

A I R N A T I O N A L G U A R D



Ready ★ Reliable ★ Relevant  
Now... and in the Future!

# Distributed Mission Operations Air National Guard Update

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Chief, Requirements Division

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[www.airdmt.net](http://www.airdmt.net)

*Leading the Air National Guard into the Future*  
**Operationalizing "VANGUARD"**



# Briefing Overview

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- **ANG DMO Vision**
- **Mission Requirements**
- **Future Programs**
- **CCU Technical Approach**
- **Distributed Training Operations Center**
  - **Phase 1 Plan**
  - **Phase 2 Plan**
- **Questions**

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# DMO Vision



- **The Guard is by nature a distributed force**
  - 88 flying wings plus many GSUs
- **DMO is key to the Guard's Training Transformation**
- **VANGUARD vision for the future Total Force**

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# Mission Requirements

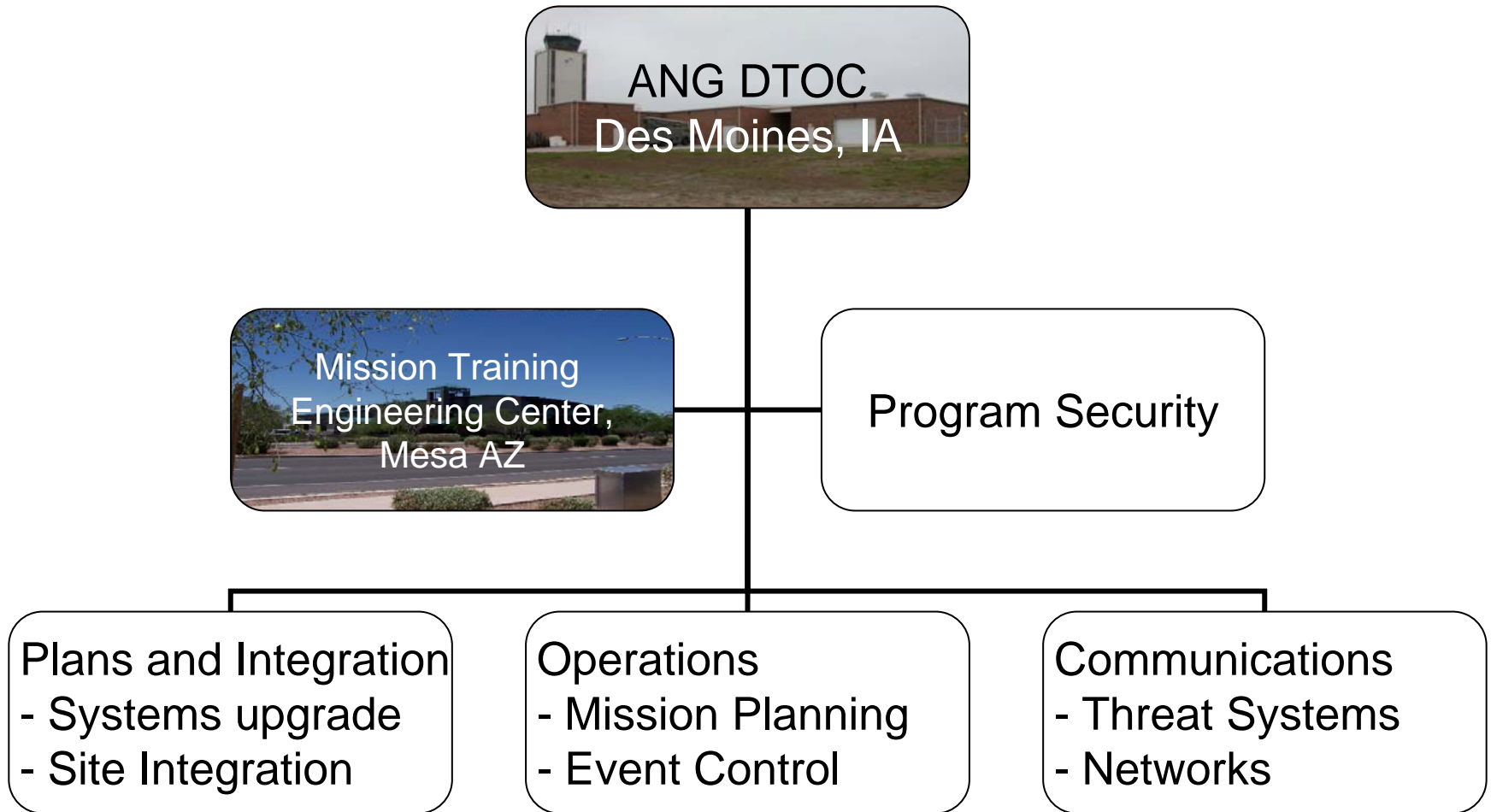


- **Provide persistent DMO to Guard units**
  - **Infrastructure for Training Transformation**
- **Centralized to reduce costs**
  - **Limited infrastructure at ANG units**
  - **Cost of DMON connectivity x 66 sites**
  - **Conduit for remote maintenance**
  - **Network management**
  - **Scenario development**
- **Operational support (Drill weekends & nights)**
