Lattice Propel 2.1

Release Notes

FPGA-AN-02044-1.0

November 2021
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About Lattice Propel™ 2.1

Welcome to the Lattice Propel 2.1 design environment for Lattice FPGA system design. Lattice Propel is a complete set of graphical and command-line tools to create, analyze, compile, and debug both FPGA-based hardware and software processor systems.

What’s New in Lattice Propel 2.1

New Device Family Support
- Lattice LFCPNX (CertusPro™-NX)

Tools and Enhancements
- Supports RV32IMC by RISC-V MC processor.
- Supports RHEL 7.7 & RHEL 8.4 Operating System.
- Supports Lattice Radiant foundation IP in Propel Builder.
- Supports device information modification in Propel Builder project.
- Integrates picolibc as the default standard C library to support three levels of printf.
- Supports CertusPro-NX template design, the HelloWorld Project.

Key Features

Device Family Support
- Lattice LFCPNX (CertusPro™-NX)
- Lattice MachXO2™
- Lattice MachXO3L™
- Lattice MachXO3LF®
- Lattice MachXO3D™
- Lattice LIFCL (CrossLink™-NX)
- Lattice LFD2NX (Certus™-NX)
- Lattice LFMNX (Mach™-NX)

Processor Support
- RISC-V Micro Controller (MC)
- RISC-V State Machine (SM)

Operating System Support
- Microsoft Windows 10 (64-bit)
- Red Hat Enterprise Linux 7.7 (64-bit)
- Red Hat Enterprise Linux 8.4 (64-bit)

Lattice Propel SDK
- Integrate picolibc as the default standard C library to support three levels of printf.
Lattice Propel Builder
- Supports Lattice Radiant foundation IP.
- Supports device modification.
- Supports board information display.
- Supports IP management.
- Supports schematic design.
- Supports creating SoC Project and SoC Verification in project wizard GUI.
- Supports Lattice Diamond, Lattice Radiant, ModelSim/QuestaSim, and Propel SDK bridges.
- Supports generating simulation environment, testbench, and script.
- Integrates ModelSim OEM.
- Supports gluelogic.
- Supports IP Packager flow control.

Template Design and System Simulation
- Supports simulation for Linux.
- Provides CertusPro-NX template design, the HelloWorld Project. Enhance to support multiple clock domain.
- Provides MachXO3D template design, the HelloWorld Project.
- Provides CrossLink-NX template design, the HelloWorld Project.
- Provides MachXO2 template design, the HelloWorld Project.
- Supports functional verification using system-level simulation environment for templates.

Release Contents
- Propel_2.1.exe (Windows 10 64-bit Operating System)
- Propel_2.1_lin.run (Red Hat Enterprise Linux 64-bit Operating System)

Validation Platforms
- CertusPro-NX Evaluation Board (REV A P/N: LFCPNX-EVN)
- MachXO3D Breakout Board (REV A P/N: LCMXO3D-9400HC-B-EVN)
- CrossLink-NX Evaluation Board (REV B P/N: LIFCL-40-EVN)
- MachXO2 Breakout Board (REV B P/N: LCMXO2-7000HE-B-EVN)

System Requirements
The basic system requirements for Propel 2.1 on Microsoft Windows and Linux platforms:
- Intel Pentium or Pentium-compatible PC, or AMD Opteron system support
- Windows 10 64-bit Operating System
- Red Hat Enterprise Linux 64-bit Operating System
- Free Disk Space: approximately 7 GB
- Network adapter and network connectivity for IP server access

Release Limitations
This release of Propel 2.1 has the following limitations:
- Verification engine does not support mixed-language SoC project.
- Propel 2.1 does not support HW-USBN-2A cable.
Technical Support

For assistance, submit a technical support case at www.latticesemi.com/techsupport.