

Minutes of Federal Aviation Administration (FAA) System Wide Information Management (SWIM) Industry Collaboration Workshop and SWIM Industry-FAA Team (SWIFT) Focus Group Meeting

November 21, 2024 (9:30am - 3:30pm EST)

1. In-Person Airline Focus Group (with Limited Virtual Access) Session

- a. The SWIFT Focus Group meeting was a hybrid event held online, via the Amazon Chime Meeting conferencing system and in-person at the Amazon Headquarters 2 facility in Crystal City, Virginia. The event occurred on November 21, 2024, at 9:30am EST.

2. Morning Session

- a. Welcome/Introductions – Josh Gustin (FAA), Kristin Cropf (FAA), Justin Prasai (FAA), David Almeida (LST)
 - i. Mr. Almeida opened the welcome portion of the event by remarking on the great interest shown by attendees for the SWIFT Focus Group and emphasized that this event is intended to focus on the airline community needs.
 1. This event serves as a continuation of topics from the previous Focus Group and SWIFT event held last year. The FAA wants to use this opportunity to address “hot items” brought up by the community and also announce some new FAA strategic and tactical adjustments/transitioning to better align with industry changes and modernization efforts.
 - ii. Mr. Gustin and Ms. Cropf welcomed the audience, and introduced Justin Prasai as the new SWIFT Chair, succeeding Stefanie Calabrese. Mr. Prasai formally introduced himself and provided a brief background to his experiences with SWIFT and aviation operations.
 - iii. Ms. Cropf also introduced Cassandra Leid, who will be succeeding Ms. Cropf as the acting SWIM Program Manager. Ms. Cropf thanked the community for their continued support of SWIFT over the years and plans to still attempt to be involved with SWIFT in the future.
- b. **Enhanced Tactical Communications & Collaboration** – Terrence Meekins (FAA), Kevin Dement (Noblis), Justin Prasai (FAA, SWIFT Chair)
 - i. Mr. Meekins’ presentation highlighted current FAA outreach challenges that are occurring due to the growing complexity of the NAS. This presentation outlined how the FAA plans to enhance processes, tools, and communication channels for socializing awareness on SWIM data services, status outages, and issues. Mr. Meekins walked through the communications flow between internal (FAA) and external (aviation industry) entities, highlighting the different types of actors that must be

considered for disseminating relevant SWIM data services information in a timely manner.

- ii. Mr. Meekins also presented the Maintenance Status Communications chart, which details the responsible FAA parties which SWIM users can contact for service outages and information regarding maintenance schedules or service down times. This chart offers a clearer path for public users, Collaborative Decision Making (CDM) members and internal FAA Program Management Office (PMO) to address their SWIM service connection concerns with the appropriate SWIM service/message owner.
- iii. Mr. Dement continued the presentation with a live demonstration of the SWIFT Portal domain. During this demo, Mr. Dement highlighted the SWIFT portal maintenance page. This page details both scheduled and unscheduled outages. Scheduled events have start and end times, while unscheduled events lack specified end times, indicating ongoing issues. Mr. Dement also showcased a few actions that SWIFT Portal users can do, while the audience, Mr. Dement and Mr. Wickes engaged in further discussion about SWIFT Portal and user development/testing environment challenges:
 1. *Notification System*: SWIFT Portal users can now filter and set up notifications for specific events at sites, enhancing proactive management. Notifications can be received via email linked to the user's account.
 2. *User-Reported Issues*: Only user-reported issues that are verified by the SWIM Enterprise Control Center (SECC) team are reported. The team investigates to confirm if the issue is on the user's side or an internal FAA issue.
 3. *Role-Specific System Access*: Some SWIM services sites might not be visible to users due to role-based access. Permissions should be requested for full visibility, particularly NEMS or NESG roles.
 4. *Feedback and Monitoring*: There's an ongoing effort by the SWIM PMO to improve monitoring and feedback mechanisms on the forum to ensure questions and issues are addressed in a timely manner. Below are a few features that are currently under review and or development:
 - a. *Customized ways to alert stakeholders "up the chain"*.
 - b. *Ability to tag a program in the community forum for alerting and timely responses.*
 - c. *Enhancements to the community forum.*

