NATCA Safety & Tech Update
Week of December 25, 2017

FLOW EVALUATION TEAM (FET): Tony Smith (DCC) is the Article 114 Representative to the Flow Evaluation Team (FET) for Collaborative Decision Making (CDM). His report is below.

> The CDM/FET subgroup did not have our scheduled December meeting because of budget constraints limiting travel. We did however, hold two telcons (December 6th and 20th) to discuss the progress of our assigned tasking of identifying classes of scenarios and benefits with submitting Trajectory Option Sets (TOS) and the benefits of additional Mexican Routings to help in SWAP scenarios. The International Office at the Command Center is the lead in working on the Mexican Routings.
> Starting after the first of the year we hope to resume work on the use of the Airborne Reroute (ABRR) and Pre-Departure Reroute (PDRR) capabilities when they come on-line at more Centers. We will hold a telcons in January to stay updated on projects in the works now. Our next scheduled face-to-face meeting is in February. We are also expected to participate in a Human in the Loop (HITL) testing of the Integrated Departure Management (IDM) tool with NASA. That testing is being planned for March 20-21, 2018.

SURFACE CONCEPT TEAM (SCT): Kyle Andrews (ORD) is the NATCA Representative to the Surface Concept Team (SCT) for Collaborative Decision Making (CDM). Mr. Andrews forwarded the information below for the membership.

> The SCT and CAT held a joint meeting at the ATCSCC on December 6. Also attending were representatives from major airlines, NBAA, and representatives of CDM airports.
> NASA IDAC has allowed for improved efficiency by showing gaps in the overhead stream in relation to the position of an APREQ aircraft in the runway queue. It has also improved safety by allowing ATC to find slots that fit with an aircraft's expected arrival at the front of the departure queue. Although that slot might not be available, it provides more flexibility for maneuvering the aircraft in relation to slots. Previously, aircraft might need to cross the active runway to jump the line to hit the only slot that ATC was aware of, the one that the plane had been given.
> There may be an unintended consequence in applying surface metering - even though there is variation from day to day on planes being ready to push or be towed in to a gate, there is a schedule that provides a daily rhythm for how a ramp handles its traffic. When a surface-metering program is introduced, this interrupts the rhythm. The number of tugs and ramp crews available is finite, and it would be difficult to increase or decrease the number of teams.

If a new daily rhythm develops, the ramp efficiency will adapt, but if surface metering programs simply introduce a randomness that was previously not existent, the ramp may end up losing efficiency.
Will the Surface Metering automation be able to adapt to occasional changes, like taxiway closures, in real time? How would the automation get that information, and who would design the algorithms that would adapt the taxi times? If not, then calculations to determine taxi time and time in queue will be incorrect, and could make severely inaccurate recommendations.

TERMINAL AUTOMATION MODERNIZATION REPLACEMENT (TAMR): Aaron Rose (NCT) is the TAMR Article 114 Representative for NATCA. His report to the membership is below.

2017 is coming to a close and the NATCA TAMR team has outdone itself in numerous ways. We have helped to complete the transition of 27 CARTS facilities and 18 legacy STARS facilities to TAMR STARS. Of course, it was not just the NATCA TAMR team but also all the individual locals working hand in hand with agency counterparts to see the transitions to successful completion. Kyle Ness (M98) has lead a team of dedicated software SMEs (Subject Matter Experts) to prioritize software issues and ensured testing was completed at the William J. Hughes Technical Center. Scott Robillard (A90) passed lead deployment duties to Jim VanZee (GRR), and both in concert with Aaron Rose and the TAMR PO ensured transitions were on time and coordination completed with the locals. Bill Spence (BTV) passed on the duties of training to Ross Costa (RSW). 2018 will be a busy year for Ross with section 804, SPOT, and R6 training.
Upgrading facilities to the newest software and hardware does not happen without difficulties, which include funding worries, SME requests being denied due to staffing, and hardware (CTD – Common Terminal Digitizer) issues. Through it all NATCA worked collaboratively with the agency to overcome or mitigate the 2017 issues. 2018 will be another year and a whole different animal. With the constant threat of government shutdown and staffing shortages throughout the NAS we will work on the behalf of the union to ensure NATCA has a say in all things STARS. The team is looking forward to a successful 2018.
Looking ahead to 2018, NATCA TAMR will help collaboratively to successfully transition 10 CARTS to STARS and 16 legacy STARS to TAMR STARS facilities. Working with the agency to ensure the new radar digitizer, CTD (Common Terminal Digitizer), deploys on time and in working order. On the training front, Section 804 consolidations, SPOT (terminal simulation platform), and STARS LITE/ARTS 1E facilities. Software wise NATCA TAMR will be working with NATCA TSAS (Terminal Spacing and Sequencing) on both inclusions into software and in training support. It will once again be another busy year.

