

# *Surface Navy Association*



RDML Jim Syring

*Program Executive Officer Integrated Warfare Systems*

January 10, 2012

Distribution Statement A: Approved for Public Release; Distribution Unlimited. (9/2/2005).  
This Brief is provided for Information Only and does not constitute a commitment on behalf  
of the U.S. government to provide additional information and / or sale of the system.

Approved *[Signature]*  
 Date 9/21/2011



**RDML Syring, PEO**  
**Mr. Deegan, Executive Director**

SCSC Wallops Island  
 CO – CAPT Keegan

Aegis Techrep Moorestown  
 CO – CAPT Carlson

Director,  
 Product Development  
 Mr. Smith

Director, Integrated  
 Combat Systems  
 CAPT Forster (acting)

Chief of Staff

Technical Authority  
 Ms. Hamburger, SEA 05

In-Service  
 Combat Systems

Integrated C/S  
 IWS 1.0

Above Water Sensors  
 IWS 2.0

CJR/SBX  
 IWS 2I

Surface Ship Weapons  
 IWS 3.0

Undersea Systems  
 IWS 5.0

Command & Control  
 IWS 6.0

Future C/S & HSI  
 IWS 7.0

NSSPO

RAM / CIWS

International and FMS  
 IWS 4.0

AMPHIB  
 IWS 8.0

SURFACE COMBATANTS  
 IWS 9.0

CVN  
 IWS 10.0

**Major Program Managers**

**System Integration Program Managers**



# Program Executive Officer Integrated Warfare Systems

- The PEO IWS organization is aligned to develop, procure and deliver Enterprise Warfighting Solutions for Surface Ships
- PEO IWS has life cycle responsibilities for combat system performance, design management, systems engineering, installation, integration, test, maintenance and disposal

<b>Partners</b> <ul style="list-style-type: none"> <li>• APLs</li> <li>• Industry</li> <li>• NSWC</li> <li>• NUWC</li> <li>• ONR</li> <li>• SBIR/SST</li> <li>• DARPA</li> <li>• Aegis BMD</li> </ul>	<b>Detect</b>	<b>Control</b>	<b>Engage</b>	<b>Delivery</b> <ul style="list-style-type: none"> <li>• 238 USN Ships</li> <li>• 8 USCG Ships</li> <li>• 27 Nations</li> <li>• PEO IWS executes 257 FMS Cases</li> </ul>
---	---------------	----------------	---------------	---

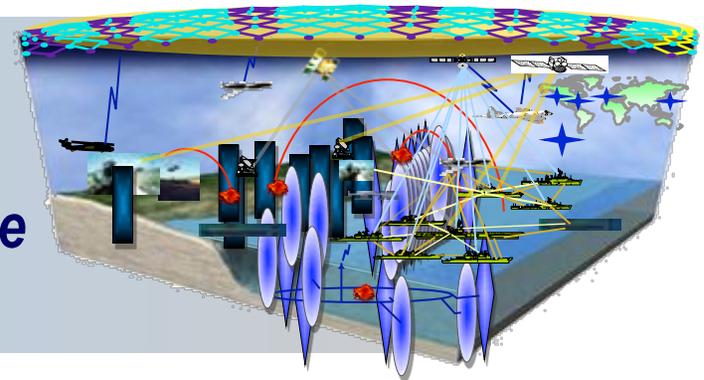
158 Programs: 4 ACAT I / 7 ACAT II / 4 ACAT III / 5 ACAT IV / 6 R&D / 41 Inactive / 91 Non ACAT



# PEO IWS “Big Picture” Strategy

- ◆ Eliminate stovepiped, obsolete hardware and software
- ◆ Introduce Network-based COTS computing environment
- ◆ Reduce combat systems and weapon system variants
- ◆ Apply a family of systems and functional architectures across the Fleet where applicable

***Enhanced mission capability across the Surface Fleet with faster and more affordable upgrades that are interoperable and pace the threat***





