

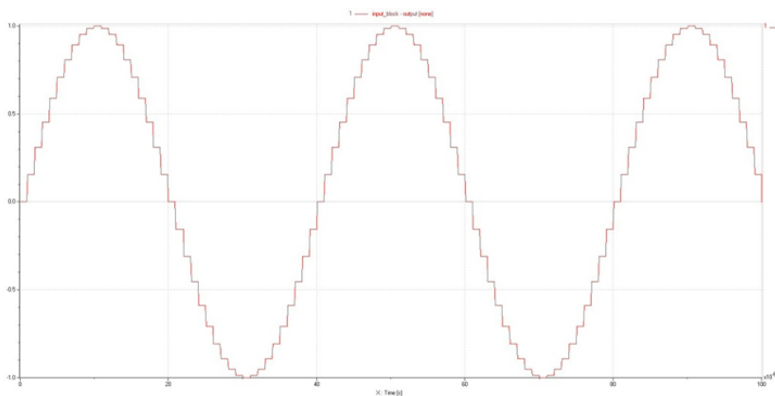
Release notes

Windows Platforms

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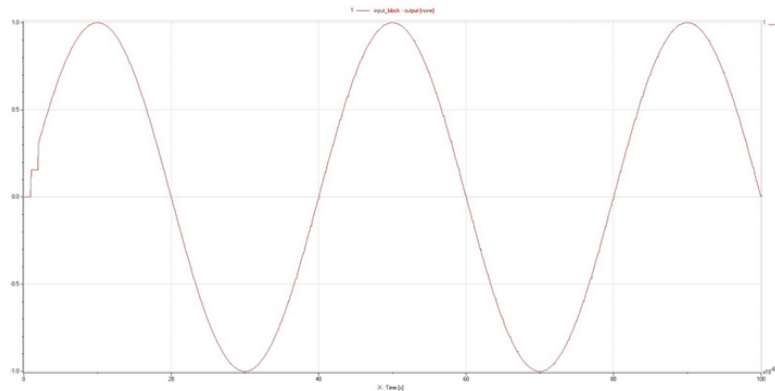
What's new

- Two versions of the software available: 32-bit and 64-bit. The 64-bit version is
 - Compatible with both 64-bit and 32-bit simulators versions. CosiMate 64-bit can configure on a same PC both versions of a same simulator.
 - Allows “mixed” co-simulations with 64-bit and 32-bit simulators connected together on the same CosiMate bus.
- Data Prediction Algorithm (DPA):
 - Extrapolation algorithm is used in many cases:
 - Minimize the number of synchronization points with the CosiMate bus
 - Maximize the co-simulation speed
 - Improve the stability of the simulated system.
 - May figure out blocking co-simulations because of a non-convergence of some models.



No Extrapolation

- CosiMate $T_s = 1\mu s$
- AMESim $T_s = 0.1\mu s$



Extrapolation (Lagrange degree 3)

The number of synchronizations with the CosiMate bus has to be multiplied per 10 to get the same accuracy without applying extrapolation algorithm.

Figure 1: LMS Imagine.Lab AMESim extrapolation example

- DPA is provided in a DLL format. The DLL is called from the simulator interface.

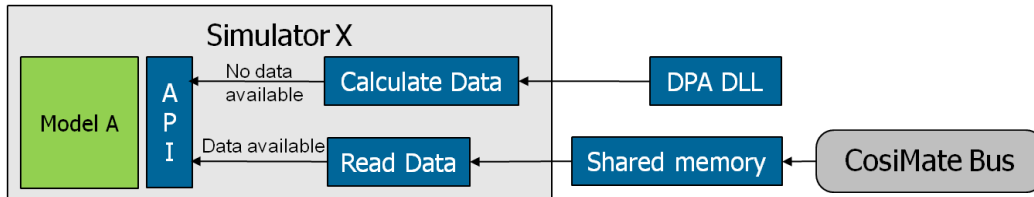


Figure 2: DPA use graph

- A default algorithm is provided: Lagrange polynomials of degree 1, 2 or 3.
- Users can provide their own DPA DLL and algorithm. Requirements and constraints on this customization are detailed in the CosiMate user manual.
- Already implemented on the following interfaces:

