

NIF Experiment Interface Consolidation and Simplification to Support User Facility

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NIF Data Systems



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Applications

- Summary
- **Campaign Management**
- Data Downloaders
- Data Visualization
- ECMS
- Glovia
- LoCoS
- LPOM
- Mobile Apps
- NIFDesign
- NIF Livelihood (RMS)
- NPS
- PORT
- RAHMA
- Shot Analysis
- SMART
- SPLAT

Downloads

- [CMT Single Experiment Check-out](#) ↗
- [Approval Manager Training](#) ↗

Links

- [Experimental Staffing Plans](#) ↗
- [Experiment Reviews](#) ↗
- [Shot RI Resources \(User Office\)](#) ↗

Campaign Management

Campaign Management

Set up, validate and export experiments:

⇒ [Launch Campaign Manager](#)

Use for extra-large campaigns - requires 4GB RAM:

⇒ [Launch Campaign Manager - Jumbo Version](#)

Administrative Tools

Create and view pulse shapes:

⇒ [Launch Pulse Shape Editor](#)

Set up beam pointing to target chamber:

⇒ [Launch Beam Pointing Assistant](#)

Add targets to CMT:

⇒ [Launch Target Selection Manager](#)

Parts and lists management:

⇒ [Launch Parts and Lists Manager](#)

Target Diagnostic Template Manager:

⇒ [Launch Target Diagnostic Template Manager](#)

Create ARC Timing Configurations:

⇒ [Launch ARC Timing Editor](#)

Dante Attenuation Calculator:

⇒ [Launch Dante Attenuation Calculator](#)

Environment Set up

CMT Requires the Java Runtime Environment (JRE)

[Review Detailed Requirements](#)

Review and Approval

Launch Approval Manager:

⇒ [Launch Approval Manager](#)

Scheduling & Readiness Review

Use Shot Planner (aka FLIP, Readiness Tracker) to schedule and track shots

⇒ [Launch Shot Planner](#)

Use SPLAT to see what shots are scheduled:

⇒ [Launch SPLAT](#)

Review shot setup report and check configuration:

⇒ [Launch Experiment Readiness Review \(aka MSSAR / Config Checker\)](#)

Export Lifecycle Monitor:

⇒ [Launch ELMO](#)

Tools for viewing Experiment Data

Compare the setup for any 2 experiments:

⇒ [Launch ExDiff Report](#)

Review actual SQL for exported shots:

⇒ [Launch Shot Export SQL Viewer](#)

Review actual XML for Config Checker:

⇒ [Launch Config Checker XML Viewer](#)

User Assistance

How to perform various functions in CMT:

⇒ [Launch "How Do I..." Viewer](#)

The internal NIF IT page was built for commissioning the laser...



