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Defense Information Systems Agency
Department of Defense

Testing US Systems for Coalition Interoperability

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Outline



- **Purpose**
- **The Reality**
- **The Problem**
- **Consequences**
- **Current Working Solutions**
- **Planning Tool**
- **Limitations**
- **Future Way Ahead**
- **Summary**

Purpose



Considering the difficulties facing the US T&E community in its efforts to achieve intra- and inter- service interoperability, the problems associated with trying to tackle coalition interoperability can seem insurmountable.

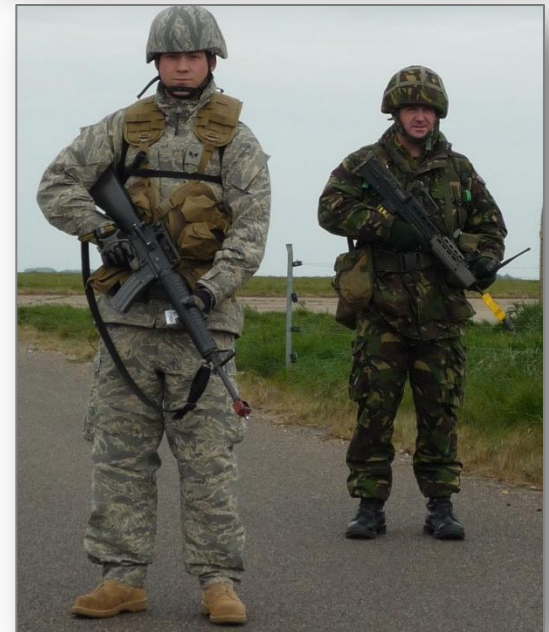
This briefing defines the current problem, discusses current ways US Combatant Commands are addressing the issue, and proposes a way ahead.



The Reality



- **US expects to work in concert with allied and coalition forces in nearly all future operations**
- **Since US participates in coalitions when undertaking both combat and noncombat operations, interoperability needs to be addressed across the entire spectrum of operations**
- **US will not hold back on the pursuit and acquisition of technologically advanced systems**
- **Downside of unrestricted advancement is the potential to become a “technology island”**





- Many complexities conspire to make coalition interoperability a difficult issue to resolve
- Consider the challenges:
 - Shrinking defense budgets
 - No enforcement mechanism
 - Various levels of C2 sophistication
 - Loose or nonexistent international standards
 - National interoperability first and foremost
 - National proprietary equipment
 - Different national requirements and priorities
 - Diverse procurement methods
 - A constantly moving target
 - Coalition task organization variables



The opportunities to diverge versus converge are great

Consequences of Failing to Address the Problem



- **Examples abound in almost every multinational combat, peacekeeping, humanitarian assistance and disaster relief operation in recent history**
 - Desert Shield/Desert Storm
 - Somalia
 - Bosnia
 - Kosovo
 - Pacific Tsunami
 - Haiti Earthquake
 - Iraq
 - Afghanistan
- **Detrimental impact on mission, lives & resources**



