

System Wide Information Management (SWIM)

FAA-STD-073 Preview

Presented to: SWIM Brown Bag

By: SWIM Governance Team

Date: May 8, 2013



Agenda

- **Introducing FAA-STD-073**
- **What is a JMSDD?**
- **JMS Message Models**
- **JMS Messages**
- **Structure of FAA-STD-073**
- **JMS Features**



Introduction to FAA-STD-073

The aim of this standard is to specify requirements for creating a service description document for a Java Message Service (JMS)-based client according to FAA system engineering standards and practices and prepared accordance to FAA-STD-068



U.S. Department
of Transportation

Federal Aviation
Administration

FAA-STD-073
April 16, 2013

NOTE: This draft, dated April 15, 2013, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL.

U.S. Department of Transportation
Federal Aviation Administration

Standard Practice

PREPARATION OF
JAVA MESSAGING SERVICE DESCRIPTION DOCUMENTS



What is a JMSDD?

The JMS Description Document (JMSDD) provides the details needed to sufficiently describe a JMS-based service as a part of the FAA's implementation of a Service-Oriented Architecture (SOA)

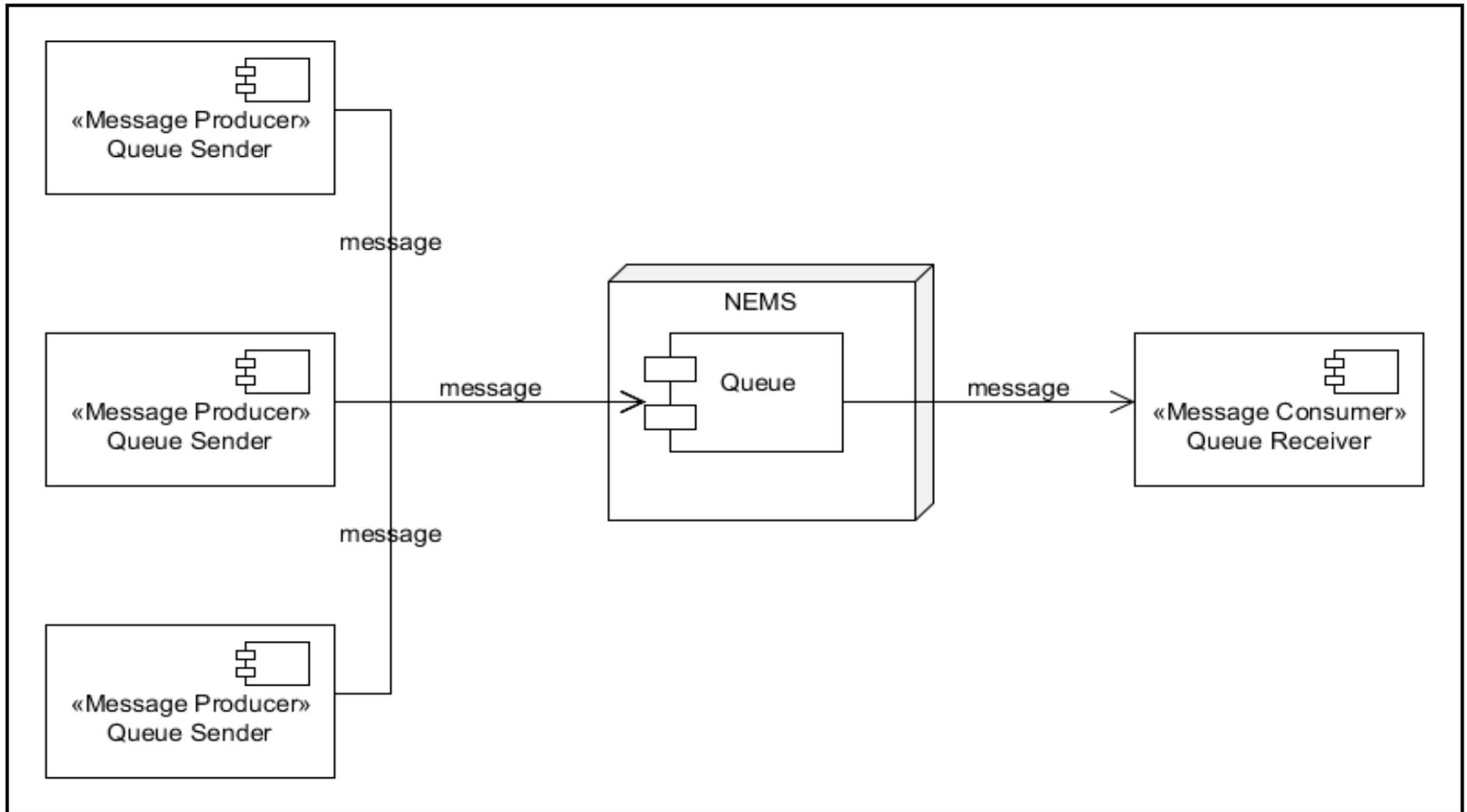
This standard promotes services that are:

