

SWIM Users Forum #18

December 14, 2017

Washington, DC

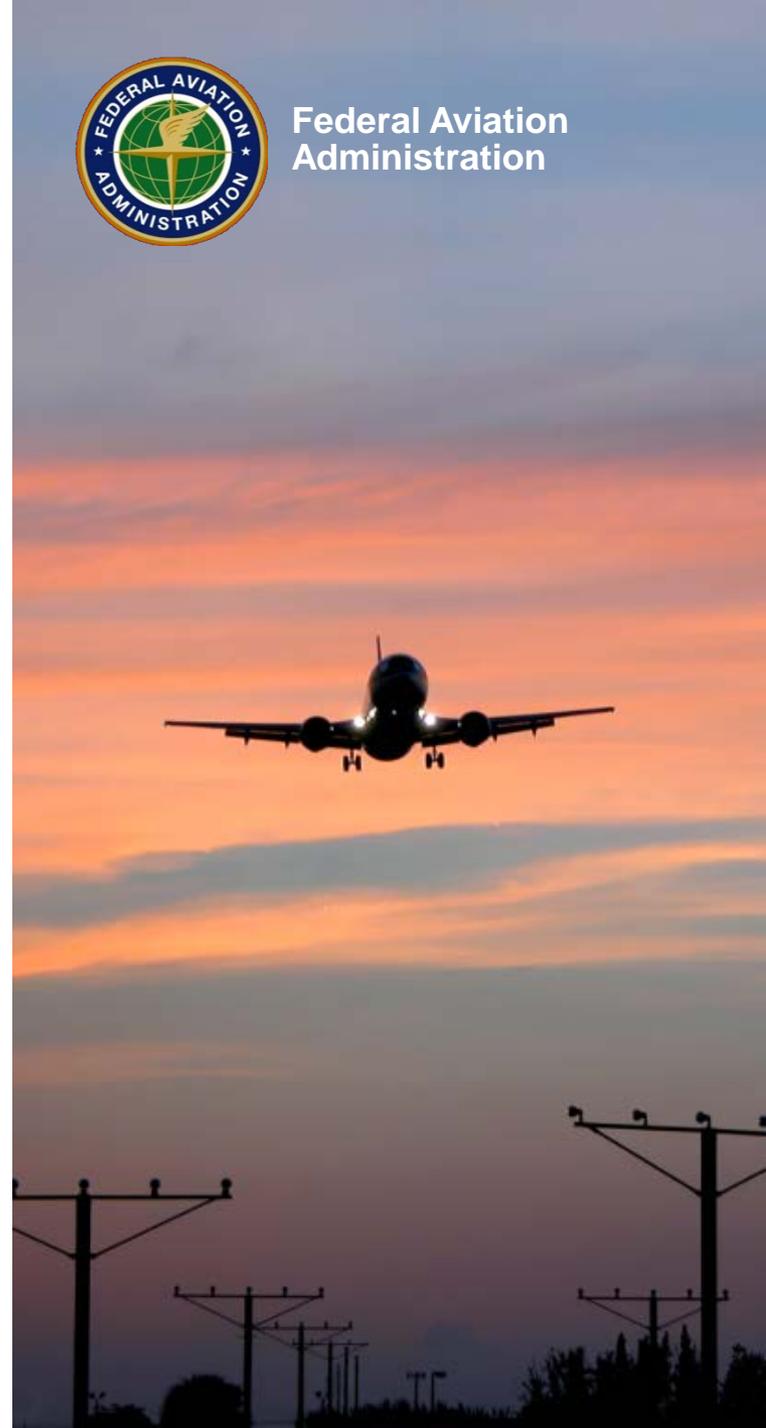
