



| ICAO CAPACITY & EFFICIENCY

# ICAO SWIM Context

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Mexico City, May 2019





# Summary

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





## GANP

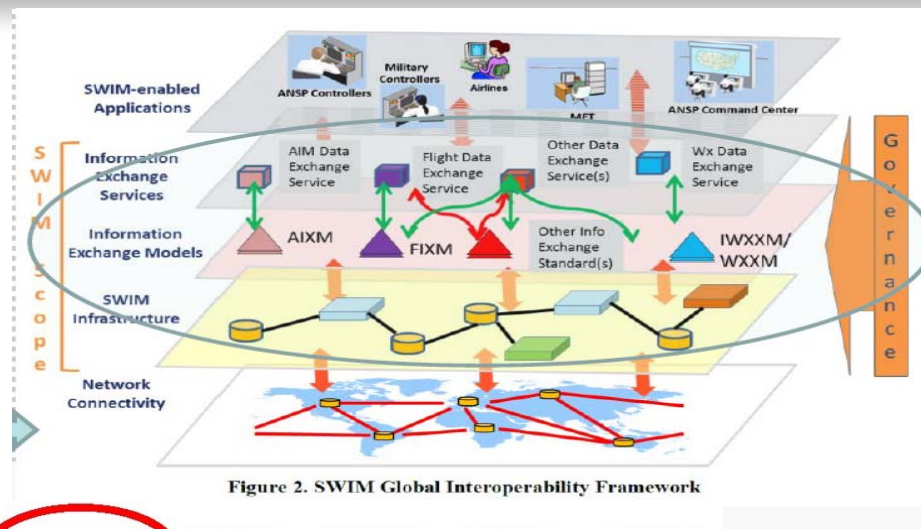
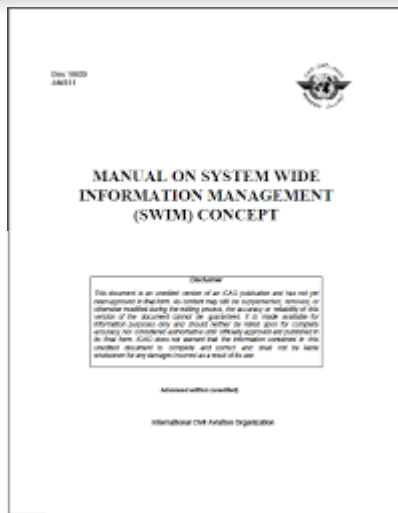
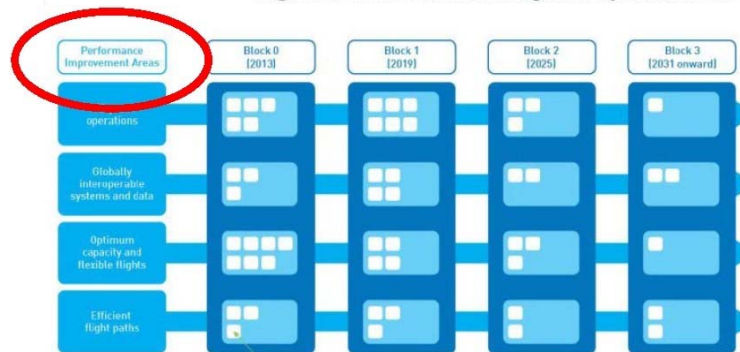