- i. *A more organized layout with community forum. Currently difficult to navigate with high volume of posts.*
 - d. *Response/engagement from SWIM PO and other FAA programs to "verify users are on the right path" on solutions/directions proposed by other users in technical discussion threads.*
- 5. *Group vs. Individual Accounts:* Mr. Dement discussed the benefits and downsides of using group emails for notifications to ensure continuity despite personnel changes. Group emails could avoid issues when a contact leaves an organization. The audience and Mr. Burdick suggested that industry and the FAA collaborate on forming a "best practices guide" for maintaining up-to-date contact information and managing accounts effectively.
 - 6. *Challenges in the Test Environment:* Mr. Wickes discussed the frequent service interruptions in the SWIM development/test environments, acknowledging their impact on external users. The complex and dynamic nature of the FAA National Test Bed (FNTB) involves constant updates to equipment and software, posing challenges.
 - 7. *Improvement Measures:* Efforts are underway by the SWIM PMO to stabilize and improve the SWIM development/testing environment. This includes the reduction of SWIM provisioning lead times and improved staffing levels in the TC NAS Enterprise Messaging Service (NEMS) team, which is now better equipped to handle issues.
- iv. Mr. Prasai concluded this agenda topic by providing useful SWIM Data User reference links and introducing a new form for issue reporting in development and test environments to enhance clarity and reduce repetitive communication. The form is designed to capture necessary details from external users, thus streamlining issue resolution between users and the SECC. The form can be accessed via the SWIFT Support Page (coming soon) and serves to expedite communication or troubleshooting user issues.
- c. **Existing Developmental Pain Points & Issues Today** – David Wickes (FAA)
 - i. Mr. Wickes commenced this agenda topic by presenting current, external user-reported pain points with SWIM development/test environment – particularly when the environment is impacted by FNTB SWIM service degradation or service outages. He remarked on certain improvements that have been made to mitigate these issues, such as the reduction in FNTB

SWIM provisioning lead time and enhancements to SWIFT/SCDS Portal for issue monitoring, status, and reporting. Mr. Wickes also showcased the new FNTB reporting process, where he walked through the new issue reporting form with the audience.

- ii. During this portion of the agenda, Mr. Almeida facilitated this discussion by whiteboarding audience feedback and thoughts on certain pain points or issues they've encountered while ingesting SWIM data into their business operations. The audience provided a few examples which extended into further discussion on user challenges:
 1. *Data Consistency and Performance*: Concerns about the consistency and timely updates of critical data points like Expected Departure Clearance Times (EDCTs), which are not uniformly updated. Inconsistencies can lead to operational mismatches across different airline flight systems.
 2. *Documentation and Support*: Concerns around outdated and incomplete user development/testing documentation were noted, emphasizing a need for better resources to understand SWIM system mechanics comprehensively.
 3. *Live vs. Replay Data in Testing*: Challenges arose around the use of month-lagged data in testing environments, suggesting a preference for more real-time data to improve test relevance and reliability.
- iii. Mr. Gustin, Mr. Burdick, and Ms. Cropf continued the discussion about FAA plans for strategic changes to streamline FAA functions and user experience – the conversation progressed to maturing a framework for security and development/testing lifecycle with Development, Security and Operations (DevSecOps) and Cloud Technologies. This discussion focused on the need for modernizing airspace systems; there was consensus around FAA/industry cultural and infrastructural shift needed to integrate DevSecOps practices. The move towards using cloud technologies is aimed at increasing agility and speeding up patch deployment for services.
 1. *FAA Innovations and Refreshing Legacy Systems*: The FAA is investing in modernizing systems from TFMS to Flight and Flow Information for a Collaborative Environment (FF-ICE) and introducing Flow Management Data and Services (FMDS). This shift is essential due to the aging FAA infrastructure and aims at improving operational efficiencies.
- iv. Mr. Burdick concluded the discussion by recognizing FAA opportunities for improvements, including:

