European ATM Service Description for the OATFlightPlanSubmission Service

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Abstract

This document describes the SESAR OAT Flight Plan Submission service designed by Project 08.03.10. The service is justified by Operational Requirements taken from the OSED developed by P07.06.02 and P11.01.02. The service identified covers the operations dealing with the submission, validation, modification and cancellation of an improved OAT Flight Plan (iOAT).
The proposed service is called the OATFlightPlanSubmission service.

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Name & Company	**Position & Title**	**Date**

Rational for rejection

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00.00.04	29/05/2015	Draft		ISRM consolidation updates performed by ▮
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This deliverable consists of SJU foreground.

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Executive summary

This document describes the SESAR improved OAT Flight Plan Submission Service designed by Project 08.03.10 as part of the work for ISRM iteration 2.0.

The services are justified by Operational Requirements taken from the OSED developed by Project 07.06.02 and 11.01.02. The services cover the operations dealing with the submission of an improved OAT Flight Plan and subsequent modification, delay and cancellation.

The proposed service is:

- **OAT Flight Plan Submission Service**: to enable the Military or State Airspace User to:
  - ✓ request the verification of a new OAT Flight Plan before its submission.
  - ✓ receive the result related to the Validation of a new OAT Flight Plan.
  - ✓ request the submission of a new improved OAT Flight Plan, or of an update to an improved OAT Flight Plan.
  - ✓ receive the result related to the submission of a new improved OAT Flight Plan or of an update to an improved OAT Flight Plan.
  - ✓ request the delay of an improved OAT Flight Plan.
  - ✓ request the cancellation of an acknowledged improved OAT flight plan.
  - ✓ notify the NM of a flight's suspension or de-suspension.

1 Introduction

1.1 Purpose of the document

This document is an outcome of the Service Description activity as described in by the SESAR project B.04.03.

The purpose of this Service description is to provide a holistic overview of the described service and its building blocks. It services as a complement to a model based description and supports the configuration management process by providing well-defined baselines.
The service description document is also the foundation material for the standardisation process.

The services described in this document derive from the OSED Step1 Volume 2 developed by project 07.06.02 (see ref. [5]) and the OSED from Project 11.01.02 (see ref [6])

In the OAT Flight Plan management context the following service has been designed:

- **OAT Flight Plan Submission Service**: to enable the Military or State Airspace User to:
  - ✓ request the verification of a new improved OAT Flight Plan before its submission.
  - ✓ receive the result related to the Validation of a new improved OAT Flight Plan.
  - ✓ request the submission of a new improved OAT Flight Plan, or of an update to an improved OAT Flight Plan.
  - ✓ receive the result related to the submission of a new improved OAT Flight Plan or of an update to an improved OAT Flight Plan.
  - ✓ request the cancellation of an acknowledged improved OAT flight plan.
  - ✓ request the delay of an acknowledged improved OAT flight plan.
  - ✓ Notify the NM of a flight's suspension or de-suspension.

The update to an acknowledged OAT flight plan may occur after the flight is active (i.e. airborne) unlike the current GAT flight update processing.

The document is focused on the interactions between Military / State Airspace Users and Network Manager.

This document specifies a service (coming from a Service Identification activity as described in *B.04.03 D100-05 Working method on services (edition 2014)* – see ref. [4]) for consideration by B.4.3.

The service described in this document will also be a part of the Service Portfolio. The Service portfolio presents all services that are available or are planned to become available at a high level while the Service Description Document describes one single Service type in detail.

1.2 Intended readership

This Service Description Document is intended to be read by Enterprise Architects, Service Architects, Information Architects, System Engineers and Developers in pursuing architecting, design and development activities.

It must be read by members of P08.03.10, P11.01.02 and P07.06.02.

1.3 Inputs from other projects

07.06.02 OSED Step1 V3 (see ref [5]) and 11.01.02 OSED (see ref [6]).

1.4 Glossary of terms

Term	Definition
Improved OAT FPL	The term used in the P07.06.02 OSED to refer to the OAT Flight Plan.
OAT Flight Plan	A means for an airspace user to convey its intention to operate a flight under OAT flight rules to the Network Manager or relevant state authority.
Military Trajectory	The term used in many IER to justify the passing of OAT Flight Plan Data. It refers to the 4D trajectory of a flight operating under OAT flight rules.

1.5 Acronyms and Terminology

1.5.1 Acronyms

Term	Definition
ADD	Architecture Description Document
AIS	Aeronautical Information System
ATC	Air Traffic Control
ATM	Air Traffic Management
AU	Airspace User
CFMU	Central Flow Management Unit
CNL	Cancellation
DOD	Detailed Operational Description
EAD	European AIS Database
EATMA	European ATM Architecture
ECHG	Modification message of the Extended FPL
EDLA	Extended DLA message
EFPL	Extended Flight Plan
EFPLM	Extended Flight Plan Message It is a message containing the ICAO FPL data, the trajectory of the flight described in a 4D trajectory form and the Performance Data instantiated for that flight.
EOBT	Estimated Off-Blocks Time
ETFMS	Enhanced Tactical Flow Management System
GAT	General Air Traffic

Term	Definition
IER	Information Exchange Requirement
IFPS	Initial Flight Plan Service
ISRM	Information Service Reference Model
NAF	NATO Architecture Framework
NM	Network Manager
NOV	NATO Operational View
NSOV	NATO Service Oriented View
NSV	NATO System View
OA	Operational Activities
OAT	Operational Air Traffic (military or state flights)
ORM	Operational Reply Messages
OSED	Operational Service and Environment Definition
QoS	Quality of Service
SID	Service Identification Document
SESAR	Single European Sky ATM Research Programme
SESAR Programme	The programme which defines the Research and Development activities and Projects for the SJU.
SoaML	Service Oriented Architecture Modelling Language
SWIM	System Wide Information Management
UML	Unified Modelling Language
WOC	Wing Operations Centre

1.5.2 Terminology

Term	Definition	Source
Capability	The collective ability to deliver a specified type of effect or a specified course of action. 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.	Common working meeting between B41 EA study and B43 T5
Capability Configuration	A combination of organisational aspects (with their competencies) and equipment that combine to provide a capability. A Capability Configuration represents a	Project B.04.03

Term	Definition	Source
	recognisable set of resources (technical systems, human roles, and physical assets) derived from a generic stakeholder organisation. Note: Capability Configuration is a term used in NAF. The equivalent SoaML stereotype to be used is Participant. Also see note in Node term definition.	
Node	A logical entity that performs Operational Activities specified independently of any physical realisation e.g. a stakeholder type providing and/or consuming operational information within a network of others. Note: Node is a term used in NAF. The equivalent SoaML stereotype to be used is Participant. Be aware that the original intention of SoaML is that Participants are physical items and not logical constructs. Service architects must indicate whether the Participant is a logical (Node) or a physical (Capability Configuration) construct.	Common working meeting between B41 EA study and B43 T5
Service	The contractual provision of something (a non-physical object), by one, for the use of one or more others. 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.	B43 T5 study
Service attribute	A Service Attribute defines a property of a service. Examples: Response time, Frequency of invocation, Message Exchange Pattern.	B43 T5 study
Service contract	A service contract represents an agreement between the stakeholders involved for how a service is to be provided and consumed.	B43 T5 study
Service function	A Service function describes what functionality is needed to provide or consume a service; it is the trigger for or is triggered by the Service interactions. A Service function can be automated to different extents depending on the context e.g. a Service function supporting a complex activity may need more automation than a Service function for a simple activity. Note: The equivalent SoaML stereotype is Capability, in WP8 Foundation documentation referred to as Service Capability.	B43 T5 study
Service interaction	A Service interaction is a description of an information exchange between ATM stakeholders' systems which can potentially be automated; phone calls / voice exchanges are considered as non-automated service interactions. In considering automated interactions, a service interaction is described by several modelling artefacts depicting the static and dynamic behaviour of a service. This includes service operations, data messages model and interaction behaviour.	B43 T5 study
Service interface	The mechanism by which a service communicates. Service providers and consumers need to implement service	B43 T5 study

Term	Definition	Source
	interfaces 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.	

2 Service identification

Name	OATFlightPlanSubmission
ID	{E834F41D-5518-49ca-9D1B-FA9734FD784B}
Version	2.1
Keywords	OAT FPL
Architect(s)	██████████ NORACON

Lifecycle status	Date	Reference
Identified	30/11/2014	See reference [9]
Allocated	10/09/2014	See reference [13]
Designed	11/09/2015	This document
Validated	*Date when validated. Filled by WP3*	*Name of protocol documenting the decision*
IOC	*Date for Initial Operational Capability*	*Reference to technical enabler hosting the service in the ATM master plan*
FOC	*Date for Full Operational Capability*	*Reference to technical enabler hosting the service in the ATM master plan*

3 Operational and Business context

The operational context for the OAT Flight Plan Submission Service derives from the P07.06.02 OSED (see ref. [5]) and the P11.01.02 OSED (see ref [6]). This service supports the Airspace User to submit the military equivalent of the FPL/CHG/DLA and CNL to the Network Manager, and supports the Network Manager in the notification of the results of these submissions back to the user.

In addition to the submission of real OAT flight data the service also supports the validation of possible OAT Flights, allowing the user to be confident that the OAT Flight Data finally being submitted as a real flight plan is likely to be accepted.

The "OAT Flight Plan Submission Service" foresees the interaction between the Military or State Airspace User and the Network Manager. The Military or State User is represented by the WOC Node and the Network Manager by the Network Management Node. The WOC is used as a short hand notation throughout this document to mean the Military or State Airspace User.

The OAT Flight Plan Submission Service covers the following capabilities (see Figure 4):

- The Network Manager is able to receive a request for an OAT Flight Plan validation from the WOC before its submission.

- The WOC is able to send a request for an OAT Flight Plan validation to the NM before its submission.

- The Network Manager is able to receive a request for an OAT Flight Plan, Modification or Delay submission from the WOC.

- The WOC is able to send a request for an OAT Flight Plan, Modification or Delay submission to the NM.

- The Network Manager is able to receive a request for an OAT flight plan cancellation from the WOC.

- The WOC is able to send a request for an OAT flight plan cancellation to the NM.

- The Network Manager is able to send an Operational Reply Message (ORM) as a result of the verification process, or submission process, or as a result for a cancellation process, to the WOC.

- The WOC is able to receive an Operational Reply Message (ORM) from Network Manager as a result of the verification process, or submission process, or as a result for a cancellation process. Note the ORM is divided up into Acknowledgment, Rejection or Indication of Manual Processing.

- The Network Manager is able to receive notification from the WOC of a flight's suspension and subsequent de-suspension.

- The WOC can notify the NM of a flight's suspension and subsequent de-suspension.

If WOC wants to verify an OAT Flight Plan before its submission, it submits a request for an OAT Flight Plan verification to the Network Manager. The Network Manager verifies the OAT Flight Plan and sends an Operational Reply Message to the Airspace User.

The WOC uses the NM Verification result to correct, if necessary, the OAT Flight Plan and then submits an OAT Flight Plan to the Network Manager. The Network Manager validates the OAT Flight Plan, and responds with an Operational Reply Message to the WOC.

If the WOC wants to cancel an acknowledged OAT Flight Plan, it uses the service to request the cancellation of the improved OAT flight plan by the Network Manager. The Network Manager sends an ACK message for the cancellation request to the WOC.

If the WOC wants to amend an acknowledged OAT Flight Plan, it uses the service to amend the necessary data fields with the Network Manager. The Network Manager validates the request and responds with an Operational Reply Message to the WOC.

If the WOC wants to amend an acknowledged OAT Flight Plan's estimated off block time (EOBT) it uses the service to amend the time with a specific operation (in line with the mode of operation for a GAT flight) with the Network Manager. The Network Manager validates the request and responds with an Operational Reply Message to the WOC.

3.1 Information Exchange Requirements

3.1.1 Information Exchange Requirements from Project 07.06.02

The driver of this service description are IERs taken from the OSED section 4 (see ref [5]) and are included below for reading convenience.

Identifier	Name	Issuer	Intended Addressees	Information Element	Involved Operational Activities	Interaction Rules and Policy	Status	Rationale	Satisfied DOD Requirement Identifier	Service Identifier
IER-07.06.02-OSED-M005.0010	Submission of improved OAT FPL	Military airspace user/aircraft operator /WOC/AIS	NMOC/IFPS	Improved OAT FPL	Creation and filing the improved OAT FPL		<In Progress>	Establishment of Mission Trajectory	**REQ-07.02-DOD-0001.0000** <Partial>	
IER-07.06.02-OSED-M005.0020	Provision of Improved OAT FPL validation status	NMOC/IFPS	Military 14airspace user/aircraft operator/WOC/AIS	Operational reply message (ACK, MAN, REJ)	Validation of the improved OAT FPL		<In Progress>	Processing status feedback	**REQ-07.02-DOD-0001.0000** <Partial>	Service Identifier
IER-07.06.02-OSED-M005.0022	Provision of feedback on improved OAT FPL validation test	NMOC/NOP (OFPV)	Military 14airspace user/aircraft operator/WOC/AIS	NOP portal validation test feedback	Testing the improved OAT FPL		<In Progress>	Preparation of Mission Trajectory	**REQ-07.02-DOD-0001.0000** <Partial>	Service Identifier

The linkage between the proposed service and the IER is shown in Figure 1.

class NAV OATFlightPlanSubmission Requirements Traceability

Name: NAV OATFlightPlanSubmission Requirements Traceability
Author:
Version: 2.0
Created: 14-03-2014 00:00 00
Updated: 22-01-2016 00:00 00
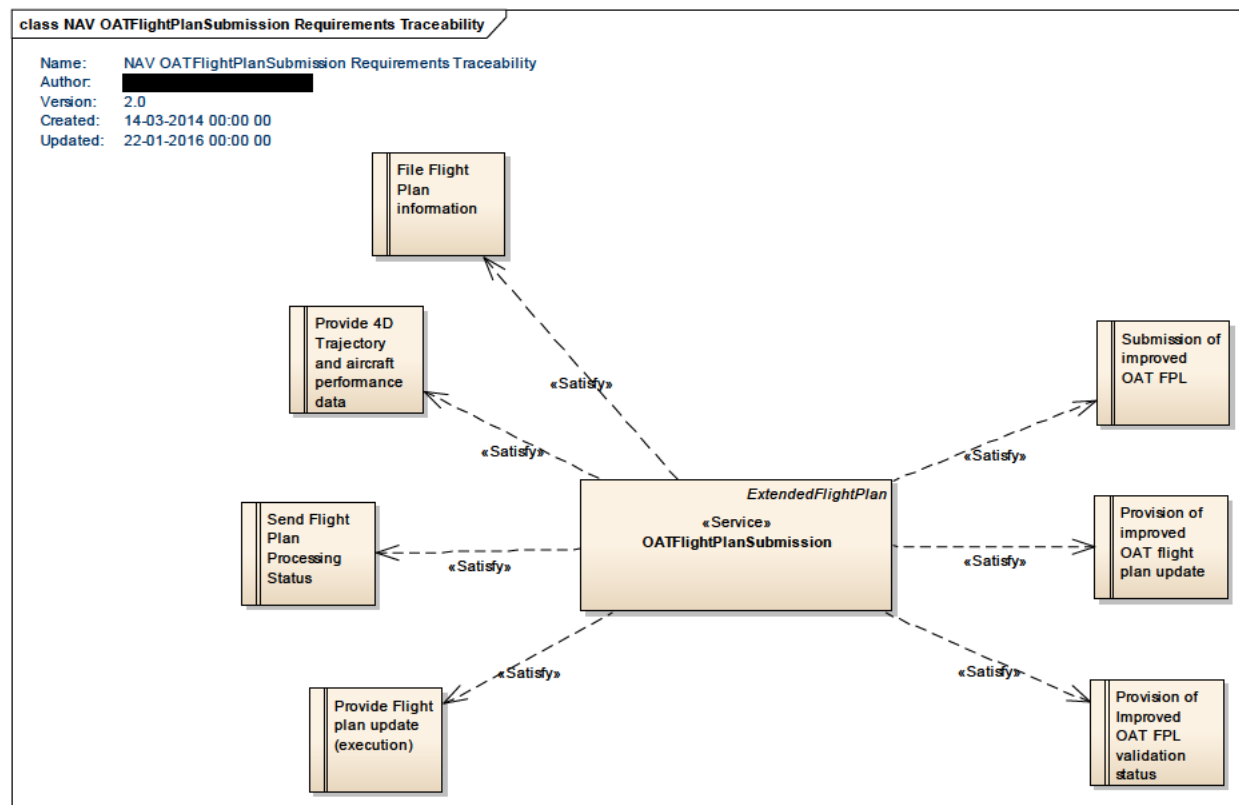
Figure 1 NAV IER OATFlightPlanSubmission Service Requirements Traceability

Element Name	Author	Notes	
File Flight Plan information		N/A	
	Element Tagged Value Name	**Value**	
	megaid		
	ref	IER-11.01.02-OSED-WOCI.1007	
	refType	Information exchange requirement	
	Text		

Element Name	Author	Notes	
Provide 4D Trajectory and aircraft performance data		N/A	
	Element Tagged Value Name	**Value**	
	megaid		
	ref	IER-11.01.02-OSED-WOCI.1008	
	refType	Information exchange requirement	
	Text		

Element Name	Author	Notes	
Send Flight Plan Processing Status		N/A	
	Element Tagged Value Name	**Value**	
	megaid		
	ref	IER-11.01.02-OSED-WOCI.1009	
	refType	Information exchange requirement	
	Text		

Element Name	Author	Notes	
Provide Flight plan update (execution)		N/A	
	Element Tagged Value Name	**Value**	

	megaid	
	ref	IER-11.01.02-OSED-WOCI.1019
	refType	Information exchange requirement
	Text	

Element Name	Author	Notes
Submission of improved OAT FPL	████████████	N/A
	Element Tagged Value Name	**Value**
	megaid	
	ref	IER-07.06.02-OSED-M005.0010
	refType	Information exchange requirement
	Text	

Element Name	Author	Notes
Provision of improved OAT flight plan update	████████████	N/A
	Element Tagged Value Name	**Value**
	megaid	
	ref	IER-07.06.02-OSED-M005.0011
	refType	Information exchange requirement
	Text	

Element Name	Author	Notes
Provision of Improved OAT FPL validation status	████████████	N/A
	Element Tagged Value Name	**Value**
	megaid	
	ref	IER-07.06.02-OSED-M005.0020
	refType	Information exchange requirement
	Text	

3.1.2 Information Exchange Requirements from Project 11.01.02

The driver of this service description are IERs taken from the OSED section 6.2.1 (see ref [6]) and are included below for reading convenience. NOTE: Only a few are relevant to the service and these are shown in Figure 1.

[IER]

Identifier	Name	Issuer	Intended Addressees	Information Element	Involved Operational Activities	Interaction Rules and Policy	Status	Rationale	Satisfied DOD Requirement Identifier	Service Identifier
IER-11.01.02-OSED-WOCI.1007	File Flight Plan information	WOC system	Remote/local NM&AM system (IFPS)	Improved OAT FPL, extended Flight Plan	Create Flight Plan		\<In Progress\>	Establishment of Business / Mission Trajectory	REQ-11.01.01-DOD-WOCR.1002\<Partial\>; REQ-11.01.01-DOD-WOCR.1005\<Partial\>	

Identifier	Name	Issuer	Intended Addressees	Information Element	Involved Operational Activities	Interaction Rules and Policy	Status	Rationale	Satisfied DOD Requirement Identifier	Service Identifier
IER-11.01.02-OSED-WOCI.1008	Provide 4D Trajectory and aircraft performance data	WOC system	Remote/local NM&AM system (IFPS)	4D Trajectory, Aircraft performance data	Create Flight Plan		\<In Progress\>	Establishment of Business / Mission Trajectory	REQ-11.01.01-DOD-WOCR.1002\<Partial\>; REQ-11.01.01-DOD-WOCR.1005\<Partial\>	
IER-11.01.02-OSED-WOCI.1009	Send Flight Plan Processing Status	Remote/local NM&AM system (IFPS)	WOC system	ACK, REJ, MAN...	Validate, accept, promulgate improved OAT Flight Plan		\<In Progress\>	Flight plan. Including reason in case not accepted	REQ-11.01.01-DOD-WOCR.1002\<Partial\>; REQ-11.01.01-DOD-WOCR.1005\<Partial\>	
IER-11.01.02-OSED-WOCI.1019	Provide Flight plan update (execution)	ER ACC ATC system	WOC system	improved OAT Flight Plan update, extended Flight Plan update	Mission execution		\<In Progress\>	Monitoring of Mission Trajectory. WOC will be updated with changes in Mission and resulting Flight Plan updates.	REQ-11.01.01-DOD-WOCR.1001\<Partial\>; REQ-11.01.01-DOD-WOCR.1004\<Partial\>; REQ-11.01.01-DOD-WOCR.1000\<Partial\>; REQ-11.01.01-DOD-WOCR.1003\<Partial\>	

3.2 Other Requirements

3.2.1 Non-Functional Requirements

There are currently no non-functional requirements listed in the P07.06.02 OSED or the P11.01.02 OSED.

The following Non-Functional Requirements from 13.02.01 Technical Specification [8] have been considered, because they indicate that the existing IFPS performance for GAT Flight plans is acceptable and that State Airspace Users will also be able to accept this level of service:

Identifier	IER/SPR Name	Property / Criteria	Comments
REQ-13.02.01-TS-0103.0001	EFPL Performance	This requirement is based on the current IFPS system.	NM systems shall be able to process the same minimum number of EFPLs per second as ICAO Flight Plans, this is 6 per second.
REQ-13.02.01-TS-0106.0001	EFPL Reliability	This requirement is based on the current IFPS system.	Submission and processing of EFPLs shall be available 24h/7days, availability shall be minimum 99.97%. In case of a system failure, EFPL services shall be available again within 1 hour.