Figure 2. SWIM Global Interoperability Framework

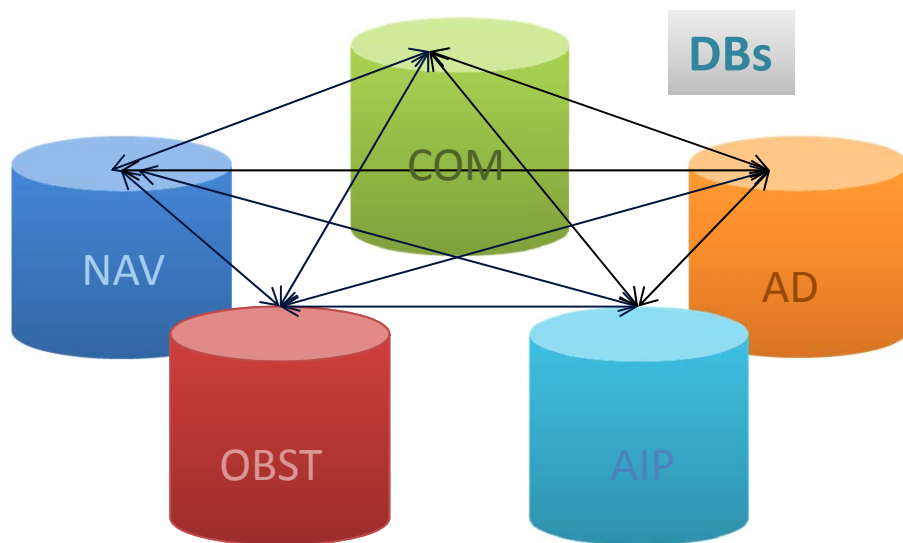




# The main problems

## ✈ What are the problems in Air Navigation?

- ✈ Basically in the Information and Data systems
- ✈ Data validation



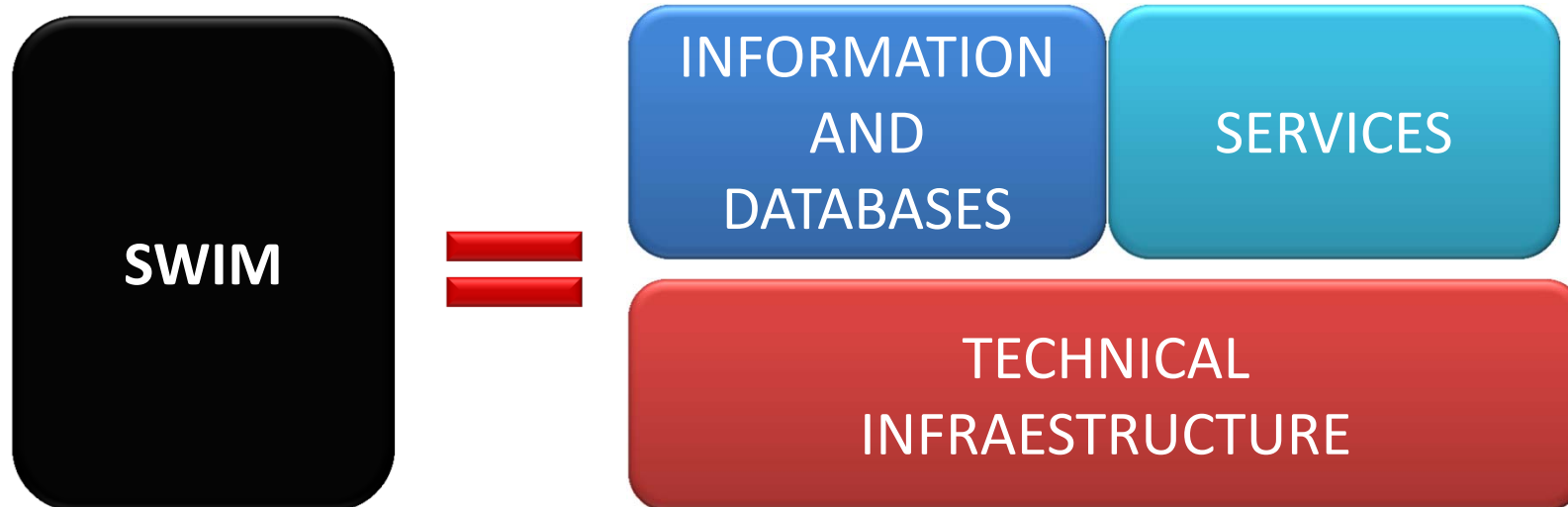
## Some are:

