RT-LAB Orchestra

Open Framework for Real-Time Co-Simulation

Conduct Co-Simulation of Heterogenous Models in Real-Time

Achieve Superior Engineering Collaboration & Productivity

Test Control Model and Environment Models on the Same Simulator

Simulate an Entire Virtual Vehicle Earlier in the Design Process

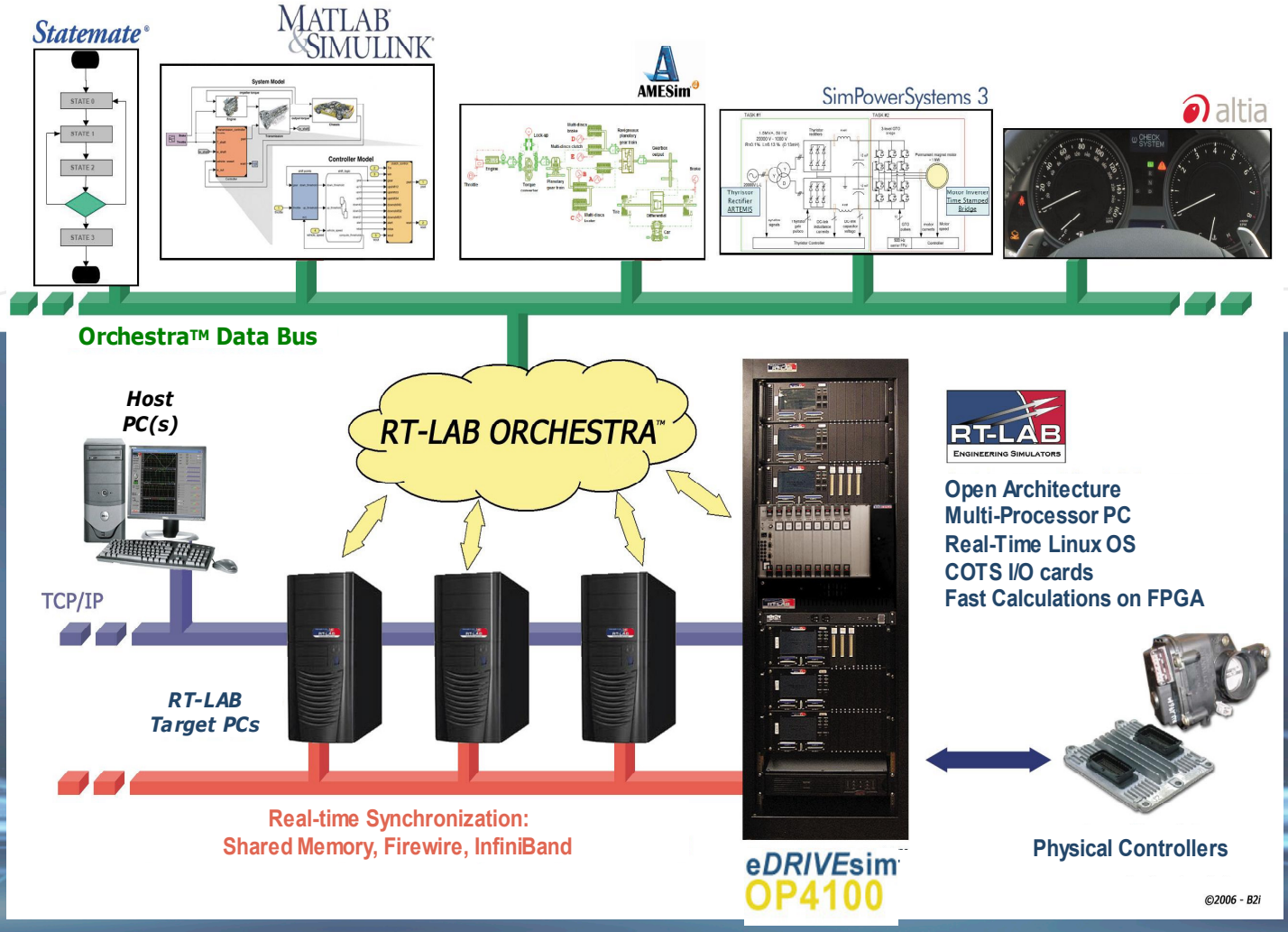
RT-LAB Orchestra is designed to accelerate co-simulation interoperability with a robust framework and unprecedented performance.

Powered By RT-LAB

Successful Real-Time simulation of complex systems often requires heterogeneous models be integrated into a single co-simulation environment. These models are often written in different programming languages, or generated by various simulation tools. They may also be developed by different teams, or even by different companies.

By facilitating integration and interoperability between disparate co-simulation components, RT-LAB Orchestra enables the engineer to conduct Real-Time co-simulation of virtual vehicles earlier in the design process.

RT-LAB Orchestra builds on the proven foundation of the RT-LAB framework and gives simulation experts the flexibility they require to achieve success – no matter how challenging or complex the project. Orchestra will resolve co-simulation issues such as multiple simulation domains, different teams, dissimilar languages and simulation tools and reuse of legacy code.



RT-LAB Orchestra Architecture

Extensive Third Party Model Support

RT-LAB Orchestra includes a library of MATLAB/ Simulink blocks that are inserted into Simulink models that implement co-simulation components. A C-code API is then used by co-simulation components to exchange data within the RT-LAB framework, while configuration requirements are handled through an XML description file. In addition, a wide variety of model types can be supported including C, Simulink, AMEsim, Dymola, Statemate, and Altia.

Simulate an Entire Virtual Vehicle

RT-LAB Orchestra provides a platform for virtual simulation of an entire vehicle, while eliminating concerns related to interaction of diverse models. The end result is increased effectiveness of simulation in the design process, decreased time to market and reduction in overall costs.

Test Control Models & Environment Models On The Same Simulator

RT-LAB Orchestra also enables testing of control models and environment models on the same simulator. These can include such control models as engine control, climate control, lighting control, and door lock controls. Environment models can include engine, driver, and powertrain. RT-LAB Orchestra also allows the user to connect or disconnect modules during a simulation, and provides options for compiling of models on multiple targets, saving the user valuable time.

From Imagination to Real-Time
Opal-RT Technologies Inc.
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