FAA Authoritative Sources AIXM Web Services

Presented to: AIXM CCB

By: FAA PMO Aeronautical Services

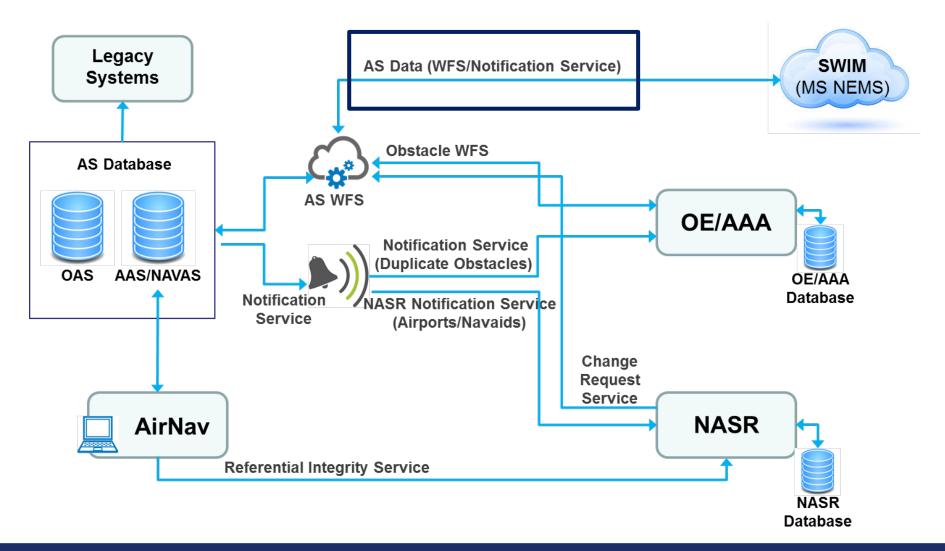
Date: February 22, 2018



Agenda

- Authoritative Sources Overview
- AIXM 5.1 Web Services
 - WFS
 - JMS Notification
- AIXM Features and Extensions
- External Access (via SWIM/ACS)
- Questions

Authoritative Sources Overview



AIXM Web Services

AIASDataServiceWFS

- Provides the capability to query aeronautical data (Obstacles, Airports, NAVAIDs) from FAA authoritative sources (OAS, AAS, and NAVAS)
- OGC Web Feature Service (WFS)
- Request/Response Pattern

AIASNotification

- Interface for publishing/distributing changes to obstacle, airport and NAVAID definitions from FAA authoritative sources (OAS, AAS, and NAVAS)
- Java Messaging Service (JMS)
- Publish/Subscribe Pattern

AIASDataServiceWFS

Operations:

- getFeature
 - allows the user to retrieve AIXM Features via simple request or stored query
- listStoredQueries
 - lists the stored queries available on AIAS server
 - GetFeatureByBBox
 - GetFeatureSummaryByBBox
 - GetFeatureByIdAndRev
 - GetFeatureByName
 - GetFeatureByCircleSearch
 - GetFeatureByNameAndRev
 - GetFeatureByld
- describeStoredQueries
 - provides detailed meta data for each stored query requested

AIASNotification

Operations

- AeronauticalChangeFeatureNotification
 - Writes a message containing a new, edited, or deleted obstacle, airport, or NAVAID to a queue
 - Contains a complete aeronautical feature definition as a payload along with message headers. The payload of aeronautical feature is an AIXM Message
 - Message header will indicate the operation that triggered the notification:
 - New Obstacle/Airport/NAVAID
 - Update Obstacle/Airport/NAVAID
 - Dismantle Obstacle
 - Abandon Airport
 - Decommission NAVAID

AIAS AIXM Payload

- AIXM Core Features
- FAA Extensions
 - Obstacle
 - Airport
 - Runway
 - Navaid System
 - Navaid Component

