

# NAS Enterprise Architecture

## Data and Information Management Integrated Views v3.0

### Baseline

February 2025



Overview

What are the Integrated Views?

- The NAS EA Integrated Views present an Executive View that depicts the evolution of the National Airspace System (NAS) for a focused area of interest and incorporates applicable inter-related content from the NAS EA such as Roadmaps, Improvements, Increments, Support Activities (pre-implementation research, demonstrations, analyses), as well as relevant external references (e.g. ICAO, DoD, NASA). The views contribute towards our holistic and integrated understanding of the complex inter-relationships necessary for effective planning, analysis, and decision-making, across the enterprise, portfolio, and specific investments.

Guidelines for Understanding the Data & Information Integrated Views

- The Data and Information Management (D&IM) Integrated Views present an Executive View (EV) of the evolution of Air Traffic Management (ATM) information and information products in the National Airspace System (NAS). The views incorporate content from the Business & Technology, Service and NAS Infrastructure Roadmaps, and Support Activities, reflective of the ATM Information Evolution. Additionally, relevant Aviation System Block Upgrades (ASBUs) from the International Civil Aviation Organization (ICAO) Global Air Navigation Plan (GANP) provide global strategic planning context. The views are intended to focus on the sharing and consumption of digital information and the availability of digital information products via investments that enable access, integration, publication, and distribution through applications/services rather than on production capabilities such as data generation and collection. Guided by principles of a service-based architecture and enterprise information management, the integrated views offer a holistic and integrated high-level view of what is needed for an information-centric future NAS that meets the needs of diverse consumers, operators, and service providers.

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Data and Information Management Integrated Views Swimlane Descriptions

CY	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	+
	ICAO Alignments				This swimlane includes a reference to the ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBUs) to provide a global strategic planning context. The bars represent the ICAO block upgrades, the time periods and evolution of capabilities associated with digital ATM information management. Each of the GANP and/or ASBU references may be associated with one or more BTIs in the B&T Roadmap swimlane.																					
	Support Activities				This swimlane identifies research-oriented Support Activity investments that inform and are associated with one or more BTIs in the B&T Roadmap swimlane.																					
	B&T Roadmaps				This swimlane focuses on the view's story and illustrates the evolution of ATM information products via the new Data and Information Management Business & Technology Roadmap 5094* series of B&T improvements/increments. The green arrows show "current information" / "information products" and the blue bars show future increments of improvement. Each of the increments may be associated with a reference to the GANP and/or ASBUs referenced in the ICAO Alignments swimlane. Additionally, each of the BTIs will be associated with one or more Support Activity, Infrastructure Roadmap investments, and Service Roadmap increments.																					
	Service Roadmaps				This swimlane identifies NAS mission services and operational improvements/increments to illustrate the evolution of NAS services over time. In the context of the Data and Information Integrated Views, operational improvements and their increments are displayed to highlight how enhancements to information products contribute to the evolution of NAS services. Additionally, each of the OIIs may be associated with B&T increments.																					
	Infrastructure Roadmaps				This swimlane identifies enabling investments and solutions/services necessary to achieve the improvements and their increments. Because the current view emphasizes consumption of digital information and the availability of digital information products, it focuses on investments that enable access, integration, publication, and distribution through future services rather than on data generation and collection.																					
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2019

2020

2021

XYZ

XYZ

XYZ

XYZ

X

XYZ

XYZ

XYZ

XYZ

XYZ

XX

Timeline

System / Service / Support Activity

NextGen Project (denoted by G CIP number)

Project

Planned (Unfunded) System/Service/Project\*

Decommission

System successor

System in Draw-Down Mode

ICAO Aviation System Block Upgrade (ASBU)

ICAO Concept Release

Continuing BTI

Current Business & Technology Environment (CBTE) - Arrow indicates sustainment

Current Operation (CO) - Triangle indicates full operational availability

Operational Improvement or BTI with Initial Operational Availability status

Operational Improvement or BTI with Development status

Operational Improvement or BTI with Concept Exploration and Maturation status

Operational Improvement or BTI with Planned status

Operational Improvement or BTI Increment timeframe

FID

AMS (CRDR, IARD, IID, FID, BCD)

