



International Civil Aviation Organization

AFI AIS/AIM SEMINAR

# System Wide Information Management

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AFI AIS/AIM SEMINAR ON – ASBU methodology  
(Dakar, Senegal 25-26 November 2013)

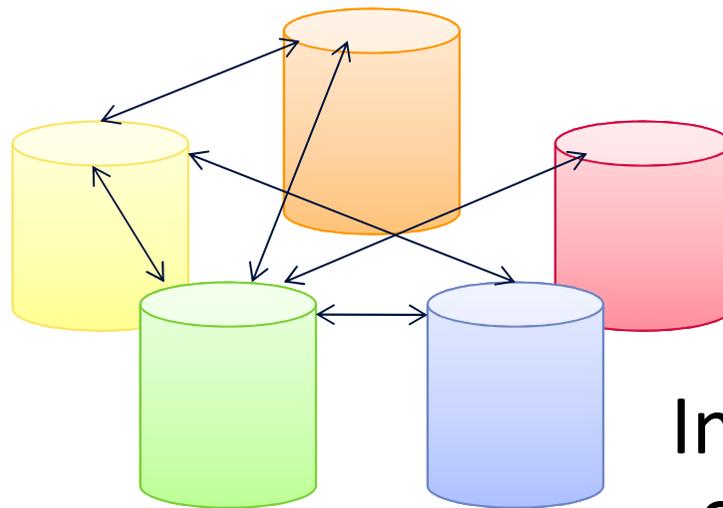


# Overview

- The Problem
- The Solution
- The Topology
- The Concept
- Initiatives

# The problem

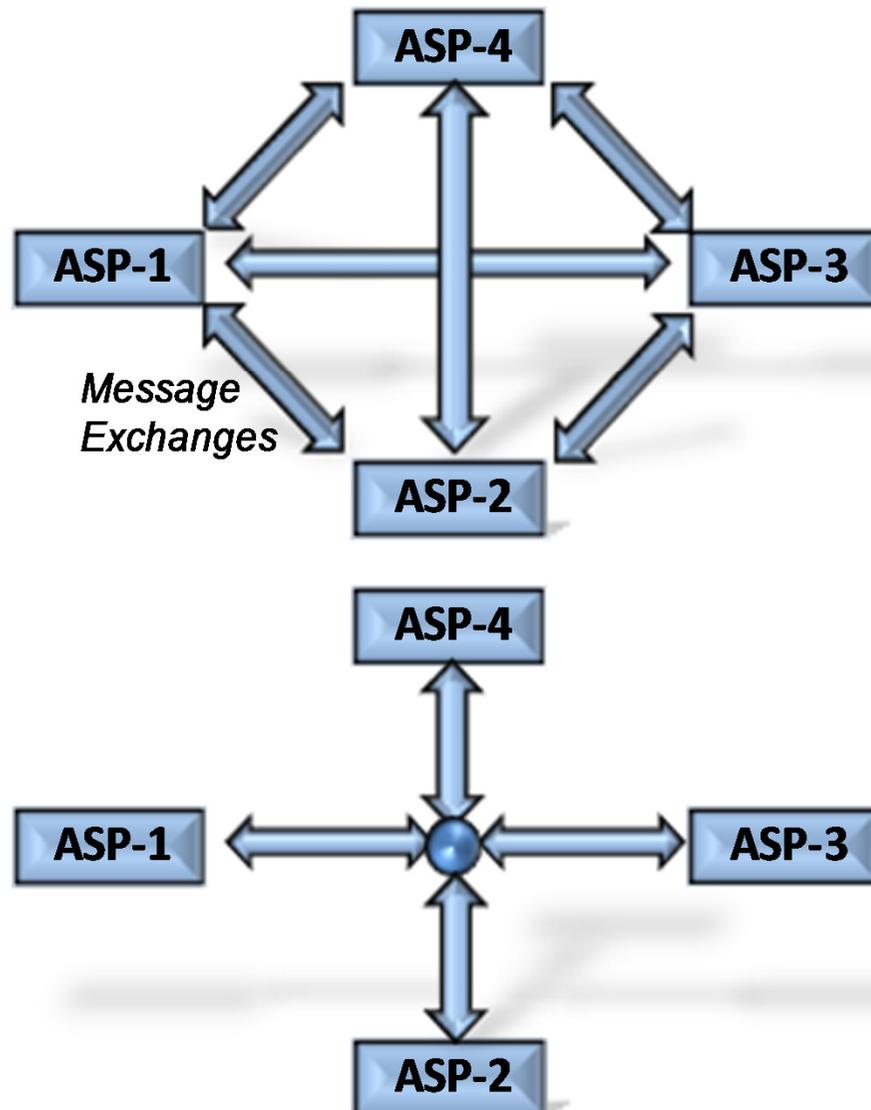
- PROBLEM in current Air Navigation Systems ?



