



CosiMate 2009.06 v6.0.2

Release notes

Windows Platforms

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Important Notes

For AMESim users: the CosiMate software shall be installed in a directory with a full path without white spaces. This is consistent with improvement report 0003502 of the AMESim development database “object files referenced by a path containing white space is not allowed”.

For AMESim and CosiMate 2008.05 (or prior versions) users: Due to recent changes to the CosiMate API, an update and recompilation of any AMESim model developed to cosimulate with prior CosiMate versions is required.

For Saber 2007.03 users: the CosiMate software shall be installed in a directory with a full path without white spaces. This is consistent with the `SABER_DATA_PATH` environment variable in Saber 2007.03 which does not support white spaces in the defined path.

What's new

- Kernel modifications:

- The Event-Driven communication mode allows the connection between event-driven (e.g. HDL simulators, UML models) with connected event-driven or sequential simulators (e.g. C code).

Several configurations of the interface are available:

- Locked input ports: inputs ports are locked within the simulated model until an event is sent from a second simulator over the CosiMate bus.
- Unlocked input ports: events are propagated to unlocked ports. It assumes the receiver is configured to read the data/event at the correct time.

Note: A signal coming from the CosiMate bus could be used to alert the simulator that one or several events have been transmitted.

- Both locked and unlocked ports could use unbuffered or buffered variables. For buffered variables, a FIFO is instantiated and its depth is configured. A reconfiguration of the FIFO does NOT require a rebuild of the CosiMate netlist. The width of the Fifo is the size of the data type in use with the port.
- By definition, output ports are unlocked as transmit event/data over the CosiMate bus.

Model communication consistency is ensured via protocols defined at the application level.

- The Mixed communication mode allows the connection between Event-Driven/Sequential and Synchronized (solver) simulators.

- Input ports on Event-Driven simulators will receive an event on each output transmitted from a synchronized simulator.
- Input ports on Synchronized simulators will periodically read the CosiMate bus. Then the last received event will be read at the synchronization point.

Note: FIFOs could be configured to buffer the incoming events.

- As for pure Event-Driven co-simulations, model communication consistency is ensured via protocols defined at the application level.

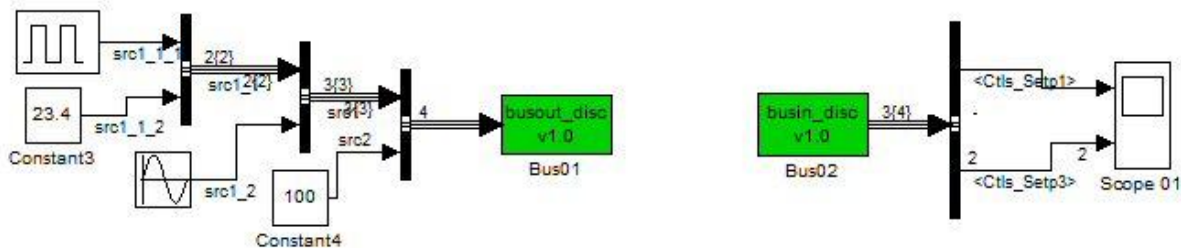
- **Important note:** Event-Driven and Mixed communication will not be available on network co-simulations for this software version. Nevertheless, mixed co-simulation where event-driven

communication takes place on a local computer, and synchronized communication occurs over a distributed network, is allowed.

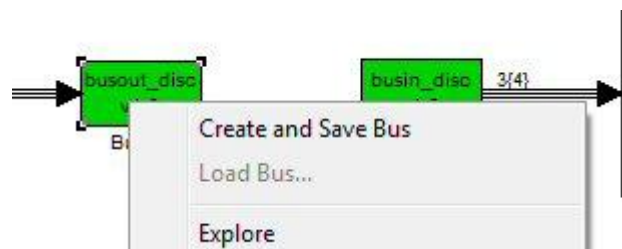
- Minor modifications of the kernel:
 - The verbose mode is now statically configured from the options panel of the user interface. The option is common for both the graphical interface and the kernel.
 - The license server can now be configured by simply using the syntax *port@hostname* or *port@ip_address* in the `COSIMATE_LICENSE_FILE` environment variable.
 - The simulators library has been extended to accept option configuration for simulator interfaces. Those options are configurable from the user interface and their values are stored in the user `cosimate.ini` file.

