Minutes of the Federal Aviation Administration (FAA) SWIM Industry Collaboration Workshop – SWIM Industry-FAA Team (SWIFT) Meeting #5
November 15, 2018 (9am – 4pm)

Harris Corporation, 600 Maryland Avenue SW, Suite 850E
Briefing Rooms A&B, Capital Gallery West, Washington, D.C. 20024

1. **Doors Open & Registration: 8:30am**

    1.1 The meeting was held at Harris Corporation, 600 Maryland Avenue, SW, Suite 850E (Briefing Rooms A&B) Capital Gallery West, Washington, D.C. 20024, on Thursday, November 15, 2018 at 9am

    1.2 The fifth meeting of the Federal Aviation Administration (FAA) – SWIM Industry-FAA Team (SWIFT) was called to order by David Almeida, LS Technologies, SWIM SME and Strategist.

    1.3 Representatives from FAA, American Airlines, Delta Air Lines, UPS, Southwest Airlines, United, JetBlue, FedEx, NASA, AOPA, Jeppesen, NBAA, Mitre, Airlines for America (A4A), ARINCDirect, SeaTec, SaabSensis, Harris Corporation, Thales, LS Technologies, Noblis, Leidos, Metron Aviation, airlines, and the public attended. See Appendix A for more information about attendees.

2. **Introduction: 9am – 9:45am**

    2.1. Kickoff – David Almeida, Felisa White, Joshua Gustin, Rob Goldman

        2.1.1. Introduction of first time attendees

        2.1.2. Overview of agenda

            2.1.2.1. Queuing up conversation for February – international discussion

    2.2. SWIFT Year in Review & Updates on Focus Group report

        2.2.1. SWIFT: Different approach to realizing benefits

        2.2.2. Learning to speak the same language

            2.2.2.1. Working collaboratively to translate how SWIM fits in connecting FAA systems and SWIM information

        2.2.3. SWIFT in response to NAC SC request for "Data Dictionary"

            2.2.3.1. Translated to "Operational Context"

            2.2.3.2. Shifting from technology driven data and information sharing to operationally driven data and information context

        2.2.4. American Airlines perspective: data elements are found in multiple feeds – how are they comprised and how do they know which is the best data to use

            2.2.4.1. Developing a better understanding to ingest the data

            2.2.4.2. Rob Goldman: if we are all using slightly different data, could be hurting everyone's operations

            2.2.4.3. Empowering industry to improve business processes, using data to create a consistent *LAYER OF TRUTH*, common across all users (data governance)

            2.2.4.4. Lesson Learned from the Weather community: Discussed weather example of putting together an "authoritative source", as it relates to data governance – be wary of 'authoritative source' language

        2.2.4.4.1.   Connected with the FAA Chief Data Office (CDO) regarding data governance – who is the authoritative source

        2.2.4.4.2.   For now, we are talking about capturing and putting in the proper context

    2.2.5.   Two types of Use Cases types

       2.2.5.1.   "Show and Tell" method – Information sharing platform that is interactive.

       2.2.5.2.   "Here is a problem I have…"

    2.2.6.   Information sharing platform

       2.2.6.1.   Plan is to be/stay interactive

           2.2.6.1.1.   Ops and IT people, in addition to business analysis people

               2.2.6.1.1.1.   Allowing SWIM to have an impact on the business enterprise

    2.2.7.   Feedback from American and JetBlue – this has been helpful

    2.2.8.   Is it possible for some of the producer groups in the early stages to be influenced by input from the airlines/users?

       2.2.8.1.   NAS enterprise architecture (NASEA) automation slide for reference, as part of identifying what systems when producer programs will make information services available

    2.2.9.   SWIFT web page – will present when returning from one of the breaks today

    2.2.10. Questions and discussion regarding SWIM Cloud (SCDS):

       2.2.10.1.   Will there ever be 24-hour support for SCDS?

       2.2.10.2.   Currently not planning on it – 5 days/week, 12 hours/day

       2.2.10.3.   Goal is for SCDS to be a self-service application with less need for helpdesk support than NESG

2.3. Ops Context & Use Cases (Jay Zimmer)

    2.3.1.   Ops Context

       2.3.1.1.   Widgets are ideas on how to visualize data differently

       2.3.1.2.   Goal is to explain how services connect to operations

       2.3.1.3.   Stable document format (template)

       2.3.1.4.   Really want to explain how to use the data in an operational environment

    2.3.2.   Use Case Documents

       2.3.2.1.   Now grouped by domain

       2.3.2.2.   One SWIM service ops document per month; one domain use case document every two months

       2.3.2.3.   **Action request: NSRR email updates – instead of 14 individual email, can we consolidate into single email instead?**

