



Project Management Plan

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Table of Contents

1.0	About This Document	1
1.1	Purpose	1
1.2	Target Audience	1
1.3	Related Documents.....	1
1.4	Key Definitions, Acronyms, and Abbreviations	1
	Requirements & Testing Backlog.....	2
	IRWIN ANNUAL Planning	2
	IRWIN Grooming.....	2
	IRWIN Retrospective.....	2
	IRWIN StandupS	2
2.0	Project Purpose and Objectives	3
3.0	General Assumptions	5
4.0	External Dependencies and Constraints	6
5.0	Resource Requirements	7
5.1	Key Core and Extended Team Roles.....	7
5.2	Software and Hosting Environment Requirements	8
6.0	Project Organizational Structure.....	9
7.0	Project Work Plan	10
7.1	EXTENDED Team Coordination	10
7.2	Discovery and Prototyping	10
7.3	DEVELOPMENT, Testing & Acceptance	11
7.4	PRODUCTION, Operations & Maintenance (O&M).....	12
8.0	Schedule and Milestones	13



8.1 DATA Integration Services Partner Applications & Engagement Timelines	13
8.2 IRWIN General Iteration Schedule	14
9.0 Monitoring and Control.....	14
10.0 Communications Plan	14
10.1 Communications Protocol.....	14
10.2 COMMUNICATION Documents and Frequency	15



1.0 ABOUT THIS DOCUMENT

1.1 PURPOSE

This project plan is the top-level controlling document for the IRWIN project. This project plan defines the framework in which the IRWIN project is executed. It defines the technical and managerial processes required to complete the project and meet the requirements as defined by the wildland fire business community.

1.2 TARGET AUDIENCE

The following are the target audience of this project management plan:

- IRWIN Business Lead
- IRWIN Project Manager
- IRWIN Core Team
 - Leadership Team
 - Development Team
 - Implementation Team
- IRWIN Extended Team

1.3 RELATED DOCUMENTS

Reference materials from which this project plan has derived some of its content.

- IRWIN – Integration Specifications
- IRWIN – Release Management Plan
- IRWIN – Testing Management Plan
- IRWIN – Business Plan
- IRWIN – Communications Management Plan

1.4 KEY DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

- **IRWIN** – Integrated Reporting of Wildland-Fire Information
- **IRWIN Core Team:** The project team directly responsible for operating, maintaining and developing the IRWIN application.
- **IRWIN Extended Team:** The project team(s) of the applications exchanging data through IRWIN. The term extended team is used to refer to all application project teams as a whole or to a specific team. When referring to a specific application project team, that application name is used instead of IRWIN. For example, WFDSS-NG extended team or FireCode extended team.



REQUIREMENTS & TESTING BACKLOG

Work Products that are developed using requirements for the business or defects reported by the Core and extended teams, as well as the Wildland Fire community – are stored in development backlogs for iterative revision and action.

IRWIN ANNUAL PLANNING

This strategic session is held after the business identifies and documents priorities for the coming year in the annual business plan. The purpose of the annual planning session is for the IRWIN project managers to review these priorities and to translate them into actionable epics, features and requirements.

IRWIN GROOMING

The team meets regularly to “groom” the apps and services backlog, and on a fit-for-purpose basis for the API requirements. The intent of these meetings is to ensure that the backlog remains populated with items that are relevant, detailed and estimated to a degree appropriate with their priority, and in keeping with current understanding of the project or product and its objectives. The Product Owner organizes these meetings; the Business Lead and Product Owner are essential participants, with support from the Technical Lead recommended and other staff included as needed.

IRWIN RETROSPECTIVE

The purpose of the retrospective is to inspect and adapt the IRWIN work products based on the development cadence defined in the Grooming section above. The Retrospective will include two components – (1) the Demonstration and (2) Review. This will be completed on the OAT Next environment. The meeting is organized by the Scrum Master, with mandatory participation by the Core Team.

