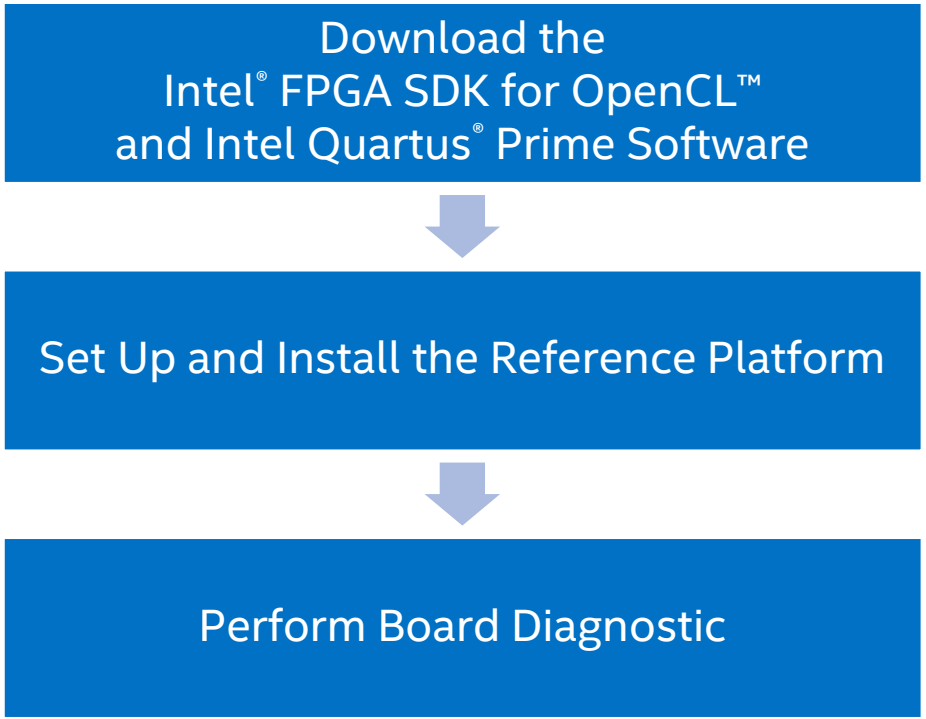
DIAGNOSTIC TOOL FOR INTEL® FPGA SDK FOR OPENCL™

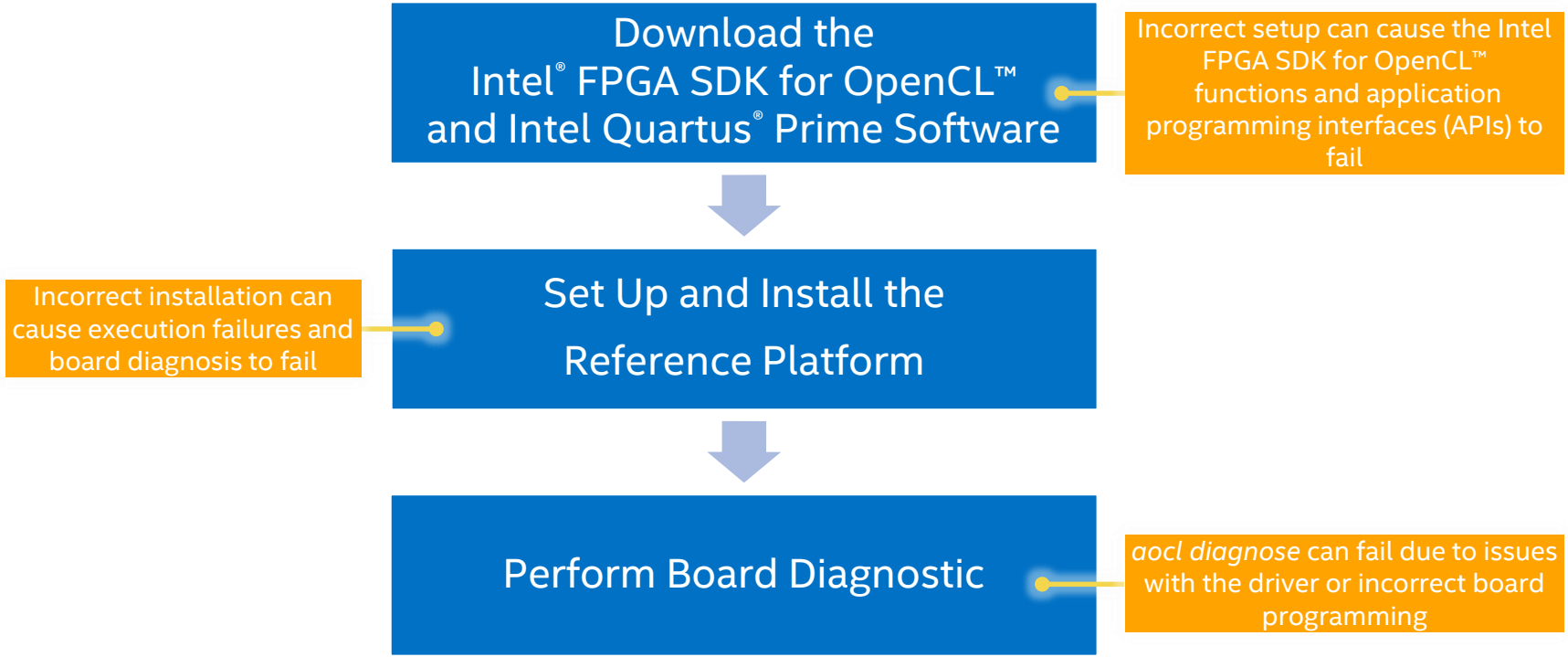
Agenda

- Introduction
- Why Do We Need A Diagnostic Tool?
- Prerequisites and Supported Platforms
