

# Wildland Fire Information and Technology Management

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## EXECUTIVE BOARD

SEPTEMBER 27, 2013



# Bottom Line Up Front

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- What are the roles of the Program Board and Management Advisory Board in relationship with each other and the Executive Board?
- Next step with IFTDSS?
- How will the staffing issue be resolved?



# Agenda

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- Agenda Review and Opening Comments – Jim Douglas
- June Meeting Recap – Jim Douglas
- Project Status Summary – Chris Markle
- MAB Update – Bill Kaage
- IFTDSS – John Cissel & SEI
- WFIT Resourcing Update – Richard del Hierro, John G.
- Access Authentication - Doug Nash
- Data Management – Rochelle Pederson
- SEI & Strategic Plan Update – Chris Markle
- Next Steps – Jim Douglas
- Issues/Round Robin



# Status Summary

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	WFIT Web Site	80% Completed
	WFIT Initial Operating Capability	35% Completed
	Organizational Structure	10% Completed
	Process for Investment Management	35% Completed
	Business Blueprint	80% Completed
	Current State Investments	50% Completed
	Near Term Cost Savings	25% Completed
	Data Management Plan	70% Completed
	Security Management Plan	70% Completed
	'To Be' IT Blueprint	35% Completed
	Five Year Investment Plan	50% Completed
	Production Capability	10% Completed

# MAB Recommendations/Updates



- MAB counsels patience
  - While framework is in place-still building process.
  - Making progress with WFIT I&T investment review process; specifically:
    - ✦ Vegetation management program review currently underway
    - ✦ First round of reviews/discussions completed
    - ✦ Results to be sent to PB/IFEC for review
  - Lessons learned from this initial review include:
    - ✦ Discussions on how to integrate business needs evaluation with costs; specifically,
    - ✦ We're finding we can't separate cost/benefit analysis from business case.



# MAB Recommendations/Updates continued

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- **MAB Discussion on PB IT Staffing Needs**
  - MAB hasn't had the chance to discuss with the PB their presentation on IT staffing requirements.
  - Discussion between MAB and PB needs to occur prior to Oct WFIT Face to Face meeting and IFEC meeting.
  - Goal may not be to hire talent to cover all the work tasks characterized in the briefing;
  - Rather, it may be how can we be smart and effective with what we have available to us given budget and resource limitations.
- **LOB final draft with co-chairs signatures and cover memo ready to share with the EB**



# Software Tools and Systems Study Interagency Fuels Treatment Decision Support System (IFTDSS)

**WFIT Executive Board**

**September 27, 2013**



JOINT  
**FIRE SCIENCE**  
PROGRAM

# Agenda

1. Problem, technical solution, status, recommendations – *John Cissel (JFSP)*
2. Evaluation – *Steve Palmquist (SEI)*
3. IFTDSS proposal – *Erik Christiansen, Chris Markle (OWF)*



# Software Tools and Systems Study

- Phase I – Strategic assessment (2008)
- Phase II – Solution design (2009)
- Phase III – IFTDSS proof of concept (2010)
- Phase IV – IFTDSS development (2012)
- Phase V – IFTDSS evaluation (2013)



# IFTDSS Evaluation

- Pending decisions memo (March 18, 2012)
- Review meeting (April 23, 2012 )
- Evaluation memo (May 9, 2012)
- Completed (July 1, 2013)



# Problem Statement – Enterprise

## Software Chaos

- ***Confusion***: many fragmented and overlapping applications
- ***Inefficiency***: many interfaces, time-consuming data transformations
- ***High costs***: software development and maintenance stove-piped, unconnected
- ***'Best' models***: lack of performance and comparison data



# Problem Statement – Fuels Treatment

- Inconsistent use of tools and analyses
- Guidance for model selection fragmented
- No risk assessment tools for non-experts
- No collaboration tools
- Most training is tool based