3.2.2 Relevant Industrial Standards

The requirements and data described in the P07.06.02 OSED are based on the definitions given in ICAO Doc 4444 for the 2012 Flight Plan (ICAO Doc 4444 ATM/501 PANS – Air Traffic Management – 15th Edition 2007 Amendment 2).

3.2.3 Nodes

The nodes specified in the OSED P07.06.02 are shown in Figure 2.
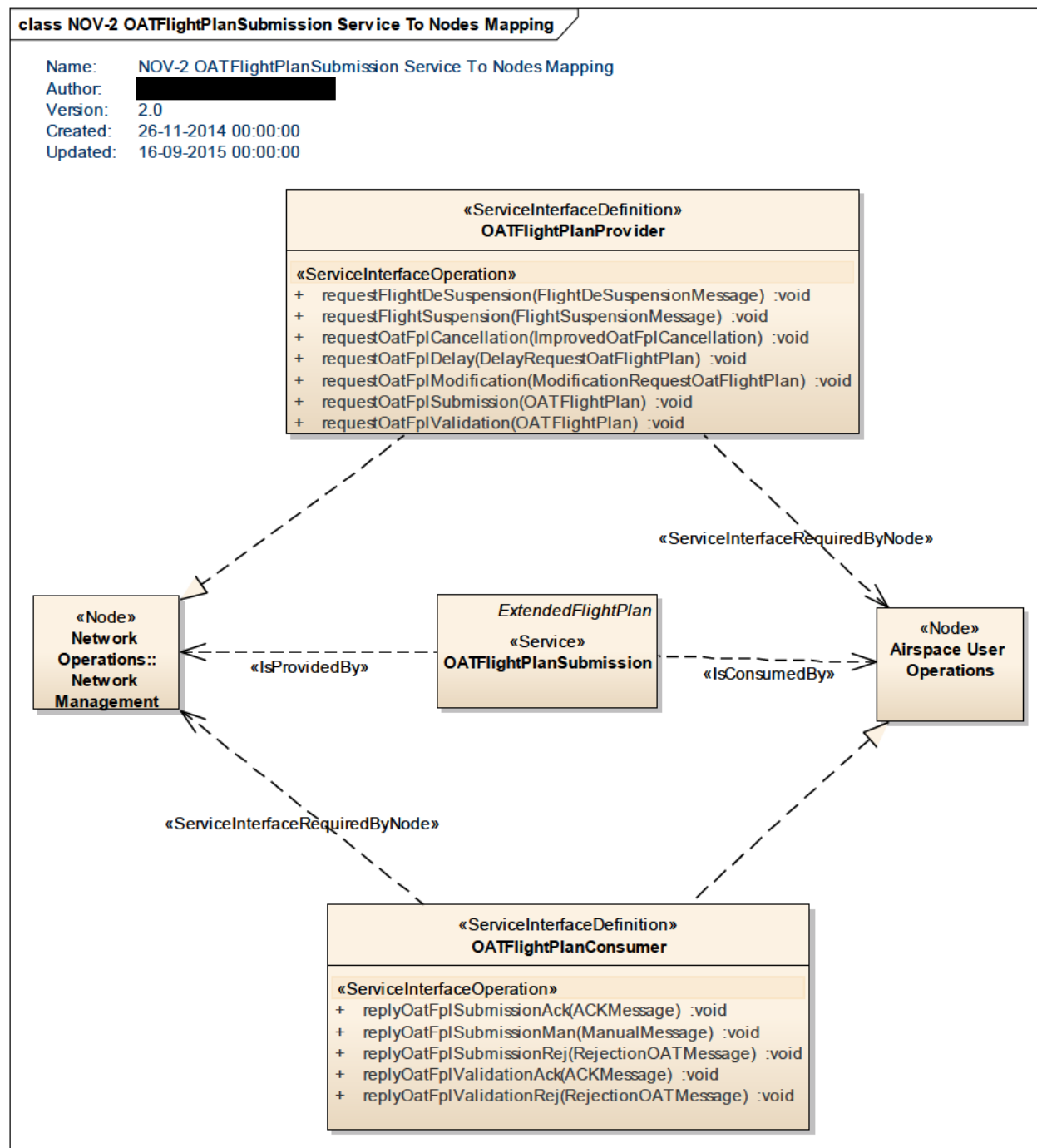
Figure 2: NOV-2 OATFlightPlanSubmission Service to Nodes Mapping diagram

4 Service overview

4.1 Service Taxonomy

The service taxonomy is described in the ISRM Service Portfolio document [11].

4.2 Service Levels (NfRs)

Non Functional Requirements are described in section 3.2.1.

4.3 Service Functions and Capabilities

The functions and capabilities of the service can be shown through the following diagrams:

The Business Process overview showing the interaction between NM and OAT Flight Data Consumers in relation to the submission of OAT Flight Plans is shown in Figure 3
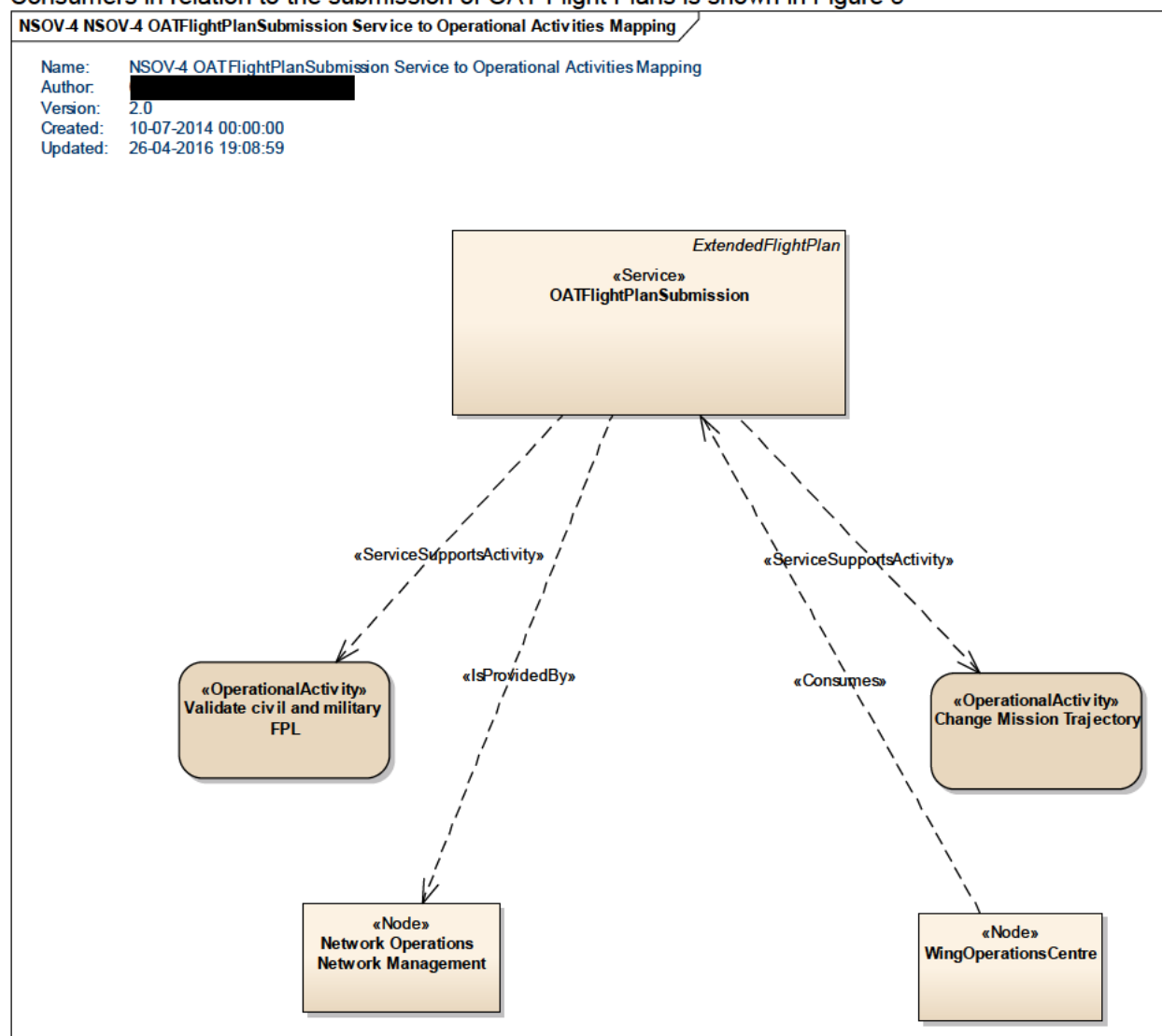
Figure 3 NSOV-4 OATFlightPlanSubmission Service to Operational Activities Mapping

The service fulfils some identified EATMA capabilities; these are shown in Figure 4
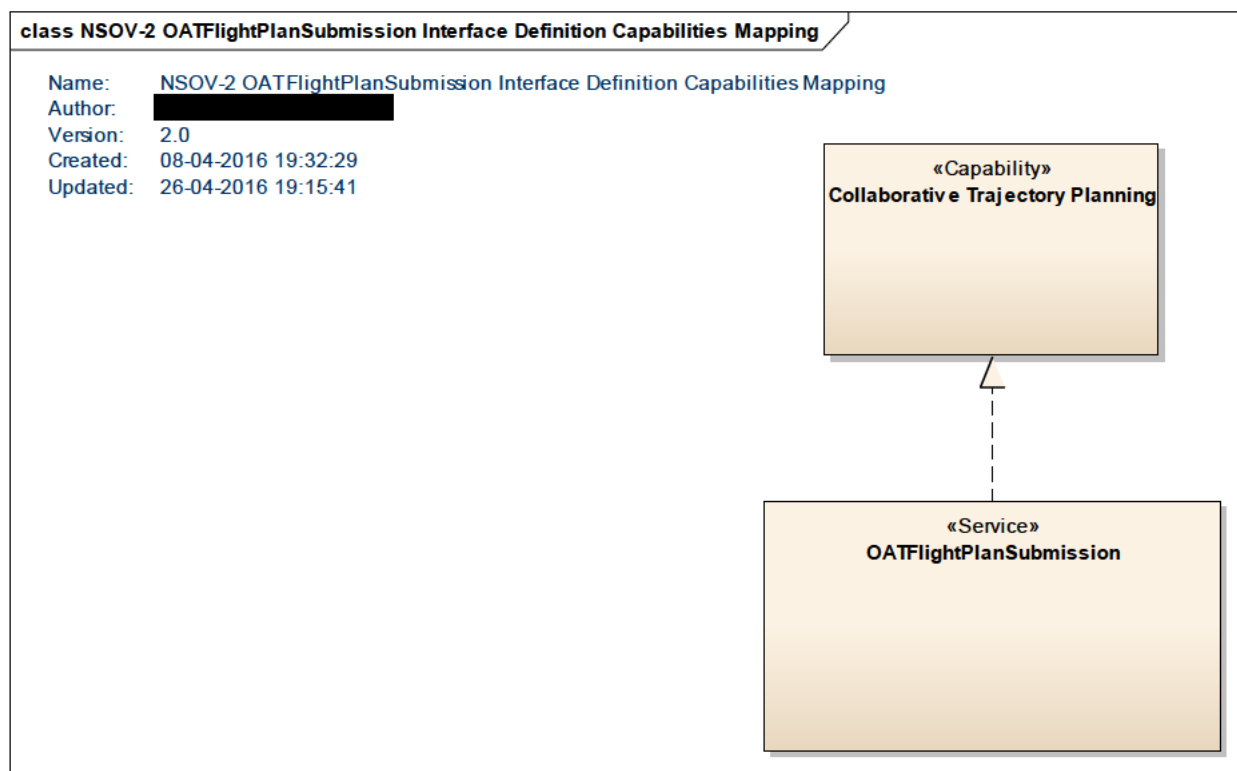
Figure 4 NSOV-2 OATFlightPlanSubmission Service to Capability Mapping

The interaction between the Service Consumer and provider is described in detail in Section 6.

4.4 Service Interfaces

The service interface definitions are shown in Figure 5.
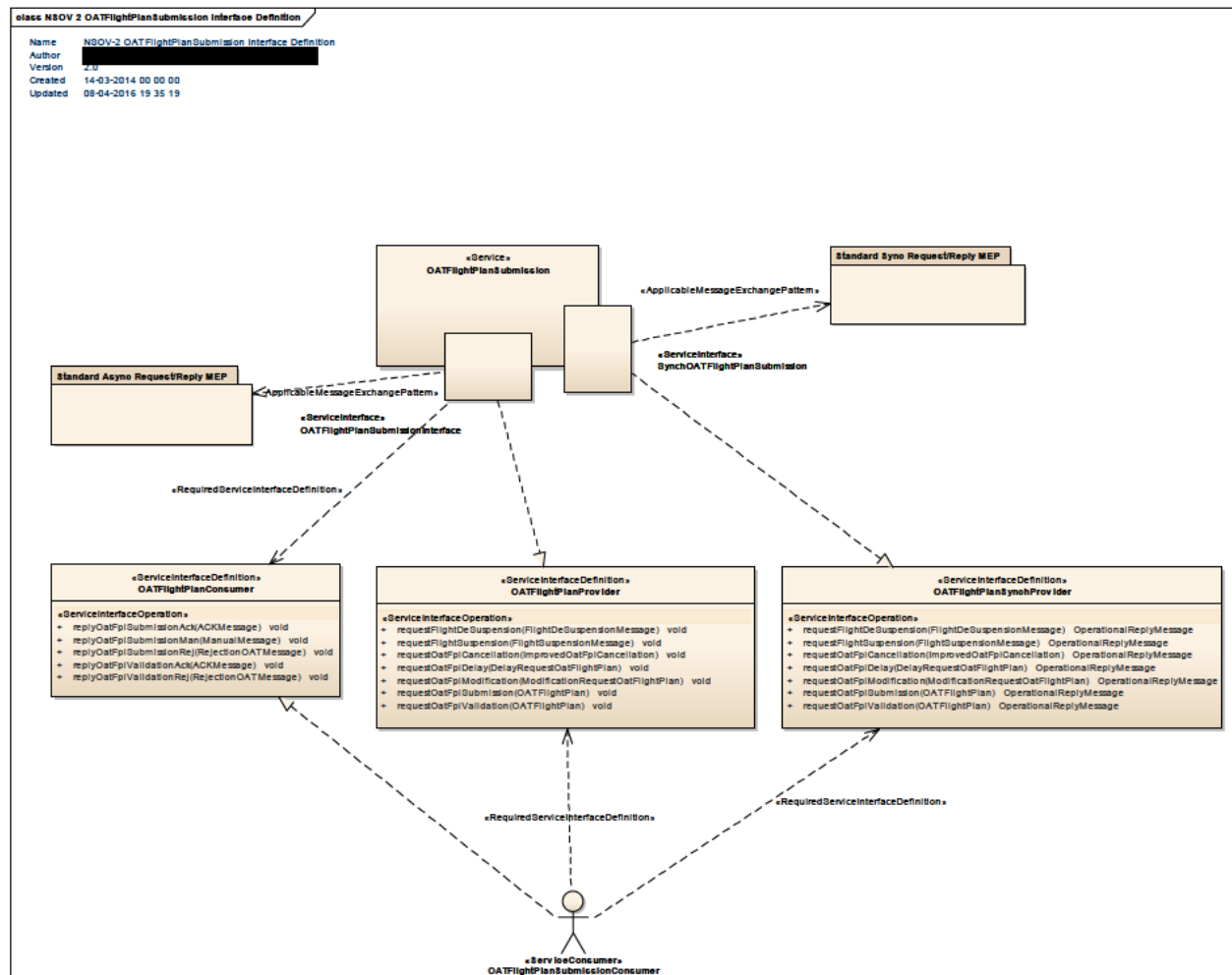
Figure 5 NSOV-2 OATFlightPlanSubmission Interface Definition diagram

There are two defined interfaces, one to support the asynchronous request/reply operations and another to support the synchronous request/reply operations. The linked Message Exchange Pattern (MEP) indicates which interface is which. The operations for both interfaces have the same name and functionality.

ServiceInterface	ServiceInterfaceDefinition	ServiceInterfaceOperation	Role
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestFlightDeSuspension	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestFlightSuspension	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestOatFplCancellation	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestOatFplDelay	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestOatFplModification	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestOatFplSubmission	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanProvider	requestOatFplValidation	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestFlightDeSuspension	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestFlightSuspension	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestOatFplCancellation	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestOatFplDelay	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestOatFplModification	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestOatFplSubmission	Provider
SynchOATFlightPlanSubmission	OATFlightPlanSynchProvider	requestOatFplValidation	Provider
OATFlightPlanSubmissionInterface	OATFlightPlanConsumer	replyOtFplSubmissionAck	Consumer
OATFlightPlanSubmissionInterface	OATFlightPlanConsumer	replyOtFplSubmissionRej	Consumer
OATFlightPlanSubmissionInterface	OATFlightPlanConsumer	replyOtFplSubmissionMan	Consumer
OATFlightPlanSubmissionInterface	OATFlightPlanConsumer	replyOtFplValidationAck	Consumer
OATFlightPlanSubmissionInterface	OATFlightPlanConsumer	replyOtFplValidationRej	Consumer

Table 1: Service Interfaces

5   Service interface specifications

The interfaces of the OATFlightPlanSubmission service are shown in Figure 5. They are described in more detail in the sections below.

5.1 Service Interface OATFlightPlanSubmissionInterface

5.1.1 Service Interface Definition OATFlightPlanProvider

The OAT Flight Plan Provider Service Interface Definition consists of the operations described below:

- **requestOATFPLValidation(improvedOatFpl)** – the operation supports the WOC in requesting the improved OAT FPL verification before its submission. The input parameter of the function is the OAT FPL. The response to the request is either an Accept or Rejection. These are returned asynchronously via another operation.

- **requestOATFPLSubmission(improvedOatFpl)** – the operation supports the WOC in requesting the OAT FPL submission for validation and subsequent distribution. The input parameter of the function is the OAT FPL. The response to the request is either an Accept Rejection or an indication that Manual processing is required. These are returned asynchronously via another operation.

- **requestOATFPLModification(modificationRequestOATFlightPlan)** – the operation supports the WOC in the request for a modification to previously accepted OAT Flight Plan. The payload allows modification to any of the OAT Flight Plan data with exception of the EOBT which is modified by a specific operation. The response is the same as for the requestOATFPLSubmission.

- **requestOATFPLDelay(delayRequestOATFlightPlan)** – the operation supports the WOC in the request for a delay (change to the EOBT) to previously accepted OAT Flight Plan. The payload allows modification to the EOBT of the OAT Flight Plan. The response is the same as for the requestOATFPLSubmission.

- **requestOATFPLCancellation(improvedOatFplCancellation)** – the operation supports the WOC in the request for the cancellation to previously accepted OAT Flight Plan. The payload allows identification of the OAT Flight Plan to be cancelled. The response to the request is either an Accept or Rejection.

- **requestFlightSuspension(FlightSuspensionMessage)** – the operation supports the WOC in notifying the NM that the referent flight is suspended and will not operate until de-suspended. The response to the request is either an Accept or Rejection.

- **requestFlightDeSuspension(FlightDeSuspensionMessage)** – the operation supports the WOC in notifying the NM that the referent flight is no longer suspended will now operate as expected. The response to the request is either an Accept or Rejection.

5.1.1.1 Operation requestOATFPLSubmission

5.1.1.1.1 Operation Functionality

The operation supports the WOC in requesting the OAT FPL submission for validation and subsequent distribution. It is expected that the WOC will have made use of the requestOATFPLValidation operation to ensure that the supplied data is acceptable to the NM.

The input parameter of the function is the improved OAT FPL. The response to the request is either an Accept or Rejection or an indication that Manual processing is required. These are returned asynchronously via another operation.