- Updated interfaces:

- Simulink:
 - The Simulink interface has been improved to accept and manage connections on Simulink bus. Input and output bus ports have been defined in the library.



- The connection to a Simulink bus is managed by using Simulink.Bus objects. Bus ports are easily configurable by using the contextual menu.
 - *Create and Save Bus...*: Used on output bus (CosiMate port) to create the bus structure from the connected components. Save the bus structure as a M-file which could be used to configure an input bus (CosiMate port) in a second model.
 - *Load Bus...*: Used to configure an input bus (CosiMate port). The bus structure is loaded from an existing M-file. Once configured, components connected to the input bus (CosiMate port) know the structure of the bus as from a bus creator.

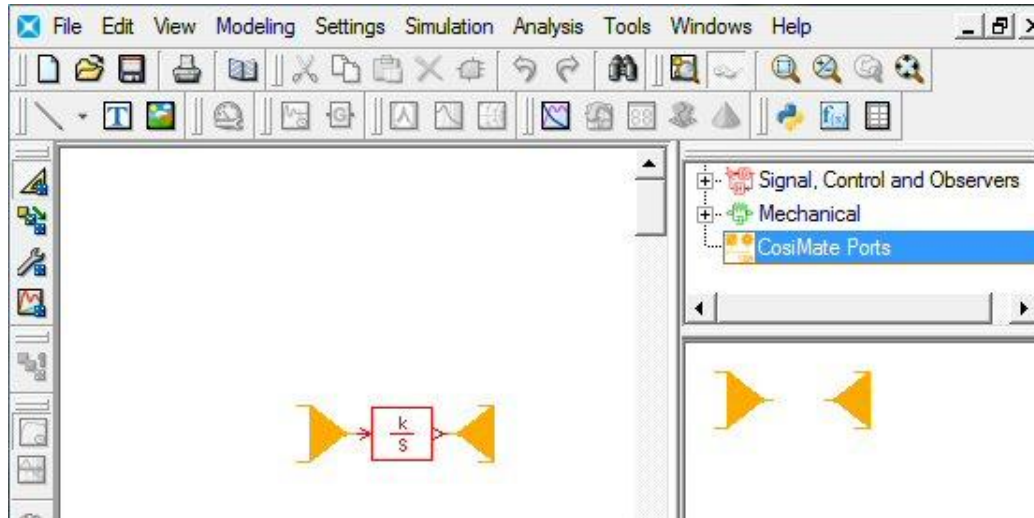


Note: Commands above are available from both the Matlab command prompt and the contextual menu (Simulink 7.5 (R2007b) and above required).

Note: For performance purpose, hierarchical busses are mapped as flat vector on the CosiMate bus.

- AMESim:
 - The AMESim/CosiMate ports are configurable to:
 - Prioritize the read of inputs before sending outputs.
 - Use extrapolation methods (orders from 1 to 3) to avoid discontinuities and low performance in terms of simulation speed.

