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ICAO SWIM Context

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Summary

- The main problems
- The possible option
- The analysis
- The main concept
- Conclusions

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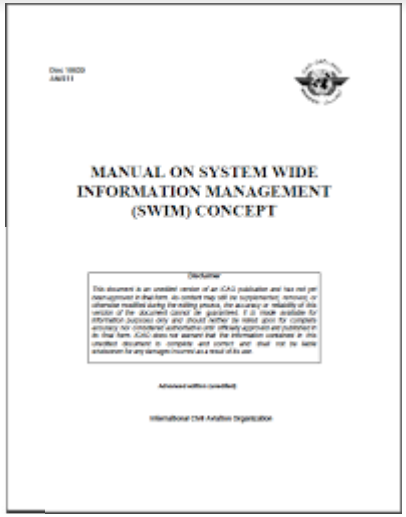
Global Air Navigation Plan (GANP)

GANP



MANUAL ON SYSTEM WIDE INFORMATION MANAGEMENT (SWIM) CONCEPT

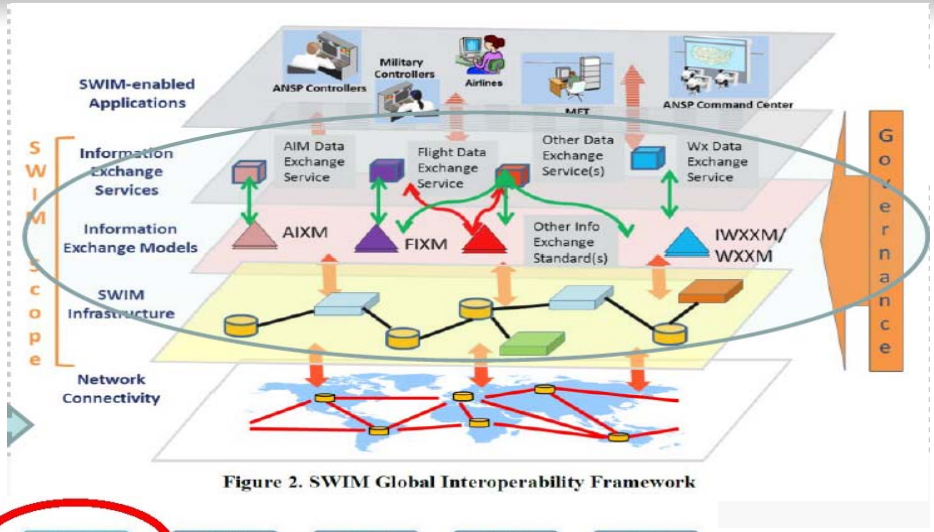
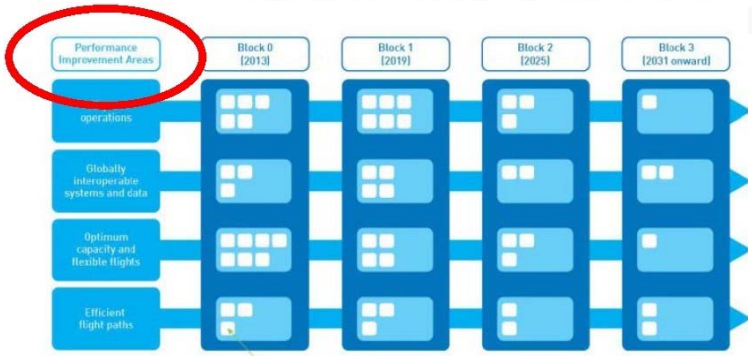
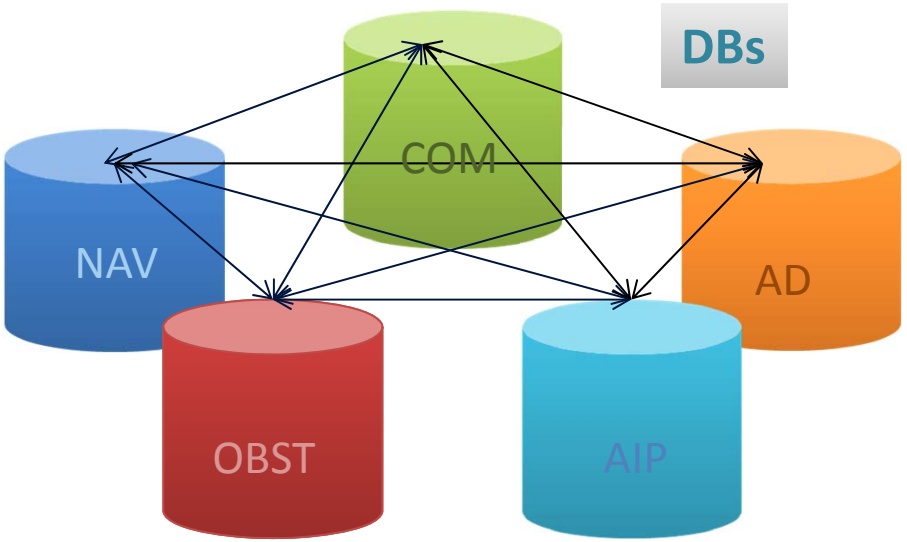