5.1.1.1.2 Operation Parameter

The input parameter is called OATFlightPlan and is shown below:
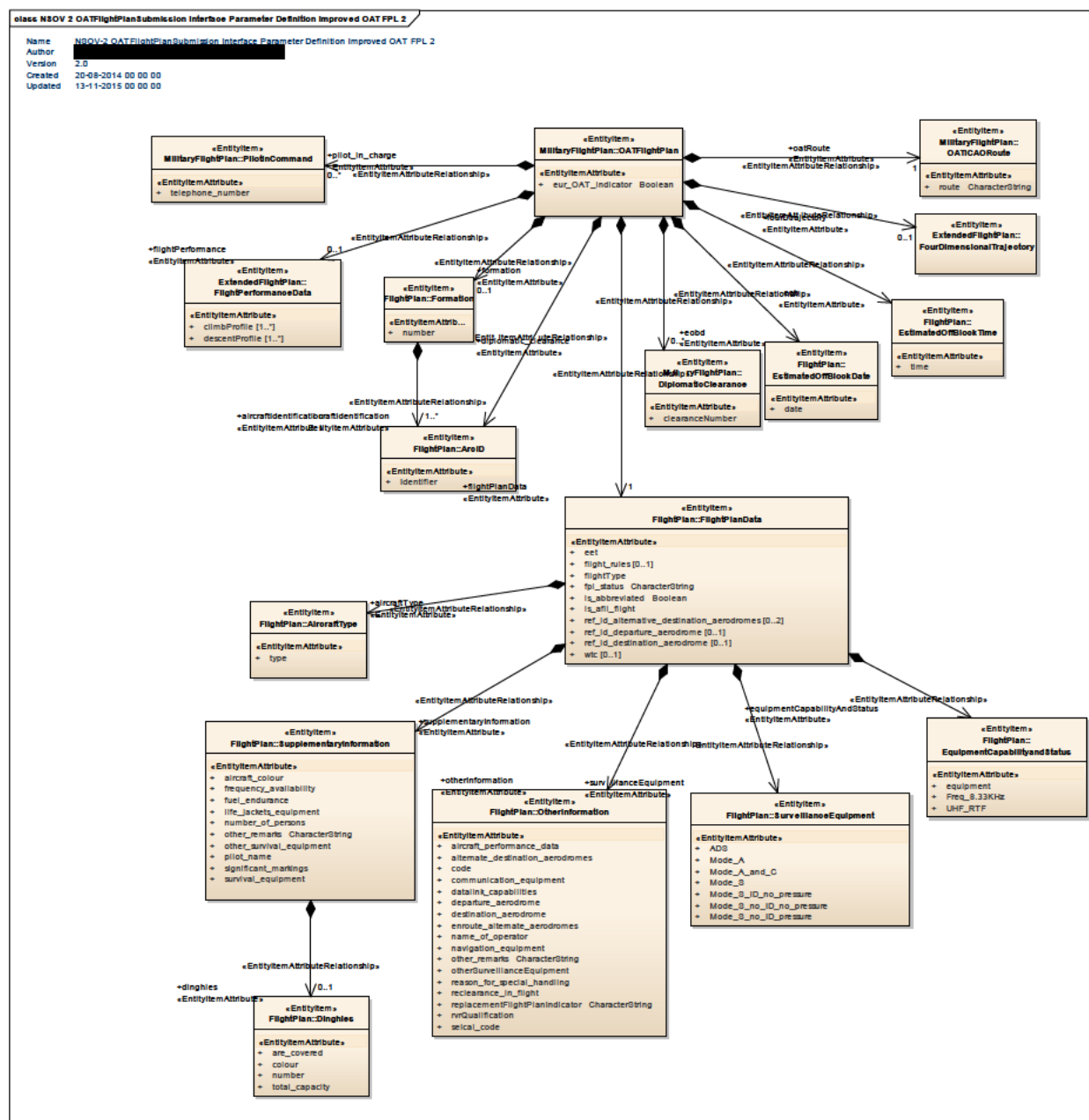
Figure 6 NSOV-2 service parameter type definition OATFlightPlan

Element Name	Author	Notes
OATFlightPlan		An improved OAT FPL is based on an ICAO 2012 FPL Message content with new OAT fields. It also encompasses the new fields introduced for the EFPL (Extended Flight Plan). New Fields • **4D Trajectory (UP4DT)**: AO calculated flight 4D trajectory as included in the operational flight plan (OFP) of the flight. • **Flight Performance Data**: the climbing and descending capabilities of the aircraft specific to the flight, taking into account the performance of the airframe that is used to operate the flight as well as any other parameters that may influence it such as engine settings and status, cost factor applied by the operator. The Flight Performance Data will be provided both as climb and descent performance profiles and as total weight of aircraft as part of the 4D trajectory (see the 4D trajectory content description below) in order to allow for two approaches in the re-calculation of a flight trajectory within the recipient systems. • Diplomatic Clearance • Pilot In Charge • Formation

	Element Tagged Value Name		Value	
	encoding			
	Attribute Name	**Type**	**Notes**	
	eur_OAT_indicator	Boolean	Indicator that the flight is OAT and requires special handling for confidentiality.	
		Tagged Value Name	Value	
		CLDMSemanticTrace	CLDM_out_of_scope	

Element Name	Author	Notes
FlightPlanData		ICAO Flight Plan Refer to ICAO ICAO4444 FPL or ADEXP V2.1 APL Refer to ICAO4444 Doc for constraints applying to this class

	Element Tagged Value Name		Value	
	CLDMSemanticTrace		CLDM_out_of_scope	
	Attribute Name	**Type**	**Notes**	
	eet		Estimated Elapsed Time	
		Tagged Value Name	Value	
		CLDMSemanticTrace	urn:x-	

			ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:Flight:Flight@totalEstimatedElapsedTime

Attribute Name	**Type**		**Notes**
flight_rules			Indicates if the rules applicable for the flight are visual (VFR), instrumented (IFR) or visual and then instrumented (VFR_THEN_IFR) or vice versa (IFR_THEN_VFR).

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:Flight:Trajectory:Trajectory@flightRules

Attribute Name	**Type**		**Notes**
flightType			The Type of the flight (e.g. Scheduled, not scheduled, etc.)

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:Flight:Flight@type

Attribute Name	**Type**		**Notes**
fpl_status	CharacterString		In PH1 only "FILED" value is used. Status of the flight. It can be: -Scheduled -Initiated -Airborne -FIR -Final Approach -Departed *(proposal to change it to Taken – off)* This is the state of the flight plan as the flight progresses.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope

Attribute Name	**Type**		**Notes**
is_abbreviated	Boolean		In PH1 is always set to FALSE

Indicates whether the flight plan is abbreviated or not.

An abbreviated flight plan is a flight plan that is created upon the appearance of a new uncorrelated track, this kind of flight plan has reduced content, and can even contain just an arcid. |

	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope

Attribute Name	**Type**		**Notes**
is_afil_flight			Indicates whether a flight is air filed or not.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:Flight:Flight@isIFPLIdentifierTemporary

Attribute Name	**Type**		**Notes**
ref_id_alternative_destinati on_aerodromes			The indicator(s) of not more than two alternate destination aerodromes.

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:Flight:Flight@firstAlternateDestinationAerodrome

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator

	Attribute Name	**Type**	**Notes**
	ref_id_departure_aerodrome		The departure aerodrome for the flight

	Tagged Value Name	**Value**
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@departureAerodrome
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator

	Attribute Name	**Type**	**Notes**
	ref_id_destination_aerodrome		The indicator of the arrival aerodrome for the flight

	Tagged Value Name	**Value**
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@destinationAerodrome
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator

	Attribute Name	**Type**	**Notes**
	wtc		Wake Turbulence Category (e.g. heavy)

	Tagged Value Name	**Value**
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCategory@wakeTurbulenceCategory

Element Name	**Author**	**Notes**
AircraftType	██████████	The designator(s) of the aircraft type(s) (e.g. B747).

	Element Tagged Value Name	**Value**
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftType

	Attribute Name	**Type**	**Notes**
	type		The text representation of the aircraft type.

	Tagged Value Name	**Value**
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftType@icaoIdentifier

Element Name	Author	Notes
EquipmentCapabilityandStatus	████████████	This item indicates the identity and status of aircraft equipment. The equipment described here is with regard to: a) Radio communication, navigation and approach aid equipment. b) Surveillance equipment c) ADS equipment d) RVSM See also ICAO 4444 document (field 10).

	Element Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftEquipment

	Attribute Name	Type	Notes
	equipment		The equipment of the aircraft.

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftEquipment

	Attribute Name	Type	Notes
	Freq_8.33KHz		8.33KHz equipment status.

	Tagged Value Name		Value
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeCommunicationCapabilityType@VHF_WITH_8.33_KHZ_CHANNEL_SPACING_CAPABILITY
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightCapability@communicationCapability

	Attribute Name	Type	Notes
	UHF_RTF		Ultra High frequency Radio Transmission Frequency

	Tagged Value Name		Value
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeCommunicationCapabilityType@UHF_RTF
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightCapability@communicationCapability

Element Name	Author	Notes
SurveillanceEquipment	████████████	Describes the serviceable surveillance equipment carried.

	Element Tagged Value Name		Value

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability
	Attribute Name	**Type**	**Notes**
ADS			ADS capability
	Tagged Value Name	**Value**	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-C_FANS_1/A	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-C_ATN	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_OUT_VDL_MODE_4	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_OUT_UAT	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_IN_VDL_MODE_4	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_OUT_IN_UAT	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_1090MHZ_ADS-B_OUT_IN	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@ADS-B_1090MHZ_ADS-B_OUT	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:DataTypes:Codelists:CodeEquipmentStatusType	
	Attribute Name	**Type**	**Notes**
Mode_A			Transponder Mode A (4 digits - 4096 codes)
	Tagged Value Name	**Value**	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType@MODE_A	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability	
	Attribute Name	**Type**	**Notes**
Mode_A_and_C			Transponder Mode A (4 digits - 4096 codes) and Mode C
	Tagged Value Name	**Value**	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje	

			ctFields:Aircraft:Codelists:CodeSurveillanceCapabilityType @MODE_A_AND_C
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability

	Attribute Name	**Type**	**Notes**
	Mode_S		Transponder Mode S, including both pressure-altitude and aircraft identification transmission

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType @MODE_S
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability

	Attribute Name	**Type**	**Notes**
	Mode_S_ID_no_pressure		Transponder Mode S, including aircraft identification transmission, but no pressure-altitude transmission

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType @MODE_S_ID_NO_PRESSURE
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability

	Attribute Name	**Type**	**Notes**
	Mode_S_no_ID_no_pressure		Transponder Mode S without both aircraft identification and pressure-altitude transmission

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType @MODE_S_NO_ID_NO_PRESSURE
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability

	Attribute Name	**Type**	**Notes**
	Mode_S_no_ID_pressure		Transponder Mode S, including pressure-altitude transmission, but no aircraft identification transmission

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeSurveillanceCapabilityType @MODE_S_NO_ID_PRESSURE
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@surveillanceCapability

Element Name		Author	Notes
Arcid		███████████	Aircraft Identification.
			May be the registration marking of the aircraft, or the ICAO designator of the aircraft operator followed by the flight identifier.
	Element Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightIdentifier:AircraftIdentification
Attribute Name		**Type**	**Notes**
Identifier			Aircraft identifier.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@aircraftIdentification

Element Name		Author	Notes
Formation		███████████	A formation of aircraft (may be different aircraft types) with the lead aircraft having the call sign used by ATC.
	Element Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FormationComponent
Attribute Name		**Type**	**Notes**
number			This attribute holds the value of the number of aircraft in the formation.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FormationComponent@numberOfAircraft

Element Name		Author	Notes
EstimatedOffBlockDate		███████████	Estimated Off-Block Date used for identification purposes only. Please note that this is not the EOBD updated continuously by CDM but the EOBD as it is in the ICAO flight plan which may be changed if a change is issued to the flight plan.
Attribute Name		**Type**	**Notes**
date			The Estimated Off-Blocks date of the flight (eobd).
	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Fligh

		t:FlightEvent:EstimatedOffBlockTime

Element Name		Author		Notes
EstimatedOffBlockTime		▉▉▉▉▉▉▉▉▉		Estimated Off-Blocks Time used for identification purposes only. Please note that this is not the EOBT updated continuously by CDM but the EOBT as it is in the ICAO flight plan which may be changed if a change is issued to the flight plan.
	Attribute Name		Type	Notes
	time			The Off-Blocks Time expressed as an string in ("HHMM") format
				NOT TRACEABLE
		Tagged Value Name		Value
		CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time
		IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime

Element Name		Author		Notes
PilotInCommand		▉▉▉▉▉▉▉▉▉		A set contact numbers for the PIC of an RPAS.
	Element Tagged Value Name		Value	
	CLDMSemanticTrace		CLDM_out_of_scope	
	Attribute Name		Type	Notes
	telephone_number			RPAS Pilot-in-command telephone number(s) in international format.
		Tagged Value Name		Value
		CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Stakeholders:Stakeholder:PilotInCommand
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:StakeholderAndBusinessServices:Stakeholder:CrewMember@telephoneNumber

Element Name		Author		Notes
DiplomaticClearance		▉▉▉▉▉▉▉▉▉		A set of alphanumeric characters for each diplomatic clearance number.
	Attribute Name		Type	Notes
	clearanceNumber			European permanent or blanket diplomatic clearance number for the calendar year or one or more national diplomatic clearance numbers.
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:MilitaryOperations:DiplomaticClearance@clearanceNumber

Element Name	Author	Notes
FlightPerformanceData	███████████	Climbing and descending capabilities of the aircraft specific to the flight, taking into account the performance of the airframe that is used to operate the flight as well as any other parameters that may influence it such as engine settings and status, cost factor applied by the operator. The <u>climb and descent performance profiles</u> are optimum and unconstrained climb and descent profiles instantiated per flight that satisfy the following conditions: 1. Are calculated without taking into account constraints regarding the vertical evolution of the flight such as route availability, RAD level restrictions, SID/STAR restrictions; 2. Are calculated without applying meteorological conditions (wind and temperature); 3. Are provided up to the maximum cruising level acceptable for the flight (even if not included in the flight plan). This would allow the recipient systems to generate accurate trajectories for vertical re-routings above the highest requested cruising level included in the filed flight plan. Performance profiles should be provided at least up to the highest requested cruising level given in the FPL; Do not contain step-climbs and step-descents i.e. if the aircraft is planned to do an initial climb to F350, then burn fuel during an hour of cruise, and then climb to F370, these two consecutive climbs shall be glued together.

	Attribute Name	Type	Notes
	climbProfile		The climb performance profile described as a sequence of points in which every point is defined by: 1. Cumulative Distance from the aerodrome of departure 2. Level: Altitude above mean sea level (MSL) in feet (ft) or meters (m) or Flight level (FL). 3. Cumulative Time elapsed from the aerodrome of departure

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:FlightPerformance@climbProfile

	Attribute Name	Type	Notes
	descentProfile		The descent performance profile described as a

Element Name	Author	Notes
FlightPerformanceData	▮▮▮▮▮▮	Climbing and descending capabilities of the aircraft specific to the flight, taking into account the performance of the airframe that is used to operate the flight as well as any other parameters that may influence it such as engine settings and status, cost factor applied by the operator. The <u>climb and descent performance profiles</u> are optimum and unconstrained climb and descent profiles instantiated per flight that satisfy the following conditions: 1. Are calculated without taking into account constraints regarding the vertical evolution of the flight such as route availability, RAD level restrictions, SID/STAR restrictions; 2. Are calculated without applying meteorological conditions (wind and temperature); 3. Are provided up to the maximum cruising level acceptable for the flight (even if not included in the flight plan). This would allow the recipient systems to generate accurate trajectories for vertical re-routings above the highest requested cruising level included in the filed flight plan. Performance profiles should be provided at least up to the highest requested cruising level given in the FPL; Do not contain step-climbs and step-descents i.e. if the aircraft is planned to do an initial climb to F350, then burn fuel during an hour of cruise, and then climb to F370, these two consecutive climbs shall be glued together.

	Attribute Name	Type	Notes
			sequence of points, in reverse order starting from the aerodrome of destination, in which every point is defined by: 1. Cumulative Distance from the aerodrome of destination 2. Level: Altitude above mean sea level (MSL) in feet (ft) or meters (m) or Flight level (FL). 3. Cumulative Time elapsed from the aerodrome of destination

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:FlightPerformance@descentProfile

Element Name	Author	Notes

OATICAORoute	███████████████	Represents the Flight Plan ICAO Route as modified with new OAT related route elements.

	Attribute Name	Type	Notes
	route	CharacterString	This is the route following the ICAO conventions with new OAT changes and route elements.

	Tagged Value Name		Value
	AIRMRemarks		This is just the text version of Field 15 icao route.
	CLDMSemanticTrace		CLDM_out_of_scope

Element Name	Author	Notes
OtherInformation	███████████████	Any other flight data Items specified in the bilateral agreement. Refer to ICAO 4444 field type 18 (Other information)

	Attribute Name	Type	Notes
	aircraft_performance_data		Aircraft performance data, indicated by a single letter as specified in the *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS, Doc 8168), *Volume I — Flight Procedures*, if so prescribed by the appropriate ATS authority.

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeAircraftLandingCategoryType

	Attribute Name	Type	Notes
	alternate_destination_aerodromes		Not for PH1 Complete name of alternative destination aerodromes, if ZZZZ is used as alternative destination aerodromes.

	Tagged Value Name		Value
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@firstAlternateDestinationAerodrome
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator

	Attribute Name	Type	Notes
	code		Not for PH1 Aircraft address (expressed in the form of an alphanumerical code of six hexadecimal characters) when required by the appropriate ATS authority.

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Aircraft@icaoAircraftAddress

	Attribute Name	Type	Notes
	communication_equipment		Information about radiocommunication, navigation and approach aid equipment and information about surveillance equipment.

	Tagged Value Name		Value

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightCapability@communicationCapability
	Attribute Name	**Type**	**Notes**
	datalink_capabilities		Not for PH1 Up to four different datalink capabilities.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftCapability@datalinkCommunicationCapability
	Attribute Name	**Type**	**Notes**
	departure_aerodrome		Not for PH1 Complete name of departure aerodrome, if ZZZZ is used as departure aerodrome or the ICAO four-letter location indicator of the location of the ATS unit from which supplementary flight plan data can be obtained if departure aerodrome is not filled.
	Tagged Value Name	**Value**	
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@departureAerodrome
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator
	Attribute Name	**Type**	**Notes**
	destination_aerodrome		Not for PH1 Complete name of destination aerodrome, if ZZZZ is used as destination aerodrome.
	Tagged Value Name	**Value**	
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@destinationAerodrome
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator
	Attribute Name	**Type**	**Notes**
	enroute_alternate_aerodromes		Not for PH1 Complete name of en-route alternate aerodrome/s.
	Tagged Value Name	**Value**	
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@enRouteAlternateAerodrome
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator
	Attribute Name	**Type**	**Notes**
	name_of_operator		Not for PH1 Name of the operator, if not obvious from the aircraft identification.
	Tagged Value Name	**Value**	
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje

			ctFields:Flight:Flight@operator
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Stakeholders:Stakeholder:AircraftOperator@designatorICAO

	Attribute Name	**Type**	**Notes**
	navigation_equipment		Not for PH1 Significant navigation equipment

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeNavigationCapabilityType	

	Attribute Name	**Type**	**Notes**
	other_remarks	CharacterString	In PH1the string coming in the Field 18 will be copied in this attribute Any other plain language remarks when required by the appropriate ATS authority or deemed necessary by the pilot-in-command for the provision of air traffic services.

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	

	Attribute Name	**Type**	**Notes**
	otherSurveillanceEquipment		SUR/ from Field18 of ICAO2012

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftAvionics@type	
	IMDefinitionTrace	urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Aircraft:AircraftAvionics	

	Attribute Name	**Type**	**Notes**
	reason_for_special_handling		Not for PH1 Reason for special handling by ATS.

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@reasonForSpecialHandling	

	Attribute Name	**Type**	**Notes**
	reclearance_in_flight		Not for PH1 The route details to the revised destination aerodrome. The revised route is subject to re-clearance in flight.

	Tagged Value Name	**Value**	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:AirspaceUserOperations:ReclearanceInFlight	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:ATMServiceDeliveryManagement:ATCClearance	

	Attribute Name	**Type**	**Notes**
	replacementFlightPlanIndicator	CharacterString	

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	

	Attribute Name	Type	Notes
	rvrQualification		Operating minima when special meteorological conditions exist. If specified, must be within [0, 999].

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Stakeholders:Stakeholder:FlightCrewApplicationAndApproval@runwayVisualRangeMinima

	Attribute Name	Type	Notes
	selcal_code		Not for PH1 OCL {lenght = 4} Selcal (Selective Calling) code made up of a four letter code. Included if so prescribed by the appropriate ATS authority.

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Aircraft@selectiveCallingCode

Element Name	Author	Notes
SupplementaryInformation	██████████	This field consists of such supplementary information as is available, organized into a string of elements separated by spaces. Refer to ICAO4444 field type 19 (Supplementary information)

	Element Tagged Value Name		Value
	CLDMSemanticTrace		CLDM_out_of_scope

	Attribute Name	Type	Notes
	aircraft_colour		The colour of the aircraft.

	Tagged Value Name		Value
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftColourAndMarking@aircraftColour

	Attribute Name	Type	Notes
	frequency_availability		Availability of frequencies for the aircraft. Three different values can be specified.

