|  |
| --- |
| **Online Electronics Store** |
|  |
| **Configuration Management Plan**  **October 2024** |

**Title Page**

Document Name: Online Electronics Store Configuration Management Plan

Publication Date: September, 26, 2024

Revision Date: October 04, 2024

Prepared by: Eliany Nodarse

Approval:

Omar Zatarain Durán

**Table of Contents**

Contenido

[1.1 Purpose 1](#_Toc178929323)

[1.2 Scope 1](#_Toc178929324)

[1.2.1 System Overview 1](#_Toc178929325)

[1.2.2 Applicable Configuration Items 3](#_Toc178929326)

[1.3 Reference 3](#_Toc178929327)

[2.1 Organization 4](#_Toc178929328)

[2.2 Responsibilities 5](#_Toc178929329)

[3.1 Configuration Identification 7](#_Toc178929330)

[3.2 Configuration Control 10](#_Toc178929331)

[3.2.1 Requesting Changes 10](#_Toc178929332)

[3.2.2 Evaluating & Approving/Disapproving Changes 10](#_Toc178929333)

[3.2.3 Implementing Changes 11](#_Toc178929334)

[3.3 Configuration Status Accounting 11](#_Toc178929335)

[3.4 Configuration Audit and Reviews 12](#_Toc178929336)

[4.0 Configuration Management Resources 13](#_Toc178929337)

[Appendix A - CITSS Change Request (CCR) Form 15](#_Toc178929338)

[CITSS Change Request (CCR) CCR# 15](#_Toc178929339)

* 1. **Introduction**

# Purpose

The Configuration Management Plan (CMP) establishes the guidelines for managing changes in the production and test environments of the Electronics Online Store. The store will be implemented in major releases, where each new release will introduce enhancements and new functionality to the e-commerce system. These guidelines will ensure that the system maintains its stability and efficiency, and that changes are managed in a controlled and systematic manner. The plan applies to both the software and hardware supporting the store, with special emphasis on integration with third-party services such as payment gateways, inventory management systems and shipping platforms.

# Scope

# System Overview

The online store will be the core of the business operations, providing a customer-centric platform for the sale of electronic products. The main functional objectives of the online store are:

* Provide a friendly and efficient shopping experience for customers.
* Facilitate a single point of entry for end users and store administrators.
* Support inventory management, order processing and customer service.
* Integrate the e-commerce platform with third-party systems for payment, shipping and inventory management.
* Reduce lead times and improve customer satisfaction through efficient operation.
* Minimize operating costs through automation and process optimization.
* As the business grows and new functionality is integrated (such as integration with new payment providers or shipping services), the Configuration Management Plan will ensure that all system components are managed in a structured manner, avoiding loss of control over changes and upgrades.

As the business grows and new functionalities are integrated (such as integration with new payment providers or shipping services), the Configuration Management Plan will ensure that all components of the system are managed in a structured way, avoiding loss of control over changes and updates.

This system is configured following e-commerce best practices, based on reviews of successful processes in other e-commerce platforms. These practices include automation of notifications for support staff, escalation rules linked to service level agreements (SLAs), and business process reengineering to support efficient store operation

# Applicable Configuration Items

In the context of the Electronics Online Store, configuration management will encompass both software and hardware components as applied to the store's production and test environments. Listed below are the configuration items that will be managed under this plan:

* + **Hardware and Supplemental Documentation**: All hardware used to support the store, including web servers, databases, networks, and test equipment. Manuals and technical guides will also be included.
  + **E-commerce Platform Software**: All releases and documentation associated with the e-commerce software used (e.g., Magento, WooCommerce or other e-commerce CMS). This includes updates to the core software and third-party integration modules.
  + **Operating Systems**: All production and test server operating system versions and documentation (e.g. Ubuntu, Windows Server, etc.).
  + **Database Management Systems (DBMS):** All versions and documentation of the database system that manages store inventory, orders and customers (e.g. MySQL, PostgreSQL, etc.).
  + **Other COTS (Commercial Off-The-Shelf) Software:** All versions and documentation of third-party commercial software used for specific functions, such as payment gateways (Stripe, PayPal), shipping management systems, and CRM solutions for customer service.

# Reference

This document was prepared using the following documents as guidelines or for input.