IRWIN STANDUPS

The IRWIN standups are used as part of the stabilization of IRWIN Core Team development efforts and to support extended team integration of those efforts. They will be organized by the Scrum Master, and have a cadence appropriate to deployment. Non-deployment cycles will have weekly standups, with cycles nearer deployment being daily (exact date to be determined – generally within one month – before or after deployment). Attendance will be mandatory for the IRWIN Core Team at all stand ups, with extended teams attending deployment stand ups.



2.0 PROJECT PURPOSE AND OBJECTIVES

The IRWIN service is an investment, intended to enable an “end-to-end” fire reporting capability. IRWIN is tasked with providing data exchange capabilities between existing applications used to manage data related to wildland fire incidents.

IRWIN’s goals are (1) reduce redundant data entry, (2) identify authoritative data sources, and (3) improve the consistency, accuracy, and availability of operational data.

Historically, data were entered into many unique systems. Often, basic fire information, like location, size, environmental conditions, and resources, was repeatedly entered into stand-alone systems as a foundation for their capabilities. As conditions change over the life of an incident, more timely and accurate information was entered into operational systems, while the original, outdated data remained in the supporting systems. Users intended to query systems they are most familiar with and consequently, may not have accessed the most up to date data available.

An example is the location of a fire (latitude/longitude). A 2008 interagency efficiency report identified that an interagency dispatcher may enter this data up to 26 times in different systems. Once the dispatcher has received what is needed from each system, he/she generally does not go back and update each system when more current location information becomes available.

When questions arose about individual fires, there were often multiple answers depending upon which data source was queried for the answer. While all of the answers were valid in their specific context, there was no authoritative data source for a consistent answer. This presented a challenge for both the interagency fire community and line management at all levels of fire management agencies and departments.

Multiple studies and analysis over the years identified a need for a more integrated approach to managing wildland fire occurrence data. These analyses include but are not limited to:

- National Interagency Fire Statistics Information Project (NIFSIP), September 1998
- Fire Statistics Task Group Proposal to NWCG, August 2003
- Report of the eGov Disaster Management Task Group to the National Fire and Aviation Executive Board, March 2006
- Fire Occurrence Reporting System (FORS) Study for the National Fire and Aviation Executive Board, February 2007
- National Wildland Fire Enterprise Architecture Blueprint, Version 2.0, July 2008
- Management Efficiency Assessment of the Interagency Wildland Fire Dispatch and Related Services, August 2008

In addition to data inaccuracies, the capability to access the data and exploit it for lessons learned, planning for future events, and to inform decisions about future requirements was not readily available. The desire to execute historical analysis was a laborious process requiring



considerable hours or the creation of “one off” initiatives to answer the question at hand. This Data Integration Service capability reduces this burden by ensuring data in separate applications are linkable through the use of referential integrity of a unique ID stored in all partner applications.

Further complicating matters was the need to incorporate non-federal partners data. IRWIN assists with this requirement by providing a simplified, standard methodology and process for non-federal agencies to use to contribute data to the national wildland fire data set.

By interconnecting systems, new and updated information would automatically be available to different interagency systems. For some systems, data may be pre-populated and validated instead of manually being re-typed and updates are automatically available to all partner applications. Such a capability supports a number of needs and provide benefits throughout the wildland fire community, including:

- Allow consistent reporting of data
- Reduce duplicate entry of data
- Identify authoritative sources of data
- Speed access to data located in diverse source systems
- Increase data accuracy and the availability of data

Fire reporting is a key function of wildland fire management and can impact many processes and systems of the wildland fire enterprise, including:

- Operations
- Logistics
- Public Information
- Intelligence
- Planning
- Research

The IRWIN project is designed to align with national IT strategies, including:

- NWCG Strategic Plan Version 14, Goal 5 – Program Implementation and Delivery, September 2010
- USDA Technology Architecture Development - Architecture Guidebook, Version #1, 2010
- 25 Point Implementation Plan to Reform Federal Information Technology Management, 2010
- Department of the Interior FY 2011-2016 Strategic Plan Mission Area 1, Goal 4 by focusing on improved access to, timeliness, and accuracy of decision data

IRWIN supports wildland fire incident information collection, management, sharing, analysis, and reporting. The goals for IRWIN are to:

- Minimize redundant entry of fire incident data



- Improve the consistency of data for reporting by multiple agencies
- Provide a single point of access to timely, quality data, and
- Utilize a cloud platform that is scalable and flexible to meet current and future demands.