1. *Holistic Data Integration*: Calls for more holistic delay reporting, including integration across various Traffic Flow Management (TFM) systems to prevent conflicting data inputs.
 2. *Improving Feedback Loops*: Emphasis was placed on structured communication channels to ensure issues like performance bottlenecks and data mismatches are addressed efficiently.
 3. *FNTB Maintenance Window*: Mr. Burdick provided general guidance for when users can expect service maintenance periods. Every Wednesday from 12 PM to 6 PM.
 4. *Team Leads*: Users were encouraged to do outreach to Joseph Klapatch (FNTB lead); Chris Burdick (FAA communication lead) for inquiries or to be directed to the correct POC for issue support.
- d. **Near Term-Term (3-5 years) FAA Changes for Industry** – Chris Burdick (FAA)
- i. Mr. Burdick began the presentation by introducing a new communication strategy for transitioning airspace users over to FAA/SWIM services. The strategy focuses on tailoring FAA outreach and announcements to the relevant audience - internal or external executive, project manager and engineering level.
 1. *Communication Overhaul*: Mr. Burdick remarked that the new strategy is aimed at providing a comprehensive roadmap of upcoming technological changes, focusing on efficient transitions and collaborations between FAA programs and external industry players.
 - ii. Mr. Burdick also showcased a CDM and Industry Service roadmap which provided a general outlook for upcoming SWIM services between now and the 2032 timeframe. This roadmap covered new services and capabilities from TFMS/FDMS, Common Support Services – Flight Data (CSS-FD), Terminal Flight Data Manager (TFDM), FAA Telecommunications Infrastructure Program / FAA Enterprise Network Services Program (FTI/FENS), Aeronautical Information Management Modernization (AIMM), Common Support Services – Weather (CSS-Wx) and new flight plan guidance from International Civil Aviation Organization (ICAO).
 - iii. During the presentation, Mr. Burdick remarked on the inclusion of industry in the FAA development of new services and tools. Discussion on better involving industry stakeholders in the development of new tools like FMDS and Common Support Services - Flight Briefing (CSS-FB), helps foster early user familiarization and feedback service/tool utility.

- iv. Mr. Burdick concluded the presentation by highlighting upcoming certain capabilities, such as FMDS new Slot Substitution Service that users would find value in, however the timelines presented in the roadmap were “soft” expectations - where the FAA would communicate any changes if needed.
- e. **SWIM Community Forum Resources** – Justin Prasai (FAA)
 - i. Mr. Prasai presented an overview of SWIM and SWIFT Communication Forums that serves to inform the audience on the appropriate venue to attend for specific FAA/SWIM related information. His presentation included descriptions of the SWIM Users Forum, SWIFT General and Focus Group events, and the Traffic Flow Data Connectivity Information Exchange sessions. This overview helps alert SWIM users about when and which forum would best serve their needs for receiving relevant FAA news and SWIM services information.
 - ii. Mr. Prasai also included a comprehensive summary of SWIM resources that captured references, links, sites and POCs for SWIM support presented throughout the agenda, to facilitate user navigation to the appropriate channels for SWIM data assistance.
 - 1. SWIFT support page: <https://support.swim.faa.gov/>.

3. LUNCH BREAK

4. Afternoon Session

- a. **Hot Topics from Industry** – David Almeida (LST)
 - i. Mr. Almeida began the afternoon session by highlighting key hot topics that have been noted by the SWIM community over the past year and were captured from the previous SWIFT Focus Group and General Body session, held November 2023. This opening agenda topic serves an opportunity to continue these discussions with airlines and airspace users to better characterize the challenges the community encounters with specific SWIM business services.
 - 1. Topics included TFMS and TFMDData challenges, TFMS User Transition over SWIM, Industry Direction and Technology Trends (specifically adapting to FF-ICE guidance, data standards and information models such as FIXM, and leveraging Cloud Technology and Application Programming Interfaces (APIs))
- b. **Why FMDS & CSS-FD?** – Daniel Johnson (FAA)
 - i. Mr. Johnson’s presentation focused on describing how CSS-FD and FMDS supports FF-ICE guidance for flight data and TFM initiatives, aligning with the ICAO vision for global aviation interoperability. Per Mr. Johnson, both FMDS and CSS-FD services will improve NAS operations

and TFM efficiency while replacing aging TFMS infrastructure to better address system shortfalls identified by NAS users.

