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# Integrated T&E Process and Tools in a Joint Services Acquisition Program

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# Integrated T&E in a Joint Program

- Integrated Test & Evaluation (T&E) provides an integral part of the Systems Engineering Process, identifying levels of performance, assisting developers in identifying and correcting deficiencies, and validating to the system owner that performance requirements are met in a cost efficient manner. Historically, developmental T&E activities conducted by the Program Office have been fire-walled from the operational T&E activities and organizations.
- Joint Naval Platform acquisition programs have the additional constraints of supporting the needs and requirements of potentially three varied customer groups, such as the U.S. Army, The U.S. Marines, and the U.S. Navy. As the lead Program Office, NAVSEA has led the development of processes and tools that meet the various programmatic needs and potentially provide a cost savings by the use of an Integrated T&E environment.
- This presentation will discuss some of the lessons learned and an oversight into the methodology and tools used in a program that is a model for future joint programs to provide a cost-effective interface between the Requirements Engineering, and the Developmental T&E and Operation T&E communities.



# Joint Acquisition for Naval Platforms

- While many know of the U.S. Navy combatant and non-combatant fleet and of the Coast Guard fleet, most do not know the U.S. Army maintains it's own fleet of littoral non-combatant vessels.





# Joint High Speed Vessel Prototypes

- The U.S. Army and U.S. Navy have been very successful testing converted high speed ferries as non-combatant vessels.



- Currently the Navy, Army, and Marines are jointly acquiring a production Joint High Speed Vessel.
- NAVSEA is the lead acquisition organization.

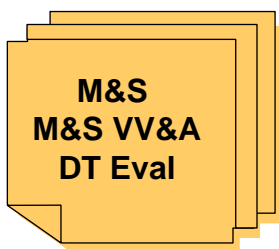
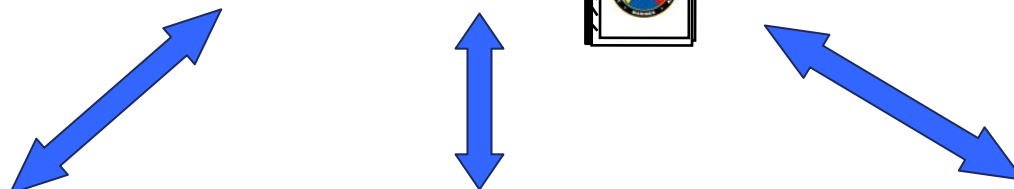
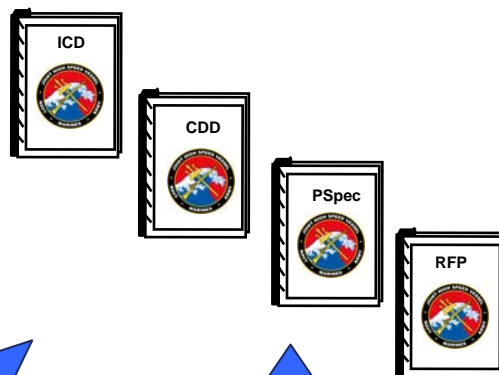


# Joint Requirements

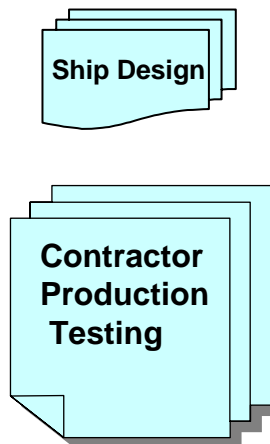
- The three organizations formed an IPT to develop the Analysis of Alternatives (AoA), Initial Capabilities Document (ICD), and Capability Development Document (CDD) IAW Joint Capabilities Integration and development System (CJCSI 3710.01).
- NAVSEA coordinated the development and adjudication of the AoA, ICS, and CDD, including the Key Performance Parameters (KPP).
- With its background of deepwater non-combatant ship design, NAVSEA took the lead in the development of the platform Performance Specification (PSpec) and coordinated adjudication through the Joint IPT.



# Verification & Validation Traceability



NAVSEA



COMOPTEVFOR



## MOE/MOSs, CTPs and COIs

- Requirements module and T&E modules linked by various categories of measures.
- Developmental T&E test events linked to PSpec via Critical Technical Parameters (CTP).
- Operational T&E test events linked to CDD via Measures of Effectiveness and Suitability (MOE/MOS).
- Additional concerns in regards to survivability features and Live Fire Test & Evaluation Issues