AIXM 5.1 Features

OAS

VerticalStructure

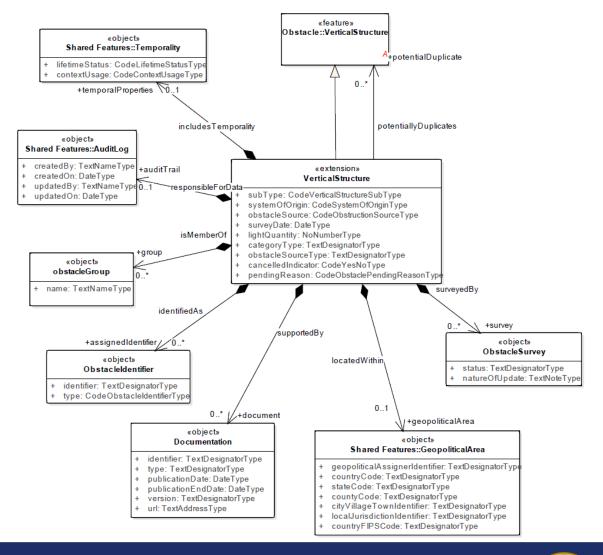
AAS

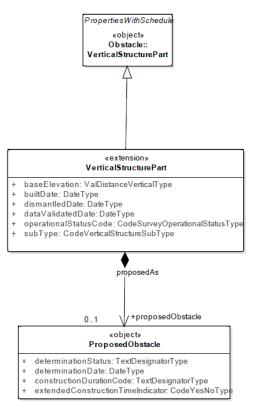
- AirportHeliport
- ApproachLightingSystem
- ArrestingGear
- GroundLightSystem
- MarkingBuoy
- OrganisationAuthority
- Runway
- RunwayCentrelinePoint
- RunwayDirection
- RunwayDirectionLightSystem
- RunwayMarking
- RunwayProtectArea
- RunwayVisualRange
- SurveyControlPoint
- VisualGlideSlopeIndicator
- AircraftGroundService
- AirportSuppliesService

NAVAS

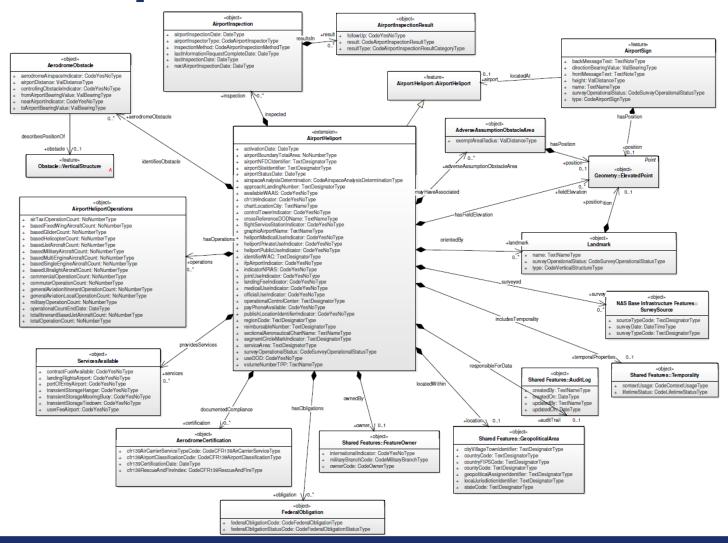
- Navaid
- VOR
- TACAN
- Elevation
- NDB
- DirectionFinder
- Localizer
- MarkerBeacon
- DME
- Glidepath
- Azimuth
- CheckpointVOR
- RadioFrequencyArea
- OrganisationAuthority
- Information Service