Fast, Frequent & Safe Flights

 Home

 Logout

 Contact

About

Flight Schedule

Tour Plan

Services

Safety

Flight Schedule

Flight

Title*

From

TO Port*

Port*

Date of

Departure*

Time of :HH

Departure* .MM

NO of

Seats*

Time of :HH

Duration* .MM

Flight Fare

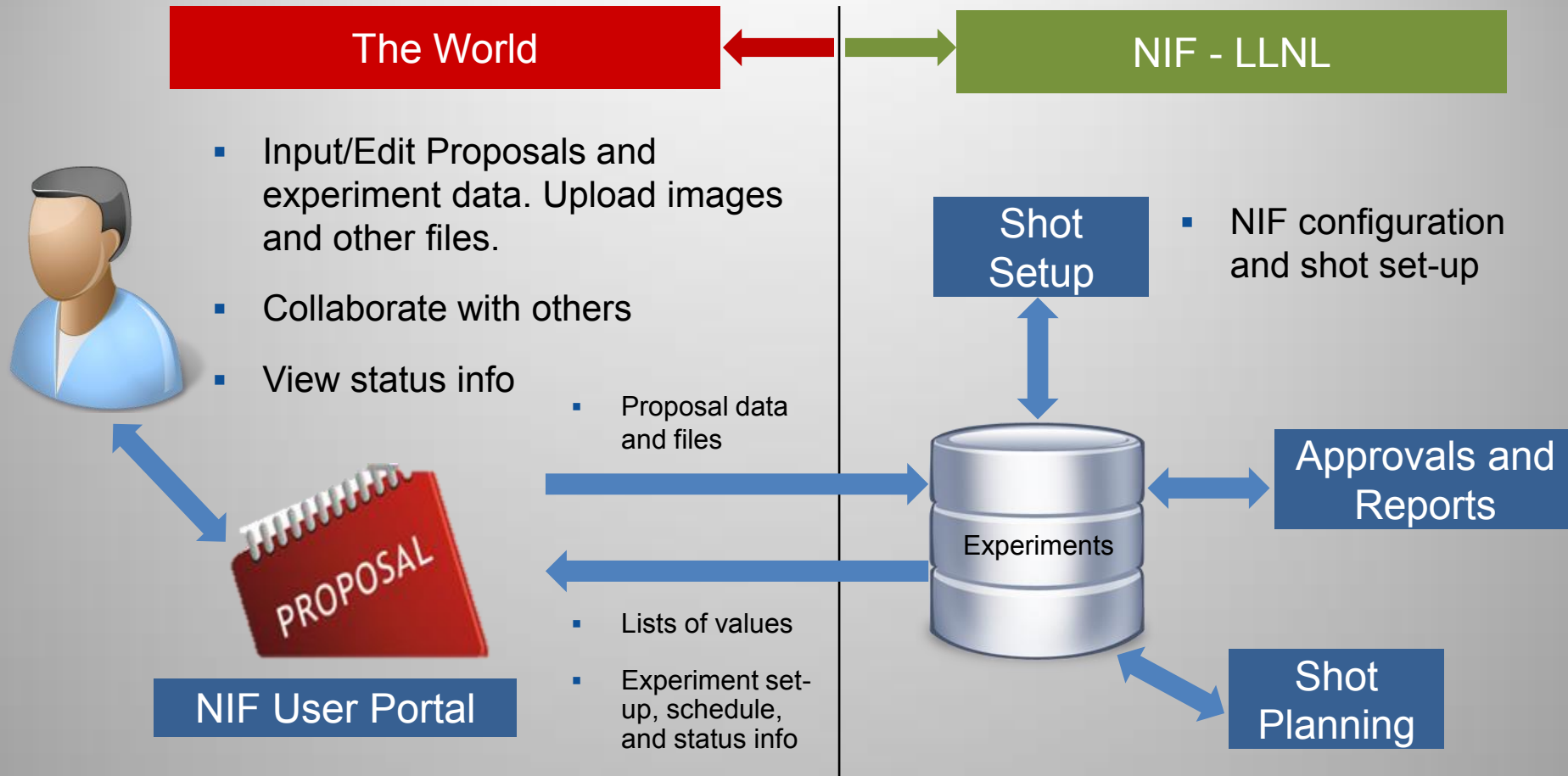
Per

Candidate*



... the NIF user portal needs to be relevant to all users

Provide Collaborative Environment to all both inside and outside LLNL



Goal is to give NIF experimenters a unified, simple UI to manage their proposals and experiments

Proposal Management Tool

NIF User Portal

Proposal

Proposal Workflow

Portal Evolution

- Firm requirements
- It is the first process in the experiment lifecycle
- Allows SW team to become proficient with a new environment