Information is:

- Siloed
- Duplicated
- Inconsistently updated

# System Wide Information Management



## Now:

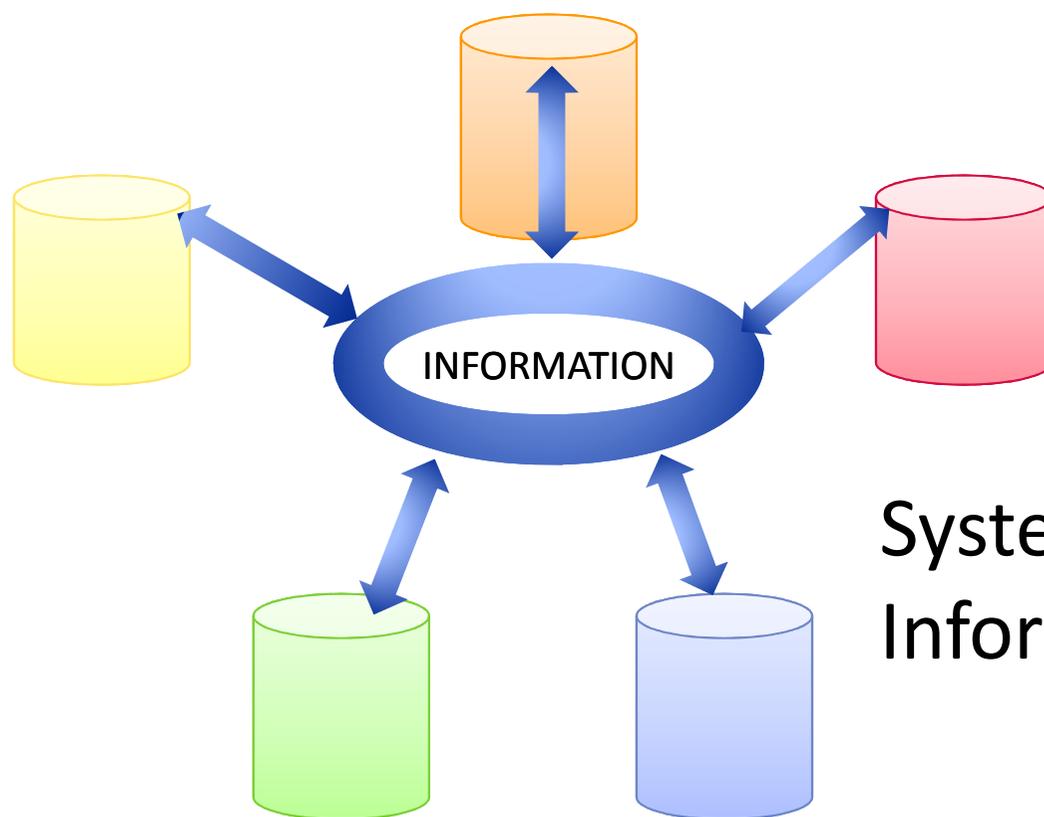
- Message exchange tailored locally
- Relevant information flow between 2 ASPs is not visible to interested 3<sup>rd</sup>
- Does not facilitate collaboration
- Change affects many interfaces