# Surface Combat System Systems Engineering Alignment Strategy

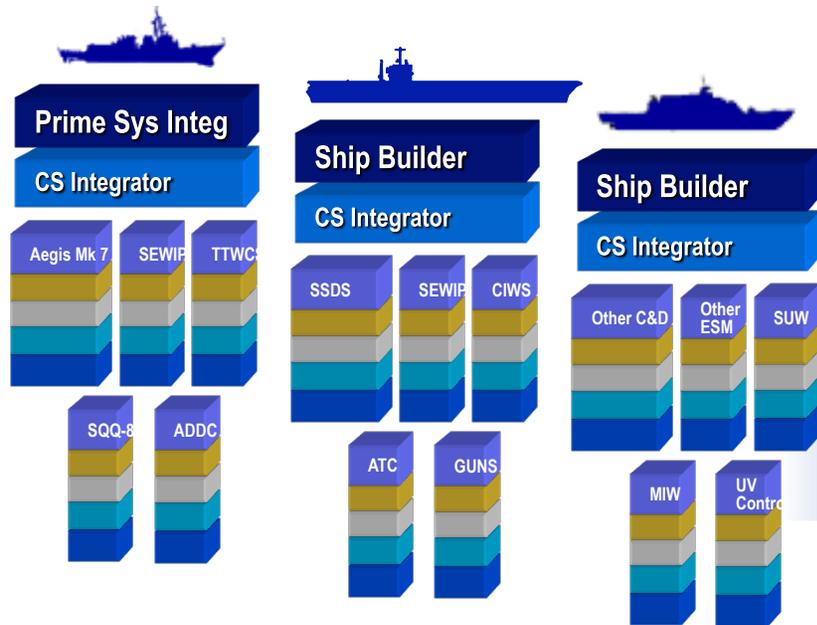
---

- ◆ Decouple combat system development from platform development while continuing to accommodate platform specific needs
- ◆ Componentized combat system architecture and common information standards
  - Government owned architecture and authenticated interfaces
- ◆ Establish a combat system product line approach
  - Align combat systems architectures to standardize interfaces and achieve commonality across ship classes where business case supports
  - Extensible to accommodate upcoming new warfighting capabilities

