

SWIM USERS FORUM

Presented by:
SWIM Program Office
September 12, 2019
Washington, DC



Federal Aviation
Administration



Agenda

1. Program
Manager & User
Update

2. SWIM Cloud
Distribution
Services

3. SWIM
Terminal Data
Distribution
System

4. Time Based
Flow
Management

5. SWIM
Industry-FAA
Team

6. Upcoming
Events

SWIM update



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SWIM Capabilities Lead
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SWIM USER UPDATES

TODD EMO

Updates to FNS NOTAM SWIM Services

- **FNS SWIM services were updated**
 - NOTAM Distribution Service (NDS), Webservices (Request/Response)
 - NOTAM Publication Service (NPS), Java Messaging Service (Publication/Subscribe)
- **Benefits**
 - Resolved issue that some NOTAM messages are not delivered to the FNS NPS (Pub/Sub) users
 - FNS software updated so that it provides AIXM messages that are valid
 - Schema was updated to ensure 100% of messages are distributed
- **Deployment to Ops was completed June 29, 2019**

External SWIM Consumer Automatic Failover Options

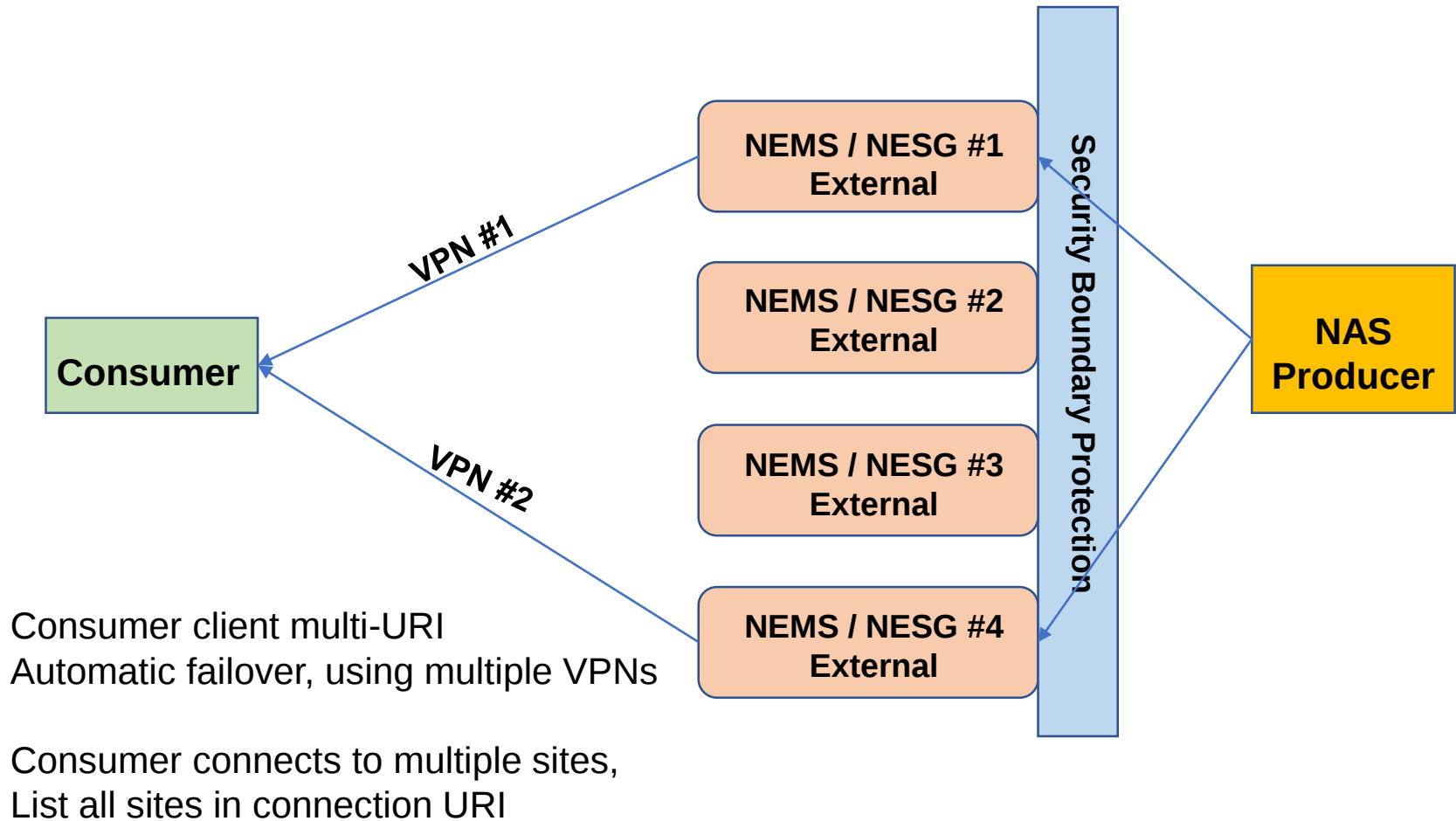
- **Option #1 – Add reconnection logic to client code**
 - Example code which includes reconnect logic is available in the **Jumpstart Kit**.
 - Allows consumer full control and visibility into what site they are connected to.
- **Option #2 – Automatic site failover using ActiveMQ and Solace**
 - Requires VPN connections to two external NEMS nodes.
 - List all servers in both sites in the connection URI.
 - Connection URI is usually not hard coded into clients, therefore will not usually require client code change.
 - This option has been tested on NEMS and works for ActiveMQ and Solace.
 - Using the connection URI for multiple sites with WebLogic is not recommended.
 - This option does not by default let clients know which site they are connected to at an application layer.

External SWIM Consumer Automatic Failover Options

For both Options:

- **Use of JMS topics without durable subscriptions could lead to potential message loss during failover.**
 - JMS topics by default, drop messages when there is no active consumer.
 - When a consumer client fails over to another server or another NEMS node, any messages received on the topic while the consumer is not active are dropped.
- **Use of JMS queues or topics with durable subscriptions could lead to potential consumption of duplicate messages after failover.**
 - For consumer clients, when they failover over from one site to another, they may consume messages already consumed from the original site.
 - Clients needs to be aware of this and have some manner to deal with duplicate messages.
 - Generally, these clients should code the logic to know which site they are connected in order to handle the duplicate messages on site failover if duplicate messages are a concern.

Automatic Failover - Notional SWIM Architecture





SWIM CLOUD DISTRIBUTION SERVICE (SCDS)

DAMON THOMAS

SCDS Onboarding Overview

The FAA has put together a comprehensive on-boarding and communications plan to make the transition as smooth as possible.

Please look for communications from SCDS@faa.gov

Be sure to attend any scheduled SWIM User Forums for additional information and guidance.

www.faa.gov/air_traffic/technology/swim/users_forum/

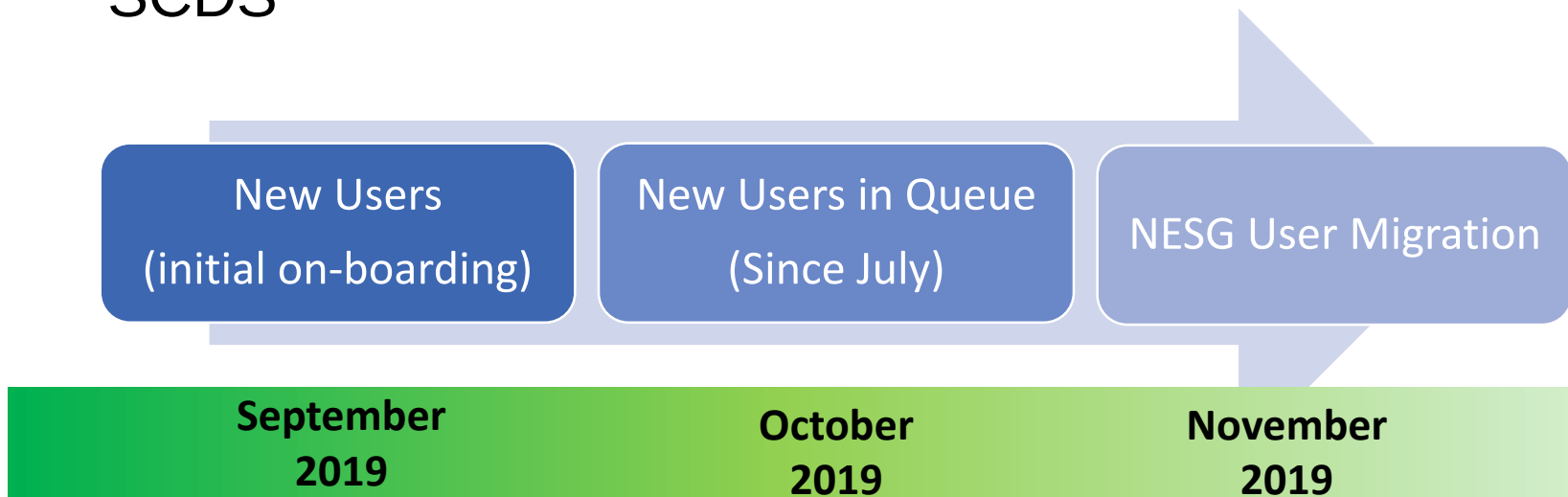


SCDS On-boarding Key Points

- A SCDS User guide and Jumpstart kit will be available on SCDS.
- Each user is assigned to an on-boarding “Wave” based on the date SWIM data was requested.
- Waves are staggered for FAA resource planning purposes.
- Current SWIM consumers identified as SCDS users will be disconnected from the National Airspace System (NAS) Enterprise Security Gateway (NESG) within 90 days of SCDS on-boarding.