FAA Obstacle Extension

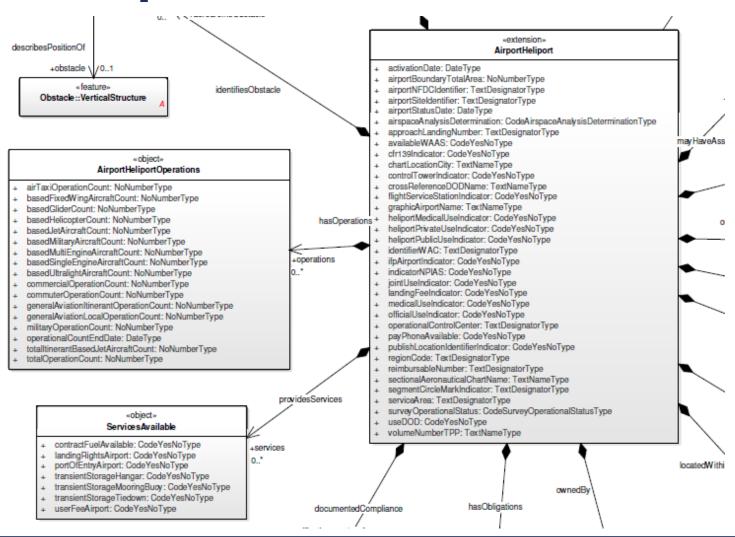




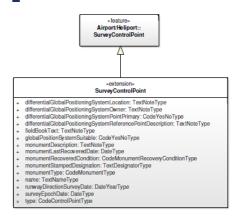
FAA Airport Extension

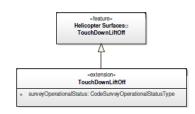


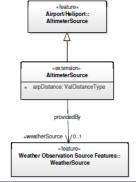
FAA Airport Extension

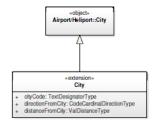


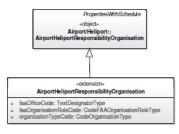
FAA Airport Extension



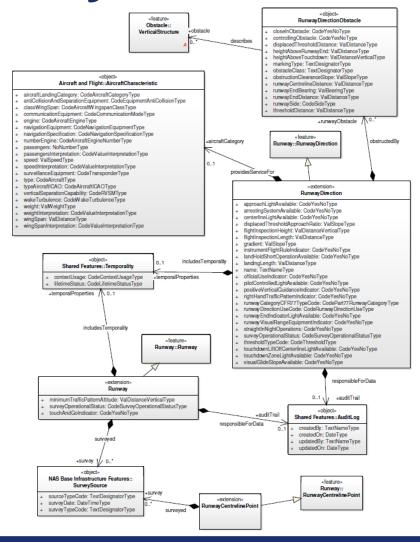




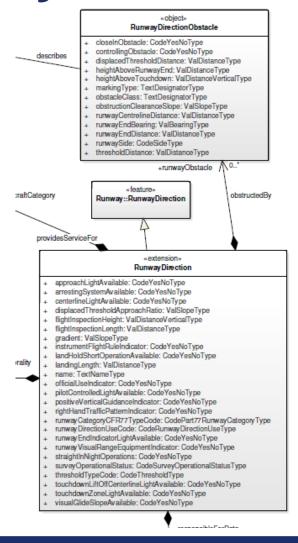




FAA Runway Extension

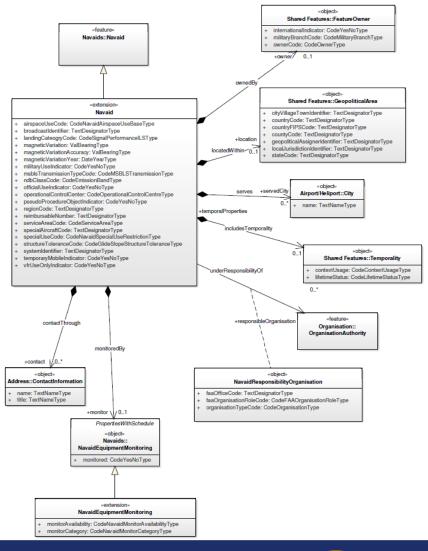


FAA Runway Extension

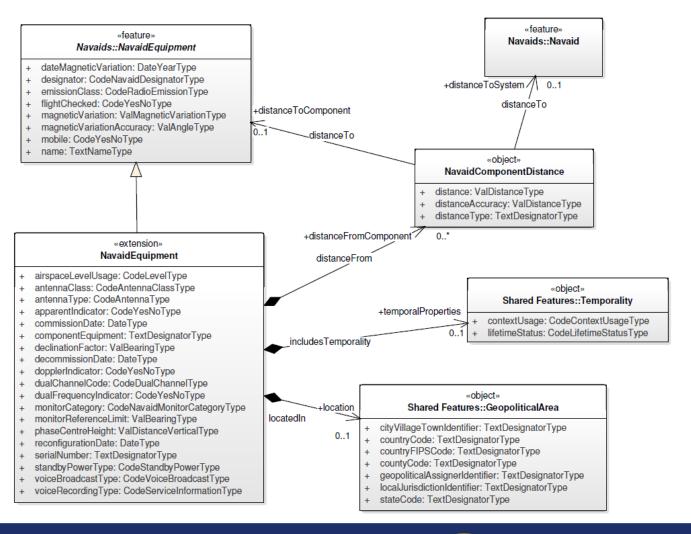




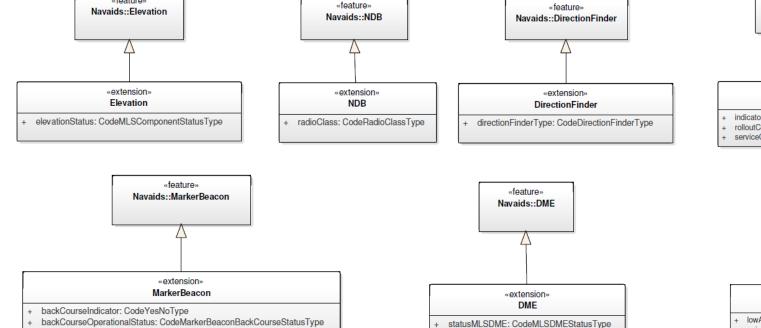
FAA NAVAID System Extension



FAA NAVAID Component Extension



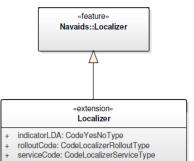
FAA NAVAID Component Extension

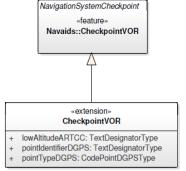


«feature»