NIF Experiment Tools

Shot Setup

Parts &
Calibration

Shot
Planner

Reporting

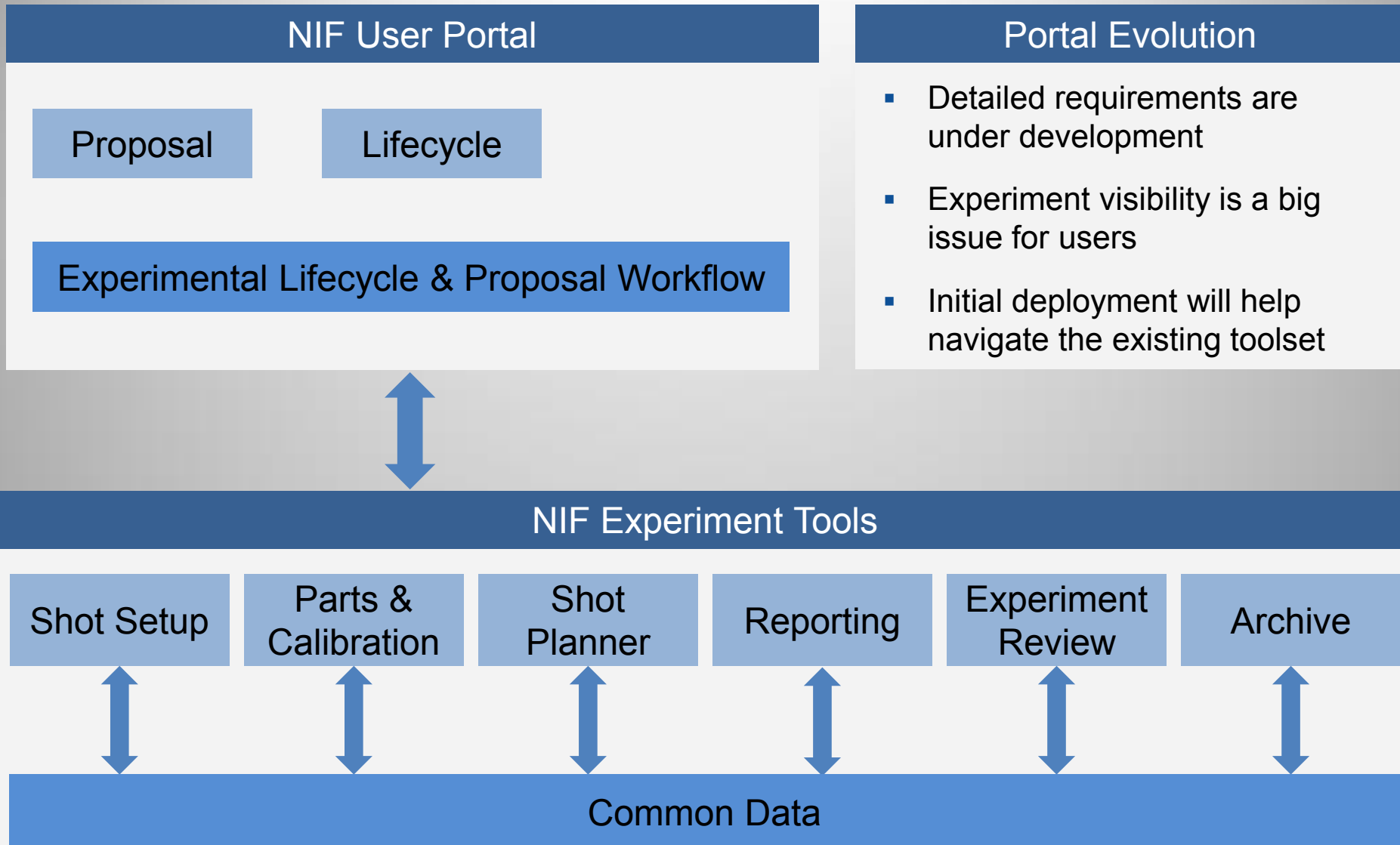
Experiment
Review

Archive

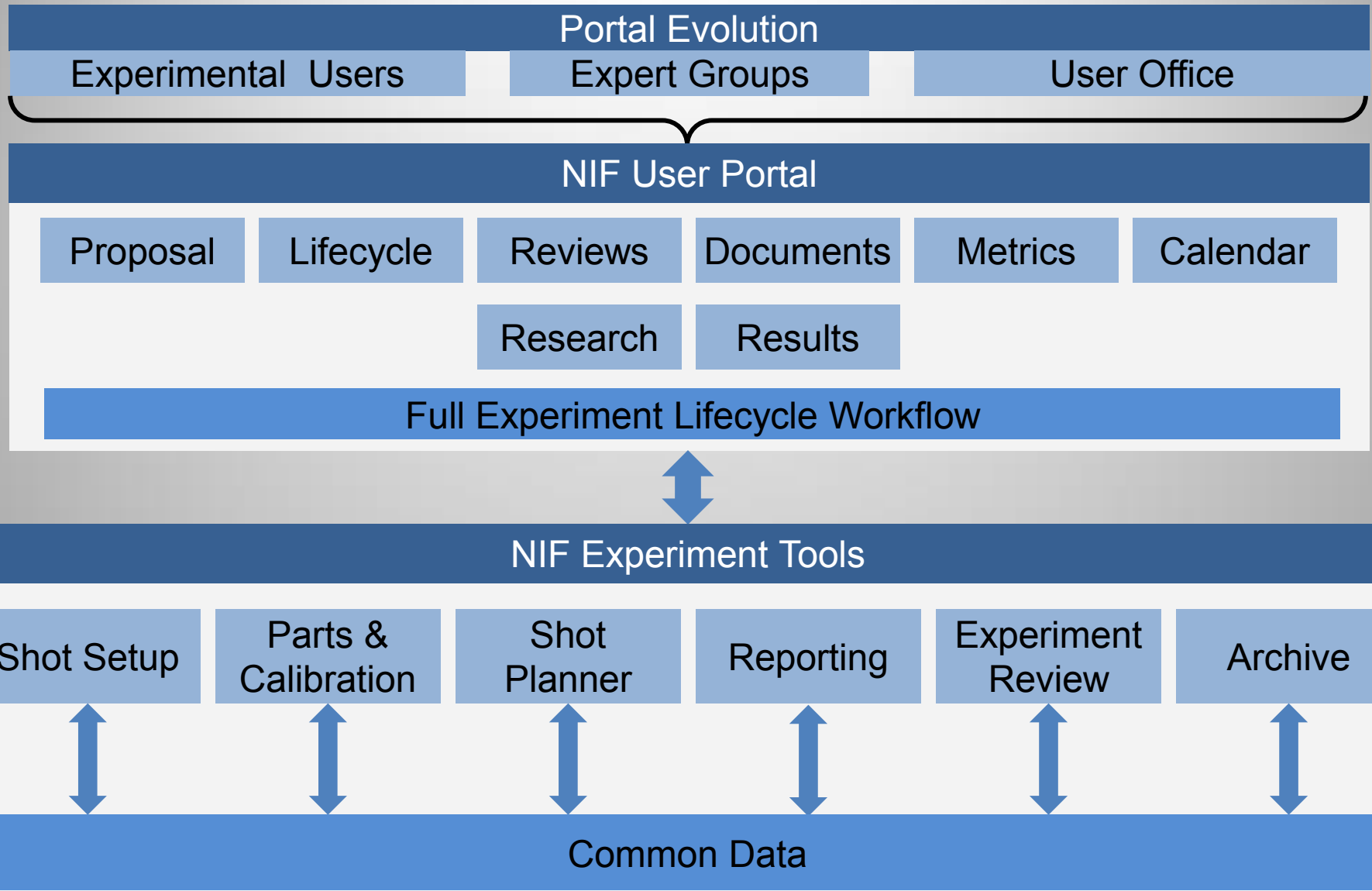


Common Data

Experiment Lifecycle Visualization



Proposed End State



Considerations for selecting the platform



Hardware



External website



COTS v Custom

ORACLE®

Integration



Staff skills



Cost & Schedule

Various Cloud services solutions were considered



In the end, SalesForce was selected as the cloud platform

- Hardware maintained by vendor
- Security handled by vendor
- COTS but with the ability to customize
- Oracle based like legacy tools
- Apex language integrates with latest tech stack; JS, HTML5 etc.
- COTS helps with schedule and thus cost



Came the closest to meeting all of our requirements

