Operational Training Infrastructure (OTI)

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OTI Elements

- Training Systems / Simulators
- Ranges
- Airspace
- Threat Environment Generators
- Aggressors
- Embedded Training Capability
- Enterprise Support
- Secure Networks
- Pods / Weapon System Interface Devices
- Exercises*

Integrity - Service - Excellence
Elements of a Relevant Training Environment

- Modernize NTTR and JPARC to replicate a level 4 threat
- Develop a level 4 synthetic capability for all operational units (Air)
- Develop a level 4 synthetic capability for all operational units (Space)
- Provide level 4 cyberspace ranges
- Modernize select Primary Training Ranges to ensure Pacing Units have routine access to a level 3 live training environment
  - NTTR & JPARC plus 8 PTRs = ~50% of pacing units
  - NTTR & JPARC plus 8 PTRs = ~80% of pacing units
- Develop Nellis Virtual Test and Training Center (VTTC) for level 4+ high-end advanced training and tactics development
- Provide adversary air tailored to unit requirements
- Optimize airspace to support level 3+ training
- Develop a blended capability to provide a level 4 training environment
Current Limitations

- **Live**
  - Increased operational capabilities and weapon footprints
  - Geographically constrained ranges
  - Competition for spectrum and airspace
  - Operational security concerns
  - Cost of replicating high-fidelity threats and targets
  - Increased flying-hour cost for 5\textsuperscript{th} Gen systems

- **Synthetic**
  - Cybersecurity
  - Lack of interoperability and authoritative data
  - Lack of fidelity
  - Lack of concurrence with the weapon system
  - Latency
    - Distributed simulators
    - Delay in simulating adversary systems

**Beyond Air Force Control**

**Within Air Force Control**
Challenges

- Current construct has led to inefficiencies and lack of agility
  - Unable to ‘surge’ environment development to reach Full Spectrum Readiness

- Competing needs: Concurrency vs Fidelity & Synthetic Environment (SE)
  - MAJCOMs are not incentivized to prioritize SE investment

- Funding structure issues, difficult to answer CSAF’s questions:
  - Who’s in charge of our Sims?
  - How much do we spend on Sims?

Disparate framework has led to disconnected funding & management
Bluf: Technically and programmatically separate Aircraft-in-a-Box (AIB) from Synthetic Environment (SE)

SCARS: multi-domain enabler and cyber hardening

AIB-SE framework is an *end state* requiring senior leadership focus

Looking for technical solutions from industry and FFRDCs

**Future Strategy:** leverage JSE-AF capabilities and modular framework → maximize reuse and tailor for OTI

*Key to Success:* alignment across DOTMLPF-P + Funding

Update 1990s capabilities & management to meet 2018 NDS
Squadrons will get capacity for home station synthetic high end weekly/monthly training instead of a few live events annually

Commanders will have a viable option to meet Full Spectrum Readiness and Reporting

SE ‘upgrade’ to A2/AD and then keep pace with changing Blue and Red capabilities and tactics

Fund high end synthetic environment
  • “All in” decision like 1970’s build-up of Red Flag
Questions?
The ‘Five Levers’ Framework

Levers are Resource Inputs - Interactions Produce Outputs

The Simplified Readiness Machine

Lever 1: Flying Hour Program (FHP)
Lever 2: Weapon System Sustainment (WSS)
Lever 3: Critical Skills Availability (CSA)
Lever 4: Training Resource Availability (TRA)
Lever 5: Deploy to Dwell (D2D)

One Lever alone can’t Fix Readiness, but
One Lever alone can Constrain or Break Readiness