positionCode: CodePositionType

width: ValDistanceType



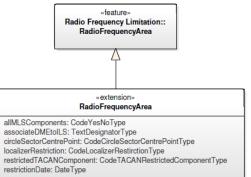


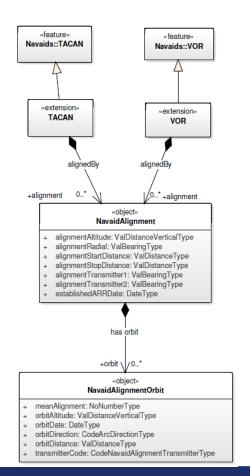
FAA NAVAID Component Extension

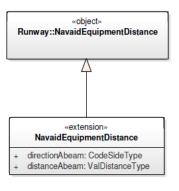


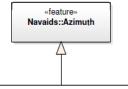
«extension» Glidepath

- + ardh: ValDistanceVerticalType
- + clearanceBelowPathStatus: CodeClearanceBelowPathStatusType
- + glidepath3FootException: CodeYesNoType
- + glidepath8240version: TextDesignatorType
- + glidepathAFIScoordinateType: CodeGlidepathAFIScoordinateType
- + glidepathAFISreferenceElevation: ValDistanceVerticalType
- + glidepathThresholdCrossingHeight: ValDistanceVerticalType
- + gpiThresholdDistance: ValDistanceType
- inspection47date: DateType
- + inspection47gpi: ValDistanceType
- + inspection47rdhAccuracy: ValDistanceVerticalType
- + inspection47referenceElevation: ValDistanceVerticalType
- monitorHighAngleTolerance: ValAngleType
 monitorLowAngleTolerance: ValAngleType
- + rpiThresholdDistance: ValDistanceType
- + thresholdCaculationType: CodeThresholdCrossingHeightCalculationType
- + usedARDH: CodeYesNoType
- + usedRDH: CodeYesNoType





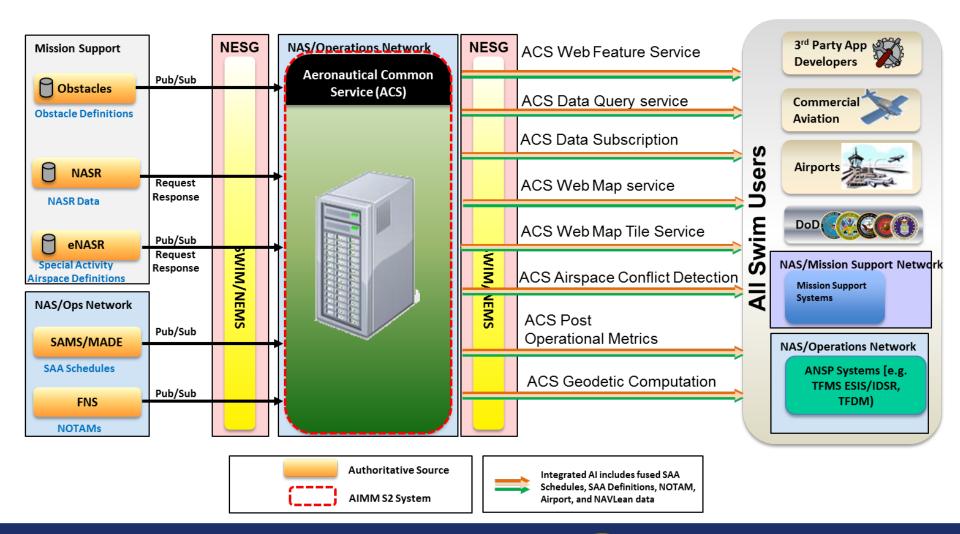




«extension» Azimuth

- + approachStatus: CodeMLSComponentStatusType
- azimuthCoordinateSystemType: CodeAzimuthCoordinateSystemType
- + backStatus: CodeMLSComponentStatusType
- clearSignalType: CodeAzimuthClearSignalType
- + outOfCoverageSignal: CodeYesNoType
- runwayAngle: ValBearingType

External Access (via SWIM/ACS)



Questions?

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