EMERGING MDMP CHALLENGES

- Complex Datatypes
- Scalable Constructs
- Military Decision Making Process (MDMP)
- Multi-Source Fusion
- Computational Efficiency

Success in the modern digital Battlefield depends highly upon the efficient management of data. Military operations are inherently complex, requiring varied systems to interoperate within the data solution space of a specified mission. Information needs may arise under intense time pressure, and the available information is often incomplete or uncertain. Data entities vary widely in format, scale and resolution, and can exhibit a great deal of heterogeneity.

VALUE-ADDED PROCESS

- Terrain data
- Sensor data
- Imagery
- Human/Social/Cultural
- Army doctrine
- Subject matter expertise
- User-client
- Dynamic effects
- Modeling/simulation

Construct Solution Space Models Information

Correlate Complex Terrain Relations Knowledge

Generate Smart Military Products Understanding

GEOCOMPUTATIONAL BATTLESPACE

- Information
- Correlate
- Generate
- Complex Terrain Relations Knowledge
- Understanding

- Terrain & Opepea Modeling: 
  - Underwater Modeling
  - Road Cover Analysis
  - Centimeter Scale Terrain Model
- Senior Sensor Data: 
  - Imagery
  - Human/Social/Cultural
- Digital Terrain Model
- Weather Simulation

HDF5 SOLUTION - A UNIFIED DATA REPRESENTATION

- Identify the problem domain and provide the analytic framework
- Enable complex geospatial operations in HDF
- Concept Maps to Data Structures
- Organizational Levels to Hierarchical Structures

FUTURE WORK AREAS

- Develop a model to sufficiently address the Spatio-Temporal dimensional component of the Battlespace.
- Apply a unified data approach to the strategic areas of Joint Operating Environments, Preparation of the Battlefield, Geo-Informatics, and Enterprise Command Services.
- Explore the geospatial data services and applications capabilities of Web 2.0 to leverage HDF5 research efforts.

ACKNOWLEDGMENTS

This project is sponsored by the US Army Corps of Engineers, Engineer Research and Development Center - Geospatial Research and Engineering Division located in Alexandria, VA.

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CONCEPT MAP – HDFVIEW PLUGIN

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- Correlate Complex Terrain Relations Knowledge
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