## Future:

- Message exchanges propagate system-wide
- Collaboration-friendly
- Consistent information visible to all interested and authorized parties
- Change affects fewer interfaces

# The solution

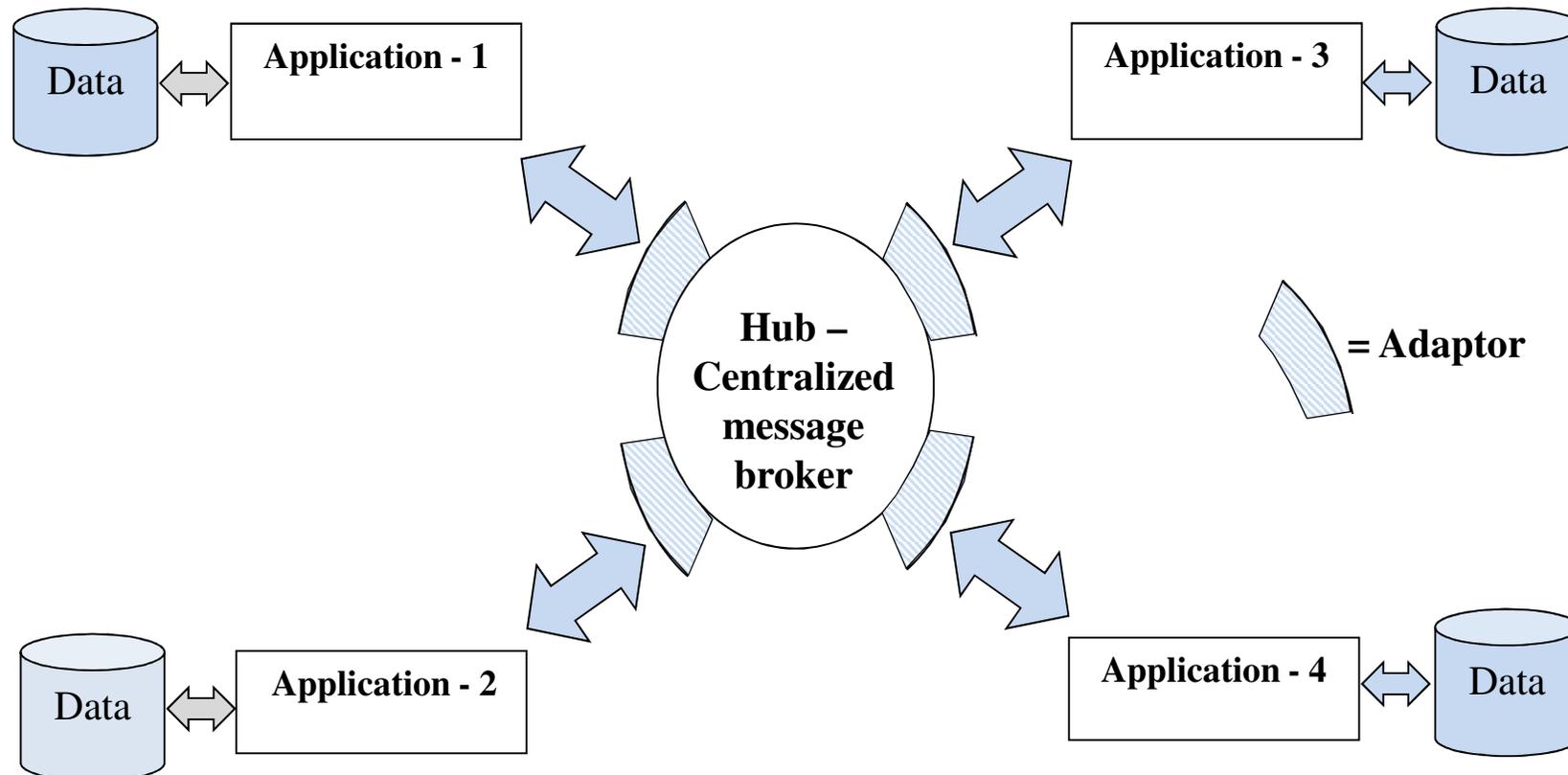
## SOLUTION



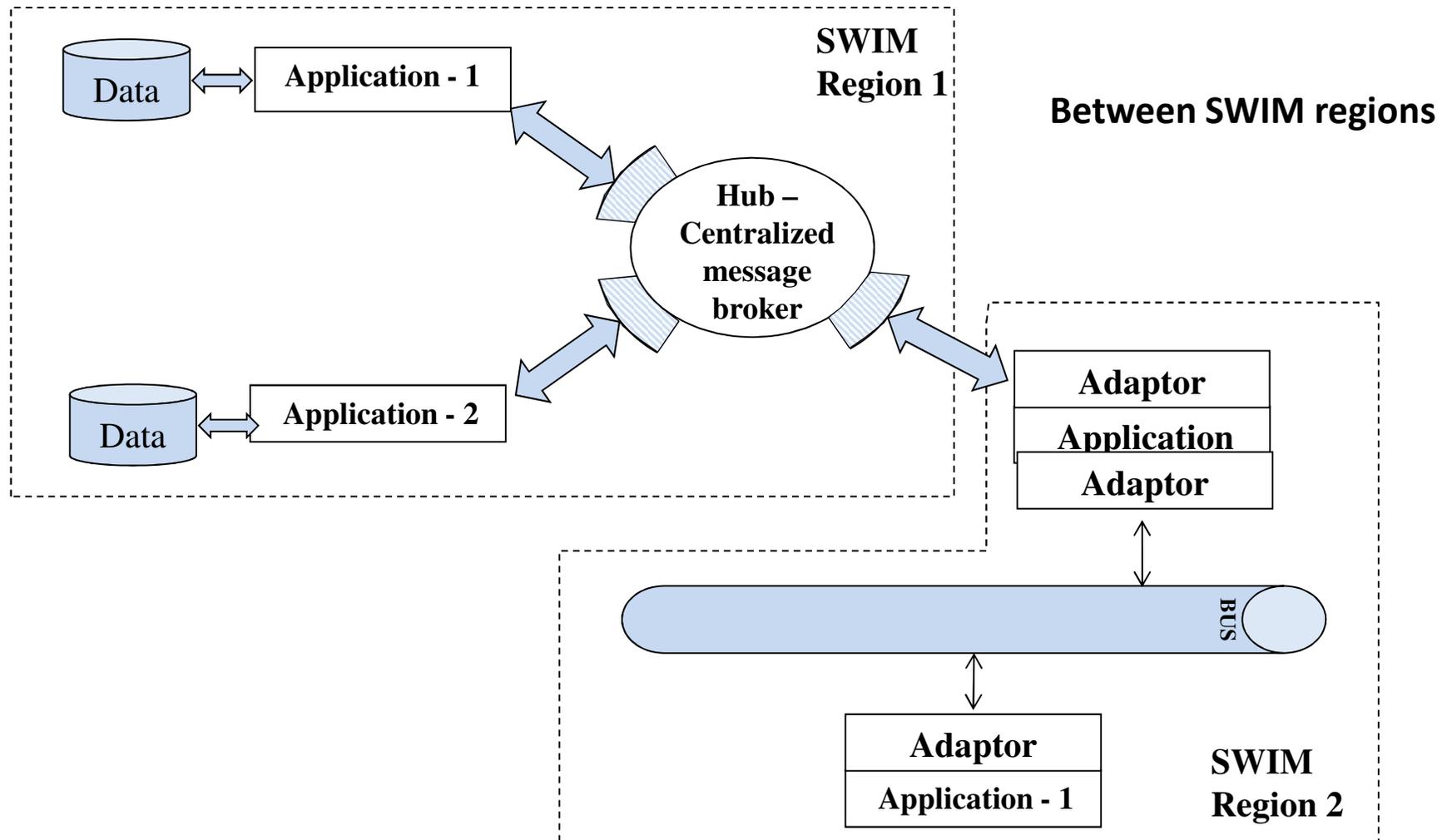
System Wide  
Information Management