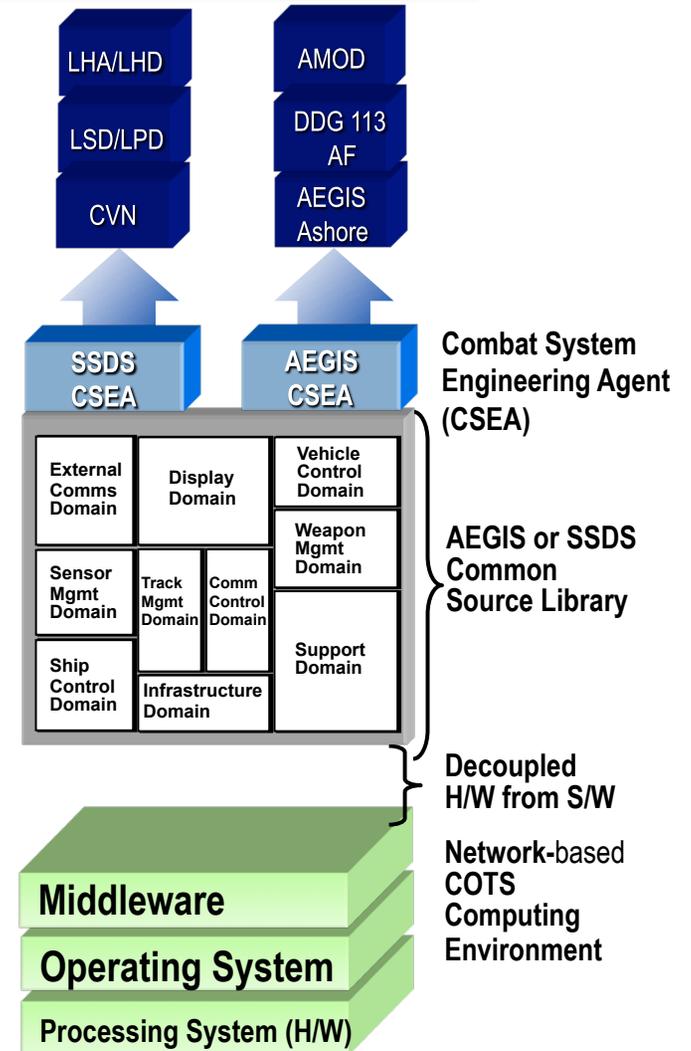


# PEO IWS Combat System Engineering Development

## Ship Class Based Development



## Capability Based Development



*Many Current Systems Have Their Own Sensor Control, Decide / Assess, Track Management, and Weapon Control Function*

### Surface Navy Combat Systems Engineering Development, Modernization and Sustainment Precepts:

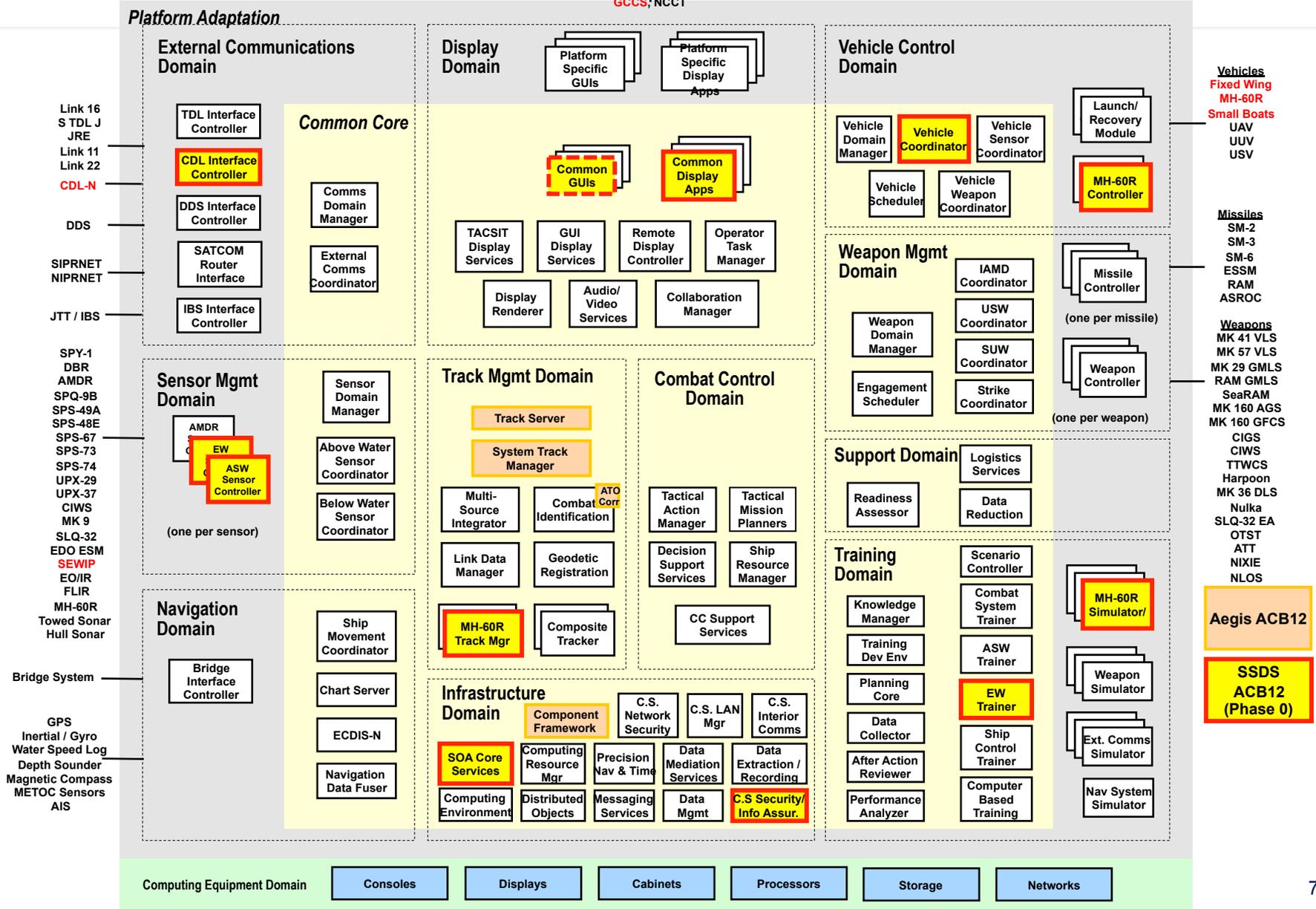
- ◆ Decouple combat systems development from ship development
- ◆ Decouple combat system hardware from software
- ◆ Use a product line approach within and across families of ships
- ◆ Exercise Government Purpose Rights (GPR) to the maximum extent



