ds.tools
DISTRIBUTED SIMULATION TOOLS

coreDS™ Unreal

Distributed simulation made easy with coreDS™

Overview

coreDS™ Unreal brings HLA, DIS and CIGI connectivity to your Unreal Engine project – no code required.

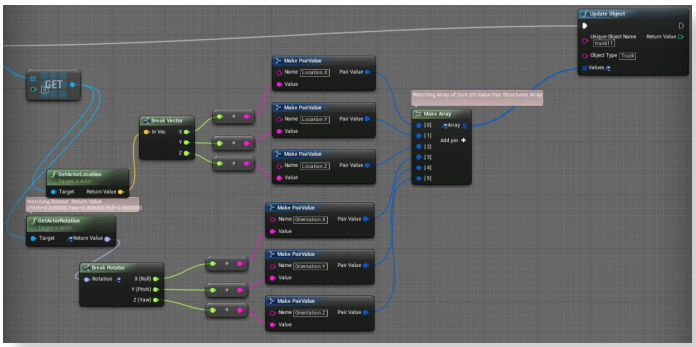
Connecting a simulator to a federation, a DIS exercise or a CIGI host/IG is usually a long and costly effort. coreDS™ Unreal does it for you: integrate once, and all three protocols are supported with nothing further to modify.

An extensive feature set cuts implementation time, keeps you flexible and lets you tailor simulation behaviour as finely as you need.

Work the way you prefer – through the editor, with Blueprints, or from the C++ framework. Either way, you keep complete control over the connection.

Main features

- Supports Unreal Engine 5;
- Cost-effective solution using proven technologies – save time and money;
- Provides configuration graphical user interfaces you can integrate into your software;
- Switches configuration at runtime – between HLA, DIS and CIGI, to a new set of mappings, to a different FOM, or anything else you can think of;
- Lightweight scripting engine (LUA) for on-the-fly data conversion;
- Data mapping at runtime – change your FOM file or PDU mapping on the fly;
- Automatic data encoding/decoding;
- Integrated dead reckoning;
- No code generation required;
- Integrated data filtering;
- Supports most distributed simulation concepts out of the box;
- Built-in debugging tools.



High-Level Architecture (HLA)

Supported protocols

- HLA – DOD 1.3
- HLA – IEEE 1516-2000
- HLA – IEEE 1516-2010 (HLA1516e)
- HLA – IEEE 1516-2025 (HLA4)

Supported RTIs

- All commercial RTIs (Pitch, MAK, RTI Ng Pro, RTI-S, Raytheon RTI, CAE RTI)
- Most OpenSource RTIs (Portico, CERTI, OpenRTI)

Supported FOMs

- Supports any valid FOM file
- Tested with the RPR FOM and NETN FOM

Distributed Interactive Simulation (DIS)

Supported protocols

- DIS 5 (IEEE 1278.1-1995)
- DIS 6 (IEEE 1278.1a-1998)
- DIS 7 (IEEE 1278.1-2012)
- DIS 8 (IEEE 1278.1-202X)
- C-DIS (SISO-STD-023-2024)

Supported PDUs

- All PDUs are supported
- Custom PDUs are supported

Common Image Generator Interface (CIGI)

Supported protocols

- CIGI 4
- CIGI 3.0 to 3.3