- Features of the Diagnostic Tool for Intel® FPGA SDK for OpenCL™
- Steps to Run the Diagnostic Tool

Introduction



Why Do We Need A Diagnostic Tool?



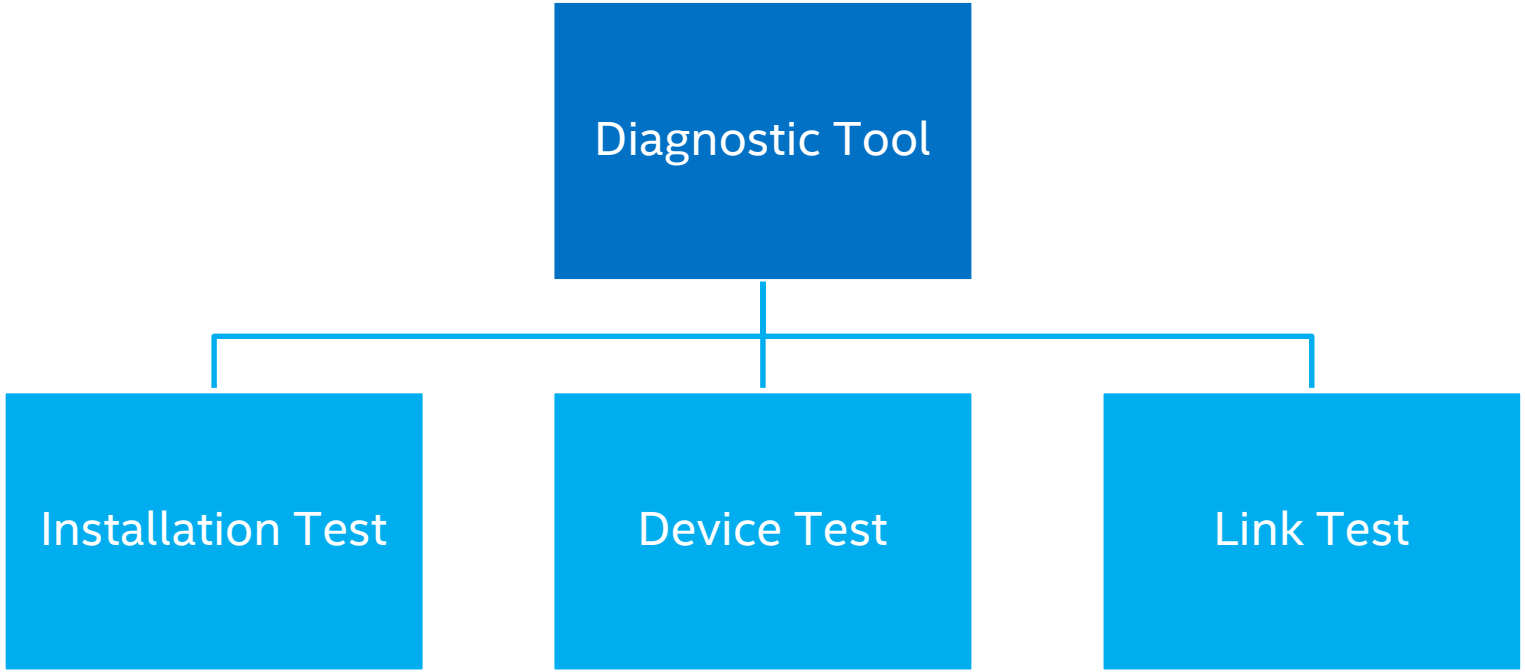
The diagnostic tool detects and resolves both hardware and software installation or setup issues