SCDS – Current Status

- As of September 9th on-boarding notifications have been sent to all new users that were in initial on-boarding group for SCDS
- NESG User Migration will begin in November 2019
- Email notifications will come from SCDS@FAA.GOV



What do I need to do?

Now

- **New Users (not currently receiving SWIM data)**
 - Create an FAA Data Access account <https://data.faa.gov/>
 - Sign access agreements for the data sets you plan to consume
 - **Recommendation: Generate and use a generic email to use for your data.faa.gov and SCDS account (Ex. SCDS@companyname.com)**
- **Current SWIM NESG Users**
 - Plan for a Fall CY19 transition, ensure resources are available for a timely transition off the NESG connection to SCDS

Later

- **You will be notified via email when you can begin SCDS On-boarding**
 - Notifications will be sent from the new SCDS email account (scds@faa.gov) and will contain on-boarding instructions and an SCDS overview briefing
 - (Current Users) You will be provided with a list of data products that you are currently subscribed to. These will be the same data products that you should request on SCDS (*requests to any new data sets will require you to sign the corresponding access agreements*).



SWIM Terminal Data Distribution System (STDDS)

JULIA KOREY

STDDS Updates

Release 5

- Key Site 1 Complete Y90 Aug. 2019
- Key Site 2 Phoenix Sept. 2019

Release 6 Timeline

- Key Sites: Winter 2020/2021
- Deployment: Spring/Summer 2021
- Select Enhancements

TAIS

- Data to remain in R4/R5 format. No client-side changes required
- Add optional rawFlightRules field to TerminalAutomationFlightPlan message
- Publication of all associated TAIS data regardless of altitude

TDES

- Enhance TDES with 8 new TDLS messages
- Publish additional TDLS data—beacon code, ERAM ECID, aircraft type—in TDES messages
- Parse and publish entire dataHeader in DATISMessage

SMES

- Enhance SMES with 3 additional airport movement events—Runway in, Runway out, On runway
- Add *_COVAR and DF type fields to the MLAT and ADSB CAT10 messages to improve track precision measure

ISMC

- Publish link status and site heartbeat in MMIXM format in addition to XML native



Time Based Flow Management (TBFM)

JAY ZIMMER & ROB NOLTE



TBFM Operational Context Documents

Jay Zimmer

Need for Operational Contexts of SWIM Information

- SWIM Industry FAA Team (SWIFT) is a joint endeavor to speed adoption of SWIM by the airline industry
- Confusion around what the “best” data is when
- Need for industry to understand what SWIM services drive business decisions by the FAA (e.g., TBFM vs. TFMS metering times)
- Initial request for a “NAS Data Dictionary” evolved to a need to understand the operational context of SWIM information

Operational Context Document Template

1. Introduction

- Briefly describe purpose of document
- Briefly describe the FAA systems with which the information service interfaces and what type of information it publishes

2. Domain System Description

- In depth discussion of internal FAA systems that create the data ingested and published by the information service
- References to additional information (e.g., ConOps, JMSDD, ICDs)

3. Information Service Overview

- Describe how the FAA system data interfaces with, and is published by, the information service
- Describe each message published by the information service

4. Information Service Message Types

- In depth description of XML structure and each data element
- Includes data formats and examples of populated data elements, as needed

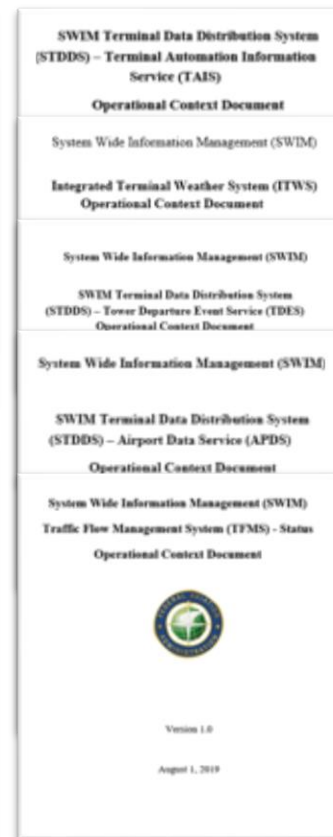
Appendix A: Acronyms

Operational Context Documents

• Document Progress

- STDDS – SMES
- TFMS Flow
- TFMS Flight
- TBFM – MIS
- SFDPS – Flight
- SFDPS – Airspace
- STDDS – TAIS
- FNS-NDS
- ITWS
- STDDS – TDES
- STDDS – APDS
- DCNS – DLD
- TFMS Status
- SFDPS General
- STDDS – ISMC
- TFMS Request/Reply

✓ DELIVERED	✓ UPDATED
✓ DELIVERED	✓ UPDATED
✓ DELIVERED	UPDATE IN PROGRESS
✓ DELIVERED	
✓ DELIVERED	
✓ DELIVERED	
✓ DELIVERED	✓ UPDATED
✓ DELIVERED	
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✓ DELIVERED	
UNDER REVIEW	
IN DEVELOPMENT	



• Stable Document Format

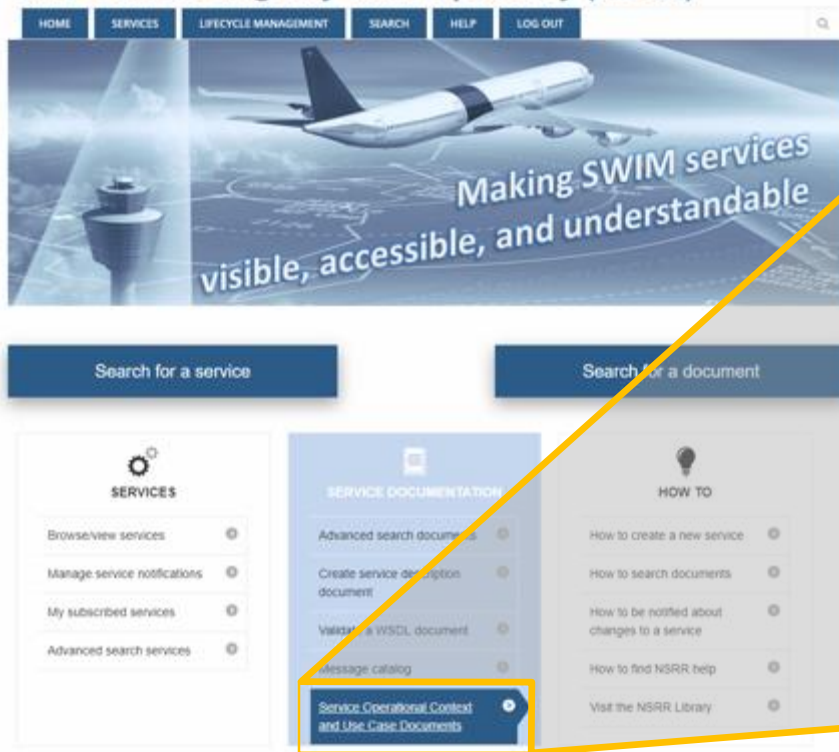
- Document template/style has been static since SWIFT #4 (8/2018)
 - Added references to supporting documentation
 - Added data element descriptions, formatting and restriction information
 - Consistent document naming convention on SWIFT portal
 - Documents have successfully clarified how these systems work and how individual data elements relate to specific real-world activities

SWIFT Documentation on the NSRR

- NAS Service Registry and Repository (NSRR) is the FAA registry of detailed information about all existing and planned SWIM-enabled services
- Link to all SWIFT Operational Context and Use Case documents is now included on the main page of www.nsrr.faa.gov



NAS Service Registry and Repository (NSRR)



