



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

**Consolidated Afloat Networks and
Enterprise Services (CANES)**

**27 Oct 2015
CAPT William McNeal
CANES Program Manager (PMW 160)
619.524.7909
ben.mcneal@navy.mil**

Statement A: Approved for public release; distribution is unlimited (OCTOBER 2015)

***Integrated Information
Dominance for the
21st Century***





PMW 160

Programs and Services



We field and support C4I Tactical Networks Fleet-wide (LANs and WAN)
Over 160,000 Afloat Network users
Aircraft, ships and submarines
Enables over 800 different applications

Network Systems

- Consolidated Afloat Networks and Enterprise Services (CANES)
- Integrated Shipboard Network System (ISNS)
- Submarine Local Area Networks (SubLAN)
- Combined Enterprise Regional Information Exchange System (CENTRIXS-M)
- Sensitive Compartmented Information Networks (SCI Net)
- Patrol Coastal Network (PCNet)
- Maritime Operation Center Networks (MOC)

Network Services & Transport

- Automated Digital Network System (ADNS)
- Operating Environment
- Application Integration / Early Adopters
- Afloat Core Services (ACS)
- Systems Management (SM)
- Fleet Introduction Team (FIT)

The Navy's Tactical LAN and WAN Program Office



Status

- **Full Deployment Decision Acquisition Decision Memorandum**

- Secretary Kendall signed FDD ADM on 13 Oct 2015

- **Installations**

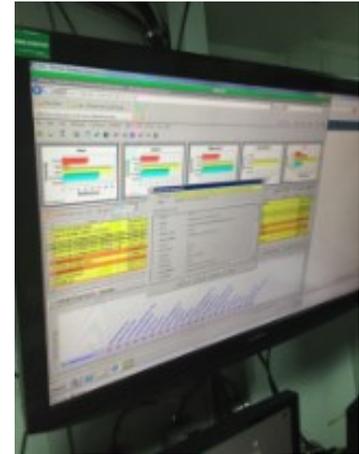
- First install complete on USS McCampbell (DDG 85) in Oct 2013
- 25 ships complete (3 CVNs, 1 LHD, 2 CGs, 18 DDGs, 1 LSD)
- 12 installations continuing (4 CVNs, 2 LHDs, 5 DDGs, 1 LSD)

- **Operational Testing**

- Initial Operational Test & Evaluation (IOT&E), including cybersecurity testing, on USS Higgins (DDG 76)
- Operationally Effective, Suitable, and Survivable
- Force Level Follow On Test & Evaluation (FOT&E) on USS John C. Stennis (CVN 74) in progress

- **Production Contract**

- Limited deployment contract ended Dec 2014
- IDIQ MAC Production contract in year 1 of 8 year period of performance



CANES on USS RONALD REAGAN (CVN 76)



CANES High Level Overview

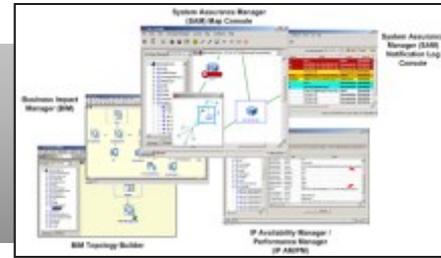
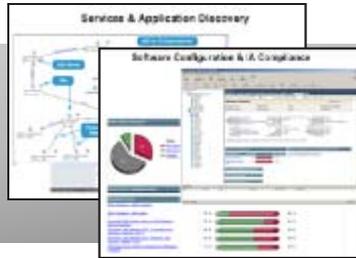
Information Assurance

Identification, Authentication & Access Control

Configuration Protected Objects

Forensics Examination Service

Systems Management



Malware Protection

Core Enterprise Services

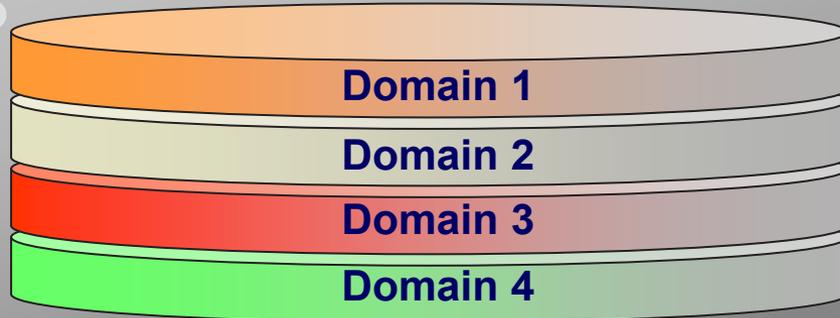
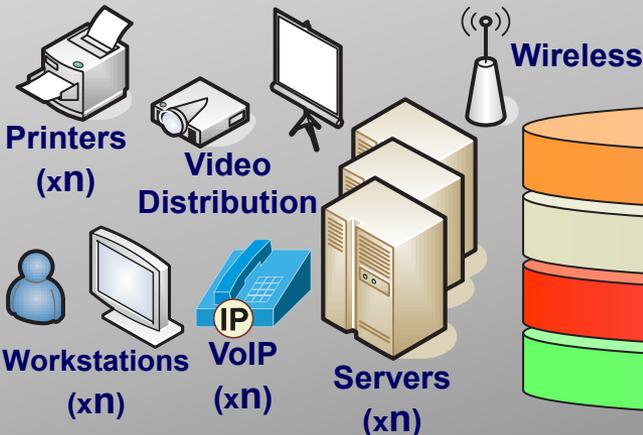
- Core Enterprise Services**
- Email/Calendar
 - File Transfer
 - SQL Database
 - Office Productivity
 - DNS
 - LDAP
 - PDA Synch
 - Knowledge Management