With all tools there are advantages and disadvantages, Salesforce is no different

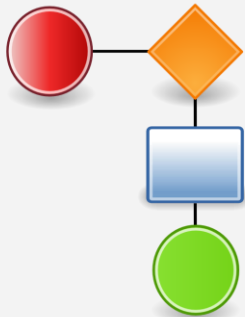
The Good



Collaboration



Unit Testing

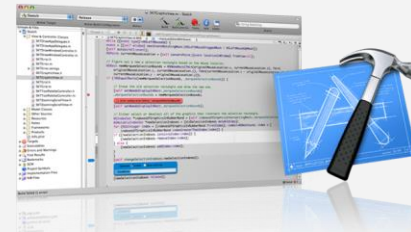


Workflows



Object Security

The Not So Good



Development Environment



Debugging



The Way It Is

NIF User Portal - Proposal Management Tool

<http://nifportal.force.com/>

The screenshot displays the NIF User Portal interface. At the top, there is a search bar and a user profile dropdown for 'Joe User'. Below the navigation bar, the 'Call for Proposals' section is active. The main content area shows the '2015 Discovery Science Call for Proposal' with a 'Create Proposal' button. A sidebar on the left lists 'Recent Items' including various proposal IDs. The main content area also features a 'Summary' table and a 'Detail' section with text about the call for proposals.

