# **SWIM** Connect 2015

*The NOTAM Experience: SWIM and the Department of Defense*

*1:00 PM*

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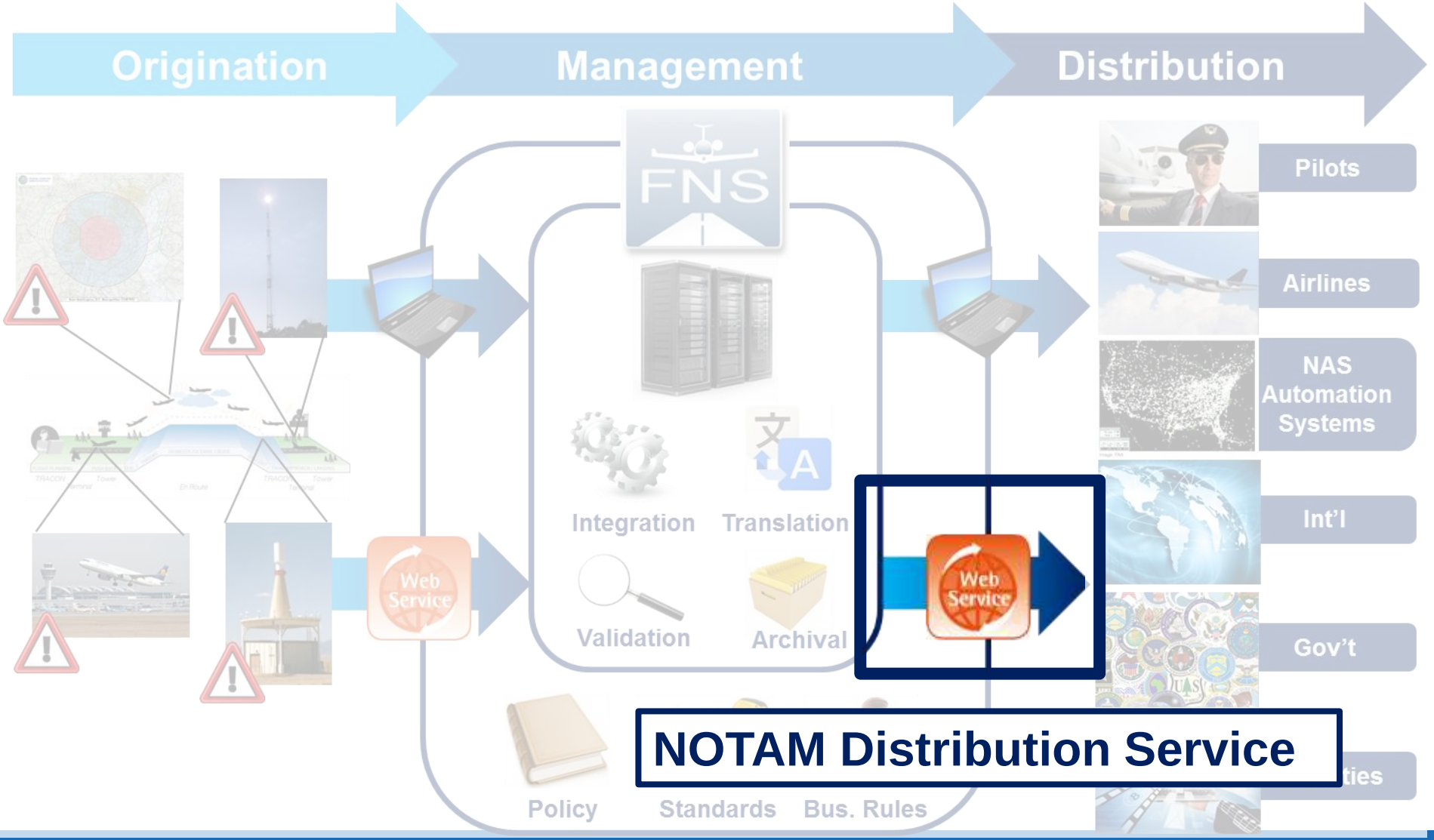
Jim Mills, HQ/USAF A3OJN

