FACTSHEET

Flight Information eXchange Model (FIXM)

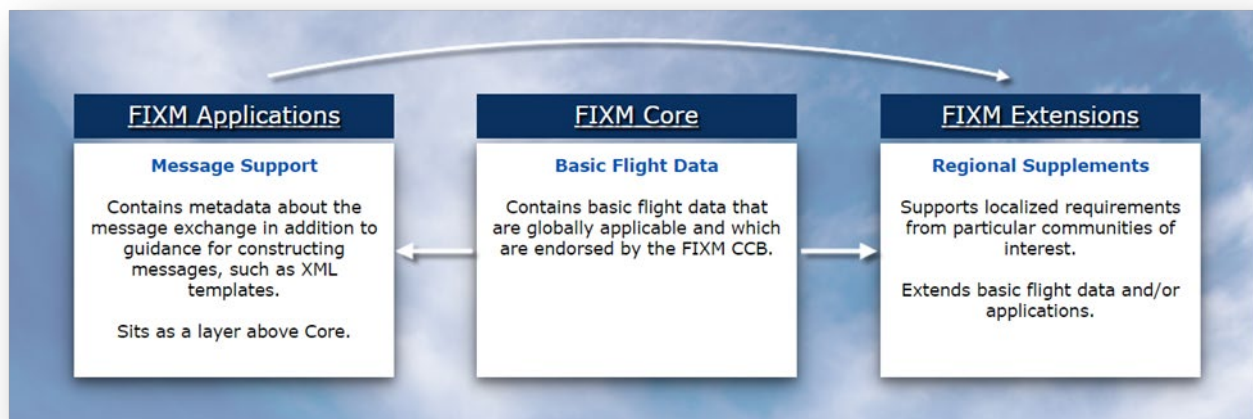**ICN** INFO-CENTRIC NATIONAL AIRSPACE SYSTEM

Background

Safety assurance is one of the key components, or pillars, of the FAA's vision for an info-centric National Airspace System (NAS). It describes a need for continuous information sharing, monitoring, verification, and modeling to detect anomalies and risk. A globally- standardized exchange for consistent sharing of information is necessary to enable safety assurance. The Flight Information eXchange Model (FIXM) addresses this need through an enterprise infrastructure improvement that facilitates information sharing and data exchange using common, internationally-accepted standards. FIXM is the international data standard for flight information exchange.

The FIXM data standard supports the exchange of flight information between NAS systems across multiple domains and international systems. To manage this complexity, FIXM embraces the Core and Extensions architecture. The Core contains the base flight information that is globally applicable and expected to be used by any application in international settings. Extensions are accompanying but separate data models and schemas that add additional elements to supplement the FIXM Core data to support additional regional requirements from certain communities of interest. Concepts and data elements from regional extensions can be promoted to the Core if they demonstrate global applicability. The FAA publishes and manages the FIXM US extension, which contains flight data specific to NAS operations.

The FIXM Core standard is released on a regular cycle, with updates to add, delete, modify, and develop data elements as needed, FIXM is part of a family of information exchange models (including Aeronautical Information Exchange Model – AIXM and ICAO Weather Information Exchange Model – iWXXM) designed to cover Air Traffic Management (ATM) information needs.

FIXM Applications	FIXM Core	FIXM Extensions
Message Support	**Basic Flight Data**	**Regional Supplements**
Contains metadata about the message exchange in addition to guidance for constructing messages, such as XML templates. Sits as a layer above Core.	Contains basic flight data that are globally applicable and which are endorsed by the FIXM CCB.	Supports localized requirements from particular communities of interest. Extends basic flight data and/or applications.

Project Description

The FIXM program includes the development/maintenance of the FIXM model, support to the international FIXM Change Control Board (CCB), assistance to FIXM users, and the evaluation of new FIXM data requirements. The development of the FIXM model includes both the Core standard and the U.S. extension to support FAA NAS operations. The update of FIXM data requirements are evaluated through collaboration with FAA stakeholders, operators, international partners, and the aviation industry. The program also will support NAS systems, as they become FIXM-compliant, and mediate legacy data format transitions necessary to meet the FIXM standard.

Outcomes

- FIXM Core, globally applicable information, and meets the requirements of the FF-ICE Provisions: promotes interoperability
- FIXM US Extension, which contains FAA and regional-specific data needs
- Message Support – XML templates assisting the implementation of FF-ICE or custom messages

Drivers

With the increase of available flight information and information exchanges involving more participants, current platforms lack the means to share common and consistent in-formation. The global aviation community is moving toward future operations using FIXM, and the FAA benefits from adoption. FIXM addresses the challenges in flight information by providing standard definitions and relationships between flight information elements, allowing for greater interoperability.

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