# System Wide Information Management

## Topology

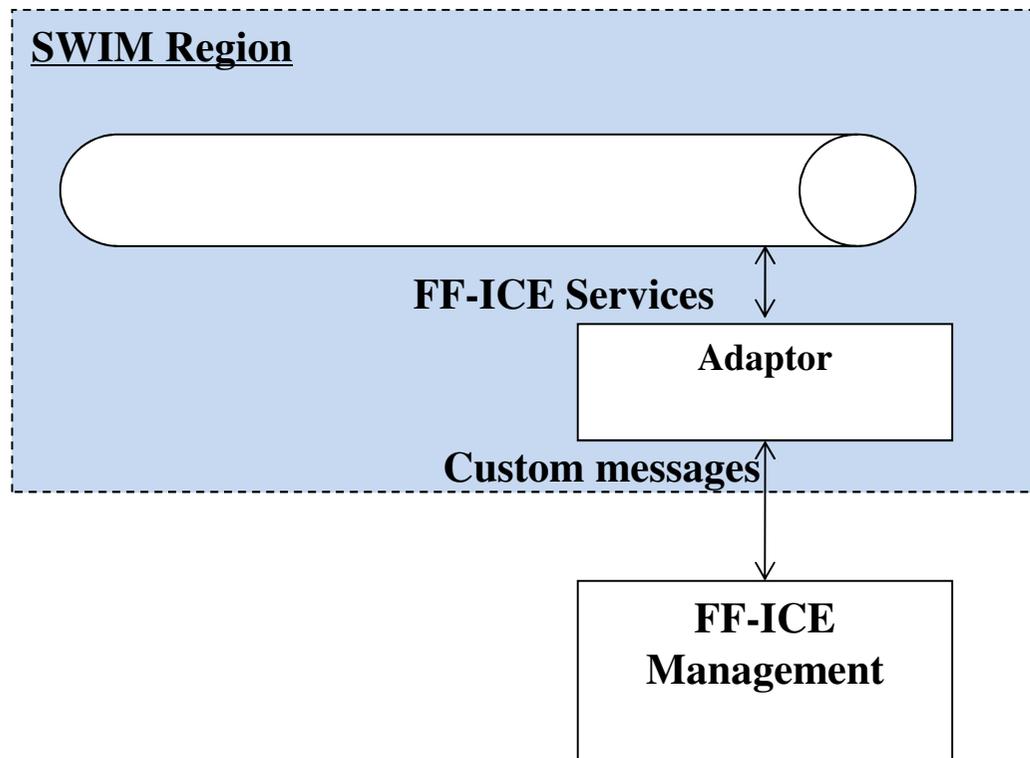


# System Wide Information Management



# System Wide Information Management

**Between users and