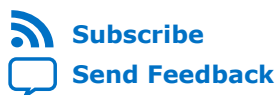




Intel® High Level Synthesis Compiler

Release Notes

Updated for Intel® Quartus® Prime Design Suite: **17.1**



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Contents

| | |
|--|----------|
| 1 Intel® High Level Synthesis Compiler Release Notes..... | 3 |
| 1.1 New Features and Enhancements..... | 3 |
| 1.2 Intel High Level Synthesis Compiler Prerequisites..... | 3 |
| 1.3 Known Issues and Workarounds..... | 4 |
| 1.4 Document Revision History..... | 5 |



1 Intel® High Level Synthesis Compiler Release Notes

The *Intel® High Level Synthesis Compiler Release Notes* provide late-breaking information about the Intel High Level Synthesis Compiler included with Intel Quartus Prime Design Suite® Version 17.1

1.1 New Features and Enhancements

The Intel High Level Synthesis Compiler includes the following new features:

- Initial release of the Intel High Level Synthesis Compiler with Intel Quartus Prime Design Suite Version 17.1
 - Includes a high level design analysis reporting to help you troubleshoot and optimize the performance and area usage of your component
 - Support for Intel Arria® 10, Cyclone® V, Intel Cyclone 10 GX, Intel MAX® 10, Stratix® V, and Intel Stratix 10 device families
 - Support for fixed-point datatypes through `math.h` library and associated math library functions
 - Enhanced Avalon interface support
 - New examples and tutorial covering topics like recommended coding styles and full designs such as QRD
 - Platform Designer (formerly Qsys) integration

1.2 Intel High Level Synthesis Compiler Prerequisites

To install the Intel HLS Compiler, install Intel Quartus Prime Standard Edition software or the Intel Quartus Prime Pro Edition software. The Intel HLS Compiler is installed as part of the Intel Quartus Prime software installation, but it requires additional software to use. For detailed instructions for installing Intel Quartus Prime software, including system requirements, prerequisites, and licensing requirements, see [Intel FPGA Software Installation and Licensing](#).



Additional Software Requirements

The Intel HLS Compiler requires the following additional software:

- C++ compiler:

Linux C++ compiler GCC compiler and C++ Libraries version 4.4.7

Important: Newer versions of the GCC compiler are not supported.

Windows C++ compiler Microsoft Visual Studio 2010 Professional

Important: Newer versions of Microsoft Visual Studio are not supported.

- Mentor Graphics* ModelSim* software:

You can install either of the following editions of ModelSim from the Intel Quartus Prime software installer:

- ModelSim - Intel FPGA Edition
- ModelSim - Intel FPGA Starter Edition

You can also use your own independently obtained and licensed version of Mentor Graphics ModelSim software.

For version information on all supported ModelSim software, refer to the "EDA Interface Information" section in one of the following documents:

- [Intel Quartus Prime Pro Edition Software and Device Support Release Notes](#)
- [Intel Quartus Prime Standard Edition Software and Device Support Release Notes](#)

Related Links

- [Intel High Level Synthesis Compiler Getting Started Guide](#)
- [Supported Operating Systems](#)
- [Mentor Graphics Website](#)
- [EDA Interface Information - Quartus Prime Standard Edition Software](#)
- [EDA Interface Information - Quartus Prime Pro Edition Software](#)

1.3 Known Issues and Workarounds

This section provides information about known issues that affect the Intel High Level Synthesis Compiler Version 17.1 .

| Description | Workaround |
|--|---|
| (Windows only) Compiling a design in a directory with a long path name can result in compile failures.. | Compile the design in a directory with a short path name. |
| (Windows only) A long path for your Intel Quartus Prime installation directory can prevent you from successfully compiling and running the Intel HLS Compiler tutorials and example designs. | Move the tutorials and examples to a short path name before trying to run them. |
| <i>continued...</i> | |



| Description | Workaround |
|--|--|
| (Windows only) Pragmas used in templated code are not recognized. | Manually specialize the templated code. |
| (Windows only) C++ libraries are not supported. | Use C libraries where possible. For example, use <code>printf</code> instead of <code>cout</code> . |
| Enqueuing a component with a slave memory might result in a hang in simulation. This is an issue in the generated testbench, not the component hardware. | If your component uses slave memory, use standard function calls to invoke the component from the testbench. |

1.4 Document Revision History

Table 1. Document Revision History of the Intel High Level Synthesis Compiler Version 17.1 Release Notes

| Date | Version | Changes |
|---------------|------------|--|
| November 2017 | 2017.11.06 | <ul style="list-style-type: none">Initial release. |