



2011 Integrated Warfare Systems Conference

Future Combat Systems Open Architecture(IWS 7.0) CAPT Brian Gannon

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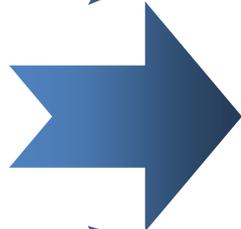
Future Combat Systems Open Architecture (IWS 7)

PEO-IWS Vision
Deliver enterprise solutions for Naval warfare systems that operate seamlessly and effectively within the Fleet and Joint Force

**Enterprise
Open Architecture
Policy**



**Enterprise
Information
Assurance**



**Enterprise
Emerging
Technologies**

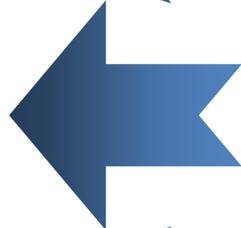


PEO-IWS 7.0
*Field capabilities that
optimize the Navy
Enterprise's total
systems performance
while minimizing total
ownership costs*

**Naval Integrated
Fire Control-
Counter Air (NIFC-
CA)**



**Training
Systems**



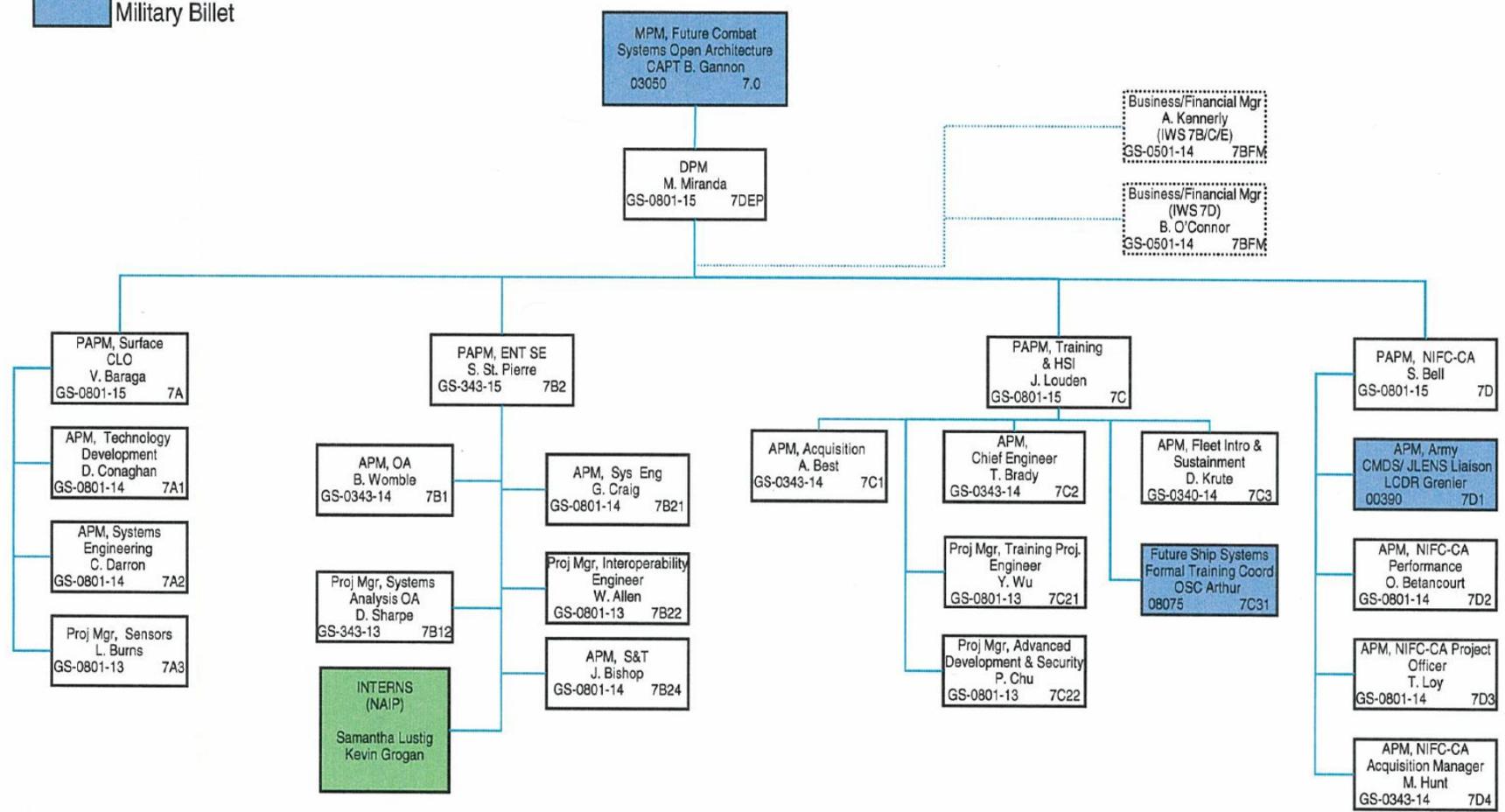
**Future Combat
Systems**





Future Combat Systems Open Architecture (IWS 7)