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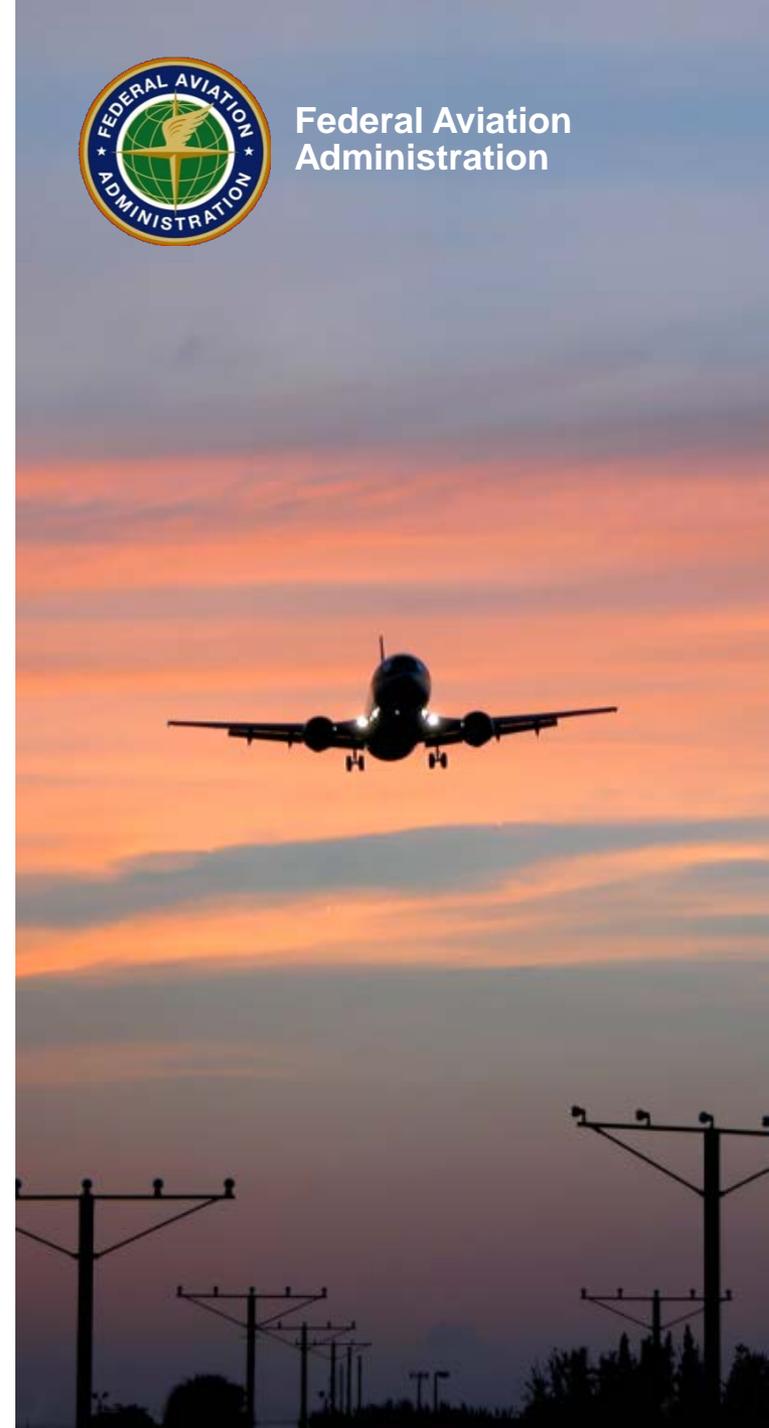