Figure 2. SWIM Global Interoperability Framework



The main problems

- What are the problems in Air Navigation?
  - Basically in the Information and Data systems
  - Data validation

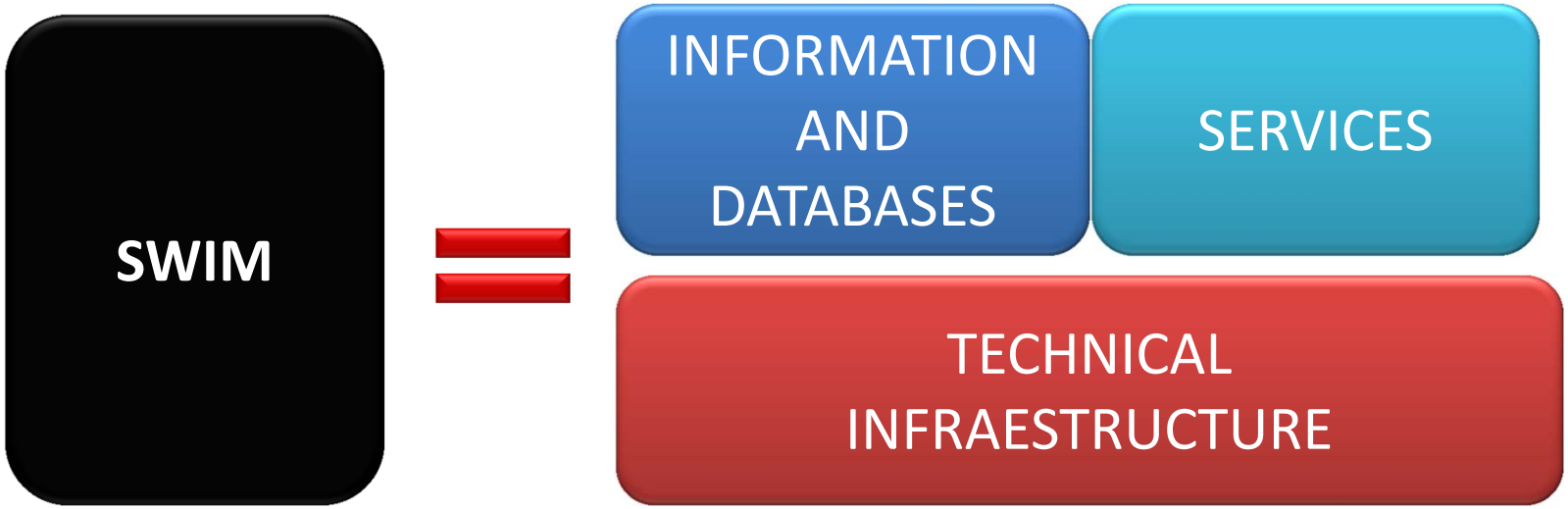


Some are:

