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

Industry Day

21 May 2010
## Industry Day Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0800</td>
<td>Check in</td>
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<tr>
<td>0830</td>
<td>Admin and Welcome</td>
<td>Toth</td>
</tr>
<tr>
<td>0835</td>
<td>Contracts Guidance</td>
<td>Molinillo</td>
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<tr>
<td>0900</td>
<td>BAA Overview and Intent</td>
<td>Toth</td>
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<tr>
<td>0915</td>
<td>PEO IWS &amp; PEO C4I Vision Brief</td>
<td>Emery, Delgado, Washburn</td>
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<tr>
<td>1045</td>
<td>Modernizing C2 in Support of Information Dominance</td>
<td>Delgado</td>
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<tr>
<td>1105</td>
<td>Network Communications under DIL Conditions</td>
<td>Smith</td>
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<tr>
<td>1125</td>
<td>Technical Overview</td>
<td>Coupland</td>
</tr>
<tr>
<td>1155</td>
<td>Wrap-up</td>
<td>Toth</td>
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<tr>
<td>1200</td>
<td>Adjourn</td>
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</table>
Administrative Remarks

• In fairness to all potential bidders – no questions will be answered 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

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**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.

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<table>
<thead>
<tr>
<th>Phase 1 – In Progress</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
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<tbody>
<tr>
<td>Phase 2 – BAA 10-018 <strong>Current Solicitation</strong></td>
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<td>Demos - ◆ Transitions - ▲</td>
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FORCEnet FY 09-04 Phase 1 Snapshot

• 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)

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

Thrust 4: Combat Systems to C2 Network Integration
- Domain Bridge services
- Domain Edge Services
- Common Information Functions

FY-10 Initiatives BAA 10-018
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
BAA 10-018
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)