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My Goal For This Brief Is To Give You A High Level Exposure To:



- Surface Navy's role in the Maritime Strategy
- Shipbuilding and Modernization
- New Surface Ship Technologies



Surface Navy: Ready and Relevant



Maritime Strategy

“Our challenge is to apply seapower in a manner that protects U.S. vital interests even as it promotes greater collective security, stability and trust.”

- ADM Gary Roughead, CNO



- **Forward-deployed** forces will provide regionally concentrated, credible **combat power** to limit regional conflict, **deter** major power war, and should deterrence fail, win our Nation’s wars as part of a **joint or combined campaign**.
- **Persistent, mission-tailored** maritime forces will be **globally distributed** to contribute to **homeland defense-in-depth**, foster and sustain **cooperative relationships** and prevent or mitigate local disruptions and crises.

Preventing Wars is as Important as Winning Wars



Surface Forces Today

Power Projection



Forward Presence



Deterrence



Sea Control



Maritime Security



Humanitarian Assistance / Disaster Response



Surface Forces Provide Persistent, Visible Presence Around the Globe



Shipbuilding

*Forward
Presence*

Deterrence

Sea Control

*Power
Projection*

*Maritime
Security*

*Humanitarian
Assistance
Disaster
Response*

- DDG 51
- LCS
- DDG 1000
- LCC(R)
- CG(X)





DDG 51 Class

- Last ships in Class under construction
- USS STERETT (DDG 104) will be commissioned Aug 2008
- USS Dewey (DDG 105) will launch 26 Jan 2008
- Arleigh Burke Class ends with DDG 112 (FY 2011)



10 Hulls Remaining



LCS

- MCM Mission Package delivered Aug 2007
- LCS 1 Delivery Aug 2008
- LCS 2 Delivery Oct 2008





DDG 1000

- Multi-mission surface combatant built for full spectrum of littoral dominance
- Brings unique new capabilities to the fleet
- Program Status
 - Lead ship construction contract awarded Jan 2008
 - Build profile remains 7 ships
 - Dual Band Radar (DBR) testing continues with outstanding results





CG(X)

- Will deliver and expand upon six core capabilities of Maritime Strategy
 - 21st Century AAW and Ballistic missile threats
 - Sea Base Defense
 - ESG and CSG support
 - APOD and SPOD defense
- Program status
 - Analysis Ongoing for Radar/Hull/Power Concepts

**Multi-Mission Ship to Fill 21st Century
Capability Gaps**



Modernization

CG Modernization



DDG Modernization



Amphib Modernization



FFG Modernization



Forward Presence

Deterrence

Sea Control

Power Projection

Maritime Security

*Humanitarian Assistance
Disaster Response*

Life-cycle cost saving upgrades are a must!

- Required for 313 floor
- Build on innovative successes
 - New weapons systems
 - Upgraded weapons systems
 - HM&E upgrades

AEGIS Modernization is the Clearest Way to the 313 Ship Floor



Making 313 Ships a Reality

The calculus is simple. If you have 280 ships, and you need 313, you have to build more, maintain those that are already in-service, and modernize the ones that are in-service.

