



IRWIN

# Release Management Plan

**Prepared By:** IRWIN Core Team

**Last Modification Date:** 9/28/2023

**API Version:** Preparing for v9.0

## Document Revisions

Publish Date	Description	Person Responsible
6/5/13	Initial Draft of Plan	Craig Morgan
3/15/16	Revised Release Management Plan	Alex Laughton
6/8/16	Update Plan to align with current V4 Goals and Objectives	Jaymee Fojtik / Craig Morgan
10/15/16	Update Milestones	Craig Morgan
6/23/2017	Update Plan to align with current V5 Goals and Objectives	Jaymee Fojtik / Ryan Perkl
11/2/2018	Update plan to address v5.1 and v6 release plan.	Luci Coleman
5/23/2019	Update plan for v6 release plan.	Luci Coleman
6/18/2019	Final plan for v6.	Luci Coleman
10/28/2020	Update plan for v7 release.	Mary Koran
11/13/2020	Final plan for v7.	Mary Koran
10/20/2021	Update plan for v7.1 release.	Mary Koran
12/17/2021	Final plan for v7.1.	Mary Koran
09/30/2022	Update plan for v8.0 release.	Mary Koran
10/14/2022	Final plan for v8.0.	Mary Koran
09/18/2023	Update plan for v9.0 release.	Mary Koran
09/28/2023	Final plan for v9.0.	Mary Koran

# Contents

<b>1</b>	<b>Introduction .....</b>	<b>4</b>
1.1	<i>IRWIN API Environments.....</i>	4
1.2	<i>Release Workflows.....</i>	4
1.2.1	root .....	4
1.2.2	next.....	5
<b>2</b>	<b>Target Release Timeline .....</b>	<b>5</b>
<b>3</b>	<b>Release Management Procedures .....</b>	<b>6</b>
3.1	<i>Terms .....</i>	6
3.2	<i>Personnel.....</i>	7
3.3	<i>Tools.....</i>	8
3.4	<i>Quality Assurance .....</i>	8
3.4.1	Types of Testing.....	8
3.4.2	Contingency Planning .....	9
3.4.3	Release Documentation .....	9

# 1 Introduction

## 1.1 IRWIN API Environments

IRWIN has three API environments: TEST, Operational Acceptance Testing (OAT), and Production. During any release, the release package is promoted from TEST to OAT to Production. Each promotion only occurs after appropriate testing and acceptance.

In October 2018, the IRWIN Core Team introduced a **next folder** into the TEST and OAT environments in an effort to expose under-development software in advance of Integration Testing.

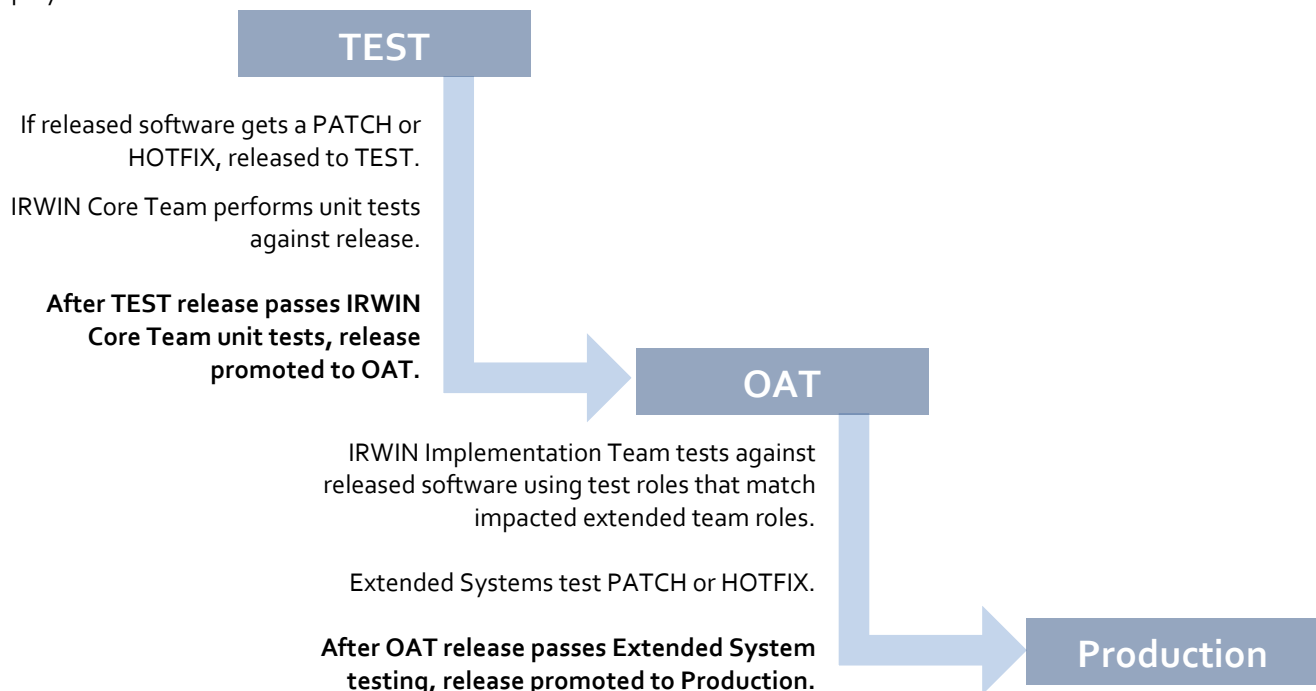
With the addition of the next folder to these environments, the IRWIN Core Team is able to expose under-development software while still maintaining released software. The following table describes each environment's intended purpose.

