NMFS FIS ER
E-signature Project

Project Summary Brief

February 2009

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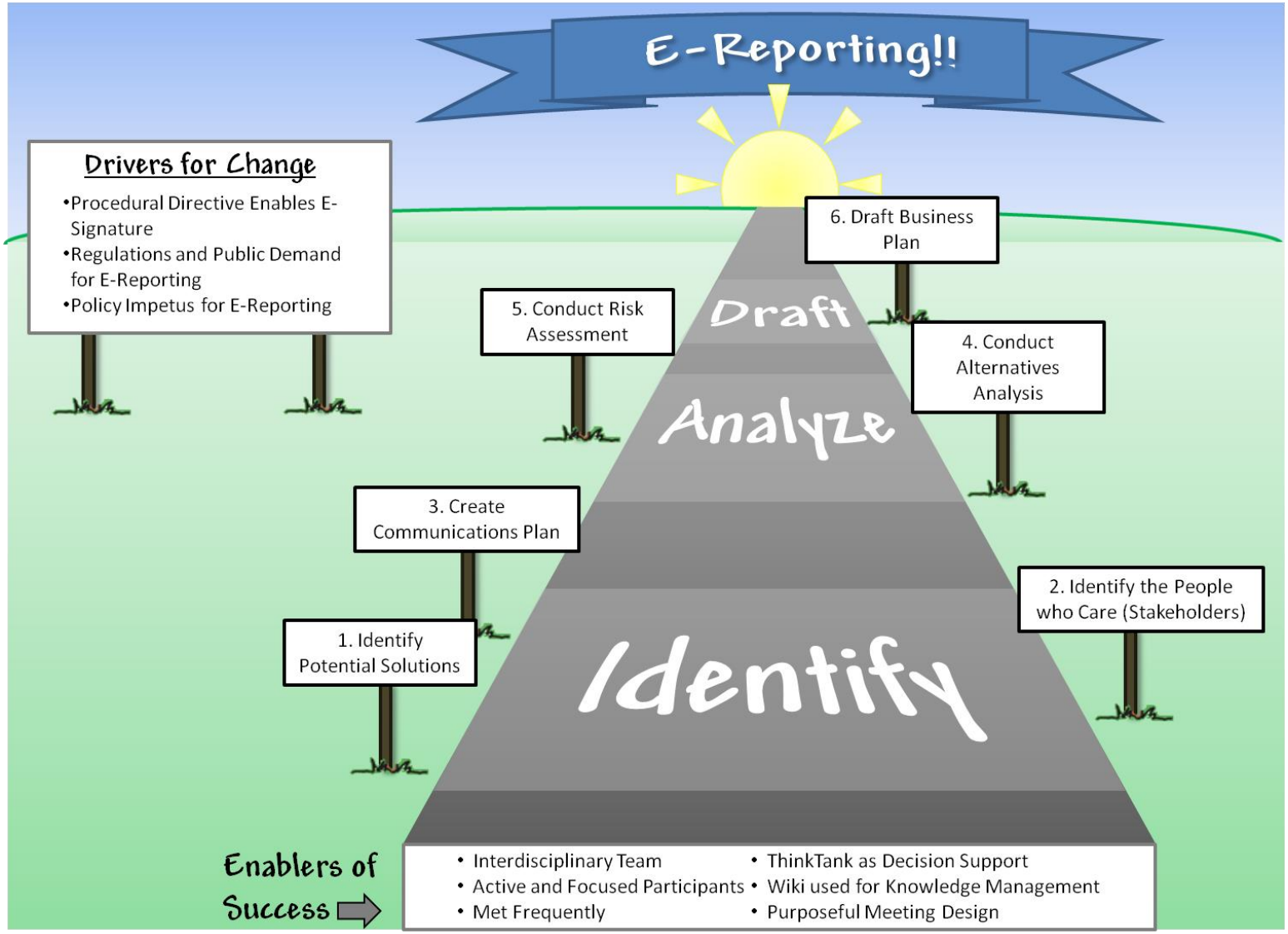
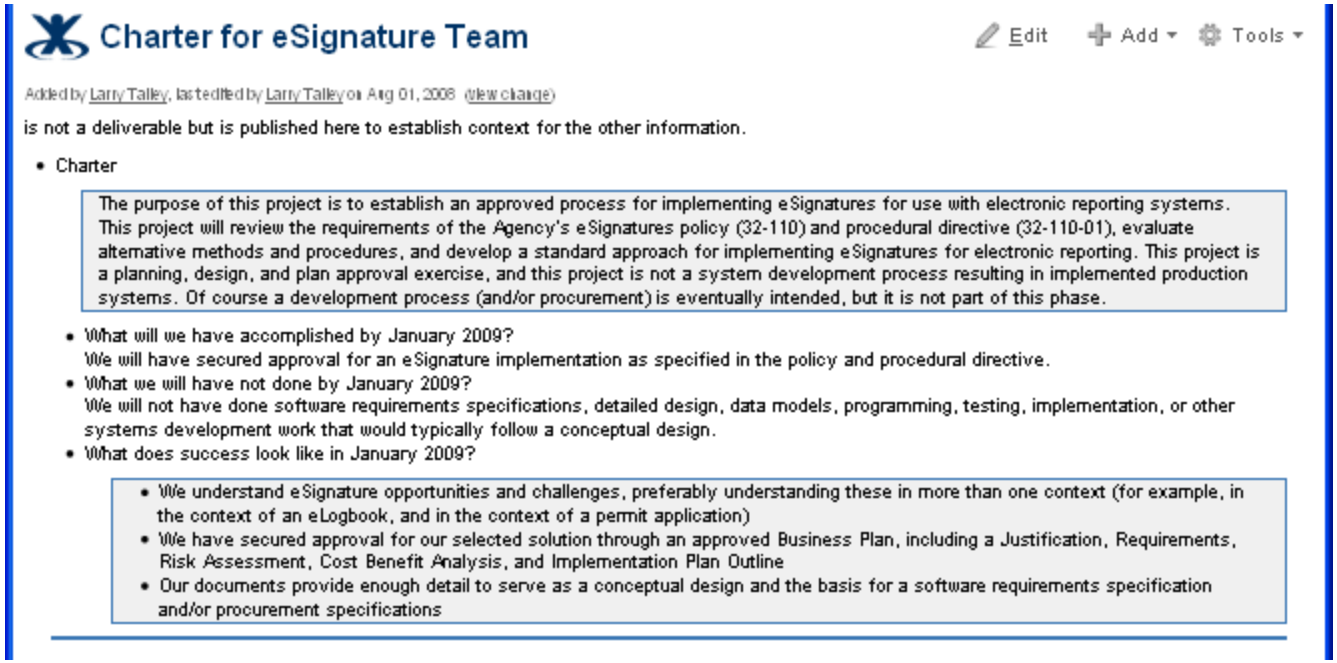
E-signature Team Procedural Directive Roadmap