Agenda

- STDDS Update
- Reminder: Beacon Code
- AIMM Segment 2
- CSS-Weather/NWP
- Data Discussion with Natesh Manikoth and Chris Pressler



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STDDS Update

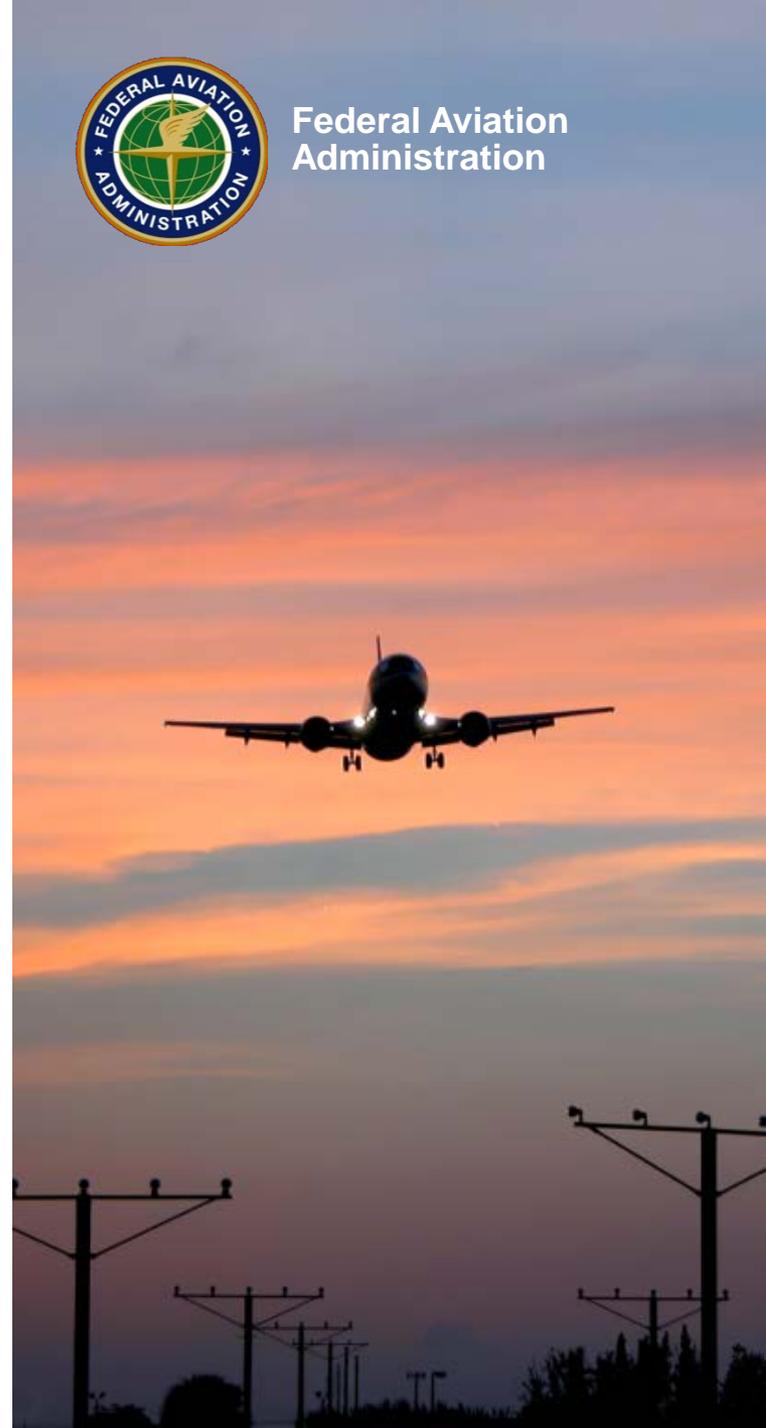
Brian Love

STDDS Engineering Support

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STDDS R4.0 Features (Update from Aug-2017)

- Publish data from all remaining STARS sites
- Integration of SFDPS flight plan data to add correlated GUF1 in SMES, TAIS, TDES
- Publication of filtered TDES data for non-NAS consumers
- **Publication of TDLS D-ATIS messages for all consumers**
- Direct publication to NEMS Solace appliances to improve reliability
- Addition of airportId to SurfaceMovementEvent message body
- Additional STARS message batching to decrease bandwidth needs
- Improvement to help detect lost messages
- Changes to ensure original source data can be recovered
- Various program trouble report (PTR) fixes and security patches



STDDS R4.0 Schedule (Unchanged from Aug-2017)



STDDS

- **STDDS NSRR updates:**
 - Draft R4 release notes published 13-Oct
 - Draft R4 JMSDDs published 22-Nov
 - Draft R4 schema published 20-Nov
 - Draft R4 sample data to be published shortly
- **Request feedback on R4->R3.3 version mediation**
- **Deployment of patch R3.3.0.3 is complete**
- **Don't publicize TAIS flightPlan.assignedBeaconCode when flightPlan.status is 'pending' or 'passive'**
- **STDDS RVR website now available at <https://rvr.data.faa.gov>**



