

PXD DAQ for testbeam what's going on



Sören Lange for complete PXD
DAQ team, SeeVog 11.12.2013

8 new AMC cards (compute node v3) arrived at Giessen on Monday 02.12.2013

Tests, mostly done by Björn Spruck

	1	2	3	4	5	6	7	8
Seriell	✓	✓	✓	✓	✓	✓	✓	✓
RAM1	✓	✗	✓	✓	✓	✓	✓	✓
RAM2	✓	✗	✓	✓	✓	✓	✓	✓
PPC	✓	✓	✓	✓	✓	✓	✓	✓
FLASH	✓	✓	✓	✗	✗	✓	✓	✓
PROM	✓	✓	✓	✓	✓	✓	✓	✓
OPT 1 (3.125 Gb/s)	-	-	-	-	-	-	✓	✓
OPT 2 (3.125 Gb/s)	✓	✓	✓	✓	✓	✓	✓	✓
OPT 3 (3.125 Gb/s)	-	-	-	-	-	-	✓	✓
OPT 4 (3.125 Gb/s)	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet	✓	✓	✓	✓	✓	✓	✓	✓
Backplane (3.125Gb/s)	✓	✓	✓	✓	✓	✓	✓	✓
Linux (on PPC)	✓	✓	✓	✓	✓	✓	✓	✓

5 boards are o.k.

2 have problems with FLASH, 1 has problem with RAM

investigation by microscope and xray
(David, Björn, Thomas Köster)

→ shorts found

by after re-soldering, problems still persist

we have in total 5 + 3 working v3

2 working v2 (in Bonn)

→ enough for DESY test with parallel debugging

→ 2 x v3 will be given to DATCON group

(Michael Schnell at DESY 18.12.)

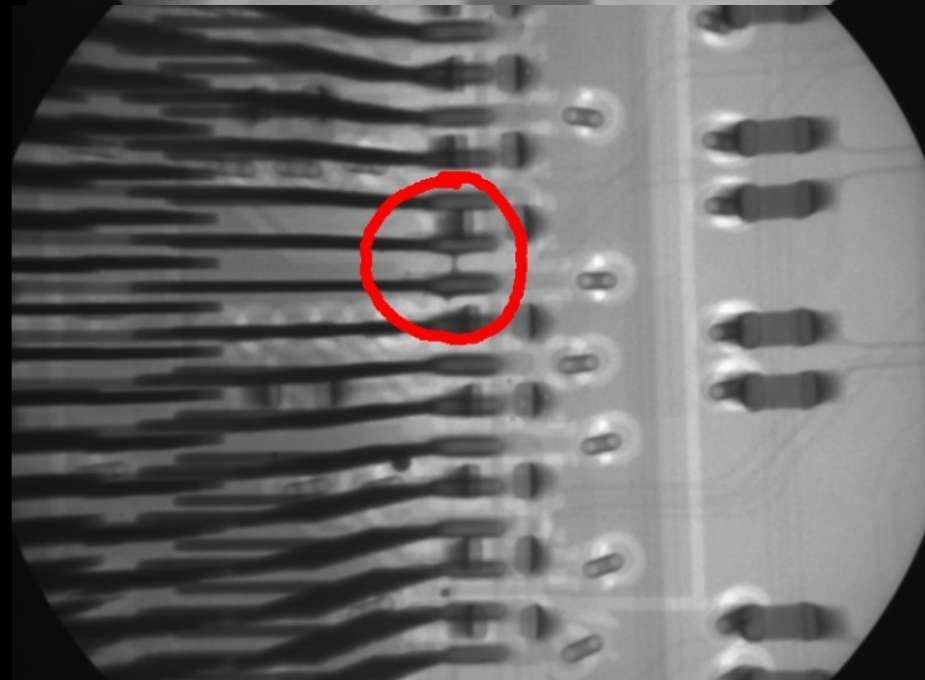
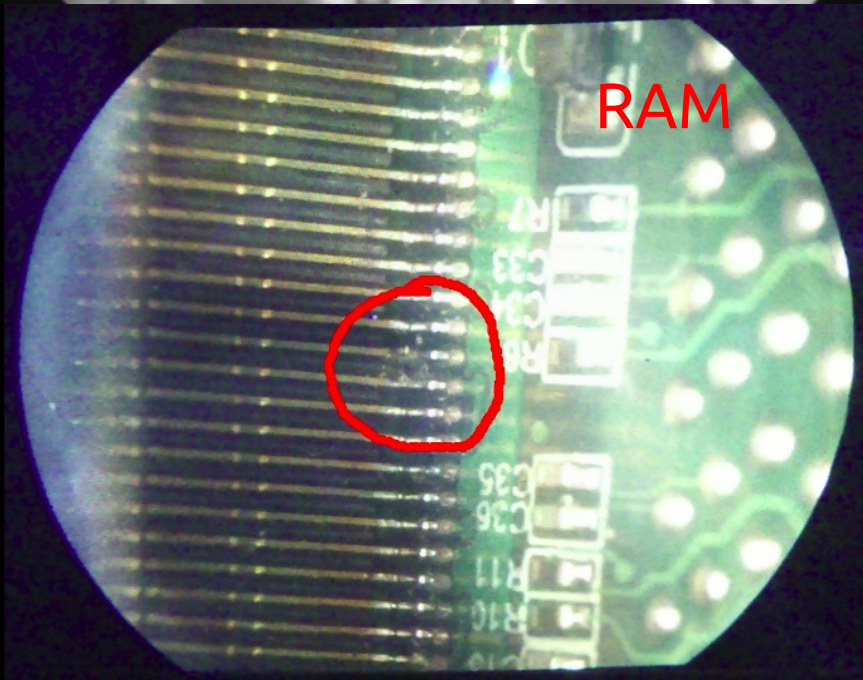
Resistors in front of FLASH