- Duplicity
- Data origin insufficiently validated
- Data Traceability
- Secure data management
- Lack of integrity and cyber-security

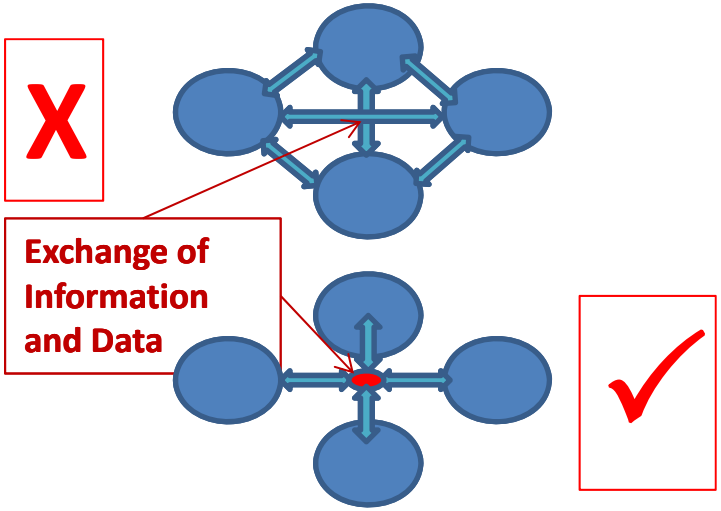
Definition

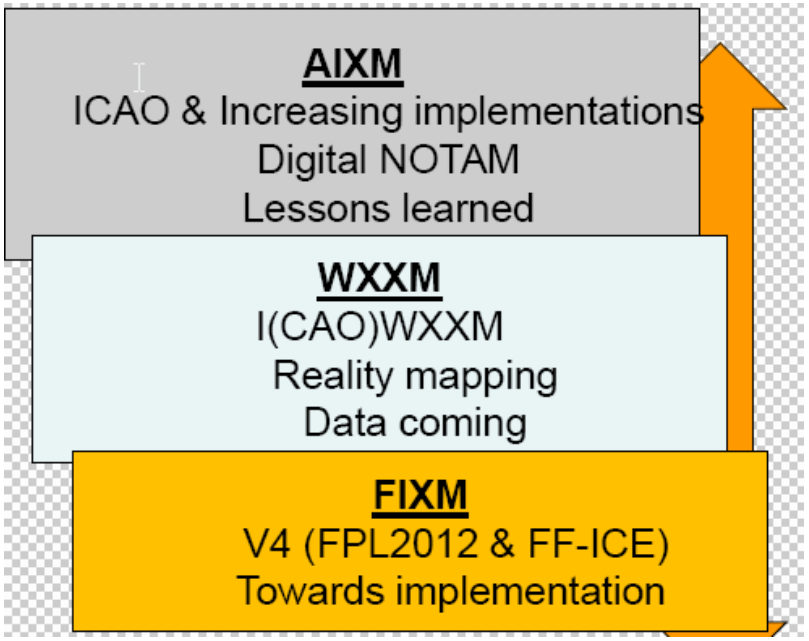
SWIM consists of standards, infrastructure and governance that allow the management of ATM information and its exchange among qualified parties through interoperable services



