiple goals. The previous migration and any outstanding issues are reviewed. The timeline for analysis, testing, security, and migration are reviewed. Finally, long-term goals and timelines are discussed to keep the group apprised of any future system needs. This meeting requires representation from at least one individual in every module to be effective.

4.2.3 Functionality Identified

The CMS Testing Group compiles the key functionality that should be tested or may have been affected by the technical changes. The Module Lead will list all functionality to be tested during the scheduled migration. Each piece of functionality is given a tester and a list of the testing required. Additionally, a column exists to track if the functionality depends on another process or department. This analysis is usually reserved for high-profile functionality, important processes, custom campus enhancements and seasonal processes.
4.3 Phase 2 – Installation, Testing, and Security

The second phase walks through the testing steps. The technical maintenance pack is installed and tested, which allows the opportunity to identify and resolve any issues. A Go / No Go Meeting is held towards the end to determine whether the maintenance packs are cleared for migration. Lastly, security is verified by users to ensure technical changes to the security items are still working after the upgrade.

4.3.1 Maintenance Pack Installed for Testing

Production Control installs all technical maintenance packs into our non-production migration testing database. It is highly recommended to pre-install the technical maintenance pack in a separate environment prior to the testing cycle. This allows the production control analyst to identify any installation errors to be avoided in the future. Each maintenance pack is a pre-requisite for the next, so the maintenance packs are installed in the order they were received. Special attention is paid to how long it takes to install every maintenance pack to ensure the total migration weekend is not exceeded. The CMS Testing Group is notified when the database is ready for testing.

4.3.2 Maintenance Pack Tested

The CMS Testing Group tests the installed maintenance packs based upon the analysis placed into their worksheets. Testing results are placed into the migration worksheets and all issues are identified and reports to ASG for review and resolution.

4.3.3 Issues Accommodated

The CMS Testing Group works together to accommodate any issues discovered during the migration testing. Each issue is reviewed to determine any workarounds or solutions for resolving the issue. All unresolved issues are evaluated to determine the official Go / No Go decision for the module. These issues and workarounds are tracked in the worksheet.

4.3.4 Go/No Go Meeting Held

The CMS Testing Group gathers to make a collective Go / No Go decision. This meeting may be cancelled if consensus is reached via submitted worksheets prior to the meeting. If not, conflicts in Go / No Go decisions must be resolved. This decision process needs to balance the need for new/updated functionality against the potential of disrupting critical functionality affected by the maintenance packs. A decision is made and the group determines a new migration weekend or workarounds within the system to permit migration.

4.3.5 Security Verified

All individuals are encouraged to review their security during this time. Occasionally undocumented updates will adjust or remove security. After testing, security changes are compiled, finalized and scheduled for migration.
4.4 Phase 3 – Migration

The final phase covers the tasks required to migrate the technical maintenance pack into our production environment.

4.4.1 Maintenance Pack Scheduled

Production Control schedules the migration weekend based upon the official decision from the CMS Testing Group. A ticket is opened with CMS Central listing the technical maintenance packs and any needed COMRS which will be installed into our production environment. The official weekend is confirmed, a notice is sent out to the downtime notification listserv, and a message is posted to myCSUCI about the downtime. The CMS Testing Group works together each semester to determine which weekends may and may not be used.

4.4.2 Maintenance Pack Migrated

CMS Central installs the technical maintenance pack into our production environment. Production Control is notified of any issues during each migration and gives the signal for campus-specific processes to run. Production Control is responsible for shutting down and rescheduling any scheduled processes in the system. Delays on restarting processes should be expected the day after a migration window. Security changes are applied if necessary by the Security Analyst.

4.4.3 Follow-up

The CMS Testing Group follows up with affected users to ensure all the functionality and security changes were performed correctly. Any issues are filed with the Help Desk and analyzed for priority.
5.0 Unscheduled Maintenance Pack Migrations

Unscheduled maintenance packs are primarily released for critical updates to Oracle and CMS functionality. Testing for unscheduled maintenance packs requires less coordination between ASG and the CMS Testing Group to ensure everything is installed, analyzed, tested, and migrated well. Most tasks fall to the individual module lead and functional analyst to work out whether an unscheduled maintenance pack is needed right away, if it can wait until the next scheduled migration cycle, or if they can be grouped together for a single migration night.