VADM Paul Sullivan

11 April 2008

- VADM Sullivan



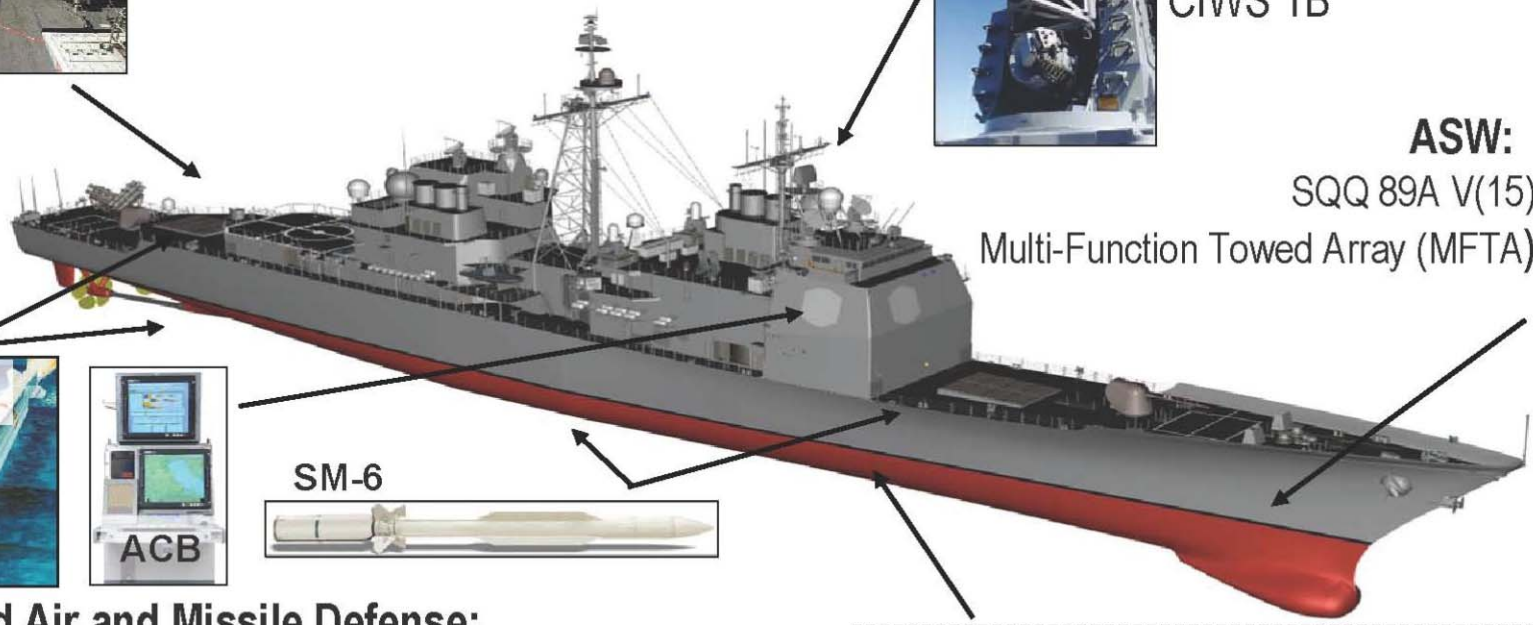
CG Modernization



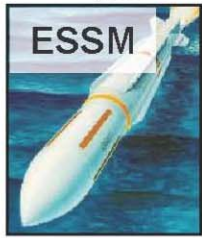
Navy Precision Fires:
5" / 62 Gun/MK 160 GCS



Force Protection:
SPQ-9B
CIWS 1B



ASW:
SQQ 89A V(15)
Multi-Function Towed Array (MFTA)



Improved Air and Missile Defense:
Aegis Advanced Capability Build (ACB)
Cooperative Engagement Capability (CEC)
Evolved Sea Sparrow Missile (ESSM)
Naval Integrated Fire Control – Counter Air (NIFC-CA)
Surface Electronic Warfare Improvement Program (SEWIP)
SM-6



