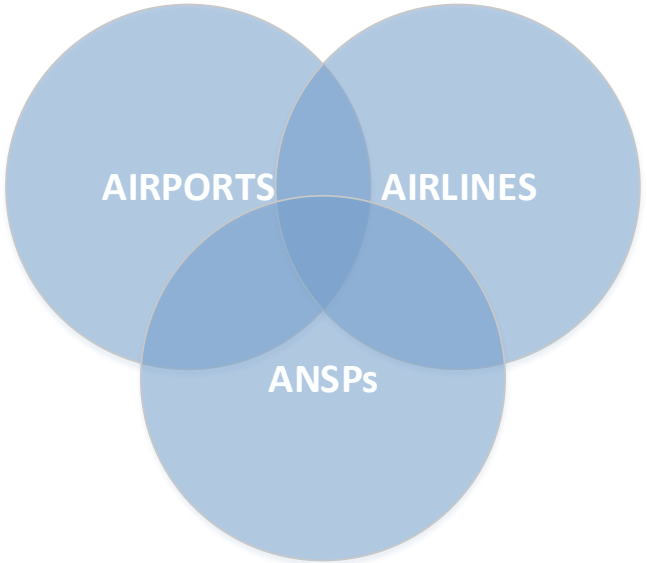
SWIM

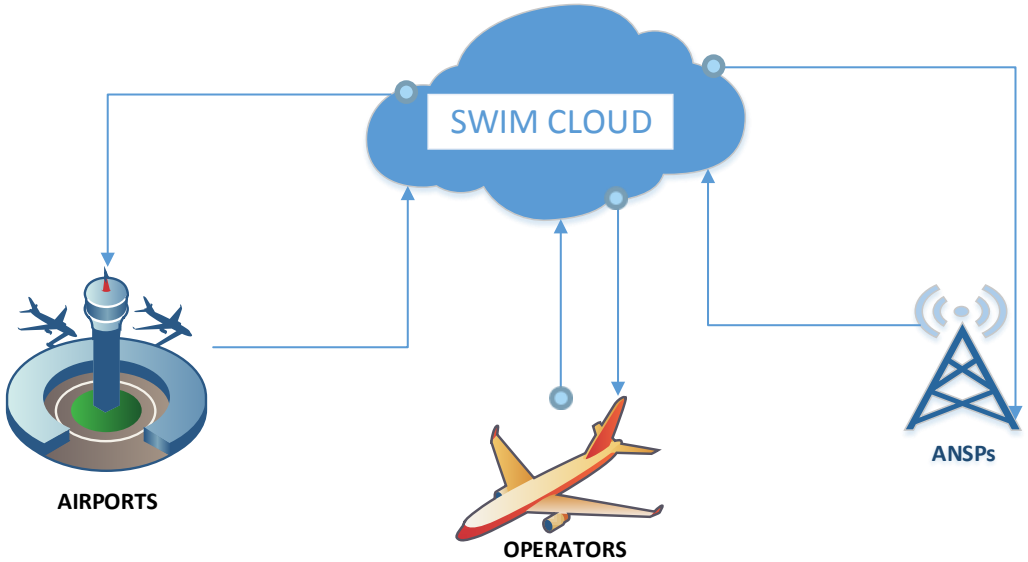
IATA's Perspective

Today’s ATM environment

- complementary missions
- proprietary networks
- incompatible protocols
- incompatible data formats