Policy

Strategy (JRC)

Strategy (Other)

Decision Point Owned by Another Roadmap

Regulatory Milestone

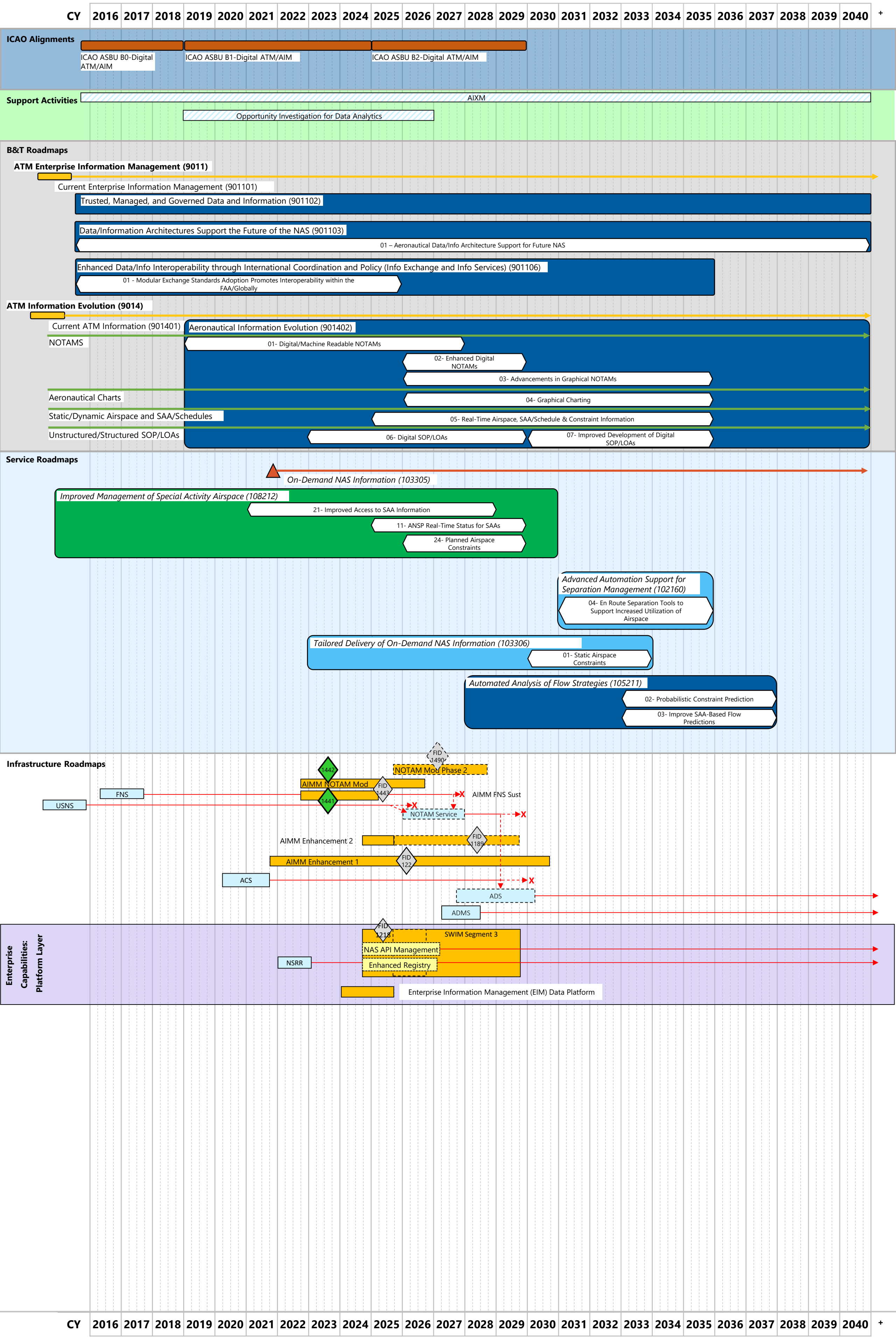
Future Baselined

Completed

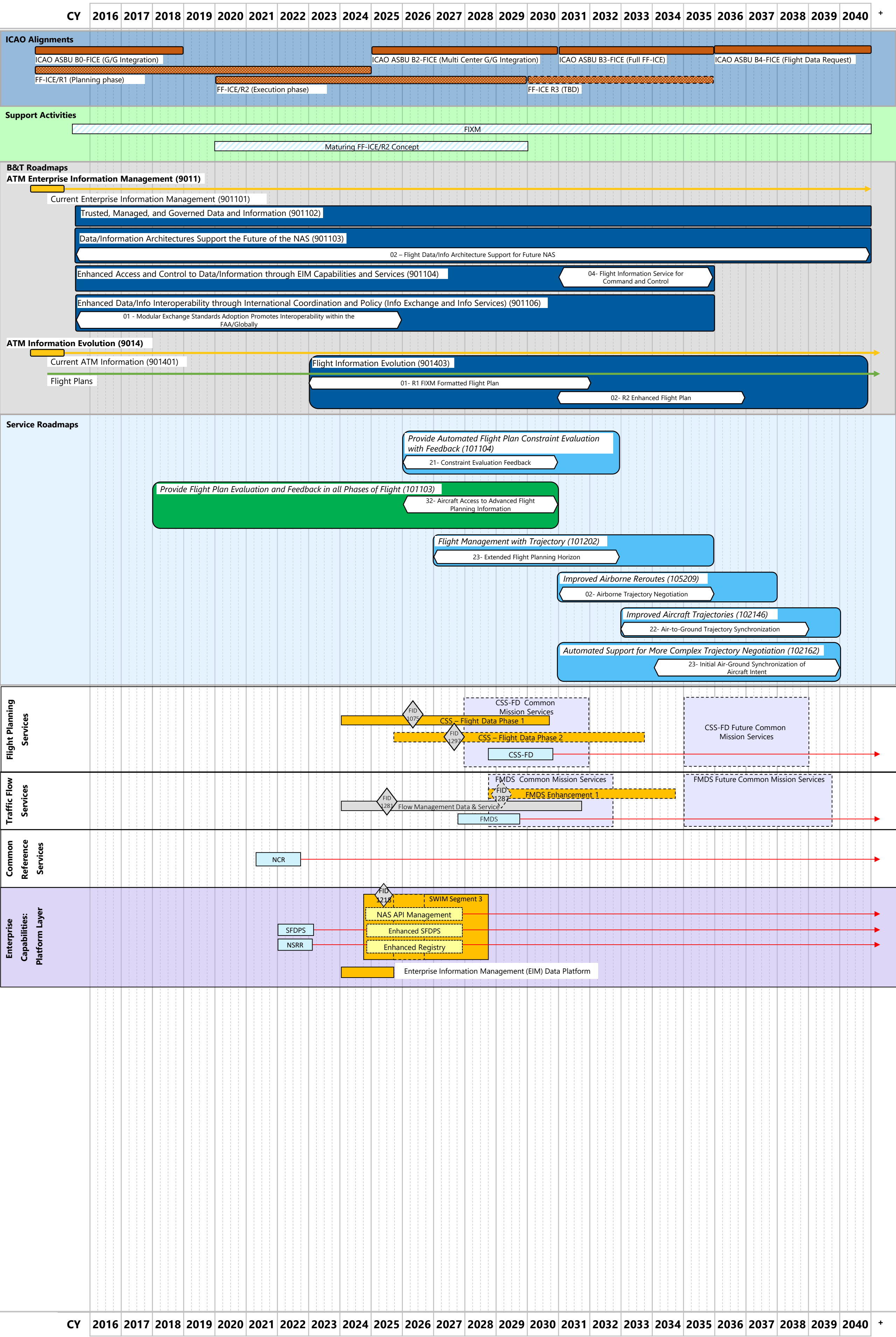
Planned / Unfunded

High Visibility

Data & Info Mgmt Integrated View – Aeronautical Information

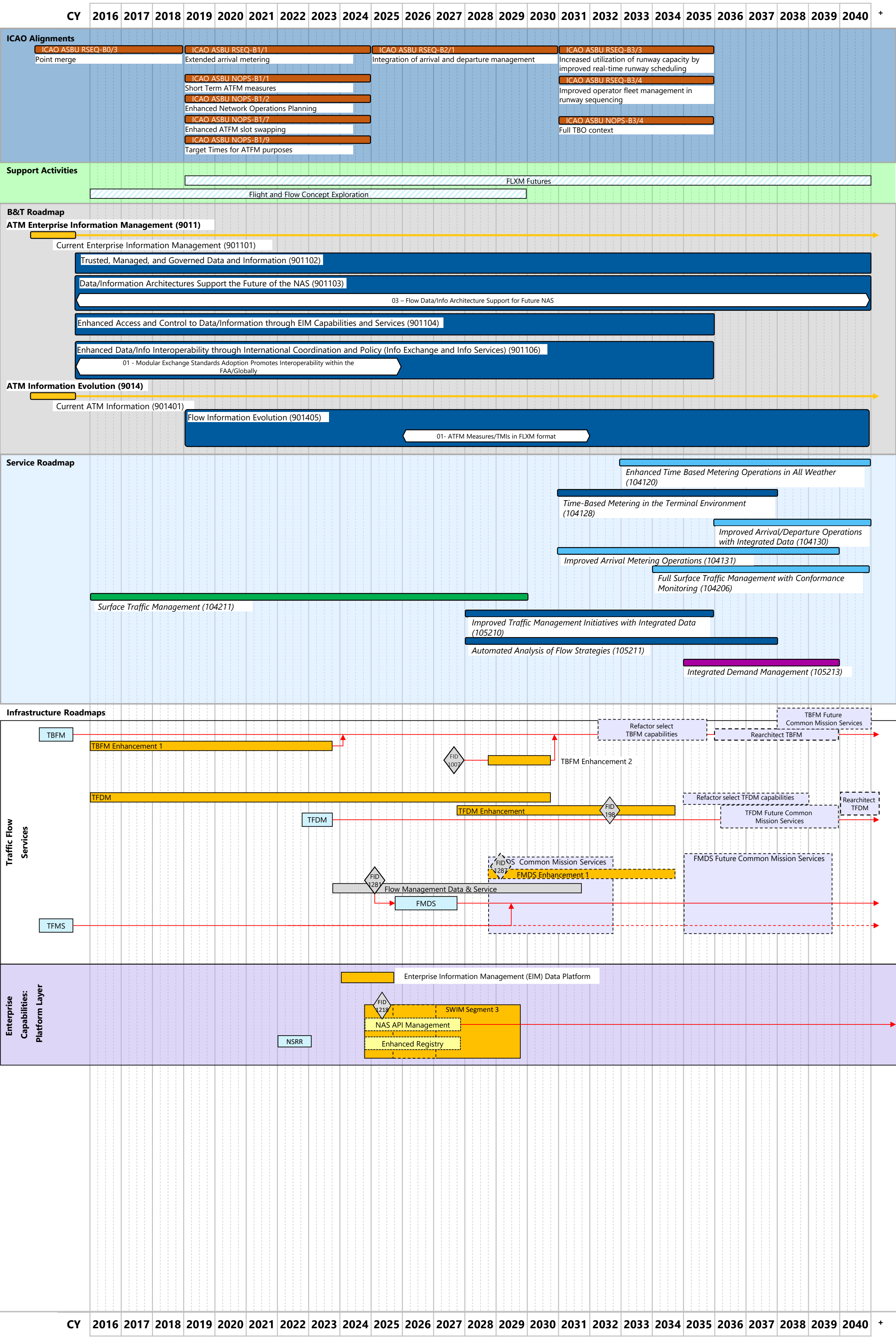


Data & Info Mgmt Integrated View – Flight Information





Data & Info Mgmt Integrated View – Flow Information



**Data & Info Mgmt Integrated View – Weather Information**

**CY** 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 +

**ICAO Alignments**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
ICAO ASBU AMET-B0/1	Meteorological observations products			ICAO ASBU AMET-B1/1			Meteorological observations information expansion			ICAO ASBU AMET-B2/1			Initial Integration of Data-Centric Info			ICAO ASBU AMET-B3/1			Enhanced Integration of Data-Centric Info			ICAO ASBU AMET-B4/1			
ICAO ASBU AMET-B0/2	Meteorological forecast and warning products			ICAO ASBU AMET-B1/2			Meteorological forecast and warning information for Data Centric and Ensemble-Derived Predictions			ICAO ASBU AMET-B2/2			Enhanced Ensemble prediction, enhanced VA, WAFS, HWIS			ICAO ASBU AMET-B3/2			Integration of Enhanced Probabilities			ICAO ASBU AMET-B4/2			