3.0 GENERAL ASSUMPTIONS

- The Data Integration Service is made up of the IRWIN APIs (Incident, Resource, Frequency, Learning, and Contracts) and the suite of tools to support its operation and community understanding (Observer, DCAT, IRWIN Data Service, etc.)
- The focus of the Data Integration Service is on high-value investment opportunities (i.e. – reduction of redundant data entry, improve data quality, etc.)
- The solution development is meant to be iterative, i.e. not perfect the first time
- No implementation will be made that creates a barrier to business workflows or encourages data silo-ing
- Data Integration Service will be a trusted agent for the brokering of information between participating systems
- Data Integration Service will provide data look ups and calculations using community provided authoritative data layers so connected systems can ease computing resources
- Participating systems will make their contracted support personnel available to IRWIN staff during the discovery and development phase
- The Data Integration Service will interact with federal and non-federal applications
- IRWIN does not transform data – participating application are responsible for providing data in NWCG data standard compliant format except in the case of other integration system (NERIS).
 - In those instances where an approved NWCG data standard does not exist, the IRWIN Core Team will submit a proposed data standard based on the most common format utilized by partner applications
- The Data Integration Service will provision data from authoritative data sources for use by other applications
- IRWIN is transactional in nature, i.e. focused on operational data, and is not a historical repository
- Data from the Integration Service will be archived at some point (to be determined) after a final fire report has been approved

4.0 EXTERNAL DEPENDENCIES AND CONSTRAINTS

- Dependencies



-
- Partner applications enabling extended team member participation in the IRWIN development project
 - NWGC data standards exist for the data IRWIN will orchestrate
 - Participating applications comply with NWCG data standards
 - Support from the business community and leadership as to the value of Data Integration Services
 - The IRWIN extended teams manage their own development scope, schedule and budget within IRWIN's overall scope, schedule and budget
 - The DOI CIO GeoPlatform solution will continue to support the IRWIN Read Only integrated systems
 - Constraints
 - Environment connectivity and extended team application stability could potentially reduce response time for data exchange.
 - Fire season results in reduced availability of personnel to collaborate on development activities.
 - Readiness of extended team systems during the development and testing process to allow extended team users to participate in validating the quality of the work products.
 - Business alignment with project goals, schedules and scope,
 - As the government moves toward a more matrixed project management and business lead structure it provides a challenge for IRWIN to coordinate the business requirements gathering, development and specifically testing for effective data integration.

5.0 RESOURCE REQUIREMENTS

5.1 KEY CORE AND EXTENDED TEAM ROLES



Key Core Team Roles	Key Extended Team Roles*
Project Managers	Project Manager
Business Leads	Business Lead
Development Coordinator	System Administrator
Product Owner	Database Administrator
Technical Lead	Application Administrator
Database Designer	Developer
Contracted Business Lead	Security Officer
Observer Developer	COR
Data Architect	Data Steward
Cyber Engineer	
Contracting Officer	
COR	
Security Officer	
Budget Analyst	
Solution Hosting Specialist	
Infrastructure Manager	
Infrastructure Lead	
Infrastructure Analyst	
Implementation Lead	
Implementation Analyst	

*Key roles for the extended team are relative to the IRWIN project, not to the overall management of the partner application.

5.2 SOFTWARE AND HOSTING ENVIRONMENT REQUIREMENTS

The IRWIN development utilizes commercial off-the-shelf (COTS) software wherever possible. The application is designed using SQL Server, ArcGIS Server, and ArcGIS Online.

