

## Adobe Connect Chat Transcript

### ATD-2 Remote Demo

Nov. 9th, 10:30–Noon ET: General Briefing, Field “go-live” status update

Alina Eskridge: Good Morning, please dial the telecon number: 1-844-467-6272, Passcode: 592382#

Michael Tsairides: Reminder to please mute your computer speakers at all times.

Al Capps: Welcome folks! Feel free to ask a question in the chat at any time.

Dayal Nagasuru: Al, could you mute others?...

ATD-2 Remote Demo: Yes.

Rob Kelley: Can you post the website for the demos so I can review past demos on this chat please?

Al Capps: You bet Rob.

Al Capps: If you got the invite for this meeting, the website should be listed in it.

Rob Kelley: Okay. I'll check.

Al Capps: [https://aviationsystemsdivision.arc.nasa.gov/research/atd2/remote\\_demos.shtml](https://aviationsystemsdivision.arc.nasa.gov/research/atd2/remote_demos.shtml)

Rob Kelley: got it...thanks!

Gano Chatterji 2: Are the client systems connected to a central server?

Al Capps: yes

Al Capps: A key concept of IADS (integrated arrival/departure surface) is that all the systems have the same data model

Al Capps: however, they do not require the same display in all locations...just the data that that particular user/position may need

Gano Chatterji 2: Do they communicate using ADRS or an alternative messaging method?

Al Capps:Hey Gano, no they communiare in a manner that is analagous to future FAA systems. ATD-2 is essentially a "stand in" for the future Terminal Flight Data Manager (TFDM) system.

Al Capps:So ATD-2 has built the architecture for maximum tech transfer benefit.

Gano Chatterji 2:ok thanks.

Bryan Lesko:Have there been any techincal issues regarding aircraft brake release and its input into the system, and secondarily, have there been any data integration issues with the system when aircraft are calling for pushback and not commencing the pushback in an anticipated timeframe?

Al Capps:Hey Bryan, thanks for the questions. Yes, there have been a few hitches here and there. Shivanjli will talk about some here in a minute. These are "lessons learned" from our perspective.

Al Capps:But to answer your specific question:

Al Capps:Brake release has not been an issue because we are fortunate enough to have ramp controller entry on RTC.

Hamsa Balakrishnan 2:Could you remind me what the timing of Bank two is?

Al Capps:It depends on the user perspective. From ramp perspective, it starts aroudn 8:45 AM local (pushback from gate)

Al Capps:from ATC perspective, flights start showing up at spot at about 9AM. Generally lasts about 1.5 hours.

Hamsa Balakrishnan 2:OK thanks

Tom Reynolds:How good has EOBT accuracy been so far?

Al Capps:Tom, good question. We do not cover that today...but tune in to our next remote demo for some of those insights (sorry- will have to wait a bit)

Hamsa Balakrishnan 2:And how far in advance is the EOBT being populated? (Is it through FlightHub?)

Al Capps:30 minutes prior to departure

Hamsa Balakrishnan 2:(Never mind, Al -- I will also wait until next time :))

Al Capps:so when you talk about EOBT accuracy, timeliness is also important to consider

Tom Reynolds:OK, no worries. But I assume you are finding that is not going to be a major impediment to your planned operations?

Shivanjli Sharma 2:We are receiving EOBT data through SWIM - there is a topic on TFMS that some airlines are propagating with EOBT data along with other elements

Kimberly Brooks:Is there any negotiation between the tower and the ramp for times or EOBTs

Hamsa Balakrishnan 2:thanks Shivanjli

Kimberly Brooks:there

Yoon Jung:not sure what you mean by negotiation, but EOBT provided by airlines are shared with Tower.

Shivanjli Sharma 2:The EOBT times are shared electronically between the ramp and tower. As flights actually pushback and are tracked via surveillance are updated in terms of the surface trajectory prediction and scheduling

Al Capps:To Tom- we are happy with the EOBTs we are getting. Now we are analyzing what can, and cannot be done with them.

Al Capps:The EOBTs are calculated by the airline 'back end' systems

Kimberly Brooks:Thank you. Only sharing, not a discussion

Al Capps:Thanks for the question Kim. Keep them coming.

Dante Ceniccola:RE: the "what-if" system - does it interact with the back end TBFM system? If so, how are those inputs separated from the OPs STBO client?

Al Capps:Good question Dan. There is (intentionally) no interaction with the IDAC/TBFM back end system for what if

Al Capps:The way this is handled is that each STBO system allows different 'plumbing' (if you will) that you can say what data feeds to include/exclude

Kimberly Brooks:So what times are actually negotiated?

Al Capps:The controlled takeoff time (CTOT), or

Call For Release (CFR) and Approval Request/Required (APREQ) all refer to the same thing.