    2.3.3.   Widget demonstration

       2.3.3.1.   Suggestion for data element analysis – "layer of truth"

       2.3.3.2.   Consistencies in the data – data governance

           2.3.3.2.1.   Identify, characterize, reconcile

3. Case Study 1: Operational Integrity – Southwest Airlines (Rick Dalton)

3.1. "IT company that happens to fly airplanes"

3.2. [SWIM] This is an area that warrants very deliberate focus on the part of our airlines.

3.3. "We face a lack of sophistication, currency, and resolution of the dataset we use to develop operational solutions."

    3.3.1 We are looking for ways to refine the level of sophistication

    3.3.2 Operate at 100+ airports; 700+ airplanes; thousands of crew members – all requires agile processing and data

3.4. Making time for a good operation?

    3.4.1. Operational times

    3.4.2. Public times

3.5. Southwest Integrated Flight Tracking – they have an application also called "SWIFT;" coined in 1994.

    3.5.1. Flow, Monitor, Flight Following

3.6. Ops strategy and data scientists

3.7. Chasing real time in 5 minutes intervals

3.8. Can't optimize completely independent of other parties

3.9. Baker App – Optimized solutions

3.10.   Ability to use this platform to echo back to the agency the priorities that are emerging

3.11.   How do we start to communicate where to use the evidence – good opportunity to say "I've got a problem"

4. **Special Topic: Taxi-Out Case Study follow up: Developing Operational Metrics (Rob Goldman & David Almeida)**

4.1. Robbinsville fix gets congested

4.2. Operational metrics – worked with Thales

    4.2.1. How can we better identify the fix load over Robbinsville?

    4.2.2. Once you've identified the problem and potential solutions, then you start to trace back to the information services that will inform you

4.3. Weather Route Availability Tool

    4.3.1. Route Availability Planning Tool (RAPT)

        4.3.1.1. Today you are constrained in one dimension – tool allows you to apply other dimensions

        4.3.1.2. SWIM is empowering – map your processes and id ways to make decisions

5. **Special Topic: SWIM Data in Motion (Bob Flynn, MITRE)**

5.1. NOD demo, focus on demand predictions on airport surface & biz rules driving app

5.2. Mobile app Ready-to-Taxi

    5.2.1. **Potentially a good topic for a future meeting**

5.3. Using multiple SWIM nodes for redundancy

    5.3.1. Logic itself has redundancy built in

6. **Special Topic: NASA Airspace Technology Demonstration 2 (ATD-2) (Al Capps, NASA)**

6.1. Review of Progress Indicator Chart – completed two phases so far; quick mention of phase three

6.2. ATD-2 is a prosumer of SWIM data

    6.2.1. Produces and consumes data

        6.2.1.1. Start producing data early to get ahead of the game

6.3. Would like to keep the U.S. at #1 on the industry side of aviation – that's the goal

6.4. Demonstration of benefits in the field – all SWIM related; using multiple SWIM nodes

6.5. Welcome everyone to industry day January 22-24, 2019 at NASA Ames, CA

 6.5.1. Featuring various breakout sessions

 6.5.2. Open forum – registration open to industry

7. Introducing SWIFT website

7.1 Website is still in development – should be live within the next 30 days

7.2 **Action (Carol): Send links to current site and new site when it's live**

8. **Case Study 2: NASA TTP Mediation (Shawn Gorman)**

8.1. Great opportunities, but where to find the data?

8.2. Why multiple sources of data?

 8.2.1. Cover entire flight duration and turn-around process

8.3. Get gates for some airlines outside of SWIM because they aren't entered in

8.4. Mediation challenges

8.5. Temporal difference in authoritative source

9. Closeout: SWIFT FY19 and Beyond!

9.1. Mediation technology can be used to manage differences in data and information

 9.1.1. Mediation can be used to facilitate integration and interoperability between legacy systems, using legacy information protocols, to contemporary systems using modern (e.g., AIXM, FIXM, etc.) information protocols.

