

SWIM Compliance Report for R5 V&V exercise 789

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Abstract

This report is evidence that the Validation Exercise EXE-11.01.05-789 has services that have been assessed for SWIM Compliance. It provides the SWIM Compliance Level for each of the services assessed in the Validation Exercise.

Authoring & Approval

Prepared By - Authors of the document.		
Name & Company	Position & Title	Date
Airbus Defence and Space		20-06-2016

Reviewed By - Reviewers internal to the project.		
Name & Company	Position & Title	Date
Airbus Defence and Space		01-06-2016
Airbus Defence and Space		
Airbus Defence and Space		

Reviewed By - Other SESAR projects, Airspace Users, staff association, military, Industrial Support, other organisations.		
Name & Company	Position & Title	Date
EUROCONTROL		

Approved for submission to the SJU By - Representatives of the company involved in the project.		
Name & Company Position & Title Date		Date
EUROCONTROL		

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

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Executive Summary

This report is evidence that the **Validation Exercise EXE-11.01.05-789** has services that have been assessed for SWIM Compliance. It provides the SWIM Compliance Level for each of the services assessed in the Validation Exercise.

1 Introduction

1.1 Purpose of the Document

This report is part of the SWIM Compliance Framework, produced in the context of SWIM Compliance for Validation Exercises that want to demonstrate the SWIM Compliance level. The SWIM Compliance Criteria for R5 explain the criteria against we assess for SWIM Compliance. This report provides the evidence to satisfy the Compliance Criteria for the

- ARESActivation service instance provided by LARA from EUROCONTROL CMAC,
- ARESPreActivation service instance provided by LARA from EUROCONTROL CMAC,
- ARESDeactivation service instance provided by LARA from EUROCONTROL CMAC,
- ExtendedFlightPlanSubmission service instance provided by NM from EUROCONTROL and
- OATFlightPlanSubmission service instance provided by NM from EUROCONTROL.

The steps in completing the report are the following:

- 1. The SWIM Compliance Applicant person responsible for the Validation Exercise, with assistance from WP 8 and WP 14 experts, produces the SWIM Compliance Report i.e. using this template.
- 2. The report is then handed over to the SWIM Compliance Acceptance Team, who performs the assessment and completes this template report into the final SWIM Compliance Assessment Report, including a SWIM Compliance Level.

This report is meant to contain all evidences that show the SWIM compliance for the Service Technical Design Description (STDD) for a service.

1.2 Intended Readership

- WP8 / WP 14
- WP 3
- Persons participating in the R5 Validation Exercise (e.g. Owners of the Validation Exercise)
- System Projects
- SWIM Compliance Acceptance Team

1.3 Acronyms and Terminology

Term	Definition
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. Source: Common working meeting between B41 EA study and B43 T5. In bold, the NATO Architecture Framework V3 definition
Governance	Ability of decision-makers to set policies regarding stakeholders, services, and their relationships
Information Exchange	A specification of the information that is to be exchanged. An Information Exchange must have a unique identifier. Source: NATO Architecture Framework V3 definition.

For definition and example of SWIM Compliance Applicant, see SWIM Compliance Criteria document.



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



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



Term	Definition
	which permit a set of stakeholders to share information
Service Technical Design Description	A set of one or more published documents that express meta information about a service. The fundamental part of a service contract consists of the service description documents that express its technical interface. These form the Service Technical Design Description (STDD) which essentially establishes an API into the functionality offered by the service.
	The service interface definition in the STDD is mainly given as a machine-readable format usually provided in a standard definition language such as IDL, WSDL or others. The STDD also describes such aspects as the message exchange pattern between provider and consumer, plus the chosen SWIM profile and requirements (bindings) on the technical infrastructure.
	A STDD can further reference human-readable documents, such as Service Level Agreement (SLA) that describes additional quality-of-service features, behaviours and limitations.

