FORCEnet BAA #10-018

Dynamic Command and Control (C2) for
Tactical Forces and Maritime Operations Centers (MOCs)
FORCEnet Enabling Capability

Industry Day

21 May 2010

BAA 10-018
Dynamic Command & Control (C2)
for Tactical Forces and Maritime Operations Centers (MOC)
FORCEnet Enabling Capability
Industry Day Agenda

O800	Check in	
0830	Admin and Welcome	Toth
0835	Contracts Guidance	Molinillo
0900	BAA Overview and Intent	Toth
09i5	PEO IWS & PEO C4I Vision Brief	Emery, Delgado, Washburn
1045	Modernizing C2 in Support of Information Dominance	Delgado
1105	Network Communications under DIL Conditions	Smith
1125	Technical Overview	Coupland
1155	Wrap-up	Toth
1200	Adjourn	

Administrative Remarks

- In fairness to all potential bidders – <u>no questions will be answered</u> at the meeting
  - Questions are to be written and emailed to the BAA PM (Mr. Toth) and will be answered on the Website
- Rest rooms are located outside of the auditorium, at the front and rear
- Beverages are available in the atrium
- Please turn off cell phones and Blackberries

BAA Overview and Intent

# Dynamic C2 for Tactical Forces and Maritime Operations Center (MOC)

Product Description:

Software for Command Control and Combat Systems that provides dynamic and responsive management and control of net-centric enterprise theater and tactical Anti-Submarine Warfare (ASW).

- Flexible command and control (C2) among tactical units (air, surface, subsurface, and shore including tactical mobile shore C2) & MOC

- Ability to operate in a severely degraded comm environment

- Allow all echelons of command (from individual ship or aircraft mission commander to Joint Force Maritime Component Commander) to conduct dynamic missions in a coordinated and effective manner

Co-evolve technology with tactics techniques & procedures through experimentation

Transition through acquisition partner's Peer Review Process
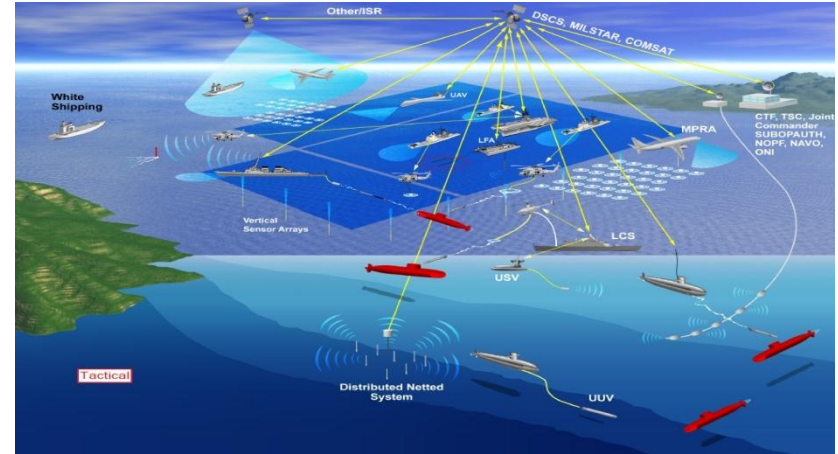
Warfighter Payoff:

- Increased access and shared awareness of relevant data, activities, and enterprise status among tactical forces and the Maritime Operations Center.
- Automated support for synchronized planning, coordination, and execution of network enterprise resources to meet evolving mission demands.
- Visualization of critical performance indicators of networked force capabilities, and ability to manage the complex problem spaces.

	FY09	FY10	FY11	FY12	FY13
Phase 1 – **In Progress**					
Phase 2 – BAA 10-018 *Current Solicitation*					
Demos - ◆ Transitions - ▲					

- Technology results on fast track for transition
  - **Technology performers conducted preliminary demonstrations 6 months after contract award – December 2009**
  - **Initial focus on development / maintaining Quality of Service (QoS)**

Technologies	Transition Sponsors	Expected Impact
Automated Data Access / Shared Awareness	PEO IWS PEO C4I	Data prioritization (QoS) for intermittent communications environments using priority flow optimization
Automated Synchronized Planning	PEO IWS PEO C4I	Synchronized workflow to preserve QoS Tactical operations under prolonged disconnects
Visualize Critical Performance Indicators	PEO IWS PEO C4I	Pedigree capable of inferring information not explicitly represented within DIL environment

- Transition path under strong development within first year of program (Level B TTA signed for two PORs)
  - PEO IWS: Strong interest in overcoming data process limitations within DIL environment
  - PEO C4I: Strong interest in solidifying workflow management of data across the Tactical Edge

