

Link for Cadence Incisive Release Notes

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Summary by Version

This table provides quick access to what's new in each version. For clarification, see "About Release Notes" on page 1.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V2.1 (R2007b)	Yes Details	Yes Summary	Bug Reports	Printable Release Notes: PDF Current product documentation
V2.0 (R2007a)	Yes Details	No	Bug Reports	No
V1.0 (R2006b+)	Yes Details	Not applicable	Bug Reports	No

About Release Notes

Use release notes when upgrading to a newer version to learn about new features and changes, and the potential impact on your existing files and practices. Release notes are also beneficial if you use or support multiple versions.

If you are not upgrading from the most recent previous version, review release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the New Features and Changes, Version Compatibility Considerations, and Bug Reports for V1.1 and V1.2.

New Features and Changes

These include

- New functionality
- Changes to existing functionality

- Changes to system requirements (complete system requirements for the current version are at the MathWorks Web site)
- Any version compatibility considerations associated with each new feature or change

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, its description includes a **Compatibility Considerations** subsection that details the impact. For a list of all new features and changes that have reported compatibility impact, see the “Compatibility Summary for Link for Cadence Incisive” on page 13.

Compatibility issues that are reported after the product has been released are added to Bug Reports at the MathWorks Web site. Because bug fixes can sometimes result in incompatibilities, also review fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks Bug Reports is a user-searchable database of known problems, workarounds, and fixes. The MathWorks updates the Bug Reports database as new problems and resolutions become known, so check it as needed for the latest information.

Access Bug Reports at the MathWorks Web site using your MathWorks Account. If you are not logged in to your MathWorks Account when you link to Bug Reports, you are prompted to log in or create an account. You then can view bug fixes and known problems for R14SP2 and more recent releases.

Related Documentation at Web Site

Printable Release Notes (PDF). You can print release notes from the PDF version, located at the MathWorks Web site. The PDF version does not support links to other documents or to the Web site, such as to Bug Reports. Use the browser-based version of release notes for access to all information.

Product Documentation. At the MathWorks Web site, you can access complete product documentation for the current version and some previous versions, as noted in the summary table.

Version 2.1 (R2007b) Link for Cadence Incisive

This table summarizes what's new in V2.0 (R2007b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes—Details labeled as Compatibility Considerations , below. See also “Compatibility Summary for Link for Cadence Incisive” on page 13	Bug Reports	Printable Release Notes: PDF Current product documentation

- “Solaris 32-Bit Mode Support (on 64-Bit Platforms)” on page 5
- “Improved Cosimulation Block GUI Eases Parameter Definition” on page 5
- “New Setup Script Assists in Installation Debug and Runtime Configuration” on page 5
- “Complete Cadence-Bundled GCC Library Compatibility” on page 6
- “Block Cosimulation Until HDL Simulator Is Ready with New Link for Cadence Incisive MATLAB Function” on page 6
- “Send Tcl Commands to the HDL Simulator with New Link for Cadence Incisive MATLAB Function” on page 6
- “Suppress Error Message with New hlldaemon Property Name/Property Value Pair” on page 6
- “Limited Support for System Verilog” on page 6
- “Link and Target Products Regrouped in New Start, Help, and Demos Category” on page 7
- “Improved User’s Guide and Reference Documentation” on page 7

Solaris 32-Bit Mode Support (on 64-Bit Platforms)

Link for Cadence Incisive is able to run the HDL simulator side of the link in 32-bit mode and the MATLAB/Simulink side in 64-bit mode, either on a single machine or in a true cross-platform mode. See “Using the Link for Cadence Incisive Libraries” in the *Link for Cadence Incisive User’s Guide*.

Improved Cosimulation Block GUI Eases Parameter Definition

Changes to the HDL Cosimulation block mask allow you to enter port information directly into the ports table. For more, see “Ports Pane” in the HDL Cosimulation block reference.

New Setup Script Assists in Installation Debug and Runtime Configuration

Link for Cadence Incisive provides a guided setup script (`syschecklfi`) for configuring your simulator setup. This setup works whether you have installed Link for Cadence Incisive and MATLAB on the same machine as Cadence Incisive or if you have installed them on different machines. This script creates a configuration file containing the location of the appropriate Link for Cadence Incisive MATLAB and Simulink libraries. You can then include this configuration with any other calls you make using Cadence Incisive `ncsim` from the Incisive or NC simulator. You only need to run this script once. If you plan to use the MATLAB `nclaunch` function instead, no setup is required. See “Setting Up Cadence Incisive Software for Use with Link for Cadence Incisive”.

