ICAO Context and SWIM

ATC Global - Workshop
From Local to Regional to Collaborative Global ATFM
Beijing

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Head of ATM Strategies
12 September 2016
ICAO
Global Air Navigation Plan

Table 3: ICAO documentation for Block 1 modules

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What is SWIM?

**Definition:** SWIM consists of standards, infrastructure & governance enabling the management of ATM information and its exchange between qualified parties via interoperable services.”

IP = Internet, …
Information

**AIXM**
- ICAO & Increasing implementations
- Digital NOTAM
- Lessons learned

**WXXM**
- I(CAO)WXXM
- Reality mapping
- Data coming

**FIXM**
- V4 (FPL2012 & FF-ICE)
- Towards implementation

**ICAO pick-up**

**What about me?**
- AIDX, AMDB, Asterix, …

ICAO Context and SWIM
European SWIM Pioneer Network Manager

B2B Services

- Airspace Management
- Aeronautical Info
- Flight Plan Services

AO
39%

Handling
16%

Airport
5%

Internal
3%

Gov/Mil
2%

ANSP
11%

CFSP
24%

Over 2 million Exchanges / day!
Services

- More and more being **Developed & Deployed**
  - E.g. NATS Extended AMAN Arrival service

- **Towards true business transformation**!

- Discovery through so called **Registry**
  
  [http://eur-registry.swim.aero](http://eur-registry.swim.aero)
Technical Infrastructure

- IT is found to be **mature**

- Mostly an issue of **agreeing** on used (open) standards

- Through so called **Technical Profiles** (Yellow / Blue / …)

  E.g. Yellow = SOAP1.1/1.2, WSDL1.1/2.0, WSI1.2/2.0, WS-Security1.1, TLS1.0/1.1/1.2, PKI x.509v3, XML-Encryption, XML-Signature, ECRYPT II, XML 1.0/1.1, XML-Schema, WFS/WMS/…, HTTP/1.1, HTTP-GET/POST, MTOM, … (Red is core, rest is optional for Provider)

**Pub/Sub : AMQP1.0**
Governance

Initial SWIM (iSWIM)
EU initiative to move towards SESAR Deployment
Carrot/Stick approach

What are the SWIM Standards/Specifications?

**Foundation Specification**
- Essential Requirements
- Controlled Vocabulary
- Examples
  - Need for semantic interoperability
  - Based on Open Standards
  - Interoperable Services

**Guidance**
- AIRM
- AIRM Rulebook
- Service Rulebook
- Technical Infrastructure profiles
- Compliance Framework

Performance Based Approach
The whole globe is SWIMming

Global demonstrations

Collaborative ATFM
The key application
Local or Central?

SWIM is not prescriptive
Depends on your local business case
Importance is to unlock & share your data!

E.g. EAD Participating States, more welcomed!
ICAO
Information Management Panel

- Air Navigation Conference 2012 conclusion

- Participants
  - Australia, Brazil, Canada, China, France, Germany, India, Japan, Russian Federation, Saudi Arabia, Singapore, South Africa, Sweden, Turkey, United Arab Emirates, United States, ASECNA, CANSO, EUROCONTROL, IATÁ and the International Coordinating Council of Aerospace Industries Associations (ICCAIA)

- Building from ICAO ATMRPP SWIM Concept (Doc 10039)

**Planned deliverables (work in progress!)

- Updated SWIM Manual (Doc10039)
- Initial IM SARPs
- New NOTAM Concept / replacement proposal
- AIRM Package
- Global registry proposal

**All by November 2018**
Conclusions

SWIM is becoming a reality with impressive benefits.

AIRM/XMs/... Foundation of it all

(Web)-Services: Booming

More global trials/demos will further de-mistify and obtain more benefits

ICAO IM Panel ++