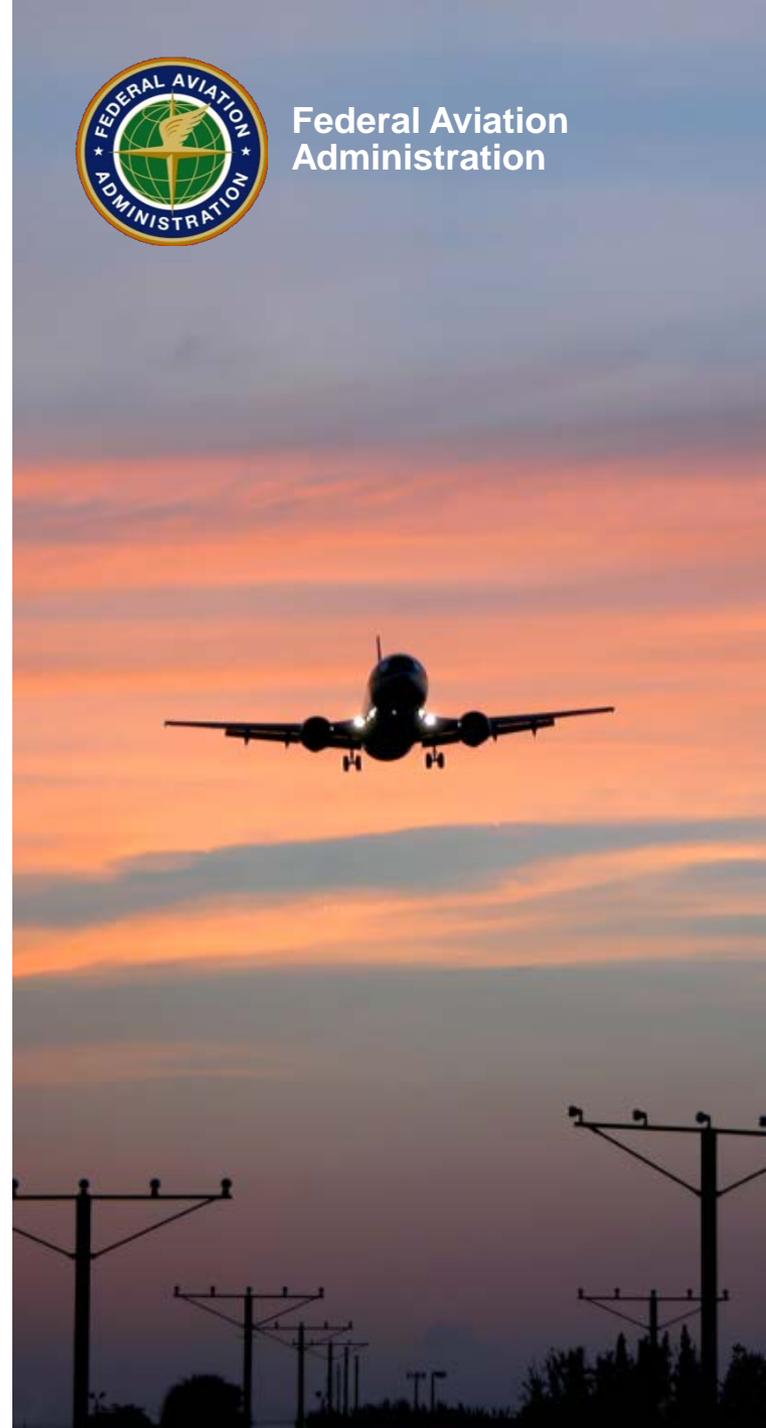
SWIM Flight Data Publication Service (SFDPS) and SWIM Terminal Data Distribution Service (STDDS)

Beacon Code Suppression

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Agenda

- Beacon Codes
- Issue with Premature Beacon Code Usage
- SWIM Solution
- SWIM Notification on Beacon Codes
- Q&A



Beacon Codes

- Beacon codes are used to correlate flight plans to surveillance system (such as radar) tracks
- Flight plans are assigned beacon codes by automation when submitted
- Pilot enters the beacon code (aka ‘squawk code’) into a transponder
- The code is used by flight data processing systems to associate a target with its flight plan

Issue With Premature Beacon Code Usage

- Premature beacon codes refer to beacon codes used before coordination with ATC
- At smaller non-towered airports, pilots can take off without any ATC contact
- Some pilots are incorrectly using SWIM beacon codes prior to ATC contact
- Premature use of a squawk code can cause loss of proper separation between two radar targets
- Premature use of beacon codes published in non-active flight plans are the source of the problem



SWIM Solution

- Suppress distribution of beacon code information in messages published for non-active flight plans to consumers external to the NAS
- Fixes will be available in 2018 for SFDPS and STDDS
- Prior to the release of any fixes, consumers will be notified if changes are required on their end



SWIM Notification on Beacon Codes

- The SWIM Program Office distributed a notification instructing consumers not to use or publish beacon code information for non-active flights in early October
- This includes publication on web pages or any other means accessible by pilots
- Please look for the notification, sent (from swim@faa.gov on October 11, 2017) in your inbox