Product & Transition Snapshot

Dynamic C2 for Tactical Forces and Maritime Operations Center

Office of Naval Research — Revolutionary Research . . . Relevant Results

FY08	FY09	FY10	FY11	FY12	FY13

Thrust 1: Automated Data Access And Shared Awareness over DIL Networks

> **NION (Naval Interoperability Network) Data Prioritization and Interest Models**

> **TDMS (Tactical Data Management System) Tactical Data Cache & Exposure Services**

> **CTPoDIL (Common Tactical Picture Synchronization over DIL Communications)) Common Tactical Picture Synchronization**

Thrust 2: Automated synchronized planning, coordination, and execution

> **FCDS (Federated collaborative Decision Spaces) - Collaborative Workflow**

Thrust 3: Visualization of critical performance indicators

> **UPSIDE (Unified Pedigree Services Integrated Data Env't) - Pedigree Services**

FY-10 Initiatives BAA 10-018

Thrust 4: Combat Systems to C2 Network Integration

> **Domain Bridge services**

> **Domain Edge Services**

> **Common Information Functions**

Development Approach –
Coevolution of Technologies and Processes

Objectives

- Extend C2 capabilities at the MOC to address tactical "gap-closing" capabilities for the Fleet

- Develop technology capability threads to inform follow-on tactical systems acquisition

- Develop and mature patterns and practices for net-centric capability transition

Core Technologies

- **Combat System to C4I Network Bridge**
- **Communications Optimization Domain Edge Service**
- Data Visualization
- Automation of Tactical Readiness

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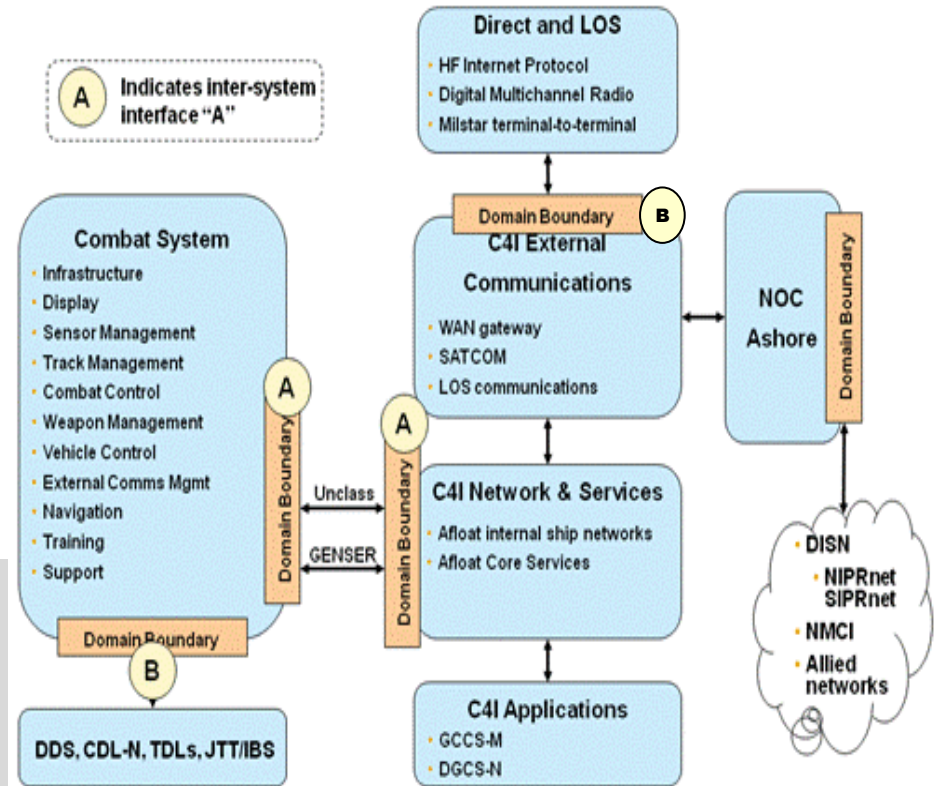
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Technology Challenges

- ## Domain Bridge Services
  - Enable information exchange between the shipboard Combat Systems (CS) network and shipboard Command and Control (C2) Systems network

- ## Domain Edge Services
  - Optimize information exchange between ships, aircraft, and shore sites over naval radio frequency (RF) communications networks

- ## Common Information Functions
  - Data Quality Attributes (context and usability)
  - Service Level Agreements / Quality of Service (QoS)
  - Information Assurance (IA)
  - User Facing Services (UFS)