	Tagged Value Name		Value
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeAircraftEquipmentType@EMERGENCY_LOCATOR_TRANSMITTER
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeCommunicationCapabilityType@UHF_RTF
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeCommunicationCapabilityType@VHF_RTF
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje

			ctFields:Aircraft:AircraftCapability@communicationCapability
Attribute Name	**Type**		**Notes**
fuel_endurance			Fuel endurance.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@fuelEndurance	
Attribute Name	**Type**		**Notes**
life_jackets_equipment			Specifies the equipment of the life jackets carried. Four different values can be specified.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:Codelists:CodeLifeJacketEquipmentType	
Attribute Name	**Type**		**Notes**
number_of_persons			The total number of persons on board, when so prescribed by the appropriate ATS authority.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:TakeOffConfiguration@numberOfPersons	
Attribute Name	**Type**		**Notes**
other_remarks	CharacterString		Any other useful remarks.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	
Attribute Name	**Type**		**Notes**
other_survival_equipment			Indicates any other survival equipment carried.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@survivalEquipmentType	
Attribute Name	**Type**		**Notes**
pilot_name			The name of the pilot-in-command.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@pilot	
Attribute Name	**Type**		**Notes**
significant_markings			Significant markings for the aircraft.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:AircraftColourAndMarking@significantMarkings	
Attribute Name	**Type**		**Notes**
survival_equipment			Specifies the survival equipment carried. Four different values can be specified.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@survivalEquipmentType	

Element Name		Author		Notes
Dinghies		▮▮▮▮▮▮▮		Details about the dinghies carried by the aircraft. At least one of the attributes has to be specified.
	Element Tagged Value Name		Value	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment	
	Attribute Name	Type		Notes
are_covered				Specifies if dinghies are covered.
	Tagged Value Name		Value	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@isCovered	
	Attribute Name	Type		Notes
colour				The colour of the dinghies.
	Tagged Value Name		Value	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@colour	
	Attribute Name	Type		Notes
number				The number of dinghies carried.
	Tagged Value Name		Value	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@number	
	Attribute Name	Type		Notes
total_capacity				The total capacity, in persons carried, of all dinghies.
	Tagged Value Name		Value	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:SurvivalEquipment@dinghyTotalCapacity	

Figure 7 Improved OAT FPL Mapping to AIRM

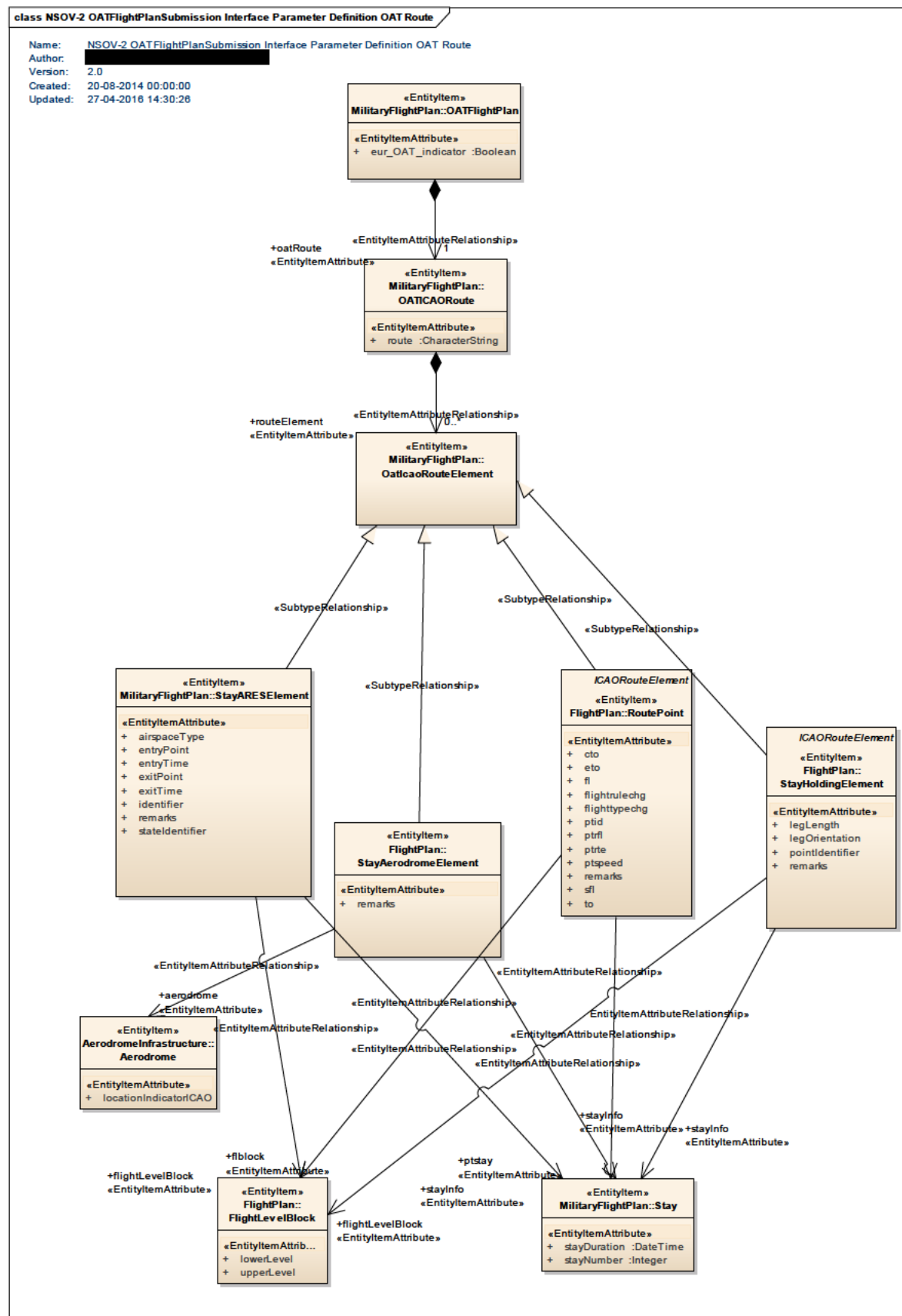The OatIcaoRoute field is expanded further in the diagram below:

Figure 8 NSOV-2 service parameter type definition OAT Route

Element Name	Author	Notes
OATICAORoute		Represents the Flight Plan ICAO Route as modified with new OAT related route elements.

	Attribute Name	Type	Notes
	route	CharacterString	This is the route following the ICAO conventions with new OAT changes and route elements.

		Tagged Value Name	Value
		AIRMRemarks	This is just the text version of Field 15 icao route.
		CLDMSemanticTrace	CLDM_out_of_scope

Element Name	Author	Notes
OatIcaoRouteElement		ICAO Flight Plan Route Element as modified with new OAT related route elements. Note: OAT Route elements may refer to non-standard (non GAT) waypoint fixes.

Element Name	Author	Notes
RoutePoint		Point on the flight plan route.

	Attribute Name	Type	Notes
	cto		Calculated time over a point

		Tagged Value Name	Value
		CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@CALCULATED
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OverPoint@time

	Attribute Name	Type	Notes
	eto		The expected time over the point

		Tagged Value Name	Value
		CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OverPoint@time

	Attribute Name	Type	Notes
	fl		The flight level the flight will pass the point.

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OverPoint@assignedFlightLevel

	Attribute Name	Type	Notes
	flightrulechg		The change in flight rules at the point (IFR/VFR).

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:FlightRulesChange@flightRule

	Attribute Name	Type	Notes
	flighttypechg		The indication provided in the route of flight of

			a change in the type of flight to 'OAT' or 'GAT' .
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:FlightTypeChange@flightType
	Attribute Name	**Type**	**Notes**
	ptid		Point Identifier
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Trajectory:TrajectoryPoint@referencePoint
	Attribute Name	**Type**	**Notes**
	ptrfl		The requested flight level associated with the point.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:AirspaceUserOperations:RequestedFlightLevel@flightLevel
	Attribute Name	**Type**	**Notes**
	ptrte		The remainder of the route in text form
	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope
	Attribute Name	**Type**	**Notes**
	ptspeed		The speed in Kts or Mach expected at the associated point.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OverPoint@assignedSpeed
	Attribute Name	**Type**	**Notes**
	remarks		Textual remarks associated with the stay.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope
	Attribute Name	**Type**	**Notes**
	sfl		Supplementary flight level. The flight level at or above which or, at or below which a flight has been or will be crossing one point. Consists of a flight level number and a crossing condition (either 'A' if the aircraft will cross the point at or above the level, or 'B' if the aircraft will cross the point at or below the level).
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:TrafficSynchronization:Coordination:CoordinationConditions@supplementaryFlightLevel
	Attribute Name	**Type**	**Notes**
	to		The time over the point
	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ACTUAL
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OverPoint@time

Element Name			Author	Notes	
StayHoldingElement			████████████	Represents the element type to allow OAT flights to operate or stay at a holding point.	
	Attribute Name		**Type**	**Notes**	
	legLength			The length of the holding leg.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:RouteAndProcedure:HoldingProcedure@outboundLegEndDistance	
	Attribute Name		**Type**	**Notes**	
	legOrientation			The orientation of the holding leg.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:RouteAndProcedure:HoldingProcedure@outboundCourse	
	Attribute Name		**Type**	**Notes**	
	pointIdentifier			Holding Point Identifier.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:RouteAndProcedure:HoldingProcedure@holdingFix	
	Attribute Name		**Type**	**Notes**	
	remarks			Textual remarks associated with the stay.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		CLDM_out_of_scope	

Element Name			Author	Notes	
StayARESElement			████████████	Reserved airspace volume information will be entered at Item 15 (Route) where a flight is to carry out special activities along the route	
	Attribute Name		**Type**	**Notes**	
	airspaceType			1 letter for the type of airspace (e.g. P, D, R …) or 3 letter abbreviation (TSA, TRA, CBA)	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:Airspace:Airspace@type	
	Attribute Name		**Type**	**Notes**	
	entryPoint			The entry point into the airspace volume	
		Tagged Value Name		**Value**	
		CLDMContextTrce		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceExit@entryPoint	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceEntry	
	Attribute Name		**Type**	**Notes**	
	entryTime			The expected time of entry into the airspace volume	
		Tagged Value Name		**Value**	
		CLDMContextTrace			

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceEntry@time

	Attribute Name	**Type**	**Notes**
	exitPoint		The exit point from the airspace volume

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceExit@exitPoint
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceExit

	Attribute Name	**Type**	**Notes**
	exitTime		The expected time of exit from the airspace volume

	Tagged Value Name		**Value**
	CLDMContextTrace		
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:AirspaceExit@time

	Attribute Name	**Type**	**Notes**
	identifier		• The identifier of the airspace volume composed of : 1 to 3 digits composing a number from 1 to 999 (unduplicated within the State for the type of airspace indicated) (optional) 1 letter indicating the sub-part of the area considered

	Tagged Value Name		**Value**
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:Airspace:HoldingArea
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:Airspace:Airspace@designator

	Attribute Name	**Type**	**Notes**
	remarks		Textual remarks associated with the stay.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope

	Attribute Name	**Type**	**Notes**
	stateIdentifier		The identifier of the state in which the airspace resides, use EU for cross border airspace.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		CR_00548

Element Name	**Author**	**Notes**
StayAerodromeElement	███████████	Represents the element type to allow OAT flights to operate or stay at an aerodrome or in its vicinity (touch and go etc).

	Attribute Name	**Type**	**Notes**
	remarks		Textual remarks associated with the stay.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		CLDM_out_of_scope

Element Name		Author		Notes
CruiseClimb		▮▮▮▮▮▮▮		The start of a cruise climb at the point and the associated information.
	Attribute Name		Type	Notes
	lowerBound			
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightPhase:FlightPhase@cruiseClimbLowerBound
	Attribute Name		Type	Notes
	speed			
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightPhase:FlightPhase@cruiseClimbSpeed
	Attribute Name		Type	Notes
	upperBound			
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightPhase:FlightPhase@cruiseClimbUpperBound

Element Name		Author		Notes
FlightLevelBlock		▮▮▮▮▮▮▮		A flight level block defining an airspace vertically, inclusive of the flight levels given. A block defined as below or above a flight level shall be expressed respectively as from flight level 000 to the specified level or as from the specified level to flight level 999.
	Element Tagged Value Name		Value	
	CLDMSemanticTrace		CLDM_out_of_scope	
	Attribute Name		Type	Notes
	lowerLevel			
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:RouteAndProcedure:HoldingProcedure@lowerLimit
	Attribute Name		Type	Notes
	upperLevel			
		Tagged Value Name		Value
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:RouteAndProcedure:HoldingProcedure@upperLimit

Element Name	Author	Notes
Stay	▮▮▮▮▮▮▮	Indication within the filed route of flight of a period of 'special activity' when the aircraft will 'stay' in the area defined for the length of time given, i.e. training, mid-air refuelling, etc.

	Attribute Name	Type	Notes
	stayDuration	DateTime	

	Tagged Value Name	Value	
	CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeFlightPhaseType@STAY_PHASE	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightPhase:FlightPhase@duration	
	IMDefinitionTrace		

	Attribute Name	Type	Notes
	stayNumber	Integer	Sequence number of a STAY period. Where more than one STAY indicator shall be used, then a sequence number shall be attached to each STAY indicator, using the format of the sequence number up to a maximum value of 9.

	Tagged Value Name	Value
	CLDMSemanticTrace	CLDM_out_of_scope

Element Name	Author	Notes
Aerodrome	▮▮▮▮▮▮▮	A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

	Element Tagged Value Name	Value
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome

	Attribute Name	Type	Notes
	locationIndicatorICAO		The four letter ICAO location indicator of the aerodrome/heliport, as listed in ICAO DOC 7910.

	Tagged Value Name	Value
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator

Figure 9 OAT ICAO Route Mapping to AIRM

The FourDimensionalTrajectory and its relationship to the Improved OAT Flight Plan is shown in the diagram below:
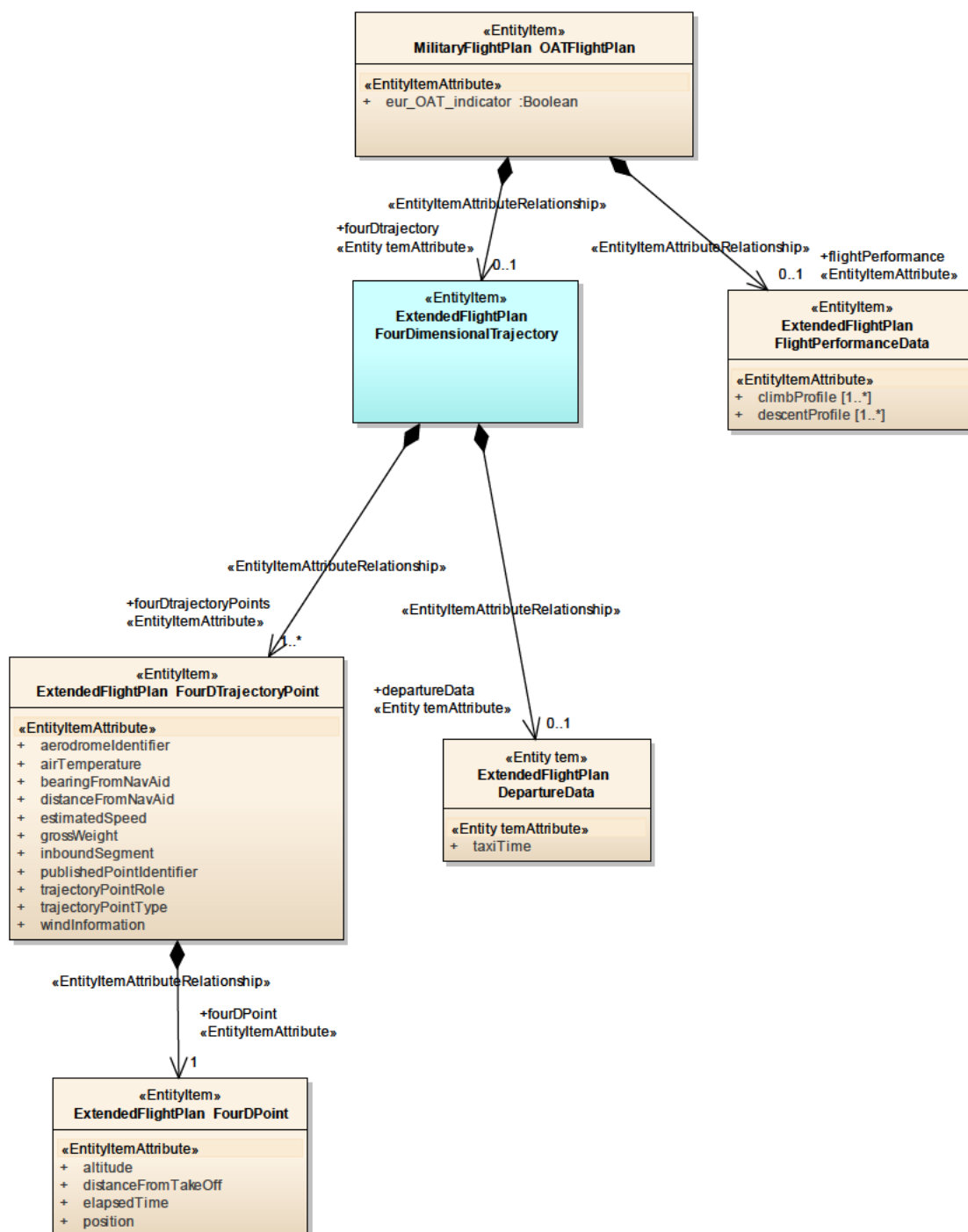
Figure 10 Extended Flight Data

Element Name	Author	Notes
FourDimensionalTrajectory	███████████	AO calculated flight trajectory taking into account constraints and meteorological information for its calculation.

Element Name		Author		Notes	
FourDTrajectoryPoint		███████████		This is a specialisation of FourDPoint.	
	Attribute Name	**Type**		**Notes**	
	aerodromeIdentifier			ICAO designator of the airport representing the first or last trajectory point, when trajectoryPointType is adep or ades. It is null in case the first or last trajectory points are not an aerodrome.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome:Aerodrome@locationIndicatorICAO	
	Attribute Name	**Type**		**Notes**	
	airTemperature			The forecast static air temperature used to calculate the 4D Trajectory at the location and the corresponding estimated level included in the 4D Trajectory. It is only required when Speed is given as TAS.	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Meteorology:AviationMeteorology:AviationCondition@airTemperature	
	Attribute Name	**Type**		**Notes**	
	bearingFromNavAid			Compulsory when trajectoryPointType is refPoint, is null in the other cases. It is the bearing from a navaid (identified by the publishedPointIdentifier) used to define a reference point (Cf.: ICAO doc 4444)	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:PointReference@facilityAngle	
	Attribute Name	**Type**		**Notes**	
	distanceFromNavAid			Compulsory when trajectoryPointType is refPoint, is null in the other cases. It is the distance from a navaid (identified by the publishedPointIdentifier) used to define a reference point (Cf.: ICAO doc 4444)	
		Tagged Value Name		**Value**	
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v4101:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:PointReference@facilityDistance	
	Attribute Name	**Type**		**Notes**	
	estimatedSpeed			Estimated speed of the aircraft at the location expressed as Mach number or True Air Speed (TAS)	
		Tagged Value Name		**Value**	

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectoryPoint@airspeed

	Attribute Name	**Type**	**Notes**
	grossWeight		Gross weight of the aircraft at a location included in the 4D Trajectory, starting with the aerodrome of departure (ADEP). The gross weight at the ADEP is the Take-Off Weight (TOW).

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectoryPoint@mass	

	Attribute Name	**Type**	**Notes**
	inboundSegment		The route segment that ends at the 4DTrajectoryPoint. Is null for the first trajectoryPoint, is compulsory for all other 4DTrajectoryPoint.

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Trajectory:TrajectoryPoint@inboundSegment	

	Attribute Name	**Type**	**Notes**
	publishedPointIdentifier		Published coded designator of the trajectory point. Is compulsory when trajectoryPointType is publishedPoint or refPoint is null in the other cases.

	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:DesignatedPoint@designator	

	Attribute Name	**Type**	**Notes**
	trajectoryPointRole		Indicate the role of the point in the trajectory, e.g.: bottomOfClimb, VFRToIFR. A point can have multiple roles (e.g.: a publishedPoint can be the bottom of a climb and the point where the rules change from VFR To IFR) When trajectoryPointType is otherPoint the trajectoryPointRole cannot be GATToOAT, IFRToVFR, OATToGAT, VFRToIFR One of the following location items: • Aerodrome of departure/destination. Eg: EGKK • Points traversed by the 4D Trajectory including but not limited to the following: 1. Points where a change of ATS route, requested cruising level or speed, flight rules (IFR/VFR) or flight type (GAT/OAT) occur; 2. Points that mark the beginning and end of a portion of flight outside a designated route (direct segments);

			3. Points that mark the beginning and end of a portion of flight where the direction and the vertical and horizontal speed of the flight are constant (vector points). Such points may be used to describe the climb and descent phases of the flight using intermediate points in order to provide a more accurate description of the 4D trajectory along these sections of the trajectory that are not linear.
			4. Points that describe the ATS route segments planned to be flown;
			5. Top of Climb (TOC) points for every transition from a climb phase to a cruise phase;
			6. Top of Descent (TOD) points for every transition from a cruise phase to a descent phase;
			7. Bottom of Climb (BOC) points for every transition from a cruise phase to a climb phase;
			8. Bottom of Descent (BOD) points for every a transition from a descent phase to a cruise phase;
			9. Points where the 4D Trajectory intersects the boundary of FIR/UIRs in whose airspace the flight is planned to fly.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectorySignificantPoint@types

	Attribute Name	**Type**	**Notes**
	trajectoryPointType		Indicate the type of point (e.g.: ADEP, geoPoint, refPoint) In case of refPoint, the Position inherited from FourDPoint is the geographical position of the trajectory point resulting from the calculation based on a NavAid, distance and bearing.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectorySignificantPoint@types

	Attribute Name	**Type**	**Notes**
	windInformation		The forecast direction and speed of the wind used to calculate the 4D trajectory at the location and the corresponding estimated level included in the 4D trajectory.