- Matlab/Simulink

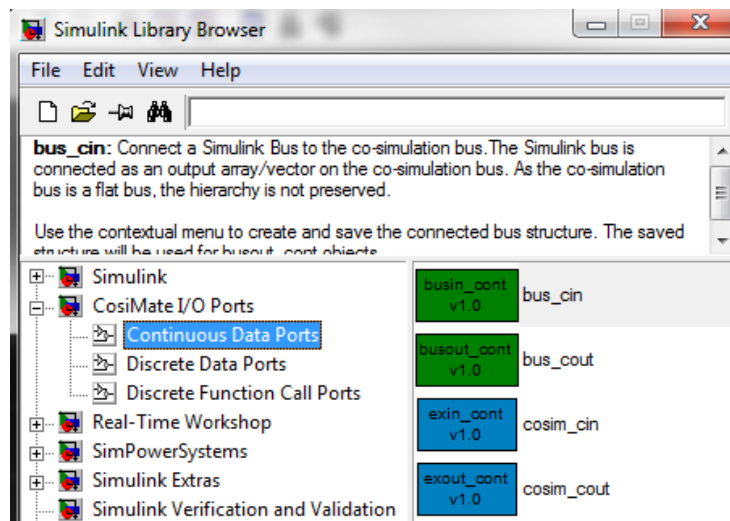


Figure 3: Continuous Data Ports in Simulink

- LMS Imagine.Lab AMESim
- Saber
- EMTP-RV
- A CosiMate co-simulation can now be controlled from the simulators. A pre-defined CosiMate menu allows the following actions:
 - Associate a CosiMate netlist with a model.
 - Open a CosiMate session, and load the selected netlist.
 - Save an Interface Description File
 - Export an Interface Description File to a CosiMate session
 - Run a co-simulation

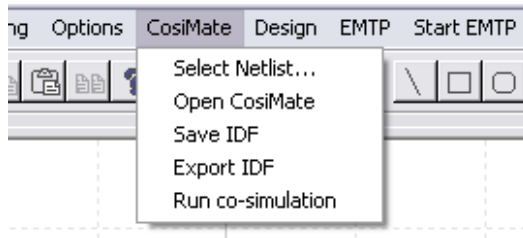


Figure 4: CosiMate menu in EMTPWorks

The feature is already implemented with the following simulators:

- Matlab/Simulink
- EMTP-RV
- A new interface:
 - Rhapsody Developer C++ Edition: coupled with the CosiMate event-driven mode.

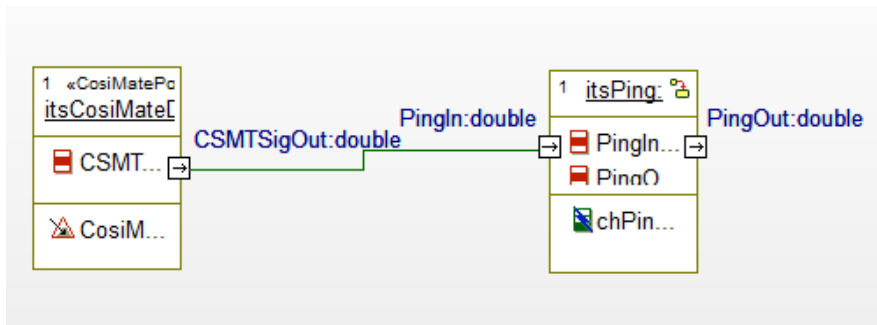


Figure 5: Model Diagram: Connect a CosiMate port

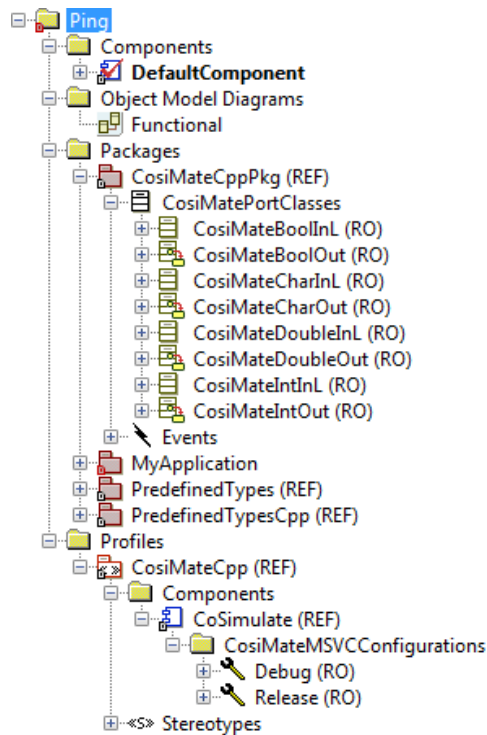


Figure 6: Browser view: CosiMate components

- A new tool:
 - Processor Affinity Controller (PAC): Only available on multi-cores computers, the tool allows the user to control which processors are allowed to run a specific simulation process.
 - Works with real and virtual cores
 - Works on the list of the simulation processes involved in the current co-simulation
 - Can only be used once the co-simulation is initialized