 Military Billet



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Enterprise Open Architecture (OA)

- Naval Enterprise OA Policy
- Open Business Environment
 - ❑ Enable businesses to compete, regardless of size or incumbency
 - ❑ SHARE III information sharing portal
- Tools
 - ❑ OA Contract Guidebook for Program Managers
 - ❑ Business Cases Assessment Guide
 - ❑ OA Assessment Tool
- Education
 - ❑ DAU Continuous Learning Modules
 - ❑ Data Rights Brochure
 - ❑ Better Buying Power support



Enterprise Information Assurance (IA)

- IA is critical to National Security
 - Cyber Commands focused on combat system IA implementation
- Platform Information Technology (PIT) IA policy and process
 - Implement holistic approach to combat system security
 - Simplify, streamline, and standardize IA across all programs
 - IA is a design characteristic of system architecture
 - Establish defense-in-depth reference architecture
 - Ensure complementary security features implemented across the ships network architecture, systems, applications, and hosts
 - Conduct Risk assessments of the aggregated sub-network
- Include IA in contract language
 - Delineate IA design experience
 - Include IA implementation approach



Enterprise Emerging Technologies

- Facilitate Small Business Innovation Research (SBIR)
 - Annual Navy Opportunity Forum
- Coordinate with Office of Naval Research (ONR)
 - Rapid Technology Transition (RTT)
 - Technology Insertion Program for Savings (TIPS)
 - Future Naval Capabilities
 - Rapid Innovation Fund (RIF)
- Support the development of the Technology Master Plan
- Support Annual Naval Joint Capability Technology Demonstration (JCTD)



NIFC-CA From The Sea (FTS) Pillars

NIFC-CA FTS



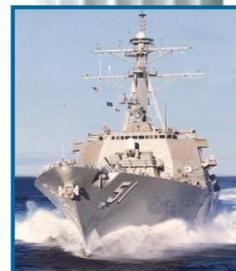
E-2D



JLENS



CEC



Aegis



SM-6

NIFC-CA SEI&T

- Capture pillar requirements and performance and demonstrate SoS capability



Enterprise Training Systems

- Goal: Combat System training capability that allows “Train where you Fight, Train like you Fight” on tactical systems simulating real world environments & threats
- Approach: Coordinated evolutionary Combat System upgrades in all baselines
 - Aegis
 - SSDS
- End State: Integrated training capability as an integral part of combat system hardware & software

