



# SWIM Compliance Report for R5 V&V Exercise 713

## Document information

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|------------------|--|
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## Abstract

This report is evidence that the P07.06.02 VP-713 has services that have been assessed for SWIM Compliance. It provides the SWIM Compliance Level for the ExtendedFlightPlanSubmission and FlightPlanDataDistribution services assessed in the Validation Exercise.

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| Rejected By - Representatives of the company involved in the project. |                  |      |
|---|------------------|------|
| Name & Company  | Position & Title | Date |
|   |                  |      |

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| Rational for rejection |
|------------------------|
| None.                  |

## 8 Document History

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## 9 Intellectual Property Rights (foreground)

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## 43 Executive Summary

44 This report is evidence that the **Validation Exercise EXE-07.06.02-VP-713** has services that have  
45 been assessed for SWIM Compliance. It provides the SWIM Compliance Level for  
46 ExtendedFlightPlanSubmission and FlightPlanDataDistribution services.

## 47 1 Introduction

### 48 1.1 Purpose of the Document

49 This SWIM compliance report is part of the SWIM Compliance Framework, produced in the context of  
50 SWIM Compliance for Validation Exercises that want to demonstrate the SWIM Compliance level. The  
51 SWIM Compliance Criteria for R5 (please see [21]) explain the criteria that we use to assess for  
52 SWIM Compliance. This report provides the evidence to satisfy the Compliance Criteria. The steps in  
53 completing the report are the following:

- 54 1. The SWIM Compliance Applicant<sup>1</sup> person responsible for the Validation Exercise, with  
55 assistance from WP 8 and WP 14 experts, produces the SWIM Compliance Report.
- 56 2. The report is then handed over to the SWIM Compliance Acceptance Team, who performs  
57 the assessment and completes this template report into the final SWIM Compliance  
58 Assessment Report, including a **SWIM Compliance Level**.

59 This report is meant to contain all evidences that show the SWIM compliance for the Service  
60 Technical Design Description (STDD) for ExtendedFlightPlanSubmission and  
61 FlightPlanDataDistribution services (please see [24] and [25]).

### 62 1.2 Intended Readership

- 63 • WP8 / WP14: for ensuring compliance and be informed with respect to service definition and  
64 design
- 65 • WP3: for verification purposes
- 66 • Persons participating in the EXE-07.06.02- VP-713 Validation Exercise: for validation and  
67 verification of the services
- 68 • System Projects
- 69 • SWIM Compliance Acceptance Team

### 70 1.3 Acronyms and Terminology

| Term                                    | Definition   |
|---|--|
| <b>Capability</b>                       | The collective <b>ability to deliver a specified type of effect or a specified course of action</b> . Within the context of the SESAR Programme a capability is therefore the ability to support the delivery of a specific operational concept to an agreed level of performance. <b>Source: Common working meeting between B41 EA study and B43 T5. In bold, the NATO Architecture Framework V3 definition</b> |
| <b>Governance</b>                       | Ability of decision-makers to set policies regarding stakeholders, services, and their relationships   |
| <b>Information Exchange</b>             | A specification of the information that is to be exchanged. An Information Exchange must have a unique identifier. Source: NATO Architecture Framework V3 definition.  |
| <b>Information Exchange Requirement</b> | An Information Exchange Requirement (IER) is the description, in terms of characteristics, of the requirement to transfer information between two or more end users. The characteristics described include source, recipients, content, size, timeliness, security and trigger. IERs are defined as independent of the communications medium. An IER may express both current and future requirements.           |

<sup>1</sup> For definition and example of SWIM Compliance Applicant, see SWIM Compliance Criteria document.

| Term                           | Definition   |
|--------------------------------|--|
|                                | Note: an information element is the descriptor of the content in the IER. Source: (British) Ministry of Defence, Information Exchange Requirements.  |
| <b>Infrastructure profile</b>  | A set of features characterising the enabling infrastructure, including the QoS and security that the infrastructure provides, technical constraints, user behaviour patterns and characteristics.<br><br>Profiles relate to legacy and/or new infrastructures such as the SWIM technical infrastructure. Source: B43 T5 study   |
| <b>Means of compliance</b>     | Means to demonstrate that an 'Object under Assessment' conforms to a rule (such rule being as e.g., a specification, policy, standard or law)  |
| <b>Node</b>                    | <b>A logical entity that performs Operational Activities specified independently of any physical implementation</b> , e.g. a stakeholder type providing and/or consuming operational information within a network of other stakeholders. Source: Common working meeting between B41 EA study and B43 T5. In bold, the NATO Architecture Framework V3 Definition.                 |
| <b>Object under Assessment</b> | Item (i.e., specifications, mechanisms, activities, individuals) upon which an assessment method is applied during an assessment. In this document, the Object under Assessment (OuA) is the Service Technical Design Description for a service.   |
| <b>Operational Focus Area</b>  | A limited set of dependent operational and technical improvements related to an Operational Sub-Package, comprising specific interrelated OIs designed to meet specific performance expectations of the ATM Performance Partnership. Source: ATM Lexicon   |
| <b>Policy</b>                  | Principle or rule with a view to guiding decisions and achieving one or more rational outcomes   |
| <b>Registry</b>                | The SWIM registry is a trusted, managed, complete and consolidated source of reference for service information and related regulations (policies, standards, certifications and taxonomies). It holds all SWIM metadata regarding:<br><br>- stakeholders,<br>- service definitions (ISRM),<br>- service instances,<br>and the links between them.<br><br>Source: Registry ConOps |
| <b>Service</b>                 | The contractual provision of something (a non-physical object), by one party, for the use of one or more other parties. Services involve interactions between providers and consumers, which may be performed in a digital form (data exchanges) or through voice communication or written processes and procedures. Source: ATM Lexicon   |
| <b>Service definition</b>      | The specification of a service as it appears in the Service Description Document and Service Interface Definition. The Service Description Document consists of a mix of textual information and graphics (expressed in a UML notation). The Service Interface Definition consists of machine-interpretable constructs specified according to the selected technical             |