Q&A

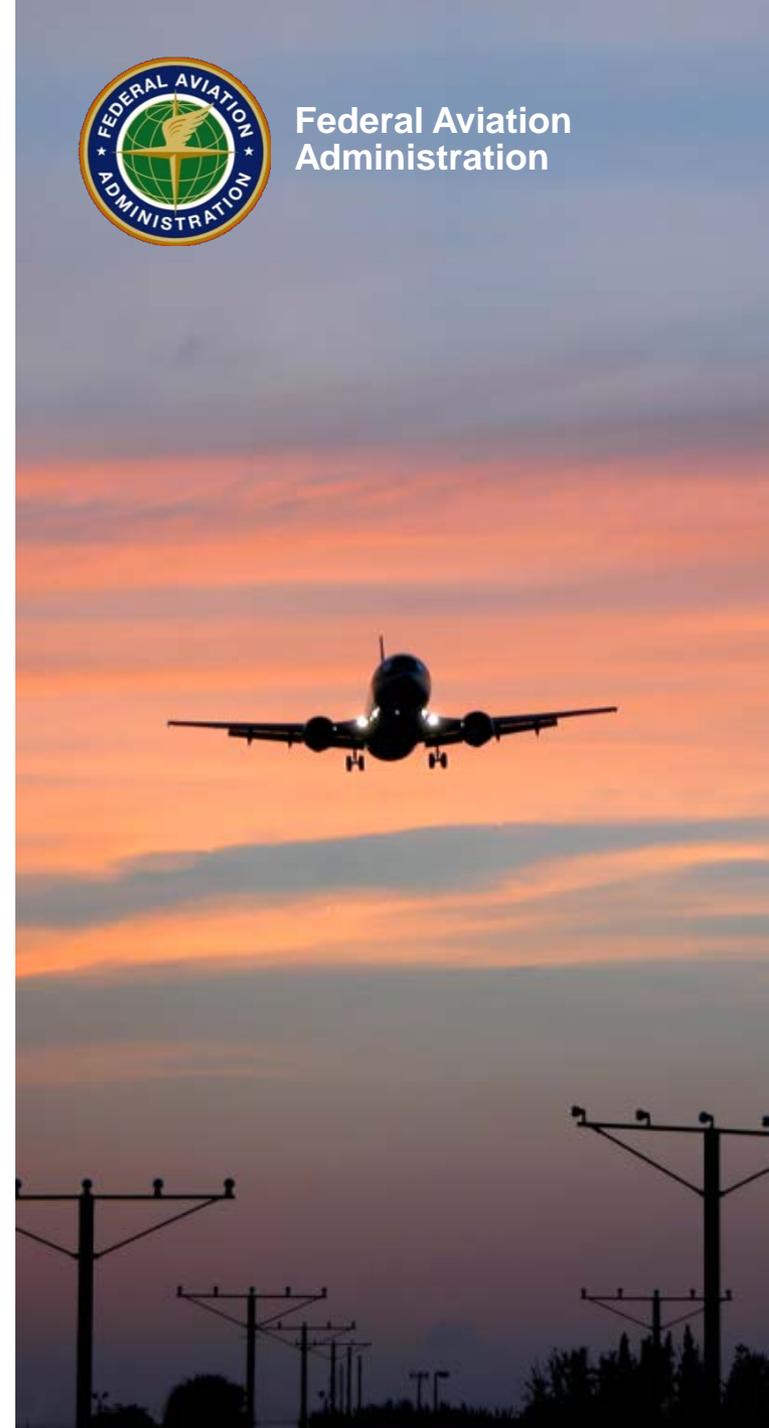


AIMM Segment 2



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AIM Modernization Segment 2

- AIMM S2
- Standardizes data product distribution using SOA Web Services, Aeronautical Information Exchange Model (AIXM), and Web Feature Services
- Expands SOA Services to include publishing and notification via WS-Notification
- Ingest aeronautical data from National Airspace System Resources (NASR/eNASR), NAVLean – Obstacle Authoritative Source (OAS), SAMS, and FNS
- AIMM S2 R3 SOA Services will include: static definitions and updates for Airports, Navigation Aids, Special Activity Airspace (SAA), Airways, Military Training Routes (MTRs), Preferred Routes, ARTCC Boundaries, Parachute Jump Areas, Runway, Runway Direction, Instrument Landing System (ILS), Microwave Landing System (MLS), Communications, Information Service, Obstacles; SAA schedules; and NOTAMs

AIM/M Service's Available for Consumption

Service Provider	System	Role	Service Name	Consumable Ops Date
AIM	FNS	WS-P	FNS NOTAM Distribution	2016
AIM	FNS	JMS-P	FNS NOTAM Publication*	2016
AIM	FNS	JMS-P	FNS NOTAM Publication V2.0	Q2 2018
AIMM	ACS	WS-P	Aeronautical Common Services Post Op Metrics (ACS-POM)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services Geodetic Computation (ACS-GC)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services Airspace Conflict Detection (ACS-ACD)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services WMS (ACS-WMS)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services WMTS (ACS-WMTS)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services Data Query (ACS-DQ) V 2.0	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services Data Subscription (ACS-DS) (v2.0)	Q4 2018
AIMM	ACS	WS-P	Aeronautical Common Services Web Feature Service (ACS-WFS) v2.0	Q4 2018

