

# NAS Enterprise Architecture

## Data and Information Management Integrated Views v2.0

**BASELINE**

February 2024



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# 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:  
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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	+
<b>ICAO Alignments</b>	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.																									
<b>Support Activities</b>	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>B&amp;T Roadmaps</b>	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.																									
<b>Service Roadmaps</b>	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.																									
<b>Infrastructure Roadmaps</b>	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.																									

## Roadmap Legend

2019	2020	2021	
XYZ	XYZ	XYZ	<b>Timeline</b>
XYZ	XYZ	XYZ	<b>System / Service / Support Activity</b>
XYZ	XYZ	XYZ	<b>NextGen Project (denoted by G CIP number)</b>
XYZ	XYZ	XYZ	<b>Project</b>
XYZ	XYZ	XYZ	<b>Planned (Unfunded) System/Service/Project*</b>
X			<b>Decommission</b>
→			<b>System successor</b>
- - - →			<b>System in Draw-Down Mode</b>
▬			<b>ICAO Aviation System Block Upgrade (ASBU)</b>
▬			<b>ICAO Concept Release</b>
→			<b>Continuing BTI</b>
→			<b>Current Business &amp; Technology Environment (CBTE) - Arrow indicates sustainment</b>
▲			<b>Current Operation (CO) - Triangle indicates full operational availability</b>
▬			<b>Operational Improvement or BTI with Initial Operational Availability status</b>
▬			<b>Operational Improvement or BTI with Development status</b>
▬			<b>Operational Improvement or BTI with Concept Exploration and Maturation status</b>
▬			<b>Operational Improvement or BTI with Planned status</b>
▬			<b>Operational Improvement or BTI Increment timeframe</b>

## Decision Point Fill Colors

◆ FID	<b>AMS (CRDR, IARD, IID, FID, BCD)</b>
◆	<b>Policy</b>
◆	<b>Strategy (JRC)</b>
◆	<b>Strategy (Other)</b>
◆	<b>Decision Point Owned by Another Roadmap</b>
▲	<b>Regulatory Milestone</b>

## Decision Point Borders\*\*

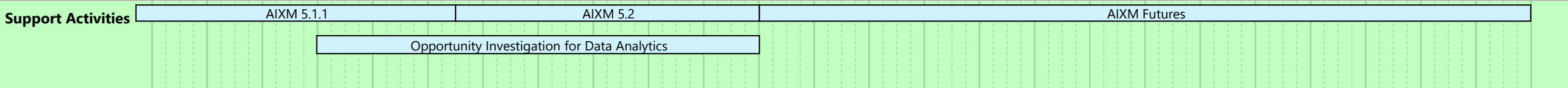
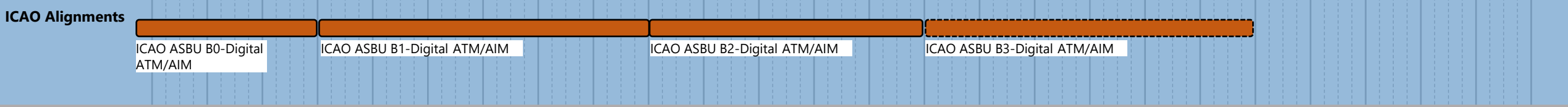
◆	<b>Future Baseline DP; High Priority</b>
◆	<b>Future Baseline DP; Non-High Priority</b>
◆ or ◆	<b>Completed DP</b>
◆ or ◆	<b>Planning DP</b>

\* Applies to any fill color type

\*\* Applies to any Decision Point fill color type

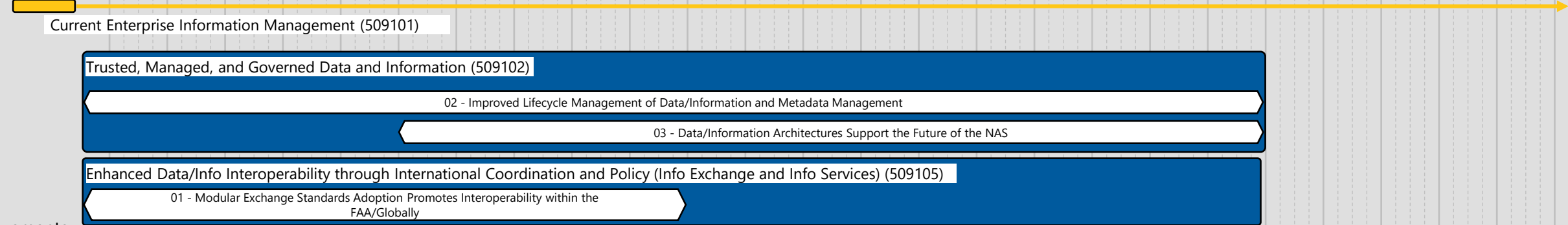
# Data & Info Mgmt Integrated View – Aeronautical Information