Future ATM Environment



Information

- Relevant
- Complete
- Accurate
- Current

SWIM Objectives

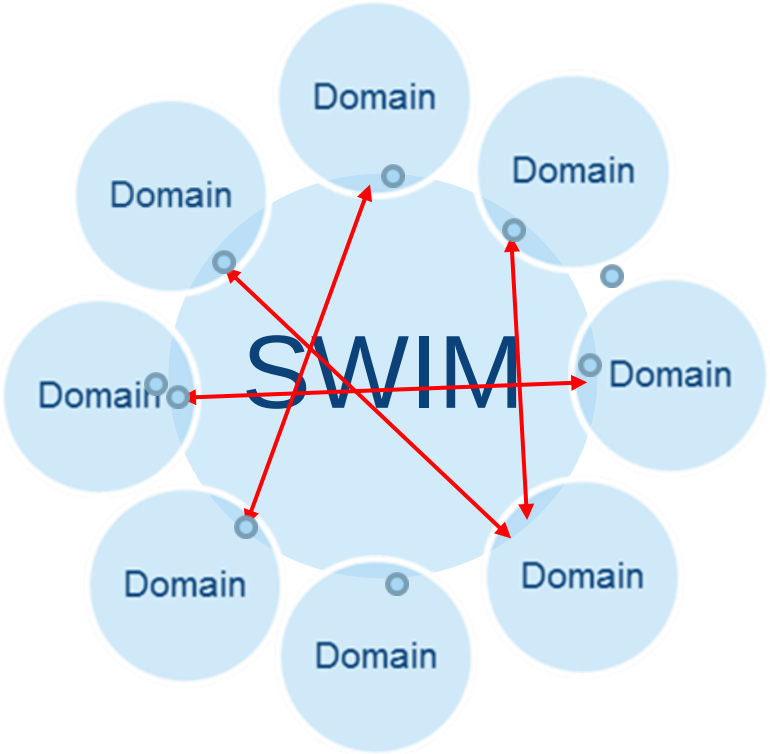
- Enable Global ATM through best practices from different information communities
- Provide users access to relevant and mutually understood information in an interoperable manner

Interoperability of SWIM

- Allows diverse systems from different organizations to exchange information in a meaningful manner
- Information is right quality, provided at the right time and delivered to the right place
- Promotes net-centric ATM operations

SWIM Principles

- separation of information provision and information consumption
- loose system coupling
- use of open standards
- use of interoperable services