IRWIN uses the following environments:

Table 5.1 IRWIN API Environments

Environment	Hosting Location	URL
Development	Cloud Hosting	Internal
Test	Amazon Cloud – West Coast Data Center	https://irwint.doi.gov
Operational Acceptance Testing (OAT)	Amazon Cloud – West Coast Data Center	https://irwinoat.doi.gov
Production	Amazon Cloud – West Coast Data Center	https://irwin.doi.gov

Each application that partners with IRWIN for data exchange should have a corresponding environment in which to conduct development and testing activities.



7.0 PROJECT WORK PLAN

The implementation methodology is to onboard participating applications as the business identifies the need and readiness of the community to support integration. The development of data exchange capabilities via IRWIN and the Operations and Maintenance for the life of the investment is planned through 2029.

7.1 EXTENDED TEAM COORDINATION

IRWIN will initiate discussions with an application team based on direction from the business. Both project teams conduct an initial, high-level readiness assessment based on the extended team application life cycle and functional business requirements. If this readiness assessment is positive, the teams will negotiate and outline:

- Roles
- Responsibilities (Scope)
- Milestones (Schedule)
- Key contacts

The communication process and timelines are defined and scheduled as appropriate.

Because of variations in application and contract life cycles as well as business function, the activity schedule will differ between partner applications. The annual activities described below reflect a generalized grouping of activities.

7.2 DISCOVERY AND PROTOTYPING

The IRWIN Core Team will facilitate a series of face-to-face and virtual meetings with the extended team(s). These meetings will present progressive specificity in the description and cataloging of workflows, data mapping, technology and infrastructure requirements. This effort will conclude with an analysis of the data exchange activities between the two applications.

Activities include:

- Identifying partner application function and capabilities related to IRWIN data exchange
- Capturing data dictionaries, technical artifacts, product information, infrastructure hosting, schematics, etc.
- Conceptual Data Model (Word doc, PDF, etc.)
- Data Dictionary documentation (Word doc, PDF, etc.)
- ER diagram with entities, attributes, relationships, etc. (LucidCharts, ER/Studio, PDF, etc.)



- Flat file data exchange sample, if any (txt, csv, xml, json)
- Partial or complete database backup file of Test, Dev, or Prod instance (i.e. Oracle .dmp, SQL Server .bak, .mdf, etc.)
- General application documentation (Users guide, training materials, etc.)
- Infrastructure description: What environments exist (Development, Test/QA, UAT, Stage/Pre-production, Production, etc.)
- Defining business rules, workflows with a series of face-to-face and virtual meetings
- Prototyping key functions and structures

Desired outcomes of the Discovery process will be that each extended team will produce:

- Design document
- Scoping document
- Milestones

7.3 DEVELOPMENT, TESTING & ACCEPTANCE

7.3.1 API Read Write Capability

Once extended team system modifications are complete, the extended team and Core Team will conduct a series of tests resulting in data exchange in a production environment. Activities include:

- Defining design artifacts to support mutual understanding of development activities
- Coordinating access to IRWIN's testing environments
- Conducting and reviewing integration and user testing
- IRWIN will complete unit and functional testing for each iteration's work products before notification of releasable product on the Test Environment for Extended Team functional testing
- Integration testing is based on scenarios that test the interaction between systems and workflows that focus on data transmission between systems
- User testing on all released work packages will be supported by the participating systems on their pre-production environment
- Production Deployment requires:
 - IRWIN Integration Specification updates
 - Defining and documenting synchronization protocols in the event of down time or system failure
- Production Deployment activities are governed by the following dependencies:
 - Participating systems have training materials and help desk staff enabled to reflect IRWIN integration
 - IRWIN has infrastructure support personnel in place
 - IRWIN business leads understand and are able to support the workflows and data flows for the extended systems
 - IRWIN support tools are updated to reflect the current capabilities and support business rules



7.3.2 Read Only Capability

Read only systems have been migrated off the IRWIN API and onto the IRWIN Data Service.

Moving the read only systems off the IRWIN API alleviates the need for the read only systems to reengineer or update their systems when IRWIN deploys additional releases and updates.