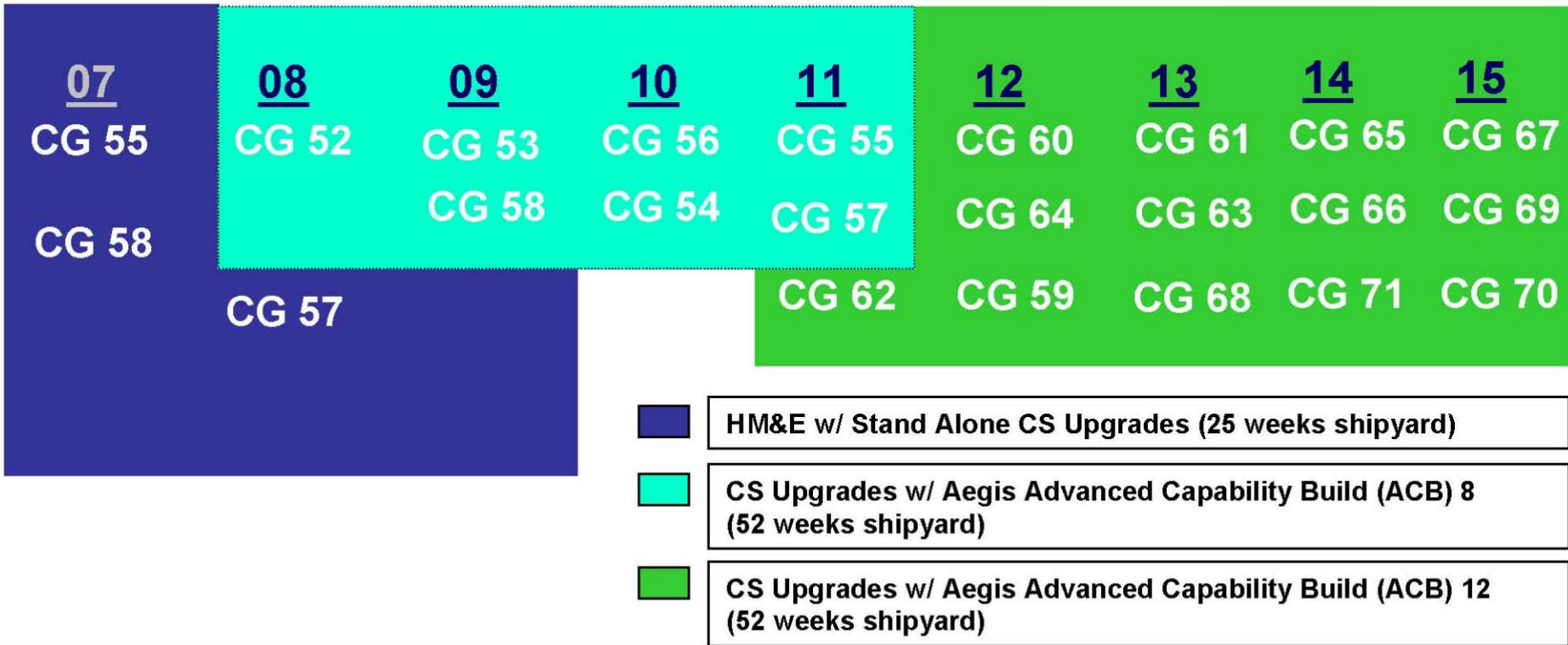
Hull, Mechanical & Electrical (HM&E) upgrades

Significant AAW Upgrades



CG Modernization Availabilities

- Homeport Shipyards
- Fleet priority HM&E alts such as All Electric accelerated as much as possible
- Cruiser Modernization Program completes FY17



CG Modernization is on track



DDG Modernization

Force Protection:
CIWS BLK1B



BMD



ESSM



Navy Precision Fires:
MK 160 GCS

Improved Air and Missile Defense:
Ballistic Missile Defense
Aegis ACB
CEC
ESSM
Multi-Mission SIGPRO
SEWIP
SM-6
NIFC-CA



ACB

ASW:
SQQ 89A V(15)
Multi-Function
Towed Array



Reduced Life-Cycle Costs




MH-60R

Hull, Mechanical & Electrical (HM&E) upgrades

True Multi-Mission IAMD Capability



DDG Modernization Availabilities

- Homeport MSMO Shipyards
- Split into two avails, HM&E followed 2 years later by Combat Systems
- Flight I and II DDG's complete in FY 21

