Program Executive Office
Command, Control, Communications, Computers and Intelligence (PEO C4I)

PMW 750 Carrier and Air Integration Program Office Brief to NDIA

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Statement A: Approved for public release, distribution is unlimited. (2 OCTOBER 2016)
PMW 750’s Mission

Deliver integrated, joint, and coalition-interoperable C4I capabilities for our Navy’s aircraft carriers, force-level amphibious ships, command ships, and aircraft

Mission Areas:

- **Shipbuilding and Conversion – Navy (SCN)**: Deliver tested and integrated Force-Level C4I Capabilities
- **Modernization**: Installation Planning and Execution
- **Advanced Planning**: Force-Level C4I Modernization Planning
- **Air Integration**: Integrate Naval Aviation Enterprise (NAE) C4ISR Capabilities

Programs:

- Capability development and integration for TacMobile and NAVAIR (MQ-25A, JSF, Triton, P-8, and E-2D) programs

PMW 750 provides Platform C4I integration support to the Surface Warfare & Naval Aviation Enterprises
SCN Alignment

PMW 750 Integrates, Tests, & Delivers C4I Capability to SCN platforms

PMW 750 is the C4I Program Acquisition Resource Manager (PARM) for Force-Level Ships
PMW 750 SCN Integration Efforts

- **Baseline Management**
  - Manage over $100M of funding and schedules for all C4I/SPAWAR systems per platform
  - Use Cost Plus Fixed-Fee (CPFF) and Firm-Fixed-Price (FFP) contracts

- **Systems Design and Integration**
  - Design and develop C4I engineering drawing packages housed in 150+ racks and using 3,100+ drops per platform
  - Manage inter-systems interfaces (i.e. Functional Interface Drawings (FID))
  - Develop and assess Engineering Change Proposals

- **Radio Communication Systems (RCS), Distributed Systems (DS), and Ship’s Signal Exploitation Space (SSES) Production, Integration, and Test Facilities**
  - Integrate and test radio communication System of Systems (SoS)
  - Design, build, and integrate 55+ racks of C4I and ancillary equipment
  - Develop platform test procedures

- **Manage shipboard C4I installation and tests**

- **Expanded responsibilities with CVN 73 that now include overall Zone Integration and C4I MQ-25A modifications**

**PMW 750 Delivers all C4I for SCN CVNs and LHAs**
Fleet Modernization Alignment

Ship Program Managers
- PEO Carriers
- NAVSEA 21
- USFFC NCF
- CPF

Fleet Commanders
- CNADF
- CNSF
- CPF

TYCOMs
- MARCOR SYSCOM

PMW 750 Fleet Modernization Interface:
- Fleet VTC, FDNF VTC, NCMC, and C4I Program Reviews w/SPMs

PMW 750 is the Primary POC for Afloat Force-Level C4I Modernization & Integration

PMW 120
- Battlespace Awareness & IO

PMW 130
- IA & Cyber Security

PMW 150
- Command & Control

PMW 160
- Tactical Networks

PMW/A 170
- Comms & GPS Navigation

SPAWAR FRD
- System Sustainment
## Carrier Dashboard/Quick Look

### Test Event Description Status

<table>
<thead>
<tr>
<th>Test Event</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstration of System Initialization and Configuration</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Tactical Data Links: MTJ (ADNS INC III to ADNS INC III)</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Tactical Data Links: STJ/UTJ/SAT A</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>Tactical Data Links: LOS/BLOS Link 16 HF/UHF Link 11</td>
<td>66%</td>
</tr>
<tr>
<td>5</td>
<td>C4I to Combat Systems: GCCS-M to DCGS-N Functionality</td>
<td>98%</td>
</tr>
<tr>
<td>6</td>
<td>C4I to Combat Systems: Data Manipulation and Transport</td>
<td>75%</td>
</tr>
<tr>
<td>7</td>
<td>Preparatory Testing</td>
<td>70%</td>
</tr>
</tbody>
</table>

### Primary Systems

<table>
<thead>
<tr>
<th>Primary Systems</th>
<th>Secondary Systems</th>
<th>Supporting Systems</th>
<th>Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANES</td>
<td>CBSP</td>
<td>AIS</td>
<td>DMDS</td>
</tr>
<tr>
<td>SREL</td>
<td>DCGS-N</td>
<td>PLT</td>
<td>NAVSSI</td>
</tr>
<tr>
<td>NMT</td>
<td>CDLMS</td>
<td>CDLS</td>
<td>RADMERC</td>
</tr>
<tr>
<td>ADNS</td>
<td>GBS</td>
<td>JADOCS</td>
<td>Crypto/Devices</td>
</tr>
<tr>
<td>GCCS-M</td>
<td>JTIDS</td>
<td>TBMCS</td>
<td>BFTN</td>
</tr>
<tr>
<td>ADSI</td>
<td>JTT</td>
<td></td>
<td>MEDWEB</td>
</tr>
<tr>
<td>SSEE</td>
<td>TIP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Connected and Workstation Hosted Systems