- **Designed in accordance with the JMS Application Programming Interface (API)**
- **Supported and enabled by the SWIM Program**
- **Deployed and executed using the NAS Enterprise Messaging Service (NEMS) as a provider of messaging and infrastructural capabilities**

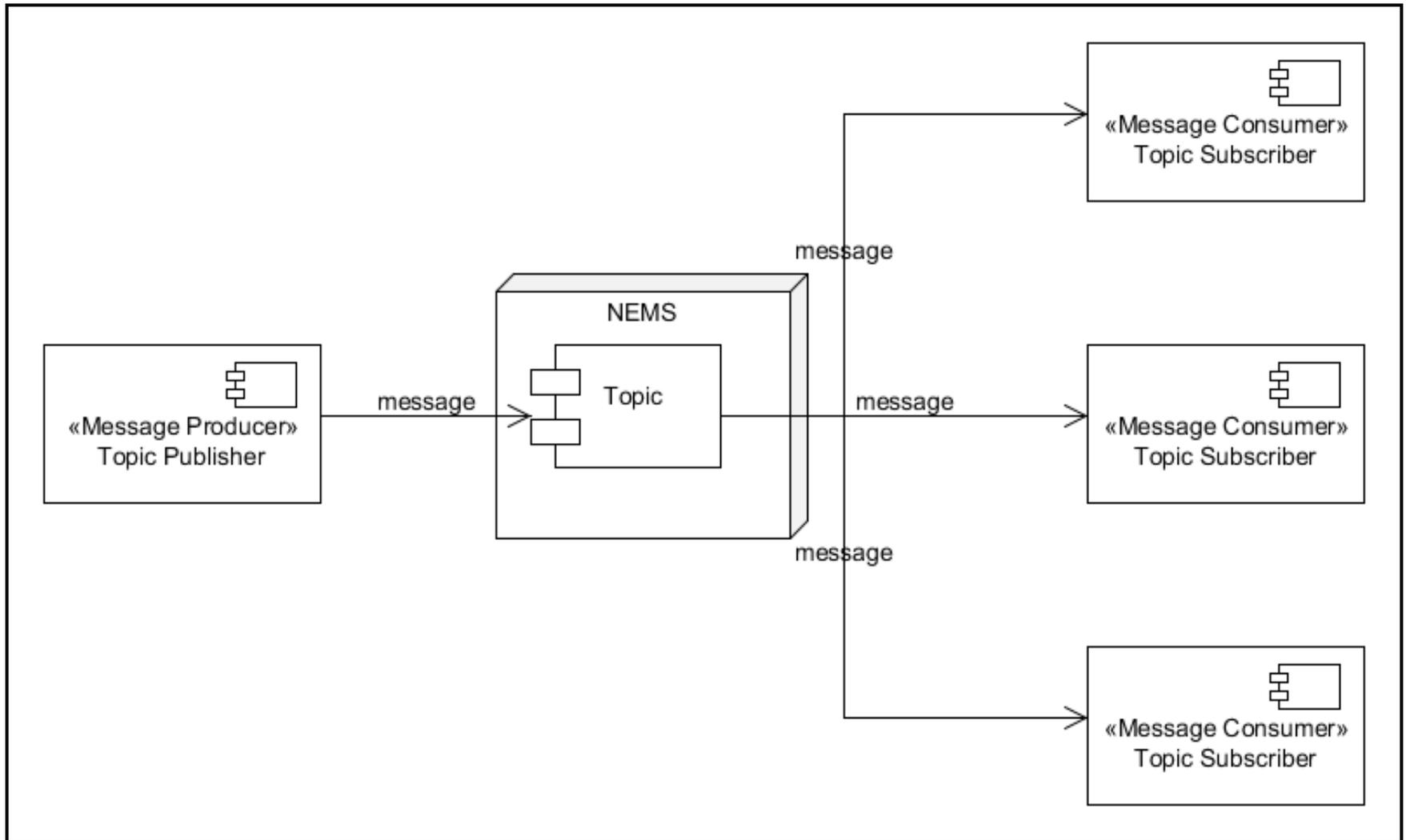
JMS Messaging Models

