

Embedded IDE Link™ Release Notes

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Embedded IDE Link™ Release Notes

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Summary by Version

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

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
New Product V4.0 (R2009b)	Yes Details	Yes Summary	Bug Reports	Printable Release Notes: PDF Current product documentation

Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features
- Changes
- Potential impact on your existing files and practices

Review the release notes for other MathWorks™ products required for this product (for example, MATLAB® or Simulink®). Determine if enhancements, bugs, or compatibility considerations in other products impact you.

If you are upgrading from a software version other than the most recent one, review the current release notes and all interim versions. For example, when you upgrade from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What Is in the Release Notes

New Features and Changes

- New functionality
- Changes to existing functionality

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product release appear under Bug Reports at The MathWorks™ Web site. Bug fixes can sometimes result in incompatibilities, so review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

The MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time and as more information becomes available. Bug Reports include provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

Version 4.0 (R2009b) Embedded IDE Link

This table summarizes what's new in V4.0 (R2009b):

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 Summary.	Bug Reports	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are

- “New Embedded IDE Link Product” on page 4
- “Unified Idle Task, Memory Allocate, and Memory Copy Blocks” on page 4
- “Enhanced Target Preference and Custom Board Blocks” on page 5
- “Support for Analog Devices™ Blackfin 52x Processor Family” on page 5
- “Support for Update 5 of Analog Devices™ VisualDSP++ (VisualDSP++ 5.0.5)” on page 5
- “Support for Free-running ARM with Green Hills® MULTI” on page 5
- “Support for Green Hills® MULTI 5.0.5 and 5.1.2” on page 5
- “Improved Handling of Asynchronous Hardware Interrupts for Blackfin Processors” on page 5
- “Removed Hardware-in-Loop (HIL) Demo” on page 6
- “Removed "Inline run-time library functions" From Configuration Parameters” on page 6
- “Embedded IDE Link Build Directory and Target Preferences” on page 6
- “Limitation: XDS100 Emulator Does Not Support RTDX” on page 7
- “Limitation: Simulink Does Not Support Custom Scheduler Priorities for Embedded IDE Link Platforms” on page 7

New Embedded IDE Link Product

As of R2009b, the following products have been merged into a new product, Embedded IDE Link™

- Embedded IDE Link CC
- Embedded IDE Link MU
- Embedded IDE Link TS
- Embedded IDE Link VS

Compatibility Considerations

The merged product structure has changed the **Start** menu functionality. To access Embedded IDE Link TS features that used to be in the **Start** menu, you must now enter `taskingutils` in the Command Window or double-click Launch TASKING Utilities in the Simulink block library. This opens the Embedded IDE Link Utilities for Use with TASKING dialog box. For more information, see “Accessing Utilities for TASKING®” in the documentation.

You must use a clean build directory and the latest values for the target preference fields when setting up your product for use with Altium® TASKING. To avoid problems when upgrading from a previous version, use either a new build directory, or clean up your existing build directory that you use to build models. A previous installation of the Embedded IDE Link product could cause a compatibility issue if the target preferences are not reset. To avoid problems, click **Reset to Default** in the Embedded IDE Link Target Preferences dialog box before setting up your installation.

Note Resetting your target preferences overwrites any previously saved entries for the current MATLAB release.

Unified Idle Task, Memory Allocate, and Memory Copy Blocks

Unified the Idle Task, Memory Allocate, and Memory Copy blocks to work with Texas Instruments' Code Composer Studio™, Green Hills® MULTI®, and Analog Devices™ VisualDSP++®.

Enhanced Target Preference and Custom Board Blocks

Improved the responsiveness of the dialog boxes for the Target Preferences blocks and Custom Board blocks.

Support for Analog Devices Blackfin 52x Processor Family

Added support for the Analog Devices™ Blackfin® 52x family of processors.

Support for Update 5 of Analog Devices VisualDSP++ (VisualDSP++ 5.0.5)

Added support for Update 5 of Analog Devices VisualDSP++ (VisualDSP++ 5.0.5). Installing Update 5 significantly improves the performance of code you generate for embedded applications on Blackfin®.

Support for Free-running ARM with Green Hills MULTI

Added support for free-running ARM® processors with the Green Hills MULTI IDE.

Support for Green Hills MULTI 5.0.5 and 5.1.2

Added support for Green Hills MULTI 5.0.5 and 5.1.2.

