

# In-kind project IIK 14.4.3

## Quarterly Meeting

### Integrated Control Systems

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ESS/ICS  
Date: 2020-02-11

# xBLM Status

- Timing integration
  - A custom approach from BI to avoid glitches in timing stamps.
  - <https://jira.esss.lu.se/browse/ICSHWI-3423>
- Firmware being tested at CERN Linac4
  - Issues during data acquisition: “Bad address. Cannot allocate kernel buffer”.
  - <https://jira.esss.lu.se/browse/ICSHWI-3878>



# xBLM Status

- CCT AMG6x CPU (aka “new cpu”) working with IFC1410:
  - DMA burst operation failure with CT-CPU AMG6x
  - Lodz firmware does not run...
  - <https://jira.ess.lu.se/browse/ICSHWI-3657>



# xBLM Status

- Boot issues when using multiple IFC1410 in a crate – Status: **solved**.
- <https://jira.ess.lu.se/browse/ICSHWI-3010>

 Ross Elliot added a comment - 2019-Nov-29 10:45 +0100

**UPDATE:** Thanks to support from Concurrent engineers, the issue with accessing multiple IOxOS IFC14xx devices from a single root-complex Concurrent CPU has been traced to the I/O BAR size being specified in the PCIe endpoint IP.

IOxOS were specifying 8K of I/O resources per card.

An Intel CPU can only allocate a **maximum of 64K** of I/O resources, and the CCT CPU card requires a little more than 16K of that resource itself.

This leaves less than 48K of I/O resource to be shared amongst all the downstream PCIe resources.

# xBLM Status

- Tosca Turbo 2.3.x Performance evaluation
- <https://jira.ess.lu.se/browse/ICSHWI-3950>

🕒 Cedric Gaudin added a comment - 4 days ago

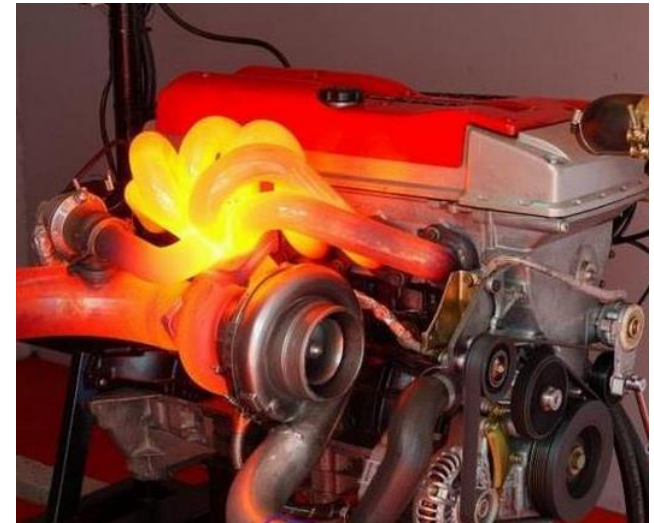
Hello Fabio,

Yes, we have 1580 MB/s with two DMAs running.

The documentation has been updated in toska2b repository (release\_2.3.1)

Regards,

Cédric



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🕒 Cedric Gaudin added a comment - 4 days ago - **edited**

Hello Fabio,

If you try with two DMAs one running on IDMA1 and the other in IDMA2, you should get ~2x1200 MB/s with Turbo Mode enabled.

You should have the IPs configured with turbo-mode and the software should program IDMA descriptor correctly in order to reach this speed.

Regards,

Cédric