

VectorCAST Requirements Gateway Workflow

Version 1.1

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Author	Chris Overend
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Abstract	Information on Recommended Workflows for Requirements Gateway.

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1 Overview

This application note outlines the recommended workflow for managing requirements, development, and testing using VectorCAST RGW. The workflow is designed to ensure efficient collaboration between the Requirements Management Administrator (RMA), developers, and the Requirements Management Tool (RMT).

1.1 Terms

- > CI - Continuous Integration Tool
- > RGW - Requirements Gateway
- > RMA - Requirements Management Administrator
- > RMT - Requirements Management Tool
- > VCS - Version Control Systems

1.2 Roles

This section defines the roles that are involved in this workflow document. The roles specify a responsibility, not necessarily an individual. An individual team member may have more than one role on a project, or a team might share responsibility for a role.

1.2.1 Requirements Management Administrator

This role can be performed by developers, testers, or even an external individual or group.

The primary responsibility is to serve as a central point for coordinating interactions with the RMT.

Other responsibilities include:

- > Importing requirements from the RMT to VectorCAST
- > Committing repository files to the VCS
- > Executing VectorCAST test cases with linked requirements
- > Exporting test case results from VectorCAST to RMT

1.2.2 Developers/Testers

This role can be performed by developers and testers.

The primary responsibility is to properly link requirements with applicable test case(s). This task involves knowledge of each requirement and how it is satisfied by a test case.

Other responsibilities include:

- > Linking requirements with test cases
- > Unlinking requirements from test cases
- > Reviewing requirements that have changed in the RMT and are linked to a test case
- > Committing repository files to the VCS

2 Workflow

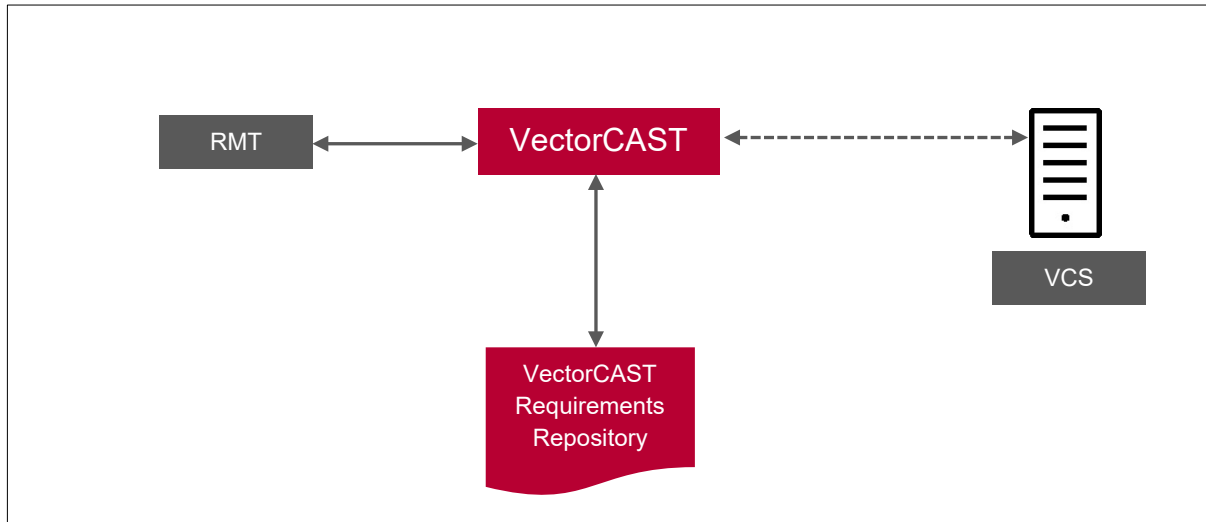


Figure 1 - VectorCAST Requirements Gateway Workflow Components

The Requirements Gateway Workflow relies on four major components: VectorCAST, the VectorCAST Requirements Repository, the Requirements Management Tool and the Version Control System as shown in Figure 1. VectorCAST has a direct interface to the RMT and the Repository. The VCS is an indirect interface and is managed by the development team.

