

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.

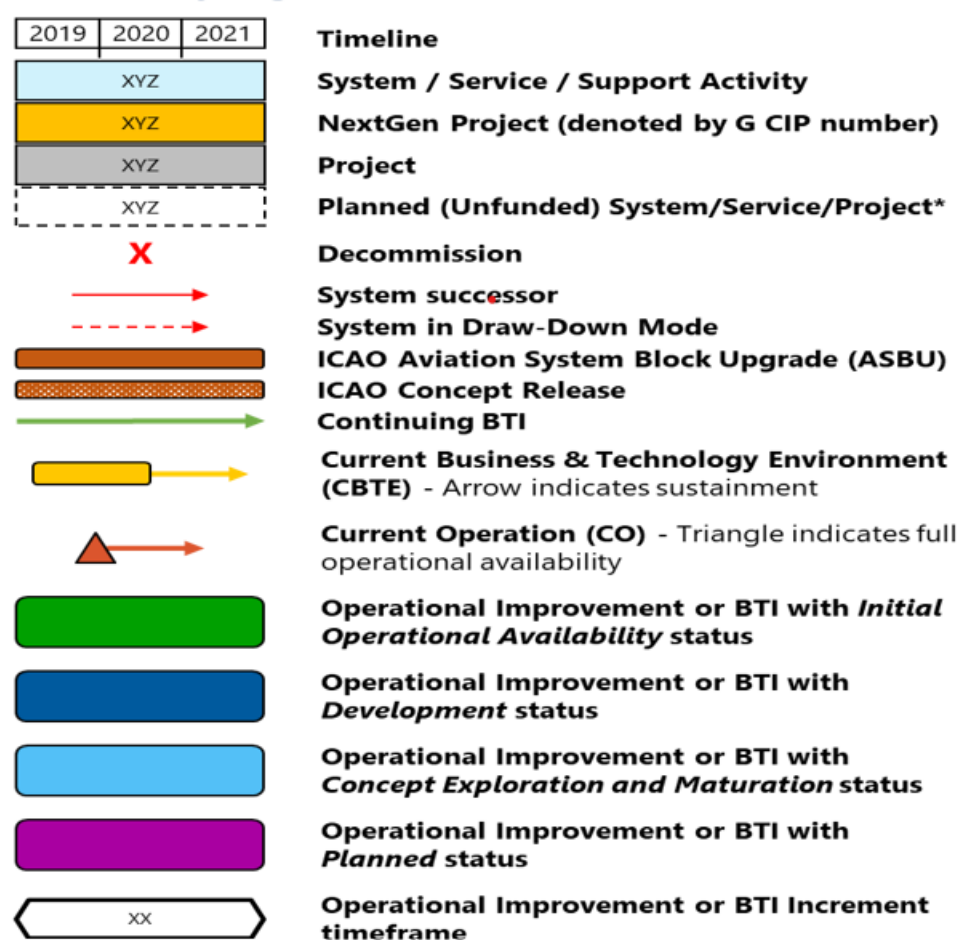
For more information, please contact:

Diana Takata (diana.takata@faa.gov).

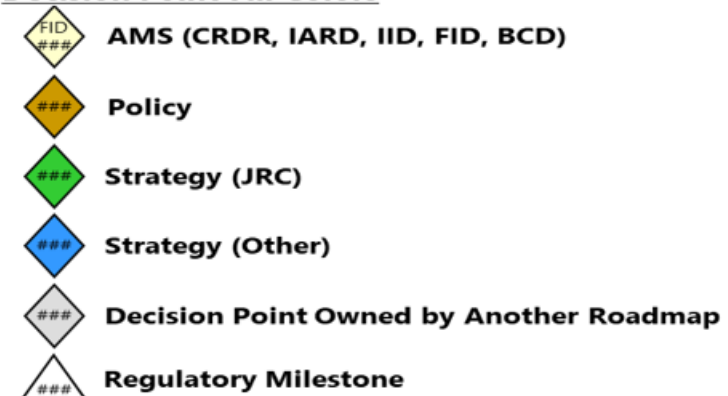
Data and Information Management Integrated Views Swimlane Descriptions

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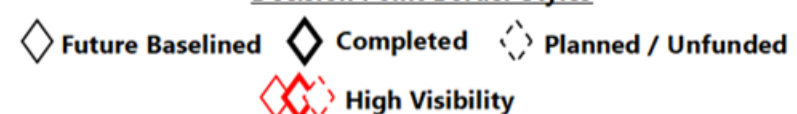
Roadmap Legend