<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
DDG 51	DDG 52	DDG 51	DDG 52	DDG 61	DDG 57
DDG 53	DDG 55	DDG 53	DDG 55	DDG 64	DDG 58
	DDG 65		DDG 65	DDG 69	DDG 54
		DDG 61	DDG 57	DDG 59	DDG 72
		DDG 64	DDG 58	DDG 56	DDG 77
		DDG 69	DDG 54	DDG 68	DDG 78

- HM&E Availability (20 weeks shipyard + 4 weeks testing)
- C/S Availability w/ Aegis Advanced Capability Build (ACB) 12 (20 weeks shipyard + 20 weeks testing)

DDG Modernization is on track



IAMD Capability

- Netted and Distributed Force
- Paces the threat
- Employed through an Open Combat System





Navy BMD Systems

Aegis BMD Baselines

- **BMD 3.0E – Fielded Today - SENSOR**
 - Long Range Surveillance and Track (LRS&T)
- **BMD 3.6 – Fielded Today - SENSOR/SHOOTER**
 - LRS&T and Engage
 - SRBM and MRBM Defense
 - Some AAW capability
- **BMD 4.0.x – Future - SENSOR/SHOOTER**
 - LRS&T and Engage
 - SRBM, MRBM and limited IRBM Defense
 - 2010- 2012 timeframe
- **BMD TBD – Future - SENSOR/SHOOTER**
 - LRS&T and Engage
 - SRBM, MRBM, IRBM, and limited ICBM Defense
 - 2012 – 2014 timeframe

SM-3 Block I/IA/IB



Theater BMD

MDA Funded

- IOC: Blk IA FY06
- Kinetic Kill Vehicle for exoatmospheric hit-to-kill

SM-2 BLK IV



Gap-Filler Sea-Based Terminal (SBT)

- Available upon fuze conversion (100)
- Currently three CGs with emergency Linebacker software load
- Provides limited SRBM Terminal Defense (APOD/SPOD defense only)

SM-3 Block II/IIA



Regional/Homeland BMD

MDA/Japan Co-development (50/50 – MOU signed)

- IOC: Blk II FY 11
- Full 21” propulsion stack; increases ship station flexibility

Sea-Based Terminal Interceptor

Robust Sea-Based Terminal (SBT) APOD/SPOD & Joint Sea Base Defense

- Missile TBD
- IOC: FY15
- MDA planning in progress

SPY-1



- Legacy Aegis radar
- BMD Capable after MDA-funded Signal Processor (SIGPRO) mods
- Increased Capability with FY10 addition of BMD SIGPRO – Allows Better Target Discrimination

9 for 11 in SM-3 Midcourse Intercepts
1 for 1 in SM-2 Block IV Terminal Intercepts

Recent / Future Testing

- **FTM-13 (10/07): Engage Two Near Simultaneous SRBMs**
- **FTM-14 (6/08): Engage IRBM Threat (Launch on TADIL)**

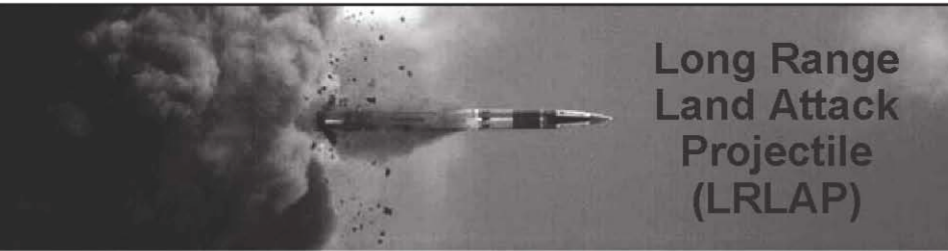


Strike / SuW Capability

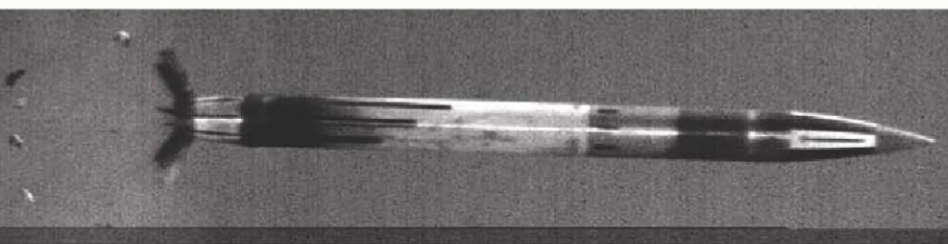
- Long Range Precision Strike
- Support to the Joint Expeditionary Warfighter
- Address Modernization