Navigation Bar: Chatter | Call for Proposals | Proposals | Platforms | Approve Draft Proposals

Search Bar: Search... Search

User Profile: Joe User

Left Sidebar:

- Create New...
- Recent Items
 - C-130
 - P-001121
 - P-001122
 - P-001120
 - P-001001
 - P-5
 - P-14
 - P-001119
 - P-001115

Main Content Area:

Return

Call for Proposal

2015 Discovery Science Call for Proposal

Create Proposal

Summary			
Title	2015 Discovery Science Call for Proposal	Solicitation_Date	6/1/2015
Call State	Open	Allocation Days	18

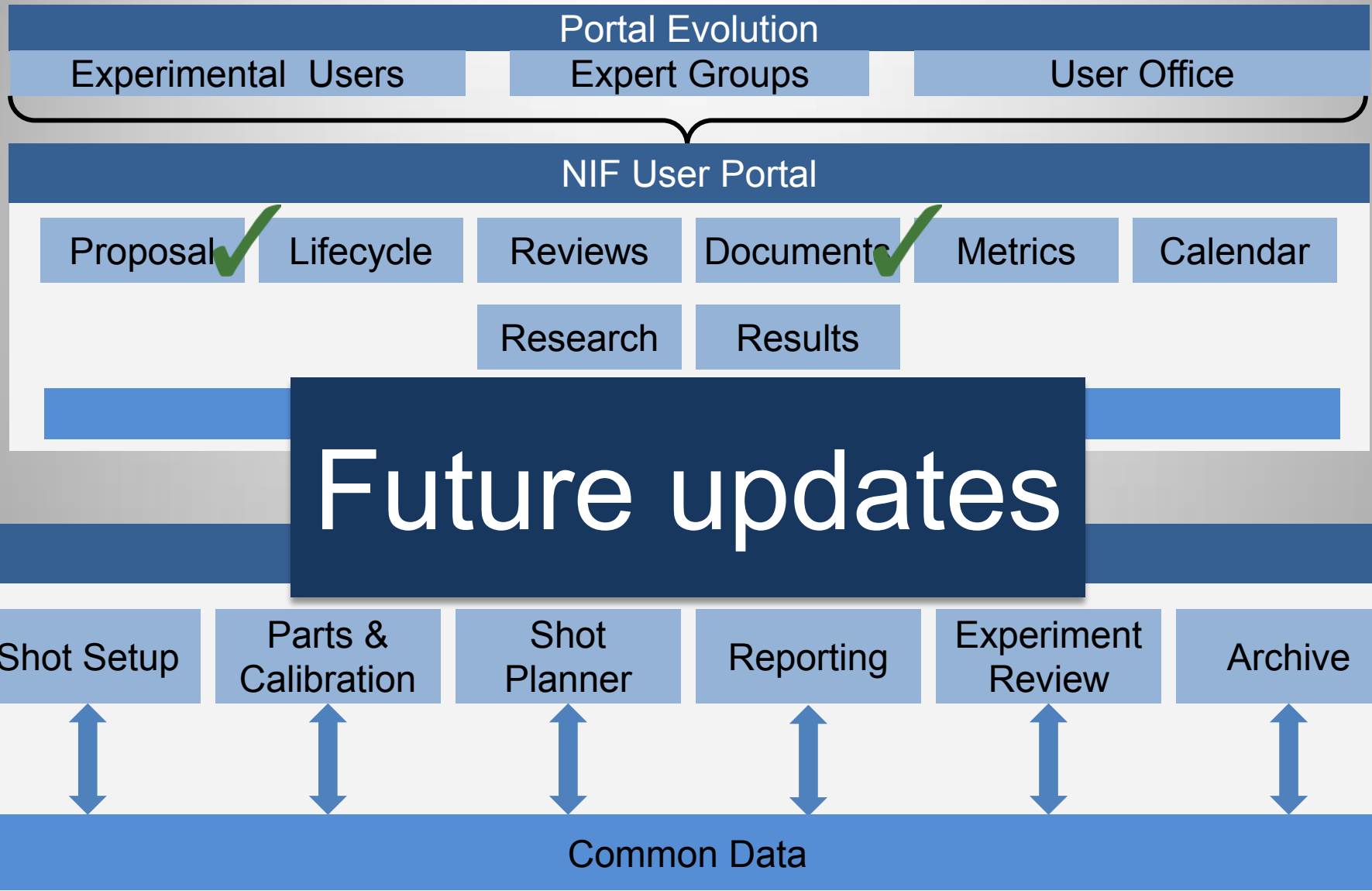
Detail

LLNL is issuing a call for proposals for experiments in the Discovery Science (DS) program on the NIF, starting nominally in the third quarter of FY2017 (spring of 2017) and extending into FY2018.

To help us with the planning and refereeing process, we would appreciate applicants entering a title and abstract for their proposals via the web based form June 30, 2015. **Full proposals are due by**

Common interface for all users to interact with their proposals and experiments

Proposed End State



Drag and drop interface for ranking proposals

The screenshot shows a web application for managing proposals. At the top is a navigation bar with links: Home, Chatter, Programs, Campaigns, Platforms, and Approve Draft Proposals. Below this is a sidebar on the left containing a 'Create New...' button, a 'Recent Items' list with links like C-102, P-001046, C-118, P-001016, SFDC2 Admin2, Allan Casey, C-103, P-001002, Joe Office, and Essex Samples, and a 'Recycle Bin' button. The main content area is titled 'Rank Proposals' and includes 'Save' and 'Save and Approve/Reject' buttons. A dropdown menu shows 'Select a