- 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*



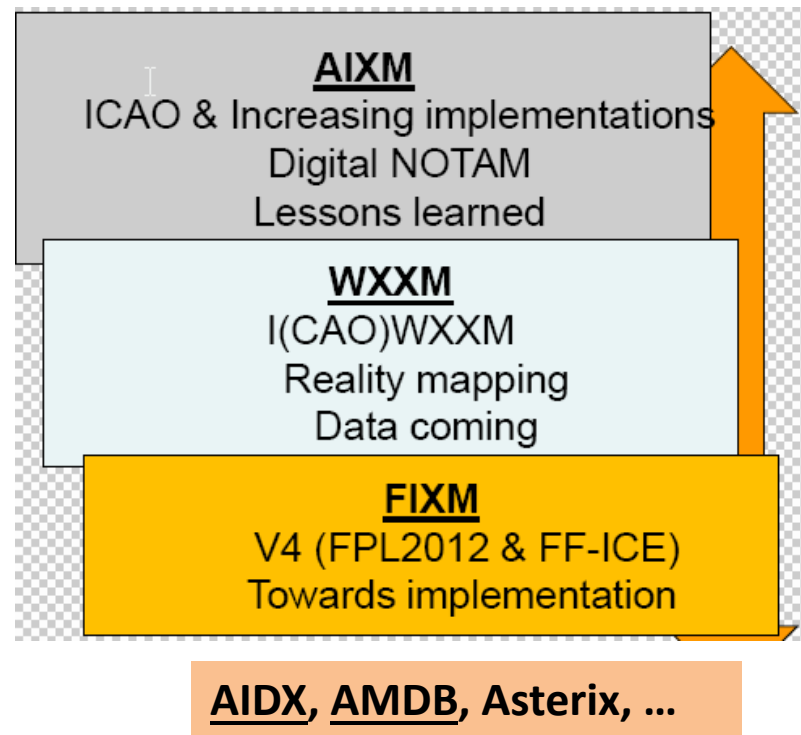
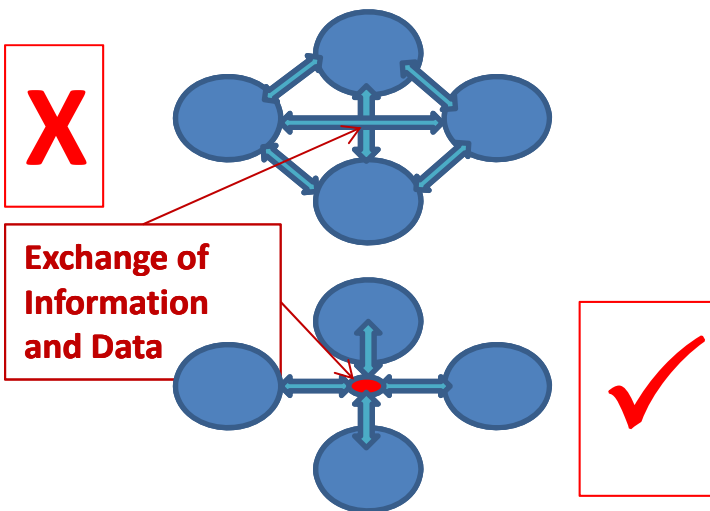