The battleground should not be the testing ground

Current Working Solutions: Endeavor Workshops



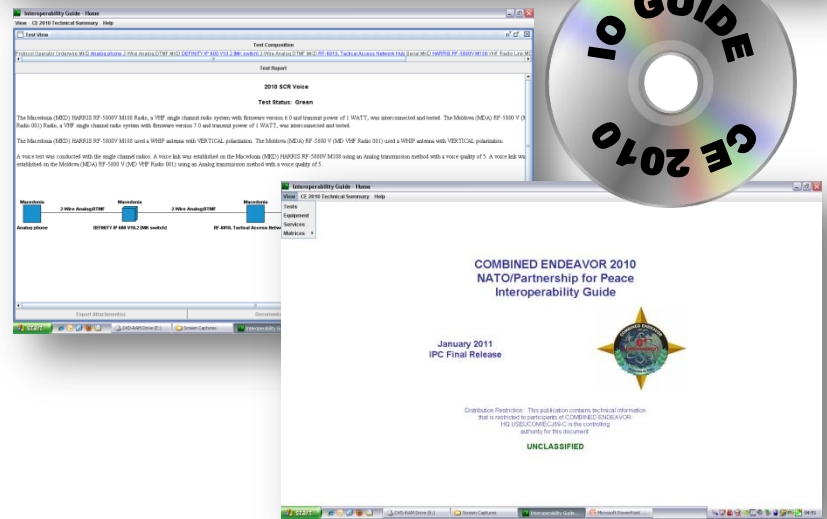
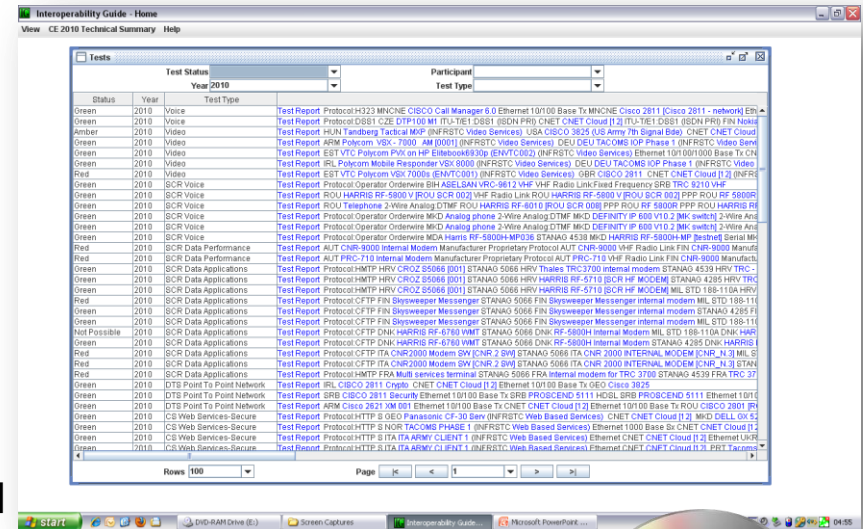
- Several US COCOMs are actively tackling the issue of coalition interoperability
- EUCOM, AFRICOM, PACOM conduct annual workshops
- EUCOMs Combined Endeavor exercise is the oldest, largest and most sophisticated of the three
- Endeavor Workshops:
 - A testing venue for potential coalition partners
 - Comprised predominantly of fielded systems
 - Field assessments of interoperability, not laboratory testing
 - Identified interoperability issues serve as a catalyst for follow on in-depth testing
 - Results thoroughly documented and archived to produce a useful field guide for both planners and operators



Planning Tool: Interoperability Guides



- Interoperability Guide published at the completion of each Endeavor
- Single most important product to come out of the exercise
- DVD media
- Java based
- Includes:
 - all assessments that have been verified and validated (912+ at CE10)
 - archive of all assessments since workshop inception
 - Equipment Specifications
- Extensive search and query capability
- Multiple success stories of guides use by participants



Limitations with Current Solutions



- Endeavor programs are a step in the right direction but they have limitations:
 - Only identify interoperability after the fact
 - Occurs only once a year
 - Brief test window
 - Logistically intensive
 - Limited to nations in a geographic area
 - More focus on equipment vs. systems
 - Limited scope
 - No enforcement mechanism
 - Limited external synchronization



Future Way Ahead



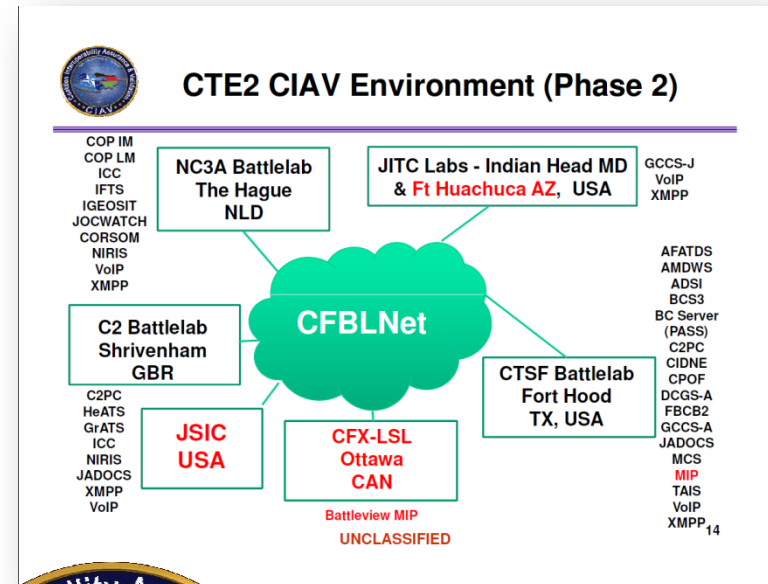
- **Greater strides in coalition interoperability can and must be made**
- **Discussion should start between countries at the highest international strategic level to sort out the competing priorities**
- **Greater strategic direction to working groups**
- **Addressing interoperability during the development process**
- **Establishment of a persistent federated on-demand multinational test environment**
- **Incentives and enticements**
- **Expanded Endeavor coverage**



