Maritime IAMD Planning System (MIPS)

Automated Multi-Mission Planning and Optimized Resource Allocation
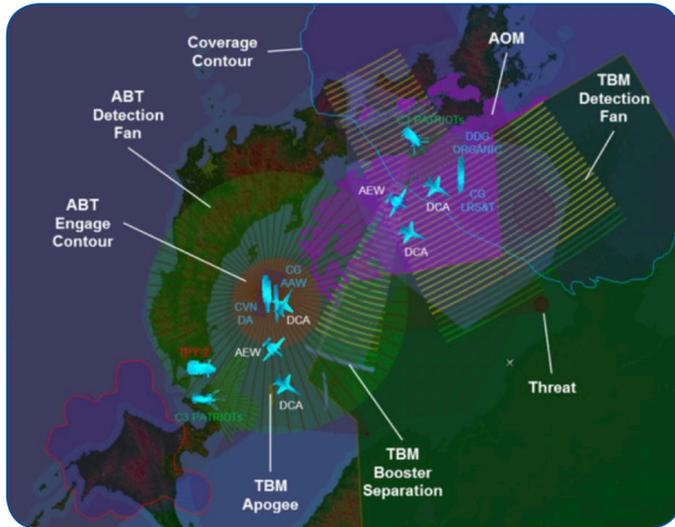
A multi-asset, multi-mission integrated air
& missile defense operational planner

Ability to plan IAMD scenarios through automated asset
allocation, wargaming, analysis tools, and plan monitoring
with a near-real time track display

Optimizes allocation and assignment of maritime assets

Ballistic Missile Defense (BMD)

Anti-AirWarfare (AAW) & IAMD unit taskings

"What-if" analysis and re-plan scenarios

Course of Action (COA) comparison and selection

Automatically scales to address high raid scenarios,
threat area uncertainty, and multi-AOR planning

Multi-level collaboration

Overview

Maritime IAMD Planning System (MIPS), a Navy program of record, is an operational level Integrated Air and Missile Defense (IAMD) planning and battlespace visualization tool. MIPS is designed to automate the functions required to support the Naval Area or Theater Commanders, as well as deployed fleet staffs. The MIPS tool is designed to rapidly solve difficult optimization alternatives in the deployment of scarce Naval air and missile defense assets; reducing planning time, assessing risk and allocating resources in a timely manner. MIPS identifies high risk threat employment options, accounting for uncertainty in threat location, capability and raid environment.

MIPS provides the fleet user with the ability to plan, collaborate, and monitor fleet operation in an integrated air defense environment throughout the assigned theater. Fleet users plan the IAMD posture based on:

- Enemy Order of Battle (EOB)
- Enemy Courses of Action (ECOA)
- Friendly Order of Battle (FOB)
- Prioritized Defended Asset List (PDAL)
- Factors affecting mission employment and success

MIPS provides vital force readiness and status information, combat environment assessment, and modeling and simulation tools. The results of the MIPS tool support a quantifiable, orderly handover of a Maritime Defense Plan to those tasked with execution of the operation. The output of MIPS provides a coherent transition from planning to execution.

Acronyms:
DCA Defensive Counter Air
ABT Air Breather Threat
AOM Area of Maneuver
AEW Airborne Early Warning
CG Aegis Cruiser
LRS&T Long Range Surveillance & Track
DDG Aegis Destroyer
TBM Theater Ballistic Missile

Maritime IAMD Planning System (MIPS)