# SWIM



## ICAO pick-up

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

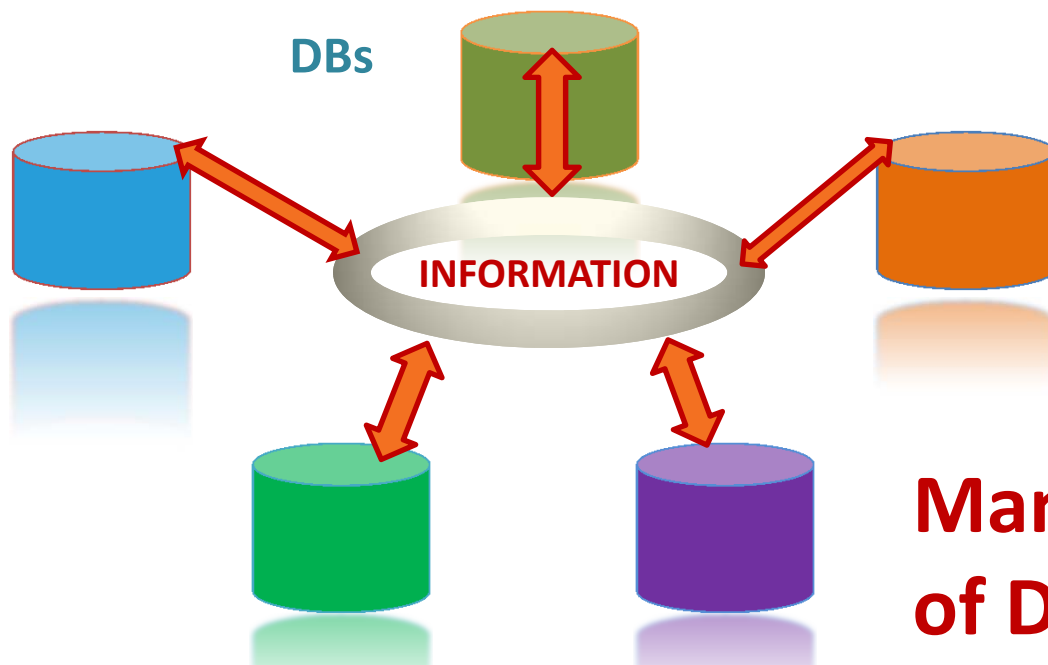




# The Possible solution

## 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



ATFM Colaborativa  
La aplicación clave

## Guides

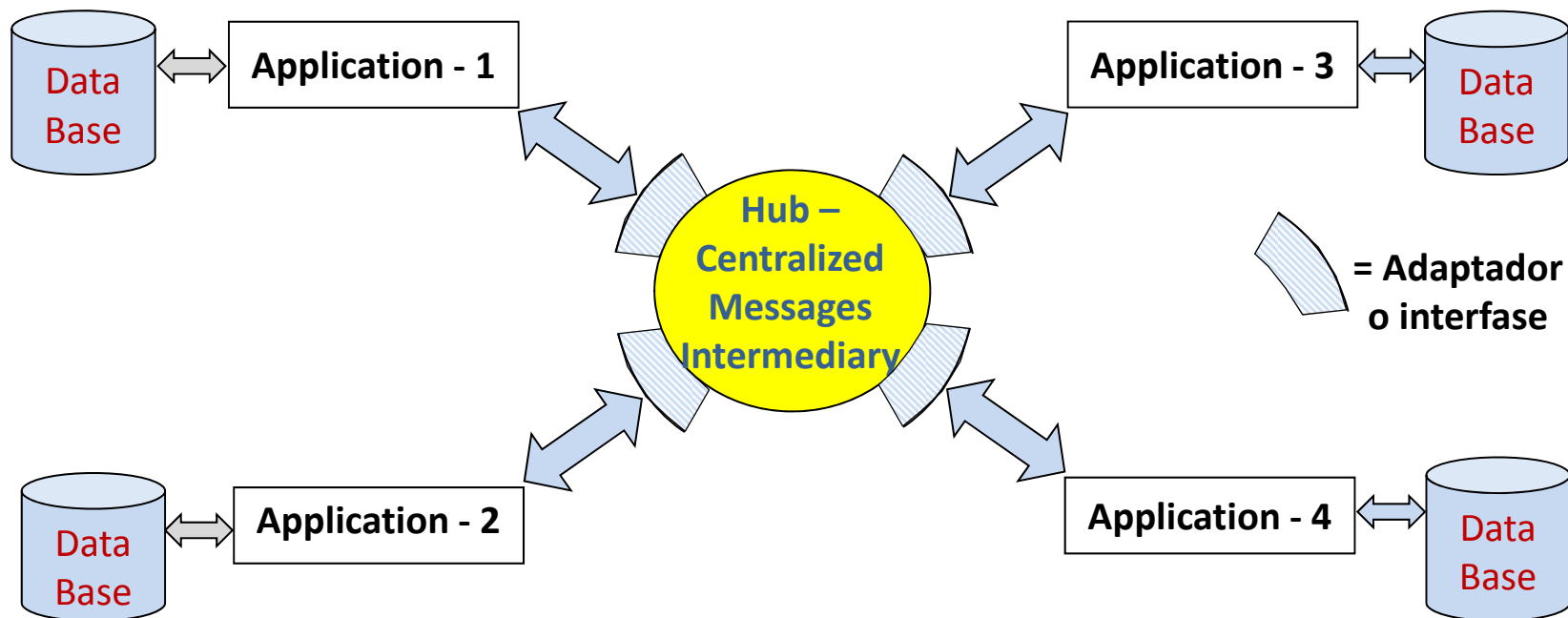
- AIRM
- AIRM rules
- Service rules
- Technical infrastructure
- Compliance framework







