



Efinity[®] Software Installation User Guide

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Overview

The Efinity[®] software provides a complete tool flow for designing with Efinix[®] products. This document describes how to install the software. For more information, refer to:

- Efinity Software User Guide
- Efinity Software Tutorial
- Efinity Software Quantum[™] Primitives User Guide
- Trion Interfaces User Guide

Hardware & Software Requirements

- Computer with a 64 bit operating system, dual-core processor, and 16 GB RAM
- Efinix Trion[®] development board
- Linux environments:
 - Operating system:
 - Ubuntu x86-64 v14.04 or later
 - Red Hat Enterprise x86-64 v6 or later
 - CentOS x86-64 v6 or later
 - Linux X11 windowing system (for Efinity[®] GUI)
 - Udev device manager for Efinix USB programming cable (see [Install the USB Driver](#) on page 4)
- Windows environments:
 - Windows 7 or later, 64 bit
 - Microsoft Visual C++ 2015 x64 runtime library
- Your preferred text editor
- (Optional) free Icarus Verilog (iVerilog) simulator, download from iverilog.icarus.com
- (Optional) GTKWave waveform viewer, download from gtkwave.sourceforge.net



Note: You can download the Microsoft library from www.microsoft.com/en-us/download/details.aspx?id=52685.

Third-Party Simulator Support

The Efinity® tools do not include or explicitly integrate third-party simulators. However, Efnix has verified that the following simulators work with Efinity-generated Verilog HDL netlist files:

- Cadence Incisive Enterprise Simulator (ncsim)
- Mentor Graphics QuestaSim Simulator
- Free Icarus Verilog (iVerilog) simulator

To simulate an Efinity post-synthesis (or later compiler stage) Verilog HDL netlist, include the following library path as a resource in your third-party simulator:

```
<Efinity top-level path>/sim_models/verilog
```

Installation

Linux installation:

Unzip or untar the Efinity package into your user directory:

```
> tar -xjvf efinity-<version>.tar.bz2
```

Optional:

Run the following script to install a shortcut in your Desktop directory:

```
> <installation directory>/bin/install_desktop.sh
```

Windows installation:

Double-click the **efinity-<version>.msi** installer package and follow the on-screen instructions.

Install the USB Driver

If you have not already done so, install the USB driver for the Efnix programming cable.

Linux: Use the command:

```
> sudo <installation directory>/bin/install_usb_driver.sh
```

Windows: Follow these instructions:

1. Download and install the Zadig software from zadig.akeo.ie.
2. Open the Zadig software.
3. Choose **Options > List All Devices**.
4. Turn off **Options > Ignore Hubs or Composite Parents**.
5. Select the development board you want to target.
6. Select **libusbK (version)** next to **Driver**. (Do *not* choose WinUSB)
7. Click **Replace Driver**.

- Repeat step 2 for each unique JTAG device you want to target. For example, if you want to use both the T8 and T20 development boards, you must install 2 USB drivers, one for each board.

Efinix development boards have FTDI (FT2232) chips to communicate with the USB port. These chips have separate channels for SPI and JTAG. Therefore, you **must** install the driver for the composite parent, **not** for the individual SPI and JTAG interfaces. If you install the driver for each interface, each interface appears as a unique FTDI device, which will make it hard to select the correct port during programming. Hint: the interface names end with *(Interface N)*, where *N* is the channel number; do not choose these.



Note: To ensure that the USB driver is persistent across user sessions, run the Zadig software as administrator.

Quick Start

To launch the Efinity graphical user interface (GUI), double-click the Efinity desktop icon. To launch and use the Efinity tool from the command line, refer to the following sections.

Linux

Set up your environment and PATH:

```
> source bin/setup.sh
```

Launch the Efinity GUI from the command line:

```
> efinity
```

Run Efinity from the command line:

```
> cd $EFINITY_HOME/project/<project name> // Change to project directory
> efx_run.py <project name>.xml // Run Efinity
```

For command-line help:

```
> efx_run.py --help
```

Windows

Set up your environment and PATH:

```
> bin\setup.bat
```

Launch the Efinity GUI from the command line:

```
> bin\setup.bat --run
```

Run Efinity from the command line:

```
> cd %EFINITY_HOME%\project\<project name> // Change to project directory
> efx_run.bat <project name>.xml // Run Efinity
```

For command-line help:

```
> efx_run.bat --help
```

Document Revision History

Table 1: Document Revision History

Date	Version	Description
December 2019	1.7	Updated Zadig USB driver information for Windows.
August 2019	1.6	Updated Quick Start command-line instructions.
January 2019	1.5	Added instructions on installing the USB driver for Windows.
October 2018	1.4	Added Python 3 to the software requirements list. For Windows, if you do not have a full version of Python, the .py extension may not be correctly associated with Python.
June 2018	1.3	Removed Python requirement; as of this release, Python is included with the software. Added the requirement that Windows users install the Microsoft Visual C++ 2015 x64 runtime library.
April 2018	1.2	No changes.
November 2017	1.1	Removed references to OPM family. Removed instructions for setting external code editor (this version embeds a Code Editor).
May 2017	1.0	Initial release.