Note The Link for Cadence Incisive guided setup configuration/diagnostic script works only on Unix and Linux. Windows users: please see instructions in the *Link for Cadence Incisive User’s Guide* for manually creating the configuration files.

Complete Cadence-Bundled GCC Library Compatibility

The Link for Cadence Incisive libraries are compiled using the same compilers that MATLAB is compiled with (they vary by platform) as well as the compilers that are available with Cadence Incisive (usually some version of gcc). This is done to ensure compatibility with other C++ libraries that may get linked into the HDL simulator, including SystemC libraries. See “Using the Link for Cadence Incisive Libraries” in the *Link for Cadence Incisive User’s Guide*.

Block Cosimulation Until HDL Simulator Is Ready with New Link for Cadence Incisive MATLAB Function

The Link for Cadence Incisive MATLAB function pingHdlSim blocks cosimulation by not returning until the Simulink server is loaded or until a specified timeout occurs. This function is useful if you are trying to automate a cosimulation and you need to know that the Simulink server has loaded before your script continues the simulation. See pingHdlSim in “MATLAB Functions — Alphabetical List”.

Send Tcl Commands to the HDL Simulator with New Link for Cadence Incisive MATLAB Function

tclHdlSim executes a Tcl command immediately on the HDL simulator using a shared or socket connection. See tclHdlSim in “MATLAB Functions — Alphabetical List”.

Suppress Error Message with New hlddaemon Property Name/Property Value Pair

hlddaemon property name/property value pair "quiet", "true" suppresses printing messages to the standard queue. Errors are still shown. See hlddaemon in “MATLAB Functions — Alphabetical List”.

Limited Support for System Verilog

You can cosimulate a model using SystemVerilog and/or SystemC with MATLAB or Simulink using Link for Cadence Incisive. Write simple wrappers around the SystemC and make sure that the SystemVerilog cosimulation

connections are to ports or signals of data types supported by Link for Cadence Incisive.

Link and Target Products Regrouped in New Start, Help, and Demos Category

A new product category, Links and Targets, now contains all MathWorks products that link, target, or cosimulate code.

Compatibility Considerations

This change impacts you in the following ways:

- Finding and viewing these products through the MATLAB Desktop **Start** button and in the Help browser **Contents** and **Demos** panes.
- Using the `demo` command to access the product demos.

For more about this new product category, see “Demos and Help Browser Contents Now Include New Category for Links and Targets”, in the *MATLAB Release Notes*.

Improved User’s Guide and Reference Documentation

The Link for Cadence Incisive User’s Guide (including the Getting Started Guide) and Reference Guide have been reorganized as a result of intense technical review and documentation usability testing, resulting in product documentation that follows a realistic workflow for EDA verification and testing.

Version 2.0 (R2007a) Link for Cadence Incisive

This table summarizes what's new in V2.0 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	No

New features and changes introduced in this version are

- “Native VHDL Support” on page 8
- “Mixed-language (VHDL and Verilog) Cosimulation Support in Simulink Models” on page 8
- “Option to Deactivate HDL Cosimulation for Faster Simulink Model Debugging ” on page 9

Native VHDL Support

Link for Cadence® Incisive® now supports VHDL models directly. All Link for Cadence Incisive MATLAB functions, and the HDL Cosimulation block, offer the same language-transparent feature set for both Verilog and VHDL models. For more information, see “VHDL and Verilog Language Support”.

