



## Group III

# Expand Collaborative Developments and Create New Technical Institutions

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Workshop on  
Actions to Enhance the Use of Commercial Information Technology (IT) in  
Department of Defense (DoD) Systems

Center for Technology and National Security Policy  
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## Group III Participants

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Marie Stella, FAA

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# Goals



## Ultimate goal:

Transition reliable, capable information technology tools to the military without burden or delay.

## Implication:

Requires a DoD that has sufficient capability and expertise in information technology.

## Question:

Does the DoD have the capacity and necessary facilities to evaluate information technology products and develop new technological and operational concepts based on them?



## General Comments

- There are processes presently in place that are meeting DoD needs, but they are isolated and do not necessarily project a coherent picture
- No new brick and mortar organizations, rely upon virtual organizations as much as possible



# What COTS Technology?



What's out there? What do the warfighters need?

- New Request for Information process
  - RFI against capabilities
- Involving Warfighters
  - Use modern means for warfighters to exchange with IT knowledge holders
    - e.g., web portals and discussion boards,
  - Focused interaction toward consensus, proof of concept, and prototype
  - Requires experimentation money
- Commercial Technology Experimentation Program
  - Experimental unit to learn how DoD could more fully exploit commercial technology from non-traditional suppliers
  - Create strategic reasons for industry cooperation
  - Warfighter evaluation, modification, and test
  - \$50M/yr for 3 years



- "Service Technology Transfer Offices on steroids"
  - Make TTO more proactive
  - Populate office with degreed service laboratory personnel and empower them to visit trade shows and engage with commercial companies
- Establish (including coordination and focus of existing efforts) an “emerging commercial products search and review” program that:
  - Establishes knowledge sharing (i.e. DoD needs and industry product plans)
  - Identifies “product targets of opportunity”
    - Existing
    - In the product development
  - Ranks “product targets of opportunity” based upon max DoD utility (JROC review endorsement)
  - Creates collaborative ventures with industry to test/review/buy first article units to allow real test and evaluation (needs significant elaboration)



# Involving Commercial Entities in DoD Solutions



- Focus should be on problems that commercial won't address on their own, e.g., QoS or Information Assurance



- Expand use of ARL Collaborative Technology Alliance to other service labs
- Industry-University-Government teams of 10-30 people
- Provide budget (not out of hide)
- Coordinate efforts at high level office (DoD?)
- Select right people with passion to execute
  
- Establish Skunk Works (moves organization closer to industry that CTA)
  
- Consider United Kingdom model for QinetiQ



## Consortium Partners

- Telcordia Technologies (Lead)
- Network Associates
- BBN Technologies
- General Dynamics
- BAE SYSTEMS
- Georgia Tech
- U of Maryland
- U of Minnesota
- U of Delaware
- Princeton
- Johns Hopkins
- Morgan State
- CCNY
- Clark-Atlanta

## Objectives

Enable a fully-mobile, agile, situation-aware, and survivable lightweight force with internetted C<sup>4</sup>ISR systems.

Large, heterogeneous, wireless communication networks that:

- Operate while on-the-move with a highly mobile network infrastructure
- Under severe bandwidth and energy constraints
- While providing secure, jam-resistant comms in noisy hostile wireless environment

## Technical Areas

- Survivable Wireless Mobile Networks
- Signal Processing for Comms-on-the-Move
- Secure Jam-Resistant Communications
- Tactical Information Protection