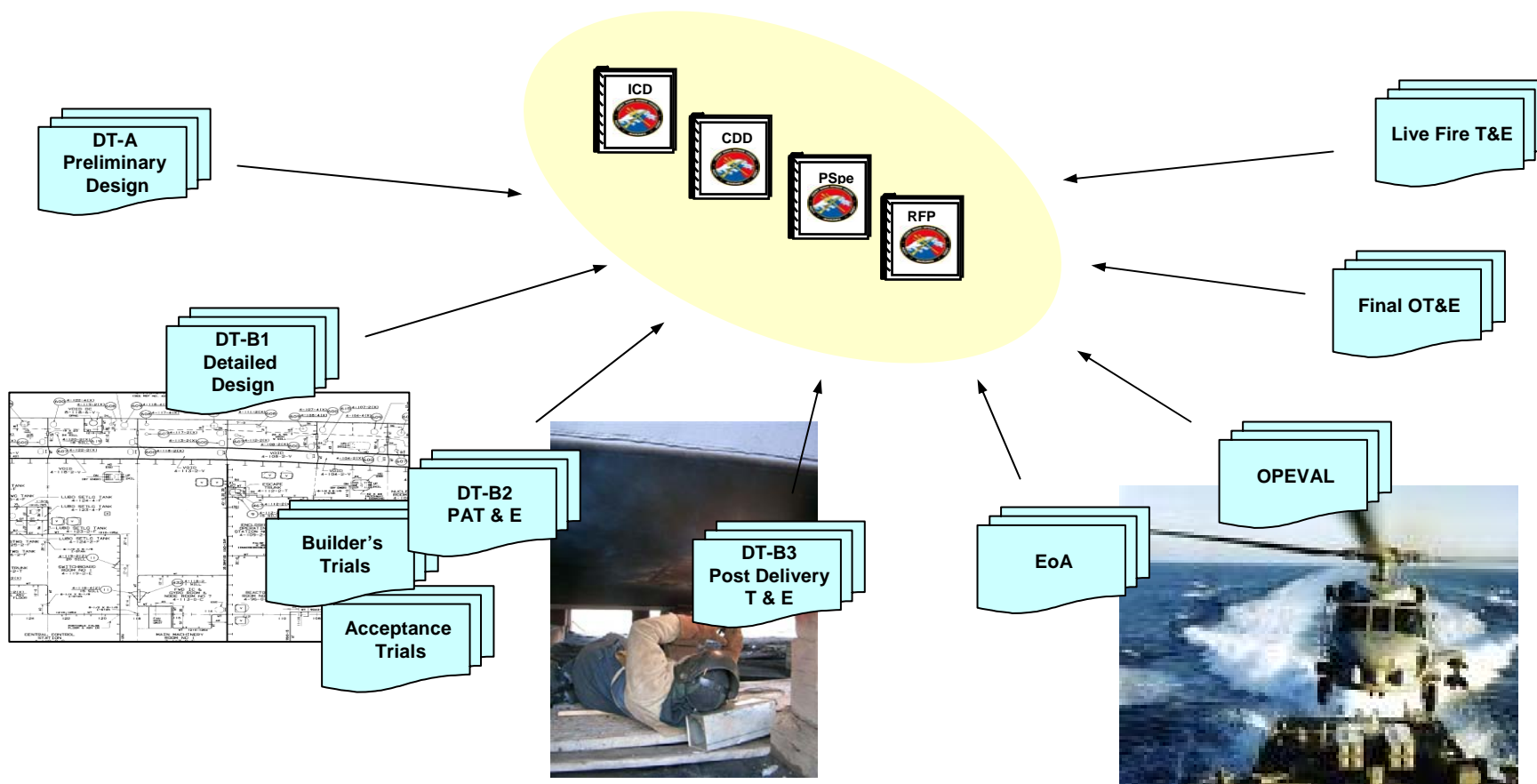
# Joint Test & Evaluation Master Plan

- The T&E W-IPT developed to represent all the major stakeholders.
- Stakeholders include:
  - Program Executive Office, Ships (PEO SHIPS)
  - NAVSEA Ship Design Manager (SEA 05D3)
  - Commander, Operational Test and Evaluation Force (COMOPTEVFOR)
  - Army Test and Evaluation Command (ATEC)
  - Marine Corps Test and Evaluation Activity (MCOTEA)
  - Chief of Naval Operations, Expeditionary Warfare (OPNAV N85)
  - Chief of Naval Operations, Navy Test and Evaluation Division (OPNAV N912)
  - Deputy Assistant Secretary of the Navy (DASN(Ships))
  - Army Test & Evaluation Executive
  - U.S. Army Test and Evaluation Management Agency (TEMA)
  - Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (OASA(ALT))
  - Office of the Secretary of Defense, Director, Operational Test and Evaluation (OSD/DOT&E)
  - Office of the Under Secretary of Defense (Acquisition, Technology and Logistics), System and Software Engineering/Assessments & Support (OUSD(AT&L)/SSES/AS)