Call' with 'Call For Proposal-Discovery Science (C-120)' selected. The interface is divided into four panels: 'Tier 1' and 'Tier 2' (both showing 'No Items Exist'), 'Unranked Proposals' (containing 'Experiment 1', 'Experiment 2', and 'Experiment 3'), and 'Rejected Proposals' (showing 'No Items Exist').

Use the Web to collaborate and not Excel

Drag and drop interface for ranking proposals

The screenshot shows a web application for ranking proposals. At the top is a navigation bar with links: Home, Chatter, Programs, Campaigns, Platforms, and Approve Draft Proposals. Below the navigation bar is a sidebar on the left containing a 'Create New...' button, a 'Recent Items' list with links like C-102, P-001046, C-118, P-001016, SFDC2 Admin2, Allan Casey, C-103, P-001002, Joe Office, and Essex Samples, and a 'Recycle Bin' button. The main content area is titled 'Rank Proposals' and includes 'Save' and 'Save and Approve/Reject' buttons. A dropdown menu 'Select a Call' is set to 'Call For Proposal-Discovery Science (C-120)'. The interface is divided into four panels: 'Tier 1' containing 'Experiment 3', 'Unranked Proposals' containing 'Experiment 1' and 'Experiment 2', 'Tier 2' containing 'No Items Exist', and 'Rejected Proposals' containing 'No Items Exist'. Each panel has a light blue background with a darker blue header area for the experiment names.

Home Chatter Programs Campaigns Platforms Approve Draft Proposals +

Create New...

Recent Items

- C-102
- P-001046
- C-118
- P-001016
- SFDC2 Admin2
- Allan Casey
- C-103
- P-001002
- Joe Office
- Essex Samples

Recycle Bin

Rank Proposals

Save Save and Approve/Reject

Select a Call Call For Proposal-Discovery Science (C-120)