Service Operational Context and Use Case Documents

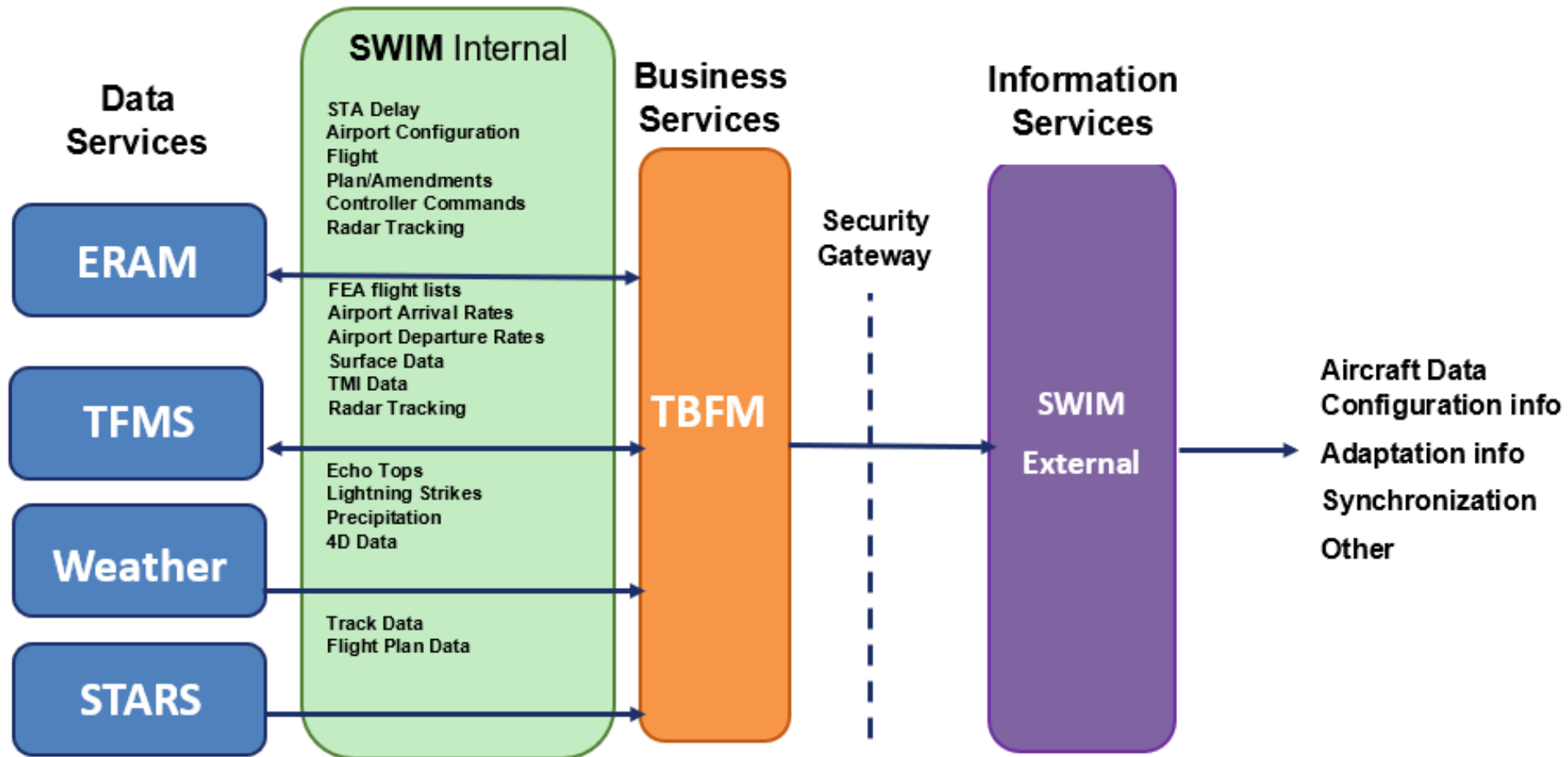
Library File	Description
Operational Context – DCNS DLD new (June 27, 2019)	DCNS DLD Final Draft updated based on comments from SWIFT Focus Group (Author: Jay Zimmer)
Operational Context – FNS-NDS new (February 27, 2019)	FNS - Operational Context Document v1.1 Final. Final document delivered to SWIFT team, incorporated (Author: Jay Zimmer)
Operational Context – ITWS new (April 15, 2019)	Final Draft updated per comments from SWIFT Focus Group (Author: Jay Zimmer)
Operational Context – SFDPS Airspace new (October 11, 2018)	SFDPS Airspace Operational Context Document v1.0 Final. Final document updated to include response Document focus group comments (Author: Jay Zimmer)



TBFM Operational Context

Jay Zimmer

Sourcing Time Based Metering Information



Decomposition of TBFM Data by Phase of Flight

Departure

- Flight Plan Info
- ETAs
- STAs
- Scheduling Info
- MRE Assignments

En Route

- Arrival Airport Configuration Info
- Acceptance Rates
 - Airport
 - TRACON
 - Meter Point
 - Runway
- Super Stream Class Configuration

Arrival

- TRACON Name Group
- MRE Names
- Gate Names
- Airport/Runway Configuration Names



TBFM Operational Context Document

1 Introduction

2 TBFM Aircraft Metering

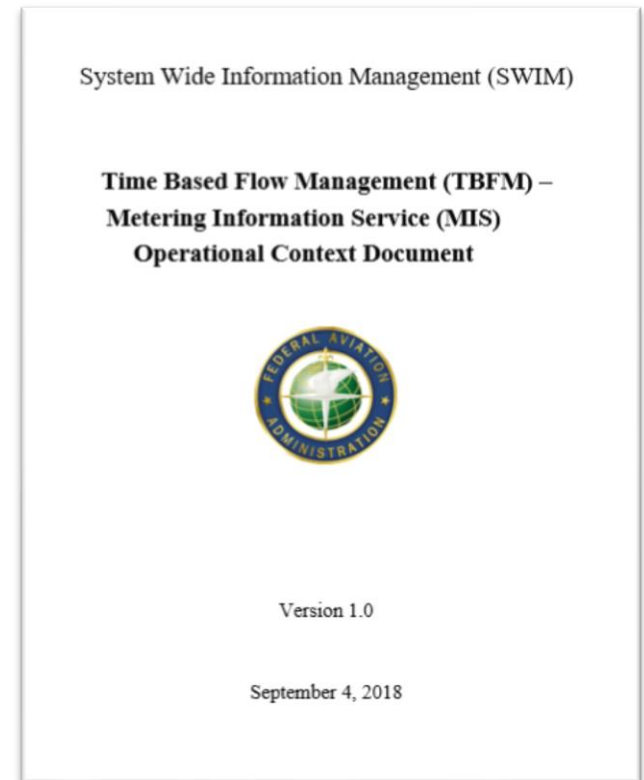
- 2.1 TBFM Overview
- 2.2 Time Based Metering
- 2.3 TBFM Traffic Management Capabilities
- 2.4 References

3 TBFM MIS Service Overview

- 3.1 Aircraft Information <air>
- 3.2 Configuration Information <con>
- 3.3 Other Information <oth>
- 3.4 Adaptation Information <adp>
- 3.5 Synchronization

4 TBFM MIS Message Types

- 4.1 Aircraft Information – Air
- 4.2 Configuration Information – Con
- 4.3 Other Information – Oth
- 4.4 Adaptation Information – Adp
- 4.5 Synchronization Message



<https://nsrr.faa.gov/nsrr-library-document/9298>

Appendix A: Acronyms



TBFM Overview

Rob Nolte

TBFM Overview

The TBFM program is a key element of the FAA's Traffic Flow Management (TFM) operational environment.

The goal of TBFM is to maximize use of available NAS traffic flow resources, while minimizing delays and disruptions to aircraft operators and their customers, as well as reducing fuel burn and engine emissions to decrease user operational costs.

TBFM expands the role and scope of the legacy Traffic Management Advisor (TMA) time-based metering operations, to provide operational benefits more widely throughout the NAS.