	TEST	OAT	Production
root	Extended Systems testing against released software.	Extended Systems testing & QA against released software.	Extended Systems using the IRWIN API as an integration service.
next	IRWIN Core Team testing against under-development software.	Extended Systems testing against under-development software.	

## 1.2 Release Workflows

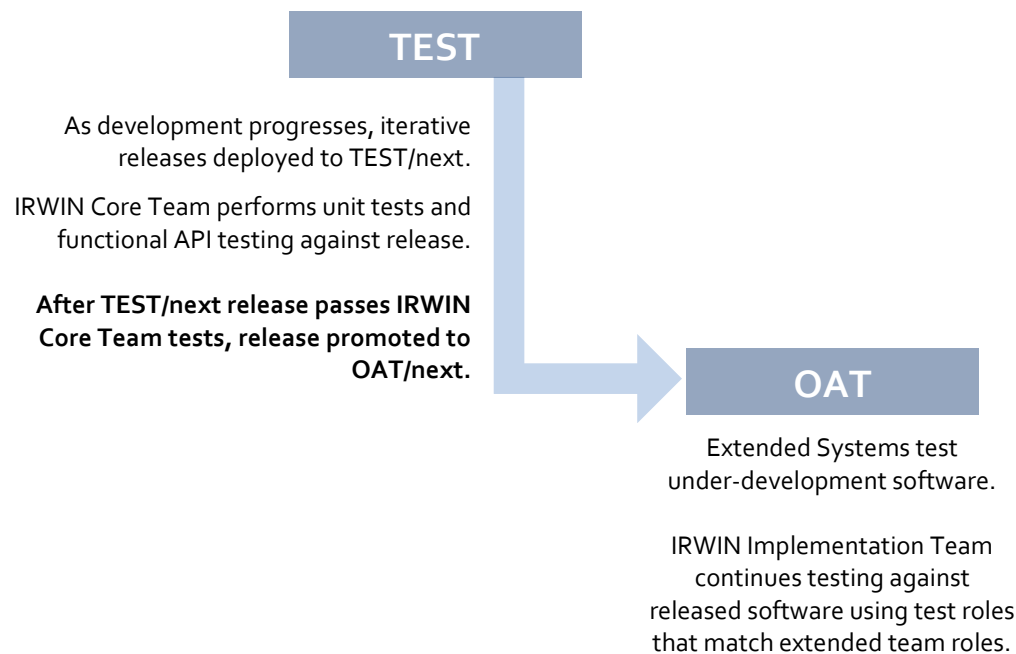
### 1.2.1 root

IRWIN's stable API services, at the root level of the directory, hold currently released software. After release into Production, the stable root environments undergo the following release deployment to promote a PATCH or HOTFIX deployment.



1.2.2 next

IRWIN’s next folder holds under-development software. As the IRWIN Core Team continues to develop the upcoming versioned release (vg.o), the next folder undergoes the following release deployment process. The Development Team will send a notification to the community before each release to TEST/next. There will be a subsequent 48 hour testing window within TEST/next for the IRWIN Core Team to perform tests against the recent promotion. Upon successful testing, the Development Team will promote to OAT/next.