	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Meteorology:Wind

Element Name		**Author**	**Notes**
FourDPoint		▇▇▇▇▇▇▇	A representation of a 4 dimensional point
	Attribute Name	**Type**	**Notes**

	altitude		elevation of the point
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectoryPoint@point4D
	Attribute Name	**Type**	**Notes**
	distanceFromTakeOff		Total ground distance from take-off up to the 4DTrajectoryPoint
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Trajectory:TrajectoryPoint@cumulativeDistance
	Attribute Name	**Type**	**Notes**
	elapsedTime		time elapsed relative to the take-off time.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@totalEstimatedElapsedTime
	Attribute Name	**Type**	**Notes**
	position		The geographical position of the point
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirspaceInfrastructure:AirspacePoint:TrajectoryPoint@point4D

Element Name		**Author**	**Notes**
DepartureData		▮▮▮▮▮▮▮	Departure data item.
	Attribute Name	**Type**	**Notes**
	taxiTime		Estimated taxi time from the parking position to take-off. This data is not attached to a specific point/location of the 4D trajectory.
	Tagged Value Name		**Value**
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Trajectory:TaxiData@taxiTime

Element Name	Author	Notes
FlightPerformanceData	████████	Climbing and descending capabilities of the aircraft specific to the flight, taking into account the performance of the airframe that is used to operate the flight as well as any other parameters that may influence it such as engine settings and status, cost factor applied by the operator. The <u>climb and descent performance profiles</u> are optimum and unconstrained climb and descent profiles instantiated per flight that satisfy the following conditions: 4. Are calculated without taking into account constraints regarding the vertical evolution of the flight such as route availability, RAD level restrictions, SID/STAR restrictions; 5. Are calculated without applying meteorological conditions (wind and temperature); 6. Are provided up to the maximum cruising level acceptable for the flight (even if not included in the flight plan). This would allow the recipient systems to generate accurate trajectories for vertical re-routings above the highest requested cruising level included in the filed flight plan. Performance profiles should be provided at least up to the highest requested cruising level given in the FPL; Do not contain step-climbs and step-descents i.e. if the aircraft is planned to do an initial climb to F350, then burn fuel during an hour of cruise, and then climb to F370, these two consecutive climbs shall be glued together.

	Attribute Name	Type	Notes
	climbProfile		The climb performance profile described as a sequence of points in which every point is defined by: 4. Cumulative Distance from the aerodrome of departure 5. Level: Altitude above mean sea level (MSL) in feet (ft) or meters (m) or Flight level (FL). 6. Cumulative Time elapsed from the aerodrome of departure

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:FlightPerformance@climbProfile

	Attribute Name	Type	Notes
	descentProfile		The descent performance profile described as a

Element Name	Author	Notes
FlightPerformanceData	████████████	Climbing and descending capabilities of the aircraft specific to the flight, taking into account the performance of the airframe that is used to operate the flight as well as any other parameters that may influence it such as engine settings and status, cost factor applied by the operator.
		The <u>climb and descent performance profiles</u> are optimum and unconstrained climb and descent profiles instantiated per flight that satisfy the following conditions:
		4. Are calculated without taking into account constraints regarding the vertical evolution of the flight such as route availability, RAD level restrictions, SID/STAR restrictions;
		5. Are calculated without applying meteorological conditions (wind and temperature);
		6. Are provided up to the maximum cruising level acceptable for the flight (even if not included in the flight plan). This would allow the recipient systems to generate accurate trajectories for vertical re-routings above the highest requested cruising level included in the filed flight plan. Performance profiles should be provided at least up to the highest requested cruising level given in the FPL;
		Do not contain step-climbs and step-descents i.e. if the aircraft is planned to do an initial climb to F350, then burn fuel during an hour of cruise, and then climb to F370, these two consecutive climbs shall be glued together.

	Attribute Name	Type	Notes
			sequence of points, in reverse order starting from the aerodrome of destination, in which every point is defined by:
			4. Cumulative Distance from the aerodrome of destination
			5. Level: Altitude above mean sea level (MSL) in feet (ft) or meters (m) or Flight level (FL).
			6. Cumulative Time elapsed from the aerodrome of destination

		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Aircraft:FlightPerformance@descentProfile

Figure 11 FourDimensionalTrajectory Mapping to AIRM

5.1.1.2 Operation requestOATFPLValidation

5.1.1.2.1 Operation Functionality

The operation supports the WOC in requesting the validation of a proposed improvedOatFpl before its full submission. The response to the request is either an Accept or Rejection. These are returned asynchronously via another operation.

The payload of the service is the same as for the requestOATFPLSubmission but the responses are different, there is no manual response possible and the OAT Flight Plan is not created even if an Accept response is received.

5.1.1.2.2 Operation Parameters

The input parameter is the same as for the requestOATFPLSubmission operation and is described in section 5.1.1.1.

5.1.1.3 Operation requestOATFPLModification

5.1.1.3.1 Operation Functionality

The operation supports the WOC in the request for a modification to previously submitted and accepted OAT Flight Plan. The payload allows modification to any of the OAT Flight Plan data with exception of the EOBT which is modified by a specific operation. The response is the same as for the requestOATFPLSubmission.

The input parameter of the function is the modificationRequestOATFPL. The response to the request is either an Accept or Rejection or an indication that Manual processing is required. These are returned asynchronously via another operation.

5.1.1.3.2 Operation Parameters

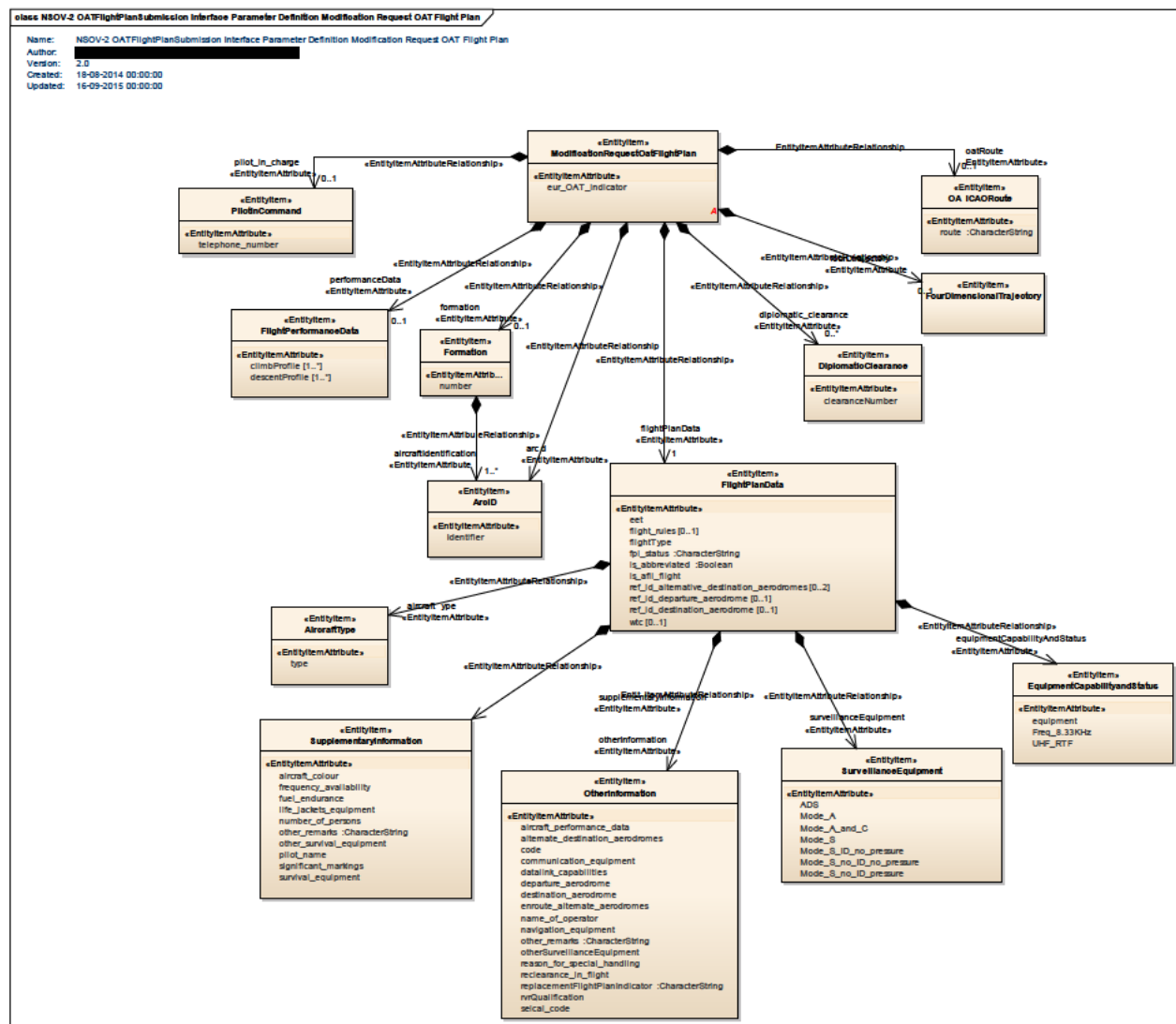The input parameter is called modificationRequestOATFlightPlan and is shown below:

Figure 12 NSOV-2 service parameter type definition Modification request OAT Flight Plan

ModificationRequestOatFlightPlan	███████████████	An OAT FPL modification message shall contain, as a minimum: • **Flight plan association data** to allow the association of the message to the original flight plan. The association data will depend on the message format and protocol used for the data exchange. For example, in case of an exchange of flight plan data with IFPS using a web based technology (such as the existing NM B2B services), the association data would be the unique flight plan identification code allocated by IFPS to the flight upon reception of the original Extended Flight Plan message. Note: an OAT FPL modification message may optionally repeat all data elements included in the original OAT flight plan message even if they are not updated. This will depend on the data format and protocol used for the exchange of data.

	Attribute Name	**Type**	**Notes**
	eur_OAT_indicator		Indicator that the flight is OAT and requires special handling for confidentiality.

	Tagged Value Name	**Value**
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Codelists:CodeFlightType@OPERATIONAL_AIR_TRAFFIC

Figure 13 Modification Request OAT Flight Plan Mapping to AIRM

5.1.1.4 Operation requestOATFPLDelay

5.1.1.4.1 Operation Functionality

The operation supports the WOC in the request for a delay (change to the EOBT) to previously submitted and accepted OAT Flight Plan. The payload allows modification to the EOBT of the OAT Flight Plan. The response is the same as for the requestOATFPLSubmission.

5.1.1.4.2 Operation Parameters

The input parameter is called delayRequestOATFlightPlan and is shown below:

class NSOV-2 OATFlightPlanSubmission Interface Parameter Definition Delay Request OAT Flight Plan

Name: NSOV-2 OATFlightPlanSubmission Interface Parameter Definition Delay Request OAT Flight Plan
Author: ███████████████
Version: 2.0
Created: 18-08-2014 00:00:00
Updated: 16-09-2015 00:00:00

«EntityItem»
DelayRequestOatFlightPlan

«EntityItemAttribute»
+ flightPlanIdentification
+ newEstimatedOffBlockDate
+ newEstimatedOffBlockTime

Figure 14 NSOV-2 service parameter type definition Delay Request OAT Flight Plan

DelayRequestOatFlightPlan	████████████	An OAT Flight Plan delay request shall contain, as a minimum: - Flight plan association data to allow the association of the message to the original flight plan. The association data will depend on the message format. For example, in case of an exchange of flight plan data with IFPS using a web based technology (such as the existing NM B2B services), the association data would be the unique flight plan identification code allocated by IFPS to the flight upon reception of the original Extended Flight Plan message. - The new estimated off-block time - The new estimated off-block date, in case it is modified

	Element Tagged Value Name		Value	
	CLDMSemanticTrace		CLDM_out_of_scope	

	Attribute Name	Type	Notes	
	flightPlanIdentification		Unique identifier of the flight plan in the NM database. Currently expressed as the ifplID and soon to be the GUFI.	

		Tagged Value Name	Value	
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@ifplIdentifier	

	Attribute Name	Type	Notes	
	newEstimatedOffBlockDate		New estimated off-block time	

		Tagged Value Name	Value	
		CLDMContextTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED	
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time	

	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime
	Attribute Name	**Type**	**Notes**
	newEstimatedOffBlockTime		New estimated off-block date, in case it is modified
	Tagged Value Name	**Value**	
	CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime

Figure 15 Delay Request OAT Flight Plan Mapping to AIRM

5.1.1.5 Operation requestOATFPLCancellation

5.1.1.5.1 Operation Functionality

The operation supports the WOC in the request for the cancellation to previously submitted and accepted OAT Flight Plan. The payload allows identification of the OAT Flight Plan to be cancelled. The response to the request is either an Accept or Rejection

5.1.1.5.2 Operation Parameters

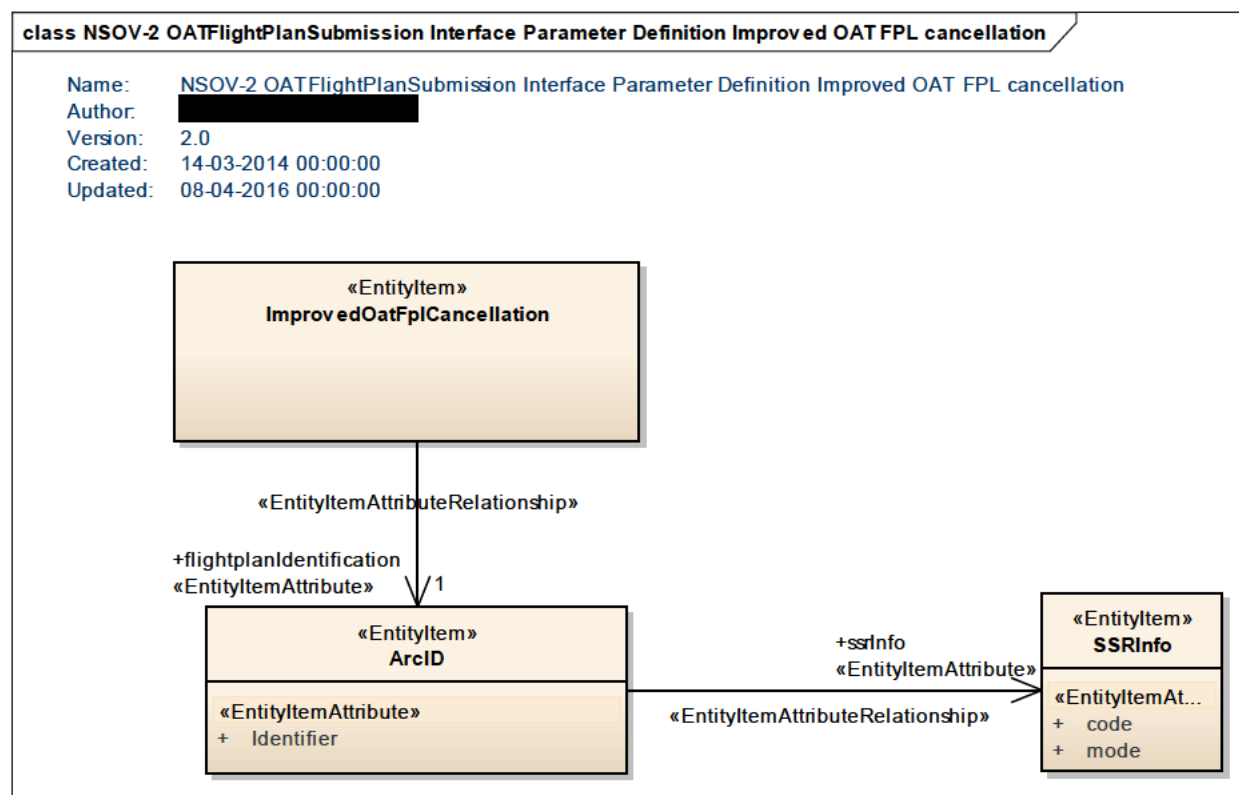The input parameter is called improvedOatFplCancellation and is shown below:

class NSOV-2 OATFlightPlanSubmission Interface Parameter Definition Improved OAT FPL cancellation

Name: NSOV-2 OATFlightPlanSubmission Interface Parameter Definition Improved OAT FPL cancellation
Author:
Version: 2.0
Created: 14-03-2014 00:00:00
Updated: 08-04-2016 00:00:00

Figure 16 NSOV-2 service parameter type definition Improved OAT FPL Cancellation

Element Name	Author	Notes
ImprovedOatFplCancellation	███████████	Cancellation message for Improved OAT FPL.
	Element Tagged Value Name	**Value**
	encoding	

Element Name	Author	Notes
Arcid	███████████	Aircraft Identification. May be the registration marking of the aircraft, or the ICAO designator of the aircraft operator followed by the flight identifier.
	Element Tagged Value Name	**Value**
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightIdentifier:AircraftIdentification
	Attribute Name	**Type**	**Notes**
	Identifier		Aircraft identifier.
		Tagged Value Name	**Value**
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@aircraftIdentification

Element Name			Author	Notes
SSRInfo			▮▮▮▮▮▮▮▮	This class represents SSR code and mode in IRDs.
	Attribute Name		**Type**	**Notes**
	code			The code range is: (octal)0000 .. (octal)7777.
		Tagged Value Name		**Value**
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightIdentifier:SSRCode@code
	Attribute Name		**Type**	**Notes**
	mode			Mode indicates the surveillance system used for the SSR code: mode A, mode S, mode C.
		Tagged Value Name		**Value**
		CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightIdentifier:SSRCode@mode

Figure 17 Improved OAT FPL Cancellation Mapping to AIRM

5.1.1.6 Operation requestFlightSuspension

5.1.1.6.1 Operation Functionality

The operation supports the WOC in the ability to notify the NM that the previously submitted and accepted OAT Flight Plan is suspended. The payload allows identification of the OAT Flight Plan to be suspended. The response to the request is either an Accept or Rejection

5.1.1.6.2 Operation Parameters

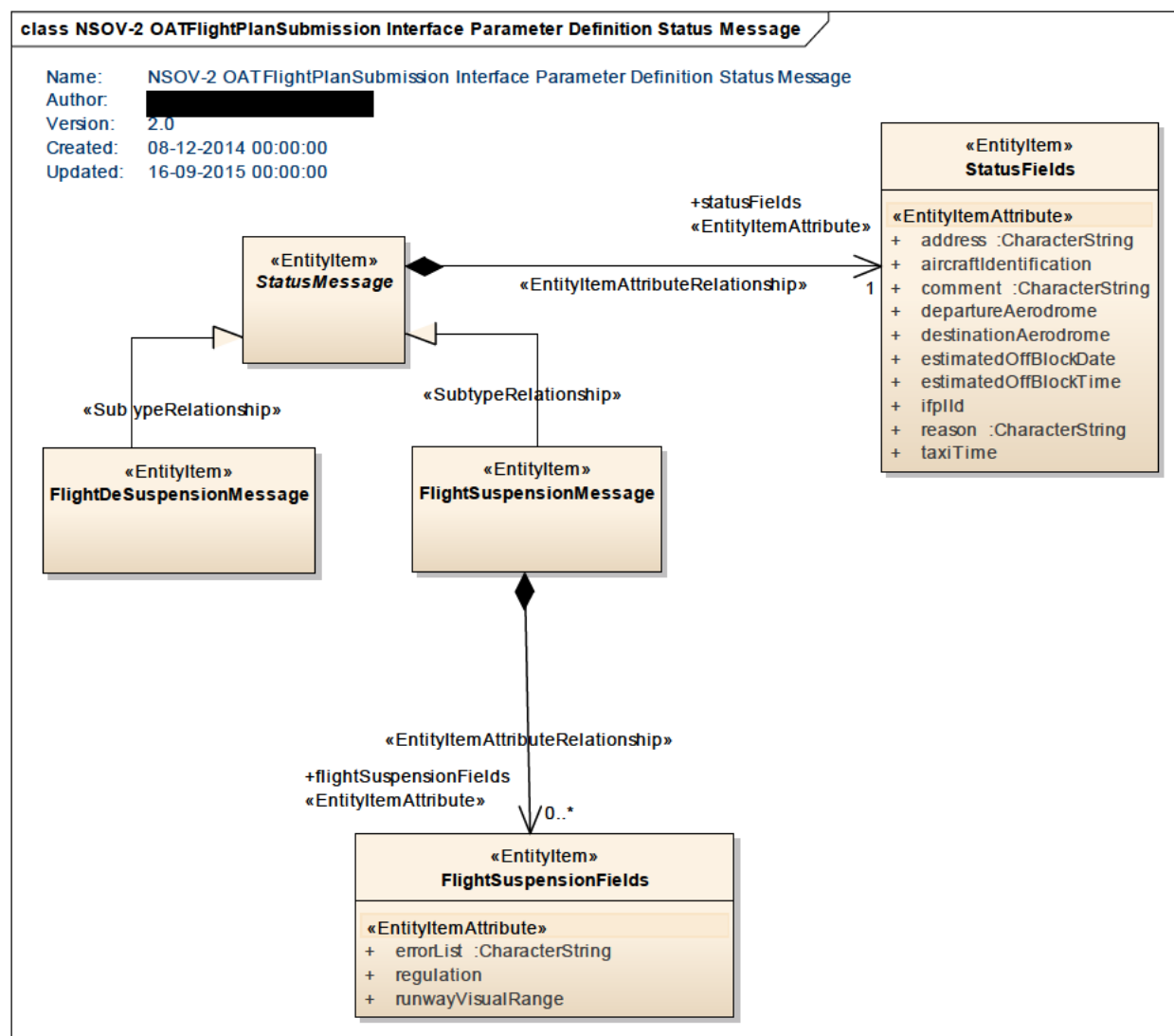The input parameter is called FlightSuspensionMessage and is shown below:

Figure 18 NSOV-2 service parameter type definition Flight Suspension Message

Element Name	Author	Notes
StatusMessage	▓▓▓▓▓▓▓	Status message

Element Name		Author	Notes
FlightSuspensionMessage		▓▓▓▓▓▓▓	Message for notification of a flight suspension
	Element Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	

Element Name		Author	Notes
FlightSuspensionFields		▓▓▓▓▓▓▓	This data type contains some fields of a suspension message
	Element Tagged Value Name	**Value**	