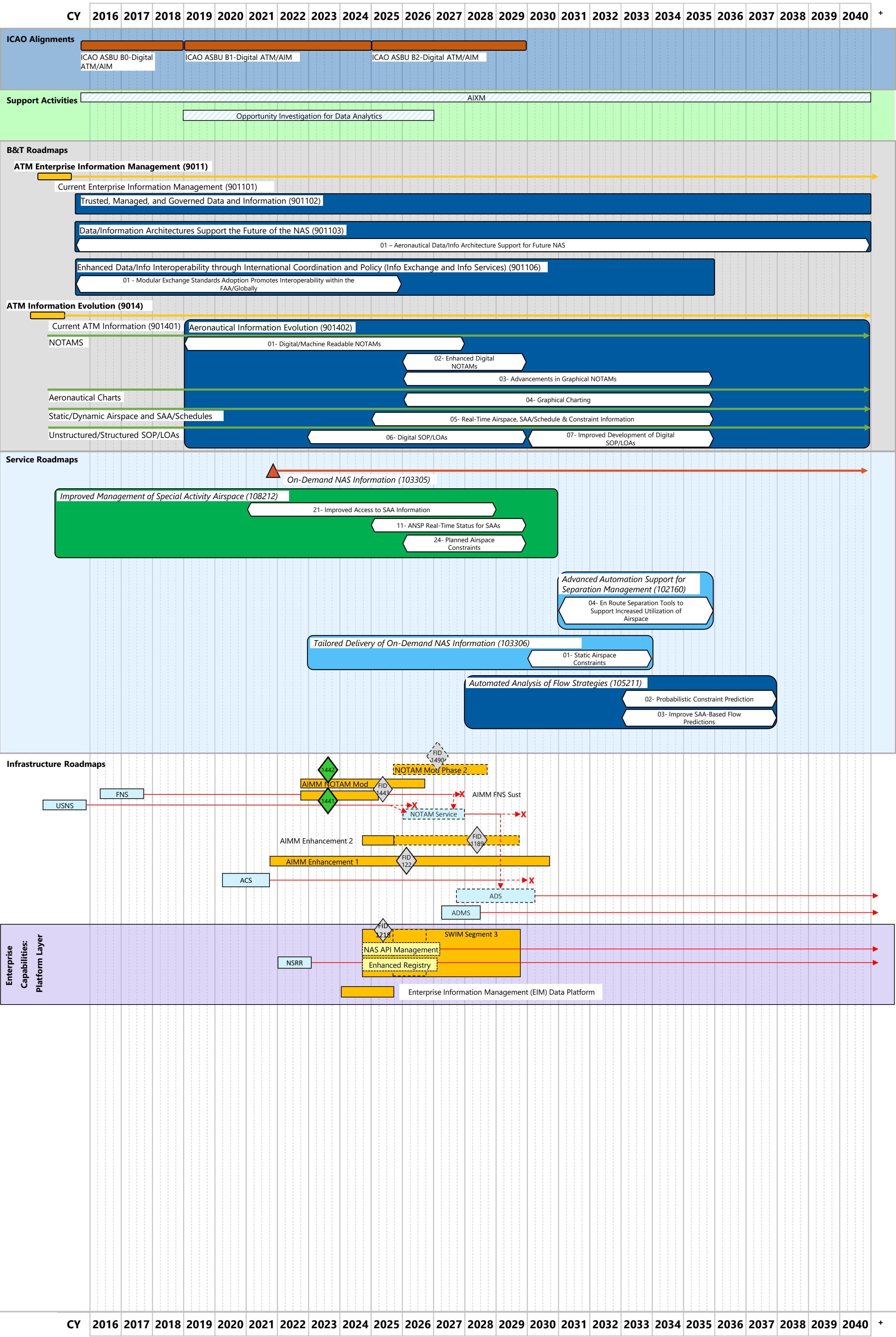
Decision Point Fill Colors



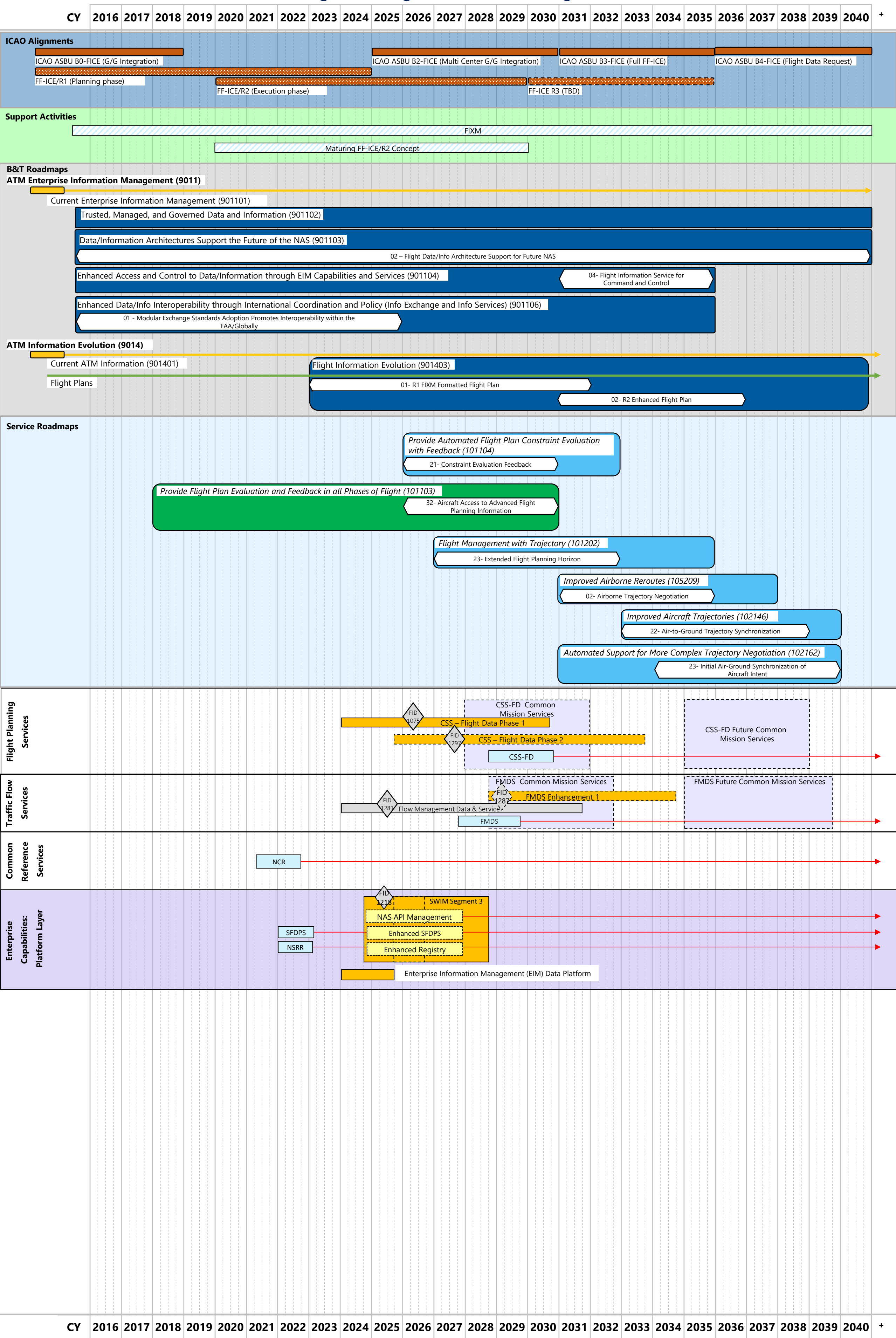
Decision Point Border Styles



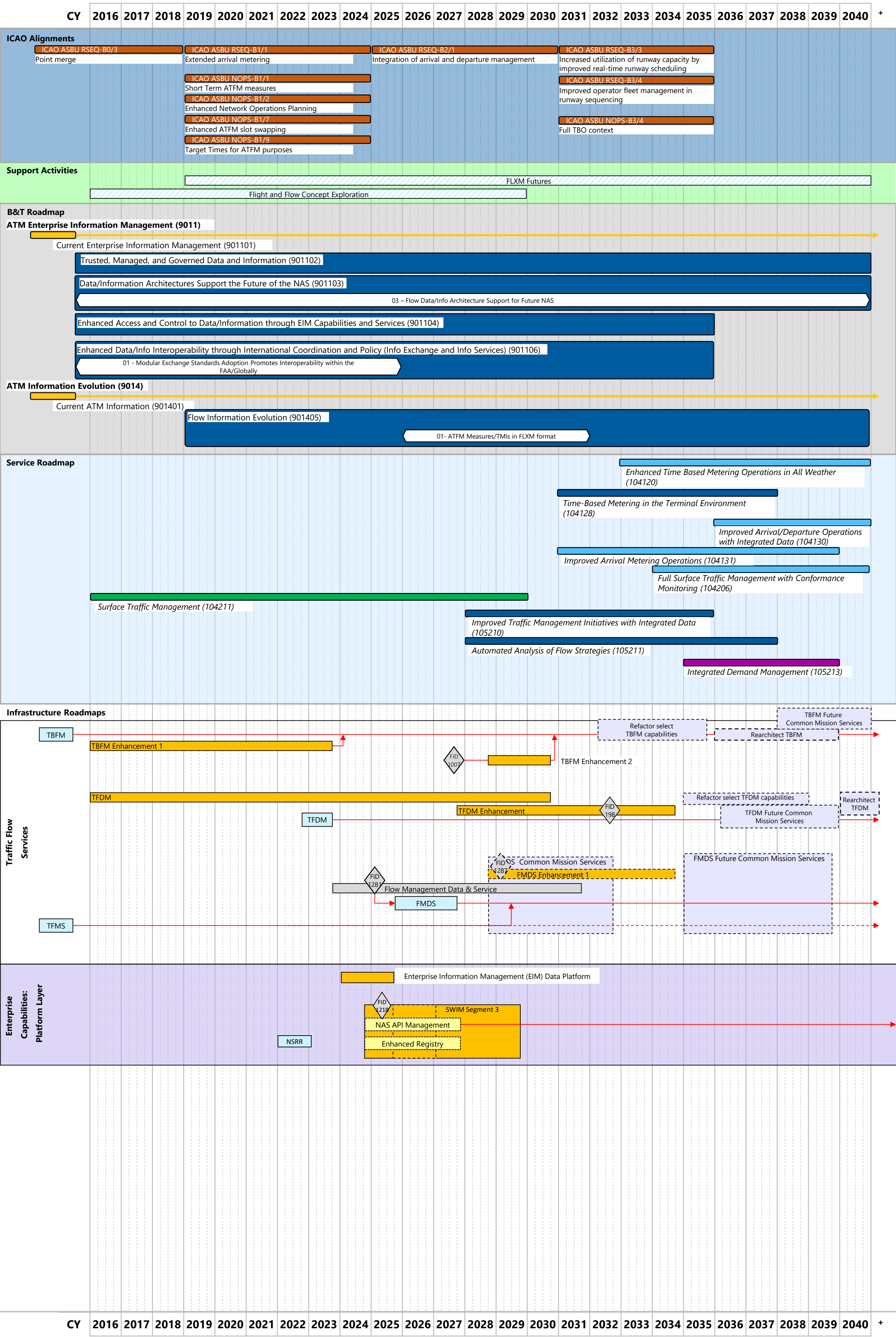
Data & Info Mgmt Integrated View – Aeronautical Information



Data & Info Mgmt Integrated View – Flight Information



Data & Info Mgmt Integrated View – Flow Information



Data & Info Mgmt Integrated View – Weather Information

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ICAO Alignments

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)

01 – Modular Exchange Standards Adoption Promotes Interoperability within the FAA/Globally

04 – Weather Data/Info Architecture Support for Future NAS

ATM Information Evolution (9014)

Current ATM Information (901401)

Weather Information Evolution (901404)

01 – Implement IWXXM and Global Interoperability Standards for Weather Information

02 –Establish Common Weather Information/Knowledge Reference

03 – Multi-Sensor Data and Fusion Technology for Derived/Synthetic Weather Information

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

Wx Processing

NextGen Weather Processor (NWP)

NWP

ITWS

Weather Enhancement 1

Weather Enhancement 2

Weather Common Mission Services

Wx Obs/Sensors

Weather Camera (Sys Ops)

Visual Weather Observation System (VWOS)

Weather Camera Enhancement 1

ATC Automation

STARS

Terminal Precipitation on Glass (TPoG)

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

NAS API Management

Enhanced Registry

SWIM Segment 3

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BASELINE

NAS Enterprise Architecture Data & Information Management Integrated Views Version 2.0