Future Way Ahead: CIAV, CTE2



- **AMN Coalition Interoperability Assurance and Validation Working Group is building this model test environment today**
- **Coalition Test & Evaluation Environment (CTE2)**
 - Year-round interoperability testing and certification environment
 - Federation of distributed test facilities based on the CIAV model
 - Test sites in US, UK, Canada, Italy and Belgium
 - Emulates the AMN operational environment
 - Mission thread focus
 - Scope all encompassing
- **Required certification before introduction into AOR**



Future Way Ahead: GCIP, Predictive Interoperability



- **Global Communications Interoperability Program**

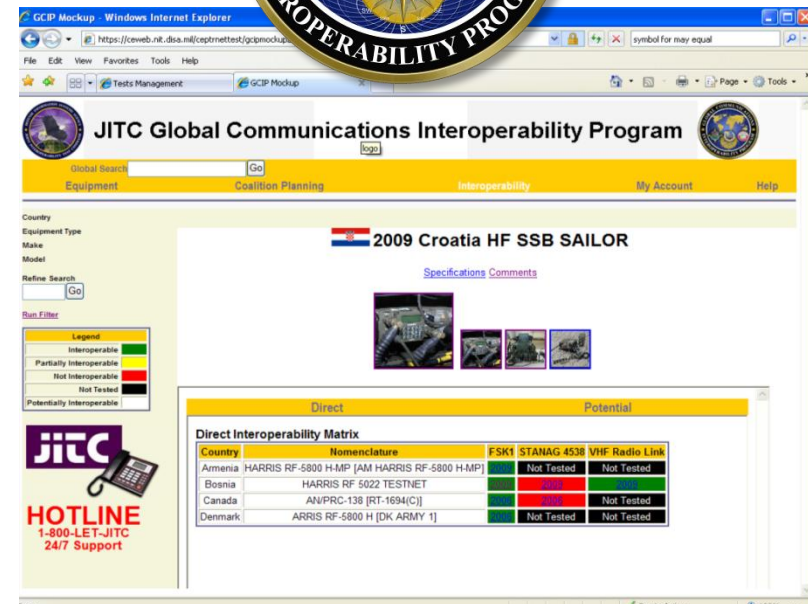
- A online application with a single interface to simultaneously references multiple, existing interoperability databases
- Query data/results from all 16,137 field assessments (since 1995)

- **JITC's Value Added**

- We're building this unique capability "Out-of-Hide"
- Leveraging its years of experience supporting COMBINED ENDEAVOR, AFRICA ENDEAVOR, and PACIFIC ENDEAVOR to affect the future...
- Databases are updated/expanded, functionality increased with every Endeavor event JITC supports

- **Impact to the Warfighter**

- Within minutes, GCIP provides quick, accurate, concise system interoperability answers for right-now support
- J-6 planners can predict network and system interoperability—both good and bad—and plan accordingly
- COCOMs can deploy to any theater, with almost any Nation and be able to predict what will work, and what will not work

Country	Nomenclature	FSK1	STANAG 4538	VHF Radio Link
Armenia	HARRIS RF-5800 H-MP [AM HARRIS RF-5800 H-MP]	Not Tested	Not Tested	Not Tested
Bosnia	HARRIS RF 5022 TESTNET	Not Tested	Not Tested	Not Tested
Canada	AN/PRC-138 [RT-1694(C)]	Not Tested	Not Tested	Not Tested
Denmark	ARRIS RF-5800 H [DK ARMY 1]	Not Tested	Not Tested	Not Tested

GCIP Today
Contains system data from over 90 Nations



- Coalition operations are here to stay
- Coalition interoperability has emerged as a critical but complex issue, fraught with great advantages and extremely difficult problems
- Ample opportunities abound for divergence, but convergence will take determination
- COCOM Endeavor workshops are tackling coalition interoperability today
- The future is a persistent, federated, on-demand multinational test environment
- Most nations agree the costs are worth the headaches

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A Combat Support Agency



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