



Future Expeditionary Armor Force Needs

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Overview



- Context for future armor force combat development
- Current combat development activities,
 - Expeditionary Armored Forces (EAF) Functional Needs Analysis
- Future activities
 - EAF Initial Capability Document



Context for Future Armor Programs





Must evolve capabilities that support Expeditionary Maneuver Warfare concepts.

- Operational Maneuver From the Sea,
- Sustained Operations Ashore
- Other Expeditionary Operations

Expeditionary Maneuver Warfare

Continues the Corps' transformation to the 21st century battlefield

- EMW Concept
 - Capstone warfighting concept for USMC
- OMFTS Concept
 - Sea-basing the expeditionary force & extending the operational reach of the MAGTF
- Other Expeditionary Operations
 - Relevance to the broad spectrum of operations
- Sustained Operations Ashore
 - Operational concept for the MAGTF conducting land warfare in joint/coalition environment

	AAV Battalion	LAR Battalion	Tank Battalion
Concepts	Reponding to Over the Horizon launch for STOM	Must adjust for OMFTS, OEO and SOA	Must adjust for OMFTS, OEO and SOA
Capability Needs	Known and Documented	Not fully known / Not documented	Not fully known / Not documented
Materiel Approach	Expeditionary Fighting Vehicle (EFV)	TBD but evaluating FCS capabilities	TBD but evaluating FCS capabilities
Timeframe	IOC - 2009 / FOC - 2017	2015	2025



Assault Amphibian Battalion & Expeditionary Fighting Vehicle



- Employment Concept well defined, strong links with materiel requirements.
- Materiel Solution well defined, well along in acquisition.

✓ EFV Program is on the march to significantly increase the capabilities of the AAV Battalion.



Tank Battalion & LAR Battalion Future Capability Needs



- Developing 'Expeditionary Armored Forces' Initial Capability Document.
- Examining refinement of armor concepts needed to support STOM Concept of Operations.
- Must analyze DOTMPLF solutions to improving the capabilities of the Tank and LAR Battalions.
- Evaluating FCS as an Alternative Material Approach, informed by collaboration with FCS and PM UA.

Analysis needed to understand how best to increase the capabilities of the LAR and Tank Battalions.



Looking Back on 'MEFFV'

MAGTF Expeditionary Family of Fighting Vehicles

A Nov 2001 Mission Need Statement initiated MEFFV planning, citing these deficiencies:

LAV

- more capable threat
- survivability eroding
- weapon system lethality
- increasing O&S costs
- declining RAMD & sustainability

M-1

- size/weight logistics tail drive deployment constraints
- high fuel & ammo consumption
- may limit operational reach of MAGTF
- needs of re-supply points



'MEFFV' & Navy Transformation*



Transforming STOM

- Maneuver from sovereign sea-bases, not vulnerable land support bases
- Deep inland fire support
- Over-the-horizon sustainment

• Transformed Ship-to-Objective Maneuver envisions amphibious assaults in which both surface- and vertical-lift combined arms teams commence their attacks from over the horizon directly at their assigned objectives.

The MAGTF Expeditionary Family of Fighting Vehicles (MEFFVs) will provide a mobile, armored, direct fire, self-contained, combined-arms, multi-mission, and multi-role expeditionary family of fighting platforms capable of conducting rapid operational maneuver in varied terrain.

Advanced Tilt-Rotor technology aircraft, such as MV-22, will accelerate the speed and range of delivery and survivability of troops, equipment, and supplies being delivered from the sea base.



MEFFV Alternative Concepts Study



Initiated before new JCIDS process was signed.

Purpose of Study: Develop a sound strategic foundation for future combat vehicle ORD refinement.

Objectives:

- a) Determine the needed combat, combat support and combat service support capabilities of the future MAGTF conducting EMW.
- b) Isolate those not met by the EFV to determine capabilities in need of further development for the MAGTF Expeditionary Family of Fighting Vehicles.

Result:

Provided basis for Functional Area Analysis (strategy to task mapping) for the future armored forces of the MAGTF.



Current Activities

Combat Development Focus

1. Examining concepts and capability needs of the 'expeditionary armored force' to equip the future MAGTF.

*JCIDS Process**

2. Establishing a process to mitigate risk introduced by:
 - a) Technology change
 - b) Evolving operational concepts (USMC in particular, but also Joint)

Systems Integration Process

3. Establishing a team to integrate efforts of the combat developer and material developer to inform the Initial Capability and Capability Development Documents.

Joint Program Planning Process



Expeditionary Armored Forces Functional Need Analysis



- Initiated Jul 04:
 - in compliance with Joint Capability Integration and Development Systems Instruction,
 - to analyze capability needs within the context of service and joint warfighting,
 - to consider needed armor capabilities of the MAGTF in the next decade,
 - to determine what capabilities are needed by the MAGTF to complement EFV capabilities.