Build it in, not bolt it on



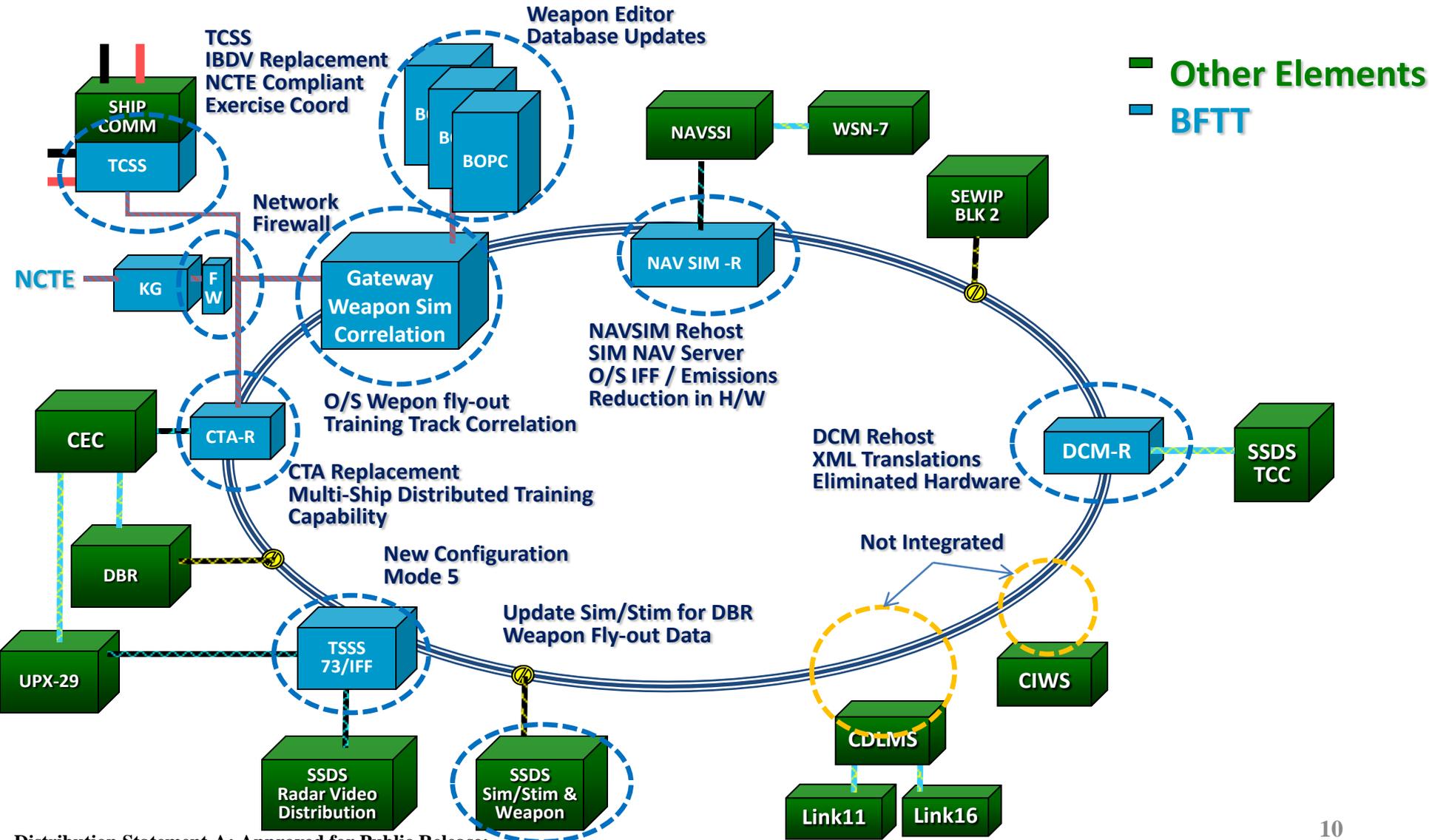
Focus Areas

- Reliability Improvements
 - Mitigate obsolescence and improve system training stability
 - Gathering reliability data on systems in training. This data will be used to prioritize system reliability changes for upcoming baselines.
- Simplicity Improvements:
 - Streamlining training procedures
 - Gathering fleet feedback in order to understand ship and system specific challenges when putting system into training
- Functionality:
 - Coordinating PEO IWS training capabilities to meet emerging combat system capabilities
 - Rapid development of critical infrastructure to meet the needs of mandated Information Assurance (IA) controls
- Fidelity Improvements:
 - Designing embedded training systems with common networks and common databases