- **Schedule team (flying & C<sup>2</sup>) DMO events**

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# DTOC Functions



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# Functional Divisions



- **Network Control Division (NCD)**
  - **ARCNET Manager**
  - **Centralized Long Haul Network Scheduling**
  - **Software Upgrade Downloads**
  - **Hardware Diagnostics**
  - **Troubleshooting Aid**
  - **Device Status Monitoring**
  - **System Integration**
    - **JTEN (Planned)**



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- **Event Control Division (ECD)**
  - **Dual Control Centers (System High & Low)**
  - **Training Event Scheduling**
  - **Aircrew / Controller Scheduling**
    - Web Based Tools
  - **DCID 6/9 Facility**
  - **Threat Insertion (NGTS)**
  - **Added Wing Man**
  - **ASCD (Air Surveillance & Control Display)**
  - **Enhanced SME Training Device**
  - **Boom Operator Simulator System (FY06)**



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- **Technology Division (TD)**
  - **Scenario Development**
    - **Urban CAS, SOF CAS, CSAR CAS, EC Valley of Death, Standard CAS, CAS behind the FLOT**
  - **Technology Insertion**
  - **Constructive Simulations**
  - **NGTS Development**
  - **Terrain Database Management**
  - **Debriefing/ Record and Playback**
  - **CRADAs**



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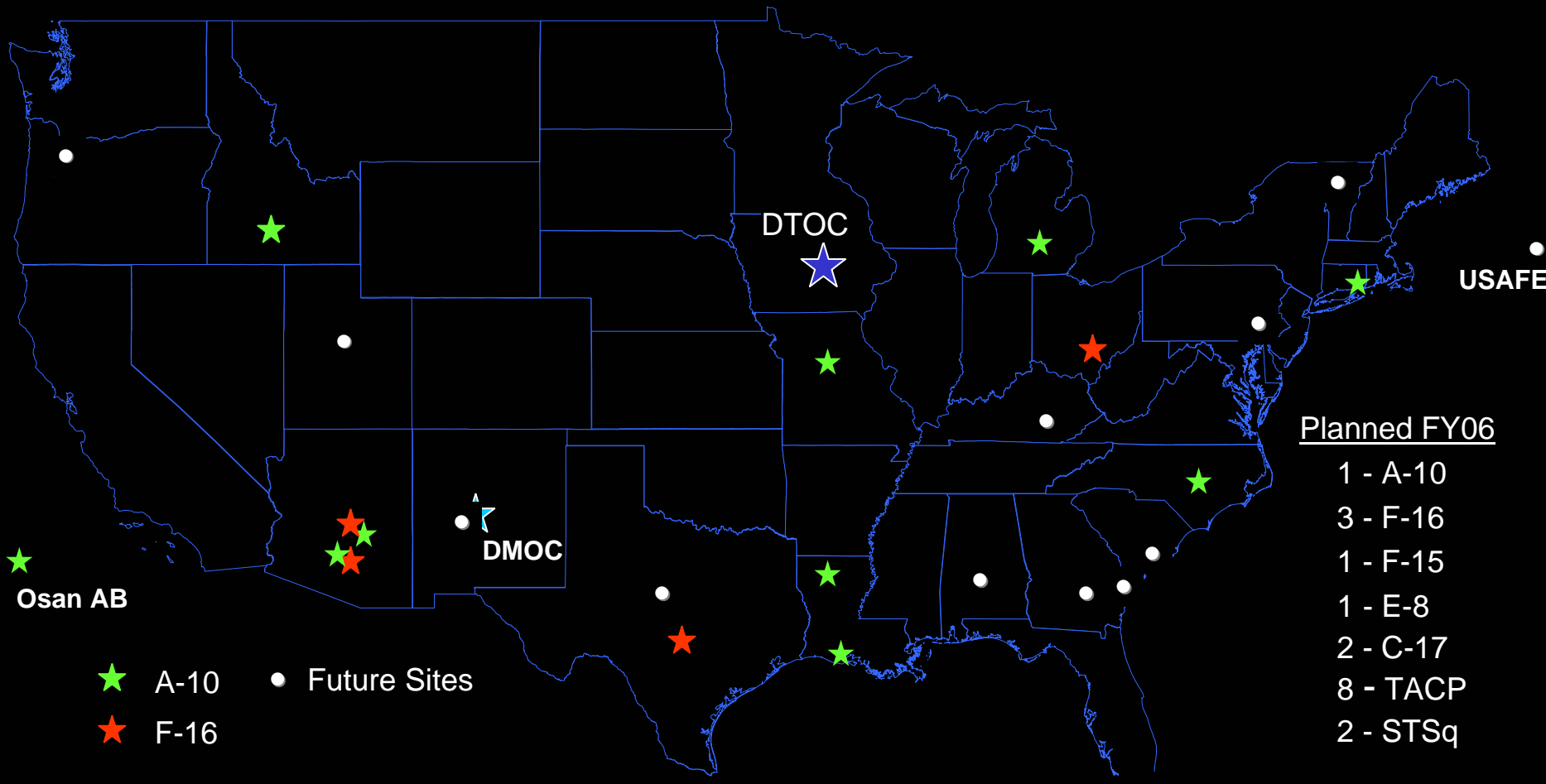