2 Target Release Timeline

The following table indicates the 2023-2024 Release Calendar for vg.o. These release timelines incorporate three major releases in the following order:

- Feature Complete Release:** This release contains code that addresses all new and updated functionality defined by the IRWIN Business Plan for that annual major version update. This is a functionally stable release but may have remaining bugs to be resolved as PATCHES and/or HOTFIXES. After the feature complete release, data elements and associated validation may be added with agreement from the Extended Teams. The feature complete release will be released on both TEST/next and OAT/next.
- Integration Release:** A functionally stable release with resolved critical bugs. This software release is deployed to the TEST/next and OAT/next during the week before Integration Testing. Following the integration release, no additional data elements or associated validation will be added without the Extended Teams agreement and retesting.
- Production Release:** A functionally stable release with resolved critical bugs. This software release is deployed to the Production environment. This release will be completed through normal protocols, by first deploying to TEST/root; upon successful testing, promotion to OAT/root; upon successful testing, a final promotion to PROD.

Date		V9.0 Milestone
October 2023	October 31, 2023	V9.0 <b>Feature Complete Release</b> : Released to TEST/next.
November 2023	November 2, 2023	V9.0 <b>Feature Complete Release</b> : Released to OAT/next.
January 2024	Jan. 19, 2024	V9.0 <b>Integration Release</b> : Released to TEST/next and OAT/next.
	Jan. 22- Jan. 26, 2024	V9.0 Integration Testing
February 2024	February 23, 2024	V9.0 Code Freeze
March 2024	Mar. 6, 2024	V9.0 <b>Production Release</b>

## 3 Release Management Procedures

### 3.1 Terms

The following are terms which are used in IRWIN Software Release Management. The table below lists the terms that are related to service management and application development:

Term	Definition
<b>US (User Story)</b>	A high-level specification that captures the detail of a requirement that is to be made to a system.
<b>CCB (Change Control Board)</b>	The subset of IRWIN Extended Team stakeholders who review potentially releasable work products (builds) at specific intervals (Retrospectives) to assess whether they should be implemented, assign priorities and allocated them to a Release.
<b>Iteration</b>	A specific unit of time used by the project team to accomplish work products (User Stories or Defects). The iteration includes four phases: Grooming (defining and revising User Stories), Planning (tasking out the effort to create work products for each User Story, Sprint (development time to create the work products) and Retrospective (reviewing the potentially releasable work products).
<b>Sprint</b>	A development cycle used by the IRWIN Core team for the creation of work products.
<b>Release</b>	A stable, executable version of a product intended for deployment to testing and production.
<b>Release Package</b>	A logical container that defines the set of User Stories and Release Units that are to be included in a Release. It also includes metadata such as the type of release (see Release Type) and its planned dates (see Release Calendar). This is needed for deployments to Test, OAT and Production environments.
<b>Release Type</b>	The type of release that is to be implemented, i.e. Major, Minor, Emergency. Each Release Type will usually have a different workflow.
<b>Release Calendar</b>	A set of published milestones that details when Releases are planned to transition through the different development, test and production phases.

Term	Definition
<b>Build</b>	A snapshot of the exact versions of configuration Items, including executables, libraries, configuration files and documentation that are to be deployed into executed and installable Release Units.
<b>Release Unit</b>	A physical, self-contained, installable release of an application.
<b>Release Management Staff</b>	Product Owner – Mary Koran / <a href="mailto:mmahoney@innovateteam.com">mmahoney@innovateteam.com</a>
	Project Manager – Brandon Green / <a href="mailto:brandon_green@ios.doi.gov">brandon_green@ios.doi.gov</a>
	Business Lead – Kara Stringer / <a href="mailto:kara_stringer@ios.doi.gov">kara_stringer@ios.doi.gov</a>
	Development Coordinator – David Yarnell / <a href="mailto:dyarnell@innovateteam.com">dyarnell@innovateteam.com</a>
	Technical Lead – Dan Spinosa / <a href="mailto:dspinosa@innovateteam.com">dspinosa@innovateteam.com</a>
	Data Architect – Eric Neyman / <a href="mailto:eric.r.neyman@saic.com">eric.r.neyman@saic.com</a>

An example of how these different definitions relate to one another is illustrated in the diagram below with one (1) to many (\*) relationships:

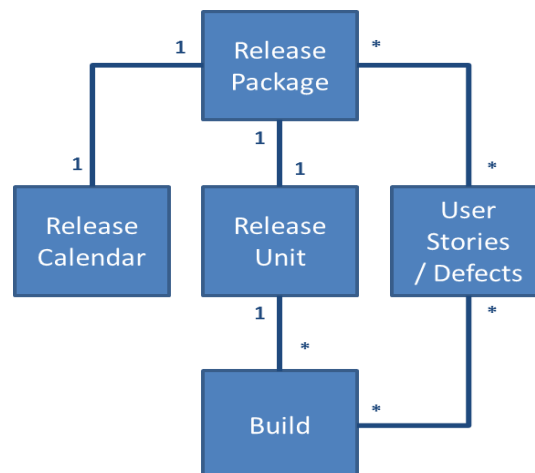


Figure 1 - Release Management Component Relationship

## 3.2 Personnel

The following are all the personnel participating in release management activities. These include:

**Business Lead (BL)** – The Business Lead is responsible for the overall definition of requirements and acceptance of the technical solution meeting those requirements. The Business Lead provides gate approval for promotion of release packages from Test to OAT.