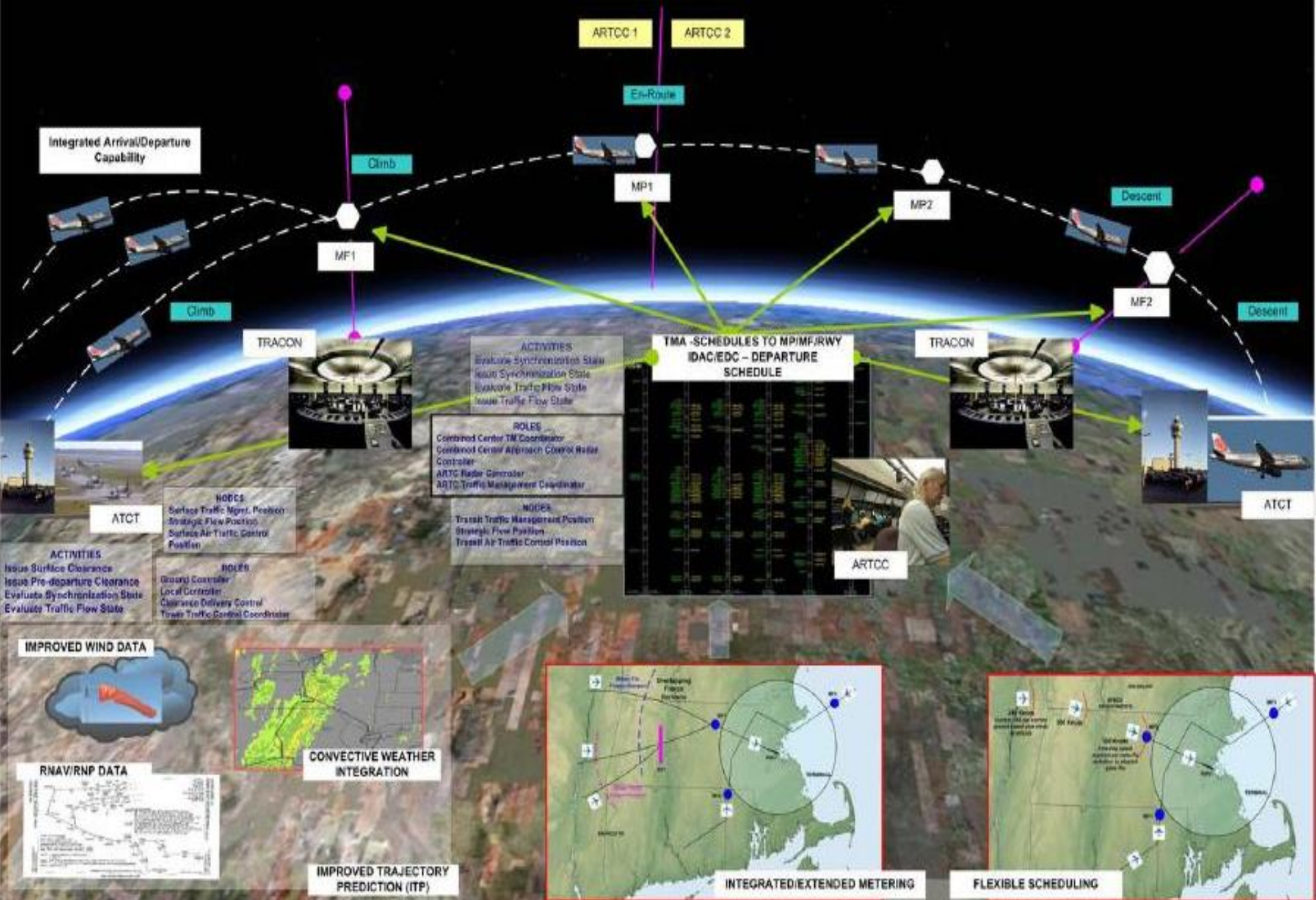
TBFM MIS Service Overview

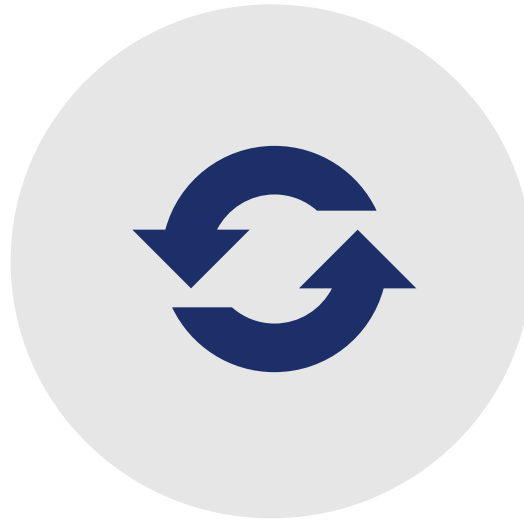
The TBFM **Metering Information Service (MIS)** publishes metering information to allow the TBFM system, other FAA systems [e.g. Traffic Flow Management System (TFMS)], and external entities to collaborate, share TBFM data and be informed of metering events.

Metering information is the data produced or generated during the process of managing aircraft flow by scheduling the time at which each aircraft should cross a predetermined MRE to meet user-defined scheduling constraints.

TBFM MIS Message Types

Message Name	Definition
Aircraft Information <air>	Provides metering information about an aircraft; specifically: flight plan (relevant subset), STAs, ETAs, MRE Assignments, and scheduling group information
Configuration Information <con>	Provides metering information about the configuration of the system; specifically: airport configurations, airport acceptance rates, TRACON acceptance rates, gate acceptance rates, Meter Point acceptance rates, runway acceptances rates, super stream class configurations, and satellite airport configurations
Other Information <oth>	Provides metering information about the status of metering and the status of system interfaces
Adaptation Information <adp>	Provides information about applicable system adaptation to include TRACON names, gate names, configuration names, Meter Reference Point names, and stream class names
Synchronization Information	This message includes no body, it is sent only to indicate an impending refresh of all TBFM data, either as a result of system startup or a periodic synchronization event





Future MIS Updates

Rob Nolte

Summary Of MIS Updates

- **New JMS Properties** for more efficient message routing based on:
 - Departure Airport
 - Destination Airport
- **Additional Aircraft Data Attributes:**
 - Computer Identifier (CID)
 - Global Unified Flight Identifier (GUFI)
- **New Heartbeat Message**
 - Heartbeat Message indicating TBFM MIS service is operational.
 - Requires 3rd (new) .xsd file
- **New service version numbering adopted**
 - Previous service version based on TBFM release scheme (e.g. 4.3.2.)
 - New service version based on SWIM recommended scheme (e.g. 1.1.0)
- **TBFM connecting to Solace vs WebLogic broker**
- **New service version v1.1.0 to provide SWIM based**
 - No impact to existing users during remediation period
 - Consumers ability to utilize improvements provided by v1.1.0

Deployment

- Select ARTCC deployment starting in summer of 2020
- National adoption in 2021

Example Data – Aircraft Data

```
SEC_LEVEL=NAS Only
DATA_CAT=air
DATA_GROUP=flt
SYNC=null
STDCHG=null
ARTCC=ZLA
VERSION=1.1.0
DEPART_APT=ESSA
DEST_APT=KLAX
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<env
  xmlns="urn:us:gov:dot:faa:atm:tfm:tbfmeteringpublication:1.1.0" envSrc="TMA.ZLA.FAA.GOV"
  envTime="2018-11-19T20:11:20.324Z"
  targetNamespace="urn:us:gov:dot:faa:atm:tfm:tbfmeteringpublication:1.1.0">
  <tma msgId="723236" msgTime="2018-11-19T20:11:20.324Z">
    <air airType="AMD" aid="DAL602" dap="ESSA" apt="LAX" tmaId="L02370" cid="123"
      gufi="123456789A">
      <flt>
        <aid>DAL602</aid>
        <dap>ESSA</dap>
        <apt>LAX</apt>
      </flt>
    </air>
  </tma>
</env>
```

Example Data – Adaptation Data

```
SEC_LEVEL=All
DATA_CAT=adp
DATA_GROUP=scns
SYNC=null
STDCHG=null
ARTCC=ZLA
VERSION=1.1.0
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<env
  xmlns="urn:us:gov:dot:faa:atm:tfm:tbfmteteringpublication:1.1.0"
  envSrce="TMA.ZLA.FAA.GOV" envTime="2018-11-19T15:53:57.545Z"
  targetNamespace="urn:us:gov:dot:faa:atm:tfm:tbfmteteringpublication:1.1.0">
  <tma msgId="127" msgTime="2018-11-19T15:53:57.545Z">
    <adp>
      ...
```

Example Data – Constraint Data

```
SEC_LEVEL=All
DATA_CAT=con
DATA_GROUP=aac
SYNC=PER
STDCHG=null
ARTCC=ZLA
VERSION=1.1.0
DEST_APT=KLAS
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<env
  xmlns="urn:us:gov:dot:faa:atm:tfm:tbfmtmeteringpublication:1.1.0"
  envSrce="TMA.ZLA.FAA.GOV" envTime="2018-11-19T15:53:57.547Z"
  targetNamespace="urn:us:gov:dot:faa:atm:tfm:tbfmtmeteringpublication:1.1.0">
  <tma msgId="130" msgTime="2018-11-19T15:53:57.547Z">
    <con>
      <aac aacType="NOW">
        <tra>L30</tra>
        <apt>LAS</apt>
        <tim>2018-11-19T15:53:57Z</tim>
        <cfg>1_19_25</cfg>
      </aac>
    </con>
  </tma>
</env>
```

Example Data – Sync Data

```
SEC_LEVEL=All,  
DATA_CAT=sync,  
DATA_GROUP=periodic_start,  
ARTCC=ZLA,  
SYNC=PER,  
VERSION=1.1.0  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<mis xmlns="urn:us:gov:dot:faa:atm:tfm:tbfmtmeteringpublication:1.1.0"  
misSrce="TMA.ZLA.FAA.GOV" misTime="2018-05-18T16:31:14.087Z">  
    <sync/>  
</mis>
```

Example Data – Heartbeat Data

```
DATA_CAT=hb
DATA_GROUP=hb
ARTCC=ZLA
VERSION=1.1.0
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<mis
xmlns="urn:us:gov:dot:faa:atm:tfm:tbfdmeteringpublication:1.1.0"
misSrce="TMA.ZLA.FAA.GOV" misTime="2018-05-18T16:31:14.087Z">
    <hb/>
</mis>
```