Improved Handling of Asynchronous Hardware Interrupts for Blackfin Processors

For Analog Devices VisualDSP++ and Green Hills MULTI, Embedded IDE Link has changed the Blackfin base rate interrupt scheme to reduce latency for asynchronous hardware interrupts of various priorities.

In previous releases, the core timer generated a high-priority base rate interrupt (higher than any of the peripheral interrupts) and its interrupt service routine (ISR) executed the `rtOneStep()` function directly. As a consequence, any peripheral interrupts had to wait until the completion of the core timer ISR before they could execute.

In 9b, instead of executing the `rtOneStep()` function, the high priority core timer interrupt raises a low priority software interrupt and exits. The low priority software interrupt, in turn, executes `rtOneStep()`. Because the priority of the software interrupt is lower than the priorities of any of the peripheral interrupts, the peripheral interrupts are now able to preempt the execution of `rtOneStep()` and thus get serviced with a smaller latency.

Removed Hardware-in-Loop (HIL) Demo

Removed the hardware-in-loop (HIL) demo from the Embedded IDE Link software. (The hardware-in-loop feature was removed from a previous version of the software.)

Removed "Inline run-time library functions" From Configuration Parameters

Removed the **Inline run-time library functions** parameter from the **Configuration Parameters** dialog box under **Real Time Workshop > Embedded IDE Link**.

Embedded IDE Link Build Directory and Target Preferences

You must use a clean build directory and the latest values for the target preference fields when setting up your installation.

Compatibility Considerations

To avoid problems when upgrading from a previous version, use either a new build directory, or clean up your existing build directory that you use to build models with the Embedded IDE Link product.

A previous installation of the Embedded IDE Link product could cause a compatibility issue if the target preferences are not reset. To avoid problems, click **Reset to Default** in the Embedded IDE Link Target Preferences dialog box before setting up your installation.

Note Resetting your target preferences overwrites any previously saved entries for the current MATLAB release.

Limitation: XDS100 Emulator Does Not Support RTDX

The XDS100 emulator does not support RTDX™. If you connect to TI's Piccolo Series of C2802x processors using XDS100 emulator you will be unable to use the Target Support Package™ support for RTDX.

For more information, see this Texas Instruments wiki topic.

Compatibility Considerations

You cannot use

- Target Support Package C2802x blocks with RTDX
- The Real-Time Data Exchange (RTDX) Tutorial demo with C2802x processors

Limitation: Simulink Does Not Support Custom Scheduler Priorities for Embedded IDE Link Platforms

Simulink does not support custom scheduler priorities in the **Sample time properties** parameter when the **System target file** parameter is set to one of the following:

- **ccslink_ert.tlc** (Description: Embedded IDE Link (ERT) code generation for TMS320(TM) DSP platforms)
- **ccslink_grt.tlc** (Description: Embedded IDE Link (GRT) code generation for TMS320(TM) DSP platforms)
- **multilink_ert.tlc** (Description: Embedded IDE Link (ERT) code generation for many supported processors)
- **multilink_grt.tlc** (Description: Embedded IDE Link (GRT) code generation for all supported platforms)
- **vdsplink_ert.tlc** (Description: Embedded IDE Link (ERT) code generation for ADI DSP platforms)

- **vdsplink_grt.tlc (Description: Embedded IDE Link (GRT) code generation for ADI DSP platforms)**

For example, if you set **System target file** to **ccslink_ert.tlc**, Simulink ignores the custom scheduler priorities 10, 20, and 30 in the following **Sample time properties** parameter `[[0.001,0,10];[0.01,0,20];[0.1,0,30];]` and uses the default scheduler priorities instead.

Note Note: The **Sample time properties** parameter is located in the **Configuration Parameters > Solver** pane under **Tasking and sample time options**. The **System target file** parameter is located in the **Configuration Parameters > Real Time Workshop** pane under **Target selection**.

Compatibility Summary for Embedded IDE Link

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 V4.0 (R2009b)	See the Compatibility Considerations subheading for this new feature or change: <ul style="list-style-type: none">• “New Embedded IDE Link Product” on page 4• “Embedded IDE Link Build Directory and Target Preferences” on page 6• “Limitation: XDS100 Emulator Does Not Support RTDX” on page 7