5.1 Business Process Flow

The following business process flow supports the unscheduled maintenance pack migration process. The business process is split into three phases to focus the tasks that are required prior to migration. Each step will be addressed in the upcoming sections.

Phase 1 – Analysis and Planning

- Maintenance Pack Released
- Maintenance Pack Notification
- Maintenance Pack Analysis

Phase 2 – Installation, Testing, and Security

- Maintenance Pack Installed for Testing
- Maintenance Pack Secured
- Maintenance Pack Tested
- Issues Accommodated

Phase 3 - Migration

- Maintenance Pack Scheduled
- Maintenance Pack Migrated
- Security Changes Migrated
- Follow-up
5.2  **Phase 1 – Analysis and Planning**

All unscheduled maintenance packs should be analyzed prior to installation and testing. The first phase focuses on performing a comprehensive analysis of the unscheduled maintenance pack. This analysis includes affected functionality, timeline for migration, required pre-requisites, and other pertinent information. The goal is to complete the Unscheduled Maintenance Pack Analysis Document to prepare for installation, testing, and migration.

5.2.1  **Maintenance Pack Released**

CMS Central notifies the campuses every Monday if a maintenance pack will post that week. Unscheduled maintenance packs, as discussed in this section, are not regularly scheduled by CMS Central. Production Control sends out a notification to the appropriate module lead and functional analyst to perform the analysis. A ticket is filed for eventual installation and migration.

5.2.2  **Maintenance Pack Analysis**

The module lead and functional analyst perform a comprehensive analysis on the unscheduled maintenance pack using the CSU-CI Maintenance Pack Migration Analysis Document Template. Once the analysis is complete, the document is submitted to Production Control to schedule the maintenance packs for migration.

The following items are analyzed within the analysis document:

- General Information – Lists all the classification details for each maintenance pack.
- Pre-requisites – Any unmet pre-requisites for each maintenance pack.
- Summary – A summary of the changes made.
- Affected Functionality – Lists all direct and indirect functionality affected.
- Testing Strategy – Steps to test this maintenance pack to ensure it is working correctly.
- Documentation Updates – Any documentation that needs to be updated as part of this maintenance pack.
- Workarounds – Any workarounds necessary for this maintenance pack.
- Security Requirements – Any security updates that are necessary for this maintenance pack, including page security and information security concerns.
- Milestones – Tracks a series of milestones for each step of the process.

This document is updated throughout this process to track all steps and eventually authorize migration.
5.3 Phase 2 – Installation, Testing, and Security

Unscheduled maintenance packs are generally grouped together for migration in a single evening. This process walks through installing, testing, and securing each unscheduled maintenance pack.

5.3.1 Maintenance Pack Installed for Testing

Production Control installs all maintenance packs into our non-production migration testing database. Each maintenance pack is a pre-requisite for the next, so the maintenance packs are installed in the order they were received. Special attention is paid to how long it takes to install every maintenance pack to ensure the total migration window is not exceeded. Production Control updates the analysis document and notifies the module leads and functional analysts when the database is ready for testing.

5.3.2 Maintenance Pack Secured

The Security Analyst installs all requested changes into our non-production migration testing database. The security changes will be made directly to the requested roles and permission lists. No global security is used when analyzing unscheduled maintenance packs.

5.3.3 Maintenance Pack Tested

The Module Lead and Functional Analyst test the installed maintenance packs based upon the analysis on the analysis document. Issues are identified and reported to ASG for review and resolution.

5.3.4 Issues Accommodated

The Module Lead and Functional Analyst work together to accommodate any issues discovered during testing. Each issue is reviewed to determine any workarounds or solutions for resolving the issue. All unresolved issues are evaluated to determine whether to migrate the maintenance pack.
5.4 Phase 3 – Migration

The final phase covers all the tasks required to migrate the maintenance pack and any security changes into our production environment.