SWIM

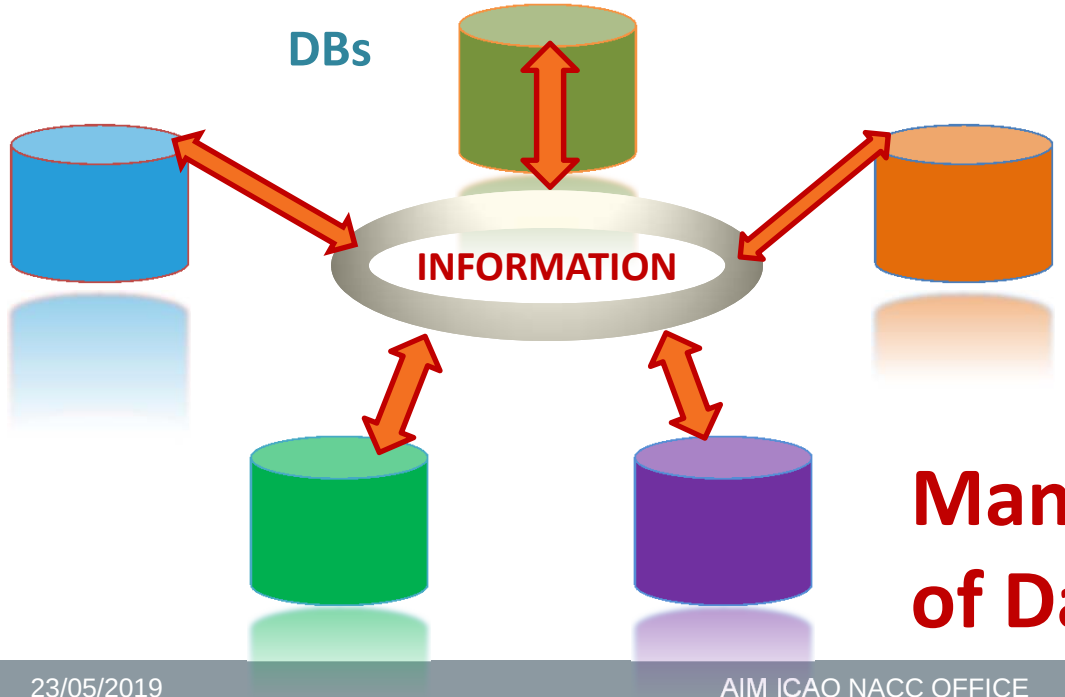
The ATM Information Reference Model (AIRM) contains the information constructions that will be used by means of ...





AIDX, AMDB, Asterix, …

The Possible solution



SWIM SERVICES

- Manage Information and Data
- Access to information
- Publish information
- Update information……

Management of Databases

Specification of the basics

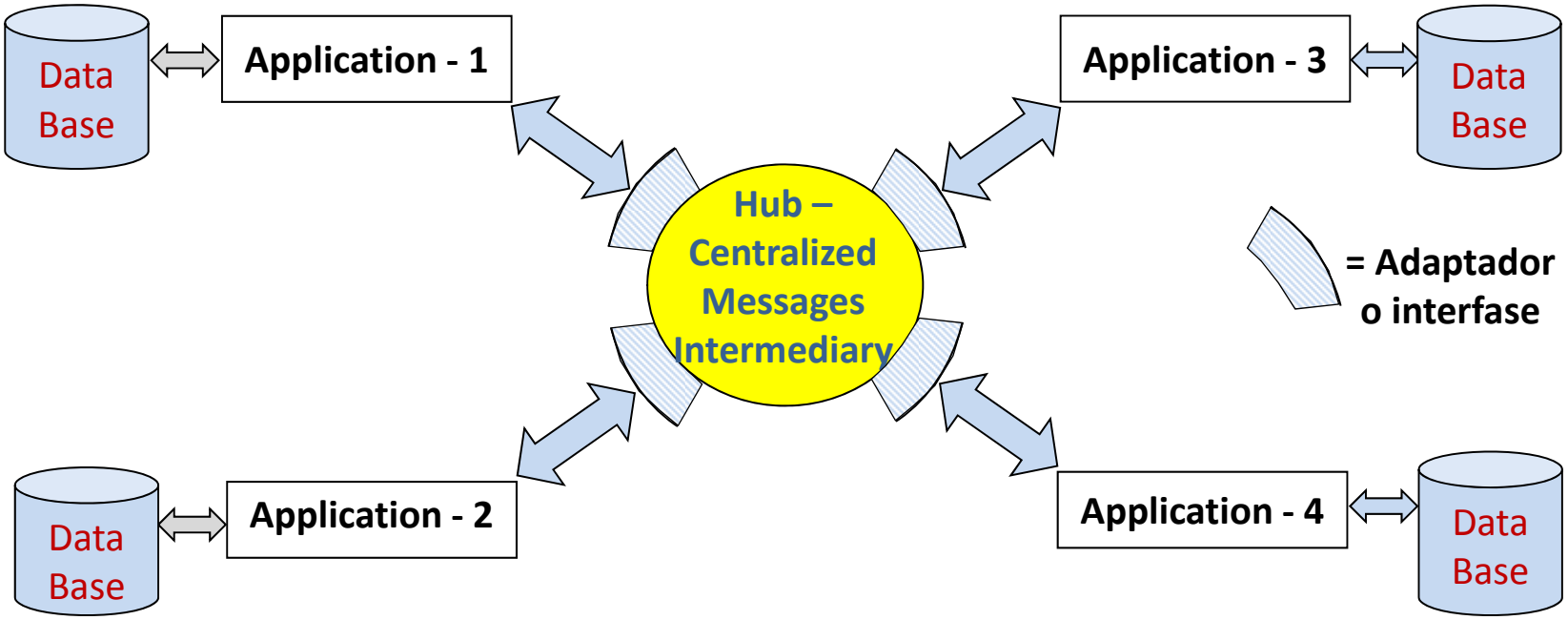
- Essential requirements
- Controlled vocabulary
- Need for semantic interoperability
- Based on open standards
- Interoperable services
- Examples