 9.1.2. Can be used as a way of protecting your enterprise's SWIM enabled applications if certain data becomes unavailable.

 9.1.3. Provides mechanisms that enable international SWIM stakeholders the ability interoperate while incrementally increasing upgrading their systems

 9.1.4. The tradeoff is always: flexibility and standardization

  9.1.4.1. Want standardization with repeatable processes, but allow enough flexibility that each enterprise can achieve their objectives

9.2. FY19 continue to work through case studies

 9.2.1. Tracking operational metrics – how to monetize data elements in operations (Efficiencies, including fuel, etc.)

 9.2.2. Building on communications platform for industry

9.3. **Next meeting: February 21, 2019; location TBD**

 9.3.1. Also taking volunteers for location hosting of future SWIFT meetings

9.4. Participants can submit suggestions to the SWIFT inbox (swift@faa.gov)

9.5. Future case studies and volunteers

 9.5.1. Focus on process maps – template to help guide the conversation

 9.5.2. We are here to help develop materials

9.6. **Future topic: What is the process of having the weather producers? CSS Wx**

 9.6.1. **Legacy weather as well**

9.7. Discussion Notes for follow up discussion, captured from David Almeida

 9.11.1 Define the problem (focus) and trace it back -> which is the best choice for data on the problem we're trying to solve?

 9.11.2 Get specific about semantic ontologies of data definitions from sources

 9.12.3 2019 -> SWIM Cloud for A/S users

9.12.4 "Sneak peek" at producers coming – opportunity to discuss implement

9.12.5 Look at Enterprise Roadmap – when will A/S user use the data?

9.12.6 How do we start to get ahead of programs that are planning on coming into SWIM and building the documents for those upcoming services (i.e. TFDM)

Appendix A: SWIM Industry - FAA Team (SWIFT) Meeting #5 Attendees – November 15, 2018

Nadine Alameh, Northrop Grumman	Brett Jones, Atlas Air	Susan Pfingstler, United
David Almeida, LST	Roger Jones, Delta Air Lines	Jabel Prom, JMA
Franco Basti, Thales	Steve Kalish, Deep Water Point	Dave Rimmeli, Harris
Joseph Bertapelle, JetBlue	Mark Klopfenstein, Avmet	Sherri Roberts, UPS
William Boggs, JMA	Brian Leaton, Thales	Phil Santos, FedEx
Al Capps, NASA	William Leber, Passur	Carol Shiflett, LST
Erin Cobbett, Delta Air Lines	Steve Link, Harris	Garrison Smith, Delta Air Lines
Kathryn Crispin, American Airlines	Sarah Lowe, Evans	Bill Sperandio, Southwest Airlines
Rick Dalton, Southwest Airlines	Marcus Lowther, Metron Aviation	Ernie Stellings, National Business Aviation Association (NBAA)
Bob Flynn, MITRE	Melissa Matthews, FAA	Lisa Sullivan, Harris
Kenneth Gochenour, Jeppesen	Timothy Matuszewski, United	Kevin Swiatek, UPS
Rob Goldman, Delta Air Lines	Ronald McQueen, LST	James Tauss, HSI
Shawn Gorman, MosaicATM	Greg Meadows, Red Cloud Services	Shim Tien, MITRE
Christopher Gottlieb, JetBlue	Teresa Mendes, Noblis	Sarasina Tuchen, NASA
Thomas Green, Rockwell Collins/ARINCDirect	Shane Miller, Mitre	Eric J Van Brunt, Leidos
Joshua Gustin, FAA	Donna Morrow, Southwest Airlines	Unni Vellanikaran, SeaTec
Steve Hansen, Sabre Systems	Alex Murray, Noblis	Felisa White, FAA
Nick Hoffmann, Southwest Airlines	Robert Nursey, Southwest Airlines	Jay Zimmer, LST
Robert Hope, Southwest Airlines	Frank Oley, Airlines for America (A4A)	
Michael Huffman, FAA	Oriol Oliva Perez, FAA	
Mike Jagmin, United	Mark Parra, Noblis	