1. CITSS Project Plan, September, 1997
   1. **Configuration Management**

# Organization

# Responsibilities

Each of the roles identified in the earlier table have specific configuration management responsibilities. The responsibilities are defined below.

**System Owner**

* Provides guidance and signs off important deliverables.
* Provides budgetary input and makes key decisions on significant system changes.
* Prioritizes and approves major changes to the store in conjunction with the project manager.

System administrate

**Store Manager**

* Ensures that configuration management procedures are followed correctly.
* Coordinates with the system owner and configuration manager for approval and prioritization of changes.
* Assigns tasks to the development team and monitors the implementation of changes and upgrades.
* Oversees the delivery of releases and documentation related to the store.

**Quality Manager**

* Performs audits to ensure configurations meet standards.
* Verifies and approves store versions prior to production deployment.

**Developers and Technicians**

* Identify new configuration items during system development and maintenance.
* Initiate change requests upon detecting problems or performance improvements.
* Perform preliminary analysis and impact estimates of change requests, as well as their implementation.

**Configuration Manager**

* Coordinates with the team to identify configuration items.
* Maintains an inventory of all configuration items.
* Responsible for generating status reports on the configuration effort and updating the configuration management plan.
* Ensures that the configuration management process is followed as planned.
* Plans store releases with the project manager and coordinates changes to documentation.

**Change Control Board**

* Reviews change requests related to software, hardware or external services.
* Evaluates the impact of changes in terms of cost, schedule and effect on customers.
* Approves or disapproves requested changes, notifying the project manager and customers involved.
  1. **Applicable Policies, Directives, and Procedures**

During the lifecycle of the Electronics Online Store, new guidelines or policies related to recommended hardware and software configurations may emerge. These guidelines could be issued by internal or external working groups that have influence over best practices for e-commerce or IT infrastructure.

We will manage the configuration of the online store in accordance with the guidelines established by such groups or any relevant information management team. In addition, we will ensure that we comply with the Information Architecture Principles defined in applicable documents and standards to ensure that the store follows industry best practices and complies with technology and security requirements.

* 1. **Configuration Management Activities**

Configuration Management (CM) guidelines provide a structure that ensures that all components of the Electronics Online Store are documented and managed throughout its lifecycle. The store consists of a number of COTS (Commercial Off-The-Shelf) software packages, operating systems and hardware platforms. Enhancements to each of these components are released relatively frequently, making effective configuration control essential to maintain the integrity, continuity and availability of components critical to the operation of the store.

The term “current production release” will be used to define the complete store configuration, which includes all COTS components, hardware, and e-commerce system customizations.

The activities required to achieve the configuration management objective include:

* Configuration Identification
* Configuration Control
* Configuration Status Accounting
* Configuration Audits and Reviews

# Configuration Identification

There are four main areas of configuration for the online store:

* Project Documentation
* COTS Software
* Hardware
* E-Commerce System Customization and Integration

During the life cycle of the store, specific items may be added or removed in each of these areas. This document will be modified to reflect any changes.

* + 1. **Project Documentation**

Throughout the life cycle of the store, project documents will be developed and updated, including both draft and final versions. The Project Manager will be responsible for the release of the documents.

All project documentation, as defined in the project plan, shall be subject to these guidelines. Project documentation includes, but is not limited to:

* Project Plan
* Quality Assurance Plan
* User Documentation
* Test Plans

For each deliverable, the following information should be provided, combining the document name and publication date to identify unique documents:

* Document Name
* Date of Publication
* System Title
* Contract Number
* Author(s)
* Signature(s) of Approving Organization(s)

A copy of all important project documentation shall be stored in the Technical Research Library. Copies of documents may be obtained from the Configuration Manager, the Project Administrator, or the Technical Library.

* + 1. **COTS Software**

The online store is comprised of various COTS (Commercial Off-The-Shelf) software packages and operating systems. These packages include, but are not limited to:

* E-Commerce Platform (WooCommerce).
* Inventory Management Systems
* Payment Gateways (PayPal)
* Server Operating Systems (Windows Server)
* Database (PostgreSQL)
* Shipping Systems (ShipStation)

Each COTS software package will be identified by its product name and version number. Documentation associated with each COTS software will also be managed as part of configuration control.

