

SEDRIS and Navy Aviation Simulation Master Plan

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Why Simulate Environment?

- NASMP – Training
 - Task List
 - E.g., NAS Fallon “Self Escort Air Defense #2”
 - Conditions
 - NASMP Synthetic Natural Environment provides METOC “Conditions”
- Evolution
 - Single Cockpit Meteorology
 - Distributed Meteorology

Current Responsibilities

- Navy Aviation Simulation Master Plan (NASMP) Modeling and Simulation Project Team member for Synthetic Natural Environment (SNE) data and server software.
- Common SNE data is served to all federates in the training network, be they surface, sub-surface, or aviation, and to their associated ordnance that can be affected by SNE conditions.

Types of Sensors

- The SNE data delivered to the NASMP network can be used by the following sensors:
 - Aviation: Radar, Electro Optical (EO)
 - Surface: Radar, EO
 - Sub-Surface: Acoustic
- SNE phenomena affecting Communications impacts must also be served.

Sensor Models

- Training Models
 - Based on Engineering Community models
 - Parametric Estimates
 - Full Physics

State of the art of modeling these types of sensors in simulations? (1 of 2)

- Obtaining data conforming to the Defense Modeling and Simulation Management Office (DMSO) Integrated Natural Environment Authoritative and Representative Program (INEARP) is satisfactory.
 - ESG / MEL
- The state of the art for serving it to the NASMP network is under development.
 - Ocean Atmosphere Space Environmental Services (OASES)
 - Acoustic Transmission Loss Server (ATLOS)

State of the art of modeling these types of sensors in simulations? (2 of 2)

- Aircraft simulator manufacturers need to implement the requirements for task force wide METOC data rather than individual cockpit weather.
- Associated servers, such as OASES, need to be made more “Instructor Operator Station (IOS) Friendly” or have their control functions built into the IOS software.
 - IOS choices developed during Scenario Development
 - “Poor man’s GUI” (C. Scannell, NRL, SISO 03F)

NASMP Pressing Needs

- Make the SNE scenario development process more IOS Friendly as described in the previous slide.
- Avoid Huge Data Objects which can overload training network.
- VVA tool for candidate METOC models, e.g., MIV (Fred Newman, JHUAPL).

Are Environmental Effects On Sensor Performance Adequately Modeled?

- The INEARP data sources provide satisfactory data.
 - ESG, MEL
- The trainer software requirements must be updated to
 - require the use of this data in a task force wide, or Distributed Mission Training (DMT) environment.
 - Require Engineering sensor models to influence training community sensor models.

Perspectives On Sensor Modeling Requirements

- Training simulations, as in the NASMP federations, need to be able to use
 - INEARP data sources, and
 - associated data servers, and
 - SNE portions of the NASMP Federation Object Model (FOM).

Experience And/Or Perspective On The Employment Of SEDRIS

- At this point I don't know much about SEDRIS,
 - INEARP sources will deliver data in SEDRIS TRANSMITTAL FORMAT (STF), and
 - the OASES SNE server will accept it.

TEACH ME!

- Some of my colleagues have expressed the sentiment that SEDRIS is “DEVELOPER FRIENDLY” rather than “USER FRIENDLY.”
 - The development of data viewers for STF format data would help alleviate this situation.

Questions?

- Call or e-mail
 - from Slide 1