Expeditionary Armored Forces



Why Assess the EAF?



- The Marine Corps has Title X responsibility to field expeditionary capabilities
- Today's Marine Air-Ground Task Force (MAGTF) provides expeditionary armored forces responding across the full range of military operations
- Currently fielded armor systems face the end of design service life in the next decade
- Marine Corps leadership
 - Foresees the need to continue these capabilities into the future
 - Seeks to augment current capabilities with enhancements to accomplish its Expeditionary Maneuver Warfare (EMW) operating concept
- Enhanced MAGTF expeditionary armored forces must
 - Possess the ability to maneuver forces and systems to deliver effects despite the use of lethal enemy systems employed against them
 - Retain the ability to conduct forcible entry operations from the sea
- The Naval Operating Concept for Joint Operations places a premium on the extension of operational maneuver, deployability, mobility, and flexibility, with maximum reliance on logistical support from the sea
- To ensure the future MAGTF's ability to perform mounted combat operations, the Marine Corps will conduct a Functional Area Analysis (FAA) and a Functional Needs Analysis (FNA)
 - This analysis will lead to the identification of capability gaps for the 'to be state' of expeditionary armored forces
 - It will be conducted in the context of the Joint Force identifying service unique required capabilities and those Joint required capabilities

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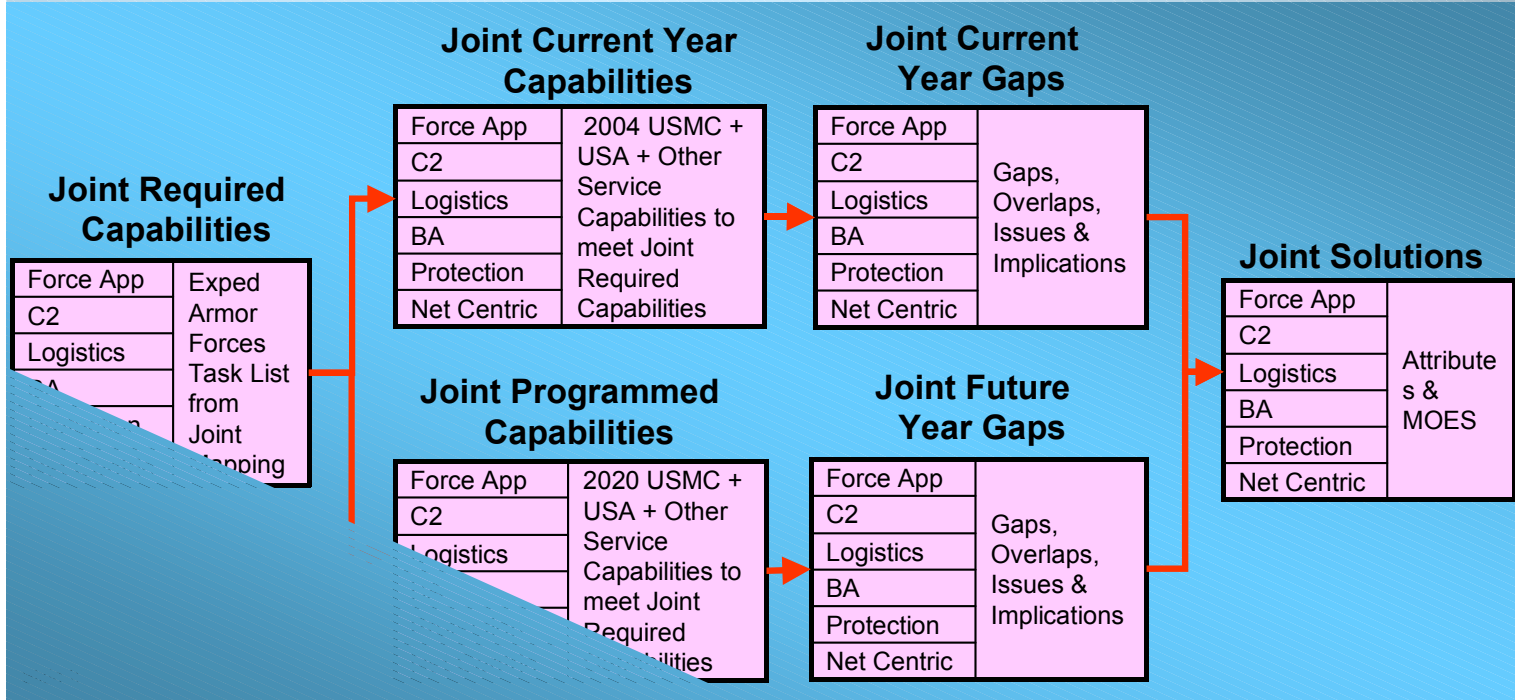
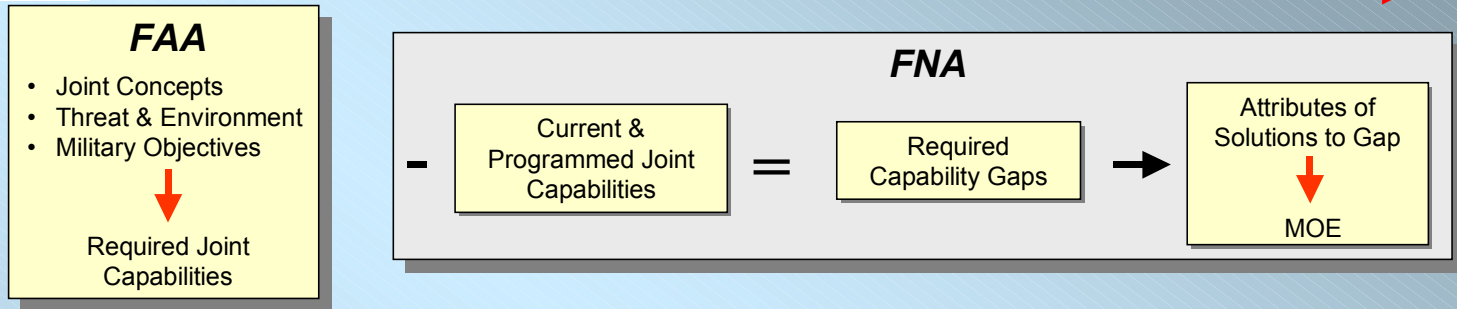