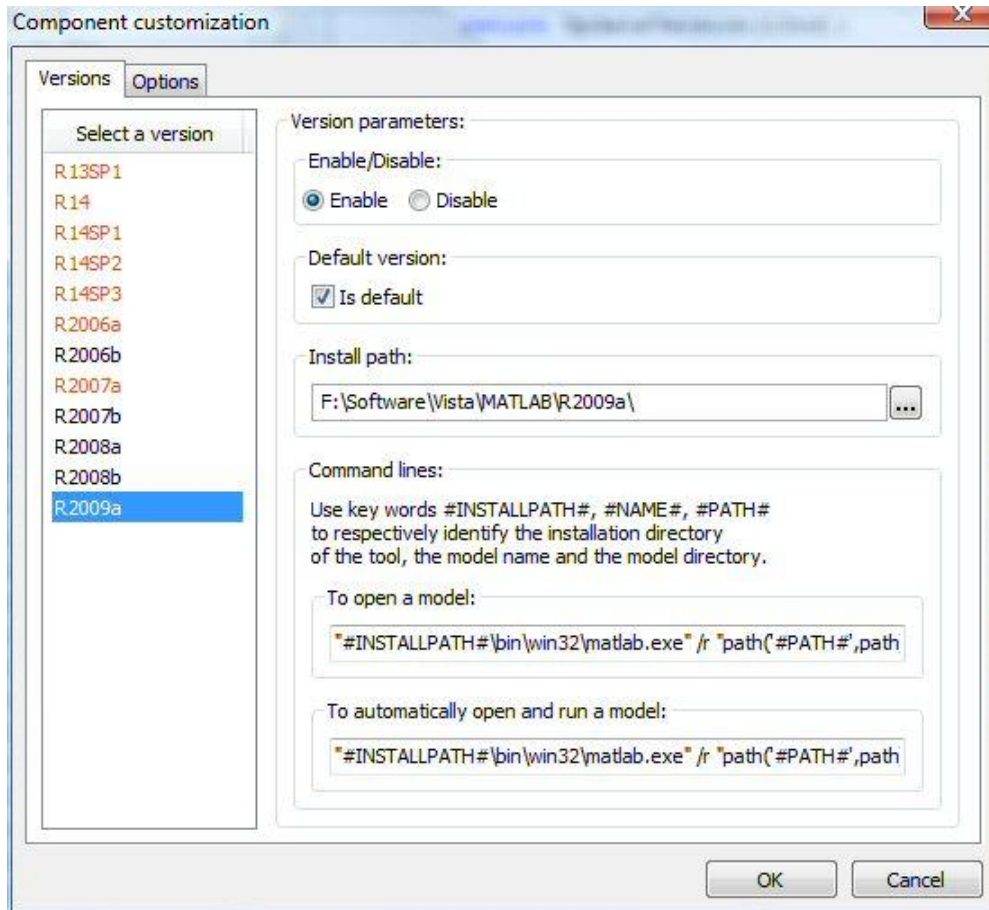
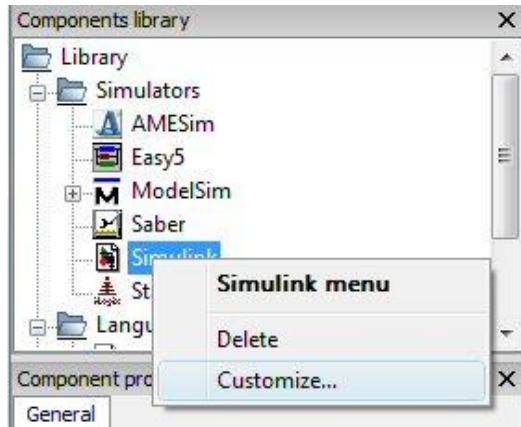
Note: All parameters can be set by using the graphical user interface.



