

FAA Systems Engineering Accomplishments and Challenges in 2015



Presented to: NDIA 18th Annual Systems Engineering Conference
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National Airspace System

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FAA

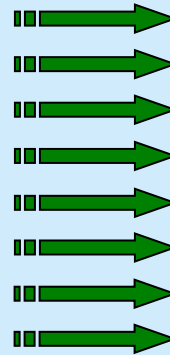
NextGen: System of Systems Integration

Legacy System

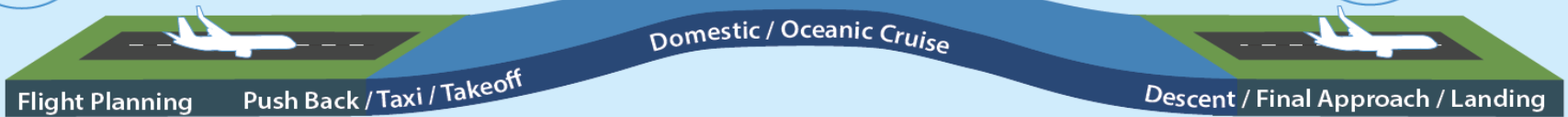
Radar
Inefficient Routes
Voice Communications
Disparate Information
Fragmented Weather Forecasting
Weather Restricted Visibility
Forensic Safety Systems
Nationwide Focus

NextGen

Satellite
Performance Based Navigation (fuel savings)
Voice & Digital Communications
Automated Decision Support Tools
Integrated Weather Information
Improved Access in Low Visibility
Prognostic Safety Systems
Focus on Congested Metroplexes



Aviation Data



Implementation

TFDM PBN TBFM ASIAs AIM NWP

Transformational

ADS-B CATM-T SWIM CSS-Wx NVS DataComm

Foundational

Terminal Automation
Modernization and Replacement

En Route Automation
Modernization

Terminal Automation
Modernization and Replacement

NAS Segment Implementation Plan (NSIP)

The NSIP serves as the master program plan to enable cross-domain coordination and integration of all activities related to NextGen implementation. It connects the dots among programs.

NSIP Includes:

- Operations-focused approach
- Comprehensive view of capabilities and integration challenges
- Portfolio structure for management and acquisition
- Framework that enables alignment of related work plans across programs and organizations
- FAA Action Plans in response to RTCA Task Force 5 Tier 1 Recommendations

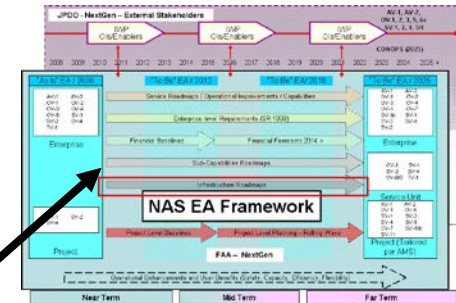
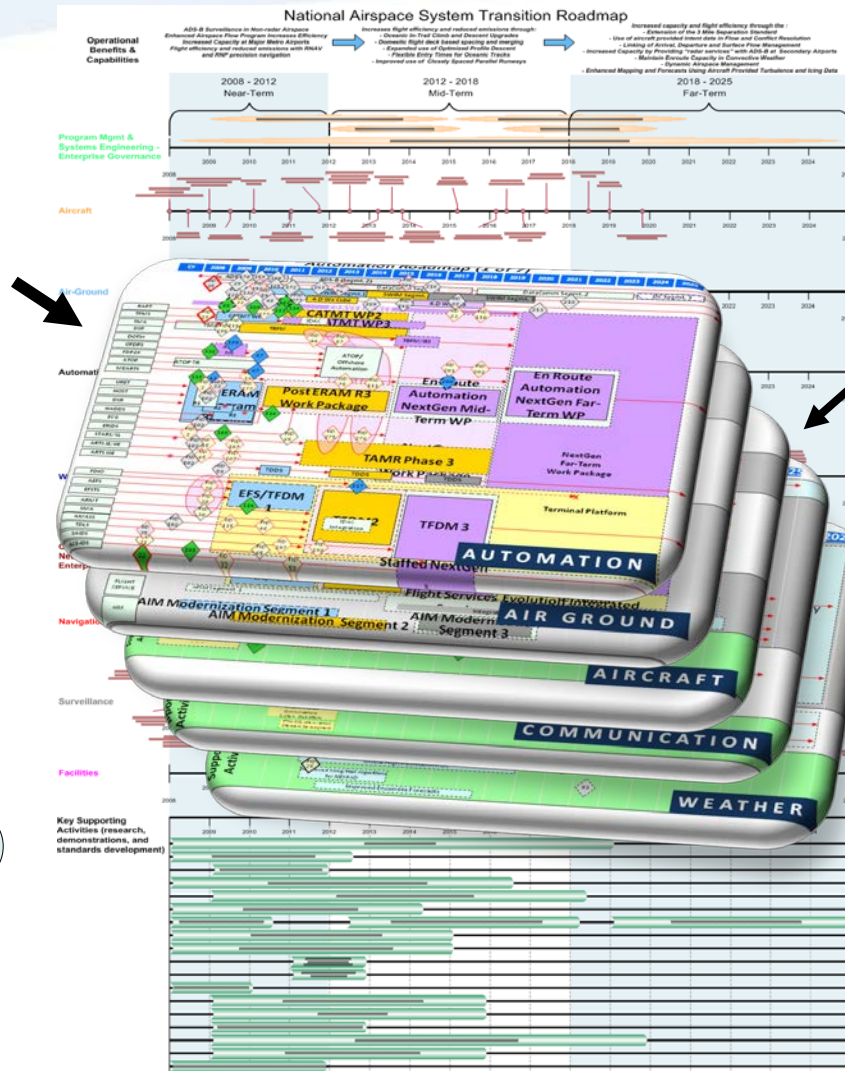
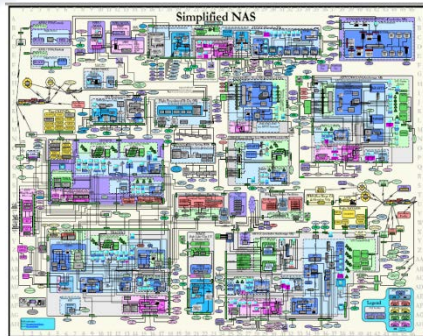
How it Meets Goals:

- Supports delivery of customer solutions
- Informs enterprise-wide decision-making and trade-offs
- Establishes portfolio management framework for all activities for defined segment of time
- Improves the FAA's investment analysis activities
- Manages delivery of Agency commitments in response to industry recommendations and answers the industry call for improvement

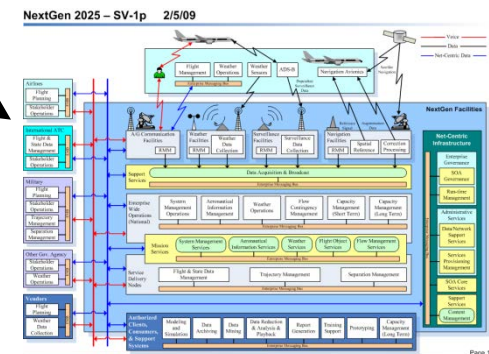
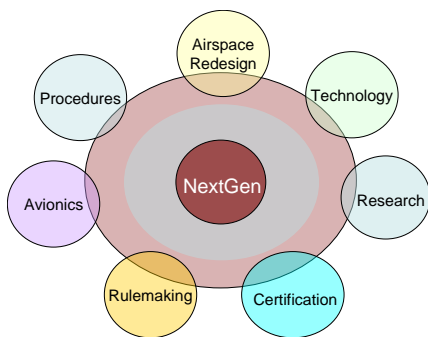