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 +

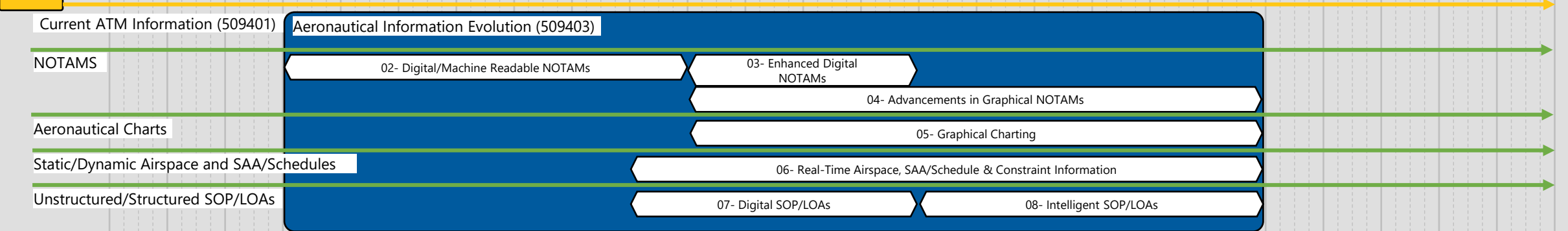


**B&T Roadmaps**

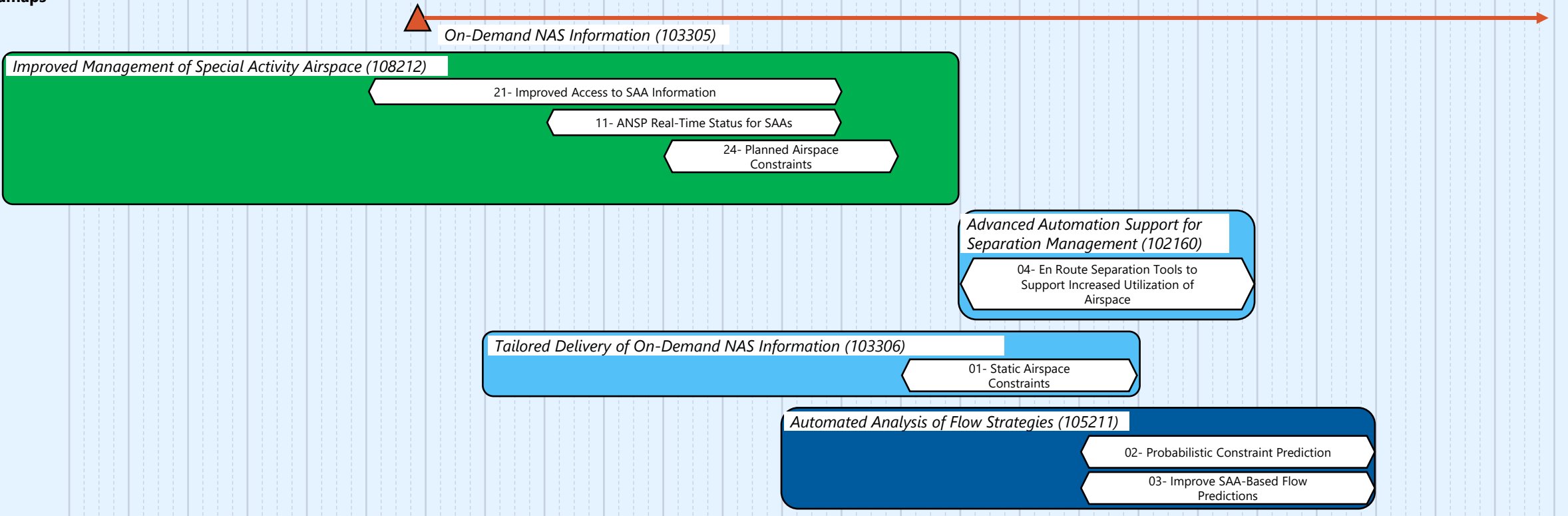
**ATM Enterprise Information Management (5091)**