EAF Functional Need Analysis



Approach

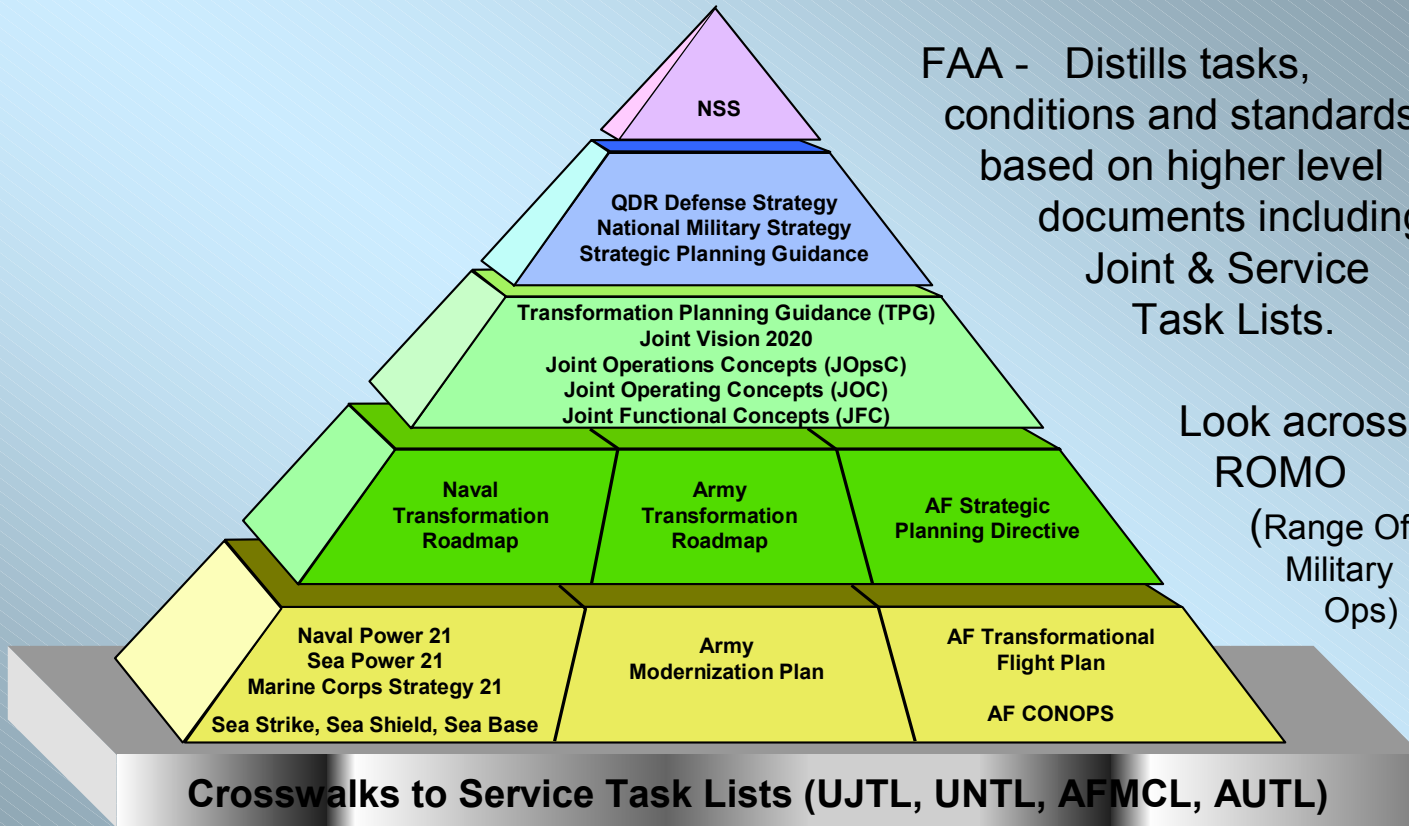




EAF Functional Need Analysis



