

Video System: Status Report

Table of Contents

So what happened in the last month?

- prototyping of event-archive video storage and readout (Phil'n'me @HH)
- Video @ Regae / Hossein Delsim-Hashemi
- bug fixing of software components
- camera network issues at Zeuthen resolved
- changes at Hasylab video setup
- upgraded TINE used at Zeuthen

Stefan Weiße
March 2011

1

Video System: Status Report

Prototyping of Video Event-Archive Storage (put) and Readout (get)

=> work in progress

- nothing to show yet
- little work was done in Tine, event archive server and video parts (impedance match), Tine API extension (draft!) -> eventtools.h
- set up of event archive server with a video trigger
- sequence of images stored (a named trigger has been set up and was fired by hand)
- images have been successfully read back out of the archive
 - simple prototype application easily doing this is just about to be ready to show

Stefan Weiße
March 2011

2

Video System: Status Report

Video@Regae

- Installation of server and client-side on Hossein's notebook (XP)
 - to get to know and be able to play with/use already existing software
 - Prosilica GigE Tools and JAI GigE SDK and Tools
 - Prosilica front-end (SGP Prosilica)
 - JAI SDK (GigE) front-end
 - Video Client 2 (video system 2)
 - ACOP Video Application

3

Stefan Weiße
March 2011

Video System: Status Report

Bug Fixing at Software Components

- Irregularities at HasyLab
 - Watchdog crashed (because of memory full?)
 - TINE TCP issues, memory leak
 - after fixing it is now working without problems
 - thanks to Karol, Markus and Phil for help
- Shared memory at video software components
 - race condition (competing semaphores)
 - behaviour in error case still needs improvement
- VSv2 TCP connection
 - volatile variable not properly treated
 - 1 race condition at 'Video System 2 Compatibility Layer'
 - 1 race condition at Video Client 2

4

Current status: At PITZ it runs stable now.

Stefan Weiße
March 2011

Video System: Status Report

Camera Network Trouble at PITZ

- packet losses, shutdown of physical connections because of errors
- we exchanged part of hardware which we thought were the cause of symptoms
 - Gbic interfaces at cisco switch (in lead bunker in tunnel!)
 - Fiberoptic Network cards at server PCs
 - some fiberoptic cables (part of the whole chain)
- no fundamental improvement
- damping measurement showed out-of-spec values at some of the wires
- cause: at some fiberoptic interconnectors at some (out of many) intermediate patchpanels the cables were interconnected 'on-the-edge'
 - bad damping on some of the wires
- looks solved now
- luckily the following could be falsified
 - no radiation damage to fiberoptic cables (sometimes ~ 1m from beampipe)
 - no temperature aging of electronic components (NIC, GBIC IF)
 - no misplaced (e.g. sharp bend) fiberoptic cables at hardly accessible locations could be identified

Stefan Weiße
March 2011

5

Video System: Status Report

Upgrades at Hasylab and Zeuthen

- **Wed March 9**
 - change of server-pc structure at Hasylab
 - updated Universal Slow Control
- **Thu March 10**
 - Tine upgraded @Zeuthen (now e.g. tine32.dll March 6, 2011)
 - Replaces already ~ 1 year old binaries and includes
 - Video System 3 development tree
 - Video System 3 and 2 production level
 - xAppsZN (zeuthen Windows Tine binary repository)
 - no problems observed (yet?), all went smoothly

Stefan Weiße
March 2011

6

Video System: Status Report

Short-/Medium Term Topics

- finish prototype of event-based video storage/readback
- work on JAI BM 141 camera (trigger and GigE behaviour needs to be investigated and understood)
- replace VSv2 relicts in HH by VSv3 stuff
- upgrade VSv3 servers used at MCS/MDI2
- add Intermediate JPEG compression component at Hasylab/Petra III

7

Stefan Weiße
March 2011

Video System: Status Report

Topics Waiting Afterwards...

- make setup at PIZ simpler to use, remove VSv2 Legacy support
- support/design Video Client 3
 - best of Video Client 2 is foreseen to be moved to a Java client
- bring 'event numbering of video frames' and 'video event archive storage and readback' into production level at PIZ

- document video system components, video website at tine.desy.de, user documentation
- interfaces, libraries and API for accessing video system and video frames using Video System 3 interfaces according to demands
- continue and finalize release of PNG and PNG sequence 'technology'

8

Stefan Weiße
March 2011