

Frequently Asked Questions

Version 1.5

Revision History

Revision	Description of Change	Date
v1.1	Initial creation for OpenCPI 1.1	3/2017
v1.2	Updated for OpenCPI Release 1.2	8/2017
v1.4	Updated for OpenCPI Release 1.4	9/2018
v1.5	Updated for OpenCPI Release 1.5	4/2019

1 General Questions

Is the RPM suite a standalone install?

Yes, the RPMs distributed by the ANGRYVIPER team incorporates and extends the Free / Open Source Project “OpenCPI.” Any OpenCPI installation documents that still exist are for reference and legacy users. All other OpenCPI documentation still applies and should be referenced. Do **not** attempt to install OpenCPI from source at the same time as the RPM distribution.

Where can I go for more help?

All documentation is available at github.io and there is a public mailing list (with archive) at openmpi.org.

2 Install-Specific Questions

Does it matter what version of CentOS is used?

Both CentOS 6 and CentOS 7 are supported as long as the proper version of the RPM is used. Local hardware support (*e.g.* PCIe-based platforms) is officially supported on both OS releases starting with Version 1.1.

3 General Usage Questions

Make error: “*** isim not an available HDL platform. Stop.”

Either the Core Project was never built, or it is not properly registered. This is explained in the *Getting Started Guide*.

I am trying to run a demo application with “ocpirun” and artifacts are not being found.

The usual causes of this are:

- Core Project was not built for the target platform
 - Consult the *Getting Started Guide*
- OCPI_LIBRARY_PATH was not properly set
 - View the artifacts being checked by adding “-l 8” on the `ocpirun` command line to increase the logging level

HDL Workers are failing Unit Tests that passed before 1.4.

The most likely cause is that “backpressure” is now automatically asserted by default; see the *Component Development Guide* for details.

My application’s I and Q seem wrong after moving to 1.4.

See below and the *Release Notes*.

How do I handle iqstream_protocol’s I and Q data ordering in HDL workers?

As noted in the *HDL Development Guide*, when a Protocol contains a Struct Argument, the first Argument Member defined in the Protocol’s XML is *always* in the *least significant* bits of the resulting Port. A good example of the importance of this is the scenario where a Port’s default data width is overridden (in the OWD) to present all of a Struct’s Members in parallel within a single clock cycle. For example, `iqstream_protocol`’s default ordering is a 16-bit interleaved I/Q data: “ $I_{t=0}, Q_{t=0}, I_{t=1}, Q_{t=1}, I_{t=2}, \dots$ ”. However, if the Worker configures its data Ports to be a width of 32 bits, then the I/Q data is presented as a parallel I/Q sample pair with “I” in the *lower* 16 bits and “Q” in the *upper* 16 bits, *i.e.*:

$$\begin{aligned}I_0 &= InPort_0[15 : 0]; Q_0 = InPort_0[31 : 16] \\I_1 &= InPort_1[15 : 0]; Q_1 = InPort_1[31 : 16]\end{aligned}$$

A Worker to consult as an example is “`iqstream_max_calculator.hdl`.”

4 Xilinx-Specific Questions

Are there any other setups I need to perform on the Xilinx Vivado or ISE side?

No, we abstract away a lot of the requirements if you simply install it in `/opt/Xilinx` and point the setup variables to it (see `/opt/opencpi/cdk/env.d/xilinx.sh.example` and the *RPM Installation Guide*).

Additionally, importing the Xilinx setup scripts, *e.g.* “`source/opt/Xilinx/14.7/ISE_DS/settings64.sh`” or “`source/opt/Xilinx/Vivado/2017.1/settings64.sh`”, can cause other problems and **should not be performed**.

The ZedBoard comes with a license, but it is for the Vivado tools.

Xilinx’s “WebPack” Vivado or ISE license is sufficient to do anything with the ZedBoard.

ISE Note: As for purchasing, you can “rollback” a Vivado license by contacting Xilinx and they will issue you an ISE license with the same expiration with a gentleman’s agreement that you won’t use both at the same time.