Mr. Rose is working with Matt Tucker (NATCA WX Article 114) on moving the agency closer to requiring a new source of weather for terminal use. The ageing infrastructure mainly with ASR-8 radar systems produce false WX and amounts of AP that is unacceptable.
During this reporting period, Mr. Rose attended the following telcons and meetings. CTD SRMP, A11 Pre-IOC (Initial operating capacity), TAMR internal risk board, hardware telcon each week, Western and Central Service Area TAMR telcons each week, TAMR/Raytheon Joint risk board, STARS R8 software timeline, CTD risk board, N90 Post ORD, ELP CAI, MCI and A11 IOC go/no go. This is just a taste of the telcons and meetings completed.
Coordinated with Brandon Miller (PCT FacRep) about key site for new optical trackballs. As of now, 3 new trackballs will be installed on the ops floor for testing. Coordinating procurement of 3 more for testing for a total of 6. The trackballs are not in mass production yet, awaiting results of the operational test at PCT.
PVD would like to swap out a TCW (Terminal Controller Workstation) for a TDW (Tower Display Workstation), coordinating to ensure they receive the TDW.
NATCA TAMR is beginning to delve into the deep end of the pool when it comes to STARS LITE and ARTS IE site transitions. Facility visits will start after the New Year led by Robert Faulkner (D01). Not all 9 sites are NATCA towers but we will be a part of each and every one of the transitions.
Mr. Rose joined four SMEs on the PTRWG (Program Trouble Report Workgroup) meeting on 12/7. In addition, the BFL TAMR ARTSIIE to STARS G4 shakedown out brief was held the same day. TAMR is advancing on BFL, moving the facility left on the waterfall. IOC scheduled for June 2018.
MCI and A11 both transitioned to STARS G4 on 12/5. LCH, SPI, and BMH transitioned on 12/11. Welcome to the STARS G4 family. These five sites closed out the year. The next IOC dates are not scheduled until March 2018.

Operational Support Facilities (OSF) Update Submitted by Scott Kendrick (North Texas-OSF)

STARS E2 Terminal ATC Capability meeting that is working on final requirements to incorporate Merging and Spacing, Sequencing Tools into STARS.
Attended TAMR/ STARS TSAS telcon continuing to work issues on deploying "TBFM in a box" simulator to sites and OSF's along with potential upcoming issues.
TSAS site group telcon with ENROUTE and Terminal to integrate adaptation to support TSAS.
Attended the STARS/TAMR Program Trouble Report Work Group (PTRWG) telcon – Reviewed and ranked current PTR's.
Attended telcon discussion to Allow Pilot Reported Altitude (PRA) for CA/MCI processing to be used in STARS.

Attended the System Technical Reports Working Group (STRWG) stakeholder's telcon and reviewed thin specs for requested changes to STARS software.
TAMR Look Ahead, TAMR TAGUP, TAMR SBS weekly telcons.
Attended the OSF specialists' weekly OSF technical telcon.
STARS Strategic Planning Meeting (SSP): Coordinate and get feedback on integrated hardware and software planning among TAMR stakeholders, identify risks to the hardware and software plan and propose risk mitigation solutions with the stakeholder's input.
Attended the STARS Pre-CCB telcon: bring forward potential Change Control Board (CCB) changes and adjudicate the benefits and impacts with all stakeholders.
Attended the Rules Working Group telcon. The additional management wording added in the last meeting was to be incorporated in the SOP and final agreement has been forwarded to be published.

TAMR Software/Hardware Report Submitted by Kyle Ness (M98)

System Technical Reports Working Group (STRWG)

Stakeholders are nearing concurrence on a software change for Potomac TRACON. PCT has been reporting that occasionally departure tracks will not tag-up. This update will allow flight plans to auto-acquire even when the flight plan has an associated beacon that matches the code of another inbound flight plan in handoff. Related, the working group is reviewing a proposal that would allow STARS to accept the handoff on departure flight plans already handed off to the center. Stakeholders also finalized work on a software change for C90 overflights.