- **Traditionally, there are two JMS Messaging Models:**
 - **Point-to-Point (PTP)**
 - Each message is addressed to only one consumer
 - **Publish/Subscribe (Pub/Sub)**
 - The pub/sub messaging model is similar to the notion of one-to-many relationships

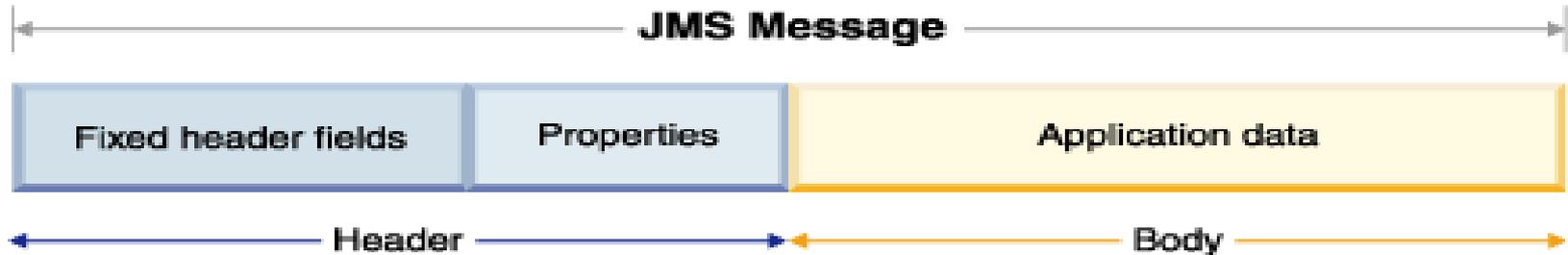
PTP Messaging Model (Example)



Pub/Sub Messaging Model (Example)

