EPMO ECMD Configuration Management Standards for   
Project and Product Teams

# Introduction

The following are the EPMO ECMD CM Standards as reflective of the VA Configuration Management requirements.

# scope

These Standards are directed towards VA Project and Product teams to be applied in a uniformed approach for all VA software development and maintenance products.

## VIsta specific standards

All VistA must stay in Rational until security concerns are researched & resolved and further direction is provided.

# va approved cm tools

All VA Configuration Management tools should be approved in TRM. In addition, please refer to the VIP/Approval Memorandums/Tool Requirements in Support of VIP on the VIP Policy & Guidance page: <https://vaww.vaco.portal.va.gov/sites/OIT/epmo/vip/Pages/Policy%20and%20Guidance.aspx>

## Tool Terminology & Understanding

### VA Enterprise Cloud GitHub, also referred to as VA EC is found at [**github.ec.va.gov/EPMO/**](https://github.ec.va.gov/EPMO/) . This GitHub instance resides within the VA firewalls and is the preferred environment for content which may contain PII/PHI for data security measures.

### Project/product teams utilizing VA EC must create their VA project/product repositories within the VA EC EPMO Organization.

### Department of Veterans Affairs Github.com, also referred to as VA GitHub.com, is found at github.com/department-of-veterans-affairs/. This GitHub instance resides outside of the VA firewall and is utilized for VA development purposes with no PII, PHI or sensitive data content for data security measures.

### Project/product teams utilizing the VA Github.com must create their VA project/product repositories within the VA Github.com Department of Veterans Affairs Organization.

# Configuration Planning

## Organization

### Project and product managers and owners will establish and document a CM Organization with the roles and responsibilities defined.

### A project management (PMO) Configuration Manager and a development Configuration Manager role should be established for each Project/Product team.

### Project and product managers and owners will establish agile teams to support the VA devops model. Configuration managers will be static members of the agile teams.

### Project and product managers and owners will oversee the development of the product’s CM Plan as required by the VA OIT.

### Project/product development configuration managers will develop a Product System Configuration Management Plan (PSCMP) and maintain/update per product release.

### The PMO and development configuration managers will co-author and establish policies and procedures.

### Project managers and product owners will oversee the establishment of configuration management training.

### Project managers and product owners will guarantee all disciplines within the team comply with the VA ECMD CM Standards.

# Configuration Identification

Configuration identification is the process of identifying and documenting the configuration items (CIs) to be configuration controlled.

## Configuration identification selection

### CM will identify the CIs and related work products to be placed under configuration control. Work products may include but are not limited to:

|  |  |  |
| --- | --- | --- |
| Requirements | Documentation | Source code |
| Database artifacts | Test artifacts | Build artifacts |
| Release artifacts | Environment configurations | Access/memberships |

### The development CM will document the CIs in the Product System Configuration Management Plan (PSCMP).

## Configuration Identification Naming Standards

### CM ensures the implementation of product unique identifiers for each CI placed under configuration control.

### As a general directive, and only when not automatically populated, identifiers for product CIs will include:

1. Program ID
2. Project ID
3. Product ID
4. Namespace ID
5. CI Type
6. Revision and version numbers where appropriate and only when not automatically populated.

### Configuration identification naming will be applied to all VA products, including but not limited to file names, records, repositories, repository configurations, builds, baselines, releases.

# Configuration Control

Configuration control focuses on the governance of both the deliverables and project processes for the VA product(s). PMO CM will oversee and work together with development CM to accomplish configuration control.

## Change Management

### Establish a change management process using an approved CM tool.

### Establish the initial functional baseline of the approved product requirements.

### Guarantee the integrity of CIs by ensuring only authorized changes are incorporated into a baseline.

### Establish the systematic evaluation, processing, and approval or disapproval process for all proposed changes.

### Document the product change management flow in the change management procedures.

### Manage configuration control beginning with an initial baselined CI and continue through its lifecycle as further baselines are established.