MSAW/CA Board

The Board reviewed a report from ARCON regarding conflict alert incident reported by PBI. In this case two tracks were in close proximity and conflict alert did not alarm. ARCON is proposing a change to algorithm but that may increase nuisance alarms. The Board will arrange a meeting with ARCON to discuss further. Raytheon conducted a meeting to explain new enhancements to Conflict Alert – CA Level-Off Suppression of Alerts (CALOSA) and CA Suppression on Approach Path (SOAP). Both capabilities provide full or partial suppression of Conflict Alert when arrival aircraft are maneuvering to the approach path or departing aircraft level off at assigned altitude.

Operating Testing and Evaluation (OT&E)

No OT&E events are scheduled for December. R4c Run for Record is scheduled the end of January.

Program Trouble Report Working Group (PTRWG)

NATCA SMEs from NCT, M98, PHL and D01 participated in the December meeting. Stakeholders reviewed several PTRs that had been written against the S4.R22 software build and earlier. Four will be closed, two made significant jumps up in the list, and several other PTRs have action items assigned for revalidation or review before or during the next PTRWG. NATCA introduced two PTRs for ranking.

The first increases default ghost targets for CRDA and the second changes when 'Duplicate Address' displays on the STARS data block. Raytheon recently offered revised specifications to correct a PTR written to change how Pilot Reported Altitude is used for safety alerts. Stakeholders concurred that the change is not desired and the PTR was put on the watch list.

Field Support

Mr. Ness visited Fargo ATCT to brief the local cadre team on the R4 software build. This was also an opportunity to review an ASR-11 issue that is causing radar reflections and track anomalies. An antenna tilt study was conducted in October to mitigate these reflections but has not completely solved the problem and a modification to STARS software may be the solution.

TAMR Deployment and Common Terminal Digitizer (CTD) Update
Submitted by Jim VanZee (GRR)

Although relatively short because of the holidays and associated moratoriums, December was a busy and successful month for the TAMR programs. After much discussion and timeline shuffling around the threats of government shutdowns, we successfully achieved IOC at MCI, BHM, A11 (Tech Refresh sites), LCH, and SPI (Segment 2 sites). These transitions allowed both the Tech Refresh and the Segment 2 programs to meet their 2017 APB milestones.

The CTD Program continues to work toward a path to deployment. A software build is in the works to address the amount and intensity of false weather that is being output to the STARS systems. We roughly plan on this software build being tested and hopefully deployed sometime late 2018. In the interim, all stakeholders are working on an acceptable mitigation that assists Air Traffic at the facility level in how to handle and respond to instances where AP or other false weather are present.

TERMINAL FLIGHT DATA MANAGER (TFDM): Matt Baugh (IAH) is the Article 114 Representative for TFDM. Mr. Baugh's update is below.

On November 29 & 30, the Ops Team participated in a Post Release Demonstration (PRD). These PRD's are designed as a first look of the most recent TFDM system abilities. This PRD was focused on the Airport Resource Management (ARM) capabilities in Build 1 and is intended to be the building blocks for the full Surface Metering capabilities that will come wit Build 2.

The program is on track to have the Build 2 Systems Requirements Review (SRR) sometime in January. This is a precursor to the Critical Design Review (CDR), which is currently scheduled in July. With these two meetings, the Ops Team will be able to take an aggressive look at the requirements and how we have designed the system so far and be able to make modifications where necessary.

In late January, TFDM will have two members from the Terminal CHI team out to DC to have a two-day CHI meeting. This meeting will go over everything from possible strip colors, to alerts/notifications, to highlighting/watermark colors.

The FAA has received the Final Course Design Guides (CDG) and will send them to Leidos/SAAB this week.

The TFDM Ops Team has begun meetings with the Traffic Flow Management System (TFMS) Ops Team to begin the Surface Situational Awareness (SSA) requirements review. TFDM has given money to TFMS to house the SSA within their system, as this tool will be more utilized at TRACON's and Centers. Once these requirements are finalized, TFMS will proceed to develop the tool in conjunction with the updating of their system.

Advanced Electronic Flight Strips (AEFS)

The data elements for AEFS/ATD-2 have been finalized by Terminal Second Level Engineering (TSLE) and ANG (Testing) for finalization. The system engineers will now begin working the details of the modifications required of AEFS.

- CLT
    - CLT experienced an outage where they were forced to go back to paper for about an hour. They have gotten the logs to TSLE and they are reviewing them in order to find the cause of the failure.