Al Capps:The final time is set by the TMC in the TBFM back end system

Al Capps:This comes back to the surface system as a controlled time that local ATCT then attempt to meet.

Al Capps:In this system, the APREQ time is also shared with Operators. So if they get a large APREQ delay, they can choose to take some of that delay at the gate, or hardstand.

Al Capps:Reducing flights with 'double delay' (both EDCT and APREQ) is important

Kimberly Brooks:I understand

Al Capps:Something we are keeping an eye on

Brian Gault:How does the anticipated delay of an APREQ time compare with traditional gate hold procedures?

Al Capps:So far, APREQs have not been available to Operators. We are still evaluating how this data may be used. Originally we were thinking it would align with the current day use of EDCTs

Brian Gault:I guess I'm curious from a TMC perspective how a carrier would decide to take a delay at the gate vs. ATC assigning a delay at the gate via gate hold procedures

Al Capps:Gate hold procedures are more relevant when the FAA ATC had a demand capacity imbalance on the \*surface\*

Al Capps:The APREQ time (and EDCT times) are out of the local facilities hand. Not related to surface.

Al Capps:How the Operators decide to take the delay at the gate or "request to hold in the AMA" is a good question. But there are a number of factors that influence that decision.

Al Capps:Also the option to take the delay at the hard stand, or anywhere in the AMA

Brian Gault:So essentially if a carrier was given a significant APREQ delay, the carrier could choose to take part of that delay at the gate vs. an airport having surface capacity issues for gate hold, yes?

Al Capps:Yes. But when we talk about 'surface

metering', you will see that the system is designed to allow both this airspace metering and surface metering at the same time...with "gate hold" procedures.

Brian Gault:Gotcha. Thanks.

Al Capps:I meant to say without gate hold procedures. This is all about the Target Movement Area Entry Time (TMAT)

Brian Gault:Oh, ok.

Al Capps:So the Operators can decide where to take the delay (or excess queue time) but need to meet the TMAT

Brian Gault:That makes sense.

Hamsa Balakrishnan:Is there a concern that if the aircraft chooses to wait "anywhere in the AMA" it may cause a bottleneck for other aircraft?

Al Capps:Yes. And that does happen.

Al Capps:The question then becomes, do we need to build a system that also de-conflicts all flights in the ramp? And the answer to that question- within scope of ATD-2 is no. TFDM also does not plan on that. Instead-

Al Capps:Buffers are expected to be added for high priority flights (CTOTs)

Al Capps:This is called a Controlled Time of Departure (CTD) buffer.

Al Capps:Figuring out what those buffers need to be, based in a large part on EOBT quality, is a major goal as we move forward

Kimberly Brooks:Has AAL provided any data on fuel saving or time saving?

Hamsa Balakrishnan:makes sense, thanks

Al Capps:To Kimberly- not yet. NASA is going to calculate these...and once we start surface metering we will be generating this. In the next remote demo Rich Copenbarger will speak to that plan We beleive there may be significant fuel and emmissions savings. The data will educate us all!

Kimberly Brooks:I can't wait to hear this

Hamsa Balakrishnan:In Phase 1B, are the gate pushback holds being determined by the ramp controller (as opposed to the surface metering algorithm)?

Al Capps:ATD-2 surface metering is a collaborative

decision. ATCT works with ramp manager to determine metering occurrence and the parameters. Wanted to say that first...-

Al Capps:For much greater detail on how the surface metering works, please see the video from the previous remote demo. It is a detailed explanation- that we hope is helpful.

Al Capps:But to nutshell an answer - it all comes down to demand/capacity imbalance on the departure runway (which might be dual-use), then any excess queue time gets pushed back to the spot (for TMAT) then additional guidance is pushed back to the gate.

Al Capps:Operators can choose to honor the target off block times at the gate, or they can push back early and burn some time in the AMA. Just need to try to meet the TMAT for the overall mode to work out like the system anticipates.

Bryan Lesko:Has there been data that reveals a "double delay" where the CTOT will be extended significantly? This is a concern for operators and the "tarmac" rule??

Al Capps:Bryan - not yet. Can be on the lookout for this though. There is a tremendous amount of data in this IADS area.

Bryan Lesko:Being an EWR based pilot, it seems that might be a prevalent stat to monitor.

Al Capps:Flight matching is hard!

Bryan Lesko:I was thinking more facility issues, not flights.

Al Capps:When you have all these SWIM sources...plus airline sources, etc...the rules one uses to determine eligibility of data that can update your internal model is important to consider. We have some lessons learned here to share with the community. Perhaps a topic for future remote demo (301 session).

Al Capps:Otherwise, when the future TFDM system start issuing TMATs, the airline system may be saying what flight are you talking about.

Al Capps:Excited about this!