# SSDS ACB12

## Phase 0 Vehicle Control Example

Operational Command & Control  
GCCS, NCCT





# AEGIS Wholeness Review

## Navy Efficiency Efforts

- ◆ SIAP (2000)
- ◆ Optimum Manning (2001)
- ◆ Revolution in Training (2001)
- ◆ AEGIS COTS Complexity (2002)
- ◆ Increased OPTEMPO (2003)
- ◆ Decreased Live-Fire Missile Events (2003)
- ◆ Reduced Shore Support (2005)
- ◆ In-service AEGIS Baseline Freeze (2005)

## Task Force Evaluations

- ◆ B/L 7.1.2 Issues and Recommendations (NSWC/ATRC/RMC/NAVICP)
- ◆ AWS / SPY Readiness Task Force Report (SEA 21)
- ◆ Fleet Review Panel of Surface Force Readiness (VADM Balisle, USN(Ret))
- ◆ Standard Missile-2 Independent Review Team for ASN(RD&A) (Mr. Giacchi)

- Interoperability
- Maintainability  
Supportability  
Sustainability
- Manpower  
Personnel  
Training
- Fleet Proficiency –  
AAW Readiness
- ACB 12

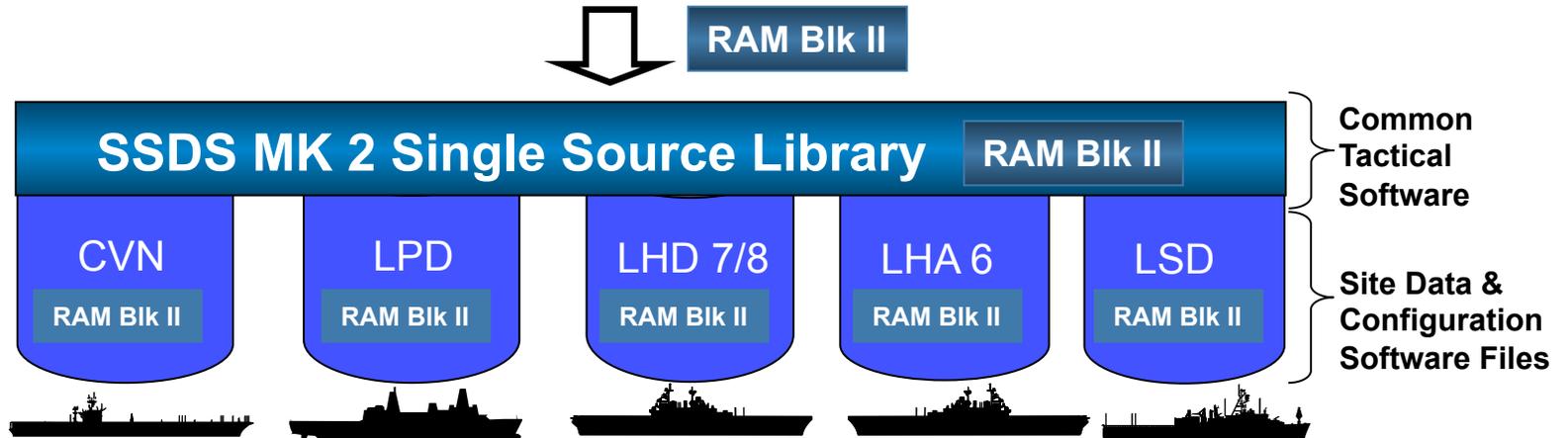
Leading Indicators Begin to Expose Seams and Unintended Consequences impacting AEGIS Wholeness