Drive Training Capabilities toward equivalency to Tactical Capabilities

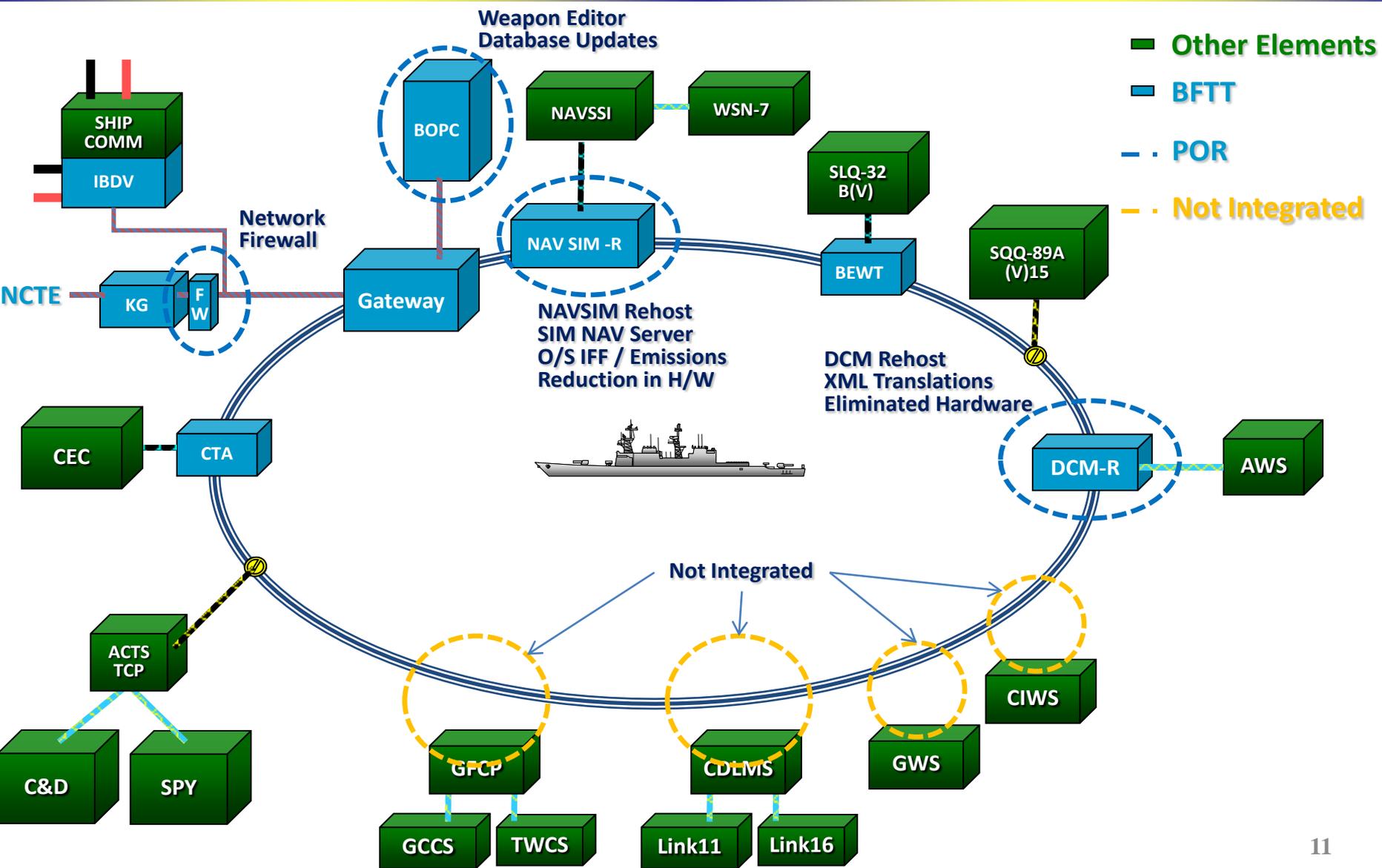


CVN-78 Embedded Combat Systems Interface Diagram





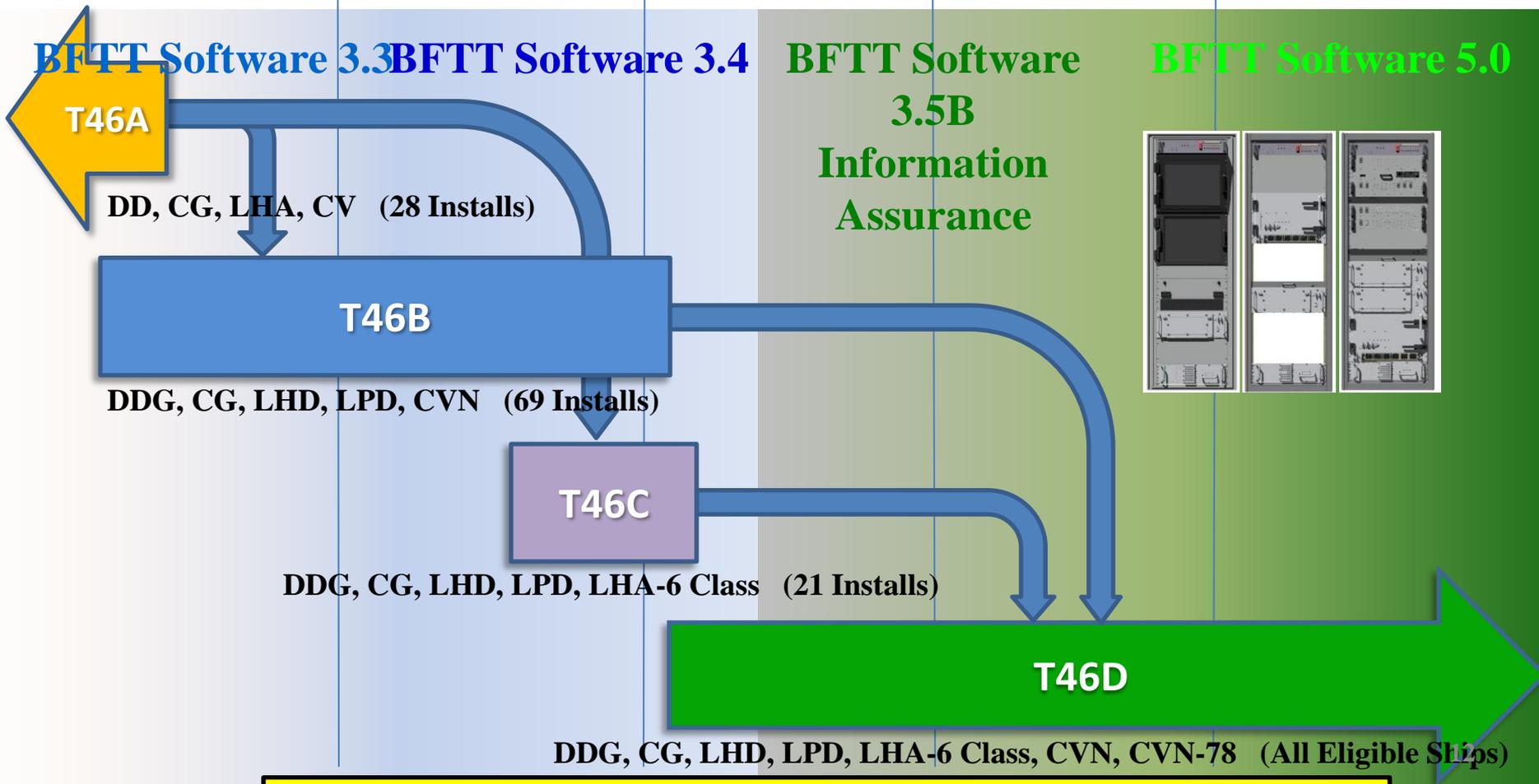
AEGIS ACB12 Embedded Combat Systems Interface Diagram