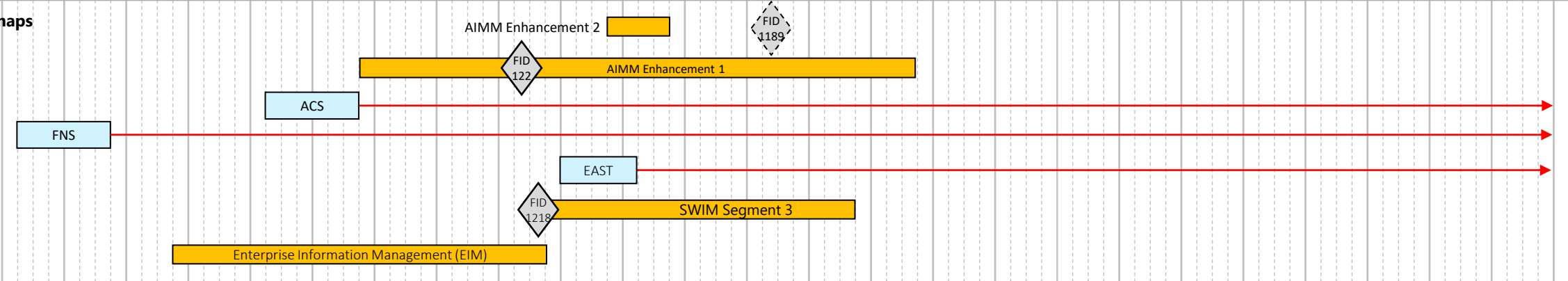
**Improvements  
ATM Information Evolution (5094)**