Strategy-to-Task



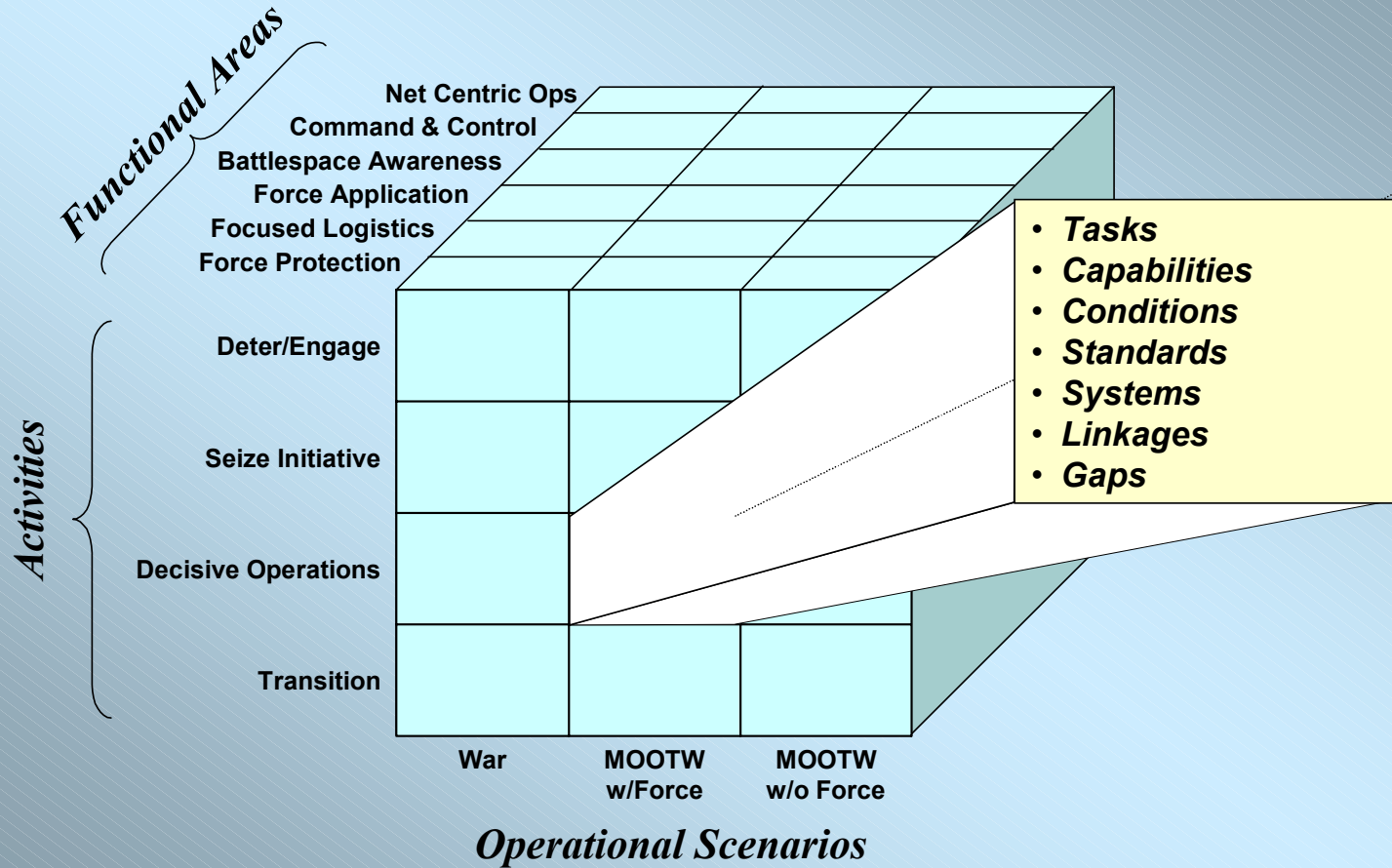
Account for Applicable Tasks Across Joint & Service Concepts