Integrated Systems Engineering Framework

Current NAS

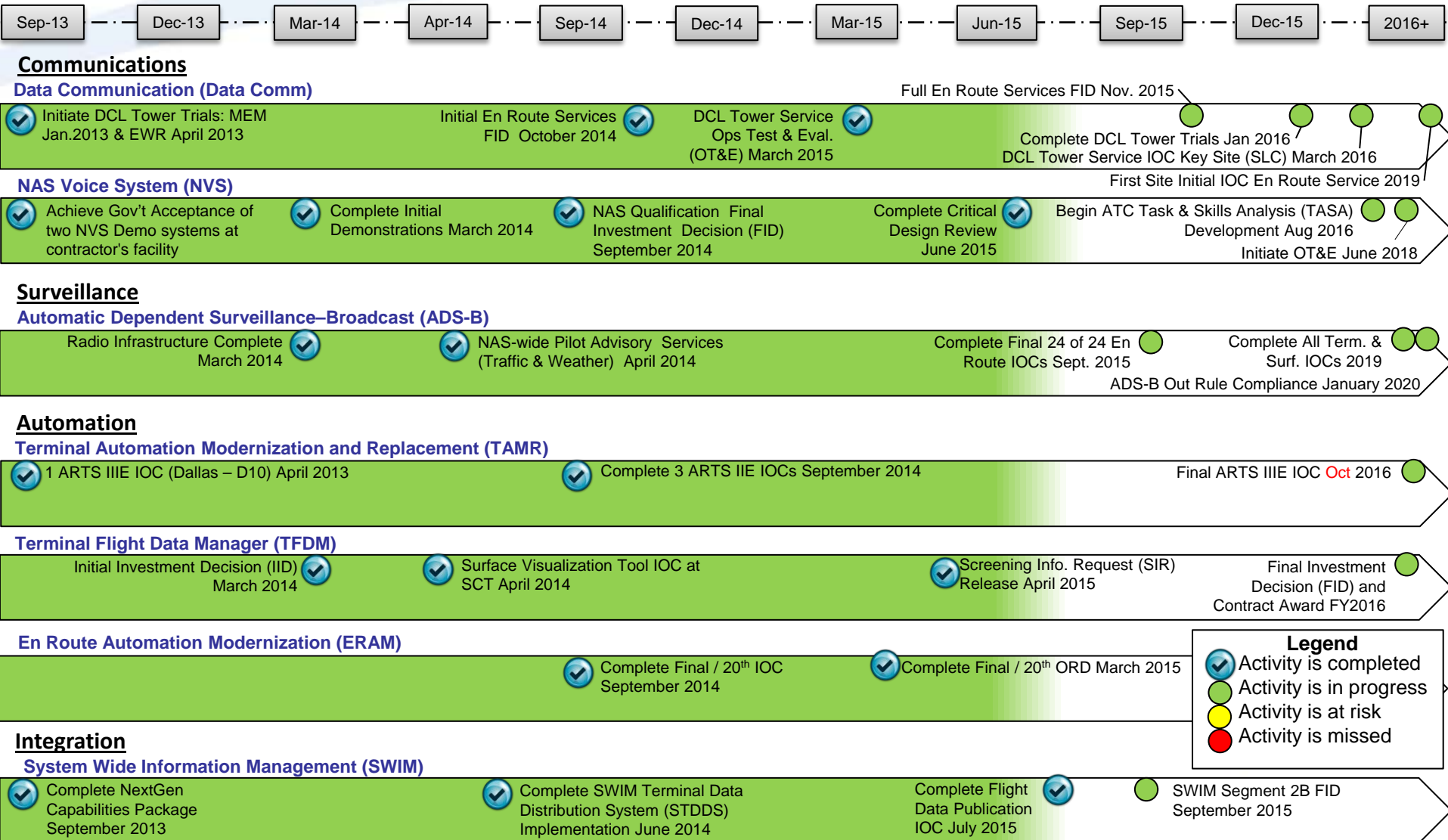


NextGen 2025+



Top Seven Programs

As of: July 2015



Cybersecurity Challenge in NextGen



CATMT



ADS-B



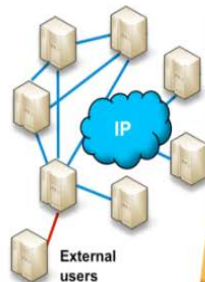
SWIM

Today's NAS
Limited inter-connectivity

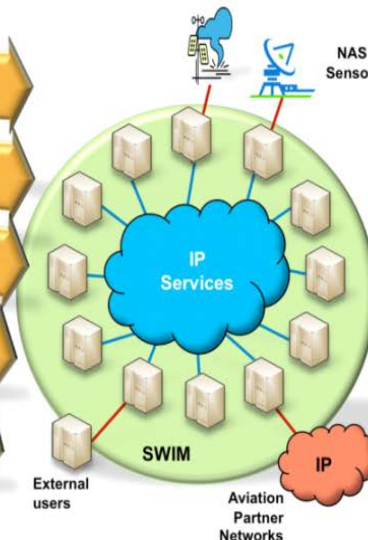
**NAS Environment
is Changing**

Tomorrow's NextGen
Significant inter-connectivity

Cybersecurity Challenges:



- Moving to net-centric operations
- Greater connectivity within the NAS
- More commercial software
- Greater connectivity with partners
- Cyber threats on the increase



NVS



NextGen WX



DATA COM



FAA

Next**GEN**

Thank You