ICAO ASBU AMET-B0/3	Provision of Climatological products			ICAO ASBU AMET-B1/3			Enhanced climatological data to better support ATM infrastructure			ICAO ASBU AMET-B2/3			Initial expansion of climatology data and scope to include satellite and in-situ sources and changes that can affect ATM			ICAO ASBU AMET-B3/3			Enhanced expansion of Climatological data and scope			ICAO ASBU AMET-B4/3			
ICAO ASBU AMET-B0/4	Initial dissemination of Met Info in IWXXM			ICAO ASBU AMET-B1/4			IWXXM replaces TAC; Intro web services			ICAO ASBU AMET-B2/4			Data-Centric dissemination into SWIM with initial B2B services			ICAO ASBU AMET-B3/4			Enhanced IWXXM schemas/formats			ICAO ASBU AMET-B4/4			

**Support Activities**

- Hybrid Solution for Visibility Information
- Offshore Precipitation Capability
- FAA Weather Strategy
- Synthetic PIREP Generation
- PIREP Smart Solicitation
- PIREP Interface and Hands-Minimized Follow-On

**B&T Roadmaps**

**ATM Enterprise Information Management (9011)**

- Current Enterprise Information Management (901101)
- Trusted, Managed, and Governed Data and Information (901102)
- Data/Information Architectures Support the Future of the NAS (901103)
- Enhanced Data/Info Interoperability through International Coordination and Policy (Info Exchange and Info Services) (901106)

**ATM Information Evolution (9014)**

- Current ATM Information (901401)
- Weather Information Evolution (901404)

**Service Roadmaps**

- Improved Aviation Weather Information (103120)
- 08- Enhanced Automated Winter Weather Information
- Integration of Weather Information Into NAS Automation and Decision Making (103123)
- 03- Enhanced Icing Information
- 04- Expanded Turbulence Information
- 21- Enhanced Convective Weather Using Satellite-Based Observation in Offshore Oceanic Airspace
- Enhanced Time Based Metering Operations in All Weather (104120)
- 21- Sustain Metering in Variable Operational Conditions
- 32- Rerouting During Metering Operations
- Qualified Weather Information (103401)

**Infrastructure Roadmaps**

**Wx Dissemination**

- Common Support Services Wx
- CSS-Wx
- Weather Enhancement 1
- Weather Common Mission Services