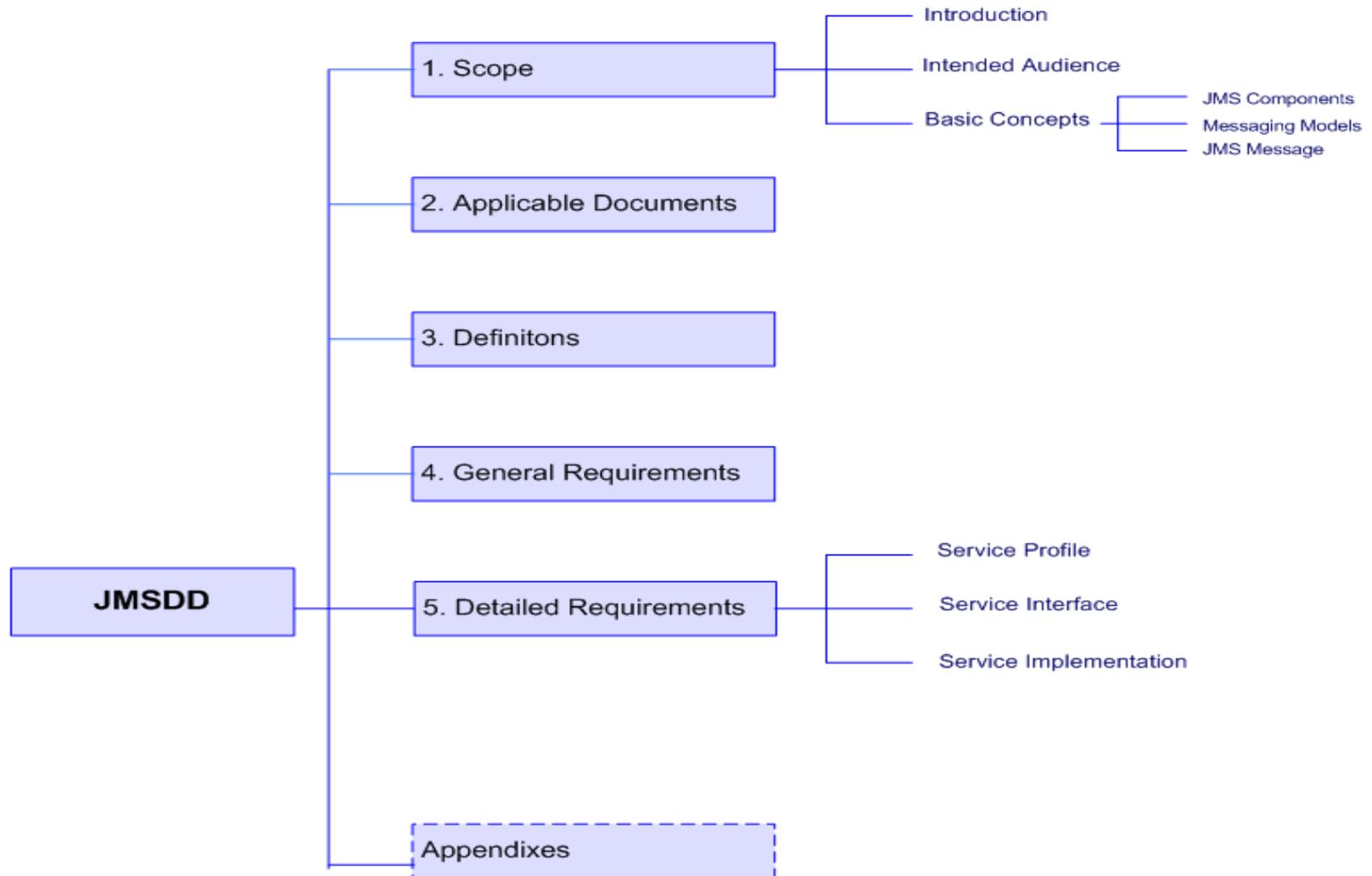


JMS Messages



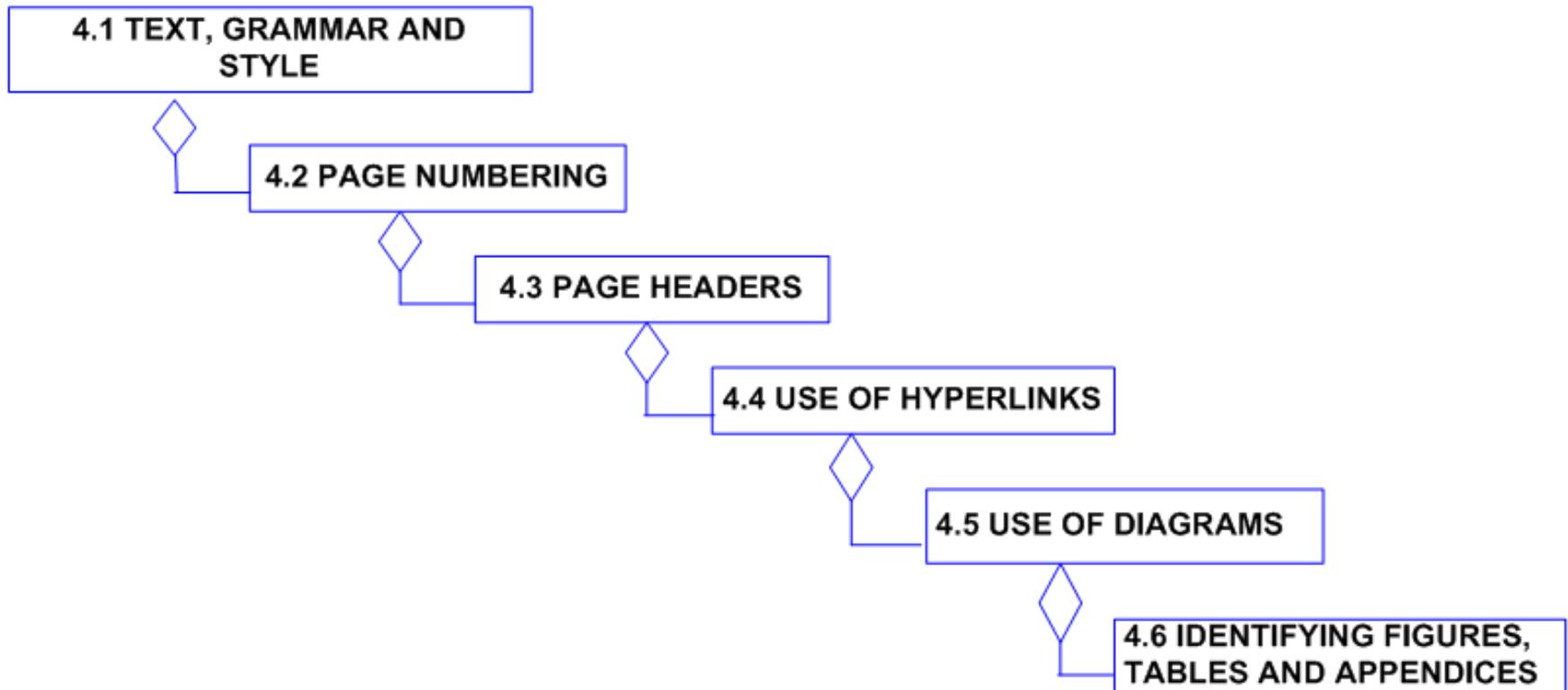
- **Message Header**
 - contains values used by both clients and providers for identifying and routing messages
- **Message Properties**
 - contains vendor-specific values and could also contain application-specific messages
- **Message Body (Payload)**
 - contains the actual (business) data transferring the message

