

46th Test Squadron Detachment 2

War-winning Capabilities...On Time, On Cost



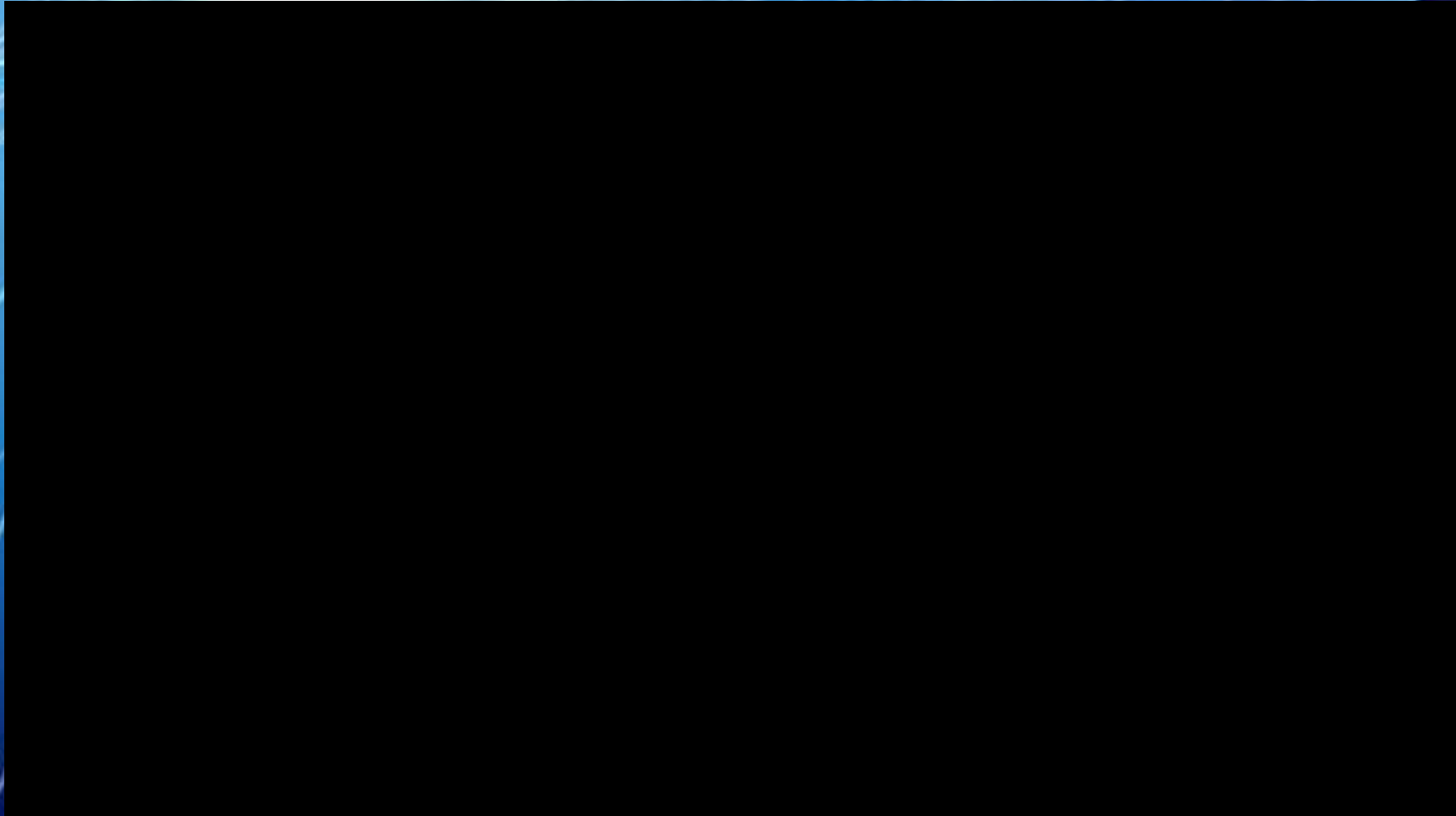
Distributed Testing Evaluated

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Test in a Relevant Environment?

War-winning Capabilities...On Time, On Cost





Overview

War-winning Capabilities...On Time, On Cost

- **46th TS Detachment 2**
- **Distributed Testing**
- **Growth Areas**
- **Benefits**
- **Summary**



46 TS Det 2

War-winning Capabilities...On Time, On Cost

Mission

Reduce technical risk and improve the acquisition of cyber warfare systems by conducting test and range management and operations support to the US cyber warfare community.

Vision

Be the DoD center of excellence for cyber warfare test with a cutting edge cadre of ops-savvy testers and network professionals.