EAF Functional Need Analysis



Analytical Construct



Develop an Analytical Construct

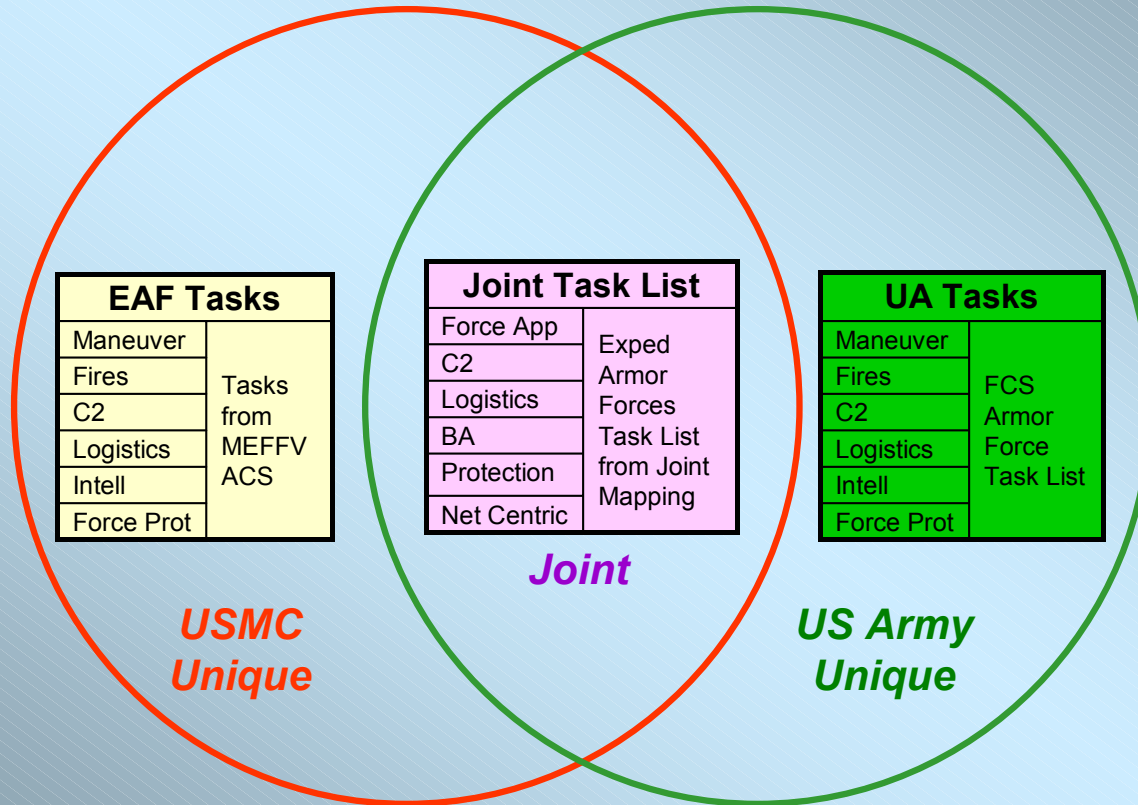
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EAF Functional Need Analysis