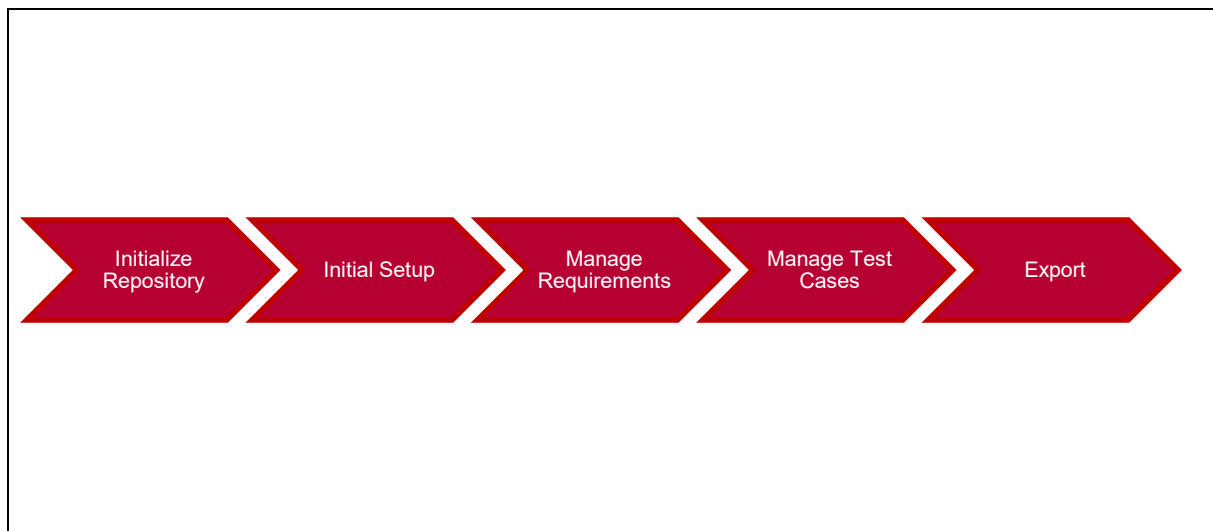


Figure 2 - Requirements Workflow

The Requirements Workflow has five stages as shown in Figure 2. Each of these stages is explained below.

2.1 Initialize Repository

2.1.1 RMA Tasks

- > Creates a repository directory for a specific project or set of requirements.
- > Initializes the VectorCAST RGW preferred gateway.
- > Imports only those requirements from the RMT that apply to this repository.
- > Commits new repository files to VCS.
 - > It is advised not to commit the “settings.json” to VCS, to prevent accidental changes to the repository data by persons other than the RMA.
- > The repository is now ready for developers to begin their activities.

2.2 Initial Setup

2.2.1 Developer/Tester Tasks

- > Pull the newly created repository.
- > Set the repository location for their environment(s).
- > Start linking requirements to test cases.

2.3 Manage Requirements

2.3.1 RMA Tasks

- > Regularly monitors the RMT for changes in requirements.
- > Re-imports requirements when changes are detected.
 - > This will update the repository, affecting all test cases that are linked to the changed requirements.
- > Pushes changes to VCS.

2.4 Manage Test Cases

2.4.1 Developer/Tester Tasks

- > Stay up to date with changes to the repository.
- > Engage in various tasks, including but not limited to:
 - > Adding test cases to ensure comprehensive testing.
 - > Linking requirements to establish traceability.
 - > Reviewing changed requirements for test case applicability.
 - > Creating regression scripts for automated testing.
 - > Performing other development-related activities as necessary.
- > Commit regression scripts and changed repository files to VCS.

2.5 Export

2.5.1 RMA Tasks

- > Pulls developer changes from VCS.
- > Executes linked test cases to add test case pass/fail statuses to the repository.
 - > Can be completed during CI.
- > Exports the changes to requirement links and updated test cases results from the populated repository to RMT.
 - > Can be completed during CI.
- > Reviews export log for any issues that prevented test case export.
- > Pushes repository changes to VCS.

2.6 Notes

- > If a specific integration has any changes to the workflow, then it will be annotated in the applicable release note.
- > The above workflow(s) are written to avoid issues that may occur based on the current implementation of RGW.

2.7 Conclusion

The Requirements Gateway Recommended Workflow facilitates an organized and traceable approach to managing requirements, development, and testing. By following this structured process, teams can ensure that project requirements are consistently met, changes are tracked, and testing outcomes are integrated seamlessly into the development cycle. This workflow enhances collaboration and quality assurance throughout the software development lifecycle.

3 Additional Resources

[VECTORCAST PRODUCT INFORMATION](#)

4 Contacts

For a full list with all Vector locations and addresses worldwide, please visit <http://vector.com/contact/>.