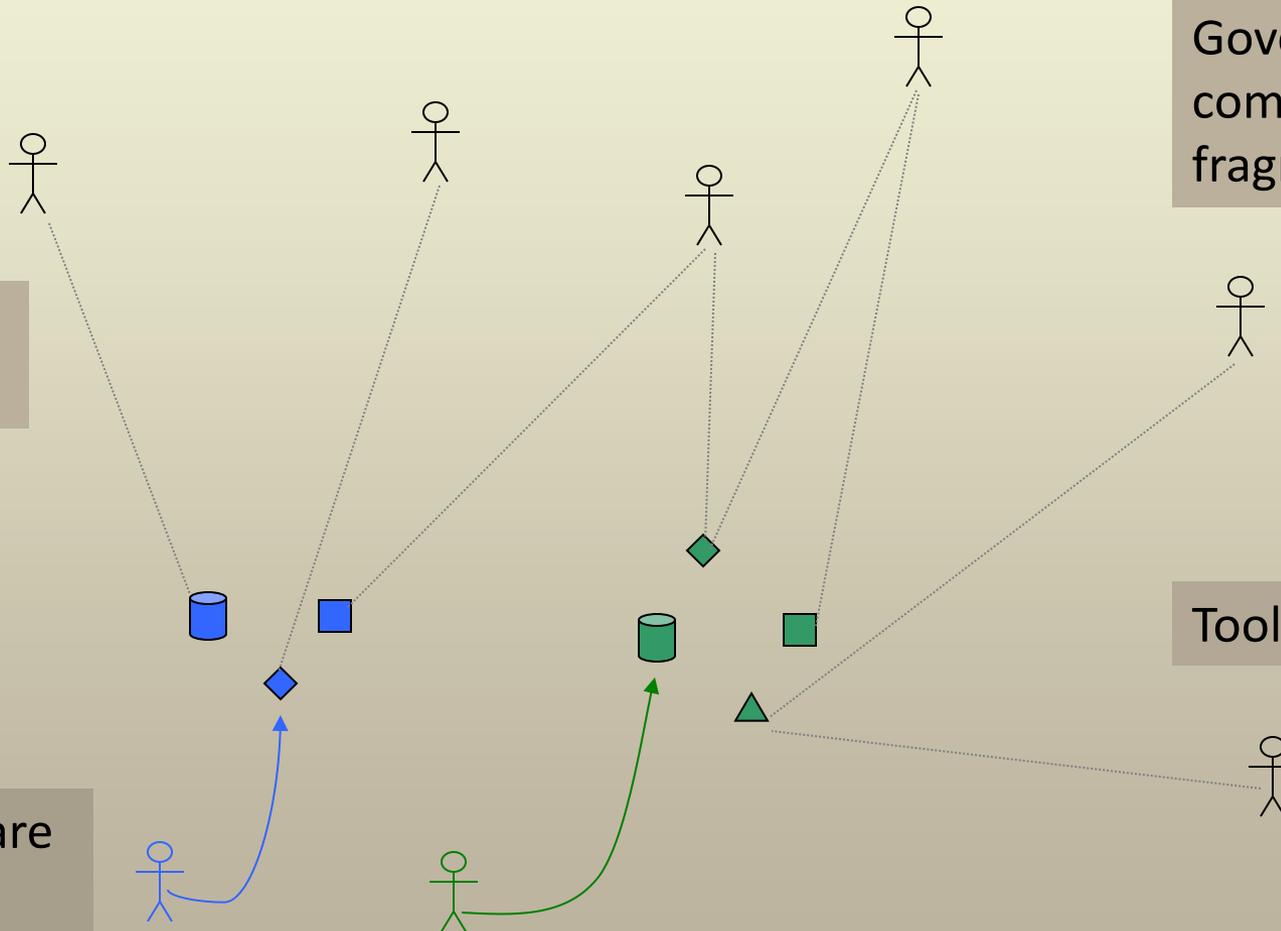
# Existing Condition

**Fuels planners use what they know**

Governance & IT communities fragmented

Users are isolated

Tools are isolated



**Scientists and data providers create tools**

# Phase 1 - Strategic Assessment Recommendations

- Adopt centrally managed service integration frameworks
  - Separate models and data from interfaces
  - Consolidated, web-based interfaces
- Align business practices with service integration frameworks
  - Users, model developers, governance, IT
  - Lifecycle management, portfolio management
  - Analysis guidelines, performance measures, training, collaboration support



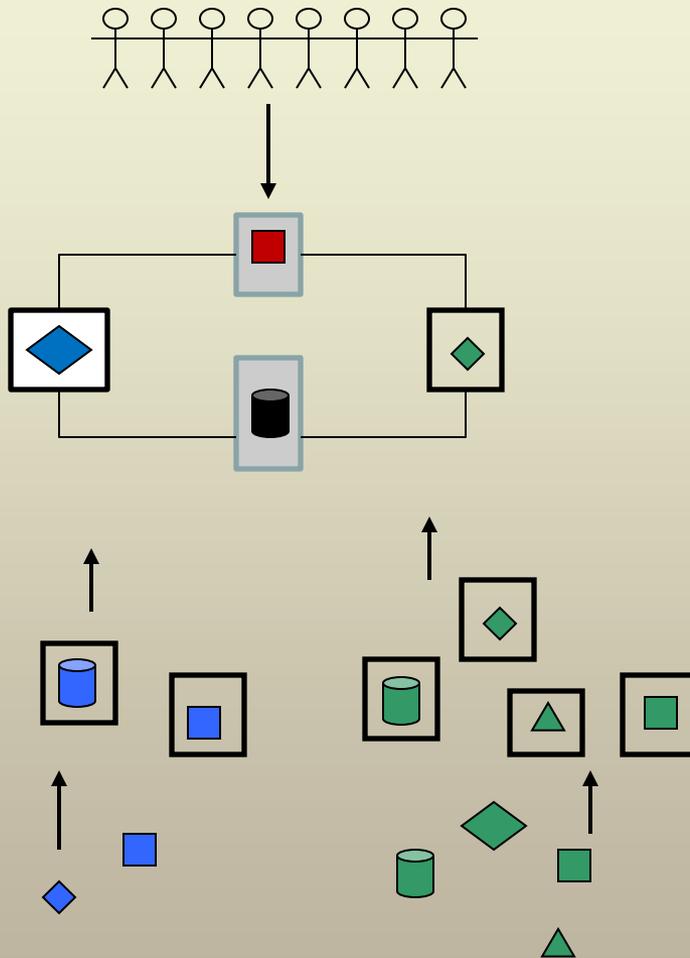
# IFTDSS Goals

- Demonstrate a centrally managed service integration framework
  - Fuels treatment
    - Workflows
    - Risk assessment
  - Lifecycle management
    - Realign lifecycle responsibilities
- Future capabilities
  - System of record
  - Process to deploy tools from research



