SIMULATION PRODUCTS



To prepare for your mission, we offer two spacecraft simulation products to serve a variety of mission to hardware-in-the-loop needs – the GN&C Software Simulator and the Real-time Dynamics Processor (RDP).

The GN&C Software Simulator is a desktop executable that meshes the GN&C flight code and high-fidelity simulations into a tool that runs up to 150x faster than real-time, to support rapid mission planning and software behavior testing.

The Real-time Dynamics Processor is both a real-time spacecraft simulator and telemetry ground test interface to our avionics systems. This combination of features enables test-like-you-fly capability at both the unit and spacecraft level. The RDP features an Ethernet port for communication with a test PC and a connection to the unit under test for command and telemetry interfacing.

The common simulation present in both products allows the user to initialize the simulated spacecraft to mission-specific conditions to create orbit-like scenarios. This customization offers users insight into the performance and behavior of the spacecraft under various expected and test cases that may be experienced on-orbit.

SOFTWARE SIMULATORS



RDP

TEST/GSE INTERFACE	Ethernet and USB
FLIGHT INTERFACE	RS-422 or RS-485, LVDS for simulation

BCT SIMULATORS CONTAIN CAPABILITY TO MODEL:

- High-fidelity spacecraft dynamics
- Orbital dynamics and celestial bodies
- Actuator and sensor outputs
- Various fault injection cases

Note: This data is for information only and subject to change. Please contact us for current design data.



MDA SPACE

2550 Crescent Drive
Lafayette, CO 80026

MDASPACEUSA.COM

REV 1/2027