E-signature Team Charter

- .../esig/Charter+for+eSignature+Team



Charter for eSignature Team

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Added by Larry Talley, last edited by Larry Talley on Aug 01, 2008 (view change)

is not a deliverable but is published here to establish context for the other information.

- Charter

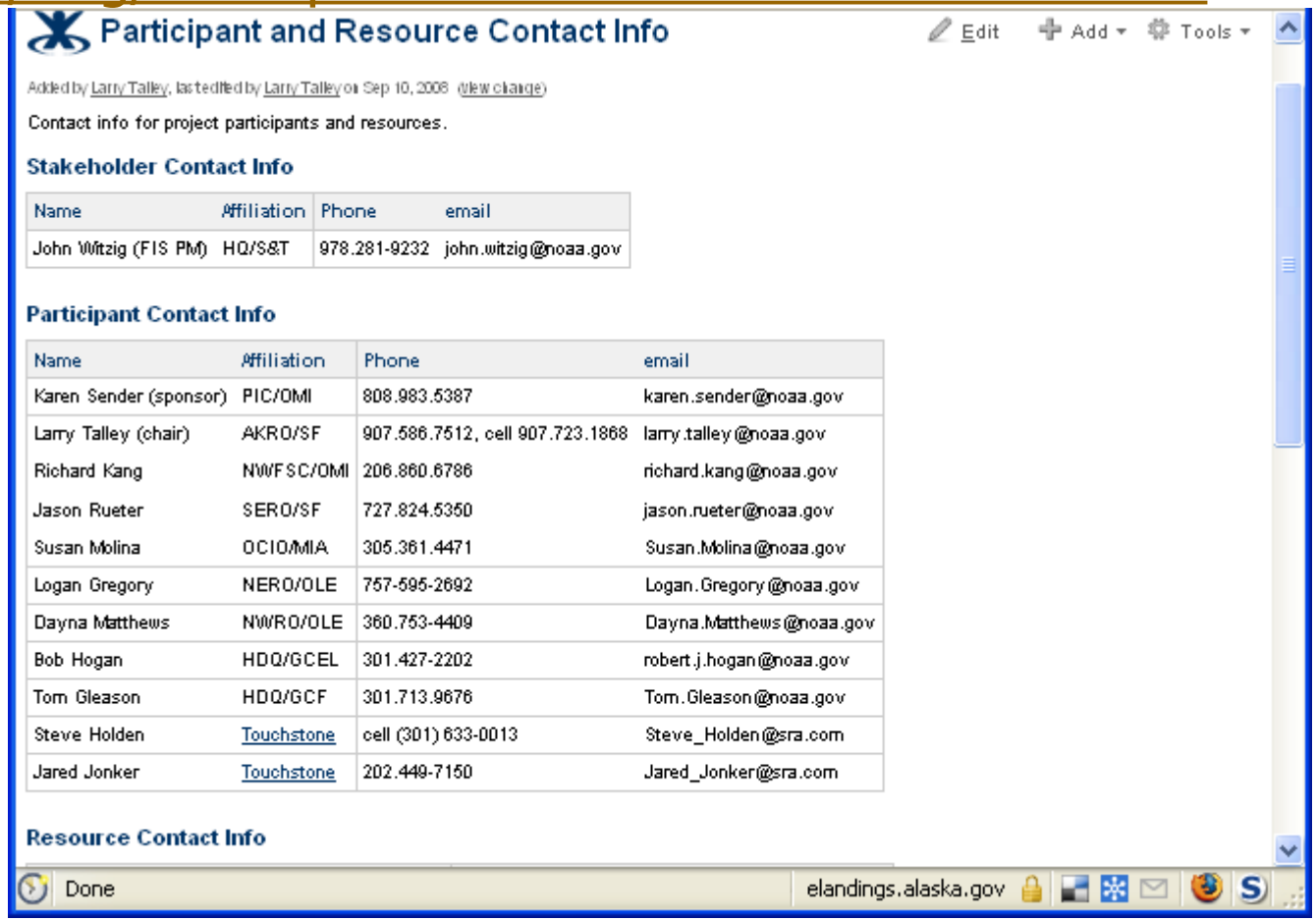
  The purpose of this project is to establish an approved process for implementing eSignatures for use with electronic reporting systems. This project will review the requirements of the Agency's eSignatures policy (32-110) and procedural directive (32-110-01), evaluate alternative methods and procedures, and develop a standard approach for implementing eSignatures for electronic reporting. This project is a planning, design, and plan approval exercise, and this project is not a system development process resulting in implemented production systems. Of course a development process (and/or procurement) is eventually intended, but it is not part of this phase.