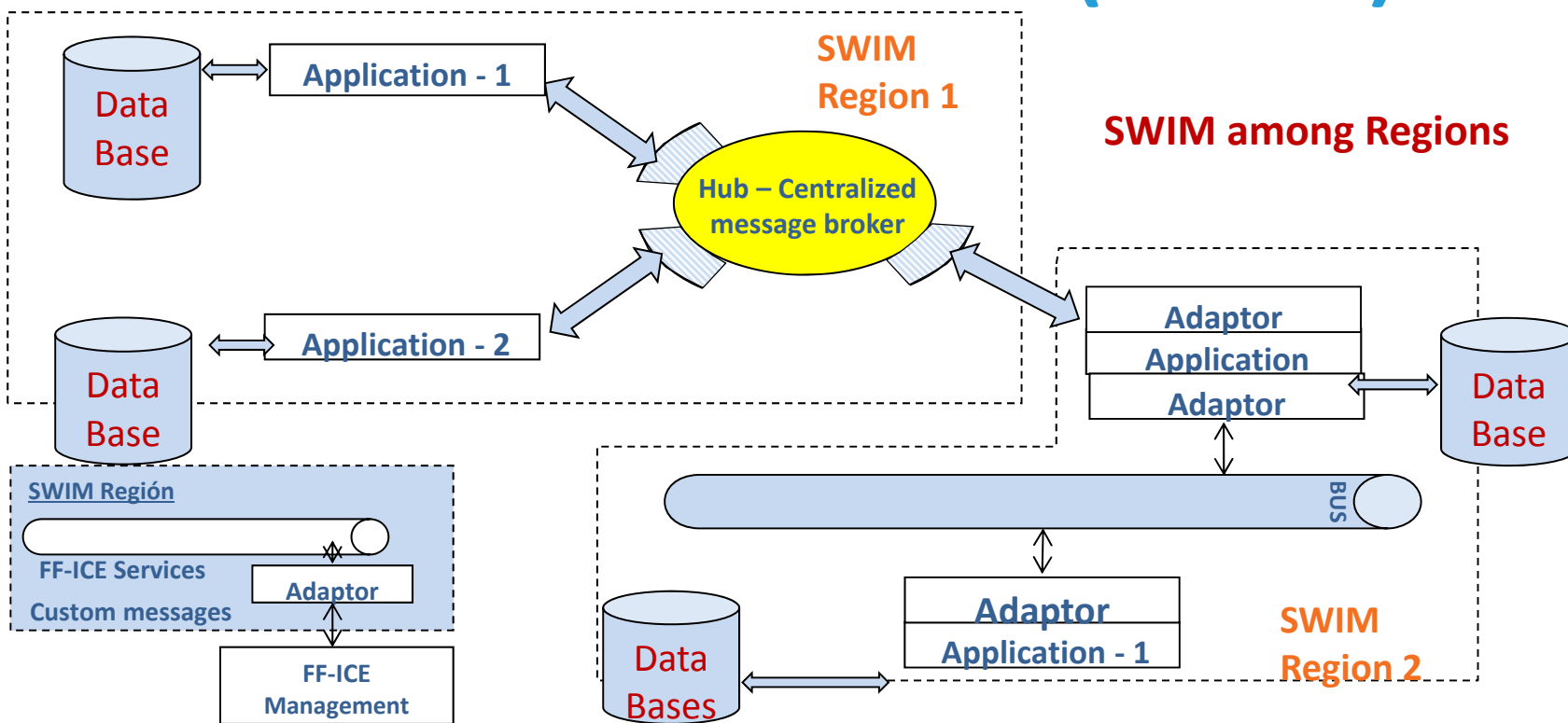
# Basic SWIM Topology





# 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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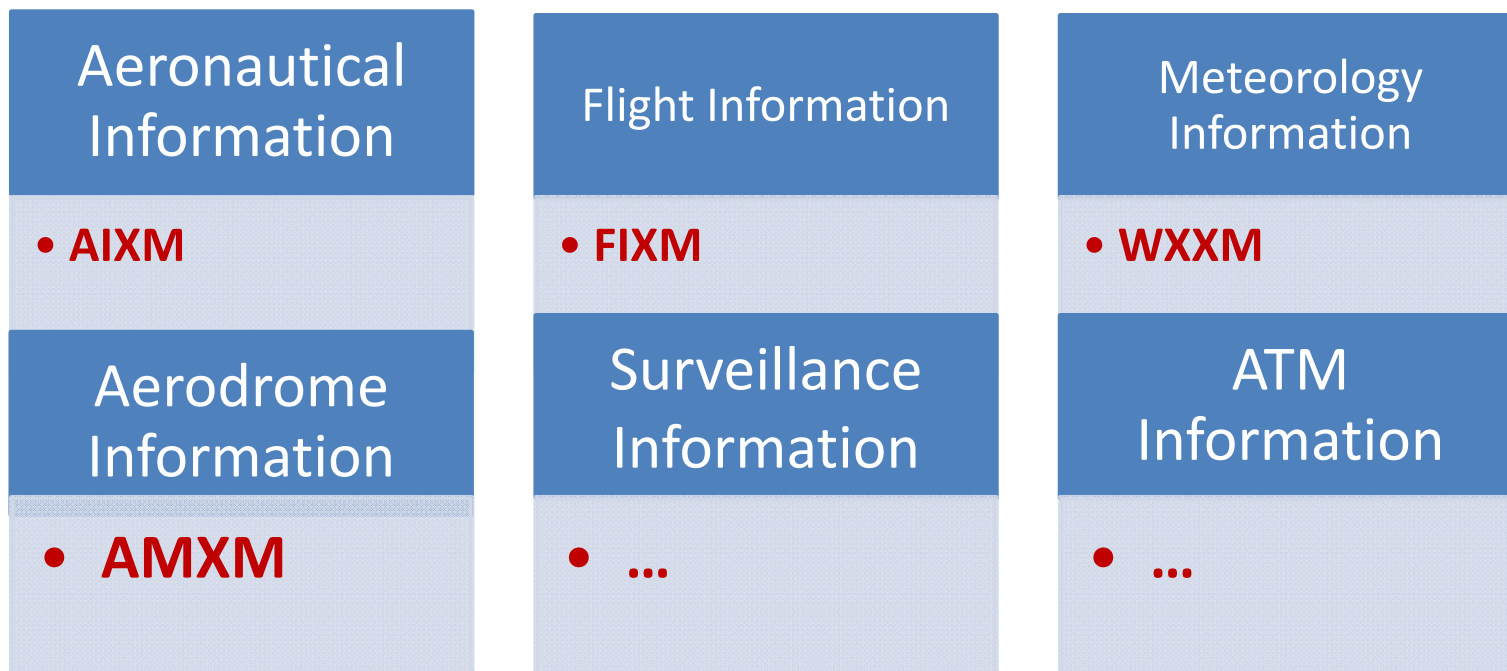
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- A — SWIM and information domain management