Structure of FAA-STD-073



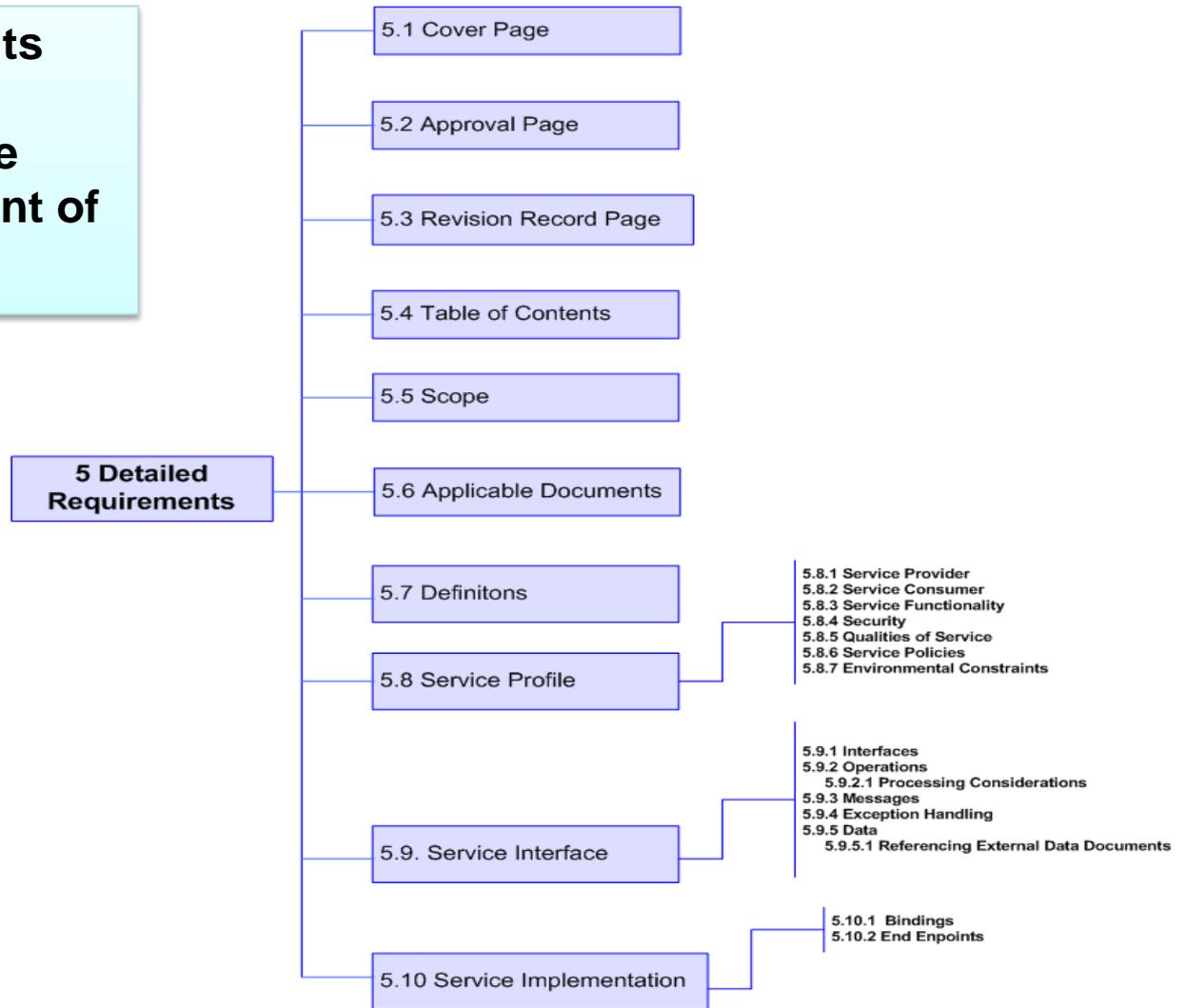
Section 4: General Requirements

This section presents FAA's requirements for the stylistic aspects of the JMSDD; the style is consistent with other FAA documents of this nature



Section 5: Detailed Requirements

This section presents FAA's detailed requirements for the structure and content of the JMSDD



Section 5.8: Service Profile

This section tells the JMSDD author how to describe the service's providers and consumers, its functional and non-functional characteristics, and constraints over its capabilities