	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:DemandAndCapacityBalancing:ATFMRegulation
Attribute Name		**Type**	**Notes**
errorList		CharacterString	List of errors.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	
Attribute Name		**Type**	**Notes**
regulation			Name of the regulation affecting the flight (zero or more occurrences)
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:AirTrafficOperations:DemandAndCapacityBalancing:ATFMRegulation@designator	
Attribute Name		**Type**	**Notes**
runwayVisualRange			Runway Visual Range (optional).
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Meteorology:RunwayVisualRange@rvrValue	

Element Name		**Author**	**Notes**
StatusFields		███████████	Status message
	Element Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	
Attribute Name		**Type**	**Notes**
address		CharacterString	Address consist of a sequence of Addressee Indicators, one for each addressee to whom the message is to be delivered (optional field).
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	
Attribute Name		**Type**	**Notes**
aircraftIdentification			Aircraft identification.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@aircraftIdentification	
Attribute Name		**Type**	**Notes**
comment		CharacterString	This field provides additional information. Zero or more occurrences of this field can appear in a FLS message.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	CLDM_out_of_scope	
Attribute Name		**Type**	**Notes**
departureAerodrome			Aerodrome of departure.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:Aerodrome@designator	
Attribute Name		**Type**	**Notes**
destinationAerodrome			Aerodrome of destination.
	Tagged Value Name	**Value**	
	CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje	

Element Name			Author		Notes	
StatusFields					Status message	
		Element Tagged Value Name		Value		
		CLDMSemanticTrace		CLDM_out_of_scope		
		Attribute Name	Type		Notes	
					ctFields:Flight:Flight@destinationAerodrome	
		Attribute Name	Type		Notes	
		estimatedOffBlockDate			Estimated Off-Block Date	
			Tagged Value Name		Value	
			CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED	
			CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED	
			IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime	
		Attribute Name	Type		Notes	
		estimatedOffBlockTime			New estimated off-block time and date.	
			Tagged Value Name		Value	
			CLDMContextTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Common:Codelists:CodePlanningStatusType@ESTIMATED	
			CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time	
			IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime	
		Attribute Name	Type		Notes	
		ifplId			Unique flight plan identification which is issued by NM.	
			Tagged Value Name		Value	
			CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@ifplIdentifier	
		Attribute Name	Type		Notes	
		reason	CharacterString		Reason to explain an action by NM	
			Tagged Value Name		Value	
			CLDMSemanticTrace		CLDM_out_of_scope	
		Attribute Name	Type		Notes	
		taxiTime			The average taxiing time for the runway in use which was considered by NM to derive the take-off times from the off-block times when calculating the last flight profile.	
			Tagged Value Name		Value	
			CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:BaseInfrastructure:AerodromeInfrastructure:TaxiRoute@taxiTime	

Figure 19 Flight Suspension Message Mapping to AIRM

5.1.1.7 Operation requestFlightDeSuspension

5.1.1.7.1 Operation Functionality

The operation supports the WOC in the ability to notify the NM that the previously submitted and accepted, suspended OAT Flight Plan is now de-suspended. The payload allows identification of the OAT Flight Plan to be de-suspended. The response to the request is either an Accept or Rejection

5.1.1.7.2 Operation Parameters
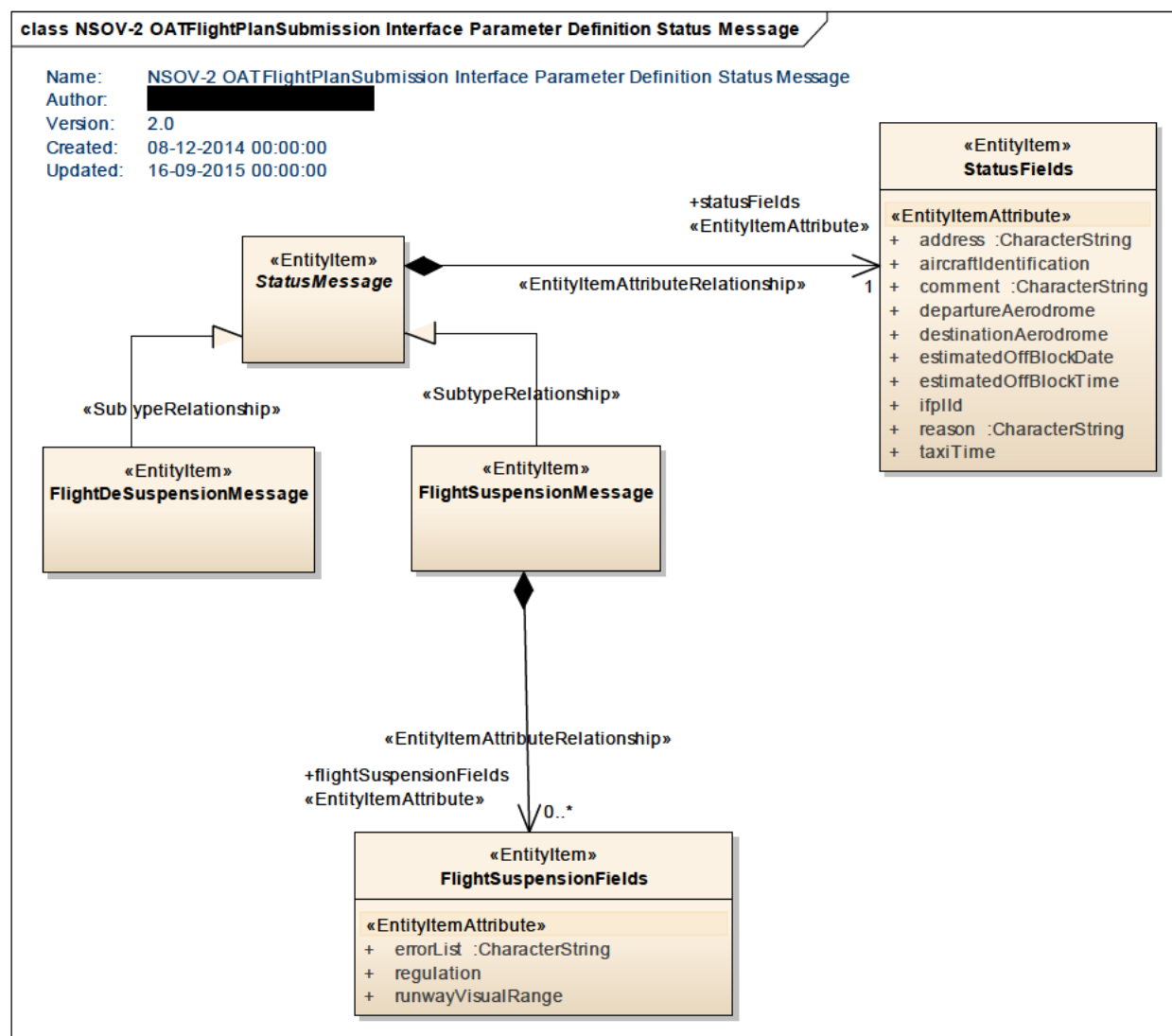
The input parameter is called FlightDeSuspensionMessage and is shown below:

Figure 20 NSOV-2 service parameter type definition Flight DeSuspension Message

Element Name	Author	Notes
FlightDeSuspensionMessage		Message for notification of a flight de-suspension

Figure 21 Flight DeSuspension Message Mapping to AIRM

5.1.2 Service Interface Definition OATFlightPlanConsumer

The OAT Flight Plan Consumer Service Interface Definition consists of the operations described below:

- **replyOATFPLSubmissionAck(ACKMessage)** – the operation supports the Network Manager in sending a positive response to an OAT FPL Submission, Modification, Cancellation or Delay Request.

- **replyOATFPLSubmissionRej(RejectionOATMessage)** – the operation supports the Network Manager in sending a negative response to an OAT FPL Submission, Modification, Cancellation or Delay Request.

- **replyOATFPLSubmissionMan(ManualMessage)** – the operation supports the Network Manager in sending a Manual Processing response to an OAT FPL Submission, Modification or Delay Request.

- **replyOATFPLValidationAck(ACKMessage)** – the operation supports the Network Manager in sending a positive response to an OAT FPL Validation Request.

- **replyOATFPLValidationRej(RejectionOATMessage)** – the operation supports the Network Manager in sending a negative response to an OAT FPL Validation Request.

5.1.2.1 Operation replyOATFPLSubmissionAck

5.1.2.1.1 Operation Functionality

The operation supports the Network Manager in sending a positive response to an OAT FPL Submission, Modification, Cancellation or Delay Request

The reception of the ACK Message indicates to the WOC that a previous request was acceptable, valid and processed correctly by the NM.

The input parameter of the function is the ACKMessage. There is no response as the operation itself is used to supply the response to an earlier request.

5.1.2.1.2 Operation Parameters

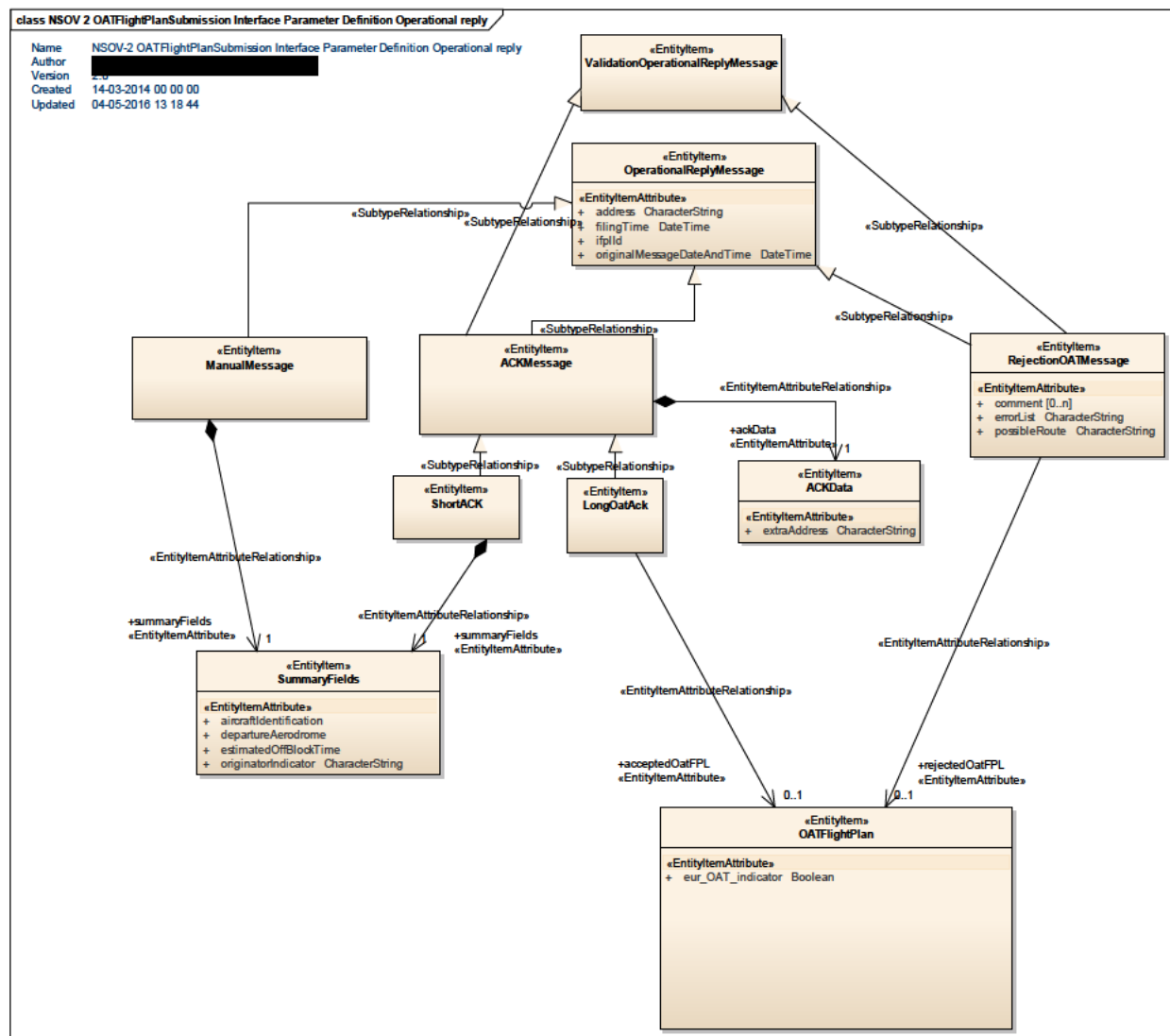The input parameter is called ACKMessage and is shown below:

Figure 22 NSOV-2 service parameter type definition ACK Message

Element Name	Author	Notes
ACKMessage	███████████	Acknowledge message. Two different types of ACK messages are available: • Short ACK: when the message is automatically processed without amendment. • Long ACK: when the message includes amendments. This type of ACK contains the complete message in ICAO format as accepted by the IFPS. Where a Long ACK is received, the message originator shall check for any amendments made by the IFPS, especially when the submitted message contains the IFPS Re-route Accepted authorisation

	Element Tagged Value Name	Value
	CLDMSemanticTrace	CLDM_out_of_scope

Element Name	Author	Notes
ShortAck	FT14 Serena Rubbioli	Short acknowledged message. The message is automatically processed without amendment.

Element Name	Author	Notes
LongOatAck	███████████	A type of acknowledgment for an OAT FPL submission that contains the referent OAT FPL.

Element Name	Author		Notes
AckData	███████████		Acknowledgement data.
	Element Tagged Value Name		Value
	CLDMSemanticTrace		CLDM_out_of_scope
	Attribute Name	Type	Notes
	extraAddress	CharacterString	Extra address(es) for message re-addressing.
		Tagged Value Name	Value
		CLDMSemanticTrace	CLDM_out_of_scope

Element Name	Author		Notes
SummaryFields	███████████		Summary fields of the message
	Element Tagged Value Name		Value
	CLDMSemanticTrace		CLDM_out_of_scope
	Attribute Name	Type	Notes
	aircraftIdentification		Aircraft Identification
		Tagged Value Name	Value
		CLDMSemanticTrace	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightIdentifier:FlightDesignator@flightNum

			ber	
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightIdentifier:FlightDesignator	

	Attribute Name	**Type**	**Notes**	
	departureAerodrome		Aerodrome of Departure	

	Tagged Value Name		**Value**	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@departureAerodrome	
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Base Infrastructure:AerodromeInfrastructure:Aerodrome	

	Attribute Name	**Type**	**Notes**	
	estimatedOffBlockTime		Estimated Off Block Time	

	Tagged Value Name		**Value**	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:FlightEvent:OffBlock@time	
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightEvent:EstimatedOffBlockTime	

	Attribute Name	**Type**	**Notes**	
	originatorIndicator	CharacterString	Originator address (AFTN or SITA address). NOTE: IFPS sends a copy of the Operational Reply message to the AOC address when the originator address is not the one of the AOC. The presence of the originator address is to inform the AOC that IFPS has received a message for one of its flight plans from a different address. This is how it is done with the textual operational replies, the Webservice reply that corresponds to the operational reply does not have this attribute because there is no way today in the NM Webservice to push a reply to a system that did not previously send a request (query/reply services) so NM cannot send via Webservice a copy of an operational reply to the AOC.	

	Tagged Value Name		**Value**	
	CLDMSemanticTrace		CLDM_out_of_scope	

Element Name		**Author**	**Notes**	
OperationalReplyMessage		██████████	In order to indicate to the message originator the status of the processing of a submitted message, the IFPS uses operational reply messages (ORM). ORMs are implemented using three possible message types: - ACK - MAN - REJ where ACK, MAN and REJ are complex data type.	
	Attribute Name	**Type**	**Notes**	
	address	CharacterString	List of addresses to which that message is to be distributed.	

	Tagged Value Name		Value	
	CLDMSemanticTrace		CLDM_out_of_scope	
Attribute Name		**Type**		**Notes**
filingTime		DateTime		Filing time of the submitted message
	Tagged Value Name		**Value**	
	CLDMSemanticTrace		CLDM_out_of_scope	
Attribute Name		**Type**		**Notes**
ifplId				
	Tagged Value Name		**Value**	
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Flight:Flight@ifplIdentifier	
	IMDefinitionTrace		urn:x-ses:sesarju:airm:v410:InformationModel:SubjectFields:Flight:FlightIdentifier:IFPLIdentifier	
Attribute Name		**Type**		**Notes**
originalMessageDateAndTime		DateTime		Date and time of receipt of original message by the NM.
	Tagged Value Name		**Value**	
	CLDMSemanticTrace		CLDM_out_of_scope	

Figure 23 ACK Message Mapping to AIRM

5.1.2.2 Operation replyOATFPLSubmissionRej

5.1.2.2.1 Operation Functionality

The operation supports the Network Manager in sending a negative response to an OAT FPL Submission, Modification, Cancellation or Delay Request

The reception of the RejectionOATMessage indicates to the WOC that a previous request was unacceptable or invalid and consequently not processed by the NM.

The input parameter of the function is the RejectionOATMessage. There is no response as the operation itself is used to supply the response to an earlier request.

NOTE: The naming of the payload is inconsistent with the other receive operation payloads because it differs from the ones used in the EFPL equivalent operations.

5.1.2.2.2 Operation Parameters

The input parameter is called RejectionOATMessage and is shown below:
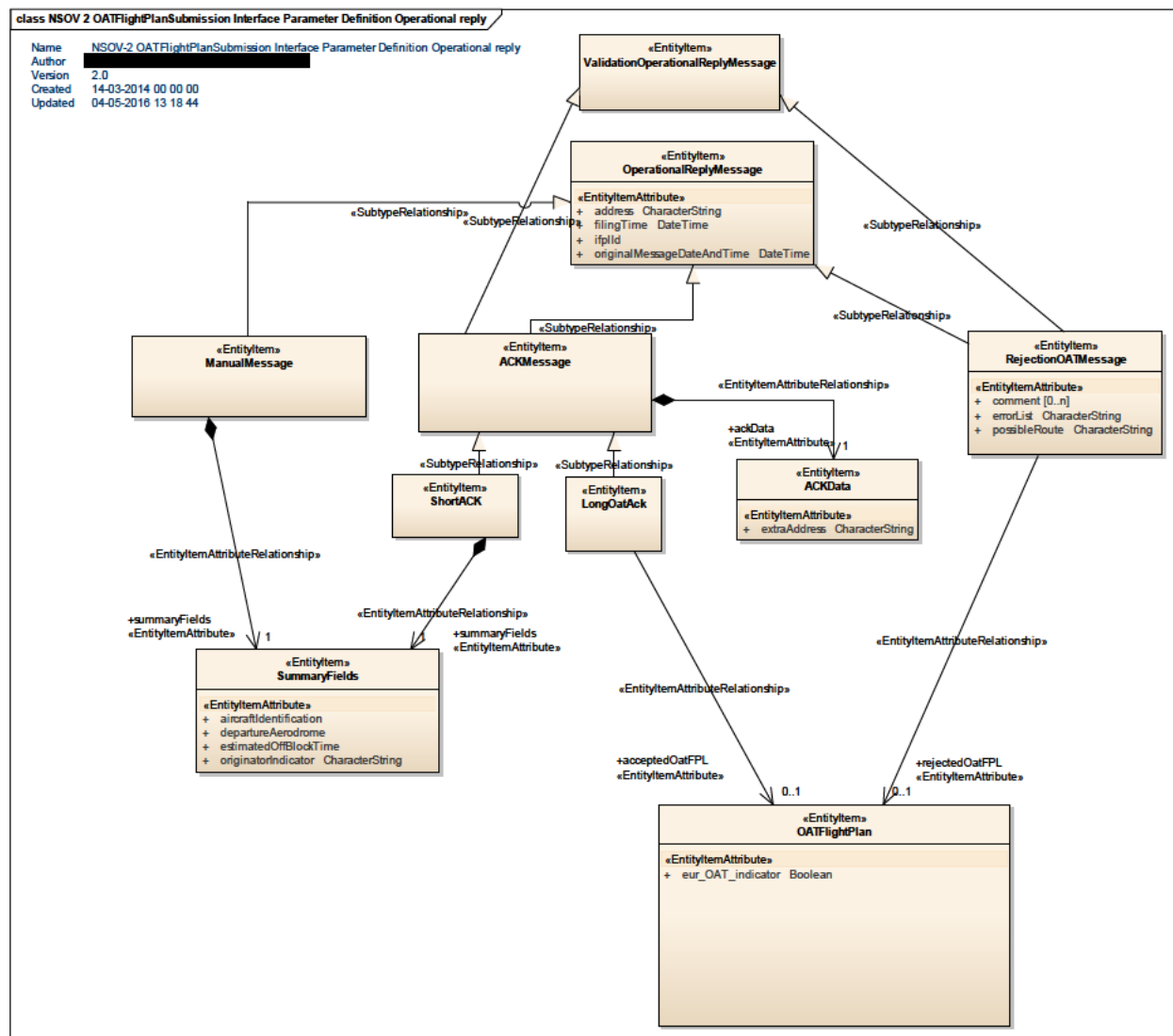
Figure 24 NSOV-2 service parameter type definition RejectionOatMessage

Element Name	Author	Notes
RejectionOATMessage	██████████	A Reject (REJ) message is sent to notify the message originator that the submitted message could not be processed successfully, either automatically or manually, and that the submitted message has not been accepted by IFPS. The REJ message also contains an error list (to a maximum of 10) to help the Airspace Users to rectify the error(s). The Airspace User can react by amending the original message appropriately and re-submitting the corrected message to the IFPS. (7.6.2 OSED)

	Element Tagged Value Name	Value	
	isCollection	false	
	noPropertyType	false	

	Attribute Name	Type		Notes
	comment			This field provides additional information. Zero or more occurrences.