# Vision: Fuels Treatment Planning

IT & Governance



**IFTDSS: Single interface, web-based, multiple tools, data transformations**

**New tools are coded as services & linked with wrapped tools**



**Legacy tools are stripped from existing systems & “wrapped” for modular use**



# Workflows – Business Needs

- Hazard assessment
- Treatment placement
- Treatment effects analysis
- Risk assessment
- Prescribed burn planning



# IFTDSS Software Architecture

Service (models and data) integration framework



IFTDSS Web Application

Web-based interface, workflows

Scientific Modeling Framework

Model access and linkage, data transformation

Model

Model

Model

Model

Model

Model

Model

Scientific models, data

# STS Status

- IFTDSS V2.0 (beta) is complete
- Reports
- Publications
- Proposal (support role)



# Existing Condition

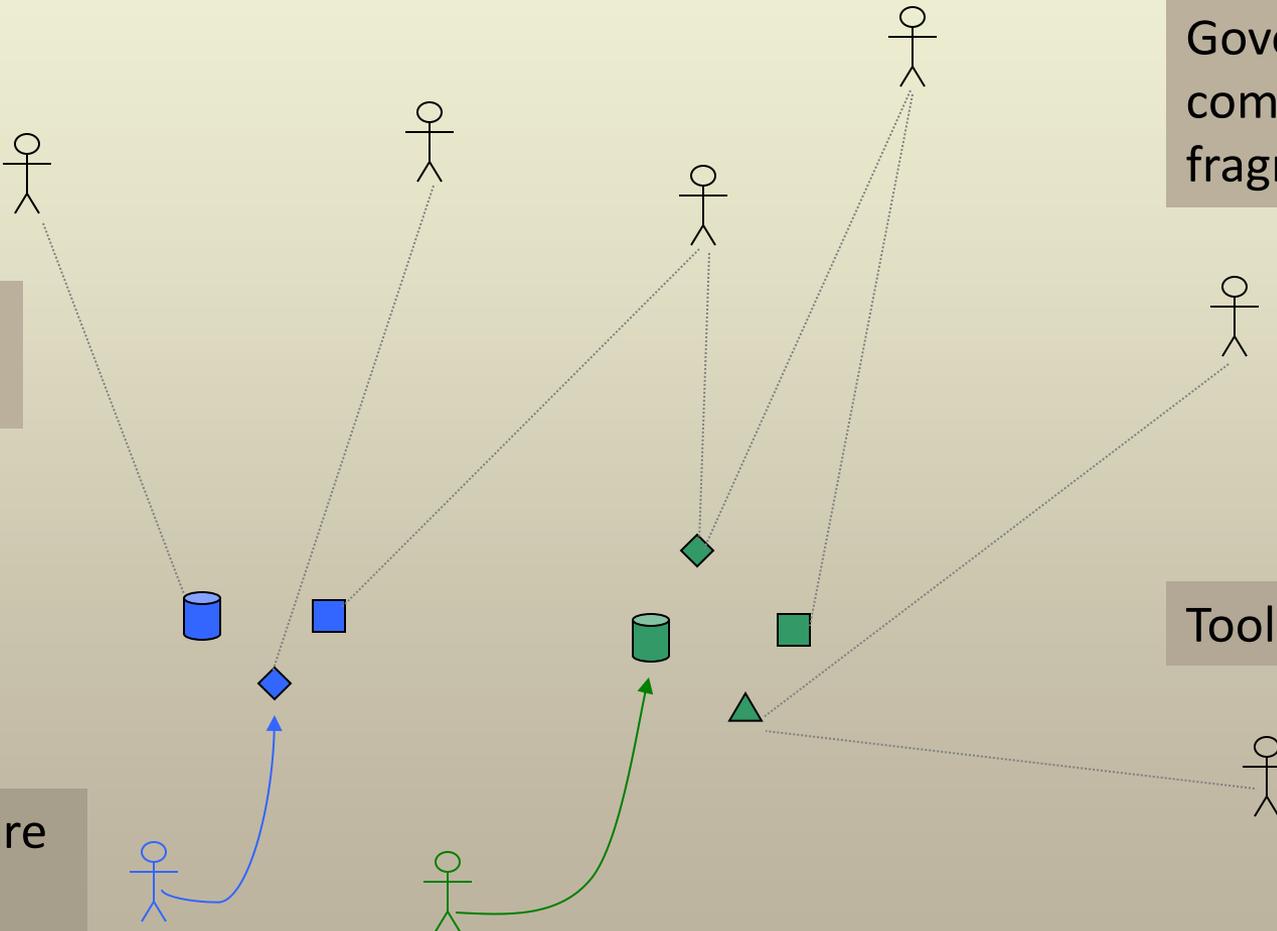
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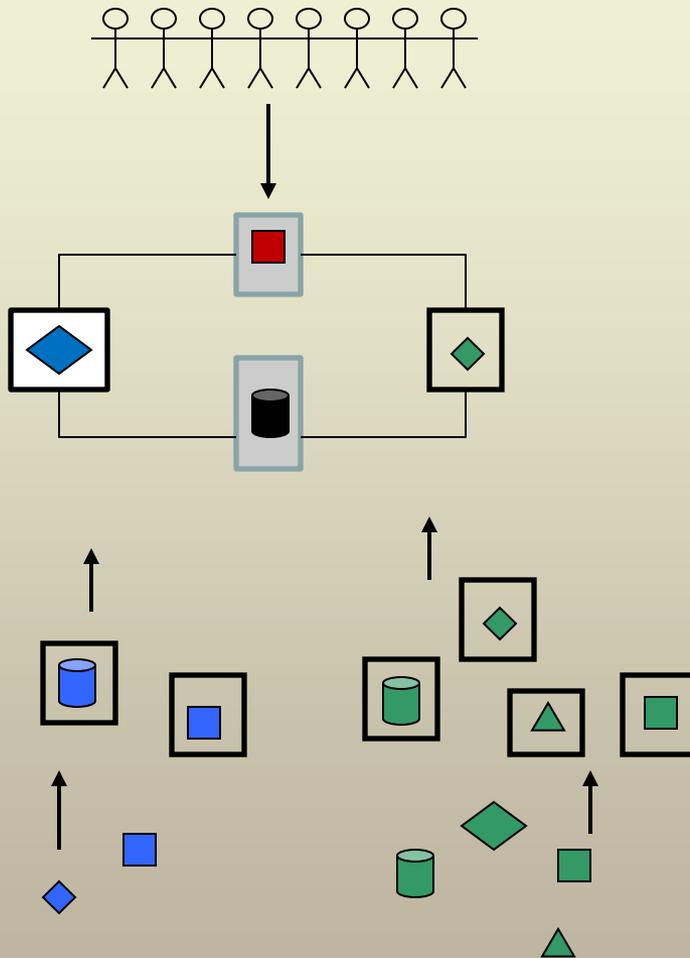
Developers are isolated