Encryption Service

Computing Infrastructure

Transport

Communications



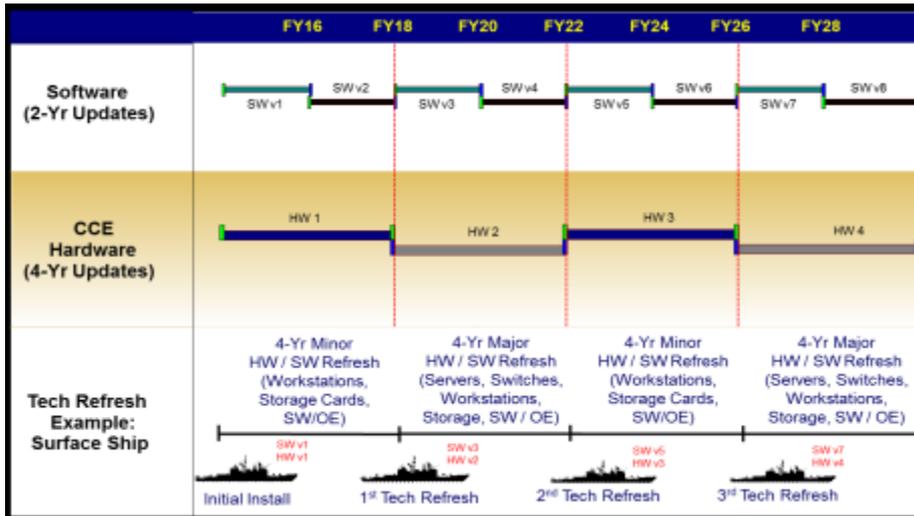
Boundary Protection



Tech Refresh Strategy

Background

- Programmed to execute 2 year SW & 4 year HW baseline development cycle
- Significant end of life issues have potential to drive us “out of cycle”



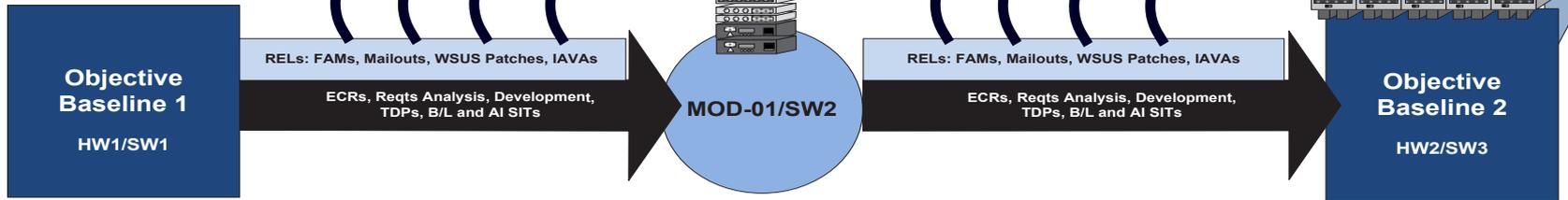
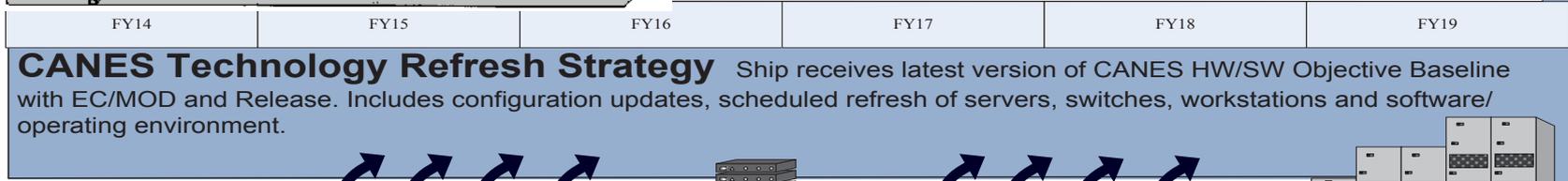
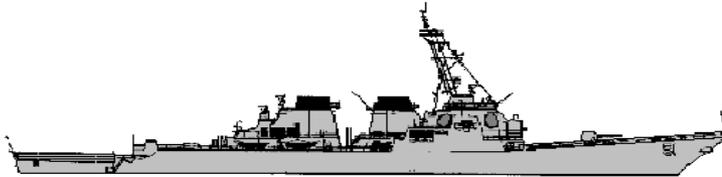
Change drivers