  - What will we have accomplished by January 2009?
    We will have secured approval for an eSignature implementation as specified in the policy and procedural directive.
  - What we will have not done by January 2009?
    We will not have done software requirements specifications, detailed design, data models, programming, testing, implementation, or other systems development work that would typically follow a conceptual design.
  - What does success look like in January 2009?

    - We understand eSignature opportunities and challenges, preferably understanding these in more than one context (for example, in the context of an eLogbook, and in the context of a permit application)
    - We have secured approval for our selected solution through an approved Business Plan, including a Justification, Requirements, Risk Assessment, Cost Benefit Analysis, and Implementation Plan Outline
    - Our documents provide enough detail to serve as a conceptual design and the basis for a software requirements specification and/or procurement specifications

E-signature Team Composition

- .../esig/Participant+and+Resource+Contact+Info



Participant and Resource Contact Info

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Added by Larry Talley, last edited by Larry Talley on Sep 10, 2008 (view change)

Contact info for project participants and resources.

Stakeholder Contact Info

Name	Affiliation	Phone	email
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Resource Contact Info

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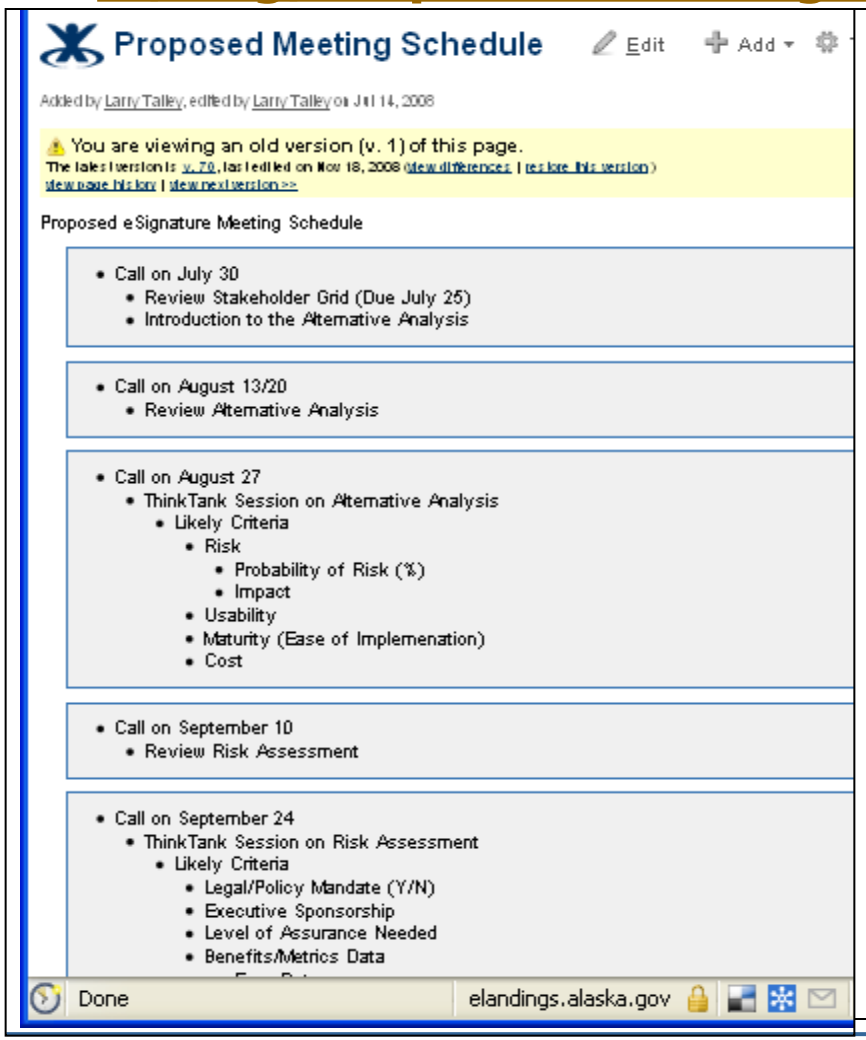
NMFS E-signature Project Timeline