Tomahawk



Long Range Land Attack Projectile (LRLAP)



Extended Range Munition (ERM)



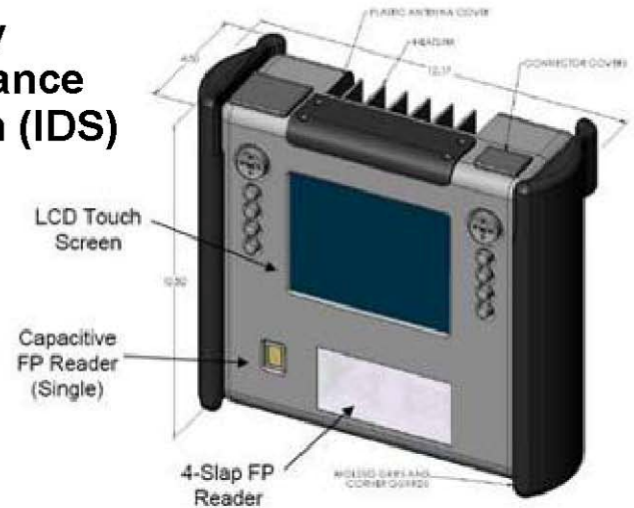
Harpoon Block III



Anti-Terrorism/Force Protection Extended Maritime Interdiction Operations

- Use of biometrics to identify terrorists at sea
- Expanding WMD detection capabilities
- Improving ATFP/VBSS equipment and systems

Identity Dominance System (IDS)



Visit, Board, Search and Seizure (VBSS) technologies



25mm Chain Gun



VBSS Tactical Gear

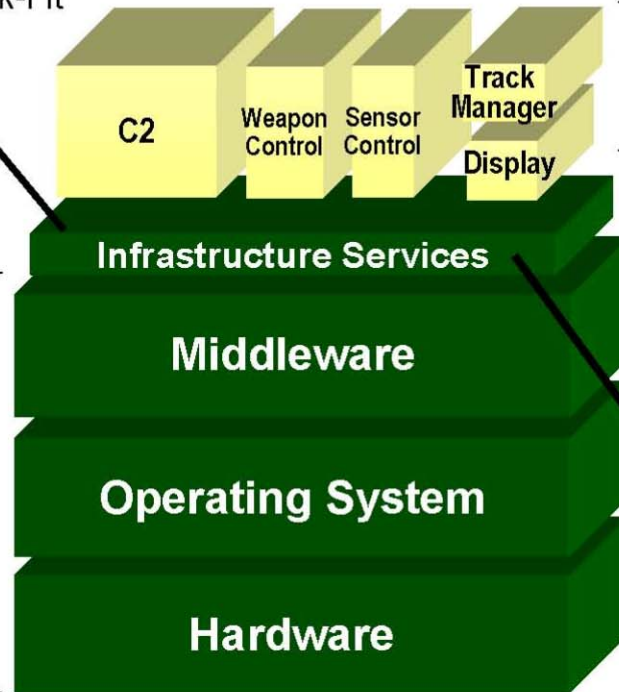


Implementing Open Architecture: Surface Navy OA Technical Model

- Technical
- Business
- Requirements

Infrastructure:

- Common Services and APIs
- Flexibility to Support Forward-Fit and Back-Fit



Componentize Objective Architecture:

- Common Reusable Components
- Platform Specific Components
- Data Model
- Extensible to the Future