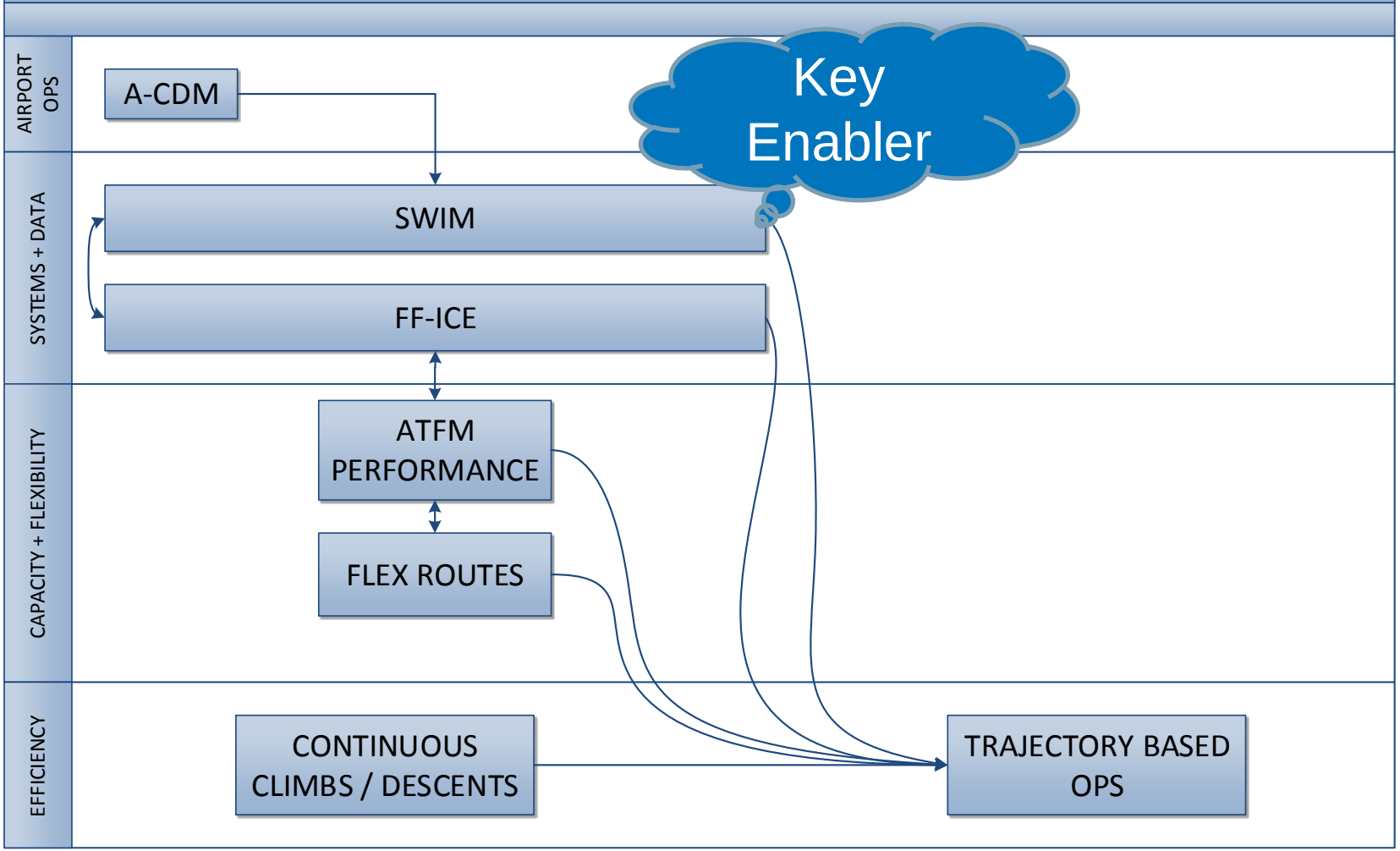


Short term

- IP network benefits
  - Eliminate point-point proprietary
- Allow broader information sharing
  - Improved collaboration and decision making
- Improved situational awareness enabling greater efficiencies

SWIM Benefits

- ATM data will be fused for an Airspace User's general situational awareness
- Relevant Airspace User operational information will be made available to the ATM system
- Supports Demand / Capacity Management and strategic / pre-tactical conflict management
- Shared awareness of aircraft performance, flight conditions and ATM resources supports dynamically optimized 4D trajectory management


AIRPORT OPS
SYSTEMS + DATA
CAPACITY + FLEXIBILITY
EFFICIENCY
A-CDM
Key Enabler
SWIM
FF-ICE
ATFM PERFORMANCE
FLEX ROUTES
CONTINUOUS CLIMBS / DESCENTS
TRAJECTORY BASED OPS

SWIM Exchange Models

FIXM

- Flight information
- Improved collaboration

AIXM

- Digital AIM
- Tailoring to user's systems

IWXXM

- Aeronautical weather
- Richer model

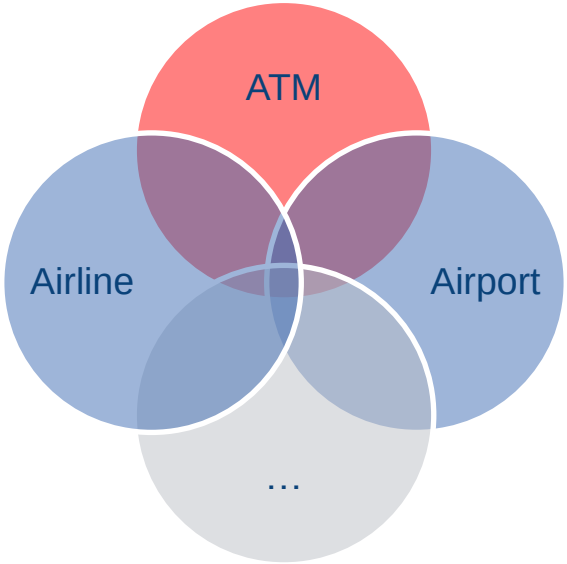
ATM Benefits - Airspace User

- greater equity in airspace access
- greater access to timely and meaningful information for decision support
- more autonomy in decision making, including strategic and pre-tactical conflict management
- better deliver business and individual outcomes

ATM Benefits – ANSP / Airports

- Ability to operate within an information-rich environment:
  - real-time data
  - system trend and predictive data
- Fused with a range of automated decision-support or decision-making tools, will enable optimization of services to airspace users

Examples



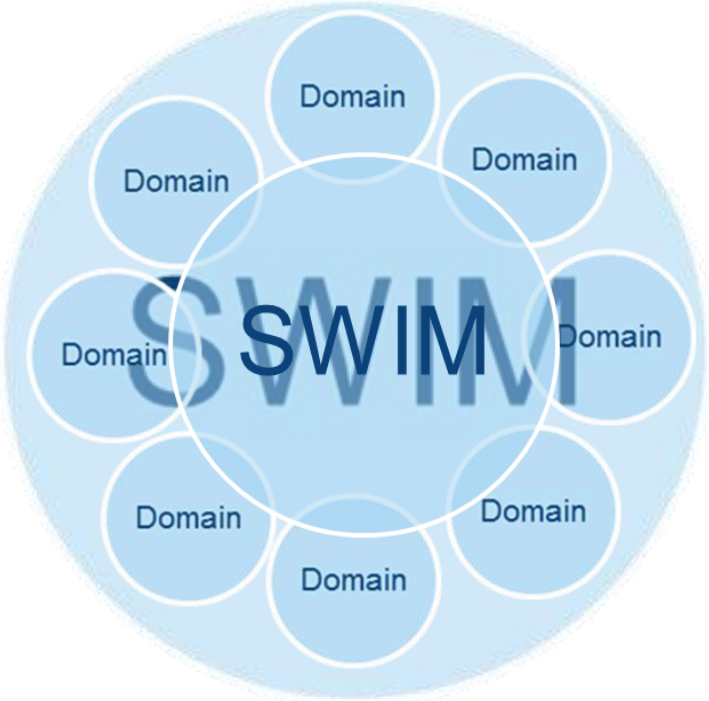
- ATM information pertaining to 4D flight parameters
- Airline complementary information relating to flight turnaround