| Term  | Definition   |
|---|--|
|   | platform, including the necessary technology bindings, e.g. complete WSDL (and XSD), IDL, AMQP, DDS, etc. Source: B4.3 Working Method on Services.   |
| <b>Service interface</b>                    | The mechanism by which a service communicates.<br><br>Service providers and consumers need to implement service interfaces in order to be able to collaborate. A service interface includes service operations that enable access to the functionality of the services identified, as well as the data used in the service interaction. Source: B43 T5 study.  |
| <b>Service instance</b>                     | Service which has been implemented in accordance with its specification in the service catalogue (during the SESAR Development Phase, the service definitions are available in the ISRM) by a service provider (by itself or contracted to a third party). Source: SWIM ConOps   |
| <b>Service level</b>                        | A value specification for one or more service attributes indicating the level to which a technical system (or resource if including non-automated services) delivers a service in a particular environment. Example: A "Service Response time" may be defined in relation to a service. A given technical system could have a corresponding Service Level, e.g. "Less than 3 seconds". Source: B43 T5 study. |
| <b>Service consumer</b>                     | Stakeholder which consumes service(s) provided by other stakeholder(s)   |
| <b>Service lifecycle</b>                    | The lifecycle defines the sequence of phases followed by a service.  |
| <b>Service Payload definition</b>           | The data/information exchange model represented in UML contained in the Service Description Document.  |
| <b>Service provider</b>                     | Stakeholder which provides service(s) that can be consumed by other stakeholder(s)   |
| <b>SWIM</b>                                 | System-wide information management. SWIM consists of standards, infrastructure and governance enabling the management of ATM information and its exchange between qualified parties via interoperable services. Source: SWIM ConOps.   |
| <b>SWIM Common Component</b>                | A SWIM infrastructure element managed by the 'SWIM authority' and implementing a shared capability, e.g. registry, PKI, etc. Source: SWIM ConOps.  |
| <b>SWIM Compliance Acceptance Team</b>      | The group of experts who perform the SWIM Compliance Assessment and provide the final SWIM Compliance Level.   |
| <b>SWIM Infrastructure</b>                  | The sum of all the SWIM infrastructure elements which are needed to support SWIM services. Source: B43 T5 study.   |
| <b>SWIM Profile</b>                         | A SWIM profile is a coherent, appropriately sized grouping of middleware functions/services for a given set of technical constraints/requirements which permit a set of stakeholders to share information  |
| <b>Service Technical Design Description</b> | A set of one or more published documents that express meta information about a service. The fundamental part of a service contract consists of the service description documents that express its technical interface. These form the Service Technical Design Description (STDD) which essentially establishes an API into the functionality offered by the service.  |

| Term | Definition  |
|------|---|
|      | <p>The service interface definition in the STDD is mainly given as a machine-readable format usually provided in a standard definition language such as IDL, WSDL or others. The STDD also describes such aspects as the message exchange pattern between provider and consumer, plus the chosen SWIM profile and requirements (bindings) on the technical infrastructure.</p> <p>A STDD can further reference human-readable documents, such as Service Level Agreement (SLA) that describes additional quality-of-service features, behaviours and limitations.</p> |

## 71 1.4 Acronyms and Terminology

| Term           | Definition   |
|----------------|--|
| <b>AIRM</b>    | ATM Information Reference Model.                   |
| <b>ADQ</b>     | Aeronautical Data Quality                          |
| <b>ATM</b>     | Air Traffic Management                             |
| <b>CLDM</b>    | Consolidated Logical Data Model                    |
| <b>ConOps</b>  | Concept of operations                              |
| <b>DDS</b>     | Data Distribution Service                          |
| <b>DOD</b>     | Detailed Operational Description                   |
| <b>EA</b>      | Enterprise Architecture                            |
| <b>EAEA</b>    | European ATM Enterprise Architecture               |
| <b>EASA</b>    | European Aviation Safety Agency                    |
| <b>EC</b>      | European Commission                                |
| <b>EU</b>      | European Union                                     |
| <b>ESB</b>     | Enterprise Service Bus                             |
| <b>EUROCAE</b> | European Organization for Civil Aviation Equipment |
| <b>IBP</b>     | Industry Based Prototype                           |
| <b>ICAO</b>    | International Civil Aviation Organisation          |
| <b>ICD</b>     | Interface Control Document                         |
| <b>IER</b>     | Information Exchange Requirements                  |
| <b>INTEROP</b> | Interoperability Requirements                      |
| <b>IRS</b>     | Interface Requirements Specification               |

| Term               | Definition  |
|--------------------|---|
| ISO                | International Organisation for Standardisation  |
| ISRM               | Information Services Reference Model  |
| IT                 | Information Technology  |
| ITIL               | IT Infrastructure Library (ITIL® provides a Best Practice guidance framework for IT Service Management) |
| MET                | Meteorology   |
| NAF                | NATO Architecture Framework   |
| OFA                | Operational Focus Area  |
| OI                 | Operational Improvement   |
| OPS                | Operational   |
| OSED               | Operational Service and Environment Definition  |
| OuA                | Object under Assessment   |
| PKI                | Public Key Infrastructure   |
| QoS                | Quality of Service  |
| RPC                | Remote Procedure Call   |
| RTCA               | Radio Technical Commission for Aeronautics  |
| SACG               | SWIM Architect Co-ordination Group  |
| SCG                | Service Coordination Group  |
| SCL                | SWIM Compliance Level   |
| SDD                | Service Description Document  |
| SES                | Single European Sky   |
| SESAR              | Single European Sky ATM Research Programme  |
| SESAR Programme    | The programme which defines the research and development activities and projects for the SJU            |
| SID                | Service Identification Document   |
| SIR                | Service Identification Report   |
| SJU                | SESAR Joint Undertaking (Agency of the European Commission)   |
| SJU Work Programme | The programme which addresses all activities of the SESAR Joint Undertaking Agency.                     |

| Term           | Definition                                       |
|----------------|--|
| <b>SLA</b>     | Service Level Agreement                          |
| <b>SOA</b>     | Service Oriented Approach                        |
| <b>SOAP</b>    | Simple Object Access Protocol                    |
| <b>SoaML</b>   | Service Oriented Architecture Modelling Language |
| <b>SVA</b>     | Service Activity                                 |
| <b>SWIM</b>    | System Wide Information Management               |
| <b>SWIM TI</b> | SWIM Technical Infrastructure                    |
| <b>SYS</b>     | System Projects                                  |
| <b>TAD</b>     | Technical Architecture Description               |
| <b>TS</b>      | Technical Specification                          |
| <b>STDD</b>    | Service Technical Design Description             |
| <b>UDDI</b>    | Universal Description, Discovery and Integration |
| <b>UML</b>     | Unified Modelling Language                       |
| <b>URN</b>     | Uniform Resource Name                            |
| <b>WP</b>      | Work Package                                     |
| <b>WSDL</b>    | Web Services Description Language                |
| <b>XSD</b>     | XML Schema Definition                            |