SWIM region**



# System Wide Information Management



## PROGRAMS



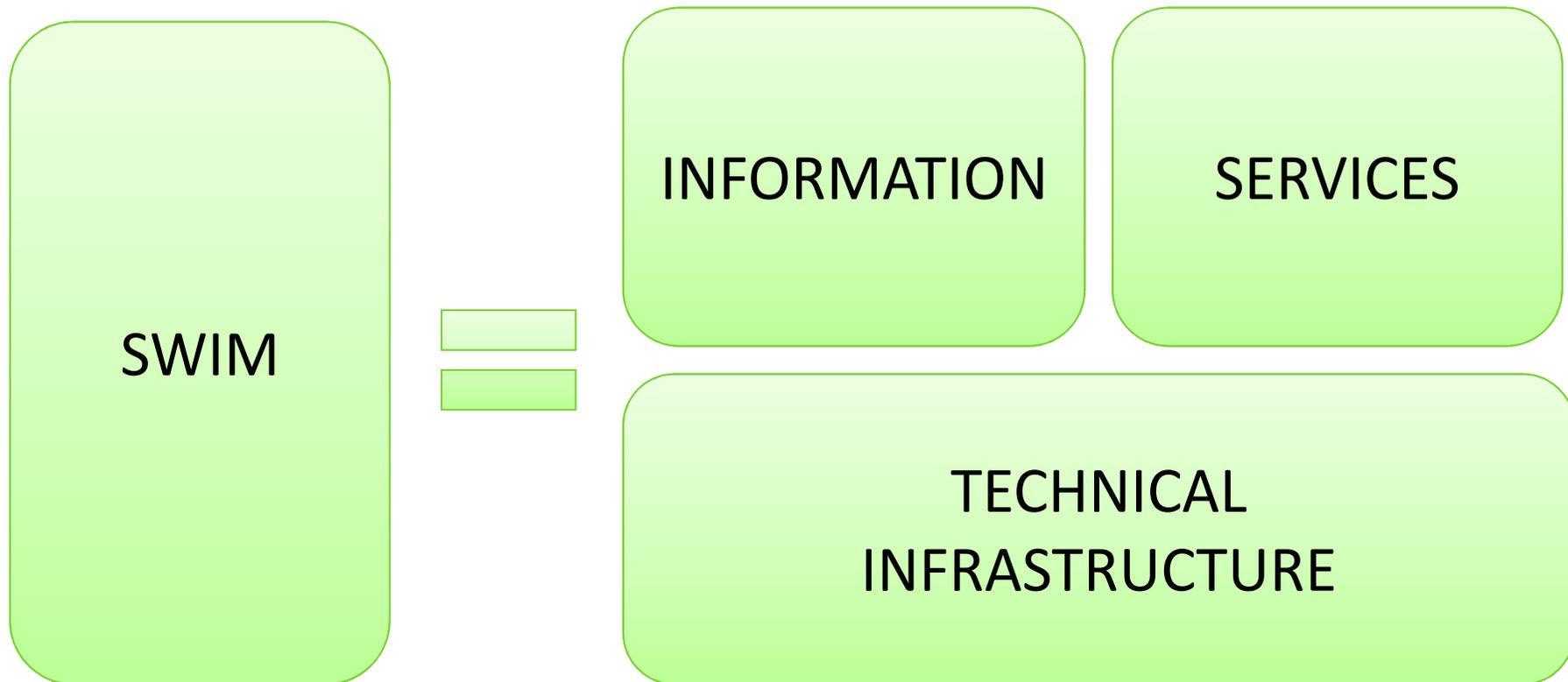
NextGen



Also exist in:  
Australia  
Republic of Korea...