**Service Roadmaps**



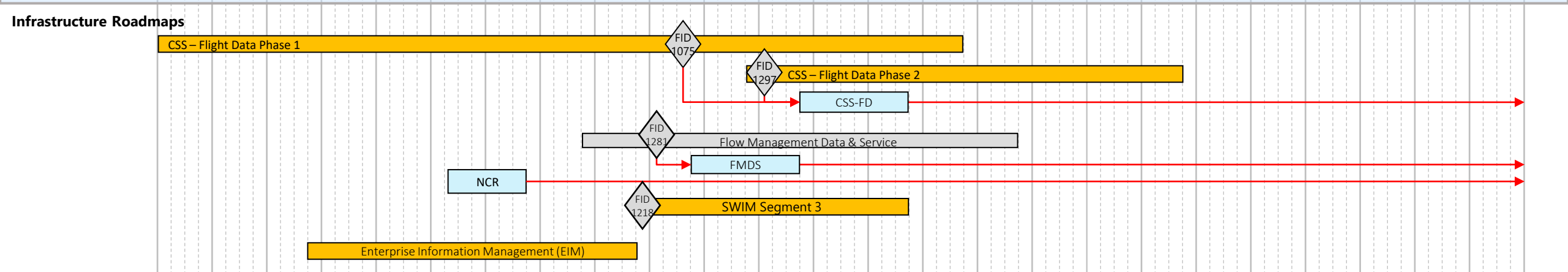
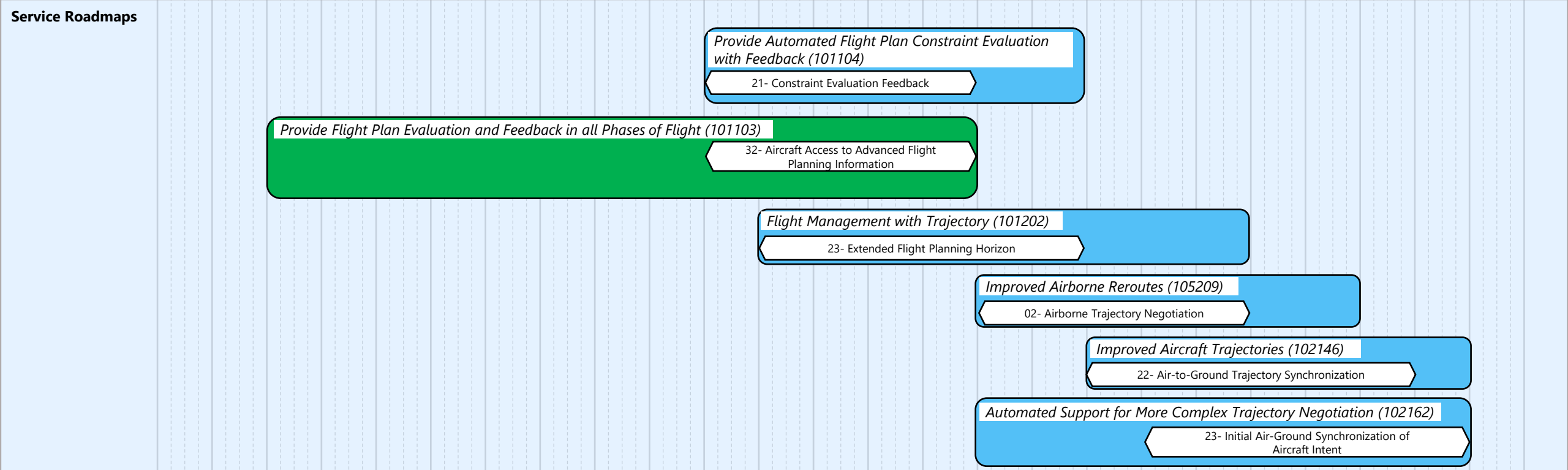
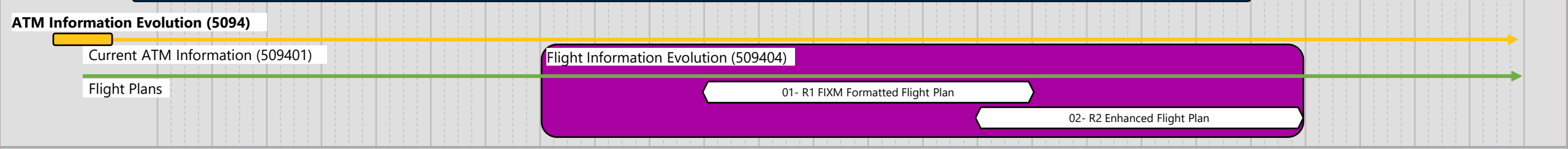
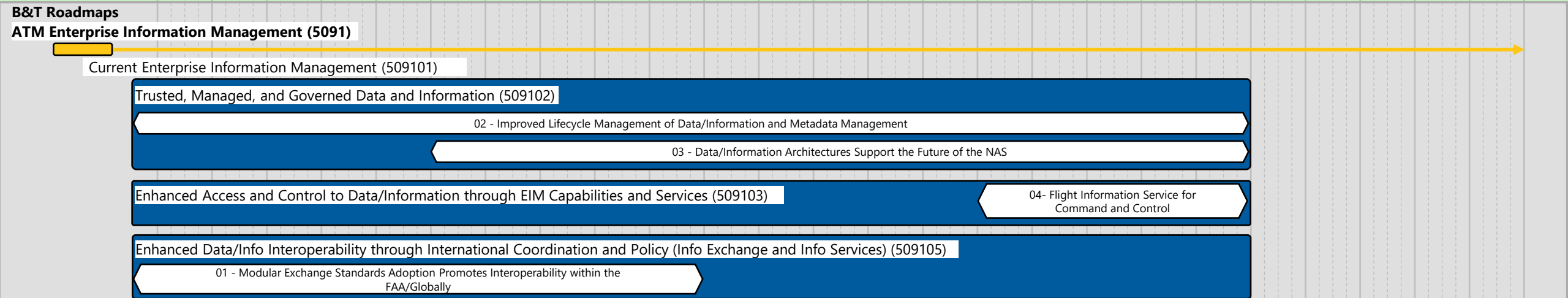
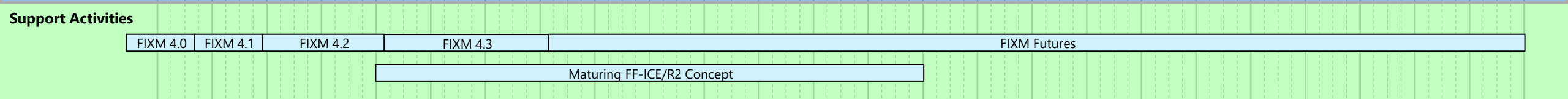
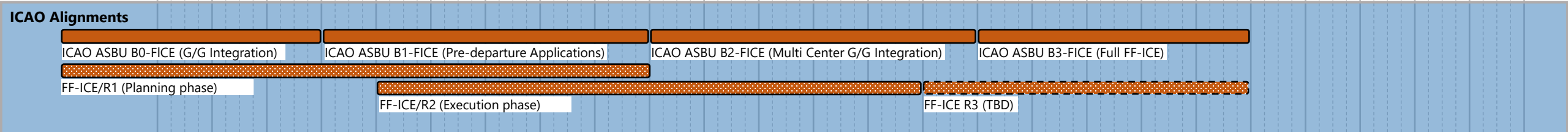
**Infrastructure Roadmaps**



