

Conclusive summary of 2 year activity at AUTH

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Prototype Construction & Production Validation

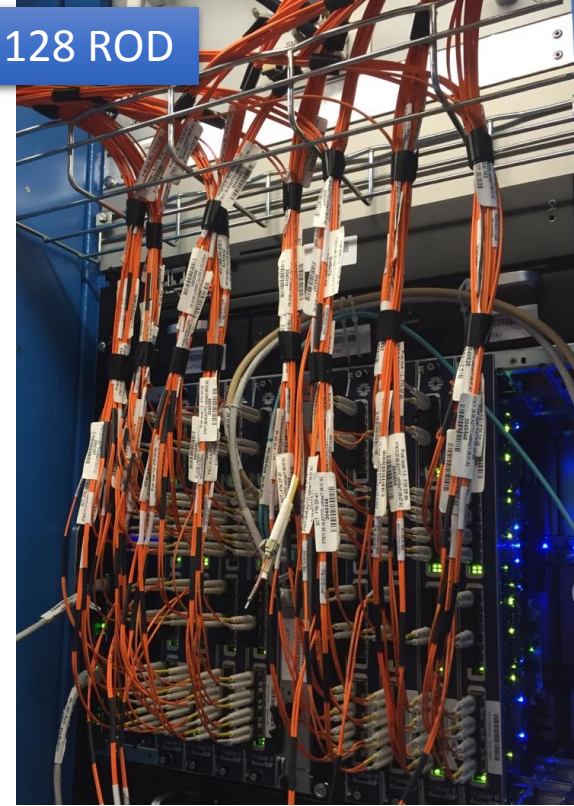
- Test setup of FILAR board in test stand at Thessaloniki and test AUTH ROS and IM boards.
- Setting up the crate in Thessaloniki and PRISMA at Alexandroupolis.
- Several AM board test with AUTH test stand
- Support for the some AM monitoring FW development with students (Panos Neroutsos, Giannis Xiotidis)
- IM firmware development
- Support for the new FW development for the IM Clustering (Manolis Mpochoridis)
- IM production review was approved in 2014. Small modification of Final IM design.
 - ✓ All 80 IMs are produced and working well



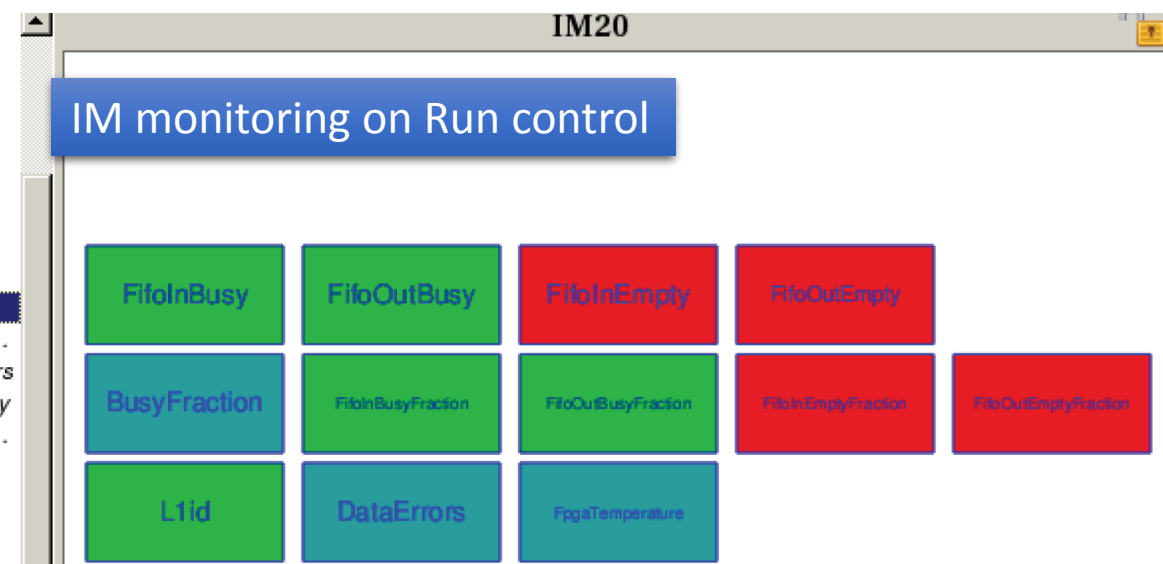
Commissioning

Realistic commissioning was started and there were many good progress in this 2 years.