**Scientists and data providers create tools**

# Vision: Fuels Treatment Planning

IT & Governance

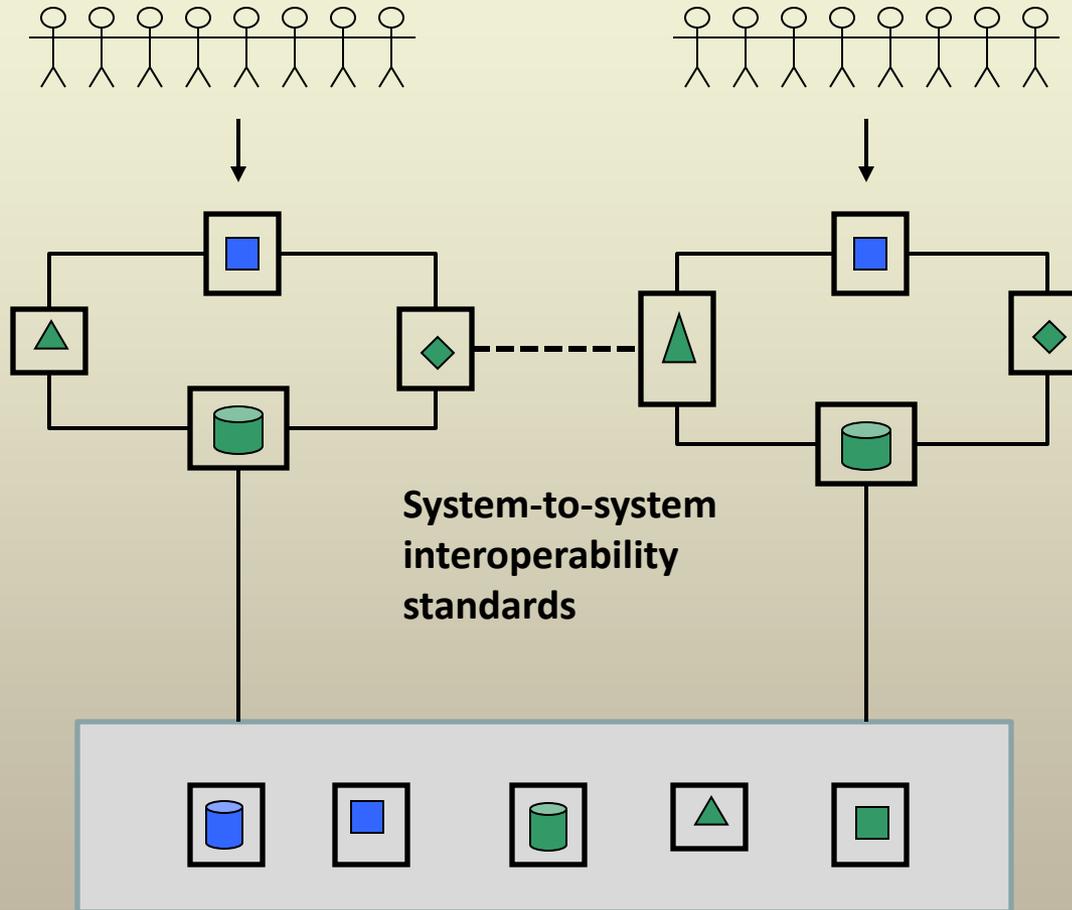


**IFTDSS: Single interface, multiple tools, data transformations, web-based**

**New tools are coded as services & linked with wrapped tools**  

**Legacy tools are stripped from existing systems & “wrapped” for modular use**  

# Vision: System-of-Systems



**Linked service integration platforms, e.g., IFTDSS, BlueSky, WFDSS**

**Library of common services**



# SEI Report on the Interagency Fuels Treatment Decision Support System (IFTDSS)

Steve Palmquist *PE, PMP*  
Pat Place

September 27<sup>th</sup>, 2013



# SEI Opinion

IFTDSS is a significant achievement that can provide measurable value:

- helps meet several strategic and/or Congressional goals
- supports the enterprise architecture vision
- improves planning quality while saving user's time
- implements a common work process using common tools
- supports a common training approach
- supports a consistent tool integration approach

IFTDSS requires additional effort as part of national deployment

- it requires several enhancements – especially security
- some capabilities need to be added and the workflows need to be vetted

***IFTDSS is a game changer over the status quo, providing progress in moving towards the future IT vision and reining in software chaos***



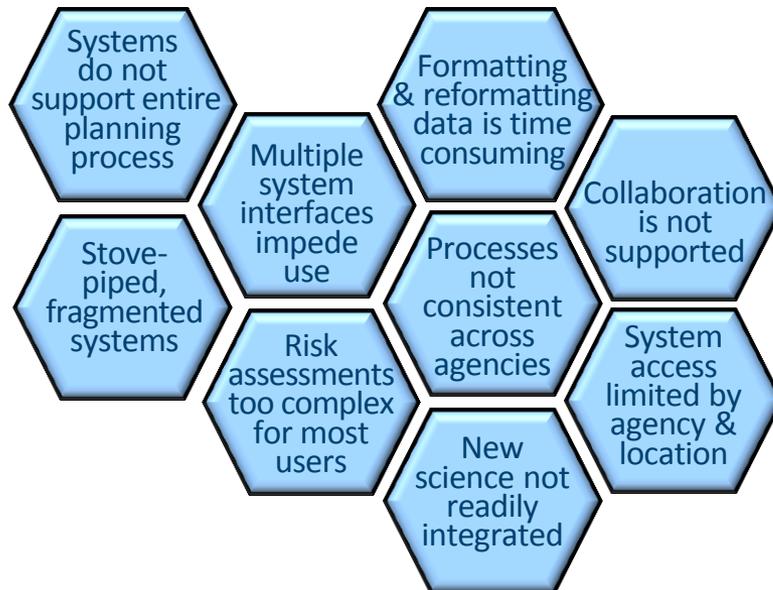
# What Is Gained by Deploying IFTDSS



**Interagency Fuels Treatment Decision Support System (IFTDSS)**

*Supports these strategic drivers*

*Addresses these user problems*



## **FLAME Act**

- "common analysis method...using common tools"
- risk assessments used to determine treatment areas

## **National Cohesive Wildland Fire Management Strategy**

- "sound risk management is the foundation for all management activities"

## **Wildland Fire Information & Technology (WFI&T) Plan**

- integrated, modular applications
- authoritative data
- available regardless of agency or location

## **Interagency Prescribed Fire Planning & Implementation Procedures Guide**

- common planning workflow for all federal land management agencies



# IFTDSS: Enterprise Architecture Vision

- Decomposes application functions into logical modules and provides a single integration mechanism for the scientific models
- Is Web-based to support cross-agency, cross-location access
- Provides a consistent user interface through a single portal to reduce barriers to accessing and using included scientific models
- Is capable of hosting any provided scientific model and can be hosted in the cloud
- Is well-positioned to consume data from other systems and to allow sharing of project outputs
- Is designed as an Open Innovation Platform to streamline the integration of new scientific models – *enabling researchers to focus on science instead of software*



# IFTDSS: Technically Solid Approach

- Has the capability to support integration with other frameworks
  - But enterprise-level integration must be defined for this to be meaningful
- Has the capability to support integration with other frameworks
- The scientific modeling framework (SMF) can be extended to other domains
- Is web-based and can run off a central server



# IFTDSS: Research and Software Development

- Supports improved efficiency and effectiveness of the software development and maintenance process (in conjunction with organizational and governance improvements)
  - Standardized mechanisms for model inter-operability as well as common hosting, deployment and release infrastructure
  - More-efficient user support, architecture oversight, and maintenance and development (staffing, common tools, practices, platform enhancements, and support)
- However, the community must ensure that governance and incentives “design-in” the research function and maintain the connection between researchers and the users
- Governance must also accommodate both incremental, operationally-driven enhancements as well as research-driven innovation



# IFTDSS: User Workshops

## Current Issues:

- A proliferation of data management issues exist as users edit and format data for use in a variety of models
- It takes a number of models to satisfy a workflow, and risk assessments are currently too complex for most users

## The Impact of IFTDSS on Quality:

- IFTDSS does not affect the quality of the actual analysis, but it enables quality through predictability, consistency, and repeatability
- Complex analysis requiring more than the capability integrated into IFTDSS will need to be performed outside of IFTDSS at this time