		Tagged Value Name	Value	

Element Name	Author	Notes
RejectionOATMessage	███████████	A Reject (REJ) message is sent to notify the message originator that the submitted message could not be processed successfully, either automatically or manually, and that the submitted message has not been accepted by IFPS. The REJ message also contains an error list (to a maximum of 10) to help the Airspace Users to rectify the error(s). The Airspace User can react by amending the original message appropriately and re-submitting the corrected message to the IFPS. (7.6.2 OSED)

	Element Tagged Value Name	Value	
	isCollection	false	
	noPropertyType	false	

	Attribute Name	Type	Notes
	CLDMSemanticTrace		urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Abstract:Entity@annotation

	Attribute Name	Type	Notes
errorList		CharacterString	List of errors. (CFMU lack of detail on format of string)

	Tagged Value Name	Value	
	CLDMSemanticTrace	CLDM_out_of_scope	

	Attribute Name	Type	Notes
possibleRoute		CharacterString	Possible route (optional). The field is only present when the following conditions are met: -The message is a flight plan or a modification for a change of route. -The error for which the message is rejected is related to the route. -The NM is able to find an acceptable route.

	Tagged Value Name	Value	
	AIRMRemarks	This is just the text version of Field 15 icao route.	
	CLDMSemanticTrace	CLDM_out_of_scope	

Figure 25 RejectionOatMessage Mapping to AIRM

5.1.2.3 Operation replyOATFPLSubmissionMan

5.1.2.3.1 Operation Functionality

The operation supports the Network Manager in sending a Manual Processing response to an OAT FPL Submission, Modification or Delay Request.

The reception of the Manual Message indicates to the WOC that a previous request requires manual processing by NM operations staff.

1. The NM ops staff can resolve the issues alone (no involvement of WOC necessary). After resolution by the NM ops staff, the WOC receives an ACK.
2. The NM ops staff cannot resolve the issues. Then the WOC receives a REJ and needs to correct and re-file the FPL.

The input parameter of the function is the ManualMessage. There is no response as the operation itself is used to supply the response to an earlier request.

5.1.2.3.2 Operation Parameters

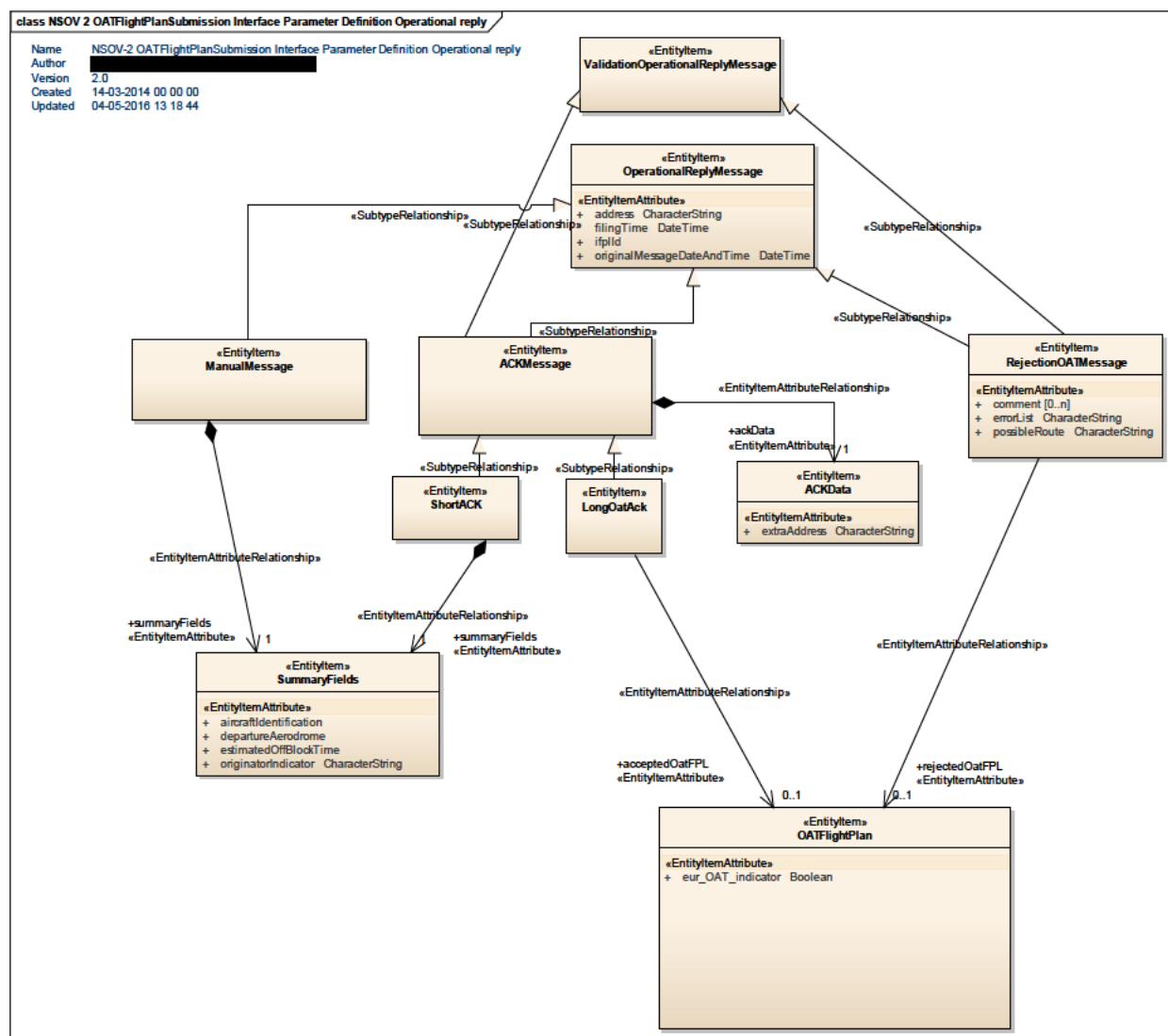The input parameter is called ManualMessage and is shown below:

Figure 26 NSOV-2 service parameter type definition Manual Message

Element Name	Author	Notes
ManualMessage	████████	Manual message. A Manual (MAN) message is used to indicate to the message originator that errors have been detected in the submitted message and that it has been referred for manual processing by the IFPS staff. N.B.: The OSED doesn't contain information about the MAN message structure. In the "IFPS users manual" you can find some examples about ORM messages structure.

Figure 27 Manual Message Mapping to AIRM

5.1.2.4 Operation replyOATFPLValidationAck

5.1.2.4.1 Operation Functionality

The operation supports the Network Manager in sending a positive response to an OAT FPL Validation Request

The reception of the ACK message indicates to the WOC that the validation request was successful and valid.

The input parameter of the function is the ACKMessage. There is no response as the operation itself is used to supply the response to an earlier request.

5.1.2.4.2 Operation Parameters

The ACKMessage is fully described in section 5.1.2.1.

5.1.2.5 Operation replyOATFPLValidationRej

5.1.2.5.1 Operation Functionality

The operation supports the Network Manager in sending a negative response to an OAT FPL Validation Request

The reception of the Rejection Message indicates to the WOC that the validation request was unsuccessful or invalid.

The input parameter of the function is the RejectionOATMessage. There is no response as the operation itself is used to supply the response to an earlier request.

5.1.2.5.2 Operation Parameters

The RejectionOATMessage is fully described in section 5.1.2.2.

5.2 Service Interface SynchOATFlightPlanSubmission

5.2.1 Service Interface Definition OATFlightPlanSynchProvider

The OAT Flight Plan Synch Provider Service Interface Definition consists of the operations described above for the OAT Flight Plan Provider service interface definition but these are synchronous and therefore combine the response operations as well.

5.2.1.1 Operation requestOATFPLSubmission

5.2.1.1.1 Operation Functionality

The operation supports the WOC in requesting the OAT FPL submission for validation and subsequent distribution. It is expected that the WOC will have made use of the requestOATFPLValidation operation to ensure that the supplied data is acceptable to the NM.

The input parameter of the function is the improved OAT FPL. The response to the request is either an Accept or Rejection or an indication that Manual processing is required. These are returned synchronously in the output parameter.

5.2.1.1.2 Operation Parameters

The input parameter is the OATFlightPlan described in section 5.1.1.1.2.

The output parameter is the Operational Reply Message whose content is described in sections 0, 5.1.2.2.2, 5.1.2.3.2.

5.2.1.2 Operation requestOATFPLValidation

5.2.1.2.1 Operation Functionality

The operation supports the WOC in requesting the validation of a proposed improvedOatFpl before its full submission. The response to the request is either an Accept or Rejection. These are returned synchronously.

The payload of the service is the same as for the requestOATFPLSubmission but the responses are different, there is no manual response possible and the OAT Flight Plan is not created even if an Accept response is returned.

5.2.1.2.2 Operation Parameters

The input parameter is the same as for the requestOATFPLSubmission operation and is described in section 5.1.1.1.2.

The output parameter is the Ack or Rej Message whose content is described in sections 0 and 5.1.2.2.2.

5.2.1.3 Operation requestOATFPLModification

5.2.1.3.1 Operation Functionality

The operation supports the WOC in the request for a modification to previously submitted and accepted OAT Flight Plan. The payload allows modification to any of the OAT Flight Plan data with exception of the EOBT which is modified by a specific operation. The response is the same as for the requestOATFPLSubmission.

The input parameter of the function is the modificationRequestOATFPL. The response to the request is either an Accept or Rejection or an indication that Manual processing is required. These are returned synchronously.

5.2.1.3.2 Operation Parameters

The input parameter is the modificationRequestOATFlightPlan described in section 0.

The output parameter is the Operational Reply Message whose content is described in sections 0, 5.1.2.2.2, 5.1.2.3.2.

5.2.1.4 Operation requestOATFPLDelay

5.2.1.4.1 Operation Functionality

The operation supports the WOC in the request for a delay (change to the EOBT) to previously submitted and accepted OAT Flight Plan. The payload allows modification to the EOBT of the OAT Flight Plan. The response is the same as for the requestOATFPLSubmission.

These are returned synchronously in the output parameter.

5.2.1.4.2 Operation Parameters

The input parameter is the delayRequestOATFlightPlan described in section 5.1.1.4.2.

The output parameter is the Operational Reply Message whose content is described in sections 0, 5.1.2.2.2, 5.1.2.3.2.

5.2.1.5 Operation requestOATFPLCancellation

5.2.1.5.1 Operation Functionality

The operation supports the WOC in the request for the cancellation to previously submitted and accepted OAT Flight Plan. The payload allows identification of the OAT Flight Plan to be cancelled. The response to the request is either an Accept or Rejection

5.2.1.5.2 Operation Parameters

The input parameter is the improvedOatFplCancellation described in section 0.

The output parameter Ack or Rej Message whose content is described in sections 0 and 5.1.2.2.2.

5.2.1.6 Operation requestFlightSuspension

5.2.1.6.1 Operation Functionality

The operation supports the WOC in the ability to notify the NM that the previously submitted and accepted OAT Flight Plan is suspended. The payload allows identification of the OAT Flight Plan to be suspended. The response to the request is either an Accept or Rejection.

5.2.1.6.2 Operation Parameters

The input parameter is the FlightSuspensionMessage described in section 0.

The output parameter Ack or Rej Message whose content is described in sections 0 and 5.1.2.2.2.

5.2.1.7 Operation requestFlightDeSuspension

5.2.1.7.1 Operation Functionality

The operation supports the WOC in the ability to notify the NM that the previously submitted and accepted, suspended OAT Flight Plan is now de-suspended. The payload allows identification of the OAT Flight Plan to be de-suspended. The response to the request is either an Accept or Rejection.

5.2.1.7.2 Operation Parameters

The input parameter is the FlightDeSuspensionMessage described in section 5.1.1.7.2.

The output parameter Ack or Rej Message whose content is described in sections 0 and 5.1.2.2.2.

6 Service dynamic behaviour

6.1 Service Interface OATFlightPlanSubmissionInterface

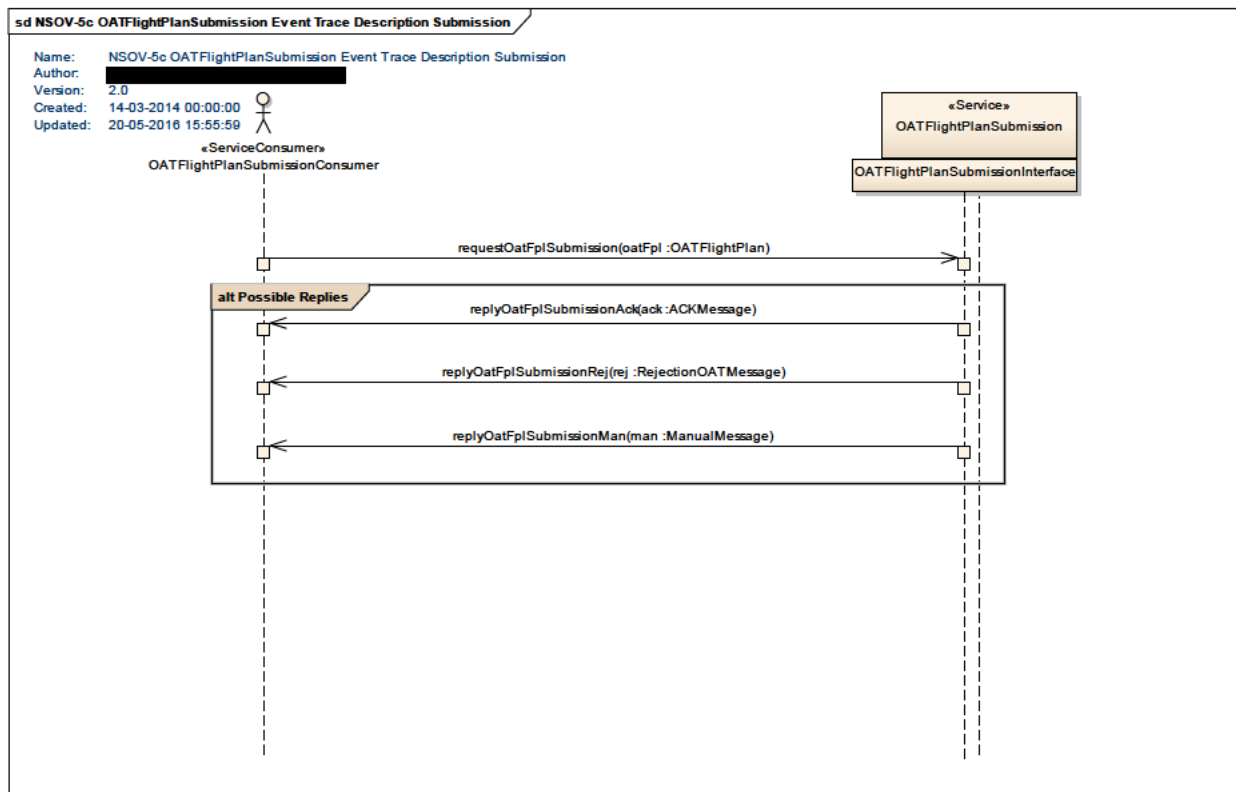The requests and possible responses to those requests are shown in the figures below:

sd NSOV-5c OATFlightPlanSubmission Event Trace Description Submission

Name: NSOV-5c OATFlightPlanSubmission Event Trace Description Submission
Author:
Version: 2.0
Created: 14-03-2014 00:00:00
Updated: 20-05-2016 15:55:59

«ServiceConsumer»
OATFlightPlanSubmissionConsumer

«Service»
OATFlightPlanSubmission

OATFlightPlanSubmissionInterface

requestOatFplSubmission(oatFpl :OATFlightPlan)

alt Possible Replies

replyOatFplSubmissionAck(ack :ACKMessage)

replyOatFplSubmissionRej(rej :RejectionOATMessage)

replyOatFplSubmissionMan(man :ManualMessage)