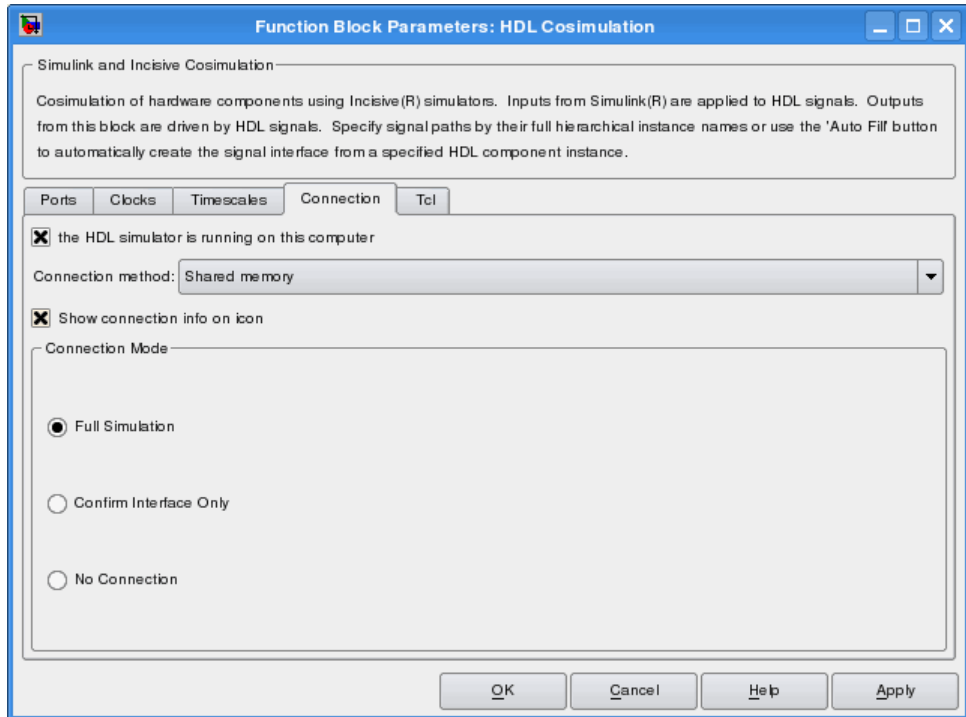
Mixed-language (VHDL and Verilog) Cosimulation Support in Simulink Models

Link for Cadence Incisive software now supports mixed-language HDL models (models with both Verilog and VHDL components), allowing you to cosimulate VHDL and Verilog signals simultaneously.

This feature has the following limitation: The Cadence VHPI reports the incorrect simulator precision when simulating mixed Verilog/VHDL design. For more information, see “VHDL and Verilog Language Support”.

Option to Deactivate HDL Cosimulation for Faster Simulink Model Debugging

New option panel on the Connection Pane provides the following checkboxes for bypassing the HDL simulator when running a Simulink simulation.



Select one of the following:

- **Full Simulation:** Confirm interface and run HDL simulation (default).
- **Confirm Interface Only:** Check HDL simulator for proper signal names, dimensions, and data types, but do not run HDL simulation.
- **No Connection:** Do not communicate with the HDL simulator. The HDL simulator does not need to be started.

With the 2nd and 3rd options, the Link for Cadence Incisive interface does not communicate with the HDL simulator during Simulink simulation.

More about the HDL Cosimulation block can be found in HDL Cosimulation.

Version 1.0 (R2006b+) Link for Cadence Incisive

This table summarizes what's new in V1.0 (R2006b+):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	No

Introduction to Link for Cadence Incisive

Link for Cadence Incisive software integrates MATLAB® and Simulink® into your integrated circuit development flow. It lets you cosimulate and verify hardware description language (HDL) code using Incisive® platform simulators from Cadence Design Systems.

Link for Cadence Incisive Version 1.0 includes these features:

- Native Verilog support and support for VHDL via Verilog modules
- Connection of a Simulink model to one or more Incisive simulators
- MATLAB test bench capability, enabling the use of MATLAB code to stimulate and check HDL code
- MATLAB component capability, enabling simulation of MATLAB code in place of entities not yet coded in HDL
- User-selectable communication modes between MATLAB and Simulink and the Incisive simulator, which provides shared memory (for faster performance) and TCP/IP sockets (for versatility)
- Interactive or batch mode cosimulation, debugging, testing, and verification of HDL code from MATLAB

Link for Cadence Incisive Version 1.0 also includes the following beta-level feature:

HdlServer.m for Managing Multiple HDL Simulator Connections

Link for Cadence Incisive 1.0 contains a preliminary, beta-level scripting solution, `HdlServer.m`. As a replacement for `nc1launch.m` for Simulink connections, `HdlServer.m` adds capabilities for managing multiple HDL simulator connections, both remotely and locally. The script also allows for cross-platform connections, including using MATLAB and Simulink on a Windows machine. For more information, type

```
>> help HdlServer
```

at the MATLAB prompt. If you have feedback about this beta feature, please contact The MathWorks.

For More Information

See the *Link for Cadence Incisive User's Guide* for comprehensive information on the Link for Cadence Incisive software.

Compatibility Summary for Link for Cadence Incisive

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V2.1 (R2007b)	See the Compatibility Considerations subheading for each of these new features or changes: <ul style="list-style-type: none"> • “Link and Target Products Regrouped in New Start, Help, and Demos Category” on page 7
V2.0 (R2007a)	None
V1.0 (R2006b+)	None