Date: November 3, 2015

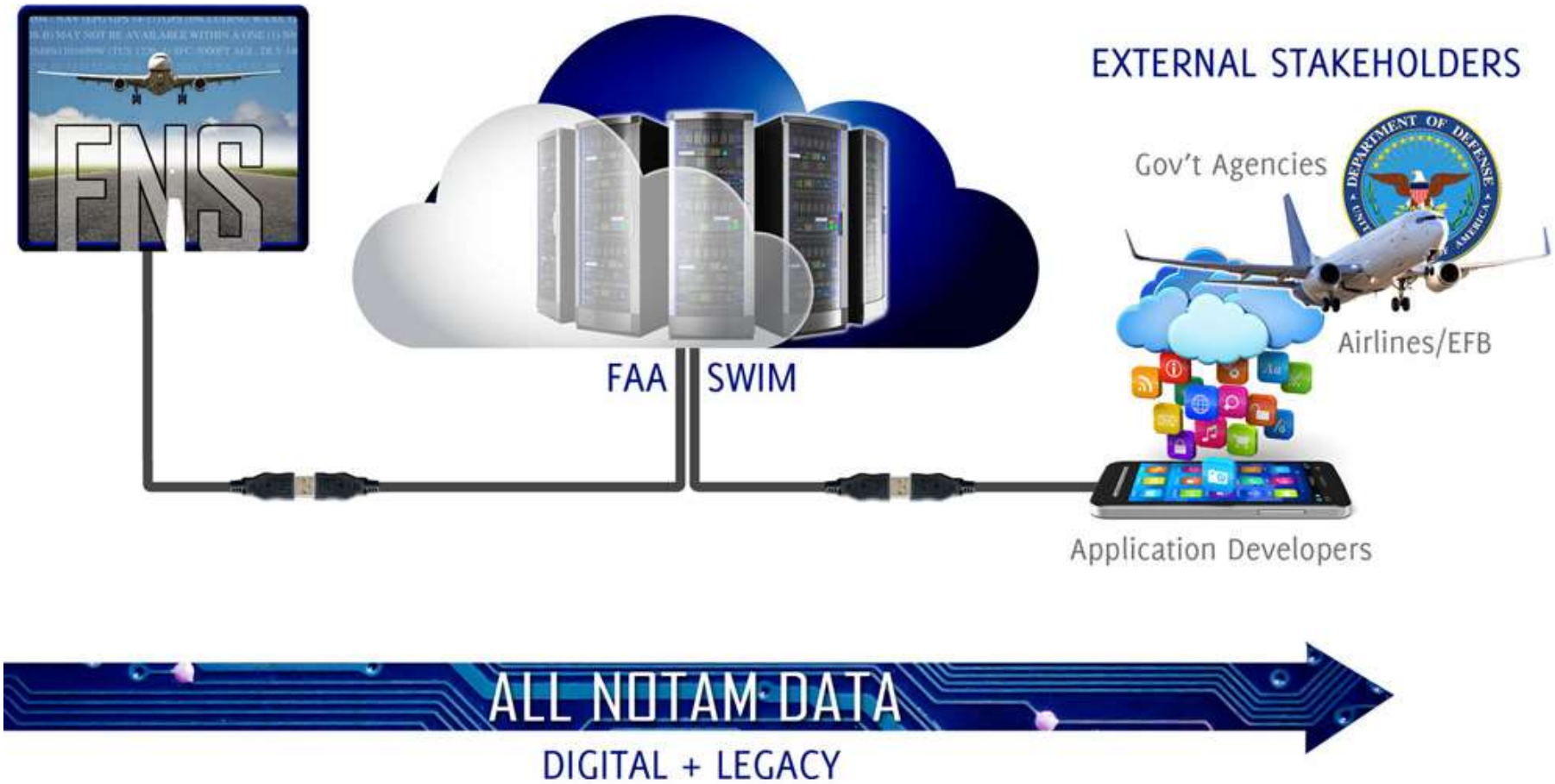
Federal Aviation Administration

SWIM connect 2015

# NOTAM Modernization



# NDS via SWIM


NNS
FAA
SWIM
EXTERNAL STAKEHOLDERS
Gov't Agencies
Airlines/EFB
Application Developers
ALL NOTAM DATA
DIGITAL + LEGACY