5.8 Service Profile

5.8.1 Service Provider

5.8.1.1 Point Contact

5.8.2 Service Consumers

5.8.3 Service Functionality

5.8.4 Security

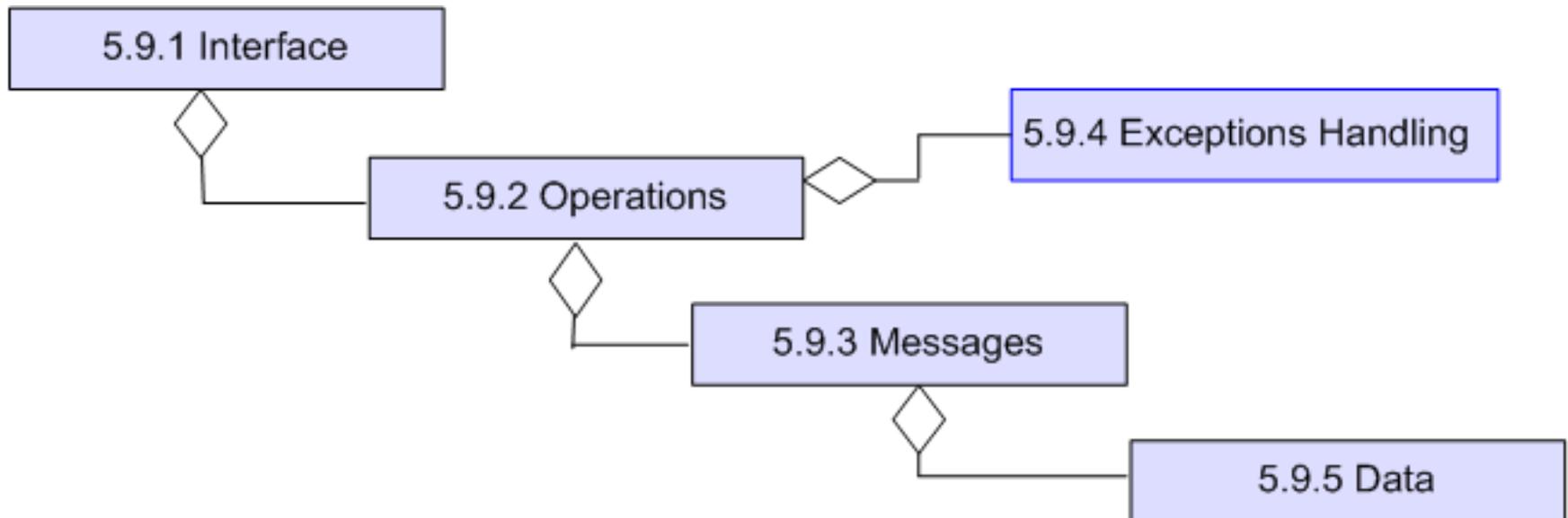
5.8.5 Qualities of Service

5.8.6 Service Policies

5.8.7 Environmental Constraints

Section 5.9: Service Interface

This section tells the JMSDD author how to describe the types and content of messages that the service exchanges, message exchange models that the service deploys, and any conditions implied by these messages

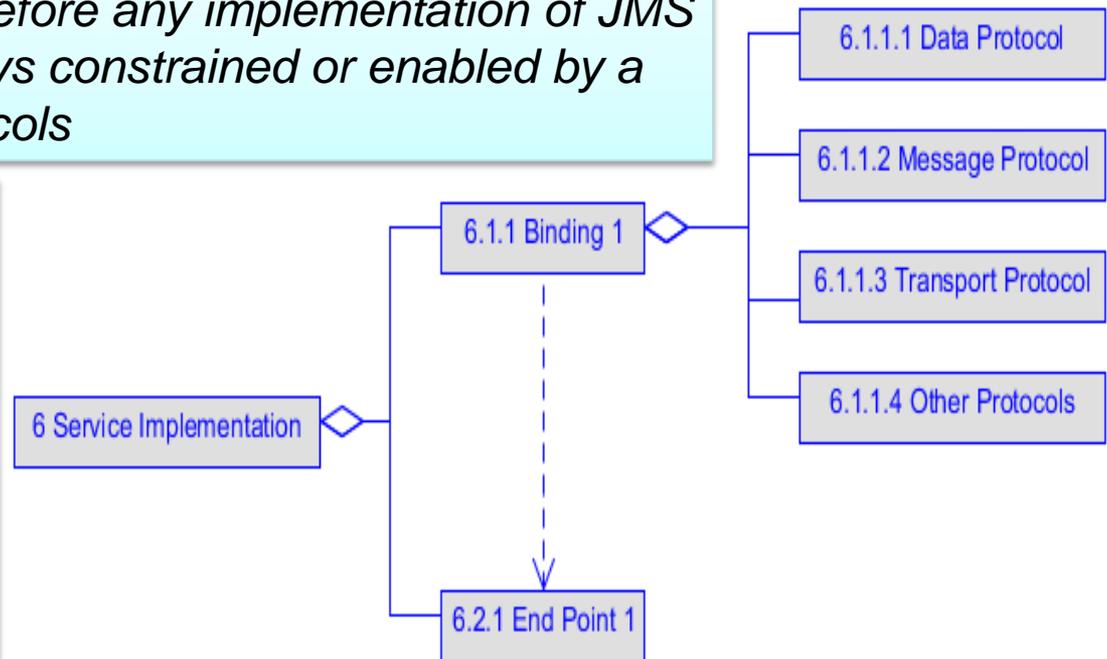


Section 5.10: Service Implementation

This section tells the JMSDD author how to describe the service implementation, including the software product that is used for developing and operating the service, and the means by which it can be accessed