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 +

# Data & Info Mgmt Integrated View – Flight 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 +

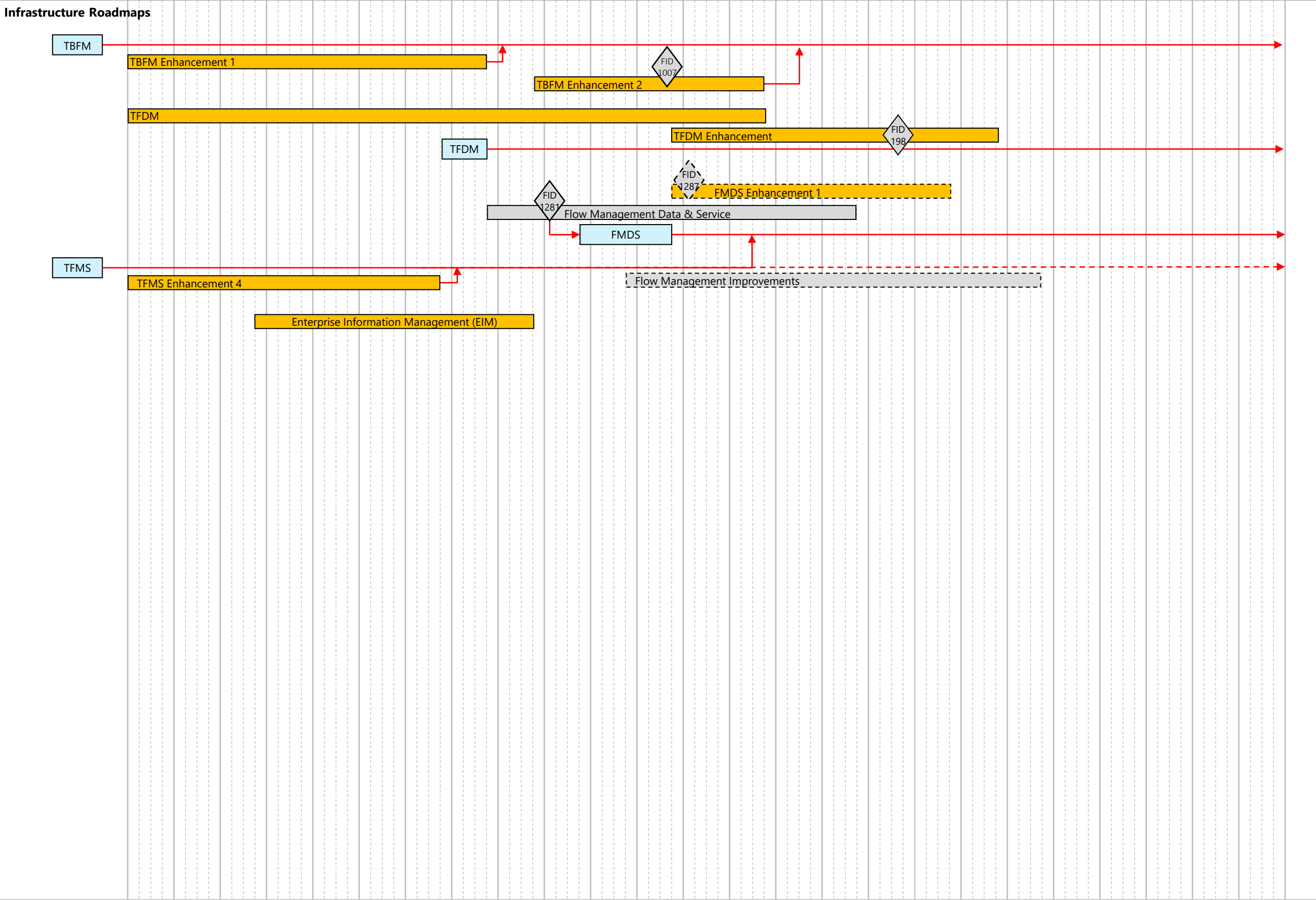