1. Mr. Johnson also highlighted upcoming changes and developments within FMDS and CSS-FD programs, indicating a future-oriented approach with a particular focus on web-based interfaces.

c. FMDS Transition Strategy Overview – Daniel Johnson (FAA)

- i. Mr. Johnson continued the previous discussion into the interface transition strategy for users moving over from TFMS over to FMDS. He presented the planned roadmap for the rollout of TFMDData replacement services – which are set to tentatively target the 2029 timeframe. These replacement services include a new FMDS SD Web Client, FMDS/FIXM data formatting transition, the new FMDS Slot Substitution Service, and the TFMDData: Flow service transition over to FMDS Flow Publication Service. He remarked that TFMDData: Flight service will be transitioned over to CSS-FD.

1. In the CSS-FD case, users will be transitioned away from SWIM Flight Data Publication Service (SFDPS), SWIM Terminal Data Distribution Service (STDDS), Time Based Flow Metering (TBFM) and other SWIM services for flight data.
2. Mr. Johnson also presented the upcoming FMDS Situation Display Upgrade, which is an upcoming transition to a new situation display aimed at integrating disparate data without relying on various interfaces, moving towards a unified web-based platform. This inclusion will support cloud deployment and agile development environments.

- ii. During the presentation, Mr. Johnson remarked on the new API transition for upcoming services. SWIM services are planning a shift towards RESTful API where appropriate, moving away from older Java Message Service (JMS) -based systems. The new system infrastructures are to embrace the flexibility enabled by cloud environments.

1. During this topic, there was participant feedback about the transition challenges, in which the audience expressed the need for early notification of interface specifications before the development phase.
2. In addition, the discussion continued about the cybersecurity measures in place to ensure data integrity and the general request for a more transparent system of accessing data across new services.

d. TFMDData Transition Strategy Overview – Daniel Johnson (FAA)

- i. Mr. Johnson continued the previous discussion, presenting an overview of the TFMDData transition strategy. This overview provided a general summary of how TFMDData Flow, Flight and Request/Reply services will be transitioned over to CSS-FD and FMDS core functions.
 - 1. TFMDData: Flight will be owned by CSS-FD
 - 2. TFMDData: Flow will be owned by FMDS Flow Data Management Service
 - 3. TFMDData Request/Reply functionality will be distributed across FMDS Slot Substitution, FMDS CDM Flight Data, and FMDS Trajectory Option Set (TOS) / Collaborative Trajectory Options Program (CTOP) services
 - ii. Mr. Johnson continued the discussion by providing rationale on the need to replace TFMDData, including the need to adopt new schema changes for international standards, mitigating existing data publishing shortfalls existing in TFMDData, and better alignment with the flight object and flow object.
 - iii. Mr. Johnson concluded this portion of the presentation by thanking SWIM users who have transitioned over to TFMDData for FDBLOCK and SS and TOS/CTOP messages. He remarked that users can expect transparency, in that mediation from TFMDData format to the new services will be provided within two years.
- e. **FMDS Services Planned** – Daniel Johnson (FAA)
- i. Mr. Johnson began this presentation by highlighting the common features among the new FMDS and CSS-FD services previously described. He proceeded to walk through the planned FMDS services for near-term release.
 - 1. He highlighted the planned FMDS Slot Substitution Service, which is aimed to be implemented sooner than the overall FMDS rollout. This service will consolidate several functionalities into one service, simplifying data retrieval and usage for slot substitutions.
 - 2. *FMDS Implementation*: Targeted for 2029, with efforts to potentially expedite some aspects of the rollout earlier.
 - ii. Mr. Johnson concluded this agenda topic by providing the FMDS POC and an FMDS resource link for the audience to access and learn more about FMDS.
 - 1. www.faa.gov/fmlds
- f. **CSS-FD Services Planned** – Lucas Curns (FAA)
- i. Mr. Curns began the CSS-FD agenda topic, focusing on how CSS-FD is central to the modernization of flight plan filings that the FAA is