## 73 2 SWIM Compliance Report Summary

74 This section summarises the main information about the compliance assessment.

|  |  |
|--|--|
| <b>STDD Name and Version</b>                                   | SESAR Service Technical Design<br>Description_EFPL_Submission FIXM version<br>00.01<br><br>SESAR Service Technical Design<br>Description_EFPL_Distribution FIXM version<br>00.01                             |
| <b>Services assessed for SWIM Compliance</b>                   | ExtendedFlightPlanSubmission<br>FlightPlanDataDistribution   |
| <b>Version of the AIRM</b>                                     | AIRM 4.0.1   |
| <b>Version of the ISRM</b>                                     | ISRM 1.4   |
| <b>Version of the TI</b>                                       | SWIM Profile v 3.0   |
| <b>Version of SWIM Compliance Framework applied</b>            | SWIM Compliance Framework Criteria D48<br>edition 00.02.11   |
| <b>Reason for the Assessment</b>                               | Demonstrate the SWIM Compliance for services<br>in Validation Exercises VP-713   |
| <b>Responsible for service requirements</b>                    |  |
| <b>SWIM Support</b>  |  |
| <b>Name of the SWIM Acceptance Team</b>                        | <i>AIRM:</i> ████████████████████<br><i>ISRM:</i> ████████████████████<br><i>TI:</i> ████████████████████  |
| <b>SWIM Compliance Level per service and compliance domain</b> | ExtendedFlightPlanSubmission:<br>AIRM Ready, ISRM Compliant, TI Binding Yellow<br>Profile Compliant<br><br>FlightPlanDataDistribution:<br>AIRM Ready, ISRM Compliant, TI Binding Yellow<br>Profile Compliant |

75

## 76 3 Details of the Compliance Assessment

77 This section expands of the summary contained in section 2. It covers the main information about the  
78 compliance assessment in the three areas (Technical Infrastructure (TI), Information Exchange  
79 Services (ISRM), Information (AIRM)) and provides additional details where needed.

80 The detailed criteria are available in the SWIM Compliance Framework for R5 V&V exercises [21].

### 81 3.1 Description of the services

82

| Service Name   | Description  |
|--|--|
| <u><i>ExtendedFlightPlanSubmission Version 1.2</i></u> | The ExtendedFlightPlanSubmission provides the following operations:<br><i>validateExtendedFlightPlanFIXM,</i><br><i>fileNewExtendedFlightPlanFIXM.</i> |
| <u><i>FlightPlanDataDistribution Version 1.2</i></u>   | The FlightPlanDataDistribution provides the following operations:<br><i>retrieveExtendedFlightPlanFIXM.</i>  |

83

84 **3.2 Contacts**

85

| Service Name   | Contacts   |
|--|--|
| <u>ExtendedFlightPlanSubmission</u><br><u>FlightPlanDataDistribution</u> | AIRM Contacts: [REDACTED]<br>[REDACTED]<br>Information Exchange Service (ISRM): [REDACTED]<br>[REDACTED]<br>TI Contacts: |

86

## 87 3.3 Information Service Compliance

### 88 3.3.1 General Evidence

89 The purpose of checking the Information Exchange Service Compliance is to ensure that the OuA (i.e.  
90 the STDD describing the realisation of the service within the used technology context) meets the  
91 description of the logical service in the SDD.

| Service Name                 | Logical Service Name         | Logical Service Origin and Version Number              |
|------------------------------|------------------------------|--|
| ExtendedFlightPlanSubmission | ExtendedFlightPlanSubmission | SDD Version 00.02.01<br>Service Definition Version 1.2 |
| FlightPlanDataDistribution   | FlightPlanDataDistribution   | SDD Version 00.02.01<br>Service Definition Version 1.2 |

### 92 3.3.2 Evidence for Information Service Compliance

93 The following section provides the evidence for Information Exchange Service compliance as required  
94 by the SWIM Compliance Framework Criteria Document [21].

95 The relevant mappings are provided in the sections below.

#### 96 3.3.2.1 Operations mapping (IS-1)

97 IS-1: "The operations described in the STDD are mapped to the operations required by the SDD, i.e.  
98 each operation in the SDD is mapped from an operation in the STDD fulfilling the same operational  
99 purpose. All the SDD operations which are stated as mandatory shall be covered. The STDD must  
100 state which interface(s) it implements and must implement all operations of the chosen interface(s)  
101 from the SDD."

102 **ExtendedFlightPlanSubmission:**

| Operation name per STDD        | Operation name per SDD       |
|--------------------------------|------------------------------|
| validateExtendedFlightPlanFIXM | requestExtendedFPLValidation |
| fileNewExtendedFlightPlanFIXM  | requestExtendedFPLSubmission |

103

104

105 FlightPlanDataDistribution:

| Operation name per STDD               | Operation name per SDD           |
|---------------------------------------|----------------------------------|
| <i>retrieveExtendedFlightPlanFIXM</i> | <i>requestExtendedFlightPlan</i> |

106

### 107 3.3.2.2 Payload mapping (IS-2)

108 IS-2: *“For all the operations mapped as per IS-1, the physical message description given in the STDD*  
109 *shall be mapped to the logical service description in the SDD, i.e. each element in the SDD payload is*  
110 *put in correspondence with an element in the STDD payload having the same meaning. All the entity*  
111 *item attributes of the SDD payload shall be covered.”*

112 The following table contains the mapping for the ExtendedFlightPlanSubmission and  
113 FlightPlanDataDistribution services.