    - One complaint that CLT has had recently is with the 32" monitors and their overall operating capabilities. We will continue to look into this, although we may need to procure different monitors in order to meet our needs.
    - CLT has yet to set a firm date on upgrading to the latest 5.3.0.3 Drop 7, but they are slated to receive 5.4.0.0 in the spring of 2018.
- PHX
    - Nothing new
- CLE
    - Upgrade to the latest 5.3.0.3 Drop 7 is scheduled to be installed on the training server this week. Upgrade in the tower is currently planned for January 16-18, with support of TSLE and the TFDM Ops Team.
- LAS
    - Nothing new
- SFO
    - Nothing new
- EWR
    - Nothing new

SWIM Visualization Tool (SVT)

We met with ZBW on Tuesday, December 19 and had an SVT Kick-off event with members of their NATCA TMU and management. We left the required training for their personnel to take sometime prior to the planned March 1st Initial Operating Capability (IOC). ZBW still has to get us the IP addresses to the hardware they would like to have SVT displayed. Once we get that information, it takes Harris 30-60 days to onramp their adaptations.

SDF is requesting a 42 display to place in their operating area so that the controllers can have more of a real-time view of the airport surface area. The Program Office has not historically provided sites with equipment but a request has been made with the PO and from the site to their regions IT department.

TIME BASED FLOW MANAGEMENT (TBFM): Matt Gammon (ZID) is the Article 114 Representative for TBFM. His report to the membership is below.

Members of the TBFM National Ops Team travelled to Dallas the week of 12/4 for an all hands team meeting. The Ops team did a full review of the year's activities on TBFM/TSAS and began planning for activity support for next year. Additionally, members of the Ops team gave an overview of TBFM and TSAS to representatives of Southwest Airlines at their operations center.
The week of 12/11 most of the planned travel for TBFM and TSAS was cancelled due to the late passage of the budget continuing resolution. There was a 4.8 Ops Eval and a TSAS Lab first look both scheduled at the FAA Tech Center in Atlantic City that had to be rescheduled. Friday of that week the TBFM/TSAS management Co-Lead, Perry Casselle, and myself attended a full day Trajectory Based Operations (TBO) scenario demonstration from MITRE. The purpose of having us at the meeting was to review TBO scenarios that MITRE put together and to ensure that the TBFM/TSAS assumptions were correct. We also had discussions with a number of other subject specialists (from the Command Center, Headquarters, etc.) about how various systems might be properly integrated in line with the TBO goals.
The week of 12/18 Ops team members travelled to ZAU to conduct the first of two-planned TBFM adaptation visits in lead up to their use of the Enroute Departure Capability (EDC) portion of TBFM. EDC is a function of TBFM that is widely used across the NAS to generate release times for aircraft departures to meet Mile-In-Trail with Overhead traffic and other area departures. Ops team members, along with FAST adaptation support personnel, worked with ZAU NATCA and Management TMU representatives on their EDC adaptation with the goal of later training to TMU personnel and eventually usage of the tool. Adam Nagao, ZAU NATCA TMC, has been involved with the TBFM Ops Team for a number of years helping develop the TBFM Training course at Oklahoma City and he had started the design process in lead up to the TBFM Ops team visit, which was very helpful. The Ops team is scheduled to return in January to finalize the adaptation work and then return again later in the winter/spring to help facilitate training.
Additionally, this same week Ops team representatives were at ZOA, OAK, SJC, RNO, and SMF to conduct IDAC Site Surveys. Integrated Departure and Arrival Capability (IDAC) is a TBFM tool that is utilized to not only automate the Call-for-Release process but it also gives visibility to the Towers of the available space for departures into overhead streams of traffic. In the past this equipment was installed in facilities 6 -12 months ahead of training and implementation without facility air traffic having been briefed on what this equipment is and where it might be best to be located. This lead to confusion later when training was conducted and it was found that the equipment was quite often not located in the best area. We want to avoid that in the future so we go to facilities ahead of time and brief them on the system and help advise where best this equipment may be placed.

Overall the Site Surveys went very well and ZOA and the above mentioned Towers seemed to be interested in moving forward with IDAC usage in the future.

TRAFFIC FLOW MANAGEMENT SYSTEM (TFMS): Brian Campos (DCC) represents the NATCA membership as their Article 114 Representative to the TFMS project. His report is below.

ABRR/PDRR activity – ZMA, ZJX, ZLC, ZDV, ZMP, ZAB deployed with the use of the RAD tool for ABRR and PDRR while ZDC went ABRR only. Few issues have surfaced with WAD (work-as-design) and performance, however; overall the tool has been well received. Future site deployments are still being finalized over the next 4 months with assistance from TFMS SMEs, if requested, for the turn on.