- **Plans and Programs Office (PPO)**
  - **Mission and Site Integration Planning**
  - **Contract Management**
  - **Program Management**
  - **Security Management**
  - **Strategic Planning**
  - **Represents ANG on IPTs, Teams, etc.**



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# ARCNET



Centralized Network Scheduling  
Troubleshooting

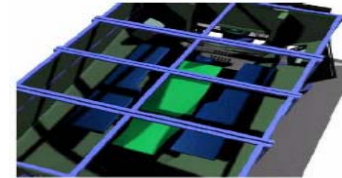
Master DMON Portal  
Device Monitoring

Hardware Diagnostics  
Software Upgrade Downloads



# Future Programs

- **KC-135 Boom Operator Simulation System (BOSS)**
  - Prototype concept developed by SwRI
  - Fully immersive, DMO capable
  - Squadron level device
  - Leverages AETC development at Altus AFB
- **F-16 Block 30 Full Combat Mission Trainer (FCMT)**
  - Two 4-ship Regional Mission Training Centers
  - Upgraded devices at each squadron



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# Future Programs



- **MQ-1 Predator Simulator**

- New Guard mission
- Under development
- Deployment in 1 to 2 years
- Spiral 1 *not* DMO capable



- **HH-60G Simulator**

- Concept definition only
- Squadron level, immersive, DMO capable
- Non-motion
- Full cabin with gunner / observer

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# CCU Technical Approach



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## Common Computational Unit (CCU)

Enabling TECHNOLOGY

## Mission Training Engineering Center (MTEC)

Enabling ORGANIZATION

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# MTEC and CCU

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- **Implementation Approach**
  - **MTEC Specifies Hardware for Trainer Vendor Purchase and Sustainment**
  - **MTEC Develops, Configures, Tests, and Obtains User Acceptance of Software Load**
  - **MTEC Delivers Updated Executable Software to All Qualified Trainer Vendors (Legacy and New) with Custom I/O (if required)**

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# MTEC and CCU



- **Common Computational Unit Software**
  - **All Aircraft System Simulations (Engine, Flight, Hydraulics, Electrical, Navigation, etc.)**
  - **All Aircraft OFPs and Supporting Systems (Core +)**
  - **Weapons and Sensors (Targeting Pods)**
  - **High Fidelity (VV&A) Threat System**
  - **Electronic Warfare Equipment (RWR/ECM)**
  - **Network Interfaces (DIS/HLA)**
  - **Video Tracking (Sensors and Weapons)**
  - **Instructor Operator Station Interfaces**

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# MTEC and CCU



- **CCU Advantages**
  - **Supports Multiple Levels of Cockpit Fidelity**
    - PC graphics, High Fidelity Single, Full 360 FFOV
  - **Supports Multiple Aircraft Blocks**
    - Block 30/40GAC/40-50 CCIP
  - **Supports Legacy and New Trainers**
    - MTEC and CCU: Contractor Neutral
    - GFE with MANDATORY Engineering Support
    - MTEC Specs Hardware, Delivers Executables and provides Engineering Support for HSI