- ✓ Perform the FTK clustering by required speed with pseudo data.
 - Fixing up of Timing Error, New hit sorting function, back-pressure implementation
 - ✓ Receive real ROD data in test stand
 - Treatment of unexpected word, debugging of data flow stopping
 - ✓ Check the data in cosmic mode data in ATLAS detector
 - Implement cosmic mode, Pre-scale, Additional monitoring, word limit
 - ✓ Confirmed the receiving the data in Cosmic high rate test (100 kHz)
 - Debugging on rare issue on data flow
 - ✓ Spying the real data of physics collision data
 - IBL debugging, monitoring implementation
- Block transfer of monitoring registers,
SCT different data format and phi direction

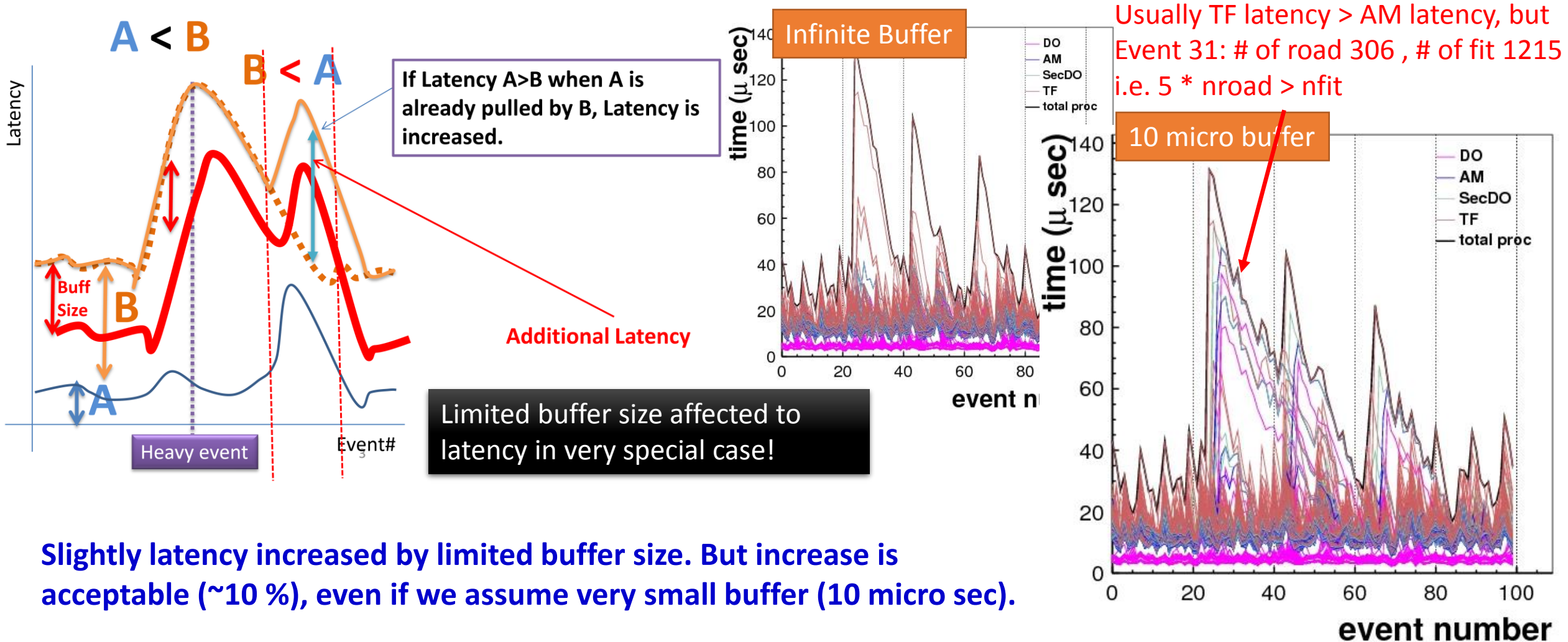


IMDF14
IMDF15
IMDF16
IMDF17
IMDF18
IMDF19
IMDF2
IMDF20
IMDF20_DF
IMDF20_IM
DF20IM_BusyFra...
DF20IM_DataErrors
DF20IM_FifoInBusy
DF20IM_FifoInBu...
DF20IM_FifoInE...
DF20IM_FifoInE...
DF20IM_FifoOut...
DF20IM_FifoOut...



Architecture Simulation (FTK Timing Simulation)

- Buffer size study was performed by timing simulation
 - FTK latency was emulated by 10 micro sec (1~2 events) buffer for TF and AM



Conference talk and training etc

I could touch to also data analysis of search of anomalous Triple gauge coupling in ZZ channel as support of student recently.

- Conference Talk

- Diboson production at ATLAS and CMS

51 th Rencontres De Moriond QCD, La Tuile, Italy. March 2016

- ATLAS FTK a – very complex – custom super computer

ACAT 2016, UTFSM, Valparais, Chili, Jan 2016

- Fast Tracker upgrade in ATLAS: status, plans, expected performance and AUTH's involvement

HEP 2015 Conference on Recent Development in High Energy Physics and Cosmology, Athens, Greece, Apr 2015

- Top quark pair production cross section using the ATLAS detector at the LHC

QCD@LHC 2014 Suzdal, Russia, Aug2014

- Training

I could attend many training

- FTK trainings-sessions in Thessaloniki in 2014, in Prisma/Athens in 2015, in Paris March 2015

the HIPEAC Computing workshop in Athens October 2014

Summary

- All work plan were good shape.
- I believe that I got many knowledge and I transferred good knowledge for students.
- I will do my best for remaining days.