Chain of Command

Air Force

AF Materiel Command

Air Force Test Center

96th Test Wing

96th Operations Group

46th Test Squadron

Key Information

-36 Personnel: 7 Mil, 11 Civ, 17 Ctr

-Mission Areas

- DT management, execution, and support**
- Cyber warfare test and training range O&M**
- Ops support – manpower and facilities**

Organizations Supported

- AFLCMC Network Warfare Systems Branch***
- 24th Air Force***
- 67th Network Warfare Group***
- 346th Test Squadron***
- Air Force Network Program Office**
- Joint Partners**
- AFRL Info Dominance Directorate**
- * Collocated in San Antonio**



Customers & Level of Support

War-winning Capabilities...On Time, On Cost

- **AFLCMC Network Warfare systems Branch**
 - Developmental testing on all acquisitions programs delivered by SPO
- **AFLCMC Cyber Integration Division**
 - Developmental testing for Cyber Integration Division programs
 - Developmental testing and environments
- **24th Air Force and subordinate units**
 - Developmental testing and range environments
- **346th Test Squadron**
 - Range infrastructure co-use
 - Combined developmental and operational testing and environments
- **Joint Partners**
 - Developmental testing



Distributed Testing

War-winning Capabilities...On Time, On Cost

- Links various geographically separated live, virtual, and constructive sites and capabilities together in a distributed environment, for use across the acquisition life cycle to support and conduct Test and Evaluation of system or systems-of-systems in a cyberspace environment



Telecommuting?

Definition Source – Joint Mission Environment Test Capability 101 Brief 9 April 2013. Location on <https://acc.dau.mil>



The Scenario

War-winning Capabilities...On Time, On Cost

- **Three Phase test buildup**
 - Phase I build range to requirements
 - Phase II Support an Onsite Test Execution
 - Phase III Support Remote Test Execution
- **Test of the National Cyber Range:**
 - Validate their ability to create an environment
 - Validate their ability to recreate the environment
 - Validate their ability to collect/store/deliver test data
 - Validate Remote Operations via JIOR



Growth Areas

War-winning Capabilities...On Time, On Cost

- **Availability/Prioritization**
- **Telephony and Wireless**
 - **Electromagnetic Interference Chambers**
- **Integrating Specialized Hardware**
- **Possible Latency Concerns**
 - **JIOR Connection/Sharing Bandwidth**
- **Secure Communications (Networks, VTC)**



National Cyber Range Benefits

War-winning Capabilities...On Time, On Cost

- **Automated range rebuild and configuration control**
 - Rebuilt range in about 24 man-hours
- **Advantageous for regression & combinatorial testing**
- **Accredited for multi-security levels**
- **Approved sanitization procedures**
- **Integrated outside Hardware into facility**
- **Provided Range capability/support plan**



Distributed Testing Benefits

War-winning Capabilities...On Time, On Cost

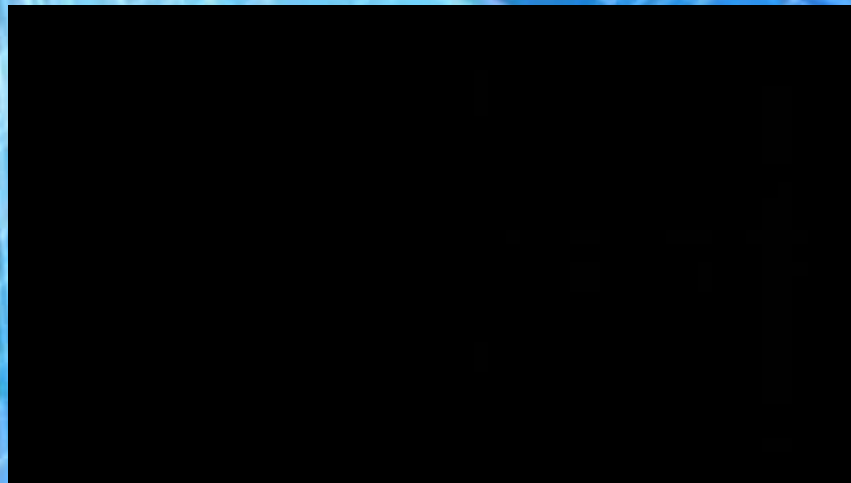
- **Demonstrated Cost Savings**
 - ~\$30K for Labor and Equipment Expenses
 - Cost saved due to no charge for NCR use and fast rebuild.
 - \$2600 in Travel Expenses
- **Leverage Equipment Across DoD via JIOR**
- **Schedule Saved**
- **Quality of Life for Testers**
- **Solid Test Results**



Summary

War-winning Capabilities...On Time, On Cost

- **46 TS Det 2 utilized NCR locally and remotely**
 - True Comparison
- **Demonstrated realized cost savings, both time and money**





War-winning Capabilities...On Time, On Cost

Questions???