1.4 Acronyms and Terminology

Term	Definition
AIRM	ATM Information Reference Model.
ADQ	Aeronautical Data Quality
ATM	Air Traffic Management
CLDM	Consolidated Logical Data Model
ConOps	Concept of operations
DDS	Data Distribution Service
DOD	Detailed Operational Description
EA	Enterprise Architecture
EAEA	European ATM Enterprise Architecture
EASA	European Aviation Safety Agency
EC	European Commission
EU	European Union
ESB	Enterprise Service Bus
EUROCAE	European Organization for Civil Aviation Equipment
IBP	Industry Based Prototype
ICAO	International Civil Aviation Organisation



Term	Definition
ICD	Interface Control Document
IER	Information Exchange Requirements
INTEROP	Interoperability Requirements
IRS	Interface Requirements Specification
ISO	International Organisation for Standardisation
ISRM	Information Services Reference Model
IT	Information Technology
ITIL	IT Infrastructure Library (ITIL® provides a Best Practice guidance framework for IT Service Management)
LARA	Local and Sub-Regional Airspace Management System, provided by EUROCONTROL CMAC.
MET	Meteorology
NAF	NATO Architecture Framework
NM	Network Manager
OFA	Operational Focus Area
OI	Operational Improvement
OPS	Operational
OSED	Operational Service and Environment Definition
OuA	Object under Assessment
РКІ	Public Key Infrastructure
QoS	Quality of Service
RPC	Remote Procedure Call
RTCA	Radio Technical Commission for Aeronautics
SACG	SWIM Architect Co-ordination Group
scg	Service Coordination Group
SCL	SWIM Compliance Level
SDD	Service Description Document
SES	Single European Sky



Term	Definition	
SESAR	Single European Sky ATM Research Programme	
SESAR Programme	The programme which defines the research and development activities and projects for the SJU	
SID	Service Identification Document	
SIR	Service Identification Report	
SJU	SESAR Joint Undertaking (Agency of the European Commission)	
SJU Work Programme	The programme which addresses all activities of the SESAR Joint Undertaking Agency.	
SLA	Service Level Agreement	
SOA	Service Oriented Approach	
SOAP	Simple Object Access Protocol	
SoaML	Service Oriented Architecture Modelling Language	
SVA	Service Activity	
SWIM	System Wide Information Management	
SWIM TI	SWIM Technical Infrastructure	
sys	System Projects	
TAD	Technical Architecture Description	
TS	Technical Specification	
STDD	Service Technical Design Description	
UDDI	Universal Description, Discovery and Integration	
UML	Unified Modelling Language	
URN	Uniform Resource Name	
WP	Work Package	
WSDL	Web Services Description Language	
wsn	Web Services Notification	
XSD	XML Schema Definition	

2 SWIM Compliance Report Summary

This section summarises the main information about the compliance assessment.

	T	
STDD Name and Version	AMC Airspace Status A STDD, 00.02	
	AMC Airspace Status P STDD, 00.02	
	AMC Airspace Status D STDD, 00.02	
	NM Flight Filing EFPL STDD, 00.02	
	NM Flight Filing OAT STDD, 00.02	
Services assessed for SWIM Compliance	ARESActivationService	
	ARESPreActivationService	
	ARESDeActivationService	
	ExtendedFlightPlanSubmissionService	
	OATFlightPlanSubmissionService	
Version of the AIRM	AIRM v 3.2.0	
Version of the ISRM	ISRM v 1.3	
Version of the TI	SWIM Profile v 3.0	
Version of SWIM Compliance Framework applied	ork SWIM Compliance Framework for Release 5 Validation Exercises	
Reason for the Assessment	Demonstrate the SWIM Compliance for services in Validation Exercises EXE-11.01.05-789	
Responsible for service requirements		
SWIM Support		
Name of the SWIM Acceptance Team	AIRM:	
	ISRM:	
	TI:	
SWIM Compliance Level per service and	ARES Services:	
compliance domain	Information Service Compliant, Information Compatible, TI Binding Compatible	
	FlightServices :	
	Information Service Compatible, Information Compatible, TI Binding Compliant	
	•	

Notes:

 Italics need to be verified and updated, text in Blue will be filled in by the SWIM Acceptance Team



2. The SWIM Acceptance Team, following the final assessment, could change the SWIM Compliance levels.



Details of the Compliance Assessment

This section expands of the summary contained in section 2. It covers the main information about the compliance assessment in the three areas (Technical Infrastructure (TI), Information Exchange Services (ISRM), Information (AIRM)) and provides additional details where needed. This section has to be filled in by the SWIM Compliance Applicant, together with the SWIM Support team (WP 8 and WP 14 experts). The SWIM Acceptance Team will assess the information below and provide the final SWIM Compliance Level.