- B — Short description of potential candidate SWIM standards
- C — Meeting the ATM system requirements

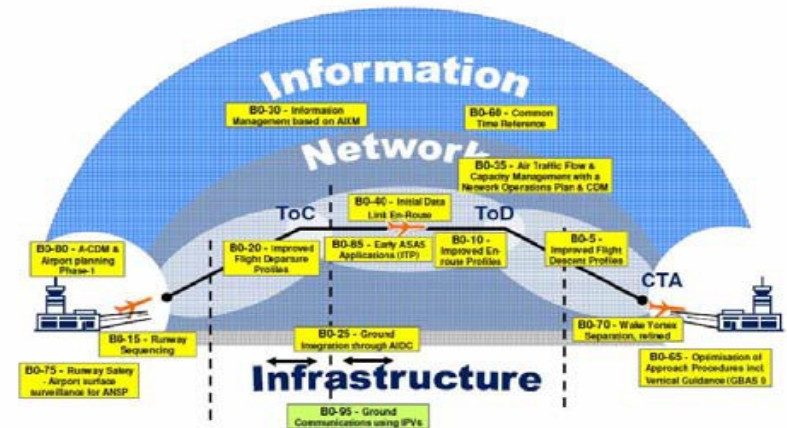


## SWIM INFORMATION DOMAINS AND DATABASES INITIATIVES





- 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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