Identify Yours, Mine & Ours



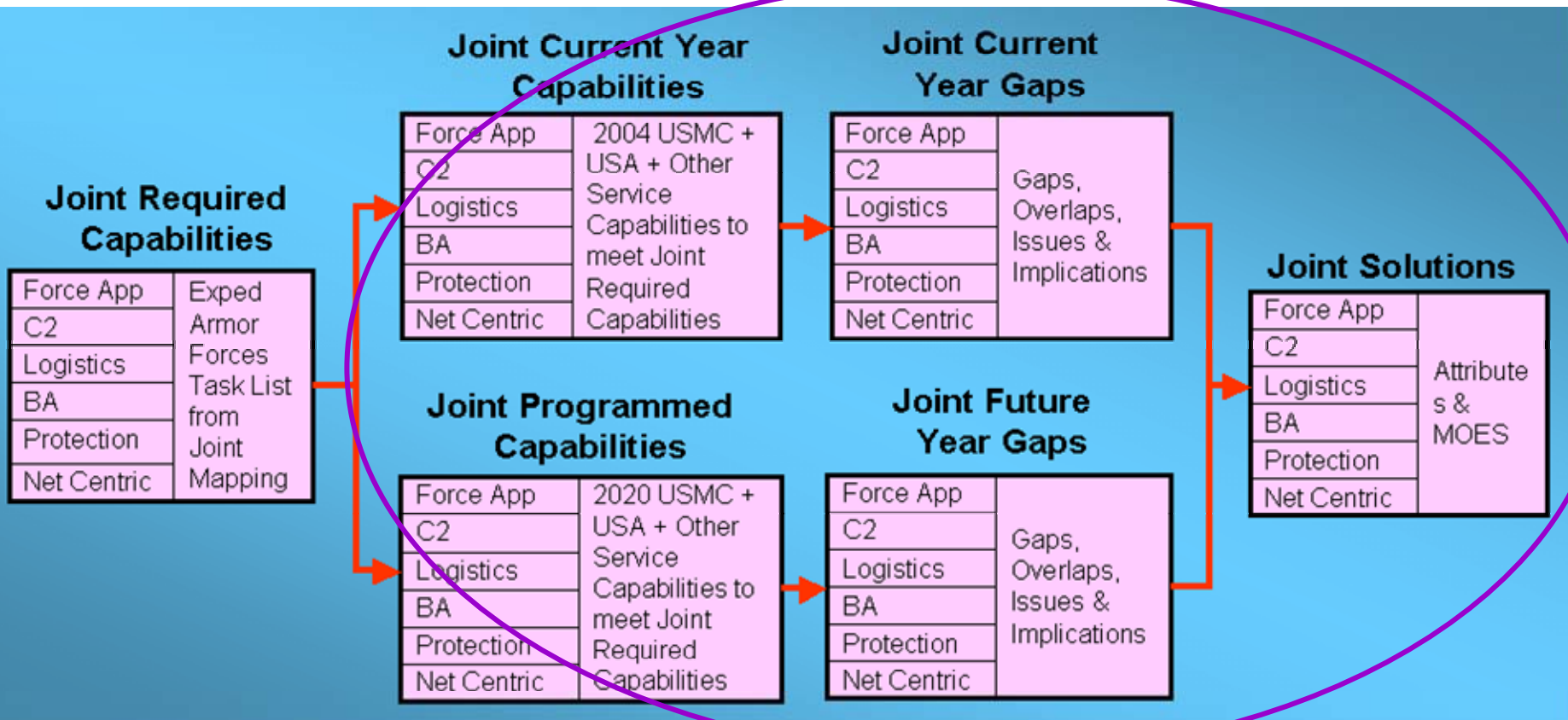
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EAF Functional Need Analysis