- TBM posit at Interceptor launch
- TBM posit at intercept
- Dual Salvo indication
- Point of intercept over ground
- Ground Trace
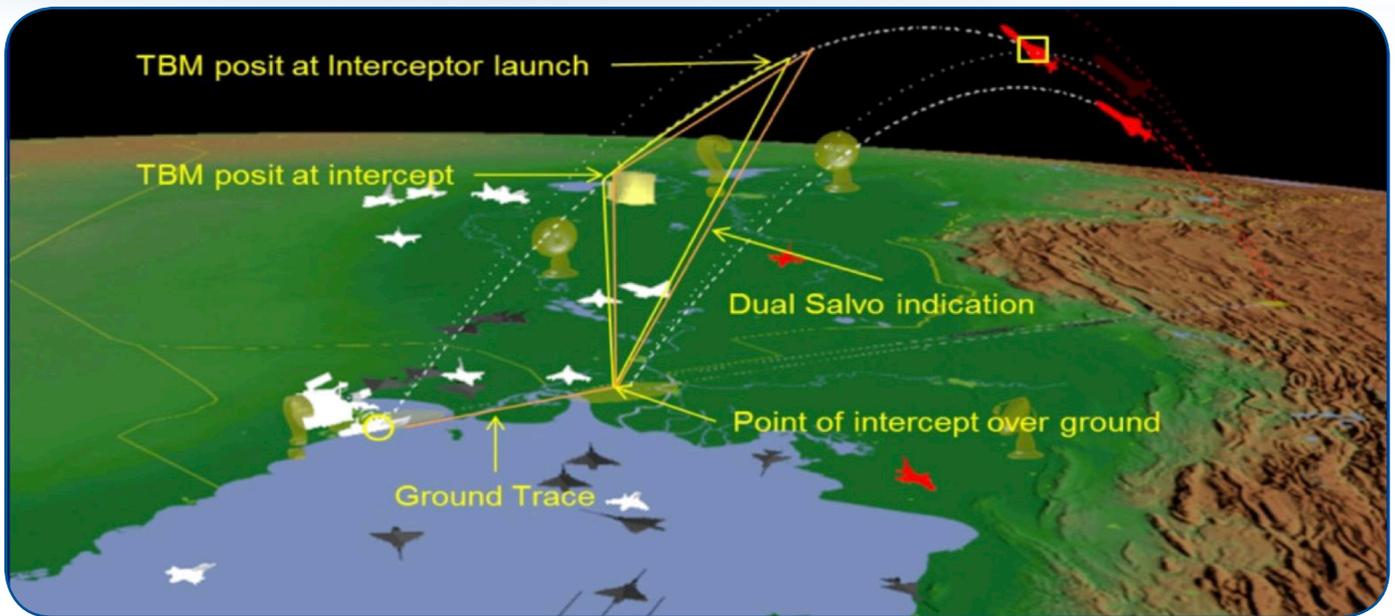
Monitoring, Airspace, & Battle Management

MIPS provides automated battle management tools and decision aids to improve operator situational awareness under high tempo conditions – alerts, auto parsing of the Air Tasking Order (ATO), Air Control Order (ACO) area(s) representation, Depth of Fire, Trial Engage, etc. Live data feeds a fully manipulated 3-D display using realistic National Geospatial-Intelligence Agency (NGA) terrain, graphic representations of aircraft, ships, ballistic missile trajectories, etc. Graphical comparison of multiple courses of action (COA) and wargame analysis results further compliment the user Situational Awareness (SA). MIPS provides theater wide depth of fire utilizing planning and real-time data inputs; supporting organic & non–organic BMD engagements, including threat ranking and trial engagement. Visualization of ACO/ATO information is correlated with the live track feed, including the ability to record and playback this live data.

Wargaming And Analysis Of Alternative Objectives

- Fast and accurate automated laydown process supporting changing and evolving objectives.
- Verify plan effectiveness and performs unlimited "what-ifs" on the force lay down by varying raid sizes, Probability of Kill (PK) thresholds, assets, radar resources, etc.
- Allows user to investigate effects of different attack schedules on defense.
- Provides the planner a level of confidence in each course of action through built-in wargaming

Multi-Level Planning Collaboration & Coordination

- Provides collaborative interface between multiple levels of command.
- Translates/prepares operational plans to tactical mission assignments and unit taskings.
- Integrates results supporting collaborative dialog and analysis of alternatives.
- Provides integrated response back to higher command levels for all maritime assets.
- Enables rapid/dynamic re -planning in response to evolving battlespace and unexpected events.

MIPS is a cost effective combat multiplier providing unique and essential IAMD planning and battle management tools. It enables dynamic, collaborative and synchronized planning to integrate scarce, but uniquely capable, mission assets to achieve a higher level of operational mission success. MIPS assesses threat risks, optimizes IAMD asset utilization, and maximizes protection of critical assets with available forces. In addition to supporting force-level planning tasks, the MIPS application provides a continuous, reliable visualization of the battle space, where multiple source track and overlay data are fused into a single comprehensive picture of the battle space.

MIPS continues to advance in addressing multiple surface/air domain warfare missions:

- Architected for rapid insertion of new threat sets and capability modeling and simulation
- Developing deployable client software for shipboard console installation
- Enabling continuous automated planning and battle space management

GENERAL DYNAMICS
Mission Systems

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