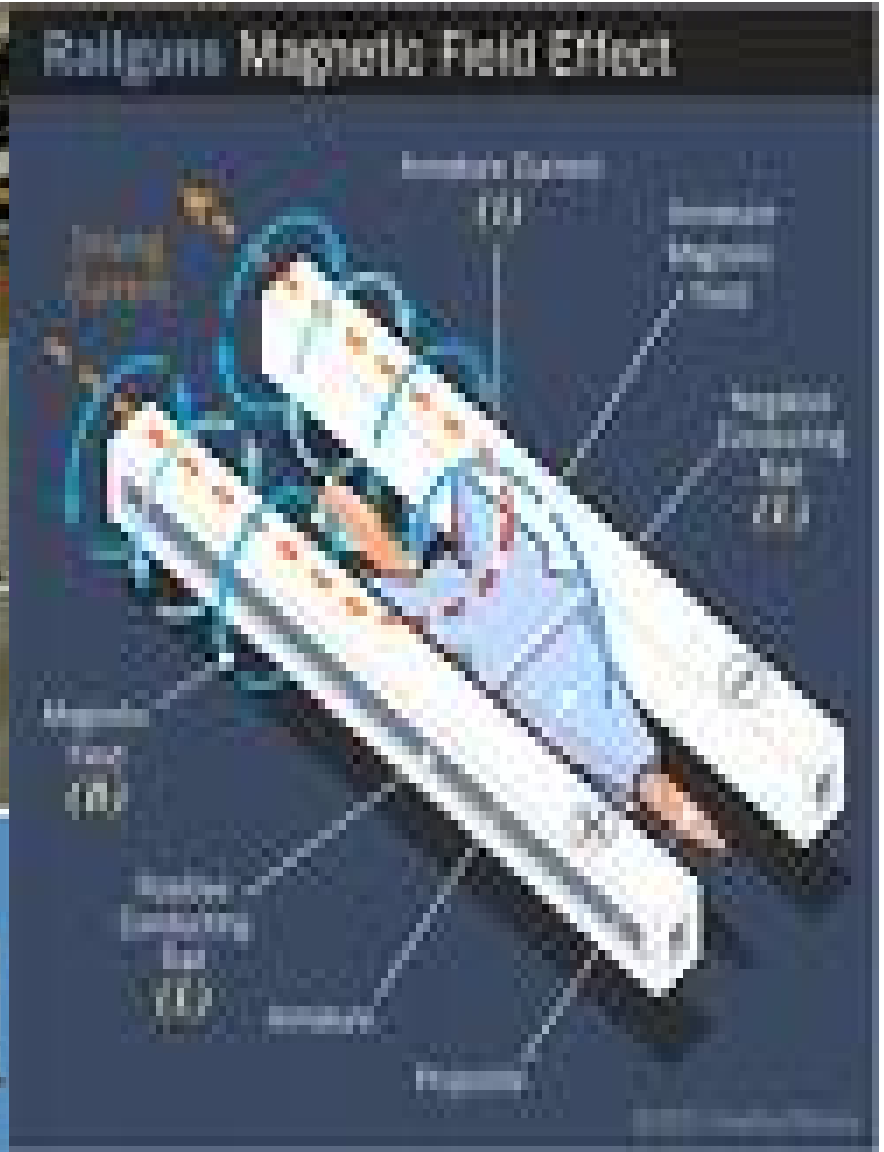
Common Computer Environment:

- Standards-based Interfaces to network
- Commercial Mainstream Products and Technologies

Decouple Hardware (H/W) from Software (S/W)

OA creates a business and technical environment that encourages collaborative competition by 3rd party developers

Electromagnetic railgun





Takeaways

- Surface Navy has a compelling and enduring role in the Maritime Strategy
- Shipbuilding and modernization programs are critical to maintaining that role
- The framework for warfighting modernization is open architecture





Questions?



***Surface Navy:
Ready and Relevant***