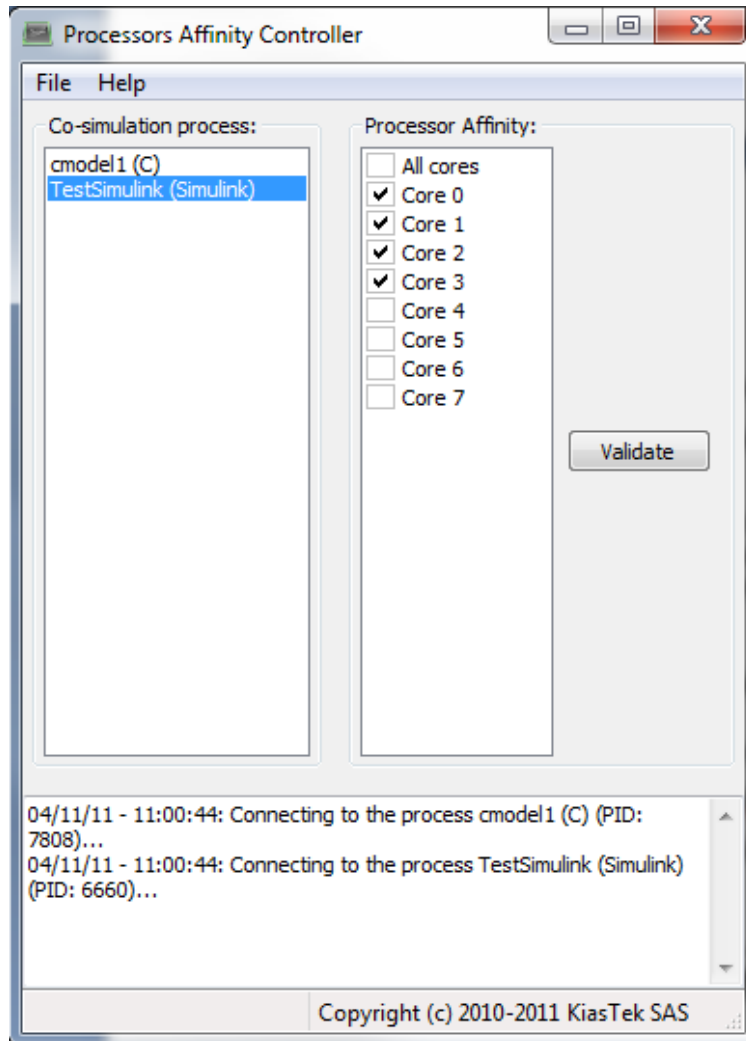


Figure 7: PAC tool

- Minor graphical and kernel improvements:
 - The unique CosiMate library now becomes a set of libraries: one library per simulator to improve the maintenance and the update mechanism on interfaces.
 - New parameters available from the Options panel as the shared memory and semaphore configuration parameters.
 - Initial values on input ports are now correctly taken into account during the initialization phase.
 - Import IDF: update function implemented: if the model description already exists in the netlist, importing again the model IDF description updates the existing description.

- List of available interfaces for the release:

Company	Simulator/Language	Windows XP SP2/SP3	Windows Vista SP1/SP2	Windows 7 SP1
The MathWorks	Matlab/Simulink	From V7.1 (R14 SP3) to V7.12 (R2011a)	From V7.1 (R14 SP3) to V7.12 (R2011a)	From V7.1 (R14 SP3) to V7.12 (R2011a)
Synopsys	Saber Designer	From 2003.6 to 2011.03	From 2003.6 to 2011.03	From 2003.6 to 2011.03
LMS International	Imagine.Lab AMESim	From 4.3 to Rev 10	From 4.3 to Rev 10	From 4.3 to Rev 10
Powersys	EMTP-RV	2.2.x	2.2.x	2.2.x
MSC Software	Easy5	From 2005 r1 to 2010	From 2005 r1 to 2010	From 2005 r1 to 2010
IBM Rational	Statemate	From 4.1 to 4.6.1	From 4.1 to 4.6.1	From 4.1 to 4.6.1
IBM Rational	Rhapsody Developer C++ Edition	7.5.x	7.5.x	7.5.x
Mentor Graphics	Modelsim SE	From 6.1f	From 6.1f	From 6.1f
Gamma Technologies	GT-Power	From 6.2 to 7.1	From 6.2 to 7.1	From 6.2 to 7.1
Microsoft Visual C++	C/C++	From 6.0 to 10.0 (VS 2010)	From 6.0 to 10.0 (VS 2010)	From 6.0 to 10.0 (VS 2010)
Eclipse CDT	C/C++	From Eclipse/CDT Europa to Helios	From Eclipse/CDT Europa to Helios	From Eclipse/CDT Europa to Helios
-	C/C++ (gcc)	All	All	All

Important Notes

For GT-Power users: due to major modifications on the CosiMate library structure, the GT-Power component has been changed. The direct consequence is an error raised during the load stage of netlists including this component:

04/22/11 - 10:11:40: Error: Cannot find the module GTPower in the library.

04/22/11 - 10:11:40: Error: Cannot access to the module GTPower to get the version 6.2

To correct the netlist, import again IDF descriptions of the GT-Power models.

Note: Do not remove the model blocks from the netlist, only update them.

Known issues and limitations

For known issues and limitations please contact the KiasTek support at <http://support.kiastek.com/>.

Resolved issue

For more details concerning an issue, please contact the KiasTek support at <http://support.kiastek.com/>.

Supported platforms

CosiMate is a software product available on Windows XP SP2/SP3, Windows Vista SP1/SP2 and Windows 7 SP1 operating systems.

CosiMate supports 32-bit and 64-bit Windows platforms.

For other platforms, please ask KiasTek at info@kiastek.com.

Note: Under Windows Vista/7, it is recommended, for performance purposes, to turn off or decrease the sensitivity of the User Account Control (UAC) option.