MATREX Simulation Initialization
DoD M&S Conference
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Problem Space Overview

- In the past, most organizations supported dedicated simulation programs.

- Considerable pre-exercise effort was required to enable the collaboration of multiple simulations.

- 12-18 months of pre-exercise effort was not uncommon for some DoD Joint training events involving multiple, dissimilar simulations.

- Accordingly, DoD has identified “rapid scenario generation” as a top M&S priority.
Overview Example

**FEDERATION ENVIRONMENT DESIGN:**
- ✓ Scenario Description.
- ✓ Unit/Entity Distribution Plan.
- ✓ Network Design.
- ✓ Command Scripts.

**MSDE** ➔ **CSAT** ➔ **HLA RTI**

**AMS** ➔ **C3GRID** ➔ **OneSAF** ➔ **IWARS** ➔ **OTB**

**HC-NEBC** ➔ **CES** ➔ **ARMS** ➔ **NV Tool Set** ➔ **MSLS** ➔ **NEC2**

**HlaResults** ➔ **FSE DB** ➔ **hlaControl**

**AMS** – Air Mobility Server
**ARMS** – Armaments Server
**CES** – Communications Effects Server
**C3GRID** – Command, Control & Communications Grid
**HC-NEBC** – Human Centric Network Enabled Battle Command
**IWARS** – Infantry Warrior Simulation
**MSLS** – Missile Server
**NEC2** – Network Effects Command & Control
**NV Tool Set** – Night Vision Tool Set
**OneSAF** – Semi-Automated Forces
**OTB** – OneSAF Test Bed

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Benefits Overview

• Quickly and efficiently generates both tactical scenario and HLA Federation instantiation reader files in standardized formats
• Initializes HLA Federations from a common point
• Minimizes both manual input and configuration conflict errors
• Simplifies configuration management and increases data consistency
• All simulation environments that employ the MATREX standard for scenario and federation reader files have access to all other MATREX initialization compliant scenarios
Features and Capabilities

- Reduces time and resources required to initialize a distributed simulation.
- Promotes the reuse of standardized scenario data formats.
- Improves configuration management via an easily manageable number of data sets.
- Allows incorporation of additional components and scenarios that are compliant with the MSDL format.
Future Work

• Align the MATREX Simulation Initialization process with the following external activities as required:
  – OneSAF Initialization Process
  – LSI FSE Initialization Process
  – 3CE LVC SimInit TFA IPT Process
  – Army Initialization IPT Process
  – JFCOM Joint Rapid Scenario Generation (JRSG) IPT
  – DoD M&S Steering Committee Directed Joint Data Alternatives (JDA) Study
• RDECOM:
  – CERDEC C4ISR OTM Federation
  – AMRDEC JAMUS Federation

• TRADOC:
  – Multiple BLCSE Federations

• FCS Program:
  – FSE Federation
## Points of Contact

<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td><strong>Government:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tom Hurt</td>
<td>MATREX PM</td>
<td>(703) 806-0995</td>
<td><a href="mailto:tom.hurt@us.army.mil">tom.hurt@us.army.mil</a></td>
</tr>
<tr>
<td>Chris Metevier</td>
<td>MATREX Deputy PM</td>
<td>(407) 384-3865</td>
<td><a href="mailto:chris.metevier@us.army.mil">chris.metevier@us.army.mil</a></td>
</tr>
<tr>
<td><strong>Contractors:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charley Budde</td>
<td>MATREX SimInt Lead</td>
<td>(703) 428-6101</td>
<td><a href="mailto:cbudde@mitre.org">cbudde@mitre.org</a></td>
</tr>
<tr>
<td>Gary Smith</td>
<td>Design &amp; Dev Lead</td>
<td>(703) 425-2205 ext. 224</td>
<td><a href="mailto:gsmith@d-a-s.com">gsmith@d-a-s.com</a></td>
</tr>
<tr>
<td>Chris Parker</td>
<td>Sr. SW Engineer</td>
<td>(703) 425-2205 ext. 226</td>
<td><a href="mailto:cparker@raytheonvtc.com">cparker@raytheonvtc.com</a></td>
</tr>
<tr>
<td>Howard Borum</td>
<td>Sr. Test Engineer</td>
<td>(703) 428-6107</td>
<td><a href="mailto:hborum@raytheonvtc.com">hborum@raytheonvtc.com</a></td>
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MATREX IDE Website:  [https://www.matrex.rdecom.army.mil](https://www.matrex.rdecom.army.mil)