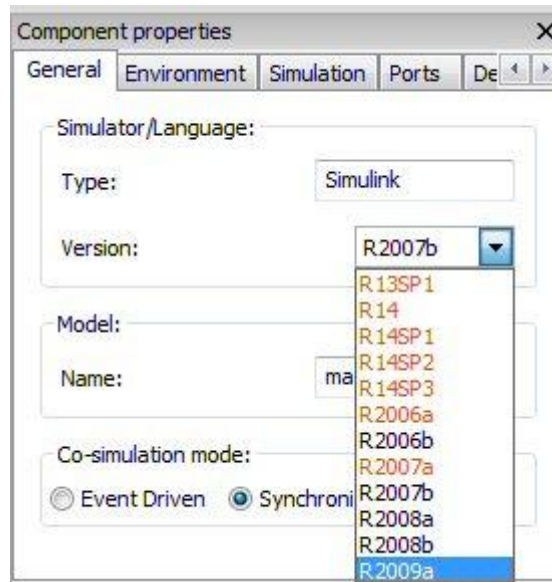
- ModelSim VHDL:
 - Interface updated for the Event-Driven mode. The interface can now be used for both Event-Driven and Synchronized co-simulations.
- C interface:
 - Interface updated for the Event-Driven mode. The interface can now be used for both Event-Driven and Synchronized co-simulations.
- Minor graphical improvements:
 - A better interface to customize simulators configuration with CosiMate. The end user can now:
 - Enable or disable a simulator version in the CosiMate context. By default the CosiMate tools configuration utility detects and enables installed versions.
 - Set a version as the default version to use when a new simulator is instantiated in a CosiMate netlist.
 - Set the installation path of the selected version. The end user can then modify installation paths detected by the CosiMate tools configuration utility.
 - Set the open and start command lines.
 - Modify the options defined for the simulator interface.

Note: The *Start with...* and *Open with...* dialog boxes have been replaced by the *Customize...* property sheet.

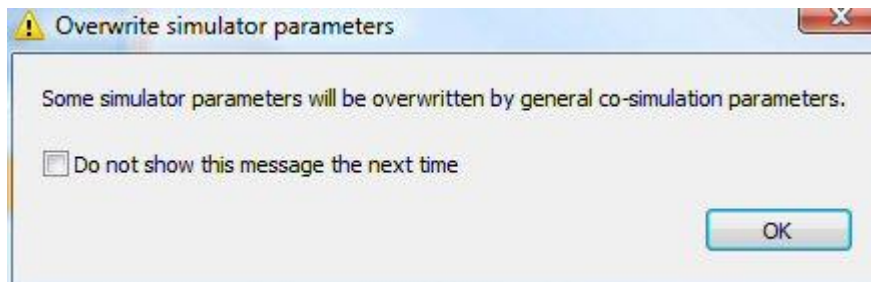
Note: Disabled versions are displayed in orange.



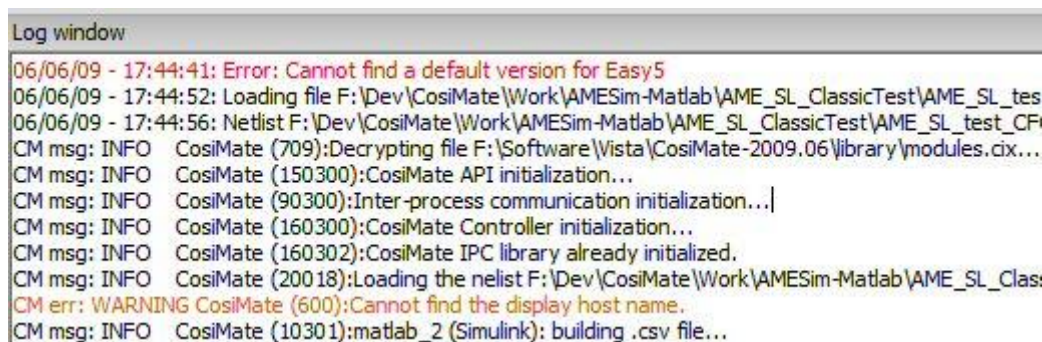
- Versions not installed or disabled are easily identifiable from the drop-down list (Property panel). An orange version name means that the version is currently disabled by the end user or not installed on the computer.



- When simulations are overwritten by general parameters (CosiMate bus parameters) as a time step, start time or other option, an alert is displayed before starting the co-simulation. The dialog box could be disabled for future co-simulations just by checking the “Do not show this message the next time” option.