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# MTEC and CCU



- **CCU Advantages (Continued)**
  - **Minimizes Risk to Government and Contractors**
    - **Government: Single Point Test and Acceptance**
    - **Contractors: Limits Risk to Hardware Performance**
    - **Key: GFE w/MANDATORY Engineering Support**
  - **Shared Cross-Block Development and Sustainment**
    - **Common: 85%-90%**
    - **Block Unique: Core OFPs**

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# MTEC and CCU



- **CCU Advantages (Continued)**
  - **Dramatically Reduces Cost**
    - **Commonality, Proven Technology, Proven Approach**
    - **Implement ONCE, Use MANY, UNLIMITED RIGHTS**
  - **Cost Effective and Timely CONCURRENCY**
    - **Block 30: MTEC and OO-ALC/MASH for “F-16 RPS”**
    - **“Front Loaded” OFP Development with CCU software**
    - **Block 40: Tape Drops, Convert/Emulate, Test**
      - **Block 40 GAC(T-6 & T-7) for Luke NTC:**
        - **14 Months, \$ 150K, 99%+ Reliability**
    - **Over 12 Years of OFP Concurrency with Block 30**

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# Funding Requirements



- **FY06 and beyond:**
  - **A-10 FMT - \$6.4M in procurement**
  - **F-15 FMT - \$8.0M for next Regional 4-ship MTC**
  - **F-16 FCMT – \$21.0M in procurement and R&D for first 4-ship Regional MTC**
  - **HH-60G - \$7.0M in R&D**
- **Programmatical Limitations**
  - **The Guard can only POM for O&M**
  - **NGREA and Congressional adds are unknown quantities**
  - **Fallout funding is inconsistent**

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- **Mission Training Engineering Center (MTEC)**
    - **ANG & AFRC Funded**
    - **Technology Transitions**
    - **Systems Integration**
    - **Technology Innovations and Insertions**
    - **Co-located With AFRL/HEA**
      - **MTEC / AFRL MOA**



**Focus On GOTS/COTS Low Cost Development**

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# Contract Opportunities



- **Headquarters, Air National Guard**

Requirements Division, ANG/XOR  
1411 Jefferson Davis Highway  
Arlington VA 22202-3231

Col Dan Bader, Chief  
703-607-1309

- **Modernization Book**

- Published each December with all Guard modernization / acquisition programs.

- Annual **Industry Days** hosted by the National Guard Association of the U.S. in D.C.

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# MQ-1 Predator Simulator



## Program Description

- New Guard Mission
- ANG is not lead on this project

## Issues

- Spiral 1 is not DMO capable
- Spiral 2 follows 1 year later with DMO capability

## Financial Status

- Funded by lead command
- Guard funds DMO connectivity

## Schedule

- Deployment expected in 1 to 2 years



# KC-135 Boom Operator Sim



## Program Description

- Prototype concept developed by Southwest Research Institute
- DMO capable, high fidelity, immersive simulator
- Squadron Level Device

## Issues

- Employment plan for DMO events still in development
- Beddown TBD

## Financial Status

- \$1.4M in NGREA funded
- \$225K in O&M for DMO integration
- Follow-on procurement, if approved, begins in FY07

## Schedule

- FY05 contract award for development
- FY06 prototype delivery to DTOC
- FY07 Follow-on procurement decision



# HH-60G Simulator



## Program Description

- Concept definition only
- Sim will combine flight crew, plus rear end crew with side door views for crew coordination DMO training

## Issues

- Non-motion device
- Squadron level immersive

## Financial Status

- No funding at this time. Soliciting funding sources in collaboration with other users

## Schedule

- Funding dependent





# F-16 FCMT Sim



## Program Description

- Weapon System (CONOPS)
- Lead Contractor/SPO
- Integration (CFT/Field/Depot)
- Congressionally directed

## Issues

- ANG needs high fidelity DMO capable devices for F-16 Block 30s
- TSA II contract vehicle ?

## Financial Status

- \$4.9M in developmental funding
- \$21M needed in FY06 and \$18.0M in FY08 to purchase 2 Regional Mission Training Centers (4-ship)

## Schedule

- Prototype development expected to be complete by end of FY 06
- Production decision in FY06



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# Questions?

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