- **GBS (90%)**
- **SREL**
- **JWICS VTC**
- **AIS**
- **Split COP (25%)**
- **SIPR VTC**
- **NAVMACS (20%)**
- **JTT (90%)**
- **ADSI**
- **BFTN Note 1**
- **MEDWEB Note 1**

### Issues Discovered

- **Issues Discovered** (13 Total, 6 Corrected)

### SOT Provided Training, 301 hrs

- **DCGS-N**
- **COMSEC**
- **CANES**
- **GCCS**
- **LINK**
- **ADNS**
- **NMT**
- **SOT**
- **CBD**

### Note 1:
BFTN and MEDWEB cannot be tested due to factors outside of ship's force control.
PMW 750 Alignment to Support NAE

PMW 750 Alignment with NAE: Aviation Council of Captains, A/SL EXCOMs, QPRs, TIMs, C4I Air Platform (CAP) IPTs, and ISRATs

PMW 790 Shore and Expeditionary Integration
PMW 120 Battlespace Awareness & IO
PMW 130 IA & Cybersecurity
PMW 150 Command and Control
PMW 160 Tactical Networks
PMW/A 170* Comms & GPS Navigation

*Dual-reports to NAVAIR 1.0 For GPS/Navigation

PMW 750 is the C4I “One-Stop Shop” for the Naval Aviation Enterprise
Air-Sea Integration Overview

• PMW 750 is a “One-Stop Shop” for PEO C4I and NAVAIR C4I Coordination and Collaboration
  ➢ Manages NAVAIR-funded C4ISR Engineering
  ➢ Provides POR and Enterprise C4ISR solutions rather than non-standard solutions
    – “Common Core Capabilities”
    – Saves money and leverages other investments
    – Improves Interoperability

• PMW 750 Planning and Execution Processes aligned to PEO C4I Best Practices with minimal variation

MQ-4/Triton  MQ-25A/Stingray  E-2D  Joint Strike Fighter  P-8A/P-3C
Software Driven Capabilities

Increasing Equivalent Software Lines of Code

Sources
Airborne Networks Today
Platform Specific Networks

Network Function Coupled with Communication Method

- MADL (LPI/LPD)
- TTNT
- Hawklink
- Rover (S-Band CDL)
- VMF
- SIPR Chat
- WB SATCOM
- CEC
- BFTN
- CDL
- LINK 16
- NIFC-CA
Future Airborne Networks
Transparency Networked for Warfighters

Network Function Decoupled from Communication Methods

Secure, resilient, and common links enabling autonomous routing of information over the network
TacMobile Overview

- TacMobile is a critical C4I enabler for Maritime Patrol and Reconnaissance Forces (MPRF)
  - P-8A, P-3C, AAS depend on TacMobile to operate
  - Provides P-8A Poseidon & P-3C Orion with persistent operational and tactical
    - C4I infrastructure and Battle Management
    - Weapons Systems Interfaces
    - Tactical Decision Aids
    - Post mission ISR Processing Exploitation Dissemination (PED)
    - ASW acoustic analysis and mission reconstruction
- 22 Platforms (Total Inventory Objective)
  - Tactical Operations Centers (TOC)
  - Mobile Tactical Operations Center (MTOC)
- Strong partnership with PMA-290 and CDR Patrol Reconnaissance Group

TacMobile is classified as a Weapons System
We Rely on a Wide Variety of Skills from Industry

• Lead support:
  - Program Managers, Lead Engineers, Lead Logisticians, System Administrators, System Security Engineers
  - Information Assurance SMEs and Security Classification Guide Developers

• Software Developers for:
  - SOA, C+, Java, TacMASS, MARS, Acoustic Signal Processing
  - Unix/Linux/Windows

• Engineering and Logistics:
  - Software Integrators, Testing and Evaluation Engineers, Logisticians
  - Help Desk Support, Configuration Managers, Training Specialists, Shipping Specialists, Technical Writers
  - Drafter/CAD Operators

• Production and SMEs:
  - Production Managers, Electronics Technicians, P-3C/P-8A Interface SMEs
  - Hardware Engineers, Technical Analysts, Production Engineers
  - ISEA support, Software Loading and Configuration SMEs
  - Facilities Electricians, Architecture & Planning, CPD Developers
Loss of Corporate Knowledge impacts Quantity and Quality of Industry Partnership
### TacMobile

**Current Primary Contract**

<table>
<thead>
<tr>
<th>Contract Scope</th>
<th>Type</th>
<th>Prime</th>
<th>$ Ceiling</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering Support Services:</strong> Technical services, equipment procurement, system integration, assembly, testing, studies and analysis, installation, training, maintenance and support, configuration management, quality assurance (QA), material control, program management, and logistics products and services in support of life cycle management responsibilities</td>
<td>CPFF/FFP</td>
<td>Tapestry Solutions</td>
<td>$76M</td>
<td>2020</td>
</tr>
</tbody>
</table>