Tier 1

Experiment 3

Unranked Proposals

Experiment 1

Experiment 2

Tier 2

No Items Exist

Rejected Proposals

No Items Exist

Use the Web to collaborate and not Excel

Experiment editor

Chatter
Call for Proposals
Proposals
Platforms
Approve Draft Proposals

Remove for the initial Release

Summary
Collaborators
Experiments
Attachments

Save

New

	Attribute	Exp1	Exp2	Exp3
1	Proposed Experiment ID	PX-010146	PX-010147	PX-010148
2	Sequence Number	1	2	3
3	Experiment Name	Exp1	Exp2	Exp3
4	Experiment Description			
5	Campaign Lead			
6	Platform Configuration			
7	Allocation Fiscal Year			
8	Shot Allocation Quarter			
9	Predecessor Experiment			
10	New Snout?			
11	New Detector?			
12	Polar DIM Instrument			
13	Polar DIM Strips			
14	Polar DIM Hardened			
15	Polar DIM Priority			

An Excel like experience for experiment definition

Show Key Experiment Lifecycle Status Information

Task State

☐ All
☒ Complete
☐ Issues
☐ NA
☐ No Issues
☐ Past Due
☐ Pre Approved
☐ Not Complete

Complete

Issues

NA

No Issues

Past Due

Pre Approved

Not Complete

Filter

Export to Excel

Go

Reports

1. Primary Report

Rows

25

Actions

Curr T between 0 and 8

☒
☒

currT

FLIPID

shotRI

Scheddate

PE

☒
☒
☒
☒
☒

☒
☒
☒
☒
☒

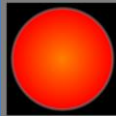


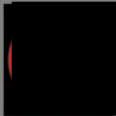



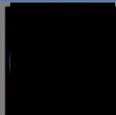



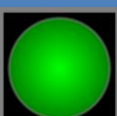
Scroll To:

32.11System Engrg Review Priority (H/M/L)

	Exp	Sched Dt	Curr I	FLIP ID	Cmt Exp Name	Cmt Exp Status	32.11 System Engrg Review Priority (H/M/L)	32.12 New Target Capability Y/N	32.13 New TD Capability	32.14 New Fac Capability	32.15 Pri targ rqd prior to shot date Defined	32.16 BU targ rqd prior to shot date Defined
	EXP	06/21/2015	0	F_Gbar_Gbar_EEE	F_Gbar_Gbar_S11	Exported	L	No	No	No	01/14/2015	
	EXP	06/21/2015	0	F_Gbar_Gbar_FFF	F_Gbar_Gbar_S12	Exported	L	No	No	No	01/14/2015	
	EXP	06/22/2015	0	I_PartCritPath_90-78_DDD		-						
	EXP	06/22/2015	0	H_CVal_Key_672CH_BBB	H_CVal_Key_672CH_S03	Exported	L	No	No	No	02/12/2015	
	EXP	06/22/2015	0	H_Mat_TARDIS_Diff_FFF	H_Mat_TARDIS_Diff_S10	Exported	L	No	No	No	01/14/2015	
	EXP	06/23/2015	0	H_Hyd_Shktub_Shear_LLL	H_Hyd_Shktub_Shear_S14	Exported	L	No	No	No	01/14/2015	
	EXP	06/23/2015	0	H_Hyd_Shktub_Shear_MMM	H_Hyd_Shktub_Shear_S15	Exported	L	No	No	No	01/14/2015	
	EXP	06/23/2015	0	H_Hyd_Shktub_Shear_NNN	H_Hyd_Shktub_Shear_S16	Exported	L	No	No	No	01/14/2015	
	EXP	06/24/2015	0	H_Hyd_Shktub_Shear_KKK	H_Hyd_Shktub_Shear_S13	Exported	L	No	No	No	01/09/2015	
	EXP	06/24/2015	0	Fa_LSR_Ops_Eff_FY15Q3_DDD	Fa_LSR_Ops_Eff_FY15Q3_S13	Exported						
	EXP	06/25/2015	0	I_HDC_DT_NV_BBB	I_HDC_DT_NV_S02	Exported	L	No	No	No	01/14/2015	01/14/2015
	EXP	06/25/2015	0	Fa_LSR_B35_3Pulse_HHH	Fa_LSR_B35_3pulse_S08	Exported						
	EXP	06/25/2015	0	Fa_LSR_Ops_Eff_FY15Q3_QQQ	Fa_LSR_Ops_Eff_FY15Q3_S12	Exported						
	EXP	06/26/2015	0	H_DIMXns_90-78_12Hr_JJJ		-						