The software and documentation will be stored on the production server or in a test environment, depending on its use. All information related to software versions will be recorded and updated on an ongoing basis.

* + 1. **Hardware**

The online store is also comprised of various hardware components including, but not limited to:

* Database servers
* Web servers (physical or in the cloud)
* Network devices such as routers and switches
* Development and test workstations
* Data storage in the cloud or on local servers.

Each hardware component will be identified by its serial number or a tag number assigned by the asset management team. If the serial number is not available, another unique identifier will be used to manage its configuration.

A detailed record of each component's specifications, such as the amount of available RAM, hard disk space, network operating system, processor type, and network interface card, will be maintained.

The hardware will be located in two main locations: the production server and the test environments. All documentation associated with these components will be stored in the appropriate location for each device.

**E-Commerce Platform Customization and Integration**

The store's e-commerce platform can be customized or integrated with other software and applications to meet specific business and customer needs. The store development team intends to release major production versions after significant system enhancements or modifications. Intermediate releases may also be released to correct minor bugs or to accommodate customer-requested changes that have a relatively small impact on the system.

Major releases: These releases constitute the baseline of the store and reflect substantial improvements in system functionality.

Minor Releases: These upgrades reflect minor fixes or modifications to the store configuration.

The version numbering scheme will start at 1.00. Minor releases will increment the version decimally (e.g., 1.01, 1.02), while major releases will increment by 1 (e.g., 2.00, 3.00).

Copies of custom software and store integrations will be stored on a backup server and will be subject to a regular backup process, using cloud or local server backup technologies, ensuring business continuity and data security.

# Configuration Control

In a COTS integration project, such as the Electronics Online Store, software and hardware components may be updated and released to the public on a very frequent basis. It is anticipated that these updates will be managed through the configuration control process or the Configuration Control Board (CCB), and will be initiated by members of the project team. The introduction of new modules and functionality, through customization of the e-commerce platform, will also be controlled through the change control process or the CCB. These changes can be initiated by project team members or by store customers.

The Configuration Control Board (CCB) will meet as needed to review change requests for COTS software, hardware or those requested by store customers.

The CCB will have the following responsibilities:

* Approve specific procedures to encourage store customers to identify enhancements and submit change requests.
* Establish criteria for prioritizing, evaluating and approving or rejecting change requests.
* Approve a prioritized list of changes to be made to the current production version of the store.
* Establish timelines for the release of each new version and ensure that each new version is properly tested and documented prior to release.

# Requesting Changes

Any member of the Electronics Online Store project team or any store customer can request a change or correction to the system. To initiate the process, a Change Request Form must be submitted to the Project Manager, or a request can be submitted to the support team via an incident log in the store's support system.

This form, or the logged incident, will be used to:

* Report problems
* Identify new requirements or changes to existing requirements
* Record suggestions for improvement

A member of the store's project team should complete the Change Request Form and submit it to the Project Manager. A store customer may contact a project team member and take one of the following actions to initiate the process:

* Request the Change Form, complete it and return it to the Project Manager.
* Contact the Project Manager directly and request that the Project Manager submit the form on your behalf.

A copy of the Change Request Form is attached as Appendix A.

# Evaluating & Approving/Disapproving Changes

# Upon receipt of a Change Request Form from the online store, the Project Manager will review the form for completeness, clarity and applicability. If the form is incomplete in any way, the Project Manager will contact the requestor for clarification. Assuming the form is complete, the Project Manager will conduct an assessment of the impact of the change. The following are definitions of impact:

* Emerging: If the change is not made as soon as possible, the operation of the store may be severely hampered or disrupted. An emergency change request must be resolved within 24 hours.
* Critical: The impact of not making the change would significantly affect the store, but would not suspend its operation. A critical change request must be resolved in 5 business days or less.
* Routine: A normal change request that can be planned, included in a current schedule or plan, and classified among other normal actions.
* Deferred: A change request that is reasonable and beneficial to the system, but is delayed due to other project schedules or tasks.

For Emergent or Critical impact change requests, the Project Manager will assign the appropriate personnel to the task and immediately inform the rest of the project team of the situation. For Routine or Deferred impact change requests, the Project Manager will present them at the next BCC meeting for discussion.