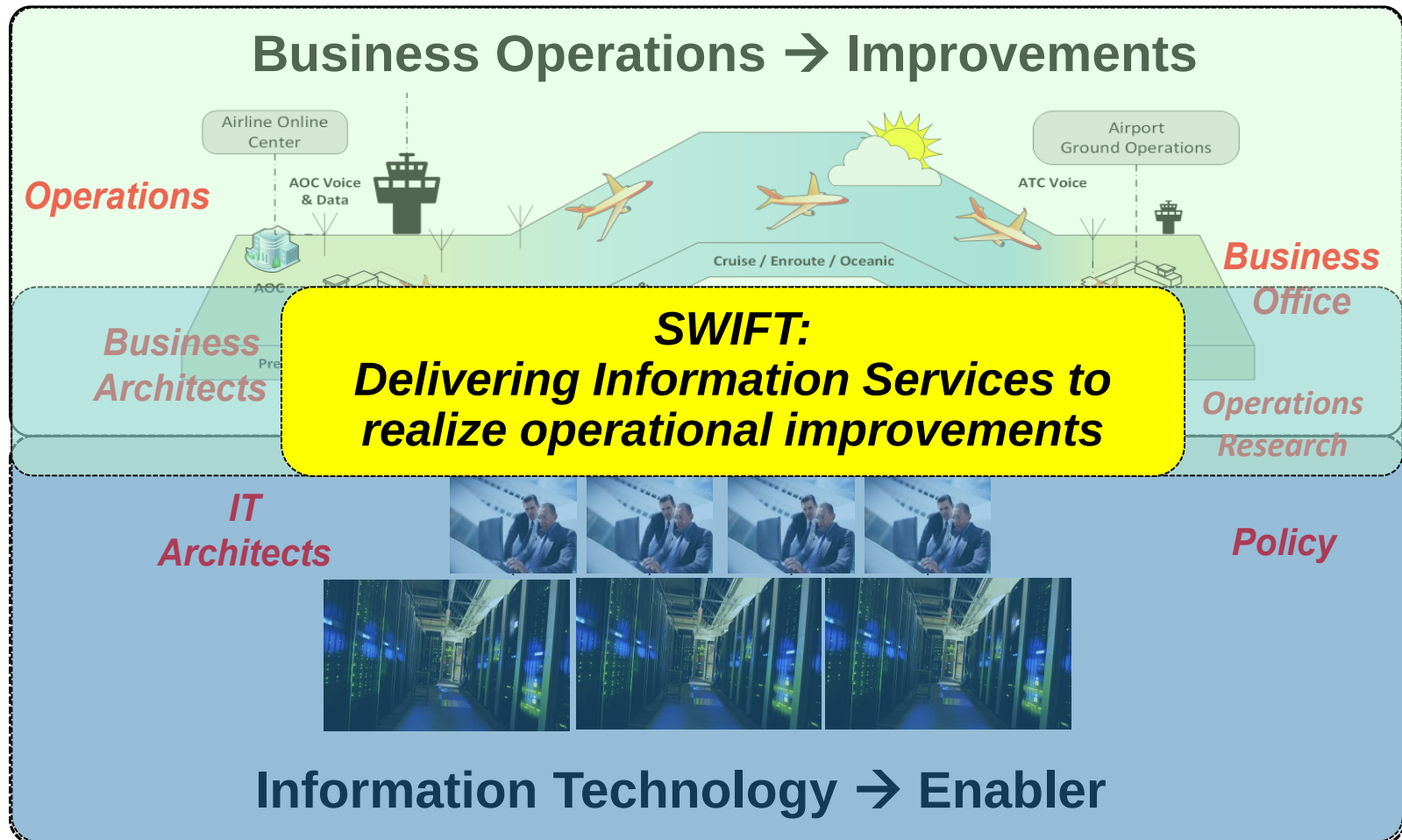


SWIM Industry FAA Team (SWIFT)

DAVID ALMEIDA

David.Almeida@LSTechLLC.com

Technology: Enabling Operational Improvements



The Evolution of the SWIFT



SWIM Integrated into Gateway
RTCA Task Force 5 Airport Surface Data



SWIM became a central point to access
multiple categories of aviation data



Initiated Outreach to internal
and external stakeholders



Building on NextGen Concept, started
putting data in operational context

SWIFT

Collaborative team to enable
operational improvements

SWIM Industry FAA Team (SWIFT)

- SWIFT addresses industry recommendation to:
 - Establish a community forum that acts as a single environment for collaborative engagement around NAS information and data sharing
 - **Communicate**: Inform community about SWIM and NAS programs
 - **Educate**: Synchronize community on information services
 - **Stimulate**: Openly discuss issues most relevant to community
 - **Collaborate**: Structured as a workshop to drive sharing information
- Industry partners
 - Subject matter expertise in airline, airport or FAA operations, processes, procedures and related systems
 - Open to public: meeting notes, presentation material posted on a publicly accessible web site.
 - Anyone can join, everyone is invited.



SWIFT Stakeholders

Airspace Users



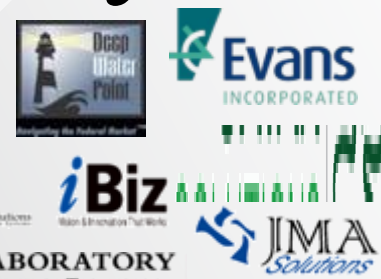
Trade Associations



Vendors to Industry



Support Organizations



Airport Authorities



Standards Bodies

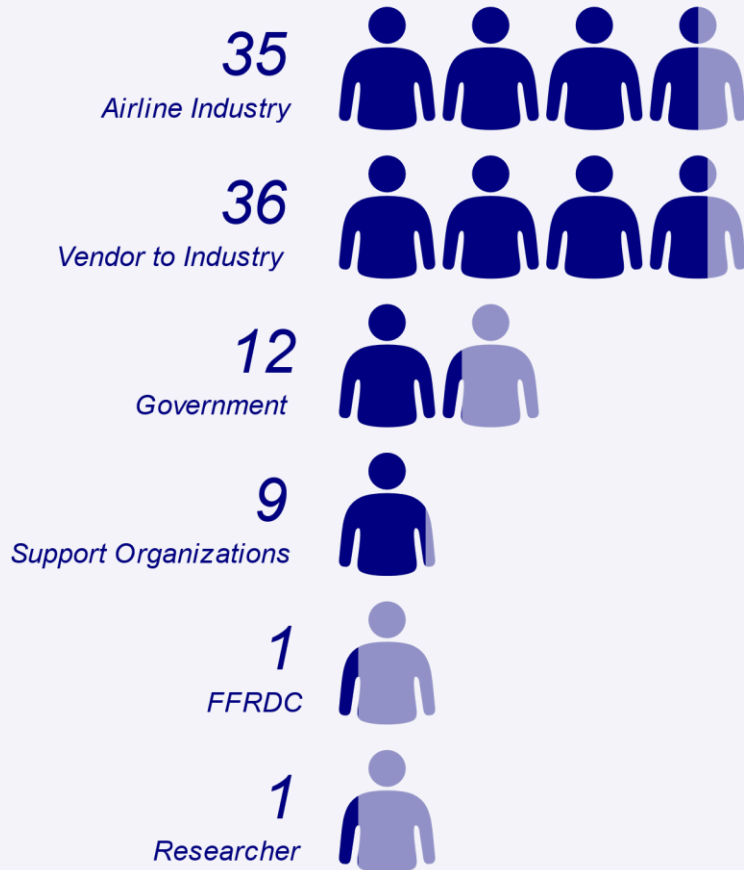


Government

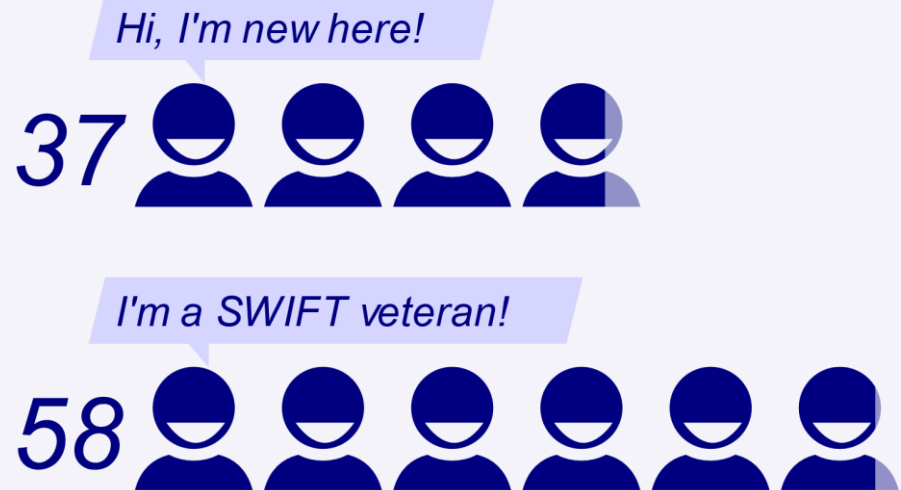


Who is at SWIFT #7?

SWIFT #7 Attendees



Attended a SWIFT Meeting Before?