## The Impact of IFTDSS on Efficiency:

- Workflows guide users through common activities thus removing the need to determine the next step or navigate between tools
- Moving data between modules within IFTDSS is nearly seamless



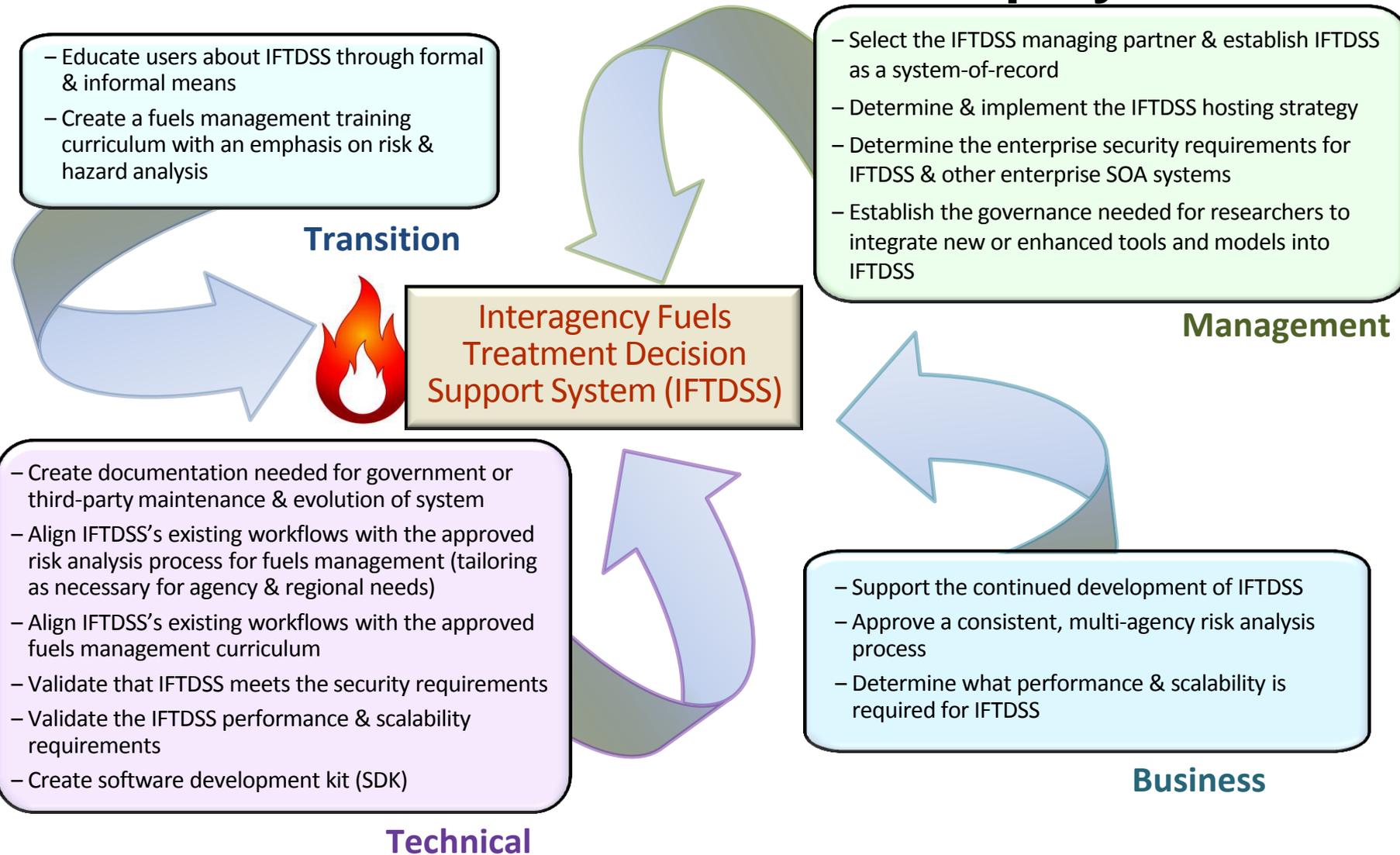
# IFTDSS: Training

- Prototyped various workflows from which governing bodies could start to create common, standardized processes
- Contains workflows that highlight those areas where “critical thinking” needs to occur
- Has tutorial content whose richness goes well beyond “how to do this step in the tool” and could be a strong leverage point for future fuels management planning curriculum elements

***But IFTDSS – like any tool – cannot substitute for fire behavior knowledge***



# IFTDSS: What Is Needed For Full Deployment



# Final Thoughts

The feasibility of IFTDSS is no longer a question

A comprehensive national strategy is needed for IFTDSS to be successfully leveraged as an operational capability



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This material is based upon work funded and supported by the Department of Defense under Contract No. FA8721-05-C-0003 with Carnegie Mellon University for the operation of the Software Engineering Institute, a federally funded research and development center.