The detailed criteria are available in the SWIM Compliance Framework for R5 V&V exercises [24].

3.1 Description of the services

Service Name	Description
ARESActivation, ARESPreActivation and ARESDeActivation as part of the Airspace Status Service provided by EUROCONTROL CMAC	
Subscription Service provided by EUROCONTROL CMAC	This service interface manages the creation and disposal of a publish/subscribe channel for dissemination of ARES notifications.
ExtendedFlightPlanSubmission and OATFlightPlanSubmission as part of Flight Services provided by EUROCONTROL	Provide requests aimed at filing flight plan messages.

3.2 Contacts

Service Name	Contacts	
Airspace Status Service and Subscription Service	Service Contacts:	
Flight Services	NM NOP/B2B Team, EUROCONTROL	

3.3 Information Service Compliance

3.3.1 General Evidence

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

Service Name	Logical Service Name	Logical Service Origin and Version Number
Airspace Status Service	ARESActivation	00.02.01
	ARESPreactivation	00.02.01
	ARESDeactivation	00.02.01
Flight Services	ExtendedFlightPlanSubmission	00.01.01
	OATFlightPlanSubmission	00.01.01

3.3.2 Evidence for Information Service Compliance

For each of the services the following provides the evidence for the Information Exchange Service compliance as required by the SWIM Compliance Framework Criteria Document [24], IS-1, IS-2, IS-3, IS-4, and IS-5.

The relevant mappings are provided in the sections below.

3.3.2.1 Operations mapping (IS-1)

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

Operation Definition per Service Interface	Operation in service definition	Operation in service instance	
ActivateARES		requestActivations	
ProposeARESDeactivation	requestActivation		
ProposeARESPreactivation			
UpdateARESStatus	requestActivation	requestActivations	
Not defined	createSubscription	createSubscription	
Not defined	startSubscription	startSubscription	
Not defined	deleteSubscription	deleteSubscription	



requestExtendedFPLSubmission	fileNewExtendedFlightPla n	fileNewExtendedFlightPlan
requestExtendedFPLModification	fileExtendedFlightPlanUp date	fileExtendedFlightPlanUpd ate
requestExtendedFPLDelay	fileFlightDelay	fileFlightDelay
requestExtendedFPLCancellation	fileFlightPlanCancellation	fileFlightPlanCancellatio n
requestOATFPLSubmission	fileNewFlightPlan	fileNewFlightPlan
requestOATFPLModification	fileFlightPlanUpdate	fileFlightPlanUpdate
requestOATFPLDelay	fileFlightDelay	fileFlightDelay
requestOATFPLCancellation	fileFlightPlanCancellation	fileFlightPlanCancellatio n

As shown in the table above for several operations which are implemented and used in the validation exercise adequate operations in the SDD are missing. Other SDD operations are not yet implemented.

3.3.2.2 Payload mapping (IS-2)

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

For the Airspace Status Service and the Notification Service it is possible to map the physical message description to AIRM v.3.2.0 and to ISRM 1.3.

For the Flight Services it is possible to map the physical message description to AIRM v.3.2.0 and to ISRM 1.3 (see Excel file AIRM and ISRM mapping of Payload VP-789.xls [45]).

3.3.2.3 MEP mapping (IS-3)

IS-3: "For all the interfaces involved in the mapping as per IS-1, the messaging exchange patterns (MEPs) stated in the STDD are matched to the MEPs required by the SDD, according to a certain ruleset found in B.1 (of [24])"

The ARESActivation SDD [27] doesn't define a general pattern to adhere but the interfaces are described with a synchronous response. The related STDD [34] specifies the implemented ARESActivation to "SRR-MEP". This means, the MEP of the implemented service corresponds to the described response type.

The ARESPreActivation SDD [28] doesn't define a general pattern to adhere but the interfaces are described with a synchronous response. The related STDD [36] specifies the implemented ARESPreActivation to "SRR-MEP". This means, the MEP of the implemented service corresponds to the described response type.

The ARESDeActivation SDD [29] doesn't define a general pattern to adhere but the interfaces are described with a synchronous response. The related STDD [35] specifies the implemented ARESDeActivation to "SRR-MEP". This means, the MEP of the implemented service corresponds to the described response type.