### Other TacMobile Current Contracts

<table>
<thead>
<tr>
<th>Contract Scope</th>
<th>Type</th>
<th>Prime</th>
<th>$ Ceiling</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Support</td>
<td>CPFF</td>
<td>Centurum</td>
<td>1M</td>
<td>2016</td>
</tr>
<tr>
<td>Mission Planning Software</td>
<td>CPFF</td>
<td>NG</td>
<td>2M</td>
<td>2016</td>
</tr>
<tr>
<td>Requirements Management and Financial Management Support</td>
<td>CPFF</td>
<td>BAH</td>
<td>1M</td>
<td>2016</td>
</tr>
</tbody>
</table>
# PMW 750 Contracts

<table>
<thead>
<tr>
<th>Contract Scope</th>
<th>Type</th>
<th>Prime</th>
<th>$ Ceiling</th>
<th>Exp</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced Planning</strong>: Production planning, conducting risk analyses, tracking/reporting program status, and managing actions and improving workflow related to processes to enable efficient surface ship, submarine, and shore platform production installation engineering and integration</td>
<td>Seaport-e</td>
<td>Forward Slope</td>
<td>6.4M</td>
<td>2017</td>
</tr>
<tr>
<td><strong>Financial Support</strong>: Business Financial Competency Support</td>
<td>Seaport-e</td>
<td>BAH</td>
<td>29.9M</td>
<td>2016</td>
</tr>
<tr>
<td><strong>SCN Integration (CTII)</strong>: Design, integration, engineering, procurement, fabrication, incidental purchase of supplies and equipment, assembly, test, inspection, delivery, and limited installation of integrated C4I capabilities aboard new construction (including RCOH) ships. PMW 750 Platforms: CVN, LHA and PMW 760 Platforms: LPD, T-AGM 25, T-AKE, JHSV</td>
<td>CPFF FFP</td>
<td>SRC</td>
<td>75M</td>
<td>2019</td>
</tr>
</tbody>
</table>

Note: * Numerous PEO C4I PMWs
Areas of Possible Industry Involvement: Our Top Five

1. We anticipate more built-in dependencies across programs
   - e.g. ADNS POR is key enabler for Air-Sea-Land Integration
   - Multiple POR and Operational Stakeholders are involved
   - “An IP in Every Aircraft”

2. Inter-Program Integration is getting more complex
   - C4I baseline deliveries require collaboration from Design to Delivery
   - Integration is about closing seams between programs. When resources are tight, seams increase. Innovative Industry partnering/collaboration is needed

3. Cybersecurity is here to stay and is growing

4. As Government improves its partnerships, we move up Maslow’s Hierarchy
   - Looking beyond shipboard installations, we anticipate Aviation Platforms and Sensors will drive shipboard installation decisions
   - “From ship-centric to Strike Group-centric”

5. Current readiness beats future readiness
   - … when resources are tight
   - Innovative Integrated Logistics Support (ILS) (especially training) solutions that reduce Operations and Sustainment (O&S) Costs are expected to be a growth area
   - “Simplifying the Sailor’s Experience in a ‘Cloudy’ Future”
We Deliver Information Warfare Capabilities to the Fleet.

Visit us at www.peoc4i.navy.mil
Backups
TacMobile Supports the Entire P-8A/P-3C Mission Set

- Exploitation
- Processing
- Collection
- Dissemination
- Tasking

- TacMass...
- MARS...
- SCoET GXP...
- Post Mission Acoustic Analysis & Tactical Exploitation
  - Event Analysis
  - Mission Replay
  - ESM Analysis
  - Imagery Analysis
  - Acoustic Analysis
  - Mission Debrief
  - Post Mission Summary
  - Environmental Information

- Analyzed Mission Data

- Operational Awareness
  - COPICUP
  - Situational Awareness Consolidation
  - Positional Track Data
  - Track Correlation
  - Tactical Decision Aids
  - Mapping
  - Message Construction
  - Message Formatting and Parsing
  - Environmental Awareness

- Current Operational

- Mission Planning
  - Mission Tasking
  - CFA/JFAC Coordination
  - Mission Profiles
  - Environmental Information
  - Threat/Own Force Data
  - Routes/Areas/Maps
  - Comms Planning
  - Sensor Prediction
  - Weapons Planning
  - Comms Libraries
  - Acoustic Libraries
  - Imagery Libraries
  - Tactics
  - Mission Rehearsal

- P3TDI...
- PPBP...
- AMMS...
- POF...
- Mission Data Assembly
  - Mission Briefing
  - Preflight Insertion Date A/C Media
  - PID Validation
  - Preflight Checks

- Aircraft Interface Media

- = Future Development