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# IFTDSS Program Objectives

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- **What IFTDSS will do:**
  - Support an enterprise-wide solution for risk-based fuels management planning
  - Provide a consistent fuels planning framework that supports collaboration across jurisdictional boundaries
  - Bring order to the chaos currently surrounding information technologies in fire and fuels management
  - Provide consistent risk-based fuels management planning and training
  - Provide a vehicle for research to integrate new models
- **What IFTDSS potentially can do:**
  - Become the system of record for fuels planning
  - Assist in assessing treatment and program effectiveness
  - Integrate with other systems, e.g., WFDSS, BlueSky
  - Assist with treatment prioritization



# IFTDSS Future Consideration

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- Grant permission to develop IFTDSS implementation proposal.
  - Proposal to be completed and reviewed by Management Advisory Board and Program Board.
  - Executive Board makes funding determination at November meeting.

OR

- No implementation planned for IFTDSS.
  - JFSP funding/management for IFTDSS will end.
  - Sonoma Technology will no longer be contracted to make IFTDSS available to current users.
  - In short, IFTDSS project is terminated.



# IFTDSS Organization

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- Managing Partner: Needs to be enterprise level
- Project Manager: Decided upon by PB
- IFTDSS Management and User Support: Maybe WFM- RD&A
- Suggested Contributors: USFS – Fuels, JFSP, DOI-Fuels, WFM-RD&A



# WFIT Resourcing...the big picture

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- IT Transformation efforts impact WFIT staffing
- Key personnel departing DOI/FS Fire I&T support programs due to retirement & realignment activities
- DOI agencies unable to backfill departing I&T personnel positions due to transformation mandates
- Lag in FS Hiring activities due to internal realignment processes
- Lack of resources hampering progress on mandated WFIT project plan milestones



# WFIT Staffing... “As Is” Environment

## Summary Recap Slide

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Planning Working Group	#	Development Working Group	#	O&M Working Group	#
<b>SMEs Required</b>	27	<b>SMEs Required</b>	21	<b>SMEs Required</b>	44
<b>Resources On Hand</b>		<b>Resources On Hand</b>		<b>Resources On Hand</b>	
<b>DOI</b>	8	<b>DOI</b>	5	<b>DOI</b>	13
<b>FS</b>	8.5	<b>FS</b>	9	<b>FS</b>	13
<b>Delta</b>	-11.5	<b>Delta</b>	-6	<b>Delta</b>	-18
<b>Total Number of Resources we are lacking to fill WFIT Working Groups</b>	<b>-35.5*</b>	*Total includes SMEs from Interagency Business Community, Appointed by MAB			



# WFIT Resourcing: Challenges and Risks

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- IT Roadmap Transformation is greatly impacting the Program Board's ability to organize the workforce.
- Unclear roles and responsibilities of participating boards (e.g. MAB, PB, EB) continue to hinder progress.
- Sequester attrition activities, retirements, and other workforce leveling.
- Impacts of fire priorities taking available resources.



# Challenges and Risks...Continued

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- There is a risk to the five year plan because the budget processes for investments are outside the influence of the current WFIT governance structure.
- We lack a defined method of organizing the user advisory environment or integrating the R&D community into contributing to the success of the WFIT effort.
- Concern from the community that the WFIT effort is stalled and, therefore, not effective in providing real solutions. (RAMS, IFT-DSS, etc.)



# WFIT Resourcing: Mitigation Strategies

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- Program Board will:
  - Propose alignment of current workforce with clear roles and responsibilities for presentation to the EB and MAB for action. With the right resources in the right places, we can be successful meeting specific objectives.
  - Review the project plan for attainable goals based on available resources and surface those for consideration to EB.
  - Continue working on solutions to process, but shift focus to business needs.
  - Focus EB time on decision making and setting attainable goals – stop focusing on process; develop business objectives.



# WFIT Resourcing...Proposed Mitigation Plan

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- Strategic approach to identify critical resourcing gaps and mitigation strategies to fill those positions
- Methodology:
  - Identify on-hand talent (e.g. “As Is” Resources)
  - Determine what talent we need to meet “To Be” I&T Architecture
  - Propose ways to obtain these resources to EB and MAB
  - Keep refining WFIT resourcing model and plan
- Ultimate Goal: Hire the right talent, for the right job, at the right time, in support of our user community



# Access Authentication Project

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- Interagency Access Authentication
  - Project Team Includes
    - ✦ Business Representative / Stakeholders (FAM, Service First)
    - ✦ Technical Leads – USDA, DOI and FS
  - Four Possible Alternatives Meet Business Needs
    - ✦ Final Analysis of Alternatives Complete by mid October 2013
      - Political Concerns, Values/Risk/Benefit, Time to Implement, Costs, Level of Effort to Implement
    - ✦ Report to SR Exec Leadership Scheduled Nov. 6, 2013
    - ✦ Alternative Selection / Funding / Resourcing
      - Full Scale Project Plan / Implementation
        - One to four years depending upon alternative selected and resource availability.



# Data Management

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- NWCG approved charter for Data Management Committee Sept 18, 2013
  - Primary focus is identifying business requirements and providing data stewardship
  - Includes management of Data Standard approval process
  - Participation on this committee is a collateral duty for all members
- Implementation of an effective Data Management Program in WFIT will require full time dedicated staff to develop and maintain an enterprise data architecture and ensure coordination within WFIT and with NWCG
  - Capitalize on SEI effort to better define staffing and workload requirements



# WFIT Strategic Plan

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- SEI on contract with work start Oct 1, 2013
- Objectives:
  - Match lines of business with portfolio
  - Define business processes to meet business objectives
  - Provide gap analysis of actual capability to desired capability
- Kick-Off meeting targeted for week of Oct 21, 2013



# Decisions?

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- What are the roles of the Program Board and Management Advisory Board in relationship with each other and the Executive Board?
- Next step with IFTDSS?
- How will the staffing issue be resolved?