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The ExtendedFlightPlanSubmission SDD [30] defines to adhere to the "Synchronous Request/Reply Message Exchange Pattern (MEP)". The related STDD [37] specifies the implemented ExtendedFlightPlanSubmission to "SRR-MEP". This means, the MEP of the implemented service corresponds to the defined MEP.

The OATFlightPlanSubmission SDD [31] doesn't define a general pattern to adhere but the interfaces are described with a synchronous response. The related STDD [38] specifies the implemented OATFlightPlanSubmission to "SRR-MEP". This means, the MEP of the implemented service corresponds to the described response type.

3.3.2.4 Service in ISRM (IS-4)

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

The ARESActivation SDD [27], the ARESPreActivation SDD [28], the ARESDeActivation SDD [29], the ExtendedFlightPlanSubmission SDD [30] and the OATFlightPlanSubmission SDD [31] are part of the ISRM 1.3 service portfolio.

3.3.2.5 NFR mapping (IS-5)

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

The ARESActivation SDD [27], the ARESPreActivation SDD [28] and the ARESDeActivation SDD [29] do not contain any non-functional requirements (NFR) specifications for the related services. Therefore, no compliance statement can be given (or, in fact, the service instance is implicitly compliant).

The ExtendedFlightPlanSubmission SDD [30] and the OATFlightPlanSubmission SDD [31] contain 2 non-functional requirements each:

- EFPL Performance
- EFPL Reliability

The result of a verification & validation of these requirements by the service provider is not known.

3.3.3 Assessment Result - Information Service Compliance Level

Service Name	Information Service Compliance Level- Claimed To be filled in by the SWIM Compliance Applicant	Information Service Compliance Level- approved To be filled in by the SWIM Acceptance Team	Remarks (optional) To be filled in by the SWIM Acceptance Team
Airspace Status Services (ARES Activation, ARES DeActivation, PreActivation)	Statement on the level of compliance claimed by the Compliance Applicant: Information Service Compliant	The evidence provided supports the Information Service Compliant level of Compliance.	Certain differences exist between the SDD and STDD of these services. These have not affected negatively the assessment, it is recommended that the service design is reviewed and updated



			taking into account existing implementations.
Flight Services	Statement on the level of compliance claimed by the Compliance Applicant: Information Service Compatible	The evidence provided supports the Information Service Compatible level of Compliance.	The NM is an active operational system with strict availability and performance requirements, the Information Service compliance could be easily raised if evidence of the satisfaction of NFRs is provided.



3.4 Information Compliance

3.4.1 Evidence for Information Compliance – General Case

The purpose of checking the Information/AIRM compliance is to demonstrate that all elements in OuA (i.e. one service's physical message(s)) have a semantic correspondence with elements in the AIRM in accordance to AIRM Compliance Rulebook [26].

Table 1: General information on Airspace Status Service

Service Name	Airspace Status Service
AIRM version	AIRM v.3.2.0
Reference to AIRM	AIRM v.3.2.0 is described in [20], [21], [22] and [23]
Reference to OuA (Physical Messages)	As described in the STDD, the physical messages are specified by the WS-N standard (see http://docs.oasis-open.org/wsn/brw-2.wsdl and http://docs.oasis-open.org/wsn/bw-2.wsdl). The actual payload is defined as XML Schema in ActivationServiceImpl_schema1.xsd file [39].

For the Subscription Service no corresponding SDD could be found in ISRM 1.3 and later. A mapping to AIRM was not possible for the actual payload as defined in XML Schema SubscriptionServiceImpl_schema1.xsd file [40].

Table 2: General information on Flight Services

Service Name	Flight Services		
AIRM version	AIRM v.3.2.0		
Reference to AIRM	AIRM v.3.2.0 is described in [20], [21], [22] and [23]		
Reference to OuA (Physical Messages)			

IN-1: "A documented mapping representing a semantic correspondence between the (service) physical message(s) and the AIRM is fulfilling the compliance requirements stated in the AIRM Compliance Framework [8] needed for achieving the AIRM Compliance Level 1. The evidence for the AIRM Compliance Level 1 shall fulfil the requirement that there is a documented mapping between each OuA's Entity and a corresponding AIRM Element, at its minimum." (For compliance level Information Ready).