| VP-713 Part B Payload Structure (according to the WSDL) |                                  |   | ISRM 1.4                     |                              |                                   |                    |
|---|----------------------------------|---|------------------------------|------------------------------|-----------------------------------|--------------------|
| WSDL Element  | Name                             | Type  | Service                      | Operation                    | Entity tem                        | Attribute          |
| service   | FlightPreparationService         |   | ExtendedFlightPlanSubmission |                              |                                   |                    |
| portType  | FlightPreparationService         |   |                              |                              |                                   |                    |
| operation   | validateExtendedFlightPlanFIXM   |   |                              | requestExtendedFPLValidation |                                   |                    |
| input message   | flightfixm:EfpIValidationRequest |   |                              |                              | ExtendedFlightPlanMessage         |                    |
| part  | parameters                       | flightfixm:EfpIValidationRequest (<-common:Request)         |                              |                              | N/A (wrapper)                     |                    |
| element   | efplFlight                       | fixmext:EfpIFlightType                                      |                              |                              |                                   | extendedFlightPlan |
| output message  | flightfixm:EfpIValidationReply   |   |                              |                              | ValidationOperationalReplyMessage |                    |
| part  | parameters                       | flightfixm:EfpIValidationReply (<-common:Reply)             |                              |                              | N/A (wrapper)                     |                    |
| element   | data                             | flightfixm:EfpIValidationReplyData                          |                              |                              | N/A (wrapper)                     |                    |
| element   | ifpsErrors                       | flight:IFPSError  |                              |                              |                                   | errorList          |
| element   | efplFlight                       | fixmext:EfpIFlightType                                      |                              |                              | ExtendedFlightPlanMessage         | extendedFlightPlan |
| element   | profileTuningRestrictions        | flight:ProfileTuningRestriction                             |                              |                              |                                   |                    |
| service   | FlightFilingService              |   | ExtendedFlightPlanSubmission |                              |                                   |                    |
| portType  | FlightFilingService              |   |                              |                              |                                   |                    |
| operation   | fileNewExtendedFlightPlanFIXM    |   |                              | requestExtendedFPLSubmission |                                   |                    |
| input message   | flightfixm:EfpICreationRequest   |   |                              |                              | ExtendedFlightPlanMessage         |                    |
| part  | parameters                       | flightfixm:EfpICreationRequest (<-flight:FilingRequest)     |                              |                              | N/A (wrapper)                     |                    |
| element   | efplFlight                       | fixmext:EfpIFlightType                                      |                              |                              |                                   | extendedFlightPlan |
| output message  | flightfixm:EfpICreationReply     |   |                              |                              | OperationalReplyMessage           |                    |
| part  | parameters                       | flightfixm:EfpICreationReply (<-common:Reply)               |                              |                              | N/A (wrapper)                     |                    |
| element   | data                             | flightfixm:EfpICreationReplyData (<-flight:FilingReplyData) |                              |                              | N/A (wrapper)                     |                    |
| element   | efplFlight                       | fixmext:EfpIFlightType                                      |                              |                              |                                   | extendedFlightPlan |
| <b>ExtendedFlightPlanDistribution</b>                   |                                  |   |                              |                              |                                   |                    |
| service   | FlightManagementService          |   | FlightPlanDataDistribution   |                              |                                   |                    |
| portType  | FlightManagementService          |   |                              |                              |                                   |                    |
| operation   | retrieveExtendedFlightPlanFIXM   |   |                              | requestExtendedFlightPlan    |                                   |                    |
| input message   | flightfixm:EfpIRetrievalRequest  |   |                              |                              | RequestFlightPlanMessage          |                    |
| part  | parameters                       | flightfixm:EfpIRetrievalRequest (<-common:Request)          |                              |                              | N/A (wrapper)                     |                    |
| element   | flightId                         | flight:FlightIdentificationInput                            |                              |                              |                                   |                    |
| output message  | flightfixm:EfpIRetrievalReply    | common:Reply  |                              |                              | ExtendedFlightPlanMessage         |                    |
| part  | parameters                       | flightfixm:EfpIRetrievalReply (<-common:Reply)              |                              |                              | N/A (wrapper)                     |                    |
| element   | data                             | flightfixm:EfpIRetrievalReplyData                           |                              |                              | N/A (wrapper)                     |                    |
| element   | efplFlight                       | fixmext:EfpIFlightType                                      |                              |                              |                                   | extendedFlightPlan |



FIXM EFPL Services  
ISRM Mapping.xlsx

The source file of the mapping can be found in the attachment:

### 3.3.2.3 MEP mapping (IS-3)

IS-3: “For all the interfaces involved in the mapping as per IS-1, the messaging exchange patterns (MEPs) stated in the STDD are matched to the MEPs required by the SDD, according to a certain ruleset found in B.1 (of [18]).”

| SDD                                 |                                     |                           |                          | STDD    |
|-------------------------------------|-------------------------------------|---------------------------|--------------------------|---------|
| Service                             | Operation                           | MEP                       | Proposed SWIM-TI Profile | MEP     |
| <u>ExtendedFlightPlanSubmission</u> | <i>requestExtendedFPLValidation</i> | Synchronous Request/Reply | Yellow Profile v3.0      | SRR-MEP |
|                                     | <i>requestExtendedFPLSubmission</i> |                           |                          |         |
| <u>FlightPlanDataDistribution</u>   | <i>requestExtendedFlightPlan</i>    | Synchronous Request/Reply | Yellow Profile v3.0      | SRR-MEP |

### 3.3.2.4 Service in ISRM (IS-4)

IS-4: “The referenced logical service is part of the ISRM.”

The ExtendedFlightPlanSubmission Service is part of ISRM 1.4.

The FlightPlanDataDistribution Service is part of ISRM 1.4.

### 3.3.2.5 NFR mapping (IS-5)

IS-5: “For all the interfaces involved in the mapping as per IS-1, all NFRs required by the SDD are mapped to either NFRs in the STDD or fulfilled by design decisions.”

No specific requirements set. Yellow Profile 3.0 applied.

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### 3.3.3 Assessment Result - Information Service Compliance Level

| Service Name                               | Information Service Compliance Level-Claimed  | Information Service Compliance Level-approved  | Remarks (optional) |
|--|---|--|--------------------|
| <u><i>ExtendedFlightPlanSubmission</i></u> | Statement on the level of compliance claimed by the Compliance Applicant:<br><br><b>Information Service Compliant</b> | The evidence provided supports the <b>Information Service Compliant</b> level of compliance. | No remarks.        |
| <u><i>FlightPlanDataDistribution</i></u>   | Statement on the level of compliance claimed by the Compliance Applicant:<br><br><b>Information Service Compliant</b> | The evidence provided supports the <b>Information Service Compliant</b> level of compliance. | No remarks.        |

### 3.4 Information Compliance

#### 3.4.1 Evidence for Information Compliance – General Case

Table 1. General information (one table per service)

|   |  |
|---|--|
| <b>Service Name</b>                         | <u><i>ExtendedFlightPlanSubmission</i></u>   |
| <b>AIRM version</b>                         | 4.0.1  |
| <b>Reference to AIRM</b>                    | [20]   |
| <b>Reference to OuA (Physical Messages)</b> | <i>EfpIValidationRequest</i><br><i>EfpIValidationReply</i><br><i>EfpICreationRequest</i><br><i>EfpICreationReply</i> |

|   |  |
|---|--|
| <b>Service Name</b>                         | <u><i>FlightPlanDataDistribution</i></u>                 |
| <b>AIRM version</b>                         | 4.0.1  |
| <b>Reference to AIRM</b>                    | [20]   |
| <b>Reference to OuA (Physical Messages)</b> | <i>EfpIRetrievalRequest</i><br><i>EfpIRetrievalReply</i> |