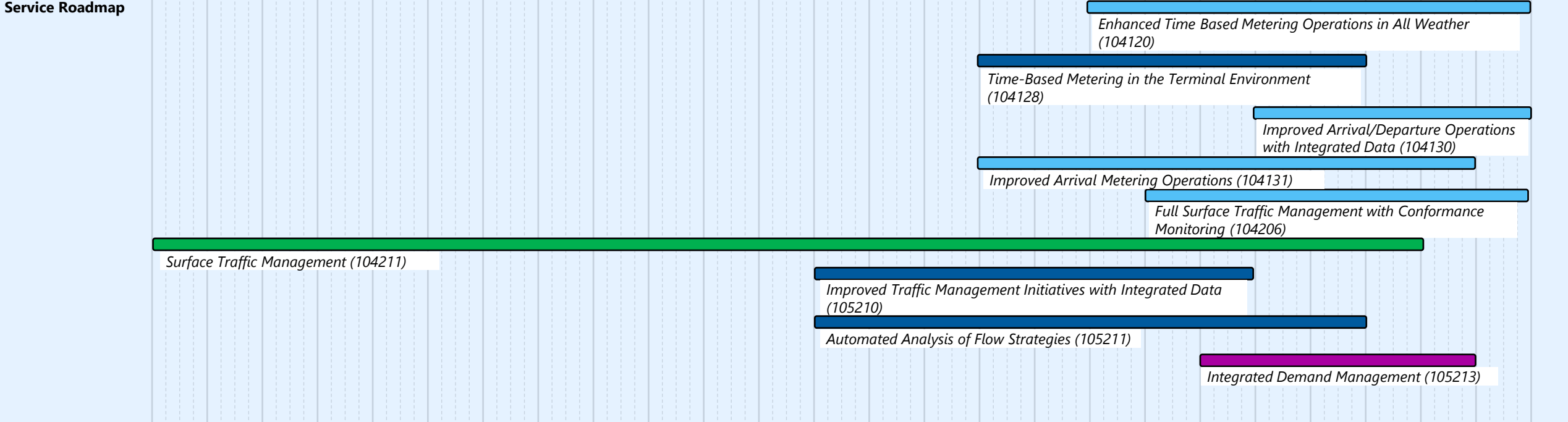
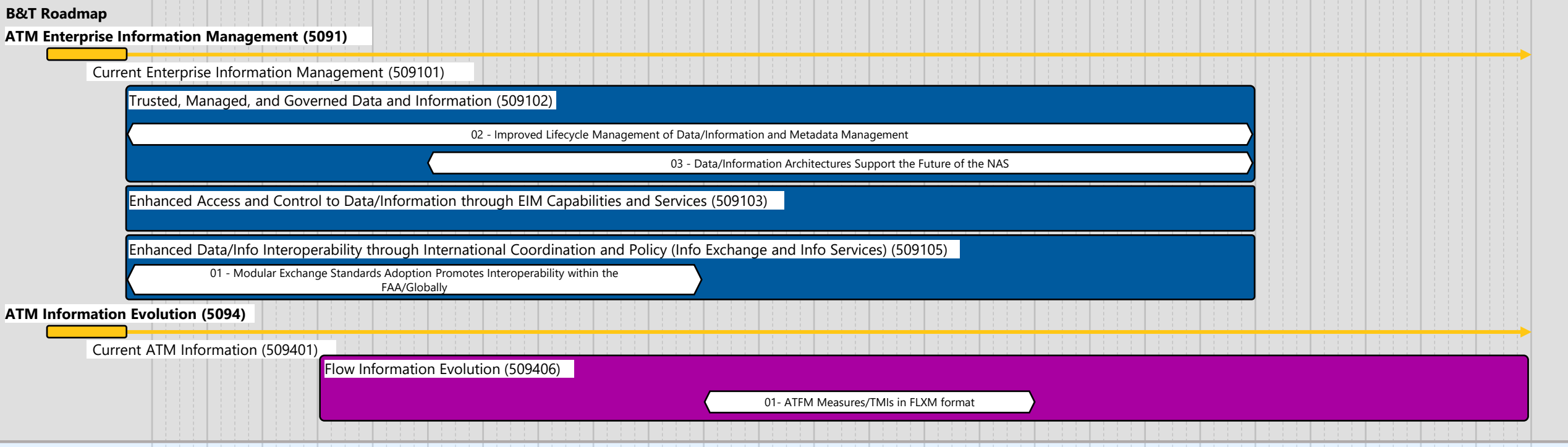
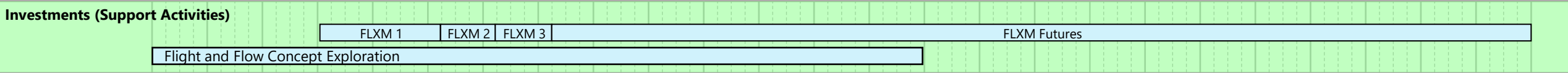
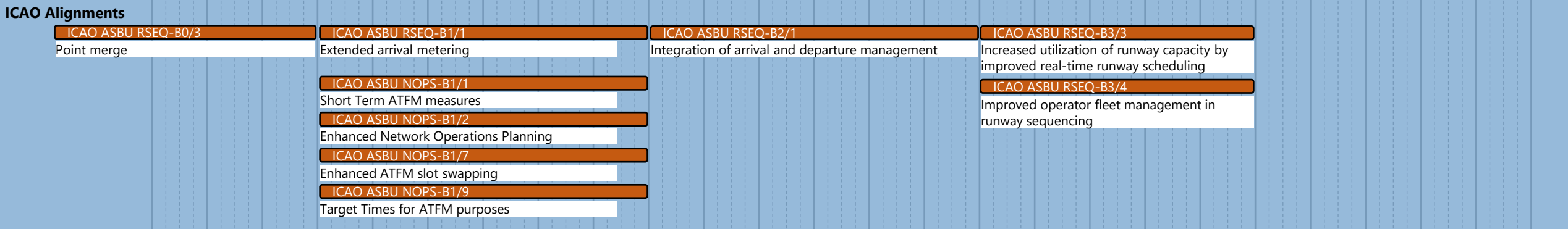