CONCERNS

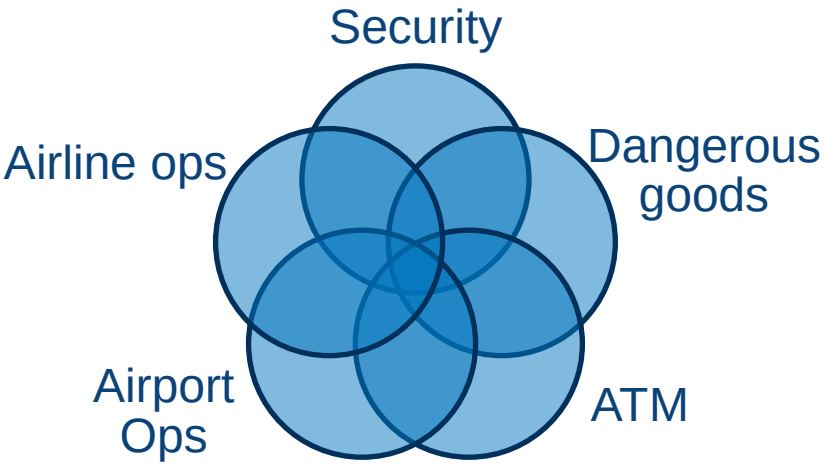
SWIM is good… but…

SWIM supports ATM

- Don’t try to be everything to everyone
- Avoid mixed governance (different communities with disparate objectives / roles)
  - E.g. security, dangerous goods, airport ops



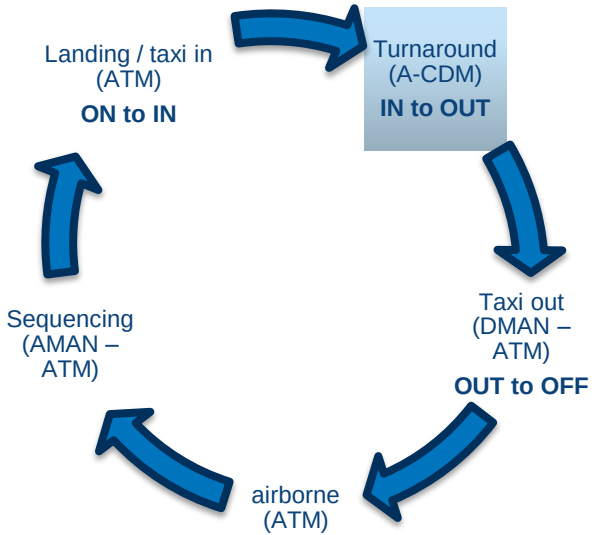
Complementary but separate information domains



- Need to define boundaries
- Information needs to flow between stakeholders
- SWIM should not try to be the source of all knowledge for all people
- Need to define interfaces to enable interoperability / value multiplication

FOR EXAMPLE…

Interconnected information



- ATM should only deal with OUT to IN, and
- Use information from A-CDM for turnaround where needed

In a nutshell…

- Don’t SWIMify everything
  - Stand-alone operational business case
  - Enabler to cost effective operational improvement
- Think SWIM from the start
  - Consider SWIM for new / improved ATM-related systems
  - Avoid future retrofit costs

During transition

- There will be a mix of SWIM-enabled Open Standards and Legacy solutions.
- ANSPs or 3rd party solution providers will need to provide gateways between the information domains

Conclusion

- IATA believes in the value of the operational improvements enabled by SWIM
- Boundaries to be controlled and constrained so as to be an enabler for information management and sharing
- We call upon the community to get involved in the design and implementation of SWIM though collaborative dialogue