The World is Driven by Data

Information Services Keynote

Presented to: ATIEC 2019
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The World is...

Driven By Data

Video Source: https://www.videvo.net/video/purple-data-globe-concept/4815/
The Nation’s Aviation Industry is... Driven By Data

“Delays impact travelers, air carriers and aviation professionals to the tune of billions of dollars annually”

Source: Airlines for America “U.S. Passenger Carrier Delay Costs”
Replaces unique interfaces with modern standards based data exchange

Leverages a single interface to receive multiple data products

Provides SWIM users access to information without directly connecting to another system

Provides enterprise security for incoming and outgoing data

Establishes Enterprise Help Desk for SWIM operational consumer calls

faa.gov/air_traffic/technology/swim/
What Was Life Like Before SWIM?

Connecting two systems before SWIM was much like a messy ball of yarn: *Difficult to connect, inefficient, and confusing*
SWIM Today

Pre-Flight | Push Back/ Taxing Out | Take-off & Departure | Cruise/ Enroute/ Oceanic | Approach | Landing/ Taxiing In

SWIM By the Numbers

- **80** unique information services available
- **240** users consuming **3,000+** services
- **4.3+ Terabytes** consumed per day

**FLIGHT/FLOW** | **AERONAUTICAL** | **SURVEILLANCE** | **WEATHER**

jetBlue Airways | Alaska Airlines | FlightAware | FedEx Express | Microsoft
Southwest | UNITED | Google | UPS | Uber Elevate
American Airlines | Delta |
Evolution to ATM Business Sharing

Monolithic
PAST
Tightly-coupled systems presented many challenges to integrate and support expanding need for an information driven enterprise.

Traditional SOA
PRESENT
Loosely-coupling systems simplified integration and distribution but still present challenges as service updates can impact users.

Potential SWIM
FUTURE
De-coupling systems using microservices simplifies service management and minimizes user impacts.

An Information-Driven Global Enterprise
An Approach to the Future

The SWIM Industry-FAA Team (SWIFT) is a partnership with industry to bring together operations, IT architects, operations research, policy leaders, software engineers and business analysts to leverage SWIM and NAS Information Services. It is a communications platform that enables airspace users to collaborate in integrating near real-time NAS Information Services over SWIM with legacy systems and new technology, delivering tangible operational improvements.

What is SWIFT?

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https://www.faa.gov/air_traffic/technology/swim/swift/
Future of Information Services

Emerging Aviation Technologies and Industries

Art of the Possible

Artificial Intelligence

Advanced Services

Data Integrity & Security

Weather, Aeronautical Flight

Time-based geo-filtering

Cloud Distribution

Identity Access Management

SWIM
Aviation is driven by SWIM.
The World is driven by data.

Any Questions?