spearheading. Per Mr. Curns, this modernization aligns with ICAO standards to improve the infrastructure.

- ii. Mr. Curns presentation walked through an overview of Flight Object, ICAO FF-ICE Release 1 mandatory and optional services, and displayed how FF-ICE services will be executed by a two-phase CSS-FD release. Mr. Curns then continued to walk through CSS-FD planned capabilities, by presenting the planned CSS-FD Phase Capability roadmap. CSS-FD Phase 1 capabilities are targeting release before 2030, while Phase 2 capabilities are targeting the 2030 and beyond timeframe.
- iii. During Mr. Curns' presentation, he introduced several key concepts that facilitate CSS-FD flight data services and user flight planning needs:
 1. Global Unique Flight Identifier (GUFI): The GUFI acts as a unique identifier for flights, facilitating data matching and algorithmic rules for flight object creation. It is submitted by the airspace user upon flight plan filing.
 2. Data Feeds Transformation: Transition from current multiple separate data sources (e.g., TFMS, TBFM) to a single data pipeline through CSFD. This integration aims to streamline operations, reduce redundancy, and ensure consistent flight data coverage.
 3. Flight Object Concept: CSS-FD will provide a live, real-time view of flights by consolidating various data sources without storing historical data long-term
 4. Flight Plan Checks: When an Enhanced Airspace User (eAU) submits a flight plan, the system checks for a GUFI. If absent, the plan is rejected.
- iv. Per Mr. Curns, user initial flight plans before actual filing and will align with ICAO's use in Europe, where Air Navigation Service Providers (ANSPs) validate and respond to intents. There's an emphasis on the role of GUFI for synchronization.
 1. During Mr. Curns' presentation, there was discussion on balancing early route predictions against actual conditions like weather, which can change rapidly. The preliminary plans must be accurate enough to add value
 2. *European Filings*: Europe mandates the use of FIXM standardized flight plans by late 2025, which presents pressure on US entities to align their systems.
- v. *Common Data Sources*: There's a strategy to unify FAA system data through mission services such as FMDS and leverage cloud technologies to improve data accessibility and operational efficiency.

- vi. Mr. Curns concluded his presentation by providing an overview of CSS-FD resource links and relevant POCs for users to access and learn more about CSS-FD.
 - 1. Draft CSS-FD SIR: [SAM.gov](https://sam.gov)
 - 2. CSS-FD Website: [Common Support Services - Flight Data \(CSS-FD\) | Federal Aviation Administration](https://www.faa.gov/air_traffic/technology/swim/common-support-services-flight-data-css-fd)
 - 3. Community Forums:
www.faa.gov/air_traffic/technology/swim/common-support-services-flight-data-css-fd

5. Closeout

- a. Closing remarks were provided by Ms. Cropf, Mr. Gustin, Mr. Prasai, and Mr. Almeida. At the conclusion of Focus Group, Mr. Prasai thanked attendees for their support and reaffirmed SWIFT #22 will be set for February 5, 2025. Location for SWIFT #22 is to be determined. Audience feedback on ad-hoc Focus Groups topics and other SWIM topics were encouraged. More details on the SWIFT event and the SWIFT Portal can be found via links below:
 - i. https://www.faa.gov/air_traffic/technology/swim/swift/
 - ii. <https://community.swim.faa.gov/>
 - iii. <https://portal.swim.faa.gov/>