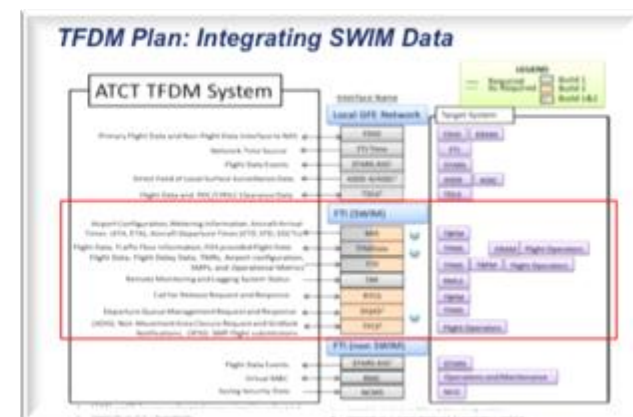
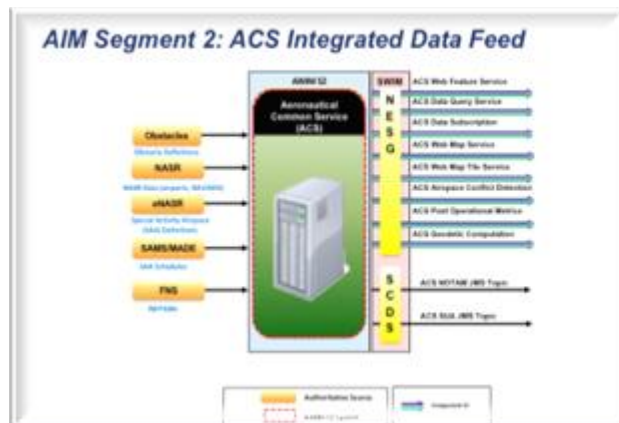


SWIFT ✈️

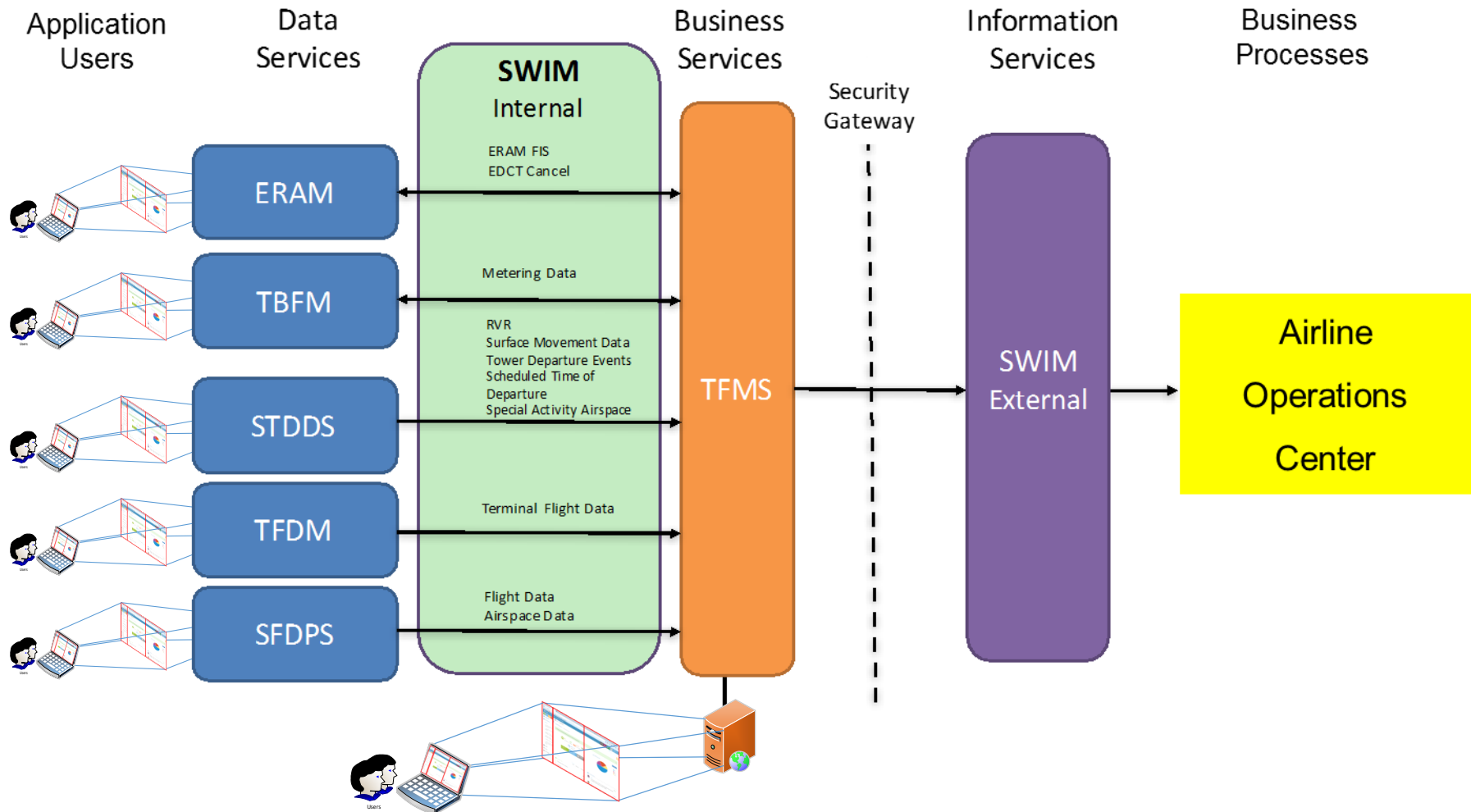
**Registered attendees as of 8/6/19*

SWIFT: Platform for Sharing Information

- Gaining subject matter expert insights in focus areas
 - Operational Status Dashboard
 - Operational Context and Use Case Documents
- Engaging SWIM Producers:
 - Traffic Flow Management System (TFMS), Time Based Flow Management (TBFM), Terminal Flight Data Manager (TFDM), Aeronautical Information Management (AIM)
- Special Projects and Announcements:
 - SWIM Cloud Distribution Service and SWIM Portal
 - TFDM Terminal Publication (TTP) Service & ATD-2



Aligning Common Terminology



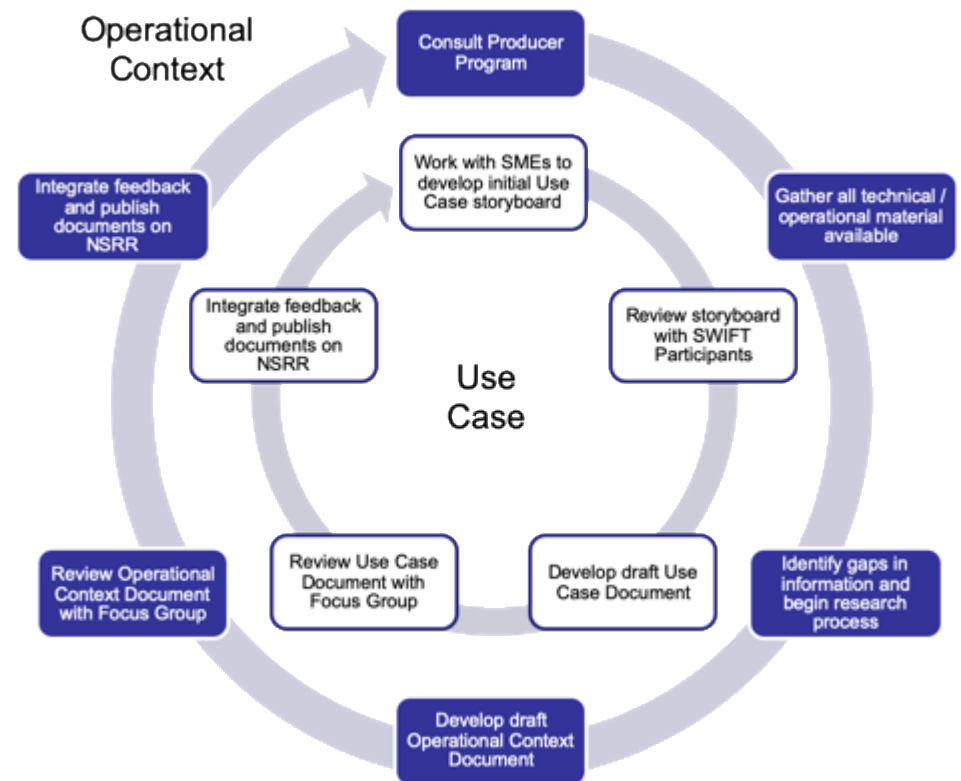
SWIFT Meetings: Typical Workshop Agenda

- **Quarterly meetings to present updates on:**
 - Focus Groups
 - FAA and industry subject matter experts meet monthly to collaborate in addressing clearly scoped items
 - Develop Operational Context and Use Case documentation to help explain the operational uses of the various SWIM services
 - Airspace User Case Studies
 - Current problems and how they could be addressed by SWIM information
 - Progress using SWIM information in operations
 - SWIM Producer Programs
 - New capabilities/information services
 - Special Topics
 - Topics of interest related to Information Exchange: e.g., SWIM cloud, international SWIM harmonization, etc..