BFTT Product Technology Progression

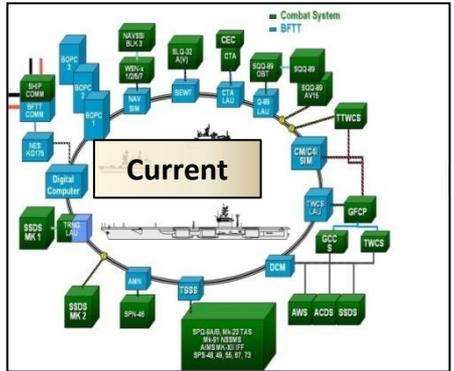
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Goal: Design out training unique hardware



Training Systems Roadmap



Gap Analysis/Prototype
 Database Updates
 Scripter Analysis
 Virtualization Definition
 HSI / Usability Analysis

ACS/BMD/SSDS Integration
 Controlled Aircraft (MH60/AIC) (PLA)
 IBS-T / Navigation Training Integration
 LINK Enhancement to CS Training
 TTWCS / HWS Training Integration
 Common SG&C (PLA)
 Common Data Bases (PLA)
 Anti-Torpedo Defense System Training

Alignment with emerging CS architecture
 Integrated CS training
 Training Elements Interface Integration
 CS Training Usability Improvements

Future

ACS/BMD/SSDS Integration
 NIFC-CA Training Capability
 CEC/DDS Multi-Ship In-Port Distribution
 SQQ-89A(V)15 ACB 13 Integration
 STM/TS Integration (PLA)
 SEWIP Blk 2 Training Capability
 EW Training Improvements
 CV-TSC Training Capability

ACS/BMD/SSDS Integration
 GWS (Guns)/Weapon Simulations
 ENG Trainer Integration
 Multi-Ship Training at Sea
 Database Updates
 Integrated CS AAR Enhancements

Common SG&C (PLA)
 Data Collector (PLA Service)
 Data Bases (PLA Services)
 Combat Control (CS PLA Service)
 Reliability Analysis

HSI / Usability Analysis
 Data Base Enhancement
 Gap Analysis/Prototype

Developing / Aligning to an Integrated Combat Systems Training Capability



How Do We Buy Better?

- Smarter Contracting
 - Multi-System procurement
 - Realize Economic Order Quantity savings when delivered to a single CS baseline.
 - Eliminate, where possible, warehousing requirements
 - Increase business participation through competition
- Product Line Architecture (PLA) Modules



Summary

- Enterprise Focused
 - OA
 - IA
 - Training Systems
- Training System Programs
 - Complex Connections
 - Training Equates to Tactical



Question & Answer Period