# Digital NOTAM Event Spec

AIXM implementation facilitates true “digital NOTAM”

# Federal NOTAM System

## Implementing the Pilot's Bill of Rights

Digitally at the Source:
- More Timely
- More Accurate

**Originate Digital NOTAMs**

**Store NOTAMs**

- Centrally Located
  Archived
  Available to the Public

**NOTAM Distribution Service/SWIM**

- Standards Based (AIXM) NOTAM Information

**NS Search**

- User-Friendly Format
- Filterable
- Timely Delivery
- Searchable
- Relevant (Route Specific)

# Request/Response Service

Example Query Types:

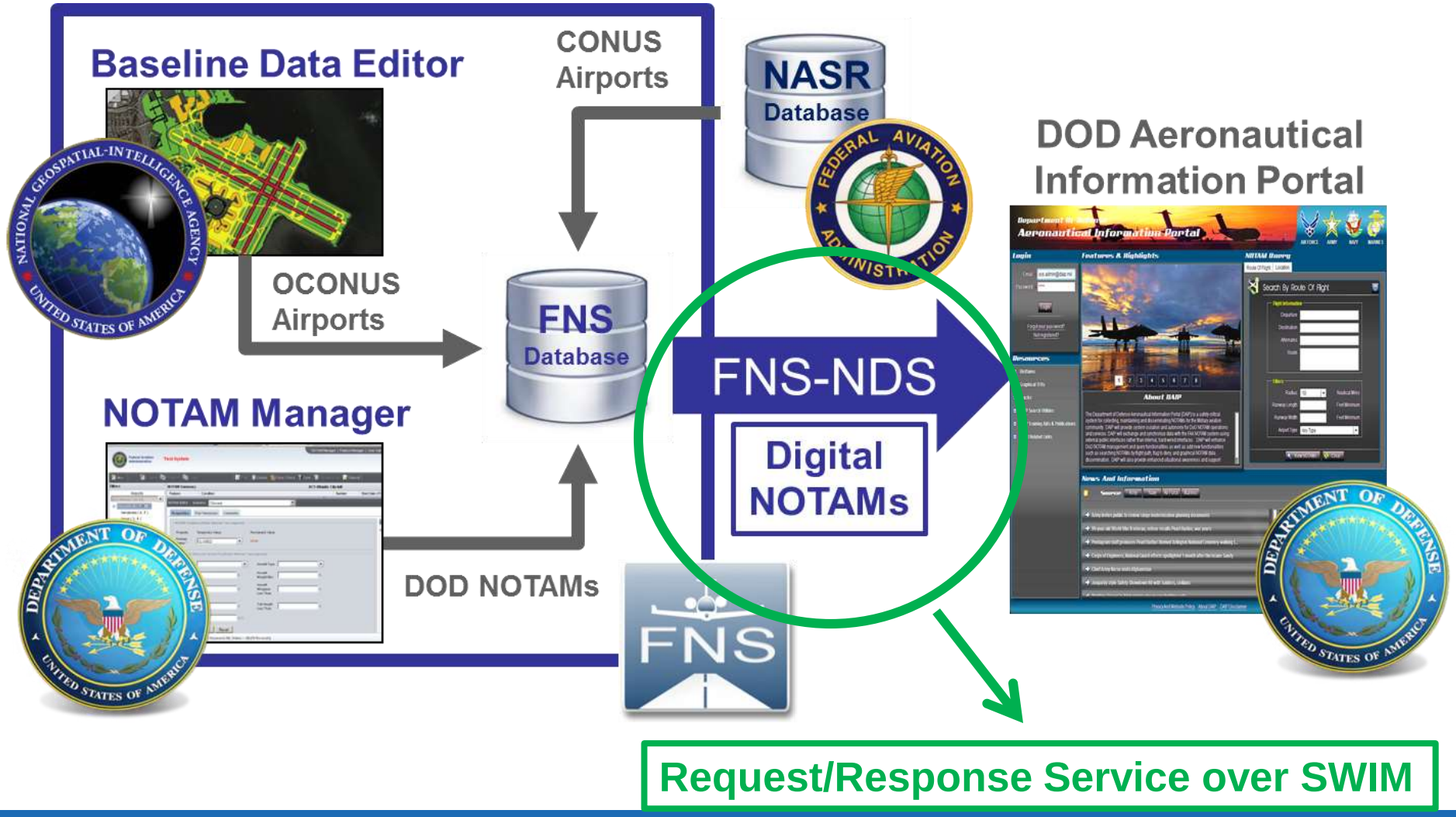
| | |
|---|---|
| Bulk | • all active NOTAMs |
| Delta | • changes to NOTAMs in last X minutes |
| Geographic | • active NOTAMs with X radius of location or coordinates |
| Location | • active NOTAMs with NOTAM location id |
| Free Text Search | • active NOTAMs that match text string |