5.4.1 Maintenance Pack Scheduled

Production Control schedules the migration evening based upon the testing feedback. A ticket is opened with CMS Central with a listing of all unscheduled maintenance packs which will be installed into our production environment. The official date/time is confirmed, a notice is sent out to the downtime notification listserv, and a message is posted to myCSUCI about the downtime. The CMS Testing Group works together each semester to determine which migration evenings may and may not be used.

5.4.2 Maintenance Pack Migrated

CMS Central installs the maintenance packs into our production environment. Production Control is notified of any issues during each migration and gives the signal for campus-specific processes that need to be run. Production Control is responsible for shutting down and rescheduled any scheduled processes in the system. Delays on restarting processes should be expected the day after a migration window.

5.4.3 Security Changes Migrated

The Security Analyst migrates the security changes detailed during the testing phase. All changes may not be apparent until the Portal Synchronization process is run later in the day or in the evening. Users should expect delays on new security as it is installed and synched with our PeopleSoft system.

5.4.4 Follow-up

The Module Lead and Functional Analysts follow up with affected users to ensure all the functionality and security changes were performed correctly. Any issues are filed with the Help Desk and analyzed to determine priority.
Appendix A – Troubleshooting
This section lists commonly asked questions to resolve common problems.
Appendix B – Documentation Resources

This section lists documentation in addition to this guide that will help with understanding the various aspects of the PeopleSoft System.

CI Functional Documentation

Each area keeps some version of functional documentation. Functional documentation will help explain how data is input and updated as part of the normal business process. No centralized documentation currently exists for all functional documentation at CSU-CI. Contact the Module Lead in each area for assistance in understanding the data.

The following documents have been developed for assistance:

- CSUCI Maintenance Pack Migration Strategy (This Document)
- CSU-CI Maintenance Pack Migration – Scheduled Worksheet Template
- CSU-CI Maintenance Pack Migration – Technical Worksheet Template
- CSU-CI Maintenance Pack Migration – Unscheduled Analysis Document
- CSU-CI Maintenance Pack Migration – Release Notes Template
- CSU-CI Maintenance Pack Migration – Security Notes Template
- CSU-CI Database Instance Usage Strategy

CMS Functional Documentation

CMS Central provides business process guides for these processes that give an overall explanation of how each campus might use the functionality. These process guides are located on the CMS Central website and require a login/password which can be obtained from a Functional Analyst.

The following process guides have been developed for assistance:

- CMS Maintenance Pack Release Strategy
- HCM/CS Maintenance Pack Timeline
- Finance Maintenance Pack Timeline

PeopleBooks Documentation

Oracle provides PeopleBooks to help understand the PeopleSoft system. The documentation may seem confusing and abstract at first, but repeated viewing along with reviewing the various business processes will assist in understanding PeopleSoft delivered functionality – such as Query Manager and Query Viewer. The Chancellor’s Office maintains the delivered PeopleBooks centrally on the Non-Production login page. This page may only be referenced while on-campus or when a user has accessed the campus network via VPN.

**Link:** [https://cmsdevlauncher.calstate.edu/launcher/indexH.html](https://cmsdevlauncher.calstate.edu/launcher/indexH.html) (Note: Subject to Change)
HRSA/HCM Development Instances

- Bakerfield (BAE)
- Chancellor’s Office (CO)
- Channel Islands (CI)
  - HCCHV1 - PT 8.46.17
  - HCCHV2 - PT 8.46.17
  - HCCHV3 - PT 8.46.17
  - HCCRTN - PT 8.46.17
  - HCCRTN - PT 8.46.17
  - HCCRTN - PT 8.46.17
  - HCCRTN - PT 8.46.17
  - HCCRTN - PT 8.46.17
  - HCCRTN - PT 8.46.17

- Demo Database
- PeopleBooks
  - HRSA 9.0
  - HCM 8.9

- Chico (CHI)
- Dominguez Hills (DH)
- East Bay (EB)
- Fresno (FE)