IN-2: "A documented mapping representing a semantic correspondence between the (service) physical message(s) and the AIRM is fulfilling the compliance requirements stated in the AIRM Compliance Framework [8] needed for achieving the AIRM Compliance Level 2. The evidence for the AIRM Compliance Level 2 shall fulfil the requirement that there is a documented mapping between each OuA's Entity and OuA's Attribute on one hand and the corresponding AIRM Element on the other hand, at its minimum." (For compliance level Information Compatible).



IN-3: "A documented mapping representing a semantic correspondence between the (service) physical message(s) and the AIRM is fulfilling the compliance requirements stated in the AIRM Compliance Framework [8] needed for achieving the AIRM Compliance Level 3. The evidence for the AIRM Compliance Level 3 shall fulfil the requirement that there is a documented mapping between each OuA's "Entity, Attribute, DataType and BusinessRule/Constraint" on one hand and the corresponding AIRM Element on the other hand, at its minimum." (For compliance level Information Compliant).

According to the Handbook, the mapping can be as a table showing the correspondence between service physical message element names and AIRM element names, including the AIRM elements' URNs. This applies e.g. for messages expressed as XSD schemas.

The detailed mapping for the services will be part of chapter 3.3.2.2.

Table 3: Evidence for semantic correspondence with AIRM of Airspace Status Service

	See AIRM mapping in tab "Airspace Status Payload Mappg" in "VP-789 Payload Mapping Documentation XSD – AIRM – ISRM" [45]
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For the Subscription Service it was not possible to define a semantic correspondence with AIRM.

Table 4: Evidence for semantic correspondence with AIRM of Flight Services

	See AIRM mapping in tab "Flight Services Payload Mappg" in "VP-789 Payload Mapping Documentation XSD – AIRM – ISRM" [45]
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3.4.2 Evidence for Information Compliance – reuse of existing approved compliance report

N.A.

3.4.3 AIRM Change Requests

Element in the Object Under Assessment	AIRM Change Request Number
N/A	N/A

3.4.4 Out of Scope Justifications

See [45] for elements identified as Out of Scope.

3.4.5 Assessment Result - Information Compliance Level

Please, fill in the table with the Information Compliance level achieved for each of the services based on the evidence collected above and on the conditions stated in the Compliance Framework Criteria Document section on "Information Compliance".

Service Name	Information Compliance Level - Claimed To be filled in by the SWIM	Information Compliance Level- Approved	Remarks (optional) To be filled in by the SWIM Acceptance Team
	Compliance Applicant	To be filled in by the SWIM	

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Avenue de Cortenbergh 100 | B -1000 Bruxelles www.sesarju.eu

		Acceptance Team	
Airspace Status Service	Statement on the level of compliance claimed by the Compliance Applicant: Information Ready	The evidence provided supports the Information Compatible level of Compliance.	A higher level of compliance has been granted as every entity and attribute of the payload has been traced.
			All Out of Scope elements were checked on a case by case basis and deemed appropriate. A brief justification would be desirable.
Flight Services	Statement on the level of compliance claimed by the Compliance Applicant: Information Ready	The evidence provided supports the Information Compatible level of Compliance.	A higher level of compliance has been granted as every entity and attribute of the payload has been traced.
			All Out of Scope elements were checked on a case by case basis and deemed appropriate. A brief justification would be desirable.

Note: The AIRM is available: [20].

3.5 Compliance with SWIM-TI TS

3.5.1 Evidence for TI Compliance

The purpose of checking the SWIM TI compliance is to ensure that the services are instantiated on a given SWIM-TI Profile.

Table 5: Evidence for TI Compliance of Airspace Status Service

		pliance of Airspace Status Service		
Field name	Reference to TI criteria condition	Evidence		
Service (N/A) Name		Airspace Status Service		
SWIM Profile	(N/A)	SWIM Yellow Profile		
SWIM TI Profiles Version	TI-1	Version 3.0		
MEP ²	TI-2	The MEP provided in STDD is SRR-MEP , which is also available in Appendix B of the SWIM Compliance Framework Criteria document, where it is called Synchronous Request/Reply .		
	TI-5	The SRR-MEP indicated in the STDD is the same as the MEP included in the interface binding REQ-14.01.04-TS-0901.0790 chosen in the STDD.		
		The technology used in the service implementation is SOAP 1.1 Web Services.		
Interface TI-4 Binding		The Binding codename included in the STDD is REQ-14.01.04-TS-0901.0790.		
Link to the service interface	TI-6	As described in the STDD, the physical service definition is given by WSDL file ActivationServiceImpl.wsdl [42] and the payload is defined as XML Schema in ActivationServiceImpl_schema1.xsd file [39].		
Requirement s coverage	TI-7			