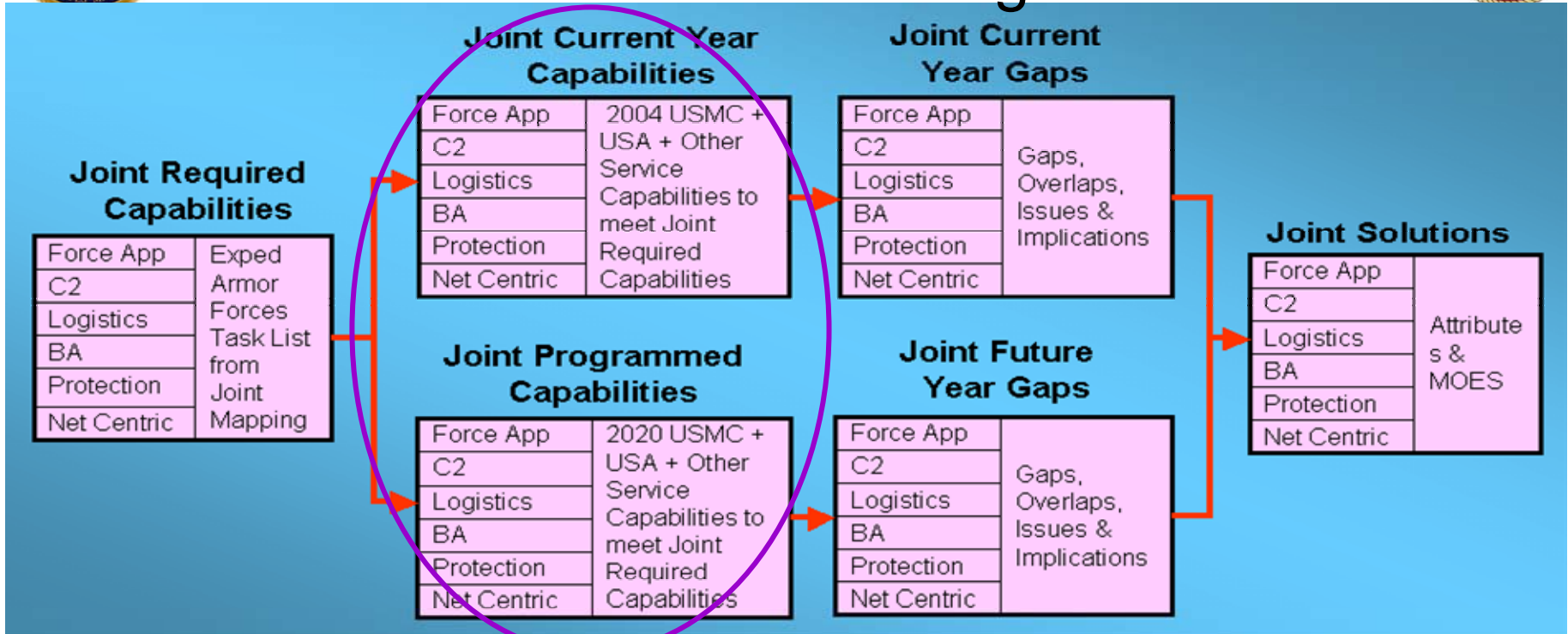


FNA Process





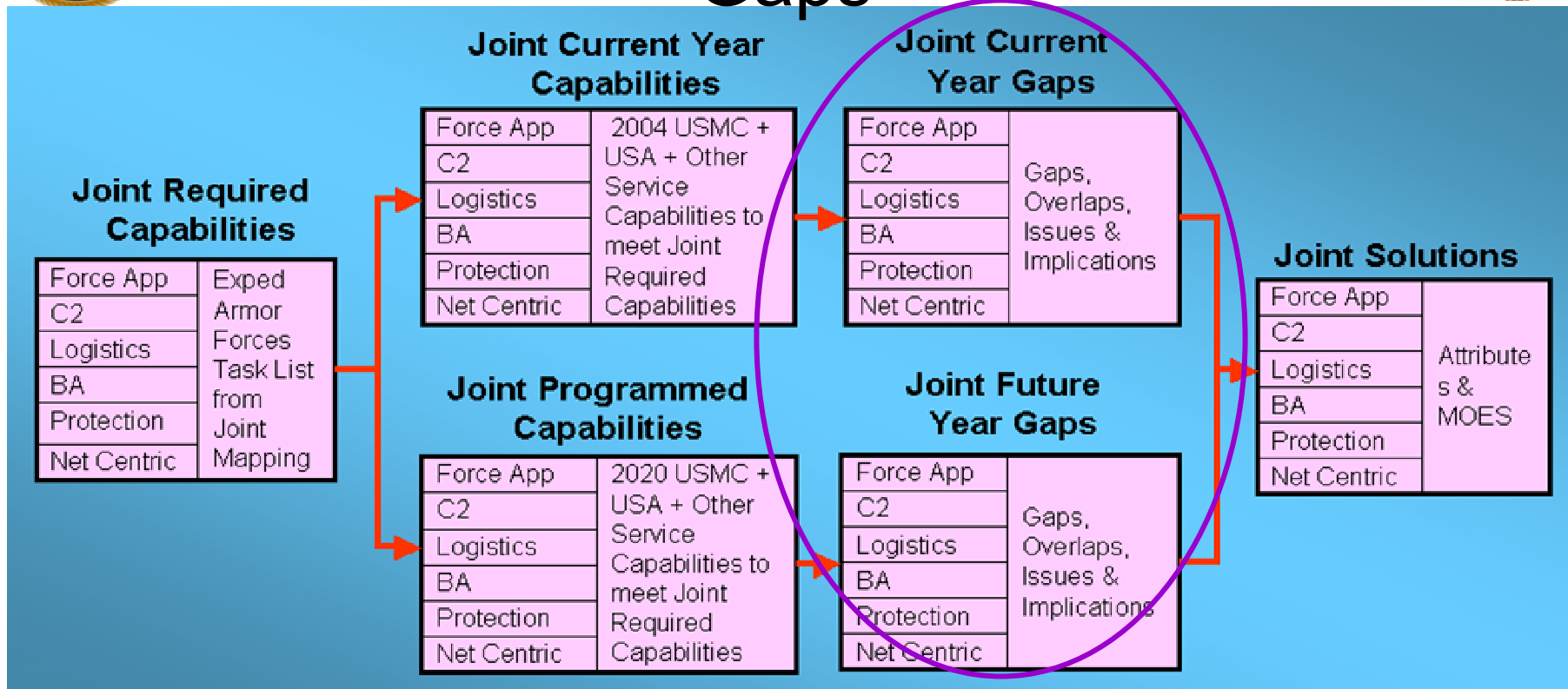
EAF Functional Need Analysis Current & Future Programs



- Identify current systems that meet need
- Identify service current and future programs that may meet need
- Research & describe
 - Current USMC capabilities
 - Programmed USMC capabilities
 - Current other service capabilities
 - Programmed other service capabilities
 - Potential future technology solutions