x-ray machine in Giessen



RAM



Preparation for DESY Test

Thomas, Björn, David at DESY this week (9.-13.12)

- trying DHH**C** format with 3 Gbps on existing new DHH (remotely operated by Dima)
- some HLT and EVB testing, if PocketDAQ system is up
- uTCA workshop (>100 registrants at DESY)
- PXD DAQ plenary talk by Björn

next week (after 17., 18.-20.12.)

Thomas, Björn, David (again) at DESY

- **DATCON**-ONSEN testing with Michael
- DHH(C)-ONSEN testing with Dima,
6 Gbps (new, after fix by Dima and Igor)

Investment (hardware ordered in FY 2013, BMBF funds)

- 12-16 compute nodes (40.000,-)
- 32 transceivers optical 6 Gbps (3100,-)
- 32 transceivers optical/RJ45 (2360,-)
- 1 ATCA switch + CPU for in-shelf JTAG
- 3 uTCA shelves

→ 3 Pocket-ONSEN Systems

1 for KEK

1 for DESY (after Feb 2014 → move to MPI or TUM)

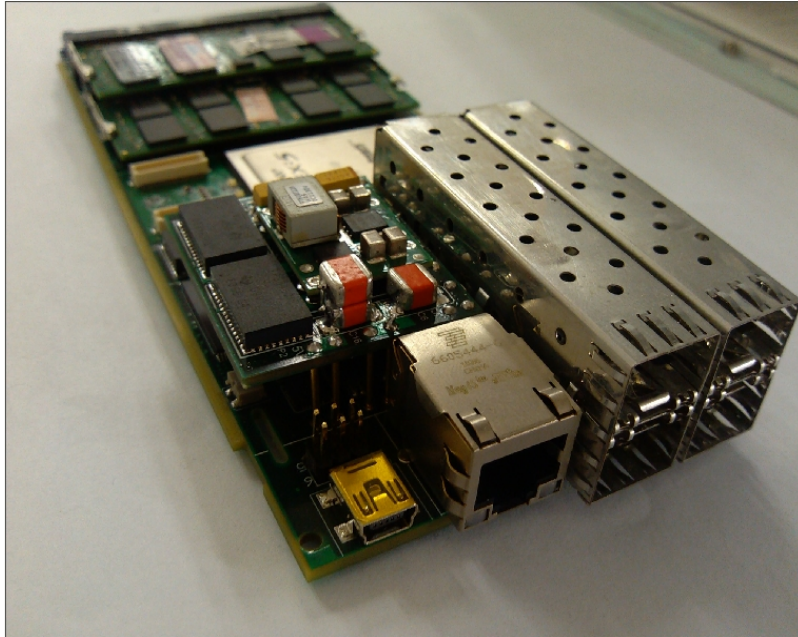
1 for Giessen (mirror system, for parallel debugging)