# Schedule-Next Steps

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- **Nov 2013 EB Meeting: Delivery of proposed Roadmap**
  - IFTDSS Recommendations for EB from PB and MAB
  - Provide As Is to To Be manning structure
  - Provide intermediate strategic planning update
  - Update Access Authentication Project
  - Update data management
- **Jan 2014: Provide “To Be” Architecture Strategic Plan**



# Issues for Discussion

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- Clarification of Roles and Responsibilities for MAB



# Summary

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- Decisions
- Actions and follow up
- EB meeting schedule
  - Nov 2013 TBD
  - Jan 2014 TBD
  - Mar 2014 TBD



# BACKUP



# WFIT Staffing... “As Is” Environment

Planning Working Group: Skill Sets Needed	Required	On Hand DOI 51	On Hand FS	Comments
<b>IT Program Manager</b>	2	0	1	FS has 1 lead for this project effort. Request to NWCG to seek SME for co-chair.
<b>Portfolio Management</b>	2	0	2	We lack dedicated portfolio managers. The 2 FS SMES are only part time support entities.
<b>Contract Support</b>	9	7	2	Combination of interagency COR/CO AQM Support SMEs (BLM 4, IBC 3, FS 2)
<b>Data Manager</b>	2	1	0	DOI, OWF has one dedicated SME augmented by NASF SME
<b>Architect</b>	2	0	1*	Allen Dietz , assigned to NWCG PMU, FS position, need to return to FAM IT
<b>Strategic Planner</b>	2	0	1	Strategic planner needed to represent DOI community
<b>WLF Manager</b>	1	0	0	Need MAB to identify WLF Business SME to fill position
<b>Budget SMEs</b>	2	0	.5	Current FS FAM IT budget support limited to .5 of a SME
<b>Training SMEs</b>	4	0	0	Application training SMEs are needed to train users on existing/new fire apps
<b>Management Analyst</b>	1	0	1*	FS CIO asset assigned to Fire Support
<b>Totals</b>	<b>27</b>	<b>8</b>	<b>8.5</b>	<b>Delta of -11.5 personnel (DOI: -6; FS: -5.5)</b>

# WFIT Staffing... “As Is” Environment Continued

Development Working Group: Skill Sets Needed	Required	On Hand DOI <small>52</small>	On Hand FS	Comments
<b>IT Working Group Lead(s)</b>	2	1	1	DOI and FS have identified 2 SMEs to serve as Co-chairs for this working group
<b>Project Managers</b>	14	3	5	Certified PMP PMs are needed to fill current project support activities
<b>Business Leads</b>	5	1*	3*	Project Specific Business Leads (e.g. IFT-DSS, InciWeb, SIT 209, etc.), need to realign to fit WFIT LOB Business Areas
<b>COR/CO/AQM; Budget; Security; etc.</b>	YES	YES	YES	Resources to come from Planning or O&M Working Groups on an “as needed” basis
<b>Totals</b>	<b>21</b>	<b>5</b>	<b>9</b>	<b>Delta of -6 personnel (DOI: -4; FS: -2; MAB -1, LOB SME)</b>

# WFIT Staffing... “As Is” Environment Continued

O&M Working Group: Skill Sets Needed	Required	On Hand DOI	On Hand FS	Comments
		53		
<b>IT Program Manager</b>	2	0	1	FS has 1 lead for this project effort. DOI SME affected by IT Transformation , -1.
<b>Programmers</b>	8	2	0*	*Government Contractors providing this Service for FS.
<b>Security</b>	5	1	2*	*FS is hiring 1 Gov ISSO for a total of 2; FS has 3 contract Security SMEs. DOI -1.
<b>Data Base Managers (DBA)</b>	4	2	1*	*FS has one DBA, but is working as a Project Manager; FS would like to repurpose former PMU position (Penny B) to fill -1 vacancy.
<b>System Analysts</b>	5	0	2	SA’s needed to monitor O&M Contracts; FS -1, DOI -2
<b>Applications support Help Desk (Fire IT)</b>	3	NA	2*	*2 FS Helpdesk Spt SMEs at Tier2 level. Also, FS has contract Spt help desk (Tier 1). Web Mgr needed, repurpose PMU Webmaster Position (Tammy D), back to FAM to fill -1.
<b>NIFC Help Desk Support (local)</b>	7	0	NA	FS does not provide Local NIFC Spt. BLM is losing -7 assigned Local Help Desk SMEs.
<b>Network Support</b>	Yes	2	*FS CIO provided	FS also has contract support for these services supporting NITC and EROS (10+)
<b>Program Managers</b>	5* Aligned with WLF LOBs	0	0	-5 Business Leads needed to monitor O&M Fire IT applications; MAB to appoint.
<b>Change Management</b>	5 CCB Boards aligned with WLF LOBs	1 Consolidated CCB Board =5	5*	*FS Change Control Boards need consolidation from 15 to 5 in alignment with 5 LOBs and DOI consolidated CCB.