The JMS as an abstract specification does not specify any "on-wire" protocols, and therefore any implementation of JMS providers and clients is always constrained or enabled by a vendor-provided set of protocols

As other superseding guidance that formally specifies information about the protocols and endpoints (e.g. NEMS ICD) is made available, this section may consist only of references to that document



Appendix Section

The appendixes include typical JMSDD cover/approval/signature pages, several taxonomies (e.g., Appendix G - Message Payload Content Record Types), and some examples of information as it might appear in a JMSDD, e.g.:

Record Type	Description
Live	Operations data permissible only on the NEMS
Pre-recorded	Old data previously recorded on the NEMS being reused on the non-production environments for testing purposes.
Simulated	Mock data created in the non-production environments for scenario simulation testing purposes

**Questions?
Suggestions?
Comments?**



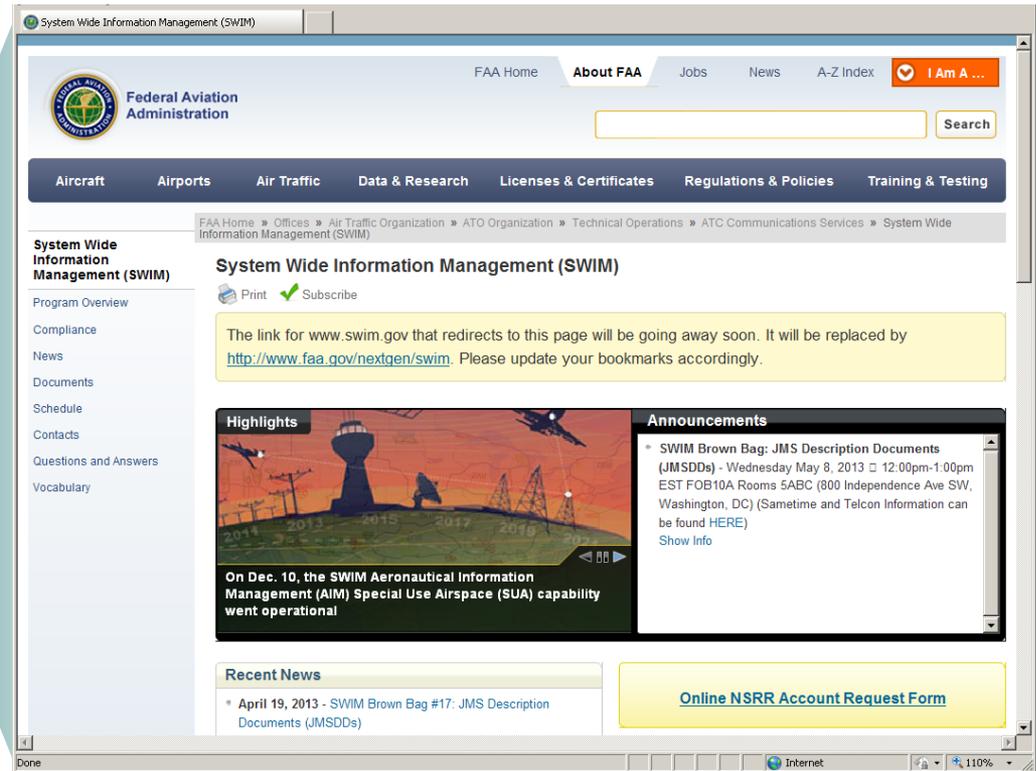
Contact

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Keeping up with SWIM

The SWIM website describes the SWIM program and provides news, announcements, and information on current issues

It also contains key documentation, including select briefings, the SWIM Newsletter, and the SWIM Q&A



<http://www.faa.gov/nextgen/swim>