MultiSIM-IDS
DIS Simulation of Integrated Defense Systems

Description

MultiSIM -- OptiMetrics' modular software framework for DIS compliant simulations

Integrated Defense System (IDS) -- A system of coupled sensors and countermeasures to defend military vehicles, also called Hit Avoidance (HA) systems or Defensive Aide Suites (DAS)

MultiSIM-IDS -- A DIS simulation that adds IDS capabilities to Manned Simulators or ModSAF entities

Key Features of MultiSIM-IDS include:

- Flexible selection of
  - Sensors
  - Countermeasures
  - Countermeasure Prioritization Logic
- Parametric representation of
  - Functional performance ranges
  - Countermeasure effectiveness
  - Fields of regard
  - Vehicle attachment points
- IDS simulation for multiple defended entities hosted on a single workstation

Capabilities

- Sensor Types
  - Launch/Flash sensors
  - Tracking sensors
  - Laser warning sensors
- Response Logic
  - Crew warning
  - Automatic CM deployment
- Countermeasures
  - Smoke/Chaff
  - EO/IR missile CM devices
  - Laser decoy devices
  - Active protection systems

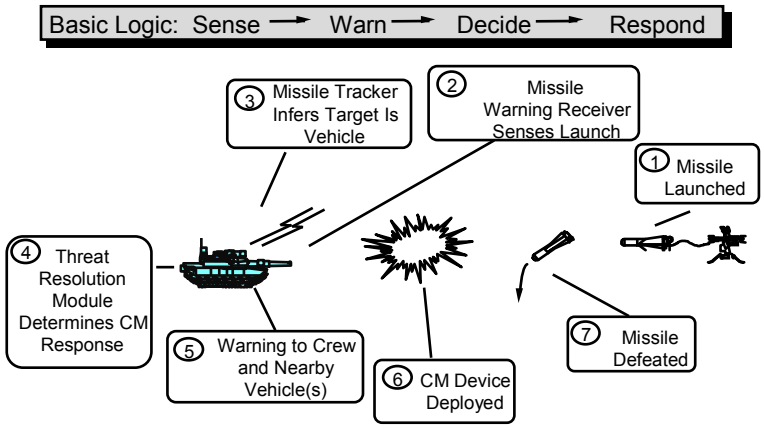
Applications

- Simulation of an IDS system in the MMBL Force Protection Experiment III
- Advanced IDS system simulation in future DIS experiments
- Distributed IDS system evaluation in future DIS experiments
- R&D tradeoff studies of IDS components and threat resolution logic
- Evaluation of Human Factors for IDS warnings, displays and semi-automatic control - Integrated Army Active Protection System (IAAPS)

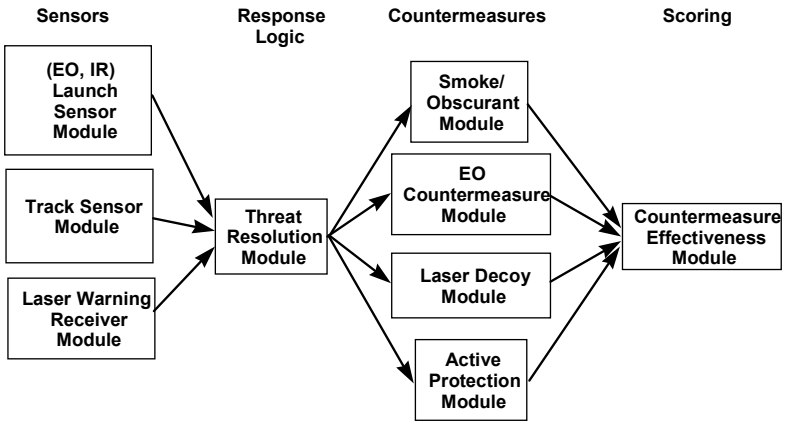
Acknowledgments

- Supported by the Army ACT II Program
- TARDEC
- Mounted Maneuver Battle Lab
- STRICOM

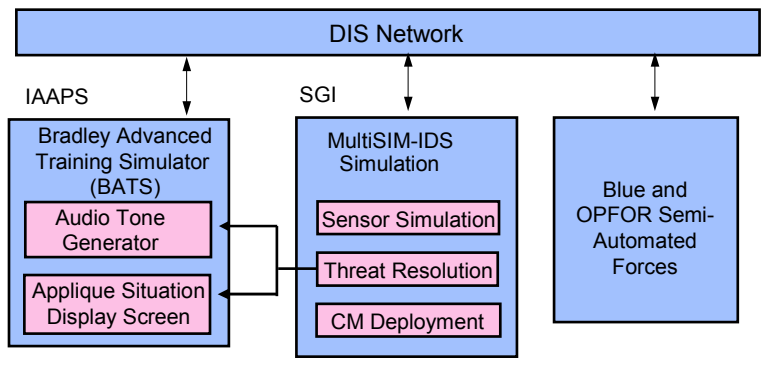
Functional Description of IDS System



IDS Simulated Components and Process



MultiSIM-IDS DIS Simulation Architecture
As Used in Integrated Army Active Protection System (IAAPS) Experiment



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