# Publish/Subscribe Service

## Advantages to Pub/Sub:

- Loose coupling between provider and consumer
- Scalability
- Coming soon!

# Operational User: DOD



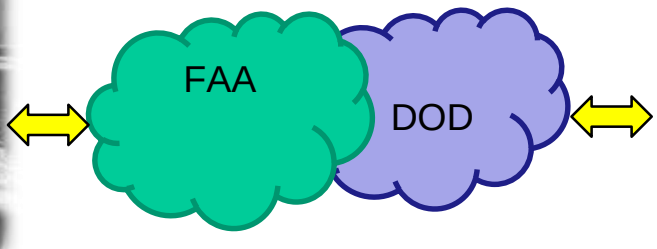

**Request/Response Service over SWIM**

# *DoD AI Modernization Vision*

**Partner with FAA on NOTAM origination tool and connectivity**

**Partner with DOD aviation community and military Services on query and distribution**

**Partner with NGA and FAA on baseline data**



**New Tool for creation and management**

**New connectivity and exchange model**

**Improved tools for Flight Operations**

# *DoD Modernization Today*

- **FTI-OPS and NIPRNet Interface**
  - **MMAC – Tinker AFB gateway (May 2012) with Joint FAA / DoD certification (Primary site for NOTAMs/Flight Plans/Airspace schedules)**
  - **ACY – DISA NIPRNet Federated Gateway IOC July 2015 (DR Site), expect FOC Fall 2015.**
- **SWIM/NEMS Interface**
  - **Web Service Interface for NOTAM distribution IOC March 2015**
  - **JMS Service 2016 – DoD volunteered to support functional testing**
- **Digital NOTAM Services**
  - **Web Service distribution via NDS/SWIM IOC March 2015**
  - **Military NOTAM creation via FNS NM/SWIM March 2015**
  - **NGA partnered with FAA to provide DoD baseline data March 2015**
  - **Customized features for pilots (Route of Flight, Self-Briefing, etc)**

# NOTAM Manager Tool

Action Toolbar

Column Headers

New | Cancel | Replace | Copy | Edit | Delete | Error Check | Save | Change Log | Submit | Search

Filters

Accountability

KFBG-SIMMONS AAF

- Classification ( 11, **11** )
  - Aerodrome ( 9, **9** )
  - Apron ( 0, **0** )
  - Runway ( 0, **0** )
  - Taxiway ( 0, **1** )
  - Obstruction ( 2, **1** )
- Status
  - All (23)
  - Active (11)
  - Activation In Progress (0)
  - Cancelled (0)
  - Cancellation In Progress (0)
  - Draft (11)
  - Error Activating (0)
  - Error Cancelling (0)
  - Expired (1)
  - Activation Faxed (0)
  - Cancellation Faxed (0)