Focus Group: Operational Context for SWIM Data



- Engage SWIFT Participants in development of Ops Context & Use Case Documents



– SWIFT Participation on Ops Context and Use Cases

- Participants provide comments
- Structure of feedback & nature of questions answered meeting

Operational Context Documents

• Document Progress

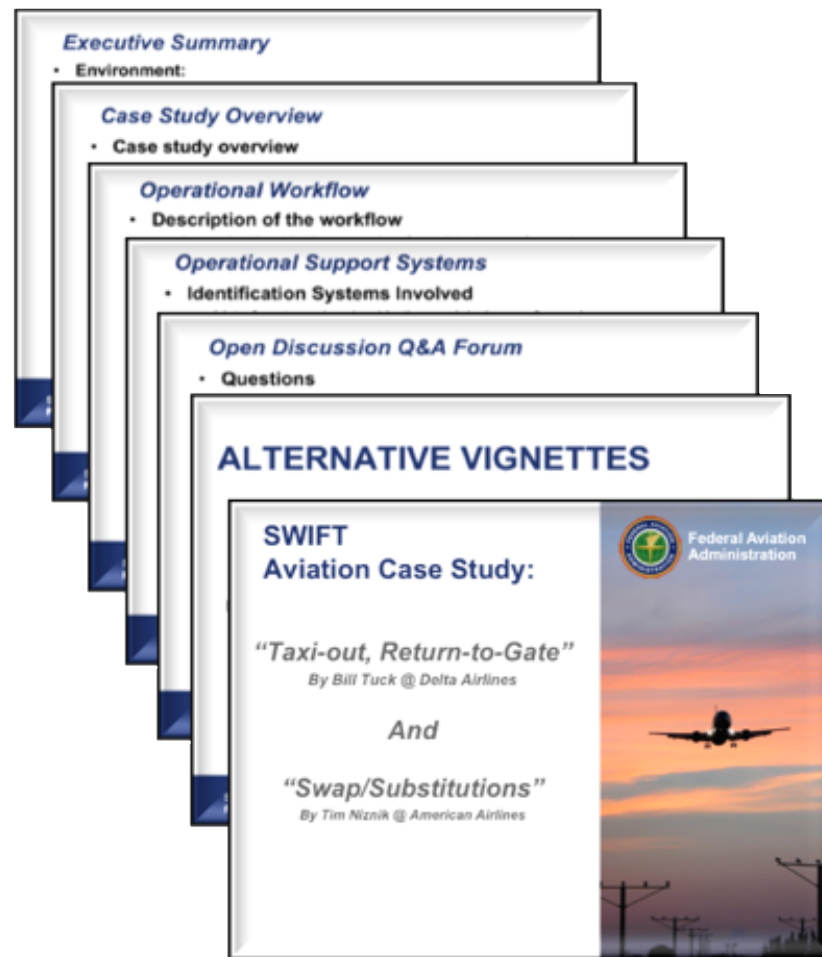
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- STDDS – APDS
- DCNS – DLD
- TFMS Status
- SFDPS General
- STDDS – ISMC

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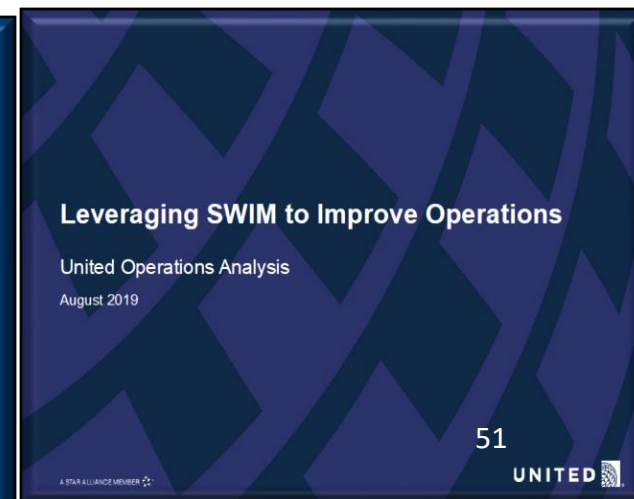
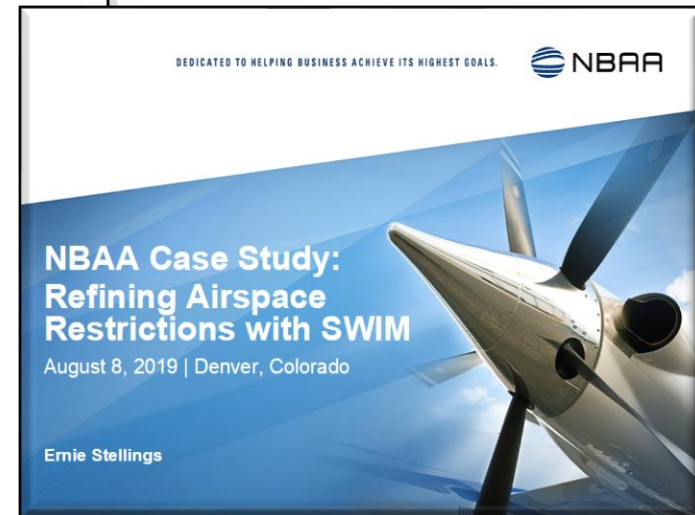
SWIFT Case Studies

Industry Learning & Sharing from Each Other!

SWIFT: Industry Case Studies

- **Two Types:**

- **“Show and Tell”:** Offer a venue to share uses of SWIM Information Services and related lessons learned with the community
- **“Here is problem I have”:** Provide forum to discuss real-world operational problems and identify relevant NAS systems and SWIM information service



Sample Widgets

Arrival and Departure Delay Bar Charts

- Plot overall NAS arrival and departure delays per hour
- Identify severity of delays and periods of high demand
- Plot arrivals per hour by airline
- Visualization of SFDPS live data



Arrival and Departure Delay Pie Charts

- Easily recognize overall severity of NAS arrival/departure delays
- Visualization of SFDPS live data



En Route Fix Loading Viewer

- Developed to support taxi-out use case
- Current MIT and MINIT restrictions at specific fixes
- Fix loading projections for next hour
 - Leverages methodology to calculate fix load percent in 15-minute periods
 - Identify specific fixes with limited capacity - this supports informed reroute requests
- Can be extended to include flight list functionality
- Visualization of TFMS, TBFM (currently static data)

Fix	Miles In Trail	Minutes In Trail	1000 - 1015	1016 - 1030	1031 - 1045	1046 - 1100
WAGV		10	80	75	60	40
GATL	5		60	70	65	60
MEON			60	50	45	40
WV	15		90	100	95	90
WGOV	10		75	70	75	80
WATL			50	40	45	50

Flight Arrival/Departures with OOOI Times

- Adds additional surface movement times to arrival/departure table
- Can infer
- Visualization of SFDPS and STDDS SMES

Flights from 12:00 am GMT

Display: 5 records per page

Airline	Flight ID	Departure City	Estimated Departure	Actual Departure	Departure Interval	Arrival City	Estimated Arrival	Actual Arrival	Arrival Interval	Gate Out Time	Wheelie Off Time	Wheelie On Time	Gate In Time
AAL	AAL658	KLAX	2019-07-01 18:27	2019-07-01 19:16	0:49	KPHL	2019-07-01 23:17	2019-07-02 00:07	0:50	2019-07-01 18:12	2019-07-01 18:27	2019-07-02 00:07	2019-07-02 00:23
AAL	AAL251	KMIA	2019-07-01 19:20	2019-07-01 21:48	2:28	KJFK	2019-07-01 21:47	2019-07-02 00:25	2:38	2019-07-01 18:05	2019-07-01 19:20	2019-07-02 00:25	2019-07-02 00:40
AAL	AAL2434	KPHX	2019-07-01 19:10	2019-07-01 19:59	0:49	KJFK	2019-07-01 23:44	2019-07-02 00:38	0:54	2019-07-01 19:00	2019-07-01 19:30	2019-07-02 00:38	2019-07-02 00:53
AAL	AAL2368	KBWI	2019-07-01 19:23	2019-07-01 21:09	1:46	KDFW	2019-07-01 22:07	2019-07-02 00:33	2:26	2019-07-01 19:07	2019-07-01 19:23	2019-07-02 00:33	2019-07-02 00:48
AAL	AAL323	KDCA	2019-07-01 19:30	2019-07-01 21:22	1:52	KDFW	2019-07-01 22:09	2019-07-02 00:29	2:20	2019-07-01 21:09	2019-07-01 21:22	2019-07-02 00:29	2019-07-02 00:44

Widget Case Studies

- Integrating new information services

Weather Route Availability Tool

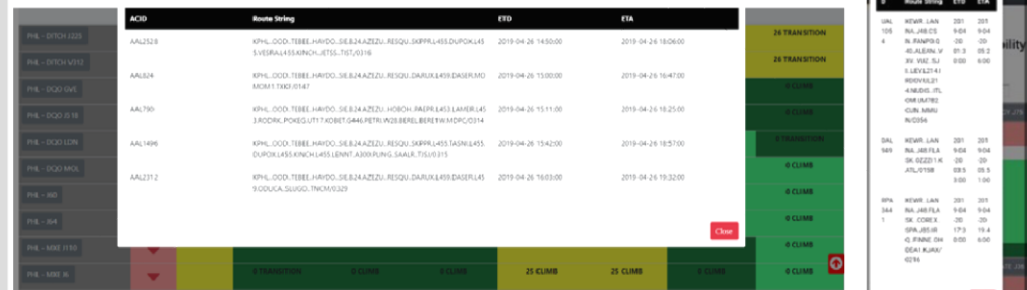
- Developed to support taxi-out use case
- Show departure route availability projections for next 30 minutes to weather constraints
 - Identify specific departure routes/fixes with limited capacity informed reroute requests
 - Identify altitude of echo tops, blockage locations
- Filter routes by metroplex
- Visualization of TFMS
 - Route Availability Planning Tool (RAPT)