Integration of a Body of Studies into a Single AEGIS Wholeness Plan



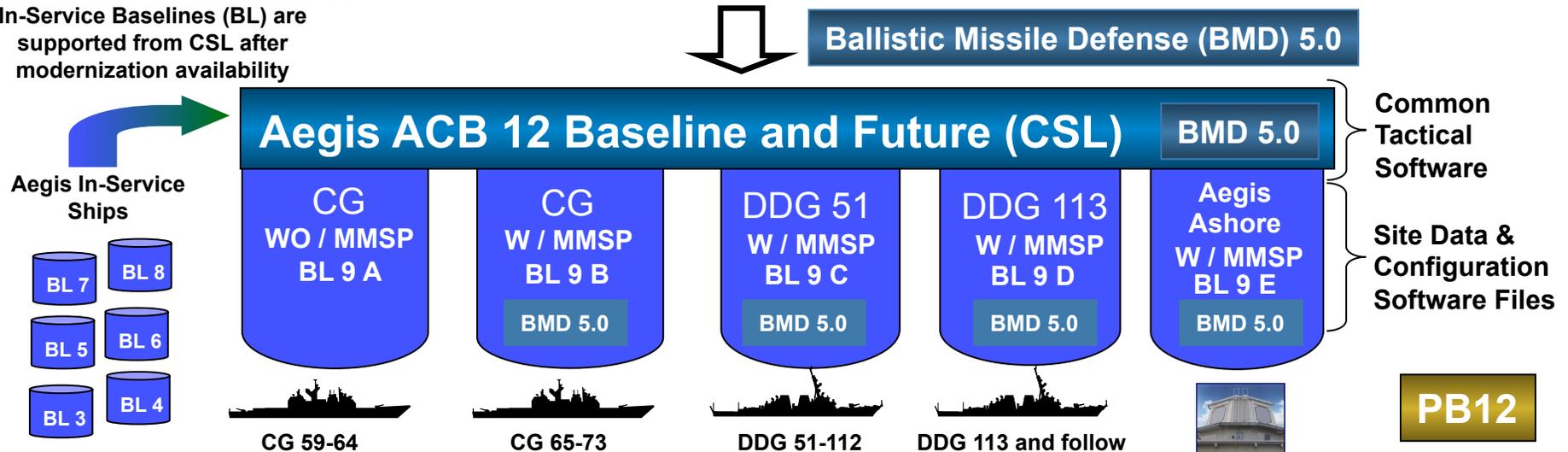
# Common Source Software Libraries

One Software Change Fits ALL SSDS Ship Classes Since the 1990s



Aegis BL 9 Supports five Different Combat Systems Configurations & Begins Fielding in FY12

In-Service Baselines (BL) are supported from CSL after modernization availability





# Looking Ahead

- ◆ Combat Systems will continue to transition to network-based COTS Computing Environment to support future warfighting improvements
- ◆ Future surface combat systems will be developed based on common objective architecture with Government validated interfaces and components applicable to multiple ship classes
- ◆ Combat system development occurs through disciplined systems engineering principles and processes
- ◆ In-service combat management systems will be modified through Advanced Capability Builds
- ◆ Competitions will be conducted when and where appropriate
- ◆ ACBs will support modernization and New Construction Combat Systems

**Increased Computing Power Performance and Network-based Architecture will Enable Significant Combat System Warfighting Improvements**