# Systems
# Change Management Policy

Qvest.io

Effective date: September 4th, 2020
Approved:

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# Introduction

Systems Change Management refers to a formal process for making changes to computer systems. The goal of change management is to increase awareness and understanding of proposed changes across an organization and ensure that all changes are made in a thoughtful way that minimize negative impact to services and customers. Furthermore, the process is designed to minimize impact on product development productivity and promote quality of services.

# Scope

All changes to computer systems at Qvest must follow a structured process to ensure appropriate planning and execution.

# Types of changes

Changes are grouped into three types of changes:

- **Standard change -** A repeatable change with limited risk (e.g. increase replication count or update translation text).
- **Normal change -** A change that is not an emergency change or a standard change (e.g. product feature that allows a table to be sorted by clicking the column header).
- **Emergency change -** A change that must be introduced as soon as possible due to likely negative service impacts (e.g. a fix that corrects an issue where users with older web browser versions could no longer log in)

# Roles

Changes involves stakeholders grouped by the following roles:

- **Product steering committee -** A group of people consisting of representatives from upper management and product managers. Their role with regards to change management is comparable to a Change Advisory Board (CAB), however they strive to have a more broad and strategic role than traditional CABs.
- **Product manager -** Responsible for one or more teams owning development and maintenance of one or more services.
- **Senior engineer -** Experienced technical employee working in a team developing and maintaining one or more services.

# Environments

Changes are published across several environments (computer systems) throughout the process:

- **Development (Testing) -** Used by development teams for testing purposes. There may be multiple development environments at any given time.
- **Staging -** Used by any employee for integration and manual testing. Infrastructure and configuration is a copy of the production environment. It does not store or process production data of any kind.
- **Production -** Used by customers. Stores and processes customer data.

## Process

A change to systems go through the following process:

- **Request, planning and approval** - Normal changes are submitted to or created by the product steering committee (PSC) who prioritizes, plans and approves the changes. Standard and emergency changes go through brief planning in the team responsible for affected services and gain initial approval at the team by a senior engineer or product manager, depending on the type of risk associated with the change. The PSC is retroactively notified about such changes and always has access to a full change history.
- **Implementation -** Changes are implemented by the relevant team and a merge request describing the details of the change is submitted to the revision control system.
- **Review -** Merge requests go through automated tests and security audits when they are submitted and every time changes are made to them. Assuming the request passes all tests and audits, one or more peers will review the details of the change. Normal changes need to be approved by at least one peer to pass review. A change may go through several iterations of implementation and review before all tests, audits and approvals are given. Standard and emergency changes go through automated tests and audits. They also go through peer review, however such review is usually done retroactively due to the urgency of the change.
- **Release -** Approved merge requests trigger automated publish of the changes to a staging environment. Releases are made by publishing groups of one or more changes from a staging environment to the production environment where the changes become accessible to customers. All changes go through automated tests and security audits together with all other changes in the staging environment at the time. Certain groups of changes may call for an extra iteration of the review step before they are released. Decisions for such extra efforts are made on a case-by-case basis by the product steering committee and/or technical leadership. Release timing and frequency depends on the nature of the changes and overall product release planning.

## Change history

Changes are documented as three different artifacts throughout the process:

1. **Ticket:** A feature or issue description used by the product steering committee and technical employees for prioritization and planning.

2. **Merge request:** Detailed technical record of a change as well as reviews and discussions among peers about the given change.
3. **Release:** Description of a group of changes and the time of release.

All of these artifacts have detailed logs of peers involved and history of all changes made to the artifacts throughout the process. Computer and network resources are provisioned and configured via "infrastructure as code" which allows relevant changes to be documented in the above mentioned history.