EAF Functional Need Analysis Gaps



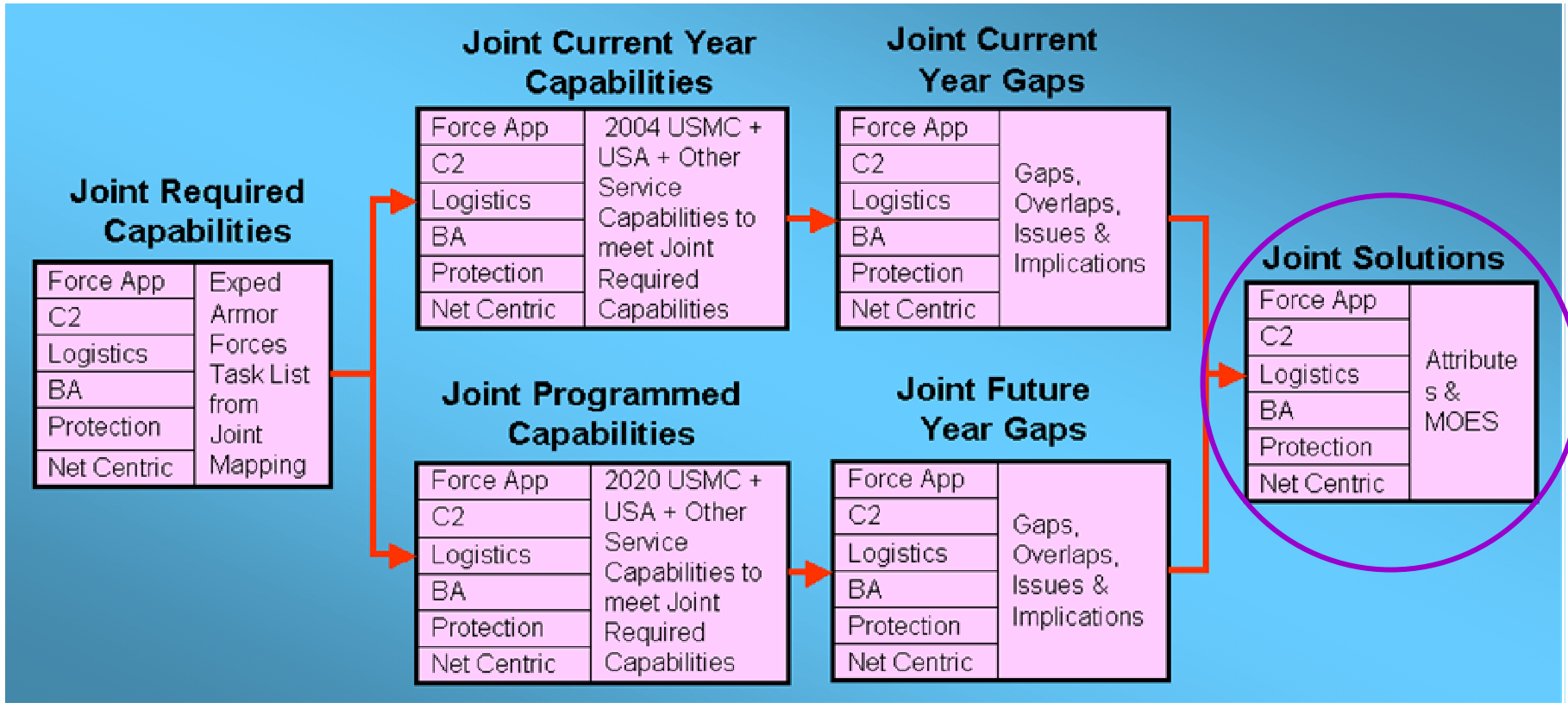
- Describe shortfalls, overlaps, problems & implications from Joint perspective
- Identify gaps between service current systems and the need based on conditions & standards from FAA
- Identify gaps between service future programs and the need based on conditions & standards from FAA



EAF Functional Need Analysis



Solutions



Develop joint solutions identifying attributes and MOE



Looking Forward

- Expeditionary Armored Force Initial Capability Document
 - Analysis guided by Capability Enhancement Goals of the EMW Capability List:
 - Strategic Agility, Operational Reach, Tactical Flexibility, Support and Sustainment, Joint and Multinational Enabling
 - Capability needs correlated to the other programs within the Expeditionary Force Development Center through the EMW Capabilities List.
 - Functional Solution Analysis after FNA in FY06.
- EAF Concept Decision in FY06/07.
- In 2005 will establish Systems Integration linkage between the MCCDC EFDC and PM UA on armored forces.
- Analysis Of Alternatives for Milestone A in FY 07/08.

JCIDS Process

Systems Integration Process

Joint Program Planning Process