NOTAM Summary

Rows: 50 Page: 1 Go

| Feature | Condition | Number | Start Date UTC | End Date UTC | Status |
|---|---|---|---|---|---|
| ~~Aerodrome~~ | ~~AERODROME ALL MISSIONS ACCORDING TO THE AIR MOVEMENT TABLE. LUZON- 14~~ | ~~L0413/15~~ | ~~07/14/2015 1200~~ | ~~07/14/2015 2130~~ | ~~Expired~~ |
| Obstacle | OBST SOUTHWEST RAMP ODESSA AREA - THERE WILL BE AN INCREASE IN EQUIPM | L0416/15 | 07/15/2015 1030 | 07/15/2015 2000 | Active |
| Aerodrome | AERODROME LUZON DZ MISSION SCHEDULE IN ACCORDANCE WITH FINAL AIR MOVE | L0415/15 | 07/15/2015 1200 | 07/15/2015 2130 | Active |
| Aerodrome | AERODROME UWHARRIE ALERT AREA - A531 - THERE WILL BE A SINGLE AH64D A | L0418/15 | 07/16/2015 0300 | 07/16/2015 0600 | Active |
| Aerodrome | AERODROME FLIGHT STRIP 2 - PU895947 - UNIT HAS REQUESTED SOLE-USE OF | L0417/15 | 07/17/2015 1400 | 07/17/2015 2100 | Active |
| Aerodrome | AERODROME SIMMONS AAF - 82ND CAB WILL BE SETTING UP A FARP ON THE SE | L0412/15 | 07/13/2015 1300 | 07/24/2015 2200 | Active |
| Aerodrome | AERODROME AIRCREWS FLYING IN THESE AREAS ARE TO MAINTAIN VIGILANCE. T | L0414/15 | 07/16/2015 0800 | 07/24/2015 2359 | Active |
| Obstacle | OBST THERE WILL BE A SURVEY CREW THAT WILL BE TESTING FOR GROUNDING P | L0367/15 | 06/22/2015 1341 | 07/31/2015 2100 | Active |
| Aerodrome | AERODROME DURING HOURS OF TOWER CLOSURE, USE COMMON TRAFFIC ADVISORY | M0075/15 | 05/28/2015 1658 | 08/24/2015 0401 | Active |
| Aerodrome | AERODROME CENTER SOD - THERE ARE 3-FOOT CONSTRUCTION SURVEY STAKES LO | L0389/15 | 06/30/2015 2220 | 09/01/2015 2100 | Active |
| Aerodrome | AERODROME AERODROME MACKALL - ****AIRCREWS USE CAUTION. THERE WILL BE | M0105/15 | 07/13/2015 2300 | 10/05/2015 2359 | Active |
| Aerodrome | AERODROME *********MAP CORRECTION********** FT BRAGG MILITARY INSTALL | M0104/15 | 07/13/2015 2300 | 10/05/2015 2359 | Active |
| **Obstacle** | **OBST OBSTRUCTIONS TO FLIGHT: ***AIRCREWS USE EXTREME CAUTION*** 1. VI** | - | | | **Draft** |
| **Taxiway** | **TWY T CLSD TO ALL ROTARY WING TRAFFIC** | - | | | **Draft** |
| **Aerodrome** | **AERODROME NEW INADVERTANT IMC PROCEDURE IN EFFECT FOR R5311: IF AIRCR** | - | | | **Draft** |
| **Aerodrome** | **AERODROME LOCAL AIRPORTS RESTRICTIONS 1. POPE AAF (POB) ARVL/DEP PROC** | - | | | **Draft** |
| **Aerodrome** | **AERODROME PERMANENT/SEMIPERMANENT LOCAL NOTAMS CAN BE FOUND AT THE FO** | - | | | **Draft** |
| **Aerodrome** | **AERODROME JET A **SAAF WEEKEND FUEL REQUESTS** ALL WEEKEND FUEL REQUE** | - | | | **Draft** |
| **Aerodrome** | **AERODROME *********MAP CORRECTION********** 1. FT BRAGG MILITARY INST** | - | | | **Draft** |
| **Aerodrome** | **AERODROME NOISE ABATEMENT PROCEDURES. 1. HURTZ DZ/LZ(PU896965): FOR S** | - | | | **Draft** |
| **Aerodrome** | **AERODROME IFR ENROUTE SUPPLEMENT CHANGE: 1. OPR HRS: CONTROL TOWER** | | | | **Draft** |

