Configuration Management Plan

For Red Turf

Version 1.1

Tanvi IT Solutions Inc

4211 Pleasant Valley Rd,

Suite 230,

Chantilly, VA- 20151

**Revision History**

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# Introduction

Red Turf project is an Enterprise Business Intelligence product. The project is targeted to be used as a part of Campaign and Constituent Management services. Red Turf is a cloud based integrated online system which can be accessed from any location. The project is focused on alleviating issues of data integrity and technology to streamline the process. The purpose of a CM Plan is to establish a sound CM approach that maintains the integrity of Project’s systems and provides traceability for changes incorporated into the environment. The CM process integrates the technical and administrative actions of identifying the functional, performance and physical characteristics of a configuration item (CI) and controls the changes to those characteristics. Configuration Management (CM) enables the controlled and repeatable management of information technology (IT) components as they evolve in all stages of development and maintenance. CM implements a process by which the project teams and stakeholders identify, communicate, implement, document and manage changes in the systems environment. When properly implemented, CM ensures the integrity of the items that have been placed under its control.

## Purpose

The purpose of Software Configuration Management is to establish and maintain the integrity of the product built throughout the life cycle of the Red Turf project. The purpose of this document is to specify the configuration management approach, model, tools and processes required to support Red Turf Project. In addition, this document also attempts to give technical and administrative direction to Configuration Management activities such as:

* Identify, record and control Configuration Item versions and changes throughout the SDLC.
* Track and report the status and history of each CI, as it is developed, modified and baselined.
* Control and authorize new versions and releases.
* Recover any CI from any previous version, in case of loss or corruption of files.
* Generate the version history of each CI for tracking and solving software problems.

## Scope

Configuration Management is a system engineering discipline that formalizes the management of the configuration of a system and controls changes to Red Turf throughout its lifecycle. The key principles of CM ensure that all components Red Turf can be uniquely identified, managed, and that any previous version of the system can be readily reproduced. The scope of the Configuration Management Plan is to document all the work products generated during the development of the Red Turf project. Also, this document addresses the configuration management applicability, limitations/constraints, and assumptions on which the Configuration Management Plan deliverable is based.

## Project Overview

The Red Turf Project involves the evolutionary development of the Red Turf system, a system which is hosted in a Database and Middle Tier Servers, Geospatial software development suite, Oracle application software development suite, Microsoft application software development suite including mobile components, J2EE java application development suite (with mobile components), and data warehouses with reporting suite of software. Red Turf system provides the Geographic Information System (GIS), which focused on the Latitude/Longitude and other spatial technology capability. The Red Turf system performs elastic search along with various social media integration without any security breach. It also examines the system architecture, network designs and identify flaws as part of penetration testing. The scope of the project consists of development, Testing, Performance and Production environments and Integrated Plan of Action and Milestones (PoAM), which provides a mechanism to trace activities to audit readiness milestones and to accurately report progress towards deadlines and ultimately, sustainment of an auditable system environment. The scope of this project also includes completion of all documentation, manuals, and training aids to be used in conjunction with the software. The scope of this project does not include any changes in requirements to standard operating systems to run the software, software updates or revisions.

## Definitions and Acronyms

|  |  |
| --- | --- |
| PIN | Project Initiation Note |
| WBS | Work Breakdown Structure |
| CI | Configuration Item (A collection of hardware or software elements treated as a unit for the purpose of configuration management. |
| CC | Configuration Controller |
| CMP | Configuration Management Plan |
| CCB | Change Control Board |
| PM | Project Manager |
| DM | Delivery manager |
| Baseline | A baseline is ‘a specification or product that has been formally reviewed and agreed/approved upon, that thereafter serves as the basis for further development, and that can be changed only through formal change control procedures’ |
| Change Request | Formal request mechanisms used for establishing baselines, correcting defects, making adaptations, making enhancements, and making changes. |
| Revision History | Concise and formalized historical records of changes to configuration items and baselines. |
| PIN | Project Initiation Note |
| WBS | Work Breakdown Structure |
| CI | Configuration Item |

## References

|  |  |  |  |
| --- | --- | --- | --- |
| **Process** | **Template** | **Guideline** | **Checklist** |
| Project Planning | Configuration Management Plan | Configuration Management Guidelines |  |
| Project Monitoring and Tracking | Release Note | - | - |
|  | Base line tracker |  |  |
| Review | Functional Configuration Audit Report | - | - |
| Build and Release Management | Physical Configuration Audit Report | - | - |
| - | Change Request Form | - | - |
| - | Change Request Tracker | - | - |
| - | Configuration Item Version History Form | - | - |
| - | Configuration Status Accounting Report | - | - |

## Assumptions and Dependencies

Assumptions play an essential role in developing a risk management plan. Therefore, a project manager collects and identifies assumptions. The assumptions include the following:

* All relevant stakeholders will attend the meetings.

# Configuration Management

Configuration Management is managed by Configuration Controller and the plans are approved by the Project Manager after the reviewal of the CM plan.