- **.../esig/Proposed+Meeting+Schedule**



Proposed Meeting Schedule

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Added by Larry Talley, edited by Larry Talley on Jul 14, 2008

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The latest version is v. 20, last edited on Nov 18, 2008 (view differences | restore this version)
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Proposed eSignature Meeting Schedule

- Call on July 30
  - Review Stakeholder Grid (Due July 25)
  - Introduction to the Alternative Analysis
- Call on August 13/20
  - Review Alternative Analysis
- Call on August 27
  - ThinkTank Session on Alternative Analysis
    - Likely Criteria
      - Risk
        - Probability of Risk (%)
        - Impact
      - Usability
      - Maturity (Ease of Implemenation)
      - Cost
- Call on September 10
  - Review Risk Assessment
- Call on September 24
  - ThinkTank Session on Risk Assessment
    - Likely Criteria
      - Legal/Policy Mandate (Y/N)
      - Executive Sponsorship
      - Level of Assurance Needed
      - Benefits/Metrics Data

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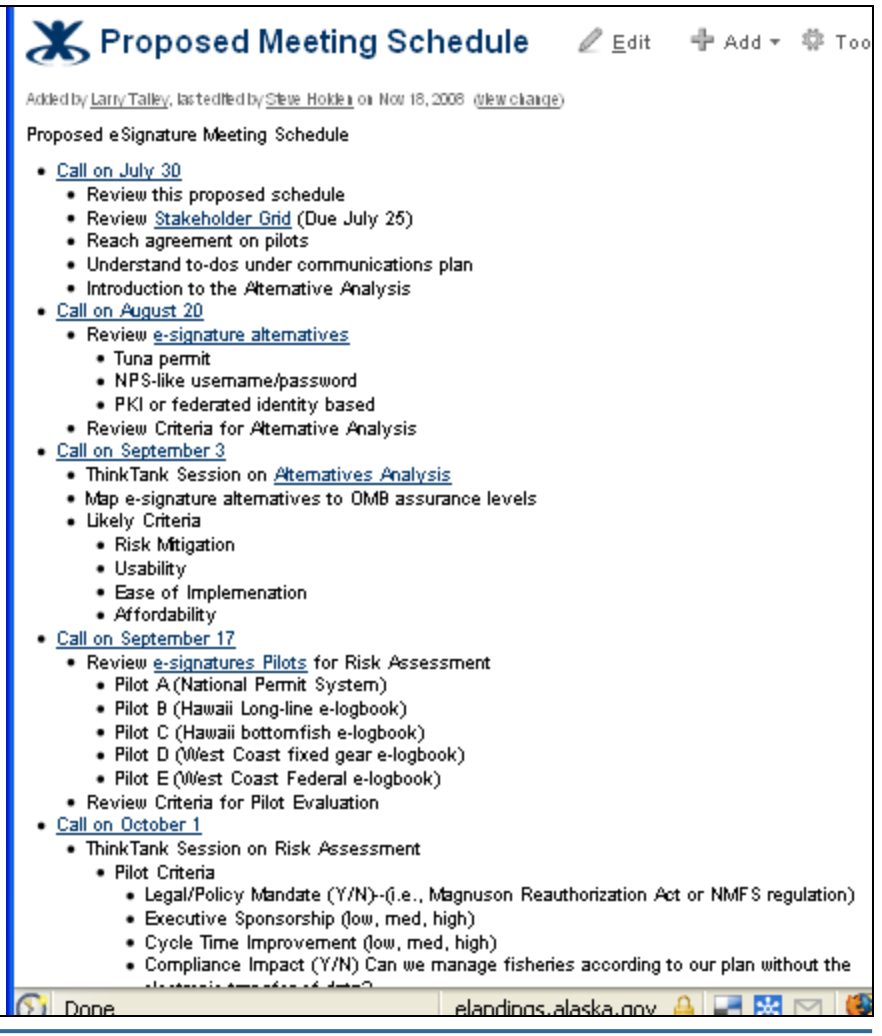

Proposed Meeting Schedule

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Added by Larry Talley, last edited by Steve Holden on Nov 18, 2008 (view change)

Proposed eSignature Meeting Schedule

- Call on July 30
  - Review this proposed schedule
  - Review Stakeholder Grid (Due July 25)
  - Reach agreement on pilots
  - Understand to-dos under communications plan
  - Introduction to the Alternative Analysis
- Call on August 20
  - Review e-signature alternatives
    - Tuna permit
    - NPS-like username/password
    - PKI or federated identity based
  - Review Criteria for Alternative Analysis
- Call on September 3
  - ThinkTank Session on Alternatives Analysis
  - Map e-signature alternatives to OMB assurance levels
  - Likely Criteria
    - Risk Mitigation
    - Usability
    - Ease of Implemenation
    - Affordability
- Call on September 17
  - Review e-signatures Pilots for Risk Assessment
    - Pilot A (National Permit System)
    - Pilot B (Hawaii Long-line e-logbook)
    - Pilot C (Hawaii bottomfish e-logbook)
    - Pilot D (West Coast fixed gear e-logbook)
    - Pilot E (West Coast Federal e-logbook)
  - Review Criteria for Pilot Evaluation
- Call on October 1
  - ThinkTank Session on Risk Assessment
    - Pilot Criteria
      - Legal/Policy Mandate (Y/N)--(i.e., Magnuson Reauthorization Act or NMFS regulation)
      - Executive Sponsorship (low, med, high)
      - Cycle Time Improvement (low, med, high)
      - Compliance Impact (Y/N) Can we manage fisheries according to our plan without the