CY 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 +



# Data & Info Mgmt Integrated View – Flow 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 +

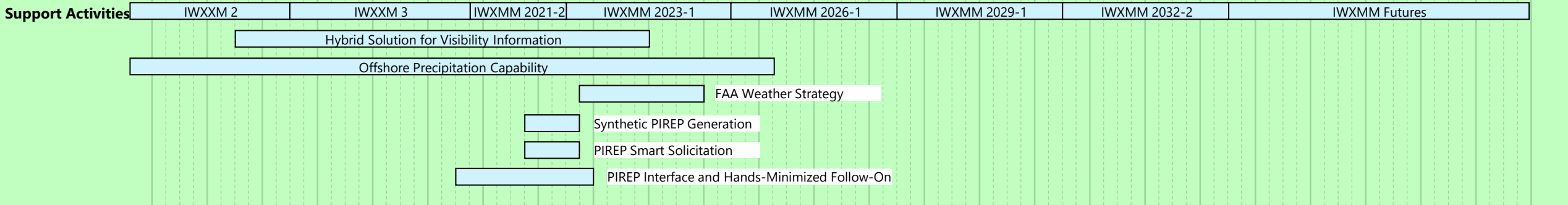


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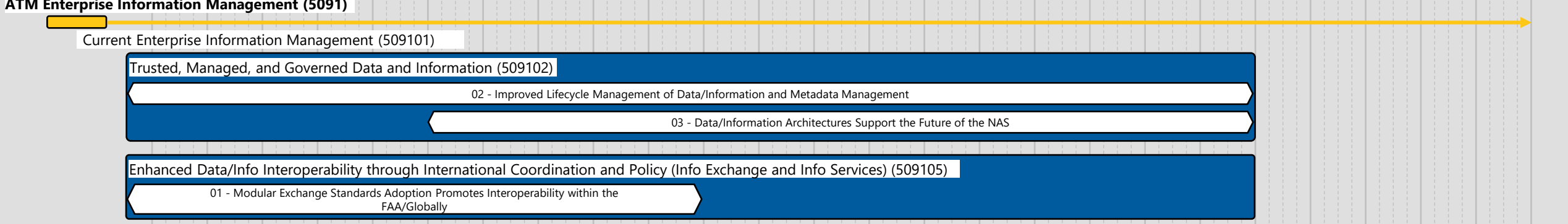
# Data & Info Mgmt Integrated View – Weather Information

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 +

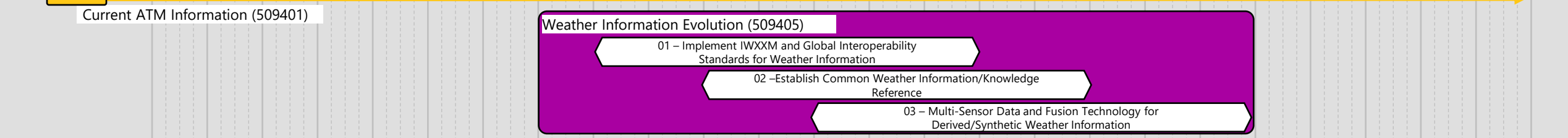
ICAO Alignments	ICAO ASBU AMET-B0/1	ICAO ASBU AMET-B1/1	ICAO ASBU AMET-B2/1	ICAO ASBU AMET-B3/1	ICAO ASBU AMET-B4/1
Meteorological observations products	Meteorological observations information expansion		Initial Integration of Data-Centric Info	Enhanced Integration of Data-Centric Info	
Meteorological forecast and warning products	Meteorological forecast and warning information for Data Centric and Ensemble-Derived Predictions		Enhanced Ensemble prediction, enhanced VA, WAFS, HWIS	Integration of Enhanced Probabilities	
Provision of Climatological products	Enhanced climatological data to better support ATM infrastructure		Initial expansion of climatology data and scope to include satellite and in-situ sources and changes that can affect ATM	Enhanced expansion of Climatological data and scope	
Initial dissemination of Met Info in IWXXM	IWXXM replaces TAC; Intro web services		ICAO ASBU AMET-B2/4 Data-Centric dissemination into SWIM with initial B2B services	Enhanced IWXXM schemas/formats	