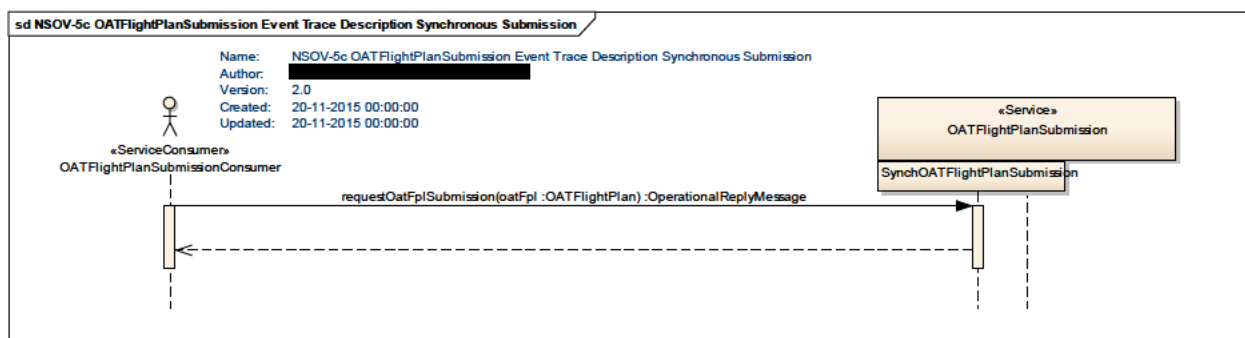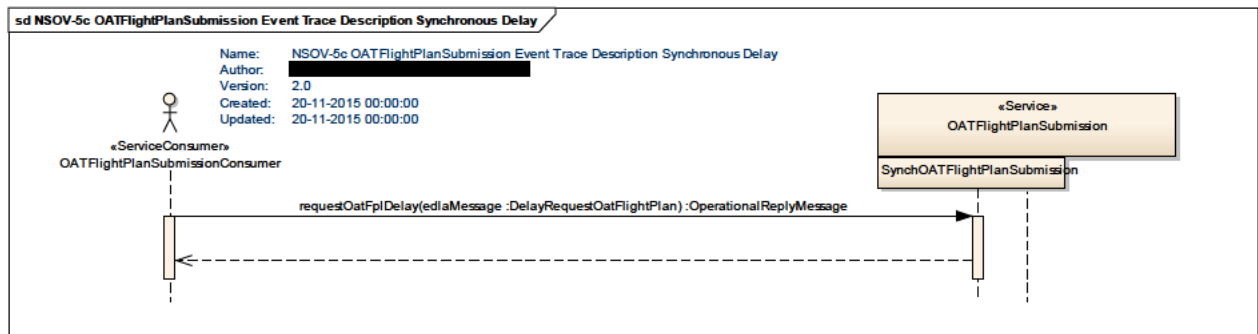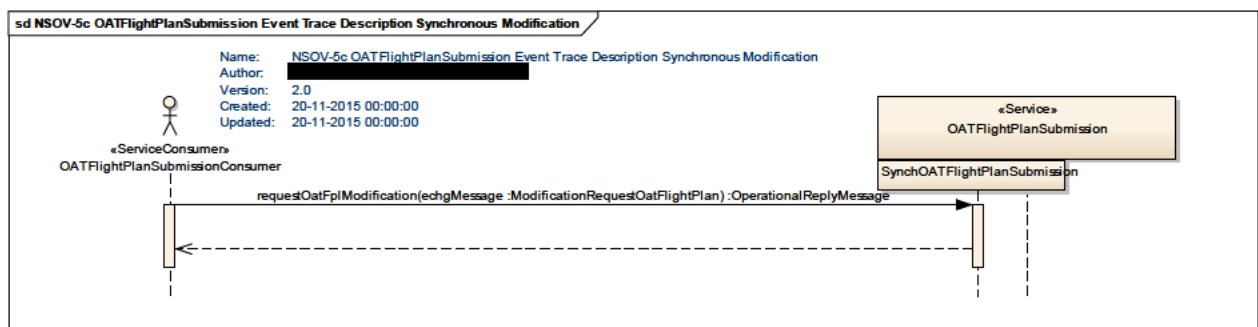**Figure 28 NSOV-5c service event-trace description**
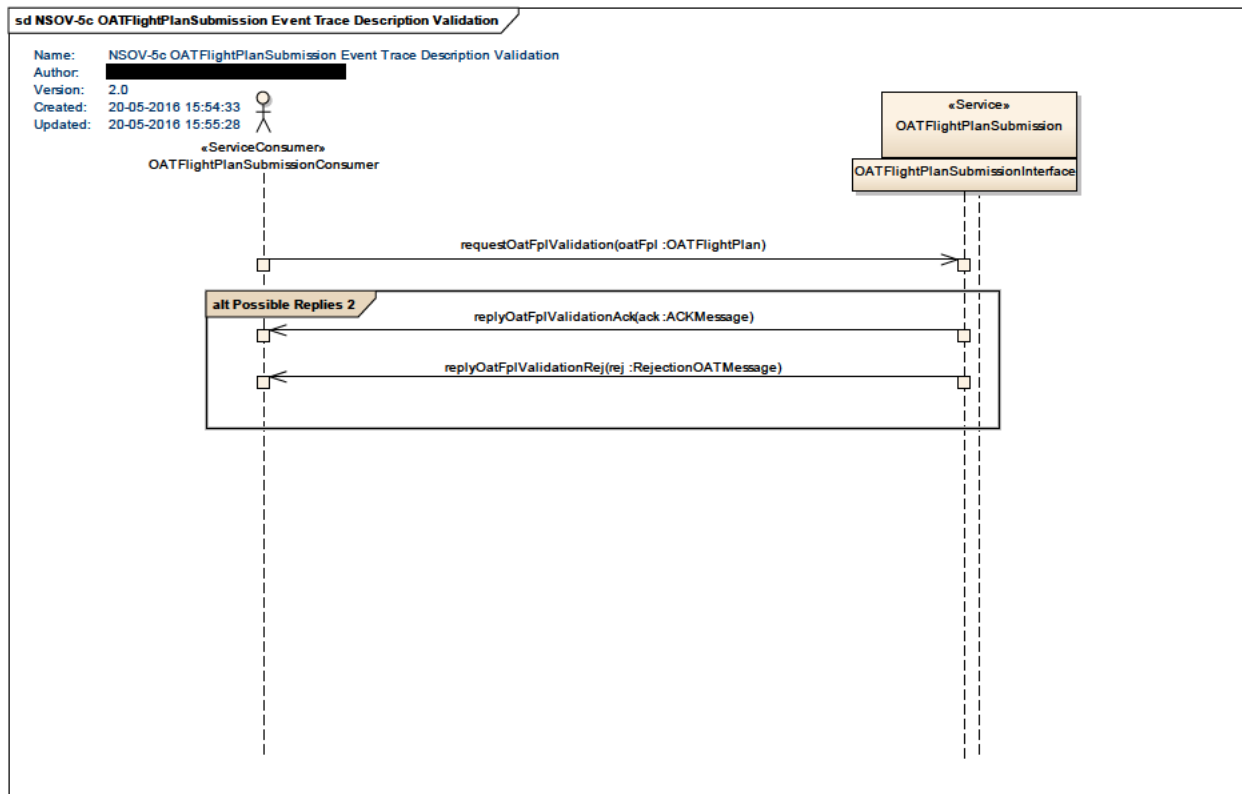
Figure 29 NSOV-5c service event-trace description
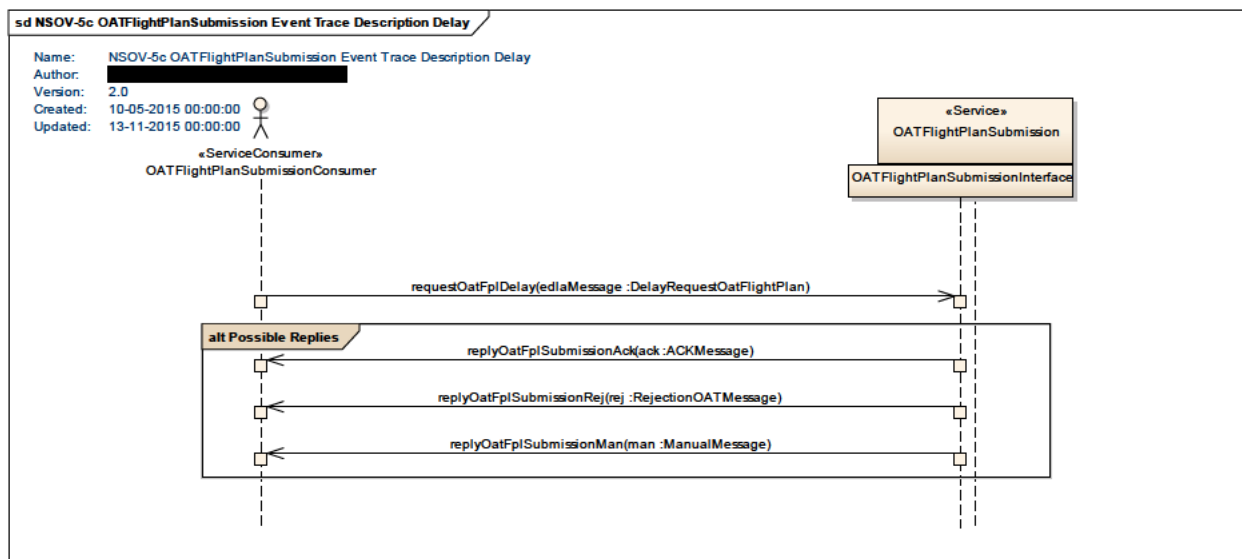
Figure 30 NSOV-5c service event-trace description
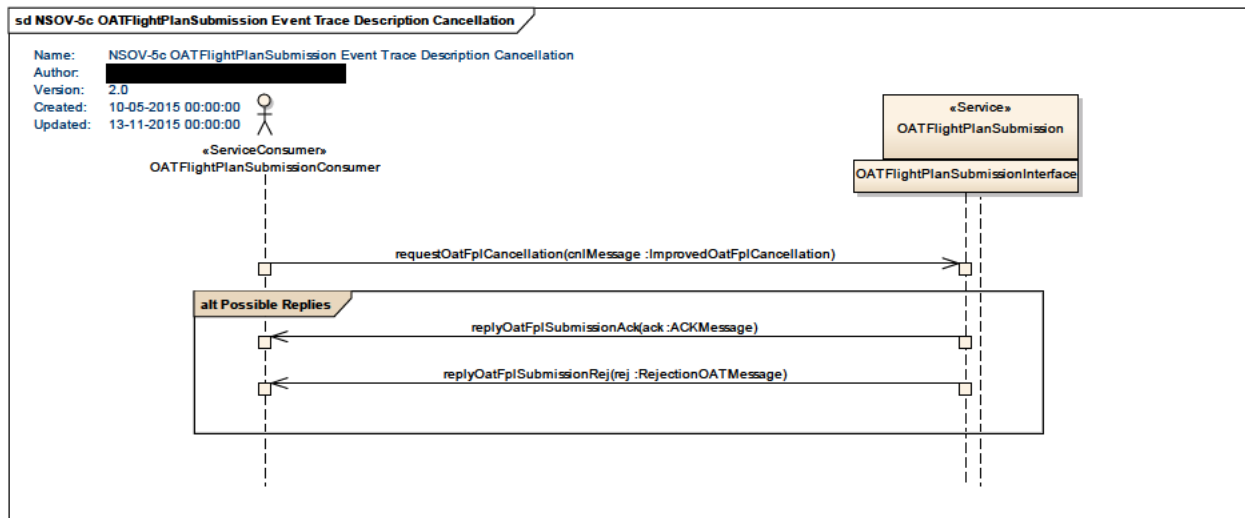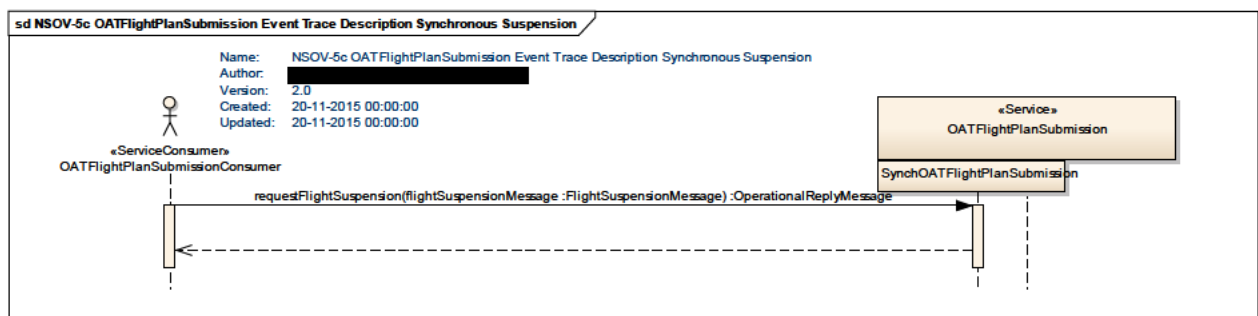
Figure 31 NSOV-5c service event-trace description
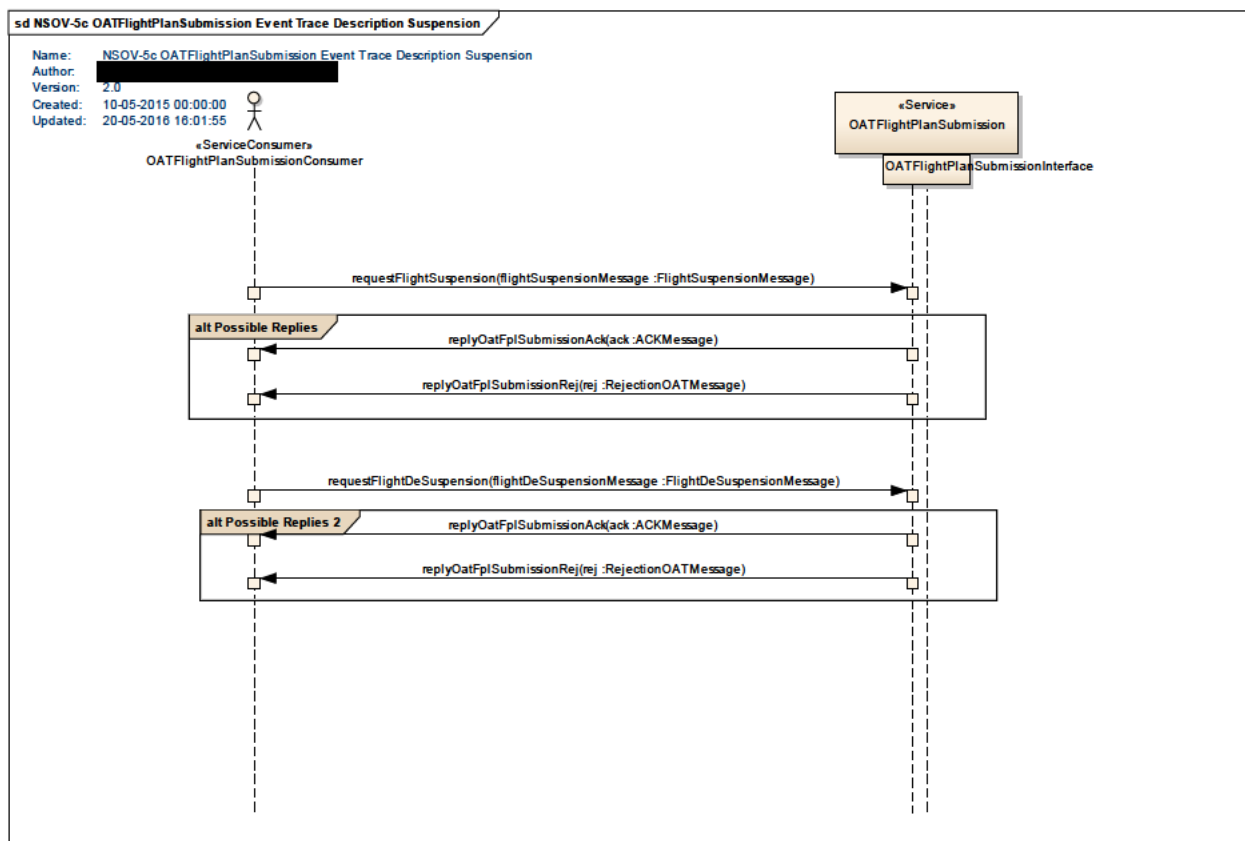
Figure 32 NSOV-5c service event-trace description
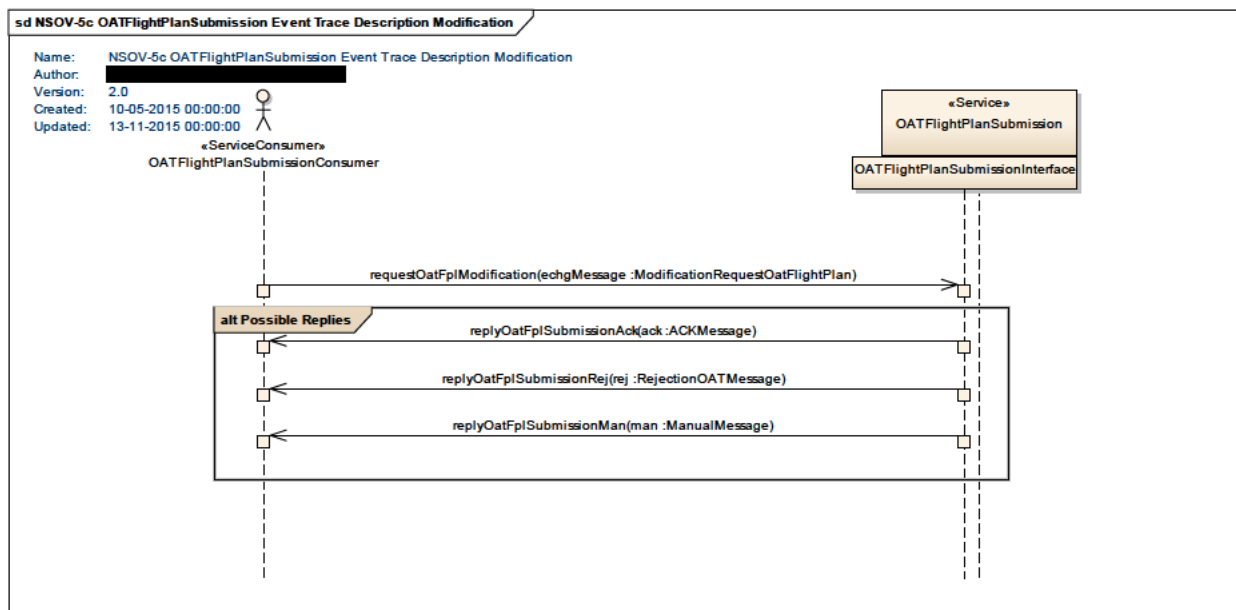
Figure 33 NSOV-5c service event-trace description

6.2 Service Interface SynchOATFlightPlanSubmission

The following NSOV-5c diagrams shows the set of synchronous operations exposed by the SynchOATFlightPlanSubmission interface.
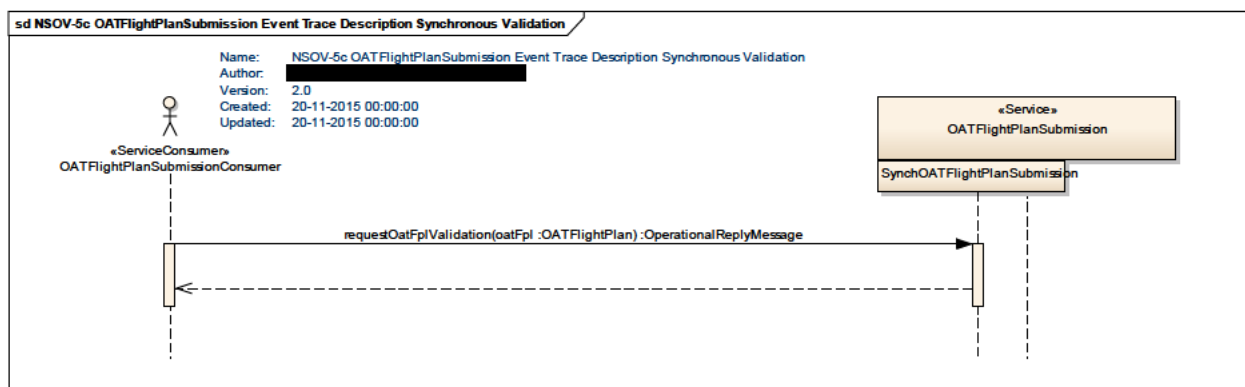
Figure 34 NSOV-5c service event-trace description

Figure 35 NSOV-5c service event-trace description

Figure 36 NSOV-5c service event-trace description

Figure 37 NSOV-5c service event-trace description

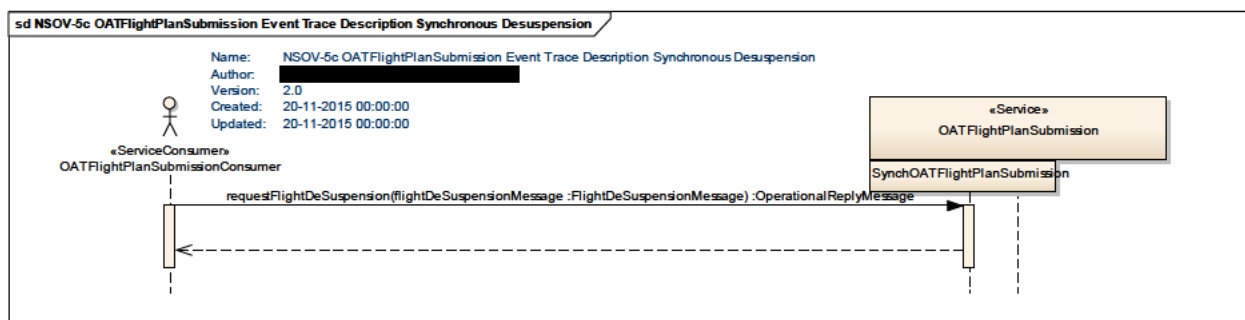**Figure 38 NSOV-5c service event-trace description**

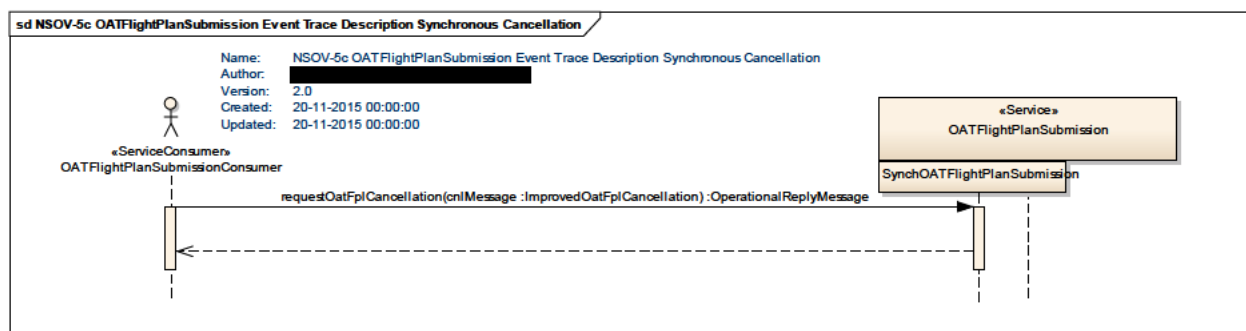**Figure 39 NSOV-5c service event-trace description**

Figure 40 NSOV-5c service event-trace description

7 Service provisioning (optional)

The original OSED from P07.06.02 was written as a set of requirements that gave the changes from the ICAO 2012 Flight Plan to enable it to meet the requirements to act as a carrier of OAT Flight Plan data. The clear intent was, at least in the short term, to modify the functionality of the GAT Flight Plan processing in the NM to accept the OAT Flight Plan Data.

Thus the service in this document and its proposed operations are based on the service and operations developed to support the Extended Flight Plan Submission Service.

The modelling done in the development of the payload for this service reuses wherever possible existing entity items but will retain the logical structure as appropriate for a logical service description. This will allow different service instances to be developed all using the same logical payload.

Two different instances are mentioned in the P07.06.02 OSED; the first using AFTN as a medium and using modified ICAO fields to supply the data, the second using SWIM as a medium and using XML/FIXM as a way of describing the physical payload.

XML format through B2B connections

OAT flight plan messages may be transmitted using SWIM web services available via the new B2B interface with the NM. This has been done within Validation Exercise VP-716 and VP-789. This means that the transmission of OAT flight plans and associated messages would be done using Internet based technologies for the data communication and a corresponding new data exchange format such as XML, instead of the current AFTN and SITA networks and text flight plan messages in ICAO format.

The WOC, in order to optionally verify an OAT FPL, sends it to the Network Manager for verification. The result of the submission process is an Operational Reply Message sent by the Network Manager to the WOC which has originated the OAT FPL. Then the WOC submits the actual OAT FPL to the Network Manager for validation. The result of the submission process is an Operational Reply Message sent by the Network Manager to the WOC which has originated the OAT FPL.

8 Validation and Verification

8.1 Verification

Verification performed according to the ISRM Rulebook (Ref [10]) following the ISRM Verification Guidelines (Ref [12])]. This includes use of verification scripts. Verification is partly automatic, partly semi-automatic and partly manual.

8.1.1 Verification Results

The verification reports for the service can be found in the Verification Reports directory located in the D65 delivery package:
Designed_Services_-_OATFlightPlanSubmissionService.xls
Designed_Services_-_OATFlightPlanSubmissionService_Common.xls

8.2 Validation

In spring 2015, VP-716 took place (its aim was to validate iOAT on V2 level). The existing NM B2B web service "Flight Services" had been modified to enable NM to receive and process iOAT FPLs in XML format.

Another Validation Exercise has used the NM B2B web service "Flight Services" with the VP-716 modification. This allowed the WOC to send iOAT FPLs in XML format to NM.

9 References

Name	Version	Document ID / Location
[1] Project deliverables template	03.00.00	SJU templates & guidelines package, Project deliverables template
[2] SESAR Operational Service and Environment Definition	03.00.00	SJU templates & guidelines package, OSED template
[3] SESAR Safety and Performance Requirements	03.00.00	SJU templates & guidelines package, SPR template
[4] SESAR Working Method on Services Edition 2014	00.05.00	B.04.03 D100
[5] Step 1 Mission trajectory OSED 2015 update	00.02.01	07.06.02 D51
[6] WOC OSED operational and performance requirements for Step 1, Step 2 and Step 3	00.01.02	11.01.02 D03
[7] IFPS Users Manual	19.0.1 Edition	https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/ifps-users-manual-current.pdf
[8] TM Perfo Initial System Requirements	01.00.01	13.02.01 D10
[9] European ATM Service Identification for OAT Flight Plan Services	00.00.03	08.03.10 D62
[10] ISRM Foundation Rulebook	00.07.00	08.03.10 D44
[11] ISRM Service Portfolio	00.08.01	08.03.10 D44
[12] ISRM Verification Guidelines	00.07.00	08.03.10 D44
[13] B.4.3 Service Allocation - SVA004	00.00.03	B.04.03

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