Desktop View

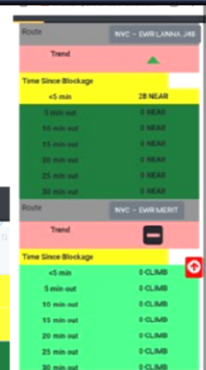
Weather Route Availability Tool with Flight List

- Developed to support taxi-out use case
- Adds additional capability to Weather Route Availability Tool
- Show scheduled flights on each route for next 30 minutes
 - Upon clicking route, a table pops up with flights scheduled to depart on that route
 - AOC can identify affected flights, as well as capacity concerns
- Visualization of TFMS and SFDPS
 - Route Availability Planning Tool (RAPT)
 - SFDPS Flight ACID, Route Strings



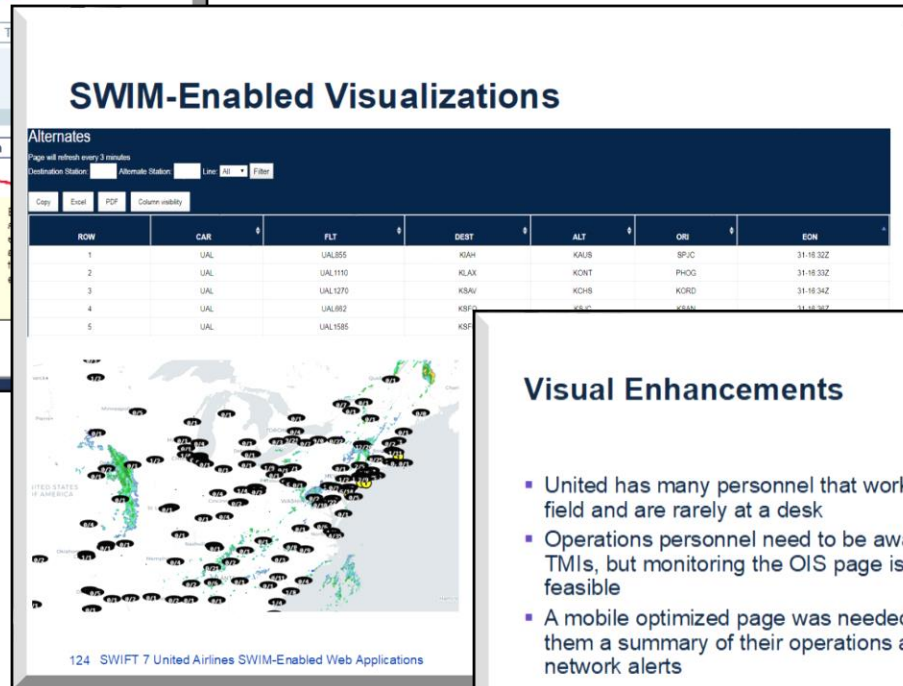
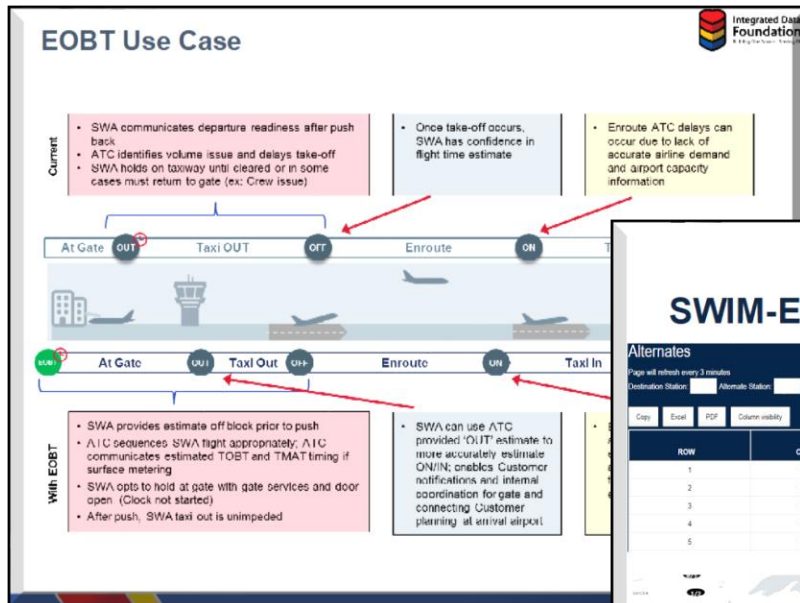
Desktop View

Mobile View



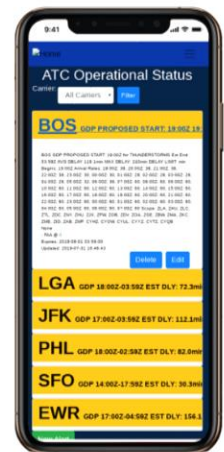
Mobile View

Community Concepts: Industry Widgets



Visual Enhancements

- United has many personnel that work in the field and are rarely at a desk
- Operations personnel need to be aware of TMLs, but monitoring the OIS page is not feasible
- A mobile optimized page was needed to show them a summary of their operations and all network alerts



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UNITED

ACS Consumer Testbed (ACT)

- **Created in the R&D domain to provide ACS services**
 - Stakeholders get an early look at available data, service functionality, onboarding processes, consumer design constraints and recommended practices, and a familiarization with the integrated aeronautical data environment introduced by AIMM S2
 - Two instances: canned data (ACT1) and live data (ACT2)
- **ACT will provide users the ability to:**
 - Develop and test their interface with the ACS
 - Develop and test use, functionality, and capability of ACS web-services
 - Interact with, and understand, aeronautical information data set available through the ACS
 - Initial step to on-ramping to ACS



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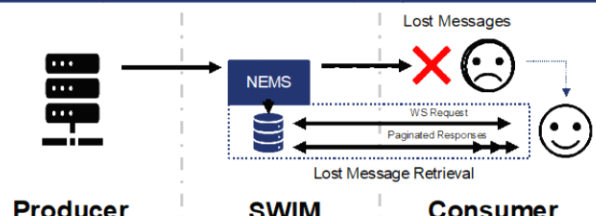
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SWIFT Producer Updates: Aeronautical Information Management Update

ACS Customer Testbed



SWIM Lost Message Retrieval Overview

Problem	SWIM consumers have no current means of retrieving messages that were lost due to connection interruptions or other consumer related issues.
Solution	Provide a function that allows consumer to request messages that were not able to be consumed.
Approach	Create a capability to store producer data and allow retrieval of the data by authorized consumers through a RESTful Web Service.
ConOps	 The diagram illustrates the SWIM Lost Message Retrieval process. It shows three main components: Producer, SWIM, and Consumer. The Producer sends data to the SWIM (NEMS). The SWIM stores this data. The Consumer requests messages from the SWIM. If a message is lost, the Consumer can request it back from the SWIM. The diagram shows a 'Lost Messages' section with a red X and a sad face, and a 'Lost Message Retrieval' section with a happy face. The process involves a 'WS Request' from the Consumer to the SWIM, a 'Paginated Response' from the SWIM to the Consumer, and a 'Lost Message Retrieval' from the SWIM to the Consumer.



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SWIM Program Updates

Lost Message Retrieval



Needs Assessment: External Stakeholders

- **Cloud to Cloud Transfers**
 - More efficient for Consumers
 - FAA Cloud to Tier 1 Consumer cloud negates the need to move data through Consumer's data center to their cloud.
- **Development and Test of New Services**
 - Enhanced cloud services supports quicker on-ramping of new services (through expedited qualification/testing phases) and more rapid approval versus NESG.
 - Test and Accrediting still required, but in a much more collaborative and streamline manner.
- **Playback versus Reconstitution**
 - Consumers can utilize playback of events for the last 30-60 minutes of post-ops analysis.
 - Longer term data reconstruction/reconstitution can support Consumers re-establishment of their operational status and history



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Special Topics: User Driven Topics

***SWIM International, NOTAMS,
Industry Needs Assessment***





Collaboration Workshop #8

- ☐ November 7, 2019
- ☐ Delta Airlines HQ
- ☐ Atlanta, GA



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Upcoming Events

SWIM OFFICE

Upcoming Events



*Stop by the SWIM booth
for presentations, panels,
and live demonstrations!*

If you are currently using SCDS
and would be willing to participate
in panel discussion at ATCA email
swim@faa.gov .

Dates: Oct 21 – Oct 23, 2019

Location: Walter E. Washington
Convention Center, Washington, D.C.

<https://www.atca.org/annual>

Resources

- swim@faa.gov
- scds@faa.gov
- https://www.faa.gov/air_traffic/technology/swim/
- https://www.faa.gov/air_traffic/technology/swim/users_forum/
- <https://nsrr.faa.gov/>
- <https://scds.swim.faa.gov/>
- <https://www.atca.org/annual>