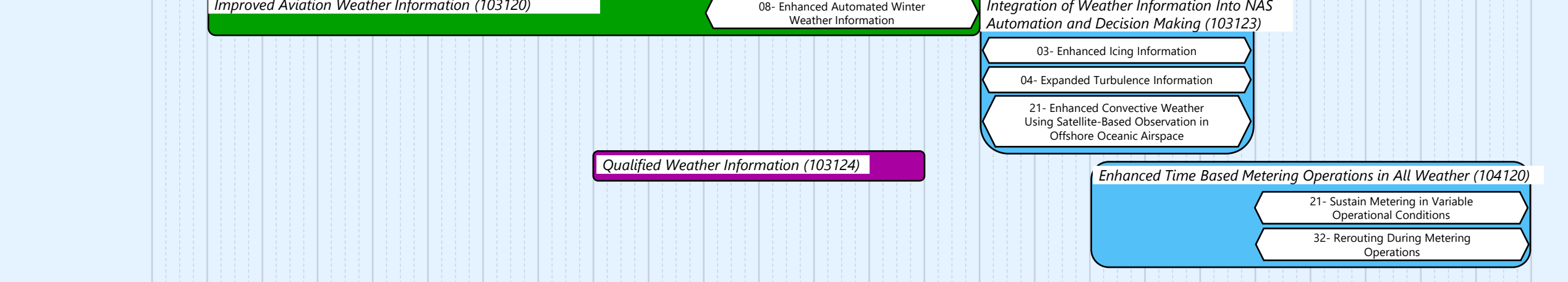
## B&T Roadmaps



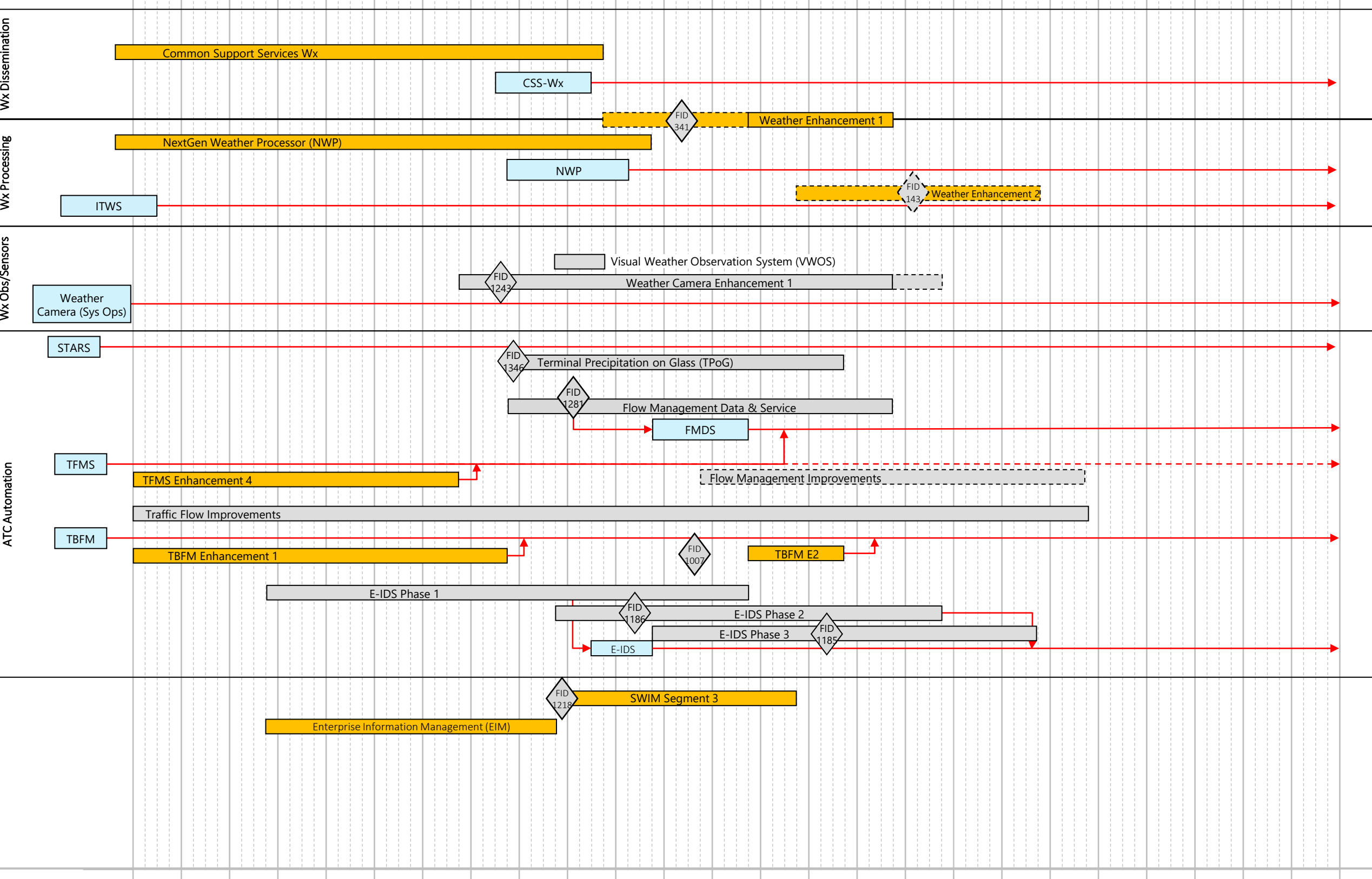
## ATM Information Evolution (5094)



## Service Roadmaps



## Infrastructure Roadmaps



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 +