Table 2. Evidence for semantic correspondence with AIRM

| Entity  | Property                  | URN kind | URN   | Comment (out of scope) |
|---|---------------------------|----------|---|------------------------|
| flightfixm:EfplValidationRequest (inherits from common:Request)         | efplFlight                | CLDM     | See fixmext EfplFlightType  |                        |
| flightfixm:EfplValidationReply (inherits from common:Reply)             |                           | CLDM     |   |                        |
|   | data                      | CLDM     | See flightfixm EfplValidationReplyData  |                        |
| flightfixm:EfplValidationReplyData                                      |                           | CLDM     |   |                        |
|   | ifpsErrors                | CLDM     | Out of scope  | Oos system meta-data   |
|   | efplFlight                | CLDM     | See fixmext EfplFlightType  |                        |
|   | profileTuningRestrictions | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:AirTrafficOperations DemandAndCapacityBalancing FlightRestriction<br>urn x-ses:sesarju:airm:v401:InformationModel:SubjectFields:Stakeholders DocumentAndAgreement LetterOfAgreement@profileTuningRestriction |                        |
| flightfixm:EfplCreationRequest (inherits from flight:FilingRequest)     | efplFlight                | CLDM     | See fixmext EfplFlightType  |                        |
| flightfixm:EfplCreationReply (inherits from common:Reply)               |                           | CLDM     |   |                        |
|   | data                      | CLDM     | See flightfixm EfplCreationReplyData  |                        |
| flightfixm:EfplCreationReplyData (inherits from flight:FilingReplyData) |                           | CLDM     |   |                        |
|   | efplFlight                | CLDM     | See fixmext EfplFlightType  |                        |
| flightfixm:EfplRetrievalRequest (inherits from common:Request)          |                           | CLDM     |   |                        |
|   | flightId                  | CLDM     | See flight:FlightIdentificationInput  |                        |
| flightfixm:EfplRetrievalReply (inherits from common:Reply)              |                           | CLDM     |   |                        |
|   | data                      | CLDM     | See flightfixm EfplRetrievalReplyData   |                        |
| flightfixm:EfplRetrievalReplyData                                       |                           | CLDM     |   |                        |
|   | efplFlight                | CLDM     | See fixmext EfplFlightType  |                        |
| fixmext:EfplFlightType  |                           | CLDM     | urn x-ses:sesarju:airm:v401:InformationModel:SubjectFields:Flight Flight  |                        |
| flight FlightIdentificationInput  |                           | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:Flight Flight@ifplIdentifier   |                        |
| common:Request  |                           | CLDM     |   |                        |
|   | endUserId                 | CLDM     | Out of scope  | Oos message meta-data  |
|   | sendTime                  | CLDM     | Out of scope  | Oos message meta-data  |
| common:Reply  |                           | CLDM     |   |                        |
|   | requestReceptionTime      | CLDM     | Out of scope  | Oos message meta-data  |
|   | requestId                 | CLDM     | Out of scope  | Oos message meta-data  |
|   | sendTime                  | CLDM     | Out of scope  | Oos message meta-data  |
|   | status                    | CLDM     | Out of scope  | Oos message meta-data  |
|   | inputValidationErrors     | CLDM     | Out of scope  | Oos message meta-data  |
|   | outputValidationErrors    | CLDM     | Out of scope  | Oos message meta-data  |
|   | warnings                  | CLDM     | Out of scope  | Oos message meta-data  |
|   | slaError                  | CLDM     | Out of scope  | Oos message meta-data  |
|   | reason                    | CLDM     | Out of scope  | Oos message meta-data  |
| flight FilingRequest (inherits from common Request)                     |                           | CLDM     |   |                        |
|   | additionalAddresses       | CLDM     | Out of scope  | Oos message meta-data  |
| FilingReplyData (inherits from common:Reply)                            |                           | CLDM     |   |                        |
|   | filingStatus              | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:Flight Flight@statusFFICE  |                        |
|   | validFiling               | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:Flight Flight@statusFFICE  |                        |
|   | queuedFiling              | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:Flight Flight@statusFFICE  |                        |
|   | rejectedFiling            | CLDM     | urn x-ses:sesarju:airm:v401:ConsolidatedLogicalDataModel SubjectFields:Flight Flight@statusFFICE  |                        |



FIXM EFPL Services  
payload mapping to A

The source file of the mapping can be found in the following attachment:

### 3.4.2 Evidence for Information Compliance – reuse of existing approved compliance report

N/A

### 3.4.3 AIRM Change Requests

N/A

### 3.4.4 Out of Scope Justifications

See Table 2. Evidence for semantic correspondence with AIRM

### 3.4.5 Assessment Result - Information Compliance Level

| Service Name                        | Information Compliance Level - Claimed   | Information Compliance Level- Approved   | Remarks (optional) |
|-------------------------------------|--|--|--------------------|
| <i>ExtendedFlightPlanSubmission</i> | Statement on the level of compliance claimed by the Compliance Applicant:<br><b>Information Ready.</b> | The evidence provided supports the <b>Information Ready</b> level of Compliance. | <i>No remarks.</i> |
| <i>FlightPlanDataDistribution</i>   | Statement on the level of compliance claimed by the Compliance Applicant:<br><b>Information Ready.</b> | The evidence provided supports the <b>Information Ready</b> level of Compliance. | <i>No remarks.</i> |

Note: The AIRM is available: [20].

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## 3.5 Compliance with SWIM-TI TS

### 3.5.1 Evidence for TI Compliance

Table 3. Evidence for TI Compliance (one table per service)

| Field name                    | Reference to TI criteria condition | Evidence   |
|-------------------------------|------------------------------------|--|
| Service Name                  | (N/A)                              | <i>ExtendedFlightPlanSubmission</i>  |
| SWIM Profile                  | (N/A)                              | <i>Yellow</i>  |
| SWIM Profiles Version         | TI-1                               | 3.0  |
| MEP <sup>2</sup>              | TI-2                               | <i>SRR-MEP is in the catalogue of Yellow Profile.</i>  |
|                               | TI-5                               | <i>The Interface Binding REQ-14.01.04-TS-0901.0790 has the MEP SRR-MEP which matches the MEP chosen in the STDD.</i> |
| Technology                    | TI-3                               | <i>SOAP 1.1 over HTTPS POST over TCP</i>   |
| Interface Binding             | TI-4                               | <i>Interface binding code: REQ-14.01.04-TS-0901.0790</i>   |
| Link to the service interface | TI-6                               | <a href="#">Service Interface definition</a>   |
| Requirements coverage         | TI-7                               | <a href="#">NM Verification Report</a>   |

| Field name            | Reference to TI criteria condition | Evidence  |
|-----------------------|------------------------------------|---|
| Service Name          | (N/A)                              | <i>FlightPlanDataDistribution</i>                     |
| SWIM Profile          | (N/A)                              | <i>Yellow</i>   |
| SWIM Profiles Version | TI-1                               | 3.0   |
| MEP <sup>3</sup>      | TI-2                               | <i>SRR-MEP is in the catalogue of Yellow Profile.</i> |