# System Wide Information Management

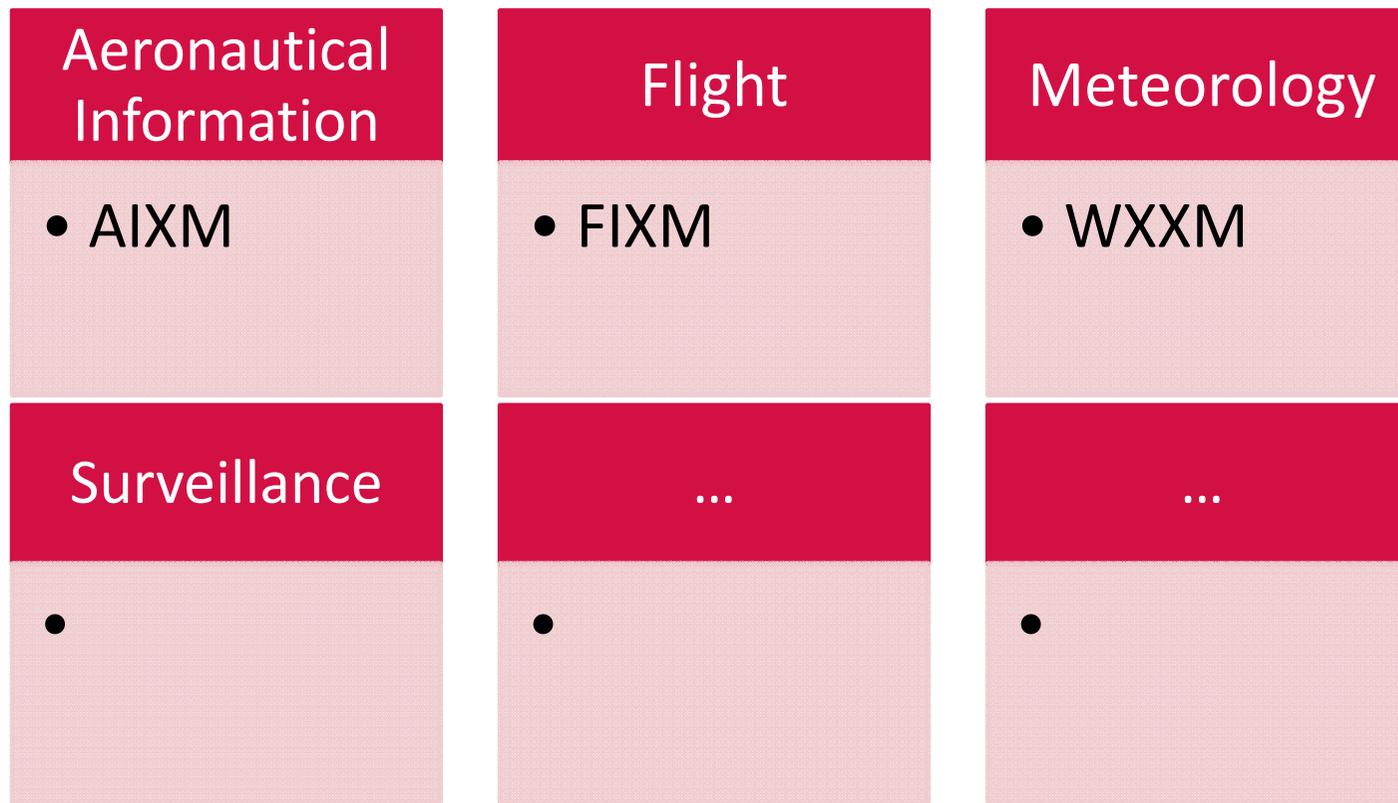
## Definition





# System Wide Information Management

## SWIM INFORMATION DOMAINS



# System Wide Information Management



## SWIM SERVICES

- Manage SWIM Information
- Access SWIM Information
- Publish SWIM Information
- Update SWIM Information
- ...



# System Wide Information Management

## SWIM TECHNICAL INFRASTRUCTURE

Relies on:

- IP Networks (LANs, WANs, backbones)
- Off-the-shelf middleware technology

But remember:

- The network is only one part of SWIM

# System Wide Information Management



## INITIATIVES

- AIM
- AIXM
- WXXM
- FIXM

# System Wide Information Management



## QUESTIONS

- Timely development of standards
- Availability of network infrastructure
- Incorporation of aircraft
- Governance
- Certification

# System Wide Information Management



## ICAO

- Global Air Navigation Plan
- Global SWIM concept
- Global coordination
- Promoting standards
- Facilitating deployment
- ATM Requirements and Performance Panel

# System Wide Information Management



## ACRONYMS

- ATS: Air Traffic Services
- AIDC: ATS Interfacility Data Communication
- AIM: Aeronautical Information Management
- AIXM: Aeronautical Information eXchange Model
- ATMRPP: ATM Requirements and Performance Panel
- CARATS: Collaborative Actions for Renovation of Air Traffic Systems
- FIXM: Flight Information eXchange Model
- FO: Flight Object
- GANP: Global Air Navigation Plan
- ICAO: International Civil Aviation Organisation
- IP: Internet Protocol
- LAN: Local Area Network
- NextGen: Next Generation Air Transportation System
- SESAR: Single European Sky ATM Research
- SWIM: System Wide information Management
- TSA: Temporary Segregated Area
- WAN: Wide Area Network
- WXXM: Weather eXchange Model

# ICAO

Uniting Aviation on

Safety | Security | Environment