Prerequisites and Supported Platforms

Operating System (OS)	Linux*
Python* version	2.6.6
Platform[1]	Intel® Arria® 10 GX FPGA Development Kit Intel Stratix® 10 GX FPGA Development Kit
Intel Quartus® Prime Software or Intel FPGA SDK for OpenCL™ versions	17.0, 17.1, 18.0

[1] The diagnostic tool has been tested on a host with a single FPGA; multiple FPGAs are not supported.

Features of the Diagnostic Tool for Intel® FPGA SDK for OpenCL™



Features of the Diagnostic Tool for Intel® FPGA SDK for OpenCL™

Installation Test	• Determines OS, Intel Quartus® Prime software and Intel FPGA SDK for OpenCL™ edition or version • Detects installed platform and ensures environment variables are set correctly
Device Test	• Determines if PCI Express* (PCIe*) drivers are installed correctly and the FPGA platform is detected as a PCIe device • Lists available boards along with their device IDs
Link Test	• Runs *jtagconfig* to detect JTAG related issues • Runs *aocl diagnose* to determine if CPU to FPGA (via PCIe) connection is good, also runs board vendor-specific test program • Turns on debug flags and generates additional logs in case of *aocl diagnose* failure

Steps to Run the Diagnostic Tool

Step 1: After installing all prerequisites (refer to slide 5), open a terminal.
Step 2: Type *python DiagTool.py.*

```
$ python DiagTool.py
**********Executing OpenCL diagnostic Tool - Linux**********
Name of OpenCL diagnosis/troubleshooting Log file:  OpenCL_DiagTool_log.log
Name of aocl diagnose Log file:  OpenCL_aocl_diag_log.log
BASIC TEST - Installation
```

The screenshot above shows a portion of the test. The basic installation test checks and prints out details about the following installations:

- Intel® Quartus® software installation
- AOCL and AOC installation
- RTE installation
- Board support package (BSP) installation

Steps to Run the Diagnostic Tool

Step 3: Debug issues using generated output logs

- OpenCL_DiagTool_log.log – diagnostic tool's log
- OpenCL_aocl_diag_log.log – logs output from *aocl diagnose*
- OpenCL_HAL-PCIe_log.log – generated if *aocl diagnose* fails, logs output obtained by setting ACL_HAL_DEBUG and ACL_PCIE_DEBUG flags (not shown in the screenshot below)

```
$ ls
DiagTool.py*  OpenCL aocl diag log.log  OpenCL DiagTool log.log
```

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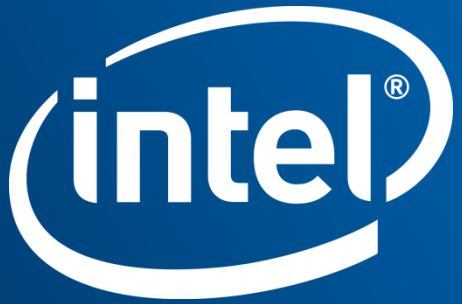
†Tests measure performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.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