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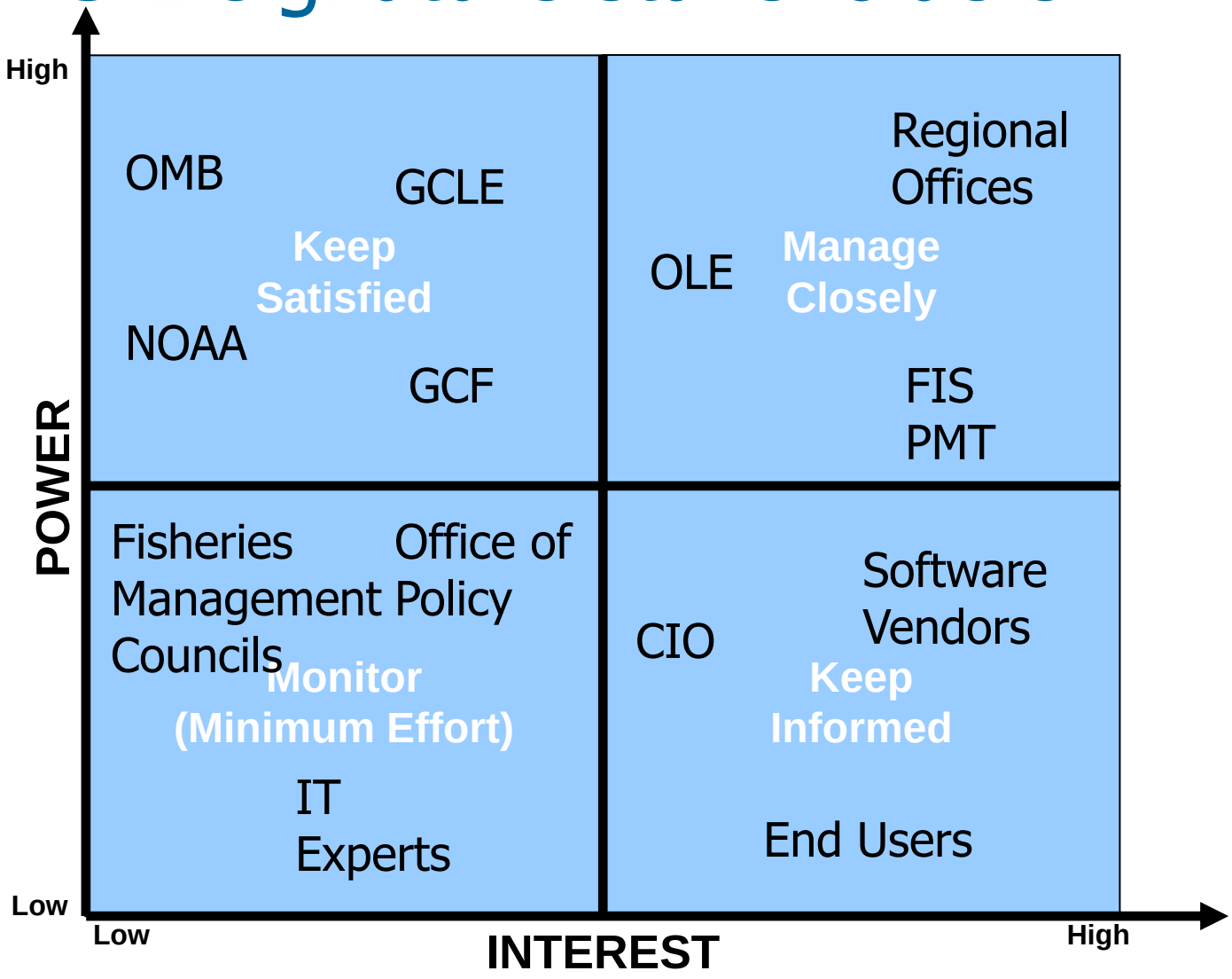
NMFS E-signature stakeholders



Five Step Process for Determining Desired Assurance Level (OMB Policy)

First two steps are the primary focus for the process the NMFS e-signature team used