<sup>2</sup> As the catalogue of MEP and the catalogue of SWIM-TI Interface Bindings are on-going, we refer to the MEP and the Interface Bindings in the specific WP14 documents (SWIM-TI TAD and TS and the SWIM Profiles document). [14][15][16][13][14][15][16]

|                                      |      |  |
|--------------------------------------|------|--|
|                                      | TI-5 | <i>The Interface Binding REQ-14.01.04-TS-0901.0790 has the MEP SRR-MEP which matches the MEP chosen in the STDD.</i> |
| <b>Technology</b>                    | TI-3 | <i>SOAP 1.1 over HTTPS POST over TCP</i>   |
| <b>Interface Binding</b>             | TI-4 | <i>Interface binding code: REQ-14.01.04-TS-0901.0790</i>   |
| <b>Link to the service interface</b> | TI-6 | <a href="#"><u>Service Interface definition</u></a>  |
| <b>Requirements coverage</b>         | TI-7 | <a href="#"><u>NM Verification Report</u></a>  |

### 3.5.2 Assessment Result – TI Compliance Level

| Service Name                                | TI Compliance Level - Claimed  | TI Compliance Level- approved  | Remarks (optional)  |
|---|--|--|---|
| <b><i>ExtendedFlightPlan Submission</i></b> | Statement on the level of compliance claimed by the Compliance Applicant:<br><b>TI Binding Yellow Profile Compliant.</b> | The evidence provided supports the <b>TI Binding Yellow Profile Compliant</b> level of Compliance. | A reference to a Non-Executive Verification Report that traces the verification tests with the applicable requirements would be preferable. |
| <b><i>FlightPlanDataDistribution</i></b>    | Statement on the level of compliance claimed by the Compliance Applicant:<br><b>TI Binding Yellow Profile Compliant.</b> | The evidence provided supports the <b>TI Binding Yellow Profile Compliant</b> level of Compliance. | A reference to a Non-Executive Verification Report that traces the verification tests with the applicable requirements would be preferable. |

<sup>3</sup> As the catalogue of MEP and the catalogue of SWIM-TI Interface Bindings are on-going, we refer to the MEP and the Interface Bindings in the specific WP14 documents (SWIM-TI TAD and TS and the SWIM Profiles document). [14][15][16][13][14][15][16]

## 3.6 Post-conditions for SWIM Compliance

### 3.6.1 Post-condition on payload compliance

N/A

## 4 Feedback from SWIM Compliance Acceptance Team

### 4.1 Service assessment: conclusions and way forward

The evidence provided is in general solid and supports the Compliance claims made by EXE-07.06.02-VP-713. The evidence for Compliance with TI-7 (satisfaction of Interface and Network Requirements of the Technical Infrastructure) is of an indirect nature, this is a common problem shared by different exercises using the Network Manager. Direct evidence of satisfaction of said requirements would be preferable. The following evidence is suggested as a more definite proof:

- A reference to a Verification Report (Non-Executive) supported with traceability to specific Verification Tests passed and Requirements covered.

Nevertheless, the assessment of SWIM Yellow Profile 3.0 Binding Compliant has been granted on the assumption that the perfect satisfaction of all requirements related to Network Communications (not related with Publish/Subscribe which is out of scope this Exercise) implies, albeit indirectly, that the Interface Bindings and Network Bindings are satisfied.

It was discussed with the Exercise the possibility of providing evidence to support AIRM Compatible level of Compliance. It is believed likely by the SWIM Compliance Assessment Team as well as the responsible members of AIRM Compliance within the Exercise that this level of Compliance could be satisfied by EXE-07.06.02-VP-713 but the effort required to provide a complete mapping at Entity and Attribute level is not justifiable at this point in time. The following statement from EXE-07.06.02-VP-713 is provided verbatim:

#### *1. Service Payload Description*

*The payload of the Web services for VP-713 Part B exercise is based on core FIXM 3.0 supplemented with an EFPL Extension v1.0 Beta. This extension contains the elements specific to the EFPL that are not captured by core FIXM v3.0 and is designed in accordance with the FIXM guidelines.*

#### *2. SWIM Compliance*

##### *[AIRM compliance]*

*The AIRM 4.0.1, released on 14-Dec-2015, covers the whole content of the SESAR E-FPL:*

- *Coverage of the ICAO FPL 2012 content as described in ICAO Doc 4444 is ensured:*
  - o *Main ICAO FPL 2012 content promoted during AIRM initial load*
  - o *Several AIRM CRs were approved by the AIRM CCB and implemented over time for correcting bugs and ensuring completeness against ICAO FPL 2012: CR00481, CR00528, CR00529, CR00578, CR00579, CR00580...*
- *Coverage of the specific E-FPL content was addressed through several AIRM CRs approved by the AIRM CCB: CR00415, CR00560...*

*Therefore, the payload of the Web services for VP-713 Part B exercise, which uses the ICAO FPL 2012 subset of FIXM v3.0 and the E-FPL extension, is already expected to be semantically traceable to the AIRM 4.0.1.*

##### *[Remarks – formal AIRM compliance report]*

*As of December 2015, EUROCONTROL does not see any benefit in investing available resources to perform the formal AIRM mapping for FIXM 3.0 + the E-FPL Extension:*

- *The AIRM 4.0.1 supports already the E-FPL content. A formal compliance report will not be useful for further improving the AIRM content.*
- *FIXM v3.0 does not qualify yet for a global standard (\*) and FIXM 4.0, to be released in 2016, will be significantly different in scope from 3.0 (v4.0 to be based on the ICAO provisions for FF-ICE/1). The SESAR AIRM is currently*

*used “indirectly” by 08.01.03 for supporting the FIXM v4.0 development but the FIXM CCB does not formally acknowledge the SESAR AIRM which is a European standard only. In this context, a formal AIRM mapping of FIXM v3.0 will not deliver direct benefits to the FIXM community and will eventually be lost.*

*(\*)The following statement was added to all FIXM v3.0 materials upon SESAR request: In support of ICAO FF-ICE, the content of [FIXM v3.0] reflects the continuous progress and evolution under discussion. Global convergence is expected to be achieved in FIXM 4.0*