**Project Manager (PM)** – The Project Manager is responsible for the overall management of the project. The Project Manager provides gate approval for the promotion of release packages from OAT to Production.

**Development Coordinator (DC)** – The Development Coordinator is responsible for the management of the development process including delivery and quality.

**Technical Lead (TL)** - The Technical Lead is responsible for the technical direction of development and deployment. The Technical Lead also provides gate approval for the promotion of release packages.

**Product Owner (PO)** – The Product Owner is responsible for the quality assurance of the releases and release process. This includes all communication to the Extended Teams, ownership of the release package, as well as reviewing release automation, release units and release package contents to ensure completeness.

**Managed Services (MS)** – Managed Services is responsible for promotion of release packages from Test to OAT and OAT to Production.

**Tester** – IRWIN Core Team, IRWIN Extended Teams and/or key Agency users will be stakeholders in the testing process and are considered the Testers. Testers are responsible for testing the deployments in each environment and providing feedback on defects. The testers are also responsible for providing additional input as needed and verification of the resolution of defects.

### 3.3 Tools

The following tools will be used to support the release management process:

Activity	Tools	Contact
Source Code Control	Github	Loren Cress / <a href="mailto:lcress@esri.com">lcress@esri.com</a>
Build System	Github	Loren Cress / <a href="mailto:lcress@esri.com">lcress@esri.com</a>
Defect / Issue Tracking	Github/Irwin Tracker	Mary Koran / <a href="mailto:mmahoney@innovateteam.com">mmahoney@innovateteam.com</a>
Requirements Management	Github /Irwin Tracker	Mary Koran / <a href="mailto:mmahoney@innovateteam.com">mmahoney@innovateteam.com</a>
Document Control	Wildland Fire Lessons Learned Site	Brandon Green / <a href="mailto:brandon_green@ios.doi.gov">brandon_green@ios.doi.gov</a>
Automated Testing Tools	Visual Studio (Unit Testing) vRest (Functional API Testing)	Loren Cress / <a href="mailto:lcress@esri.com">lcress@esri.com</a> Mary Koran / <a href="mailto:mmahoney@innovateteam.com">mmahoney@innovateteam.com</a>

### 3.4 Quality Assurance

#### 3.4.1 Types of Testing

The following testing types are used during an IRWIN release. For more information, please refer to IRWIN's Test Plan on the [Wildfire.Gov site](#).

- **Unit Testing** — The IRWIN Development Team will develop unit tests against the various functions of individual software components. Unit testing ensures that the smallest functions (or units) of software are working as expected.
- **Functional API Testing** — The IRWIN Core Team Business Leads will produce a series of user stories associated with an IRWIN version release. These user stories will be developed into a suite of automated tests. These user stories are commonly referred to as 'testing scenarios.'



Functional API tests are performed on both under development software and release candidates. Importantly, functional API tests are run in the context of an end-user, utilizing the same access and authorization mechanisms.

- **Regression Testing** — The IRWIN Core Team will conduct regression testing of individual software components to ensure existing functionality still performs as expected. Regression testing will include both the IRWIN Development Team's unit tests and the IRWIN Core Team's function API tests.
- **Integration Testing** — The Extended Systems will verify the software's ability to generate acceptable results for production tasks and are responsible to perform a comprehensive test of the entire system. This testing will look for completeness to ensure that all parts are included and that the whole system will perform as designed. This completeness is expressed via a readiness self-review conducted by the Extended Teams' users that identifies the specific gaps that need to be addressed for a production release.

### **3.4.2 Contingency Planning**

For IRWIN releases that are deployed to the OAT and Production environments, there will be a tested back-out plan. For example, if a new product is released into Production and subsequently found to have issues, there will be a process in place for removing this release and rolling back to the previous one.

### **3.4.3 Release Documentation**

Documentation will accompany each release. All feature complete releases and the iterative releases leading up the feature complete release will be documented in IRWIN Release Notes Changelog for the Incidents and Resources API.

Prior to the Integration Release, a formalized Integration Specification will be distributed to the Extended Teams to detail the transition from the OAT/next environment into the stable root environment.