



Intel® Acceleration Stack for Intel® Xeon® CPU with FPGAs 1.0 Errata

Updated for Intel® Acceleration Stack for Intel® Xeon® CPU with FPGAs: **1.0 Production**



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Contents

Intel® Acceleration Stack for Intel® Xeon® CPU with FPGAs 1.0 Errata.....	3
Flash Fallback Does Not Meet PCIe Timeout.....	4
Unsupported Transaction Layer Packet Types.....	5
JTAG Timing Failures May Be Reported in the FPGA Interface Manager.....	6
fpgabist Tool Does Not Pass Hexadecimal Bus Numbers Properly.....	7
Possible Low dma_afu Bandwidth Due to memcpy Function.....	8
regress.sh -r Option Does Not Work With dma_afu.....	9
Intel Acceleration Stack for Intel Xeon CPU with FPGAs 1.0 Errata Revision History.....	10



Intel® Acceleration Stack for Intel® Xeon® CPU with FPGAs 1.0 Errata

This document provides information about errata affecting the Intel® Acceleration Stack for Intel Xeon® CPU with FPGAs.

Issue	Affected Versions	Planned Fix
Flash Fallback Does Not Meet PCIe Timeout on page 4	Acceleration Stack 1.0 Production	No Planned Fix
Unsupported Transaction Layer Packet Types on page 5	Acceleration Stack 1.0 Production	No Planned Fix
JTAG Timing Failures May Be Reported in the FPGA Interface Manager on page 6	Acceleration Stack 1.0 Production	Acceleration Stack 1.1
fpgabist Tool Does Not Pass Hexadecimal Bus Numbers Properly on page 7	Acceleration Stack 1.0 Production	Acceleration Stack 1.1
Possible Low dma_afu Bandwidth Due to memcpy Function on page 8	Acceleration Stack 1.0 Beta and Production	Acceleration Stack 1.1
regress.sh -r Option Does Not Work With dma_afu on page 9	Acceleration Stack 1.0 Production	No planned fix

The table below can be used as a reference to identify the FPGA Interface Manager (FIM), Open Programmable Acceleration Engine (OPAE) and Intel Quartus® Prime Pro Edition version that corresponds to your software stack release.

Table 1. Intel Acceleration Stack 1.0 Reference Table

Intel Acceleration Stack Version	Boards	FIM Version (PR Interface ID)	OPAE Version	Intel Quartus Prime Pro Edition
1.0 Production ⁽¹⁾	Intel PAC with Intel Arria® 10 GX FPGA	ce489693-98f0-5f33-946d-560708be108a	0.13.1	17.0.0

Related Information

[Intel Acceleration Stack for Intel Xeon CPU with FPGAs Release Notes](#)

Refer to the release notes for more information about known issues and enhancements for Intel Acceleration Stack 1.0

⁽¹⁾ The factory partition of the configuration flash contains the Acceleration Stack 1.0 Alpha version. When the image in the user partition cannot be loaded, a flash failover occurs and the factory image is loaded instead. After a flash failover occurs, the PR ID reads as d4a76277-07da-528d-b623-8b9301feaffe.



Flash Fallback Does Not Meet PCIe Timeout

Description

The host may hang or report a PCIe failure after a flash failover has occurred. This issue can be seen when the user image in flash is corrupted and the configuration subsystem loads the factory image into the FPGA.

Workaround

Follow the instructions in the "Updating Flash with FPGA Interface Manager (FIM) Image using Intel Quartus Prime Programmer" section in the *Intel Acceleration Stack Quick Start Guide for Intel Programmable Acceleration Card with Intel Arria 10 GX FPGA*. If the issue persists, contact your local field representative.

Status

Affects: Intel Acceleration Stack 1.0 Production

Status: No planned fix

Related Information

[Intel Acceleration Stack Quick Start Guide for Intel Programmable Acceleration Card with Intel Arria 10 GX FPGA](#)



Unsupported Transaction Layer Packet Types

Description

The Acceleration Stack FPGA Interface Manager (FIM) does not support PCIe* Memory Read Lock, Configuration Read Type 1, and Configuration Write Type 1 transaction layer packets (TLPs). If the device receives a PCIe packet of this type, it does not respond with a Completion packet as expected.

Workaround

No workaround available.

Status

Affects: Intel Acceleration Stack 1.0 Production

Status: No planned fix



JTAG Timing Failures May Be Reported in the FPGA Interface Manager

Description

The Intel Quartus Prime Pro Edition Timing Analyzer may report unconstrained JTAG I/O paths in the FIM.

Workaround

These unconstrained paths can be safely ignored because the JTAG I/O paths are not used in the FIM.

Status

Affects: Intel Acceleration Stack 1.0 Production

Status: Planned fix in Intel Acceleration Stack 1.1



fpgabist Tool Does Not Pass Hexadecimal Bus Numbers Properly

Description

The Open Programmable Acceleration Engine (OPAE) fpgabist tool does not pass valid bus numbers if the PCIe bus number is any character above F. If any of these characters are included, you may encounter the following error message:

```
Running mode: nlb_3
Attempting Partial Reconfiguration:
invalid bus: d4
Failed to load gbs file: /home/lab/workspace/DCP/PRC/hw/samples/
nlb_mode_3/bin/nlb_mode_3.gbs
Please try a different gbs
```

Workaround

Change /usr/bin/bist_common.py line 83 from

```
cmd = "{} -b {} -v {}".format('fpgaconf', bus_num, gbs_file)
```

to

```
cmd = "{} -b 0x{} -v {}".format('fpgaconf', bus_num, gbs_file)
```

Status

Affects: Intel Acceleration Stack 1.0 Production

Status: Planned fix in Intel Acceleration Stack 1.1



Possible Low dma_afu Bandwidth Due to memcpy Function

Description

fpgabist may report lower bandwidth for the dma_afu but not the native loopback 3 (NLB3) due to the use of the memcpy function in the dma_afu driver.

Workaround

You can workaround this erratum by removing memcpy from the dma_afu driver code and adding code to accept buffers from the user that have been pre-pinned. For use with OpenCL*, there is no current workaround.

Status

Affects: Intel Acceleration Stack 1.0 Beta and Production

Status: Planned fix in Intel Acceleration Stack 1.1



regress.sh -r Option Does Not Work With dma_afu

Description

When using the `-r` option with `regress.sh`, the script does not work with the `dma_afu` example. Using the `-r` option results in a fatal gcc error.

Workaround

Do not use the `-r` option when running the `regress.sh` script. Running the script without the `-r` option places the output simulation in `$OPAE_LOC/ase/rtl_sim` instead of a user-specified directory.

Status

Affects: Intel Acceleration Stack 1.0 Production

Status: No planned fix



Intel Acceleration Stack for Intel Xeon CPU with FPGAs 1.0 Errata Revision History

Date	Intel Acceleration Stack Version	Changes
2018.06.22	1.0 Production (compatible with Intel Quartus Prime Pro Edition 17.0.0)	Updated the path of the <code>bist_common.py</code> file in the <i>fpgabist Tool Does Not Pass Hexadecimal Bus Numbers Properly</i> erratum.
2018.04.11	1.0 Production (compatible with Intel Quartus Prime Pro Edition 17.0.0)	Initial release.