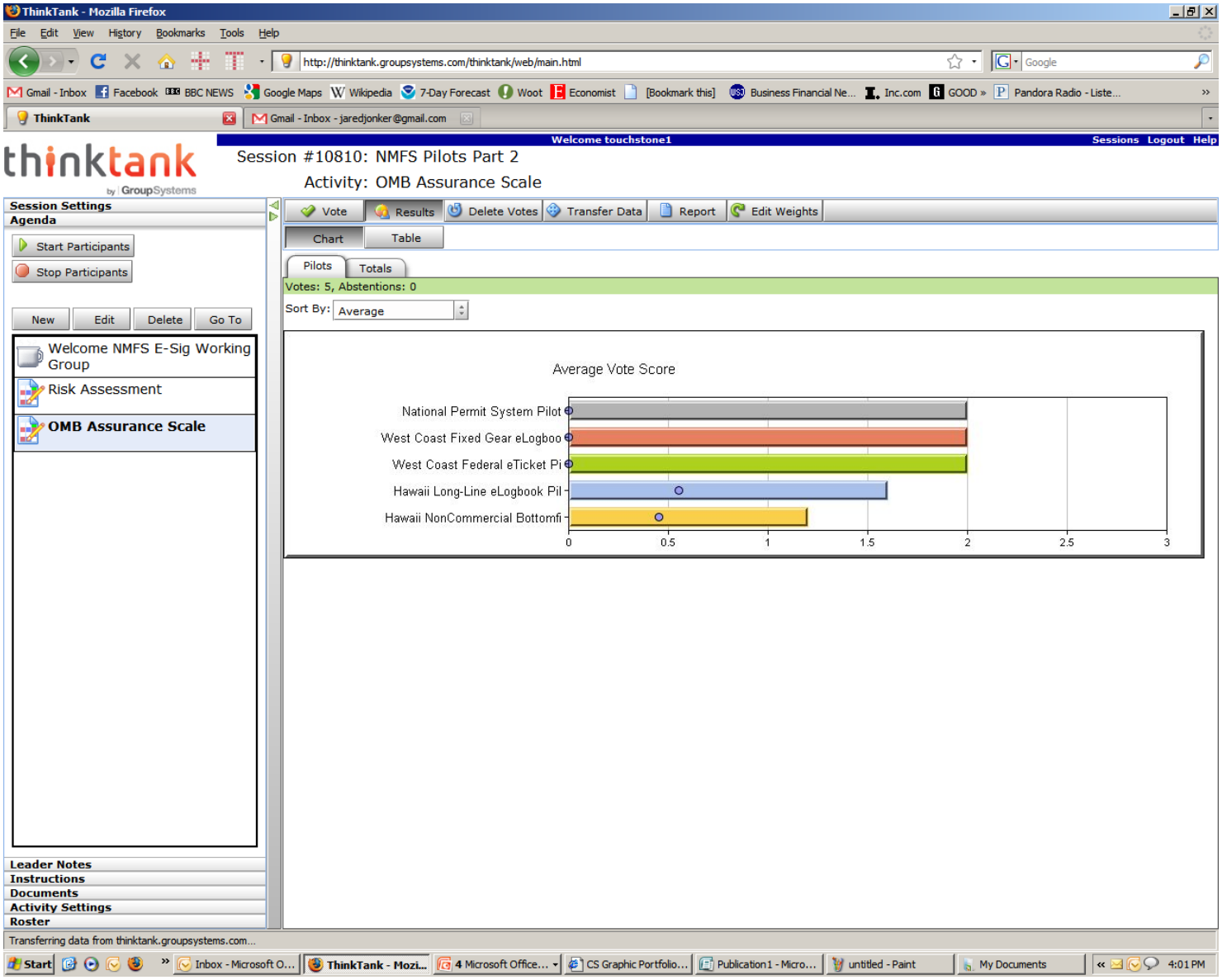
- Conduct risk assessment
- Map identified risks to assurance level
- Select technology based on NIST technical guidance
- Validate that implemented system has achieved desired assurance level
- Periodically reassess system to assure solution produces desired assurance.