Airport Pane

Summary Pane

# *DoD NOTAM Manager Tool*

NOTAM Editor - Scenario: Closure

Lat,

Properties | Prior Permission | Comments

**NOTAM Condition (Fields Marked * are required)**

| Property | Temporary Value | Permanent Value |
|---|---|---|
| Status:* | CLOSED | |

**Restrictions (Taxiway Closed For) (Fields Marked * are required)**

Operations:

Aircraft Type:

Aircraft Wingspan Greater Than: ft

Aircraft Wingspan Less Than: ft

Aircraft Weight Ovr: lb

Reset | Add

Domestic | ICAO | Plain Text

XX/XXX NOTAMN
Q) ZDC/QMXLC/IV/NBO/A/000/999/3507N07856W005
A) KFBG
E) TWY T CLSD

# DoD Aeronautical Information Portal

U.S. DEPARTMENT OF DEFENSE
AERONAUTICAL INFORMATION PORTAL

Home Defens

**Login**

Email
Password
Login

Forgot your password?
Not registered?

**Resources**

- European Birdtams
- Graphical TFRs
- North Atlantic Track
- Location Lookup
- Q-Code Lookup
- DAIP Training Document
- AFI 11-208(I), AR 95-10, OPNAVINST 3721.20C
- FAA Special Use Airspace (SUA)
- FAA Notices To Airmen (NTAP) Domestic/International

**Search NOTAMs by Route of Flight**

FLIGHT INFORMATION

Departure *
Destination *
Alternates
Route

FILTERS

Radius: 10 Nautical Miles
Runway Length (Feet)
Runway Width (Feet)
Airport Type: All

View NOTAMs | Clear

**Search NOTAMs by Location**

LOCATIONS

Enter upto 50 Locations (ICAO Identifiers) separated by comma or space.

Locations (ICAOs)*

View NOTAMs | Clear

# *Graphical NOTAM Display*

- **Base Airfield Diagram geo-rectified**
- **Digital NOTAM feature geometry extracted**
- **NOTAM overlaid on diagram**
- **Result**
  - **Integrated, automated, geo-referenced NOTAMs overlaid on NGA FLIP products**

# *DoD Future AI Enhancements*

- **One Stop Shop for DoD (Right Info / Right Place / Right Now)**
  - **Enhanced NAS Integrated Web Services (NIWS) – Traffic Flow data**
  - **Enhanced Graphical NOTAM overlay as a Service**
  - **Semantic Decision Support Tool (SDST)**
  - **Interface with Aeronautical Common Service (ACS)**

- **Data to support NextGen Collaborative Decision Making process**
  - **Air Traffic Preferred Routes w/ real time updates**
  - **Flow Constraints**
  - **Daily Ops Plan**

# *Summary*

- DAIP URL: https://www.daip.jcs.mil/daip/mobile/index
- DoD NOTAM Office: Commercial # 540-422-4750/52/53/54/55
- Contact information:
  - Jim Mills: DoD NOTAMS Program Manager; james.w.mills3.civ@mail.mil
  - David von Rinteln: HPE Project Manager; david.vonrinteln@hp.com
  - Minh Dao: Information Specialist; minh.dao@atispace.com