ds.tools
DISTRIBUTED SIMULATION TOOLS

coreDS™ Python

HLA and DIS made easy with coreDS™

Overview

coreDS™ Python provides an elegant and cost-effective solution for connecting your Python code to an HLA federation and/or DIS simulation.

Since coreDS™ Python is powered by coreDS™ technology, it supports all RTIs, all HLA versions, all DIS versions and PDUs. Everything can be configured at runtime using our full-featured GUIs.

Using our high-level API, about five lines of Python code are enough to turn your program into a full-featured HLA and/or DIS simulator. You can then use the full power of the Python programming language to interact with an HLA federation or a DIS simulation.

If you want full control over your HLA and/or DIS connection, all the calls and callbacks are available in Python – there are no limitations!

Main features

- Supports Python 3.4+;
- 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, from HLA to DIS, 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, replying to messages or updating objects;
- 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.

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