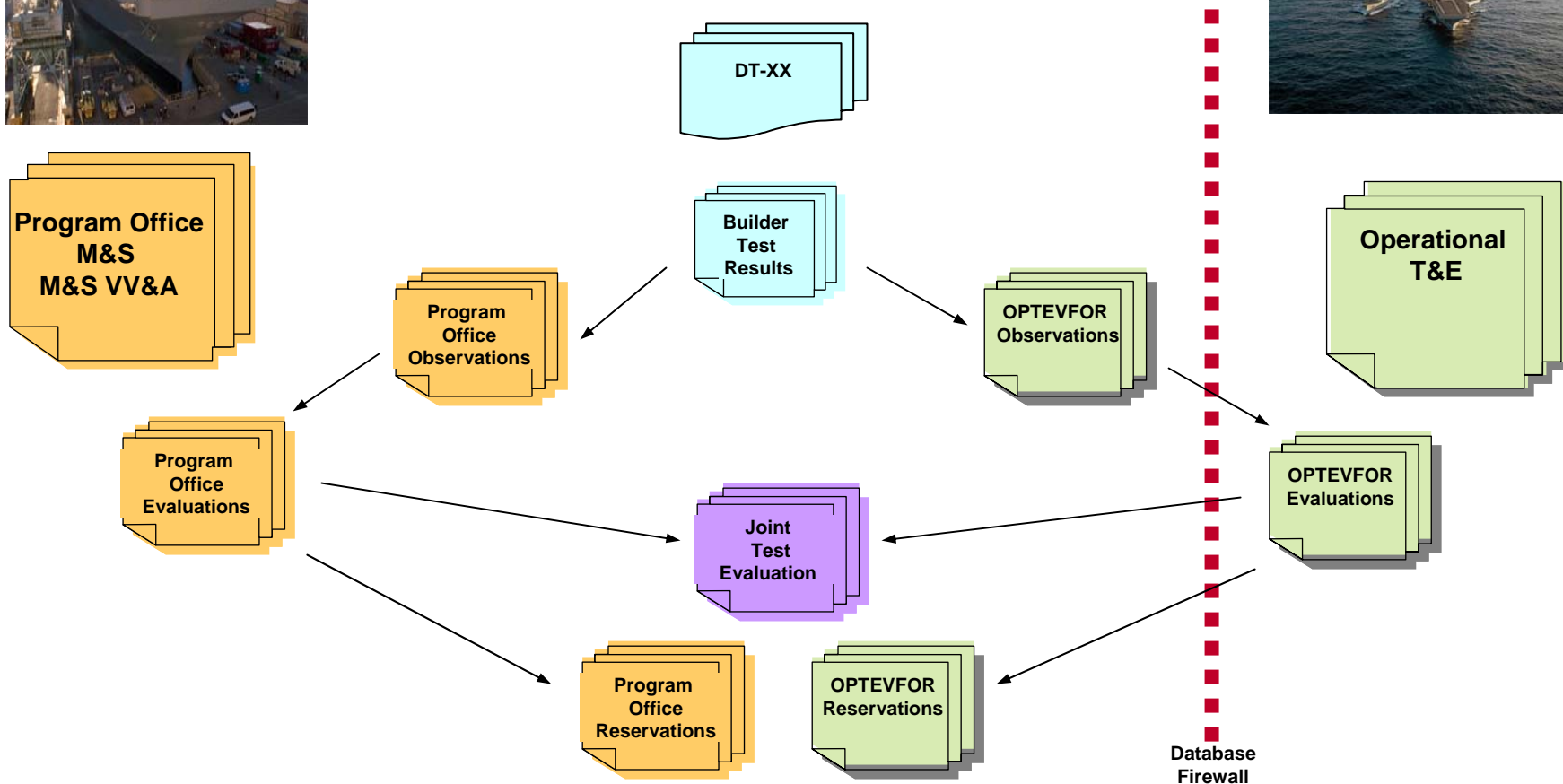
# Integrated Test Database



**Supports Staged T&E Approach through Acquisition Lifecycle**



# Web-Enabled Integrated Test Evaluation Tool



**Provides for Independent Evaluation**



# SMARTT<sup>®</sup> Alion's Web-enabled Integrated Requirements Management and T&E Database

- Integrated program developed by Alion and currently used in a variety of internal and external naval acquisition programs.

The image displays three overlapping screenshots of the SMARTT database interface. The top-left screenshot shows the 'JHSV - Joint High Speed Vessel' main page with search filters and a 'SMARTT Database' header. The middle screenshot shows search results for 'P5pec Search Results' with a table of requirements. The rightmost screenshot is a detailed view of 'JHSV CDD Universal Joint Task List Requirements' with a table listing various CDDs and their descriptions.

CDD ID	CDD Requirement	CDD Number
CDD-1	Test A	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-2	The vessel will operate in ambient air temperatures of 10°F to 122°F for operations in cold climates similar to various hosts in the Persian Gulf region.	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-3	Sea water temperatures of 20°F to 2°C to 80°F/20°C are to be expected at all sea water states to correspond to the same regions used for air temperature.	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-4	The JHSV will be designed to operate in a range of sea states defined by NATO STANAG 4154 REV3	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-5	The vessel will achieve mission speed at all headings in SSS (12m wave height) and 80% speed at a head heading in SSS (4.5m wave height)	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-6	The operational sea state envelope for the vessel will be SSS (14m wave height) with a capability for head heading at best speed for craft survivability	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-7	The JHSV will be designed to operate with a mixed gender military crew	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-8	The JHSV will be capable of transporting a mixed gender passenger complement	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>
CDD-9	JHSV will be built in accordance with the ABB High Speed Craft code	Priority Level: Army <input type="checkbox"/> Navy <input type="checkbox"/> Marine <input type="checkbox"/>

**Provides Virtual Team Direct Editing and Management of Data**



# Questions or comments can be forwarded to:

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