## 4.2 SWIM Compliance Criteria feedback

N/A

## 5 References

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- [8] 08.01.03 AIRM Compliance Framework, (1.01<sup>th</sup> edition),  
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- [9] 08.01.03 AIRM Compliance Rulebook for R5,  
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- [10] 14.01.03-D36 SWIM Profiles for Iteration 3.0, Ed 00.01.00, December 2014  
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- [11] 14.01.04-D42-005 SWIM-TI Blue Profile Technical Specification 3.0, Ed 00.01.00  
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[https://extranet.sesarju.eu/WP\\_07/Project\\_07.06.02/Project%20Plan/Trajectory-Step%201/BT%20Technical%20Specification/VP-713%20Extended%20Flight%20Plan/SWIM%20Compliance/SESAR%20Service%20Technical%20Design%20Description\\_EFPL\\_Submission%20FIXM.xlsm](https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Trajectory-Step%201/BT%20Technical%20Specification/VP-713%20Extended%20Flight%20Plan/SWIM%20Compliance/SESAR%20Service%20Technical%20Design%20Description_EFPL_Submission%20FIXM.xlsm)
- [25] Service Technical Design Document for FlightDataDistribution Service, Edition 00.01  
[https://extranet.sesarju.eu/WP\\_07/Project\\_07.06.02/Project%20Plan/Trajectory-Step%201/BT%20Technical%20Specification/VP-713%20Extended%20Flight%20Plan/SWIM%20Compliance/SESAR%20Service%20Technical%20Design%20Description\\_EFPL\\_Distribution\\_FIXM.xlsm](https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Trajectory-Step%201/BT%20Technical%20Specification/VP-713%20Extended%20Flight%20Plan/SWIM%20Compliance/SESAR%20Service%20Technical%20Design%20Description_EFPL_Distribution_FIXM.xlsm)



## Appendix A Operations Parameters

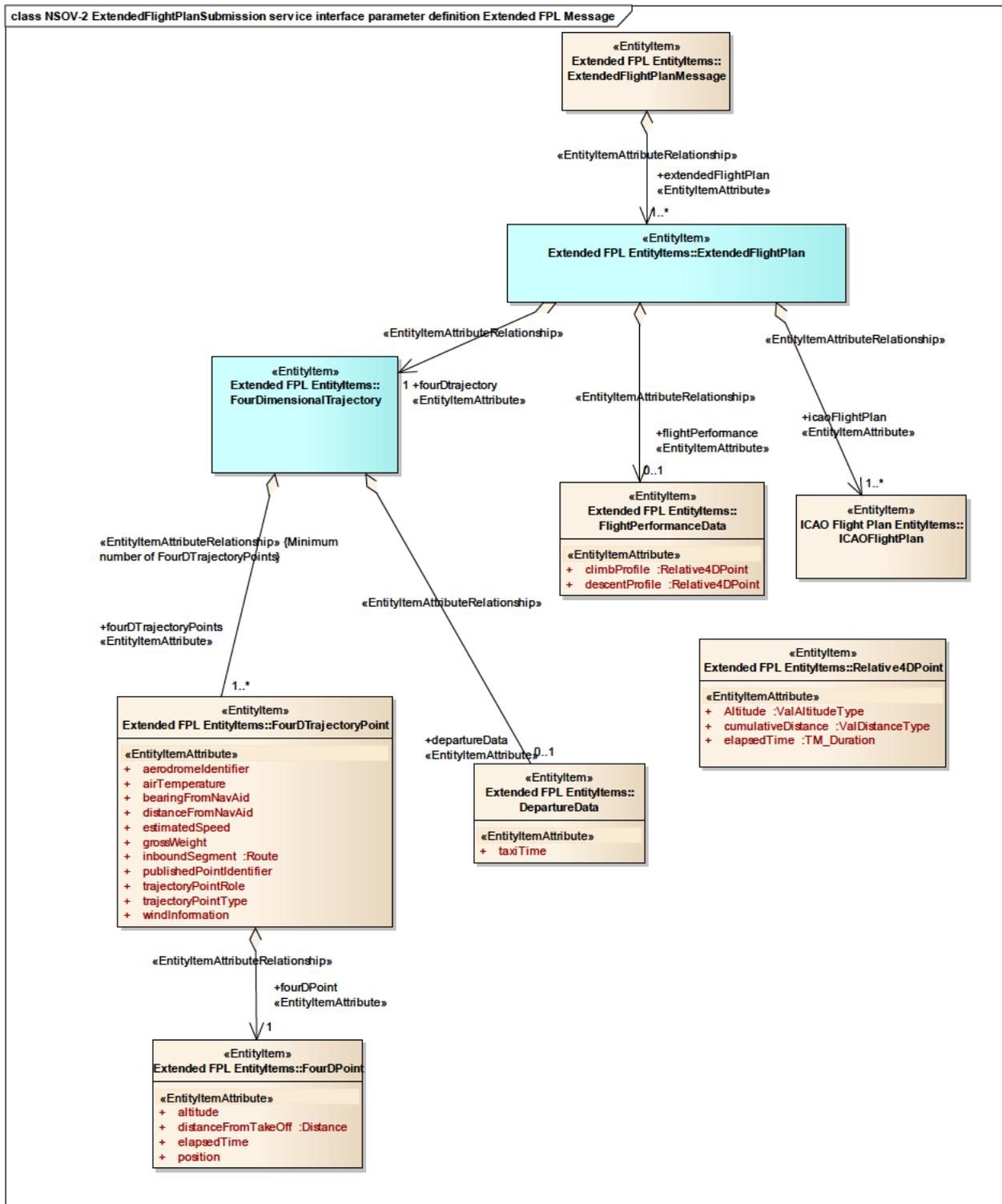


Figure 1 NSOV-2 ExtendedFlightPlanSubmission service interface parameter definition Extended FPL Message