Since the recent turn-on, these subjects floated to the top of the list for future enhancement or change in WAD:

- Editing field 11 in the RAD
- Chevrons used through the RAD triggers a CYAN T onto the EDST only. A CYAN T does not show up on the Radar scope/MDM. ERAM WAD, a number of controllers expressed it to be a selectable display on the MDM.
- Use of CDR route package for quick SWAP amendments in the RAD. This will include all automation needs of the route to be processed as it's done today in ERAM.
- Better capability to issue direct a fix on the current route
- Being able to keep the RAD open to add flights as necessary after use.
- Improved Departure Viewer enhancements for better SWAP use.
- Highlight the flight in any list and they display on the TSD similar as the RRMON.
- Save Pref-Sets on Reroute monitor in the Global Preference Sets capability.
- Save under Global Preference Sets any selection in the Customize Flight Display.
- Improve the multiple flight plan indication in the RAD and its related Amendment statuses

This list may change as more sites come on line.

CTOP – This software was in Release 9 (R9) during 2012 and prior R3, of which the customers weren't prepared to fully interact with. Since then more customers have improved their software, which will allow near future opportunity to use more of CTOP. Within recent months, occasional CTOPs for DFW have been used to help refine customer software interaction. More strategies in its use are expected to gradually increase in the near future.

NASA Integrated Demand Management – Testing continues to add variables with recently adding enroute weather and TOS interaction through CTOP. A representative from the NASA workgroup gave a briefing on this year's research. TFMS DT needs to review the data and go through the simulation to provide feedback. Testing has grown to enroute weather, single airport, TOS in CTOP and TBFM. The future has us adding to this with more interdependencies'. Up to the present time, we are viewing results from a simple complex task. The path leads to an ever-increasing interdependence of variables, which will help define a rugged complex system. The testing of simple and up is to fully understand the basic interactions, in a sea of complexity. Beyond rugged complexity, involves the system to always be moving in an interdependent environment that is full of changing behaviors, probability and other non-tangibles. This would be the end state of system testing, riddled with different thunderstorm systems with failed forecasts and any other connected variables that would require the system to adapt.
TFDM discussion with TFMS – understanding the need to improve information sharing through automation on surface situation awareness between stakeholders. Primarily focused on traffic managers with benefits to customers in information sharing. The automation will allow common situational awareness with early problem detection allowing for a smoother problem resolution. More meetings of understanding content are expected with TFDM to help the progression of TFMS tool design and integration for the system problem solver's needs.
Ticket review - evaluated some of the AIMS and SIGs surrounding TFMS recent deployment with ABRR and PDRR. This is now a common housekeeping of TFMS DT which is important in how the current tool deployment is performing and the problems that may affect future tool design integration.
TFMS Roadshow – is planning to start in January through April. This is an opportunity for field facility TMCs to work with TFMS SMEs, in a lab setting, to simulate tool use and interaction with the latest tool deployments. Since CTOP was deployed a while ago, an effort for the Roadshow is to refresh the field on its use. Little use has occurred to this point.

VOR MINIMUM OPERATING NETWORK (MON): John Vogelsang (P31) is the Article 114 Representative on the VOR MON project. His update is below.

There has been a lot of discussion about what to do with the HIWAS system when a VOR that has that capability is slated for decommissioning. Right now we are on hold as to what to do until the safety panel meets to determine the future of HIWAS sometime after the first of the year. I will attend a mitigation meeting at Chicago Center at the end of January to look at our options for that area. Things should remain pretty quiet with our program through the holidays.

The following VORs are in various stages of the NR process:

BML-Berlin, NH

UIM-Quitman, TX

WAKE TURBULENCE: John Murdock (PHL) is the Article 114 Representative to the Wake Turbulence Office for NATCA. His update for the week is below.

During the last week of November, NATCA and AJV 8 visited the southern California Wake Recat facilities and conducted a post implementation survey of RECAT 2.0 appendix A. We received feedback from the workforce that pilots are confused with the wake turbulence separation requirements and why the standards can be different from facility to facility. The workforce also does not understand why there are 4 different separation standards in the NAS; 7110.65, Wake RECAT 1.5, Wake RECAT 2.0 appendix A and B. NATCA is supportive of a Consolidated Wake Turbulence Separation Standard being developed in collaboration with NATCA, AJV and AJT. A SRM panel is scheduled for the second week in January 2018 to review the proposed Consolidated Wake Turbulence standards. Regardless of the outcome of the panel, it appears the Agency will implement Wake Recat 2.0 Appendix B at DTW during the first quarter of 2018. During a telcon with AJV8 and AJT, I expressed my concerns with having different wake turbulence separation standards in the NAS and that continuing to implement Wake RECAT has negative consequences.