The BCC may decide to approve or disapprove the change request during the meeting, or one or more members of the project team may be assigned responsibility for investigating the proposed change and reporting on the impacts to the system. Impacts should be addressed in terms of their effect on the project schedule, project costs, and impact on customers.

# Implementing Changes

Once a Change Request Form is approved, the Project Manager will assign the appropriate technical personnel to the task. All changes to the store will be performed in the test environment located at 656 Quince Orchard Rd. When a change has been fully tested in the test environment, a schedule will be developed to implement the change in the production environment. In most cases, the implementation of the change in the production environment will be completed outside of normal business hours to minimize the impact on customers. The Change Request Form will be updated to reflect the completion status of the request.

# Configuration Status Accounting

Each configuration item, including **COTS**, hardware, and the e-commerce platform customization, will be tracked in detail. COTS packages will be tracked, at a minimum, by product name, version number, and release date. Hardware items will be tracked, at a minimum, by vendor, product name, DOE Tag, serial number, list of installed components, and physical location. The e-commerce platform customization will be tracked, at a minimum, by version number, release date, and capability.

Tracking will be done by the **Project Manager** and the **Configuration Manager**. The use of an automated system is likely, but it is not completely defined at this time.

Paper records of the **Change Request** forms will be maintained in a project notebook.

All change request activities will be recorded in the monthly **Technical Status Report (TSR)** required for all task assignments. They will also be discussed and distributed at regular project meetings.

# Configuration Audit and Reviews

Auditing verifies that configuration items reflect operational objectives, meet DOE standards, and satisfy customer requirements. The e-commerce project team will follow a technical review process. This will include **Structured Walkthroughs**, **In-Stage Assessments**, **Stage Exits**, and **System Acceptance**.

Each of these processes is described below:

* **Structured Walkthroughs** are informal meetings among the e-commerce project team to review and evaluate the technical aspects of the application.
* **In-Stage Assessments** will be conducted with a **Quality Assurance (QA)** consultant near the end of each project stage. This is a technical review to ensure that the established project management processes are being followed effectively.
* **Stage Exits** are formal meetings with a selected group of individuals to review and evaluate the current status of the project. When a stage has been successfully "exited," it indicates that all deliverables due to date have been completed, all outstanding issues have an acceptable action plan, and there is a sound plan for the remainder of the project. All approvers must provide a written position of concur/non-concur at the **Stage Exit**.
* **System Acceptance** provides a formal basis for determining whether the system is fully operational and has satisfied customer requirements.

# Configuration Management Resources

At this time, no decisions have been made regarding an automated configuration management tool for the **Online Electronics Store**. It is likely that a common software package will be utilized, and there will be no costs incurred for a specific tool. As a result, no additional training, personnel, or equipment will be required.

Until an automated solution is implemented, the manual methods mentioned in Section 3 will be employed. These manual processes will ensure that all configuration items, software updates, and hardware components are tracked and managed effectively to maintain the integrity and functionality of the online store.

1. **Configuration Management Plan Maintenance**

The **Project Manager** and the **Configuration Manager** are responsible for maintaining this plan for the **Online Electronics Store**. The plan will be subject to the procedures specified in the **Software Quality Assurance Plan** of the store. According to the terms of this plan, the configuration management plan will be reviewed throughout the lifecycle of the store, especially during **Project Status Reviews** and **Version Review Meetings**.

Significant changes will be implemented through a new version of the plan, while minor changes may be made through updates to the relevant pages of the document. The goal is to ensure that the plan remains aligned with business objectives and best practices in e-commerce, ensuring that configuration management is effective and adapts to the changing needs of the store.

Identification of a configuration item:

id

version

description

effort

human resourse

componets affected

cost

time

## Appendix A - CITSS Change Request (CCR) Form

( ) Critical ( )Routine ( )Deferral

## CITSS Change Request (CCR) CCR#

**Originator: Date: Release#**

Please attach supporting documentation for the requested change (screen/report printouts, document pages affected, etc.)

|  |  |  |
| --- | --- | --- |
| **Status** | **Date** | **Initials/Comments** |
| Reviewed & Estimated |  |  |
| On Hold |  |  |
| Canceled |  |  |
| Approved for Change |  |  |
| System Updated |  |  |
| Documentation Updated |  |  |
| Completed |  |  |

**New Release#**