Guides

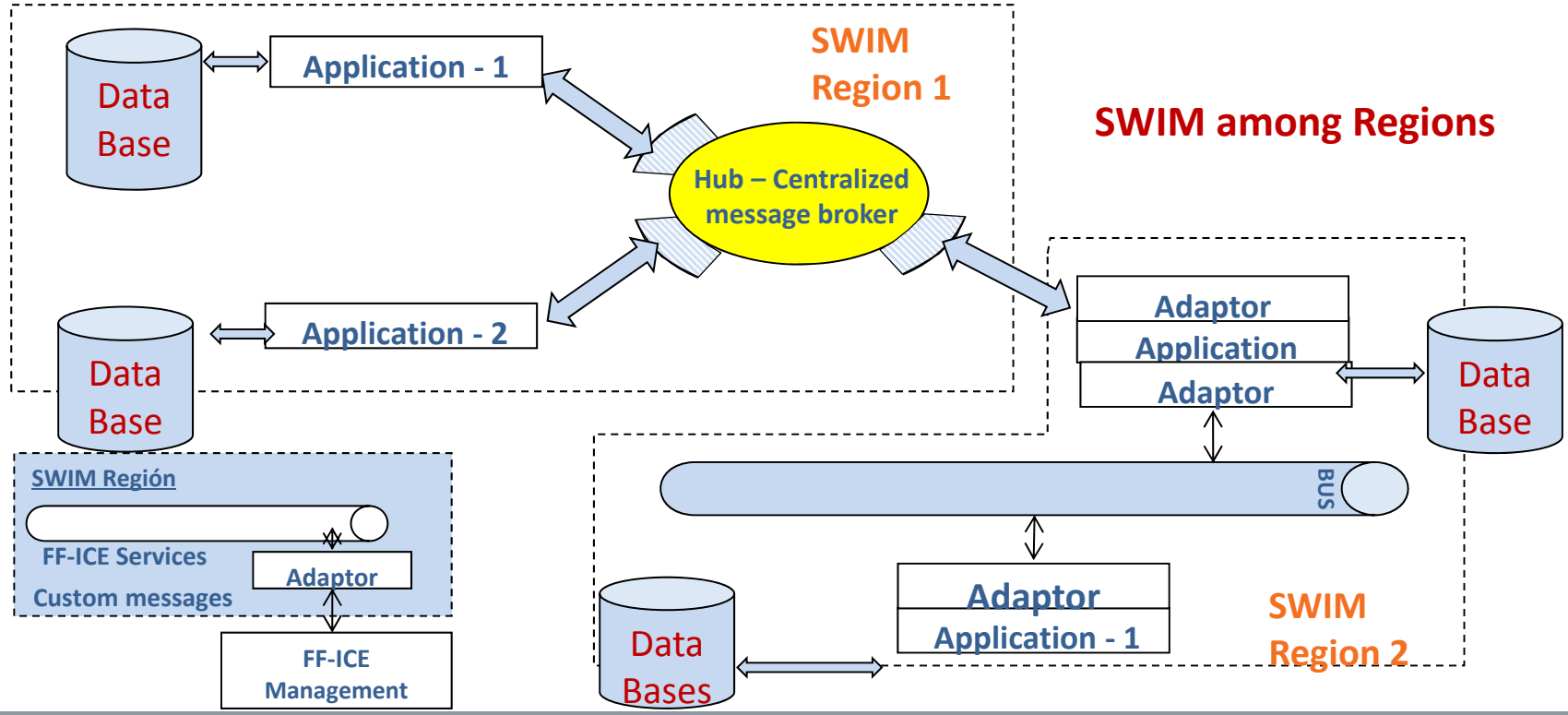
- AIRM
- AIRM rules
- Service rules
- Technical infrastructure
- Compliance framework

