"Gaming allows you to try out tactics and not worry about having to swim for it."

-Sir John "Sandy" Woodward, Admiral (Ret) RN

### H3 MilSim features

- Editable databases and scenarios
- VCR (playback) feature (with editing)
- Single or Multiplayer (with provision for Umpire and Spectators) via TCP/IP
- Import of GIS data (<u>ArcInfo</u>/ESRI<sup>TM</sup>)
- Game session export to SQL databases
- Distributed Interactive Simulation (DIS) support
- Monte-Carlo Support
- A unique "Co-op" business/development model with Defense partners
- Ability to model boarding actions
- AGI <u>Satellite Tool Kit</u><sup>™</sup> Integration



http://h3milsim.com http://www.youtube.com/user/ComputerHarpoon US Phone: 979.229.1053



## An Innovative Air/Naval Warfare Analysis Simulation Tool



The Military Analyst's "Spreadsheet" http://h3milsim.com http://www.youtube.com/user/ComputerHarpoon US Phone: 979.229.1053

#### Problem:

The plethora of "official" High Fidelity Modeling & Simulation Tools (HFMST) are not efficiently used. The largest barrier to their efficient utilization is their lack of accessibility or "heaviness". Issues include:

- Specialized staff to setup, execute and analyze each scenario.
- Lack of access to computer source code or databases.
- Extensive computational resource requirements.
- Contractors (and thus funds) required for execution.
- Working analysis into tight schedules with already over-committed staff.

Even with priority, money and staff, it takes many calendar days to make modifications necessary to explore the problem space.

# Consequently, "approved" Modeling and Simulation Tools aren't used as often as desired.

### Solution:

H3 MilSim has been used by **Northrop Grumman, Maritime Systems Integration**, and the **Australian Department of Defense** to address these issues. H3 MilSim is an innovative tool used to perform quick low fidelity simulation and analysis to winnow the larger group of scenarios for those most appropriate for the power of HFMST *and then directly feed the setup parameters to the HFMST*.

The results of this capability are:

- The ability for the analyst to take more passes through the problem space at an operational/tactical level.
- Rapid and direct application of analyst skills to a broader set of scenarios.
- Significant reduction in the setup time for HFMST, thus allowing more runs per calendar time and thus more runs per budget dollar.
- The option of integrating an OpFor by employing fellow team members in a multiplayer wargame using the same software.



HFMSTs typically don't allow for the creation of new platforms and sensors. Most users don't own, nor do they have access to, source code. This precludes rapid insertion of these entities, prolongs schedules, and increased cost. Even when the HFMST has all the entities required, scenario changes based on the observed outcomes can take a long time to reprogram causing lengthy delays between iterations. H3Pro has been demonstrated to work in a distributed manner with a mixture of HFMST and other lightweight models thus allowing for the rapid production of multiple runs in a short period of time at a relatively low cost.

### Example:

The **Australian Department of Defense** used H3 MilSim as a tool in a number of ways. It is used to simulate "reasonably and representatively" the interaction of specified forces, platforms, systems and weapons. There is a high level realization that chasing spurious precision is of limited value when making strategic level judgments. This realization enables significant gains to be made with limited costs. Some of the other ways H3 MilSim is used are:

- To validate, at the macro level, the logic and tactical employment options for constructs derived from seminar wargames developed for analytical purposes.
- To explore, again at the macro level, the current and future tactical employment of groups, platforms and weapon mixes in hypothetical scenarios where empirical data is either limited or non-existent.
- To explore new weapon and platform combination interactions to gain an understanding of the underlying relationship between physical factors and design concepts; and to create new weapon and platform entities that can simulate potentially different and advanced solutions to known problems.

The "drill down" approach used in the ADOD allows for many macro-level scenarios to be repeatedly explored and analyzed with targeted use of the more demanding (and expensive) simulations and models reserved for the more difficult situations.