Alternatives Analysis for E-signature Choices

- Think Tank screen shot

Results--Risk Assessments for each NMFS E-signature pilot

- The team ran five pilots through the risk assessment process required by the procedural directive:
  - Hawaii Longline Logbook (example to follow)
  - Hawaii Non-Commercial Bottomfish Logbook
  - National Permit System
  - West Coast Federal Fixed Gear eLogbook
  - West Coast E-fishticket
- The team piloted the implementation of the procedural directive in two ways
  - Validated the approach by running the National Permit System (NPS) business plan through the risk assessment framework
  - Built on the NPS validation of the framework to create a template for business plans using the Hawaii Longline Logbook as a pilot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Gmail - Inbox - jaredjonker@gmail.com
Welcome touchstone1
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Session #10810: NMFS Pilots Part 2
Activity: OMB Assurance Scale
Session Settings
Agenda
Start Participants
Stop Participants
New Edit Delete Go To
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Risk Assessment
OMB Assurance Scale
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Instructions
Documents
Activity Settings
Roster
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National Permit System Pilot
West Coast Fixed Gear eLogboo
West Coast Federal eTicket Pi
Hawaii Long-Line eLogbook Pil
Hawaii NonCommercial Bottomfi
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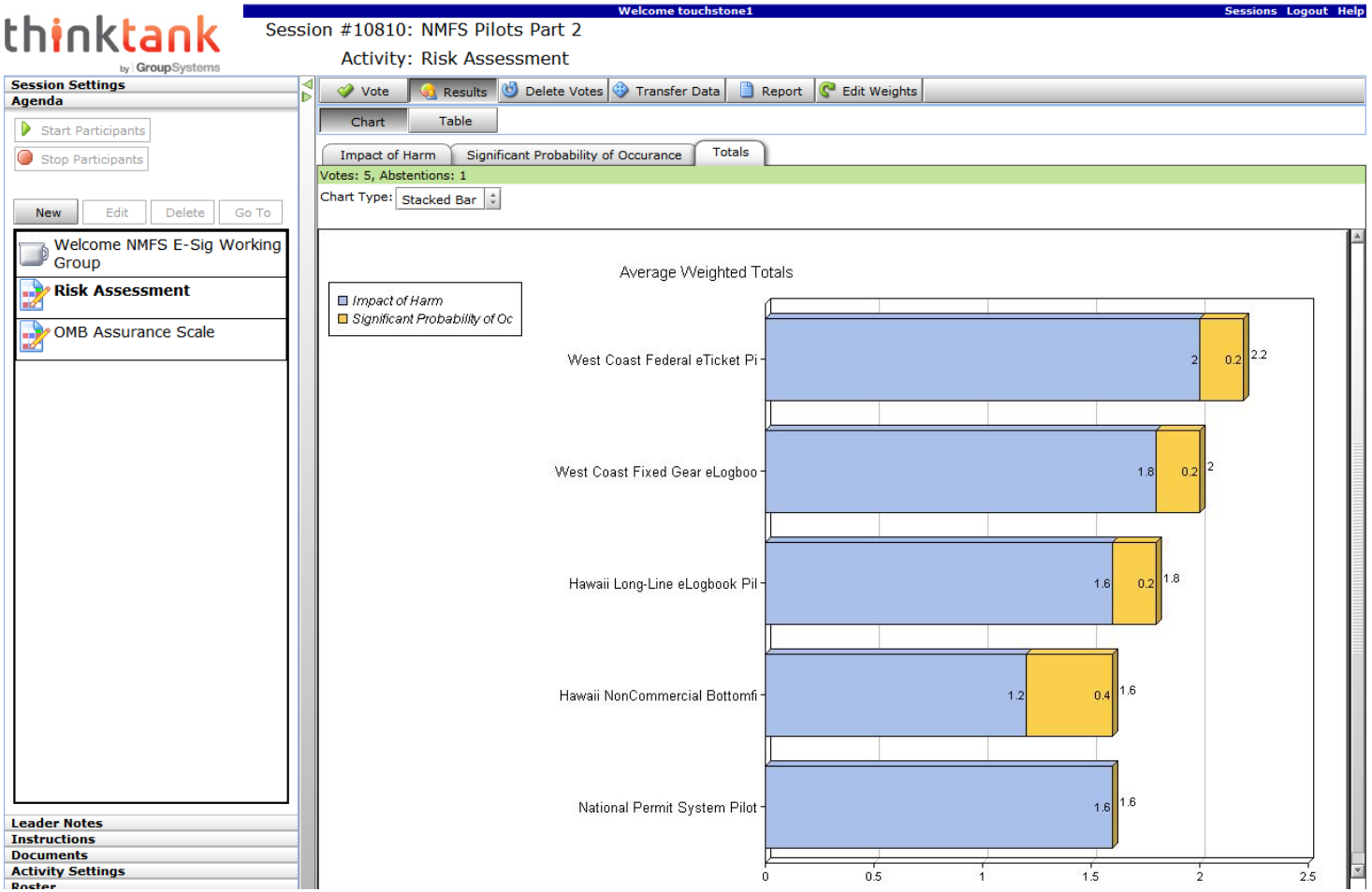
Risk Analysis Results in Thinktank



NIST Special Publication 800-63:
Electronic Authentication Guideline

Appropriate OMB Assurance Level to Mitigate Business Risk

Lowest Assurance Level that Mitigates All Impact Categories	Mitigating Controls	Appropriate Assurance Level with Consideration of Mitigating Controls	Proposed E-signature Alternative
Level 3---...appropriate for transactions needing high confidence in the asserted identity's accuracy. People may use Level 3 credentials to access restricted web services without the need for additional identity assertion controls.	Multiple sources of information, some with counter-balancing incentives. The VMS system provides independent confirmation of the vessel's location. Mandatory landing reports (fish tickets) provide independent confirmation of retained catch. Vessels reporting are permitted and have an ongoing "trusted relationship" with NMFS. NMFS has established a certification process for e-logbook applications. When certified (trusted) software is capturing and accumulating data locally, and the accumulated data is then transferred on portable media from the vessel to NMFS, there are many fewer vulnerabilities than would exist in a typical online system. Approved e-logbook software solutions are required to contain a unique identifier for each e-logbook installation. Through this unique identifier each logbook submission can be tied to a particular instance of the e-logbook software, and therefore to a particular vessel.	Level 2---On balance, confidence exists that the asserted identity is accurate. Level 2 credentials are appropriate for a wide range of business with the public where agencies require an initial identity assertion (the details of which are verified independently prior to any Federal action).	NPS-like

