Global Information Management

FIXM Development

- Collaboration, Partnership, Success

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FIXM – A Global Approach

Collaboration

- The FIXM standard is **aligned** with the **ICAO** vision
- Interested **stakeholders** are able to contribute in the development of the standard
- The FIXM work requires extensive international **coordination** across multiple international teams

Partnership

- FIXM CCB
- The International aviation organizations
- Industry stakeholders
- FIXM development team

FIXM Requirements, Technical Approach

Success

- FIXM Development
- FIXM releases
- FIXM usage

FIXM v 1.0, 2.0, 3.0
FIXM v 4.0 coming soon…

FIXM ICAO Provisions Support

Objectives

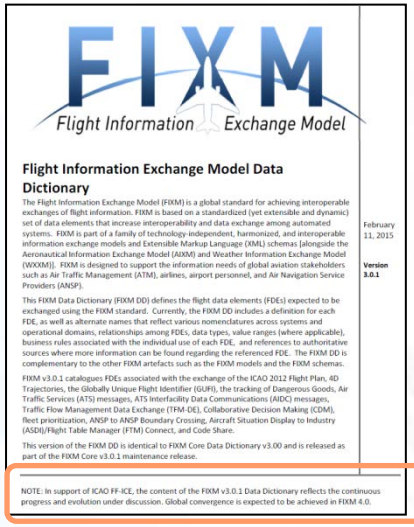
- Ensure that FIXM 4.0 is in support of ICAO **FF-ICE/Step 1**.
- Gather FF-ICE/step 1 requirements. Propose FIXM changes to ensure that FIXM 4.0 is fully **compliant with ICAO provisions work.**

Work in progress

- **New data elements** have been identified. The mapping between 4D trajectory data and FIXM model is in review by FIXM Development team.
- The 4DT team is working on **open issues** with the intent of submitting any updated 4DT requirements to FIXM CCB by October 2015.
- The **messaging services requirements** have been proposed to ICAO ATMRPP working group meeting in July, 2015, Singapore.
- The FIXM team is coordinating with the provisions team to develop a **technological solution** for documenting and enforcing message rules.

FIXM v4.0 Change requests

Joint SESAR / FAA review of the FIXM v3.0 content


FIXM
Flight Information Exchange Model

Flight Information Exchange Model Data Dictionary

The Flight Information Exchange Model (FIXM) is a global standard for achieving interoperable exchanges of flight information. FIXM is based on a standardized (yet extensible and dynamic) set of data elements that increase interoperability and data exchange among automated systems. FIXM is part of a family of technology-independent, harmonized, and interoperable information exchange models and Extensible Markup Language (XML) schemas [alongside the Aeronautical Information Exchange Model (AIXM) and Weather Information Exchange Model (WXXM)]. FIXM is designed to support the information needs of global aviation stakeholders such as Air Traffic Management (ATM), airlines, airport personnel, and Air Navigation Service Providers (ANSP).

This FIXM Data Dictionary (FIXM DD) defines the flight data elements (FDEs) expected to be exchanged using the FIXM standard. Currently, the FIXM DD includes a definition for each FDE, as well as alternate names that reflect various nomenclatures across systems and operational domains, relationships among FDEs, data types, value ranges (where applicable), business rules associated with the individual use of each FDE, and references to authoritative sources where more information can be found regarding the referenced FDE. The FIXM DD is complementary to the other FIXM artefacts such as the FIXM models and the FIXM schemas.

FIXM v3.0.1 catalogues FDEs associated with the exchange of the ICAO 2012 Flight Plan, 4D Trajectories, the Globally Unique Flight Identifier (GUFI), the tracking of Dangerous Goods, Air Traffic Services (ATS) messages, ATS Interfacility Data Communications (AIDC) messages, Traffic Flow Management Data Exchange (TFM-DE), Collaborative Decision Making (CDM), fleet prioritization, ANSP to ANSP Boundary Crossing, Aircraft Situation Display to Industry (ASDI)/Flight Table Manager (FTM) Connect, and Code Share.

This version of the FIXM DD is identical to FIXM Core Data Dictionary v3.00 and is released as part of the FIXM Core v3.0.1 maintenance release.

February 11, 2015

Version 3.0.1

NOTE: In support of ICAO FF-ICE, the content of the FIXM v3.0.1 Data Dictionary reflects the continuous progress and evolution under discussion. Global convergence is expected to be achieved in FIXM 4.0.

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Objectives

- Review the FIXM data elements as published in version 3.0
- Identify any remaining misalignments and needed improvements
- Document change proposals to enhance the content of FIXM v4.0

Outcome

- List of Data Elements proposed to be removed from the Core Data Dictionary
- Detailed improvements proposals for Data Elements remaining in the Core Data Dictionary
- Changes to the Data Types
- Simple changes proposed to the Logical Model
- Request for CCB opinion on a DE Metadata field

FIXM v4.0 Change requests

FIXM Technical workshop

Objectives

- Share **experiences & lessons learned** when implementing FIXM v3.0.
- Propose a set of topics to be addressed in order to **ensure FIXM 4.0 is mature and usable** by the whole FIXM community.

March 2015 – hosted by EUROCONTROL

> 25 participants from 13 international companies or institutions

Quick wins

- Achieve greater alignment of FIXM with ICAO / AIXM
- Achieve greater alignment of FIXM Time and Geometry types with ISO 19136 (GML)
- Best Practices for disallowing plain wrong data

FIXM v4.0 Change requests

FIXM usage

- Central topic of discussions
- Strongly dependent on FF-ICE/1 information exchange requirements
- FO paradigm vs Service Orientation

Escalation to FIXM CCB for resolution

Extended Flight Plan extension to FIXM v3.0

Objectives

- Develop an **extension** supporting the **SESAR concept of Extended Flight Plan**;
- Support **SESAR V&V exercise** of the **E-FPL** (end of 2015).
- Further improve technical **knowledge** of the **FIXM v3.0 content and design**;
- Support the development of the **ops requirements for FIXM** by making available a candidate FIXM solution satisfying European requirements for flight information exchange in pre-flight;
- Start addressing issues related to **messages** in the context of FIXM

Outcome

- Extension is close to completion as of Aug 2015 – further iterations foreseen for bug fixes
- Implementation in a **pre-ops** environment by the Network Manager has now started
- Some potential issues with FIXM core were identified

FIXM v4.0 Change requests