**Wx Processing**

- NextGen Weather Processor (NWP)
- NWP
- ITWS
- Weather Enhancement 2

**Wx Obs/Sensors**

- Weather Camera (Sys Ops)
- Visual Weather Observation System (VWOS)
- Weather Camera Enhancement 1

**ATC Automation**

- STARS
- Terminal Precipitation on Glass (TPoG)
- FID 1287
- FID 1287
- Flow Management Data & Service
- FMDS
- FMDS Enhancement 1
- TFMS
- TBFM
- TBFM Enhancement 1
- E-IDS Phase 1
- E-IDS Phase 2
- E-IDS Phase 3
- E-IDS

**Non-FAA Services**

- Vendor Wx Data Services
- Vendor Wx Data to WARP
- Vendor Wx Data to Flight Services
- Vendor Wx Data to TFMS (FMDS)
- Vendor Wx Data to FIS-B
- NOAA/NWS Wx Services
- Observations & Forecast products from CWSUs, Aviation Wx Center, NG ITWS, NWS WFOs, NCEP
- NOAA Satellite Data Services
- Vendor Satellite Imagery (Visual and IR) & products

**Enterprise Capabilities: Platform Layer**

- Enterprise Information Management (EIM) Data Platform
- NSRR
- SWIM Segment 3
- NAS API Management
- Enhanced Registry

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**BASELINE**

NAS Enterprise Architecture Data & Information Management Integrated Views Version 2.0