Additional capabilities for read only access will be facilitated by the implementation team and analyzed by the business as a use case in support of the community.

7.3.3 Support Tools

There are tools developed for the IRWIN community to monitor the health of system interaction, support administration, functionality and documentation. The tools (i.e. Observer, the Slingshot script, etc.) were developed based on the community's requirements. This development cycle is dynamic (does not follow the annual release pattern of the API); testing is completed on the Test environment via review of the acceptance criteria / User Story benefit in order to gain acceptance as part of the Apps and Services Retrospective demos. Accepted work products are promoted to the OAT environment for subject matter expert (SME) review. Promotion to the Production environment is governed by Request For Change (RFC) and the availability of release notes and user guides.

7.4 PRODUCTION, OPERATIONS & MAINTENANCE (O&M)

7.4.1 API O&M

The IRWIN Core and Extended Teams will continue to coordinate with each other as ongoing application management may impact the partner application(s). It is anticipated that early participants in the IRWIN data exchange may be asked by the stakeholder community to make additional modifications to allow for data available from more recent additions. If this situation arises, the extended team and Core Team will enter condensed discovery, prototype and development phases. O&M activities include:

- Maintaining each application within agreed upon Service Level Agreements (SLAs)
- Coordinating application upgrades, refreshes and/or modifications and any associated down time
- Participating in annual Integration testing

7.4.2 Support Tools

The IRWIN Core Team will support the suite of tools that provide support for O&M activities. These tools include:

- Maintaining each tool within the suite to support the agreed upon Service Level Agreement (SLA)
- Coordinating application upgrades, refreshes and/or modifications and any associated down time
- Maintaining user guides and feedback products

8.0 SCHEDULE AND MILESTONES

8.1 DATA INTEGRATION SERVICES PARTNER APPLICATIONS & ENGAGEMENT TIMELINES

The following applications are priorities for data exchange through the Data Integration Services. The associated dates are based on current understanding of priority and ability to integrate. These are adjusted, as needed, based on business, stakeholder and extended team input.

Table 8-1 Planned Partner Engagements for V12

System	Integration Pattern	Implementation Year	Integration Type
FBMS	Incident, Resource, & Contracts API	2028	Read Write
IFPRS	Incident & Resource API	2028	Resource (Read) Incident (Write)
San Bernardino CAD CONFIRE	Incident & Resource APIs	2027	Resource (Read) Incident (Write)
Fire Engineering Training & Journal of Emergency Medical Services (FET & JEMS)	Learning & Resource APIs	2027	Resource (Read) Learning (Write)



Louisiana Department of Ag and Forestry	Incident API	2027	Read Write
First Due CAL FIRE Incident Reporting Platform	Incident API	2028	Read Write



8.2 IRWIN GENERAL ITERATION SCHEDULE

The IRWIN Core Team will utilize the following general development schedule:

Table 8-2 IRWIN General Iteration Schedule

Task Name	Duration
IRWIN Iteration	28-31 Days
Grooming	Ongoing
Work Product Completion / Defect Resolution	25-28 days
Retrospective / Demo	2 hours

9.0 MONITORING AND CONTROL

The project status will be monitored on a monthly basis, including project priorities re-alignment and project budget review. The project priorities will be defined in the project grooming and planning activities.

10.0 COMMUNICATIONS PLAN

10.1 COMMUNICATIONS PROTOCOL

The communication goal of the IRWIN Project Team is to provide relevant, accurate and consistent information to the organizations at all times. Effective communication with stakeholders will encourage support and cooperation and allow the project to accomplish its goals. This communication goal will be accomplished through the following activities:

- Dissemination of information on planned project activities, progress during performance and results through the communication channels outlined in this plan are implemented to establish interagency support.
- The IRWIN Project Team maintains an open door policy to all project stakeholders. Answers to questions and responses to concerns will be addressed as quickly and completely as possible.

An IRWIN Communication Framework is established and outlines standard operating procedures for communication within the project, with management and IRWIN stakeholders.