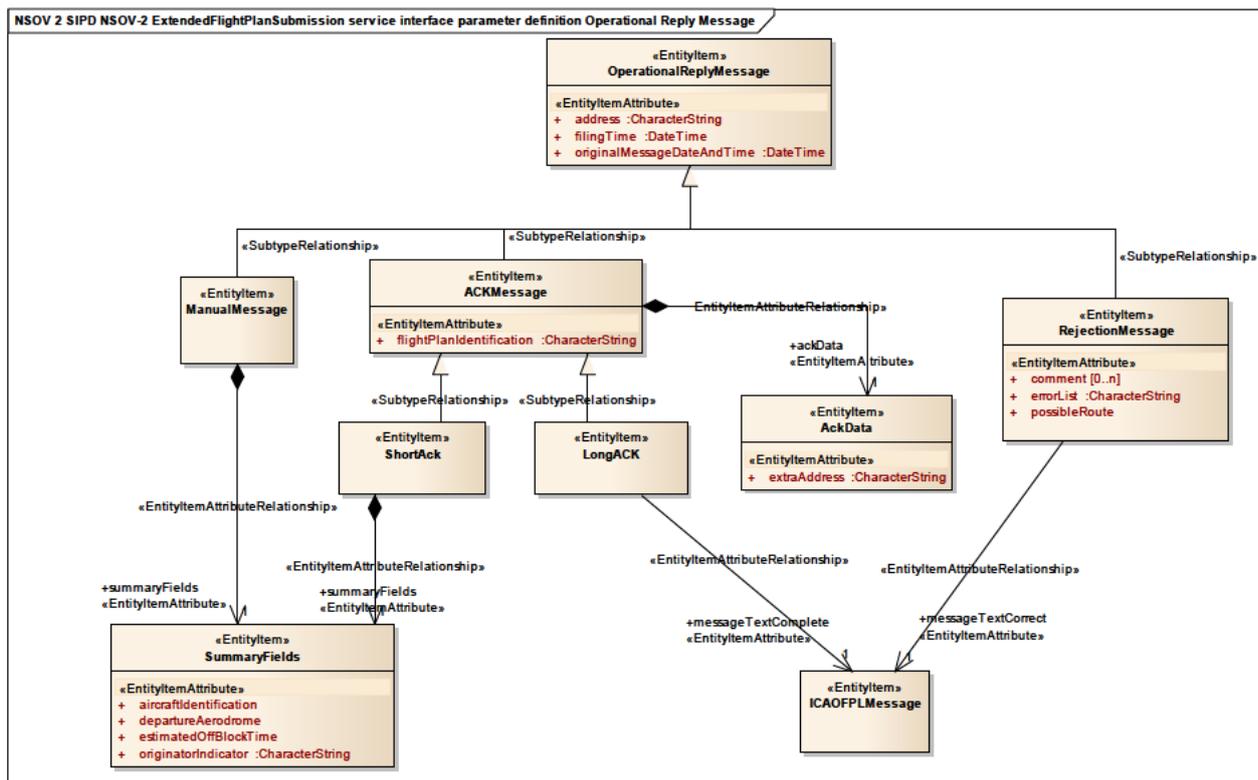


Figure 2 NSOV-2 ExtendedFlightPlanSubmission service interface parameter definition Operational Reply Message

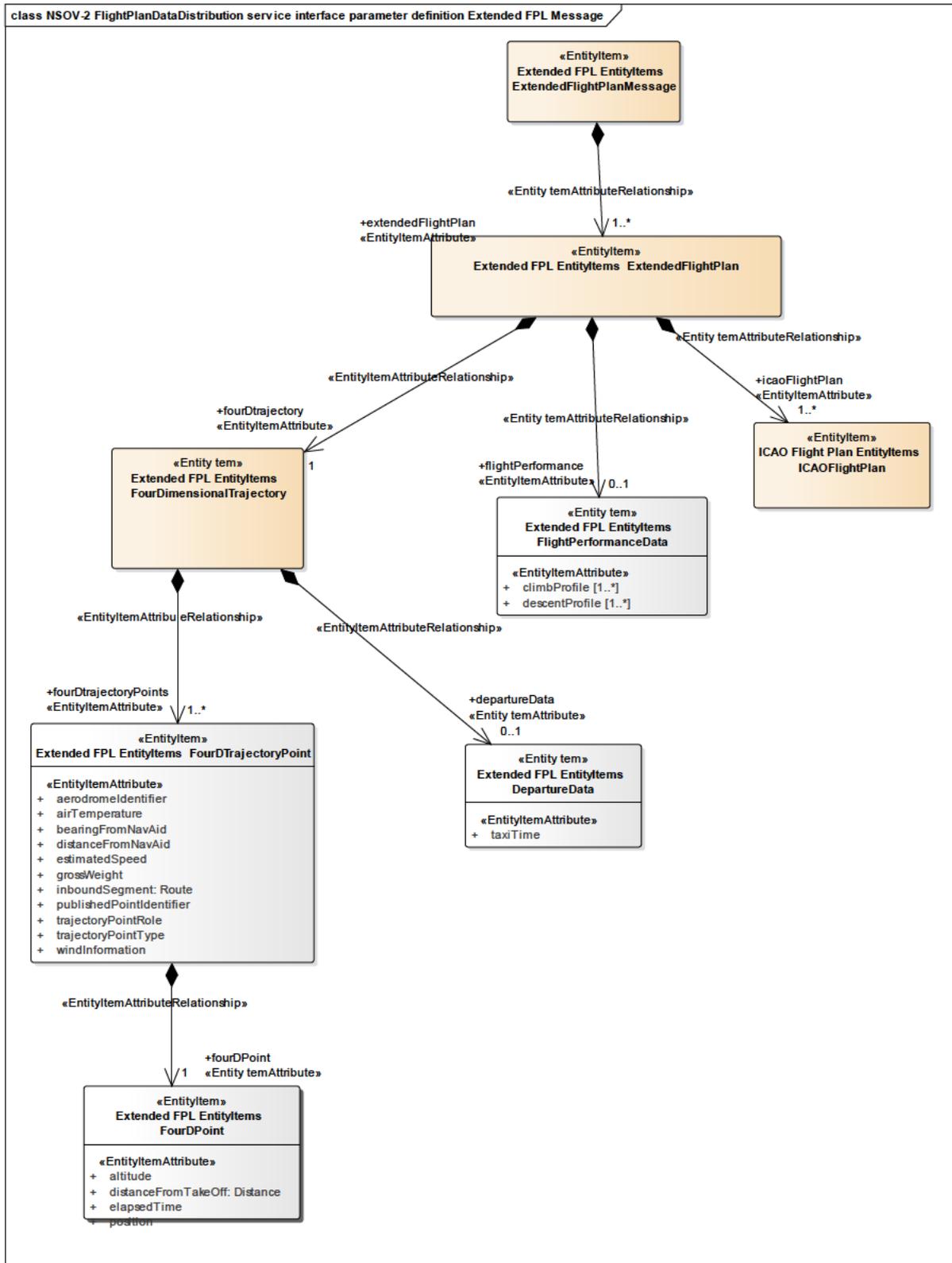


Figure 3 NSOV-2 FlightPlanDataDistribution service interface parameter definition Extended FPL Message

**-END OF DOCUMENT-**

founding members



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