(* being upgraded to FNS NOTAM Publication V2.0)

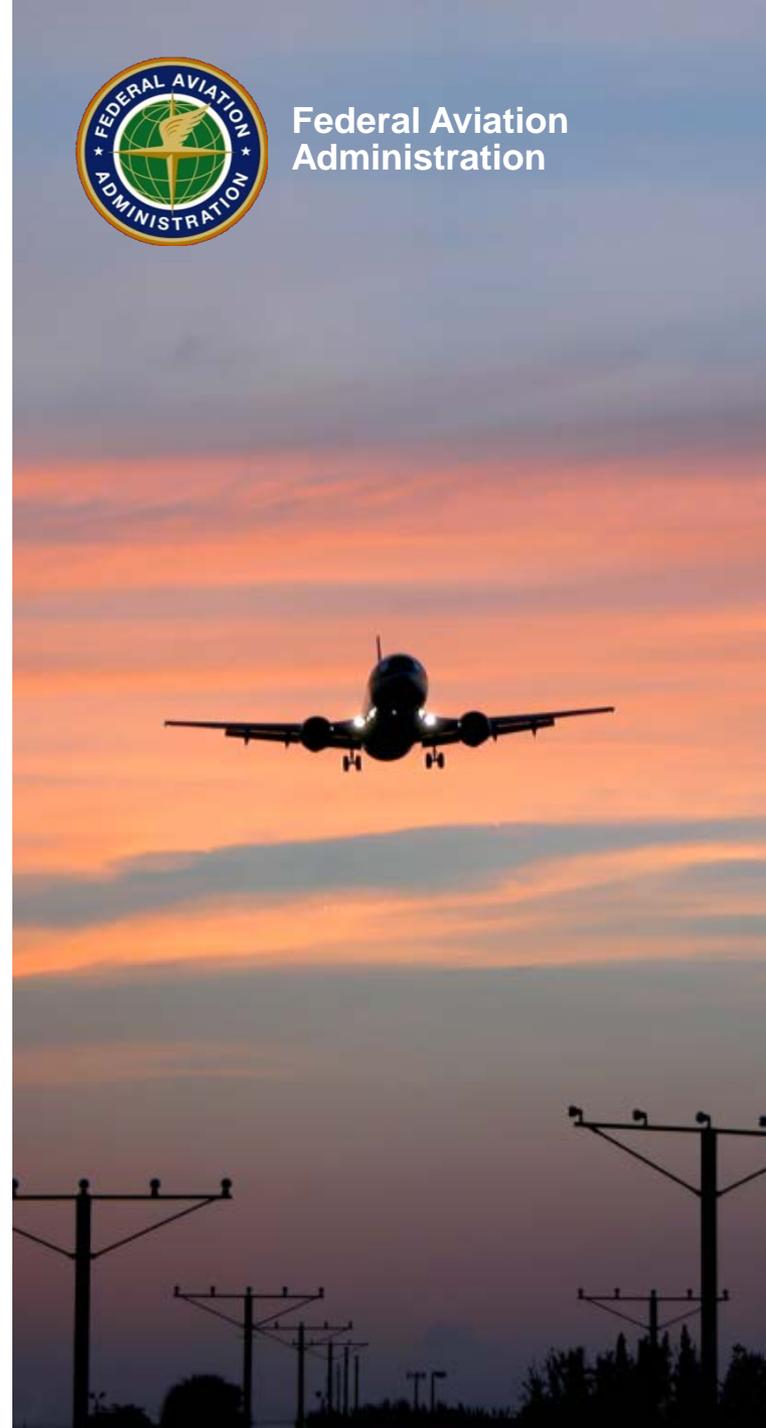


Common Support Services- Weather NWP

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CSS-Wx Overview

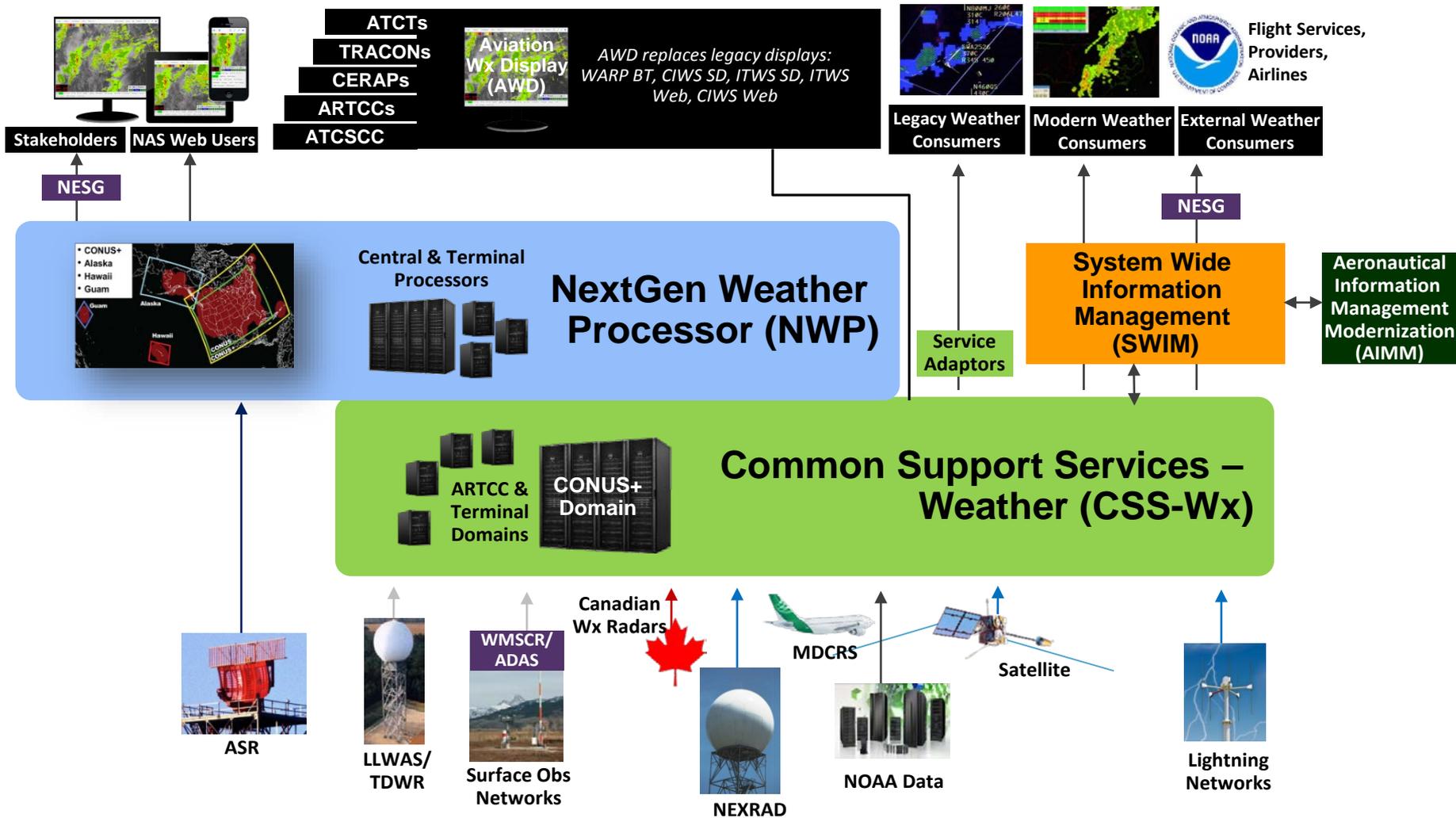
- **CSS-Wx is a NAS Program with IOC scheduled for October 2018**
- **CSS-Wx will be the authoritative source of aviation weather information for FAA users**
 - Consolidate legacy weather provider systems
 - Filter weather information to support specific users needs
 - Standardize weather information into common formats
 - Enable integration of weather information into air traffic decision support tools
- **CSS-Wx will publish weather data from NWP, National Weather Service (NWS), and other sources to consumers via System Wide Information Management (SWIM), via Legacy Service adapters, and regular FTI interfaces**
- **Standardize Weather information into the Open Geospatial Consortium (OGC) formats (with the exception of radar data)**
 - Gridded Data: Network Common Data Form, version 4 (netCDF-4)
 - Non-gridded data: Weather Information Exchange Model (WXXM)
 - Image data: GeoTIFF, JPEG, PNG or GIF