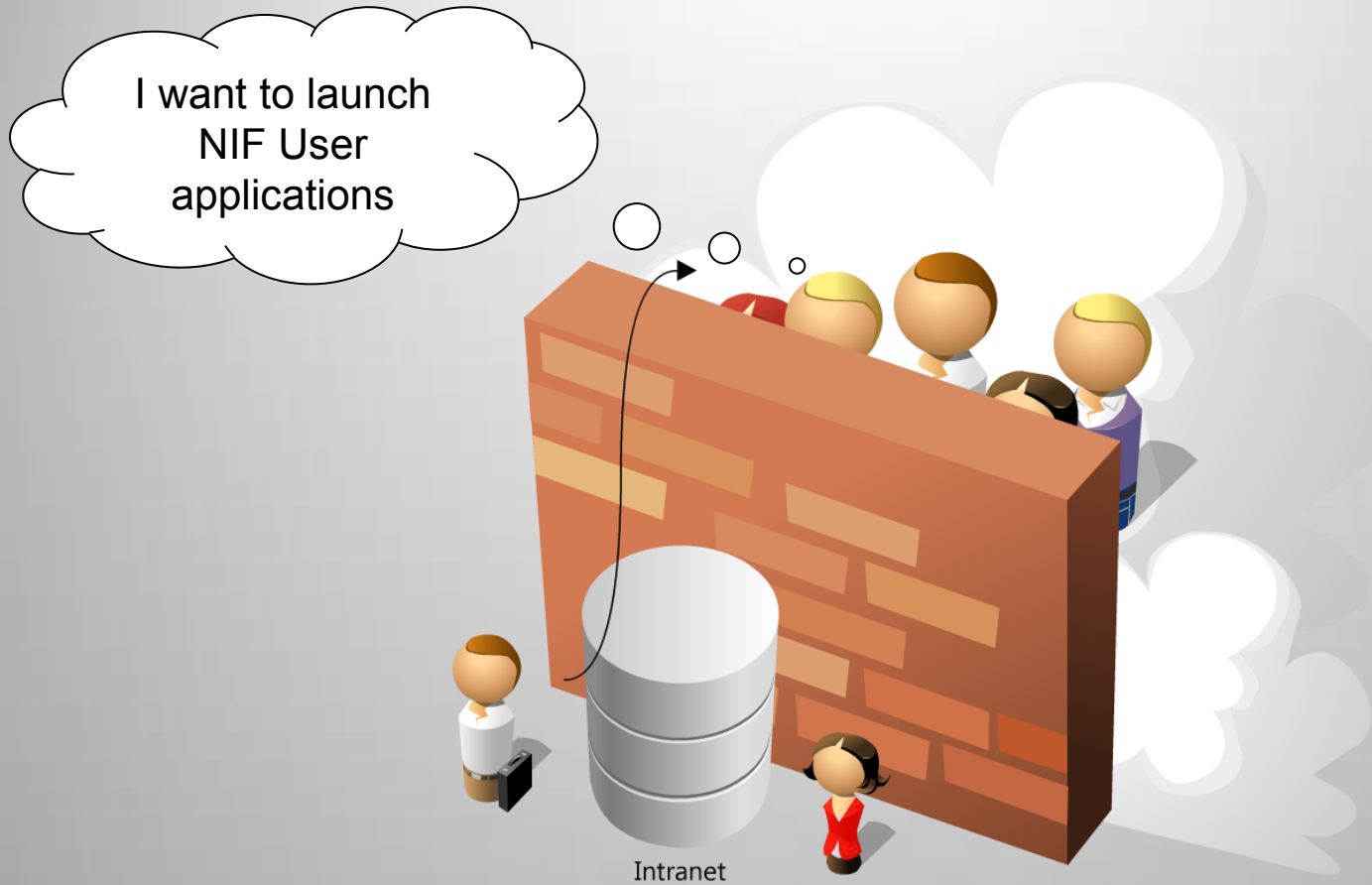
Instead of seeing all the data for all experiments...

Show key experiment lifecycle status information

Experiment LaserShot2	Current Status
Ready To Execute	  
2 Week Review	  
3 Month Review	  
Setup complete	  

... users can see the simplified status

Provide users with the ability to get to NIF tools



Give the appearance of launching tools from the outside