ATFM Colaborativa
La aplicación clave

Basic SWIM Topology



Basic SWIM Topology (Cont…)



Doc 10039 - SWIM

Planned deliverables

- **Final version SWIM manual (Doc.10039)**
- **Initial SARPs - IM**
- **New DNOTAM concept / replacement proposal**
- **AIRM package**
- **Global registration proposal**

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TABLE OF CONTENTS

SWIM INFORMATION
DOMAINS AND DATABASES INITIATIVES

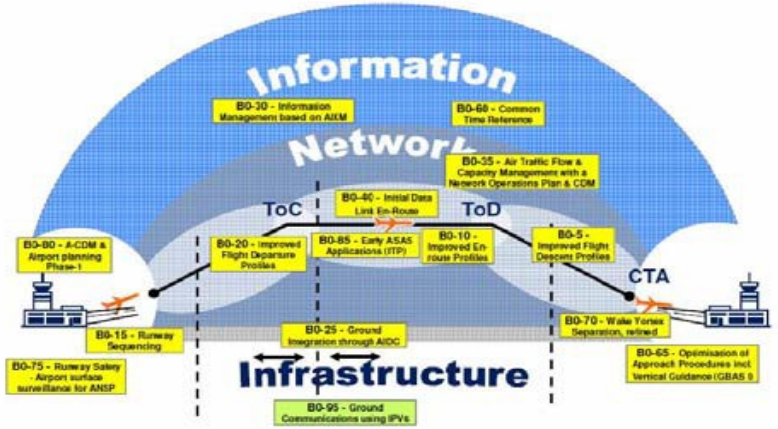
Aeronautical Information	Flight Information	Meteorology Information
• **AIXM**	• **FIXM**	• **WXXM**
Aerodrome Information	Surveillance Information	ATM Information
• **AMXM**	• **…**	• **…**

SWIM activators and benefits

- SWIM will allow better techniques. These improvements in turn will allow operational improvements such as better situational awareness.

- Operational improvements will contribute to the Key Performance Areas (KPA) of the ATM

  - SWIM allows better financial performance
  - Technologies with open formats and standardized interfaces
  - The normalization of the service will facilitate the use of information in other contexts



An increase in the interoperability of data formats and interfaces will make possible a systems architecture

ICAO –Information Management (IM)

- The Global Need for a SWIM Concept
- Inter-regional interoperability
- Aircraft integration, efficient and timely deployment
- Agree on future work under the same conditions

Conclusions

- SWIM is already a reality
  - Information Management (IM), involves the development of data and information models, registration, etc ...
  - New concepts for ATM (ATM Information Reference Model - AIRM)
  - A service oriented architecture
  - Architecture focus
- Regarding the SWIM implementation:
  - Implement AIXM, WXXM, FIXM, etc. it's just part of the job
  - It will be a truly global and interoperable ATM atmosphere

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THANK YOU