### Establish a Change Request Process

#### Provide a means for submission of a change request per an approved TRM change tracking tool

#### Provide types of change requests such as Epics, Stories, Tasks, Defects & Risks

### The change management process at a minimum will have the following change control gates in place:

1. Preparation & Justification – Backlog management with VA business analyst
2. Change impact assessment research & review
3. Assignment and disposition
4. Implementation and
5. Verification

### Establish the change management traceability providing basic change tracking to include:

1. Product baselines tracked to all components including historical and version information that make up the baseline
2. Changes tracked to all CIs including historical and versioning information
3. Changes tracked to requirements, test cases, plans, timelines
4. Provide visibility of the current Product development status
5. Provide communication as to all change tracking
6. Provide reporting of all change tracking

### Documentation Management

#### Project and product documentation will be version controlled in alignment with ECMD file naming and repository standards utilizing an approved SCM tool.

#### Deliverable documentation will be baselined and included with each release of the product VDD.

## Interface Control

### Ensure interface controls are managed and documented in the PSCMP.

## Baselines

### Perform informal baselines at significant milestones to support development activity.

### Perform formal baselines supporting the documented requirements, UAT, preproduction and production activities.

## Version Description Document (VDD)

### Author and maintain the product’s VDD containing the product’s elements and associated versions encompassing the product release. Refer to the EPMO ECMD VDD templates.

## Release Management

### Perform release management as documented in the change management procedures.

### Perform release readiness verifications.

### The release package will identify the contents comprising the product with traceability to the version of the included artifacts.

### All release information will be documented on the VDD.

# Status Accounting

Establish a configuration status accounting system that identifies the baselined CIs and tracks CI change status with an approved TRM CM tool.

The system will

1. Contain records and reports the status of proposed changes from initiation to final approval and implementation
2. Records and reports the results of configuration audits to include the status and final disposition of identified discrepancies
3. Provide traceability of all changes from the original baseline configuration of each CI

## CM Records

CM records are essential for understanding the history of the product from inception to end of life.

### Maintain a list of records that contain detailed data of the as-built product.

### CM records can include but is not limited to the following:

1. Approved documentation for each CI
2. Status of proposed changes
3. Implementation status of approved changes
4. Test data and reports.
5. Quality Reports
6. Traceability Reports
7. Agendas, minutes and briefing materials of substantive meetings
8. Budget and actual cost data (final figures)
9. Directives
10. Hazard, risk and safety analyses/assessments
11. Project plans
12. Substantive correspondence, memos, e-mails, photographs, and presentation materials.

## Change Records

### Implement a change request tool containing a traceability of all change requests and its related information.

#### At a minimum and if not automatically populated, the change request should contain the following information:

1. Change request unique identifier
2. Title, Summary or Headline – the short description of the request
3. Date
4. Description of change requested
5. Reason for change
6. Product name or acronym impacted
7. Requirements impacted by change
8. CI number and revision impacted
9. Originator
10. Change source
11. Current change request status
12. Impacted CI assessment and information
13. Security assessment and information
14. Classification of change

## Reports

Configuration management reports provide the status of the product to management for displaying all changes being controlled.

### Manage, compile, maintain, and publish detailed product reports.

1. Status of proposed change requests from initiation to implementation.
2. Results of configuration audits; status and disposition of discrepancies.
3. Traceability of changes from baselined documentation of each CI.
4. Effectiveness and installation status of configuration changes to all CIs.

## Metrics

Reporting metrics assist in managing the product, assuring quality, and improving development and project management practices.

### Generate metrics and report with accessibility to display, print and export.

### Establish CM metrics to meet project management measurement objectives that are derived from identified information needs and objectives.

1. Improve future planning and cost estimation.
2. Provide realistic data for progress tracking.
3. Provide indicators of software quality.
4. Provide baseline information for future process improvement activities.
5. Provide indicators of the CM process.
6. Lessons Learned

# Configuration Audits

Audits are performed to verify the product has achieved the requirements specified in its functional baseline documentation and to identify and record any discrepancies.

## Audit Types

### A review by Project/Product management, or designee, for verification of functionality completeness. This would be accomplished by the development manager reviewing the VDD to ensure the contents are correct.

### An audit by CM for accuracy of the VDD. This is accomplished by reviewing the actual objects and versions documented on the released VDD against the maintained CM repository environment.

### Build audits, as-designed/planned to as-built product audits will be performed to confirm the validity of the status accounting of the build.

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