- Colors have been added in the log window to easily identify errors and warning from simple information messages. An error is displayed in red, and a warning in orange.



- A “Check for updates” action item is now available: it allows the end user to easily install patches or minor releases.
- Installer improvements:
 - The configuration of simulators is done in a “verbose” mode. A progress bar is used to provide the estimated time remaining before the end of the configuration.

- You can save a current configuration of the simulators connected to CosiMate in a XML file.
- And you can load an existing configuration. The CosiMate installer uses this feature to upgrade an existing CosiMate installation.
- The installer provides the capability to configure the simulators post-installation.

Here is the list of available interfaces:

Company	Simulator/Language	Windows XP SP2/SP3	Windows Vista SP1/SP2	Windows 7
The MathWorks	Matlab/Simulink	From V7.1 (R14 SP3) to V7.9 (R2009b)	From V7.1 (R14 SP3) to V7.9 (R2009b)	From V7.1 (R14 SP3) to V7.9 (R2009b)
Synopsys	Saber Designer	From 2003.06 to 2009.06 SP1	From 2003.06 to 2009.06 SP1	From 2003.06 to 2009.06 SP1
LMS/Imagine	AMESim	From 4.3 to Rev 8B	From 4.3 to Rev 8B	From 4.3 to Rev 8B
I-Logix/Telelogic	Statemate	From 3.1 to 4.1	From 3.1 to 4.1	From 3.1 to 4.1
MSC Software	Easy5	From 2005 r1 to 2008 r1	From 2005 r1 to 2008 r1	From 2005 r1 to 2008 r1
Mentor Graphics	Modelsim SE	From 6.1f	From 6.1f	From 6.1f
Microsoft Visual C++	C/C++	From 6.0 to 9.0 (VS 2008)	From 6.0 to 9.0 (VS 2008)	From 6.0 to 9.0 (VS 2008)
Eclipse CDT	C/C++	From Eclipse 3.3 From CDT 4.0	From Eclipse 3.3 From CDT 4.0	From Eclipse 3.3 From CDT 4.0
-	C/C++ (gcc)	All	All	All

Known issues and limitations

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

Resolved issue

- SB 0000034: Enhancement of the thread control “stop” events.
 - SB 0000035: Management of the netlist creation status.
 - SB 0000036: Improvement of simulator versions.
 - SB 0000038: Failed to connect to the router.
 - SB 0000040: AMESim simulation dead lock.
 - SB 0000041: Automatic start command of AMESim.
 - SB 0000042: Improvement of simulator options management.
 - SB 0000043: Improvement of the log window.
 - SB 0000044: CosiMate bus selection issue from the netlist view.
 - SB 0000045: IDF- non readable characters in the AMESim model name.
 - SB 0000046: Improvement of license server management.
 - SB 0000051: SHM not available – unhandled exception.
 - SB 0000052: Simulink crash – Thread and SimStruct management.
 - SB 0000053: Not connected graphical temporary pins visible.
 - SB 0000057: Kernel crashes at the end of mixed mode co-simulations.
 - SB 0000058: Documentation add-on on event-driven co-simulations and communication protocols.
 - SB 0000059: FIFO initialization issue.
 - SB 0000060: The main window unmaximized when the *run* button is pressed.
 - SB 0000062: Unable to resolve host names on TCP clients.
 - SB 0000063: Wrong install path for C-2009.06 Saber version.
 - SB 0000064: C examples – VC6 makefiles require an update.
 - SB 0000065: Conflicts between different versions of libxml2.
 - SB 0000066: Dead lock on mixed mode co-simulations.
 - SB 0000067: TCP clients initialization dead lock due to a wrong sequence in the connection phase.
- For more details, please contact the ChiasTek support at <http://support.chiastek.com>.

Supported platforms

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

For other platforms, please ask ChiasTek at info@chiastek.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.