# ALLIANCE MANAGEMENT STRUCTURE



**ARL Stakeholders Advisory Board (SAB)**  
Strategic Oversight and Guidance

**The Army Research Laboratory**  
Director  
Research Alliance Coordinator  
Collaborative Alliance Manager (CAM)

**ARL Technical Advisory Board (TAB)**  
National Research Council, Technical Peer Review

**ARL Board of Directors (BoD)**  
Program content and Relevance

Resources, Requirements, and Vision

**Research Management Board (RMB)**  
Gov't partners, chaired by CAM

**Collaborative Technology Alliance Consortium Management Committee**  
Private sector partners chaired by industry lead

Technical Area 1

Technical Area 2

Technical Area 3



# Inserting COTS Technology?



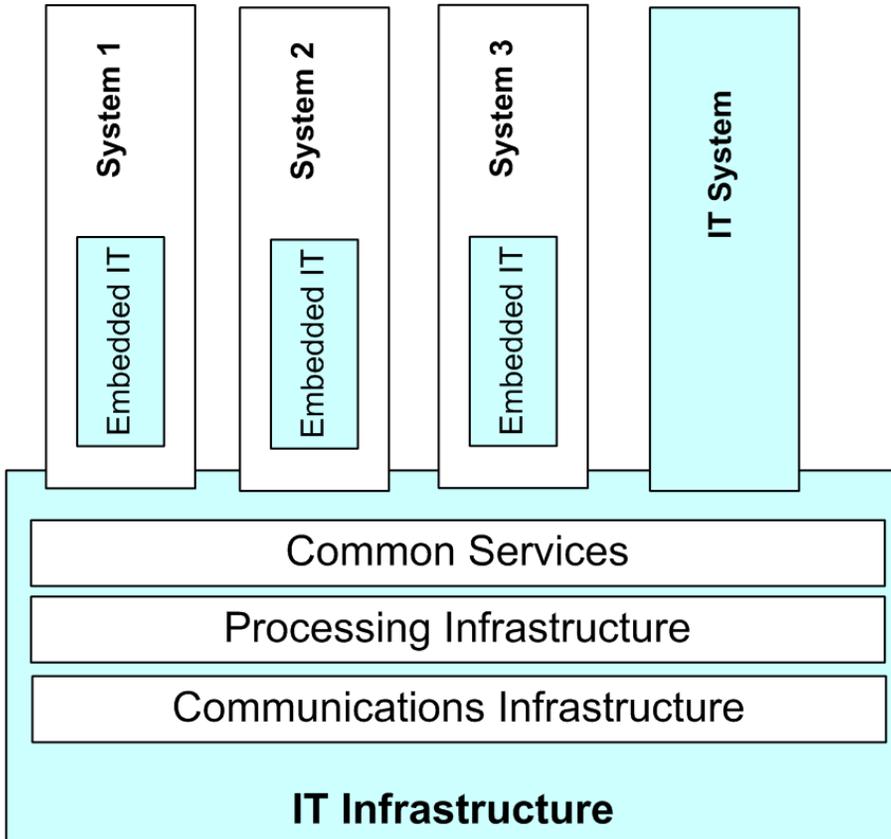
- Assessing risk and addressing risk
- Need for test beds (recognized – did not have sufficient representation from test community to address fully)
- Acquisition issues



# Problem Description

Power Projection Systems Department

Infocentric Operations



- *IT Infrastructure*
  - High commercial product use
- *IT Systems*
  - High commercial technical concept use
- *Embedded IT*
  - Most likely to be found in the tactical environment



# Recommendations: IT Embedded Systems



- Incentivize PMs to introduce innovation
  - Allow PMs to take risk
  - PM training
- Need teeth to incent use of COTS within DoD
- Take continual insertion of COTS outside of normal PPBE system
  - include requirement for continual integration in Prime Contractor
  - incentivize so that savings is shared
  - use vehicles like PBLs to implement
- Incentivize lead systems integrator



## Recommendations: IT Infrastructure

- Need for one voice within DoD
  - Is this a working group or group with acquisition authority and resources
- Responsibilities
  - Identify & prioritize applications most likely to require commercial technology
  - Portfolio management
  - Establish enterprise architecture
  - Act as connector/facilitator for commercial industry
  - Promote cultural change
  - Influence Net-Centric checklist
  - Make DoD IT acquisition match commercial IT model
- Example, assuring integrity of software
  - mitigate risks in software acquisition by improving process
  - eg, DoD Acquisition PMs should request security process capability evaluations of software suppliers



## Recommendations: Other



- DoD Smart IT Buyer is dependent upon recruiting and retaining high qualified and passionate staff