## Configuration Team Structure, Roles and Responsibilities

The Configuration Manager/ CC would also function as the administrator, taking care of issues like SCM tool licensing, being one-point contact for version control, etc.

| Role | Person | Responsibilities |
| --- | --- | --- |
| HOIT | Nagoor Inaganti | Approval / Authorization |
| Project Manager | Nagoor Inaganti | Approval / Authorization |
| Team Lead | Monalisha Mishra | Support / Involved |
| Developer | Vijaya Somarepetta | Support / Involved |
| Tester | Pavan Kumar Pentela | Support / Involved |
| Configuration Manager/ Controller | Eswara Prasad Gatamaneni | Responsible / Preparation |
| SQA | Padma Nela | Review |

# Configuration Management Approach

## SCM Tools & Techniques

The Red Turf project uses SCM tools and techniques for configuration management. Each CM tool used on the project tracks and controls the software changes. The basic features provided by SCM tools are as follows:

* Concurrency Management
* Version Control
* Synchronization

The scenario used to depict the technique used:

1. User 1 opens a file test.java from common repository
2. User 2 also opens a file test.java from common repository
3. User 1 does some changes and saves the file in common repository
4. User 2 does some changes and saves the file in common repository which overwrites the previous changes by user1.

To avoid this situation concurrency management is needed in which the multiple users can check out the files and make changes. After doing changes when user again checks in the file the SCM system runs the algorithm to merge changes of multiple users.

The version control feature in SCM tool uses archiving method or saves every change made to file so that it is possible for use to roll back to previous version in case of any problems.

Another feature provided by SCM tools where the user can check out more than one files or entire copy of repository. The user then works on the required files and checks in the changes back to repository, also they can update their local copy of periodically to stay updated with the changes made by other team members. This is known as synchronization.

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# Configuration Management Scope

## Configuration Identification

| Configuration  Item | Naming Convention | Storage Location |
| --- | --- | --- |
| Source Code | SC\_001 | Azure Cloud |
| Project Management Plan | PMP\_001 | Azure Cloud |
| Configuration Management Plan | CM\_001 | Azure Cloud |
| HLD/ DD | HLD\_001 | Azure Cloud |
| Customer given Coding Standards | CD\_001 | Azure Cloud |

### Non-Configurable Items

| Item Name | Naming Convention | Storage Location | Retention Period |
| --- | --- | --- | --- |
| Status Reports | SR\_001 | Azure Cloud | 12 months |
| Metrics Analysis Report | MA\_001 | Azure Cloud | 12 months |
| MOM | MOM\_001 | Azure Cloud | 12 months |
| Timesheets | TS\_001 | Azure Cloud | 12 months |
| CAR Reports | CAR\_001 | Azure Cloud | 12 months |

## Directory Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Role | Access | | | |
| Create | Read | Write | Delete |
| Program Manager | N | Y | N | Y |
| Configuration Controller | Y | Y | Y | Y |
| SQA | N | Y | N | Y |

## Build Management

The Red Turf project was built using the following process:



## Build Environment

The Red Turf Project involves the evolutionary development of the Red Turf system, a system which is hosted in a Database and Middle Tier Servers, Geospatial software development suite, Oracle application software development suite, Microsoft application software development suite including mobile components, J2EE java application development suite (with mobile components), and data warehouses with reporting suite of software. Red Turf system provides the Geographic Information System (GIS), which focused on the Latitude/Longitude and other spatial technology capability. The Red Turf system performs elastic search along with various social media integration without any security breach. It also examines the system architecture, network designs and identify flaws as part of penetration testing. The build environment of the project consists of development, testing, performance and production environments and Integrated Plan of Action and Milestones (PoAM), which provides a mechanism to trace activities to audit readiness milestones and to accurately report progress towards deadlines and ultimately, sustainment of an auditable system environment. The scope of this project also includes completion of all documentation, manuals, and training aids to be used in conjunction with the software.

## Release Management

Release Management is a process that entails the management, planning, scheduling, and controlling of an entire software build through every stage and environment involved, including testing and deploying software releases.

The following is the release plan:

### Initiation

Iteration #1 (10/10/18): Requirements Exploration

### Elaboration

Iteration #2 (22/10/18): Baseline Architecture

### Construction

Iteration #3 (5/11): Client-Side Search and Display

Iteration #4 (22/11): User Details

Iteration #5 (31/11): Favorites List

### Transition

Iteration #6 (12/1): Defect Repair and Stabilization

# Configuration Control

## Configuration Status Accounting

The Configuration Status Accounting Report is prepared for each baseline by the Configuration Controller and is reviewed by SQA and approved by the Project Manager. The following are the tasks performed by the CC:

Provide CI status to the Project Manager.

Provide CM measures to the Project Manager.

Provide listing of all CIs contained in a baseline, release, and CM controlled repository.

Provide change history documentation for CIs as needed, etc.

## Configuration Audits and Reviews

The frequency or milestones at which Configuration Status Audits, verification is performed monthly. Configuration Manage is responsible for such activities.  
Some rules for a configuration audit are:

It is periodically needed to ensure the integrity of the baselines. It is performed before every major baseline change. It verifies that changes to the baseline are implemented as intended. Coordinate the planning of configuration audits and reviews with the application release work plan.

Baseline Audit – is typically conducted by individuals on the project prior to each new baseline that is established or before releasing a baseline into a new environment.

Functional Configuration Audit (FCA) – ensures the integrity of the requirements by cross-referencing audit items to the requirements from which they were generated.

Physical Configuration Audit (PCA) - ensures the integrity of the Configuration Management baselines, configuration items and tools used to implement CM by verifying that all items identified as being part of the configuration are present. The PCA also will establish that the correct version of each part of baseline is included.

## Third Party Items

NA

## Training

SCM is Software Configuration Management and SVN is a Version Control System tool, which is a subset of SCM. Training was provided on the attributes of the CM tool such as Concurrency Management, Version Control, Synchronization.

## Backup

Project data backup will be taken by the Infrastructure (Network & System Admin) team as per the Infrastructure back up policy.

CC will verify weekly for restoration of the data with the Infrastructure team on the backups taken.