„auto-boot“ (firmware in flash)

input: optical link from DHH

output: RJ45/siTCP to basf2 (on whatever PC,
but IP needs to be known)

advantages: buffer management (waiting for HLT), basf2 receiver

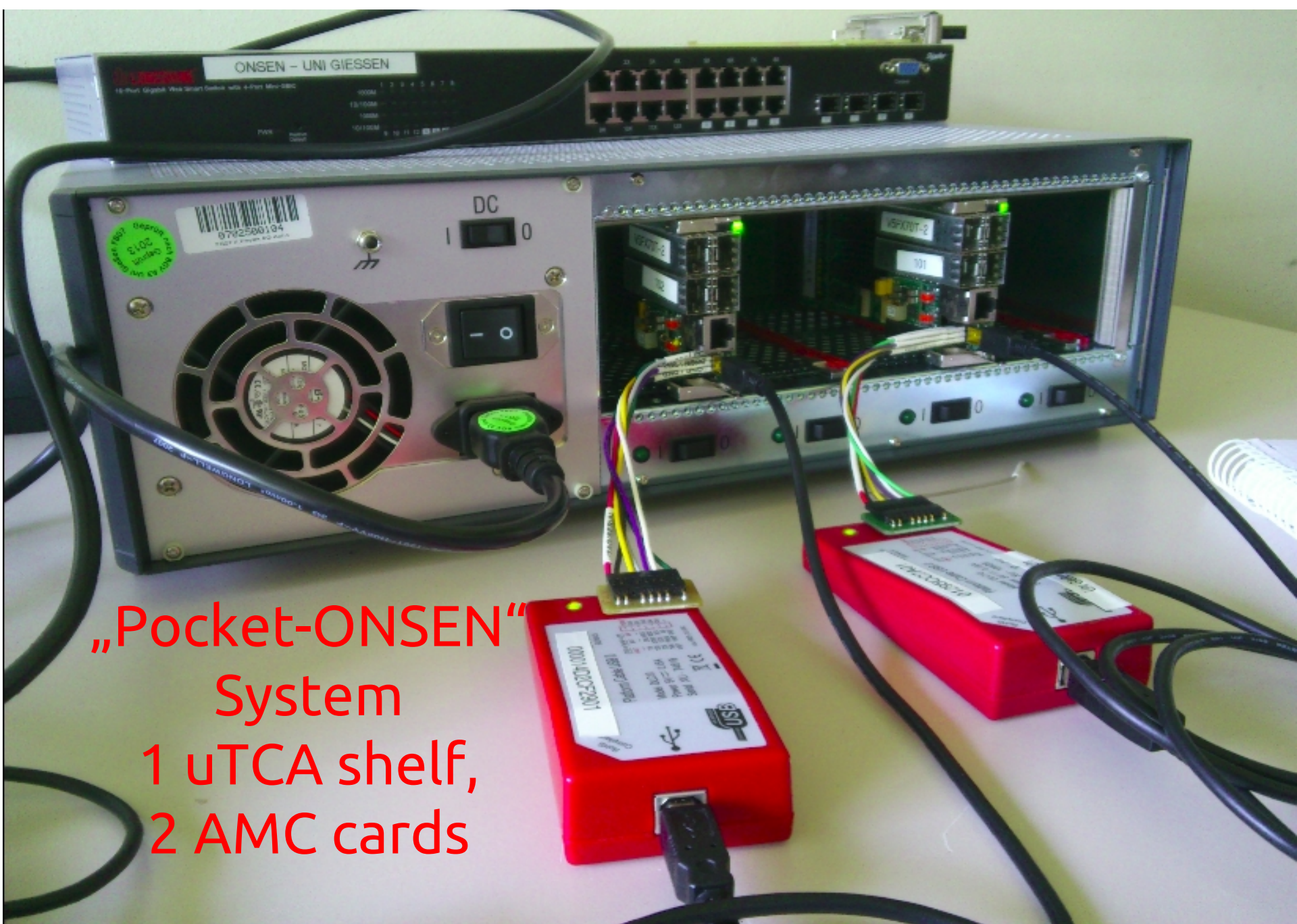


compute nodes have
4 optical links
(only) 1 RJ45



Finisar FCLF-8521-3
SFP+ tp RJ45

→ optical/RJ45 transceivers
→ optical links can be used
for Gigabit ethernet



„Pocket-ONSEN“
System
1 uTCA shelf,
2 AMC cards