- Operating Environment and COTS Obsolescence
 - Pace varying EOL and EOS timelines
 - Support varying degrees of application portability
- Evolving Cybersecurity Requirements
 - DoD and DON mandates
 - Sales to foreign companies
 - Task Force Cyber Awakening
 - Corrective actions
- Installation Execution Requirements
 - Shipmain requirements
 - Fleet priorities
 - Integration into total avail package
 - Optimized Fleet Response Plan (OFRP) alignment

CANES tech refresh cycle driven by COTS obsolescence, emerging cybersecurity requirements, and OFRP



Technology Refresh Implementation



Hardware (HW) and/or Software (SW) Modification (MOD) - Changes to the CANES HW and/or SW baseline planned as necessary to address component obsolescence issues (end of life/sale/support) and software updates to current baseline.

Releases (RELs) - Planned CANES system updates and fixes, implemented via Engineering Change Requests (ECRs) and packaged and released as FAMs, mailouts, WSUS Patches, or IAVAs. Addresses/includes system repairs, development fixes, CASREPs, Trouble Tickets, cybersecurity and software updates, associated procedures and media.

Objective Baseline (OB) - Current as-is state of CANES. CANES OB-1 = HW1/SW1. OB-2 planned as HW2/SW3, will incorporate requirements not met in OB-1, and new stakeholder requirements. Incremental baseline changes, within scope of JROC approved CDD and IT Box – plan to incorporate evolving commercial technology.



Cybersecurity and Computer Network Defense Framework



- Not easy, requires continuous attention as threat evolves
- Take holistic view vice individual vectors
- Must address all parts of the CND framework

Protect	Monitor, Analyze, and Detect	Respond	Capability Sustainment
<p><i>Vulnerability Scanning Support</i></p> <p><i>CND External Assessments</i></p> <p><i>Malware Protection Support and Training</i></p> <p><i>Subscriber Protection Support and Training</i></p> <p><i>Higher authority Direction and Implementation</i></p> <p><i>Information Assurance Vulnerability Management (IAVM)</i></p>	<p><i>Network Security Monitoring / Intrusion Detection</i></p> <p><i>Attack Sensing and Warning</i></p> <p><i>Indications and Warnings / Situational Awareness</i></p>	<p><i>Incident Reporting</i></p> <p><i>Incident Response</i></p> <p><i>Incident Analysis</i></p>	<p><i>MOUs and Contracts</i></p> <p><i>CND Policies / Procedures</i></p> <p><i>CND Technology Development, Evaluation, and Implementation</i></p> <p><i>Personnel Levels and Training / Certification</i></p> <p><i>Security Administration</i></p> <p><i>CNDSP Information Systems</i></p>



Where Industry Can Help

- **Design and develop for maritime operating environment**
 - No shore tether (e.g. disconnected, intermittent, or low-bandwidth (DIL), Anti-Access/Area-Denial (A2AD))
 - Continuous shore connectivity requirement is non-starter
 - Apps and services need to be tolerant of latency and DIL environments
 - Phased modernization – can't get to entire Fleet in short time period
- **Cyber**
 - Lower bandwidth patching and update processes
 - Tools for entire computer network defense framework
- **Speed to capability and End of Life Issues**
 - Products that facilitate quicker deployment
 - Longer product life cycles and sustainment models that fit our environment and funding profiles
 - Applications and services that are operating system agnostic or facilitate rapid changes in OSs
- **Space, Weight, and Power (SWaP)**
 - Denser computing with lower SWaP requirements

Looking for the best industry has to offer



PMW 160 Contract Opportunities

Description	Anticipated Award
Enterprise Engineering and Cyber Services	3 rd Qtr FY16
Enterprise Program Mgmt / Acquisition / Financial / Contract / Admin Services	1 st Qtr FY 17
ADNS Inc III Production	4th Qtr FY17
Enterprise Integrated Logistics Support (ILS) Services	1st Qtr FY18

SPAWAR has posted an updated three-year acquisition forecast to its public web portal entitled "SPAWAR 3 Year Acquisition Forecast" below. This forecast includes opportunities for SPAWAR Headquarters, SPAWAR System Centers Atlantic and Pacific. The forecast is informational only and does not constitute an offer or commitment by the Navy to fund, in whole or part, the opportunities herein. Vendors shall not contact any contracting or technical personnel regarding this information and all inquires shall be submitted via email to SPAWARSBO@navy.mil