Table 6: Evidence for TI Compliance of Flight Services

Field name Refere	iteria	e
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² As the catalogue of MEP and the catalogue of SWIM-TI Interface Bindings are on-going, we refer to the MEP and the Interface Bindings in the specific WP14 documents (SWIM-TI TAD and TS and the SWIM Profiles document).[10][11][12][13][14][15][16]





Service (N/A) Flight		Flight Services		
SWIM Profile	(N/A)	SWIM Yellow Profile		
SWIM TI Profiles Version		Version 3.0		
MEP ³	TI-2	The MEP provided in STDD is SRR-MEP , which is also available in Appendix B of the SWIM Compliance Framework Criteria document, where it is called Synchronous Request/Reply .		
	TI-5	The SRR-MEP indicated in the STDD is the same as the MEP included in the interface binding REQ-14.01.04-TS-0901.0790 chosen in the STDD.		
Technology	TI-3	The technology used in the service implementation is SOAP 1.1 Web Services.		
Interface Binding	TI-4	The Binding codename included in the STDD is REQ-14.01.04-TS-0901.0790.		
Link to the service interface	TI-6	As described in the STDD, the physical service definition is given by WSDL file FlightServices_OPS_19.5.0.wsdl [44] and the payload is defined as XML Schema in FlightServices_19.5.0.xsd file [41].		
Requirement s coverage	TI-7	NM Verification Report		

3.5.2 Assessment Result – TI Compliance Level

Service Name	TI Compliance Level - Claimed To be filled in by the SWIM Compliance Applicant TI Compliance Level- approved To be filled in by the SWIM Acceptance Team		Remarks (optional) To be filled in by the SWIM Acceptance Team
Airspace Status Service	Statement on the level of compliance claimed by the Compliance Applicant: TI Binding Compatible	The evidence provided supports the TI Binding Compatible level of Compliance.	No evidence of requirement coverage was provided.
Flight Services	Statement on the level of compliance claimed by the Compliance Applicant: TI Binding Compliant	The evidence provided supports the TI Binding Compliant level of Compliance.	The evidence of requirement coverage is of indirect nature, this has not affected the assessment result.

³ As the catalogue of MEP and the catalogue of SWIM-TI Interface Bindings are on-going, we refer to the MEP and the Interface Bindings in the specific WP14 documents (SWIM-TI TAD and TS and the SWIM Profiles document).[10][11][12][13][14][15][16]





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3.6 Post-conditions for SWIM Compliance

3.6.1 Post-condition on payload compliance

Post-condition on payload compliance is already met, because the process for information service and information compliance (thread 1) has been followed as indicated in the Appendix on the process of the criteria document.

4 Feedback from SWIM Compliance Acceptance Team

4.1 Service assessment: conclusions and way forward

Several differences were noted between the Service Logical Design and the Service Technical Definition of the ARES services. Some of which can be justified as limitations or deficiencies in the logical design, hence why they have not had a negative impact in the assessment. The following differences were identified:

- The service implementation utilized 2 interfaces with different MEPs: A SRR interface that corresponds with the interface defined logically and a Publish/Subscribe Push interface with no correspondence to the logical service design. The Compliance Acceptance Team acknowledged that the implementation was more complete than the service design. Service designers are recommended to consider the inclusion of a Publish/Subscribe interaction for the ARES services.
- The service design of the ARES services (Activation, DeActivation, PreActivation) defines 2 operations per service interface with the same payload: We recognized that an implementation can decide to implement the 6 operations (2 per service) with only one technical operation and differentiate by context and payload between them without resulting in information loss. We recommend service designers to re-evaluate the design as we consider 6 copies of the same operation (8 including ARES Release, not assessed in this report) with the same payload is excessive. At a minimum they should be considered part of the same service as there is no difference in service behaviour or payload.

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

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

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

4.2 SWIM Compliance Criteria feedback

This section is filled in by any actor in the Compliance Process. This section includes the possible needs for improvements of the SWIM Compliance Framework Criteria.

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