NWP Overview

- **NextGen Weather Processor is a NAS Program with IOC scheduled for December 2019**
- **NextGen Weather Processor (NWP) will generate aviation weather products based on inputs from weather data sourced from the National Weather Service, weather radars, environmental satellites, lightning, and meteorological observations**
 - NWP will compliment CSS-Wx and act as a backend processor for a variety of Weather data
 - NWP will rely on CSS-Wx and SWIM to distribute refined weather data to Consumers
- **Additionally, NWP will deploy the Aviation Weather Displays (AWDs), which will be a replacement for legacy weather systems Corridor Integrated Weather System (CIWS) Displays, Integrated Terminal Weather System (ITWS) Situation Displays and Weather and Radar Processor (WARP) Briefing Terminals**
- **AWD will be available via two form factors:**
 - AWD Workstations - internal NAS only, will replace 800+ WARP workstations
 - Aviation Weather Display Web Server (AWD WS) – AWD website available to non-NAS and Mission Support users

Wx Context Diagram



Schedule

CSS-Wx Key Site	August 2018
CSS-Wx IOC	October 2018
NWP Key Site	June 2019
NWP IOC	December 2019



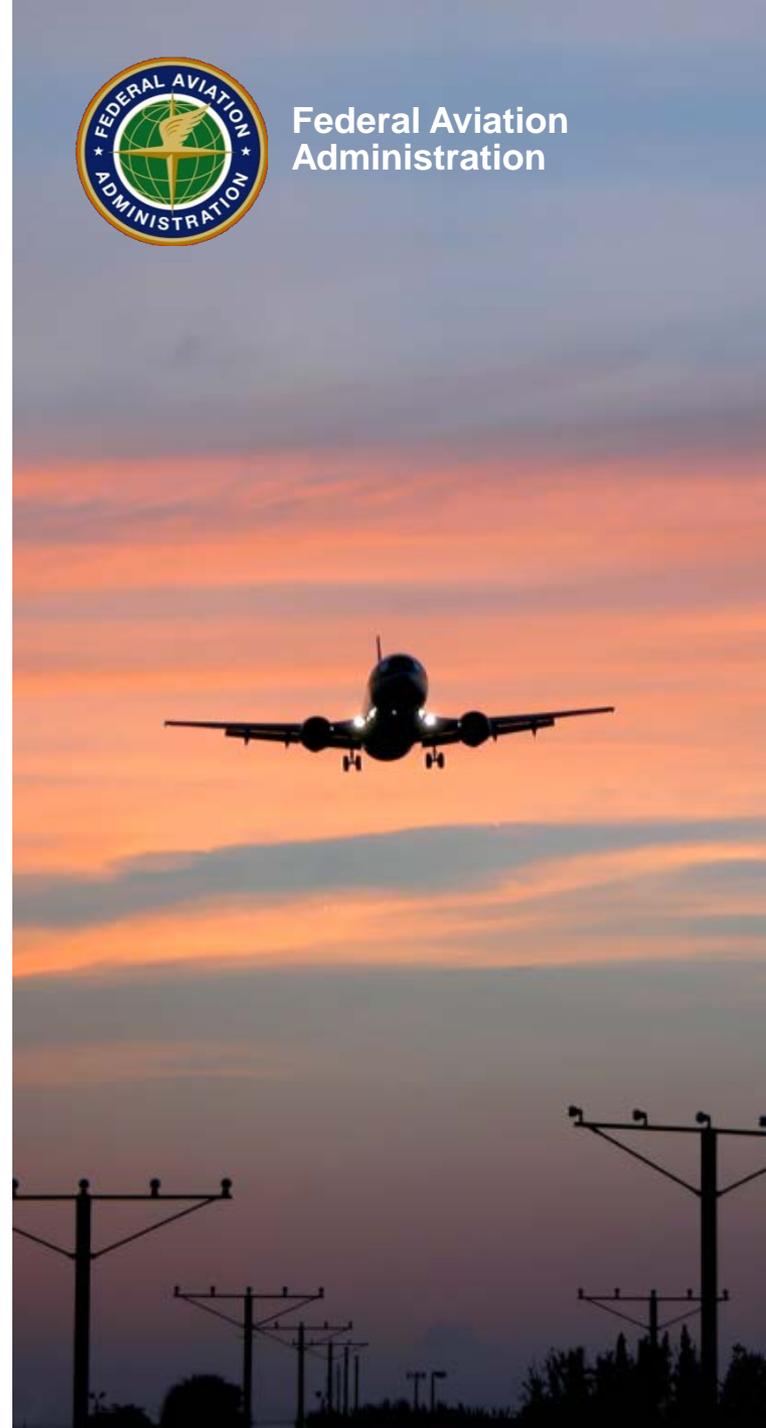
A Data Discussion

Natesh Manikoth,
FAA Chief Data Officer

Chris Pressler,
SWIM Engineering Lead



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Happy Holidays

Wishing you a
beautiful holiday season!



*See you
in 2018!*

*Next Users Forum:
February 8*