Hawaii Longline Logbook: Risk Assessment, biz plan, and benefits

- .../confluence/display/esig/Hawaii+Longline+Logbook+E-Signature+Business+Plan

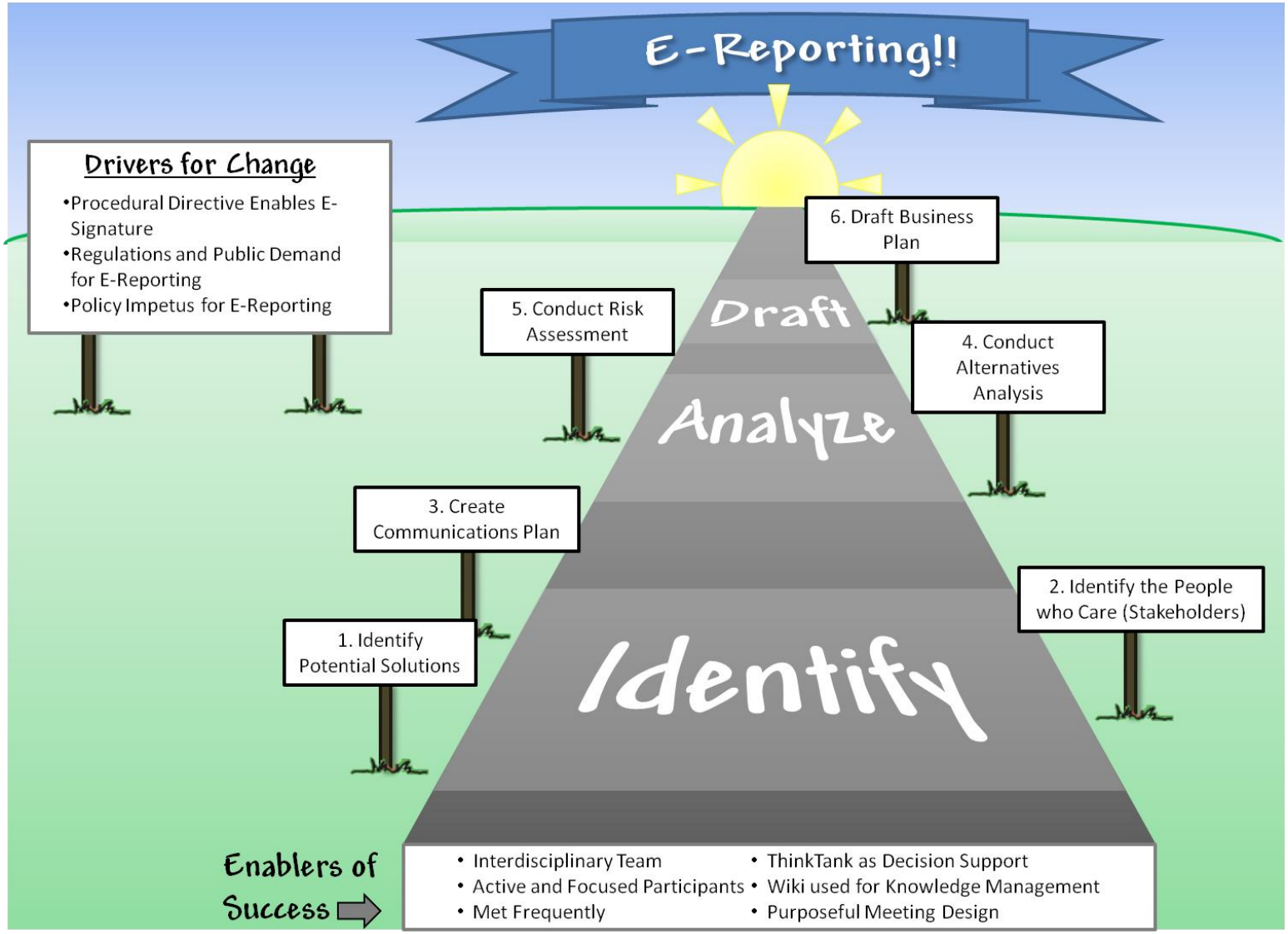
NMFS E-signature Challenges

- Problem domain challenges: e-signature is a broad cross-cutting issue
  - technical concerns
  - legal concerns
  - business process concerns
  - customer service (usability) concerns
  - organizational change concerns
- NMFS formed a cross-disciplinary and geographically dispersed team, which introduced another set of challenges
  - achieving commitment to the team, "buy-in"
  - scheduling across six time zones and different "day job" demands
  - communication and coordination among team members
  - joint authorship and decision-making with a distributed team
  - version control for collaborative work products
  - communication to a diverse set of stakeholders

Response to Challenges

- Held a face-to-face kickoff with explicit focus on achieving buy-in and building trust.
- Used email and a consistent and predictable meeting schedule to address the scheduling challenge.
- Leveraged a wiki for communication and coordination, version control, and communication to stakeholders.
- Also used a decision support application, ThinkTank, with the wiki to address joint authorship and decision-making and to create a repository of actions and outputs.
- The wiki was particularly helpful for stakeholder communication by providing a transparent venue for the broad cross-cutting set of stakeholders to see what was going on.
- Contractor support
  - Domain expertise with e-signatures
  - Domain expertise with facilitating change
  - Decision support using Thinktank
  - Purposeful Meeting Design (face to face and remote design and facilitation)

E-signature Team Procedural Directive Roadmap



Next Steps for NMFS Implementation

- This report contains a set of recommendation for assurance levels and potential e-signature pilots
- E-signature projects that follow the analytical process laid out in this report should be compliant with:
  - the OMB e-auth policy
  - NIST technical guidance
  - NMFS policy
  - NMFS procedural guidance
- Individual projects have to make their own choices on technical implementation, but this report outlines the characteristics of the analysis, provides models of necessary documents, and illustrates several e-signature solutions that mitigate risks sufficiently.