Video System: Status Report

What happened in the last months?

- Video upgrades@ Regae

- step by step lowered impedance mismatch of DOOCS<->TINE video
  - direction DOOCS server -> TINE client successfully worked on
  - I am interested about the other direction also (TINE server -> DOOCS client), but afaik nothing has been done yet
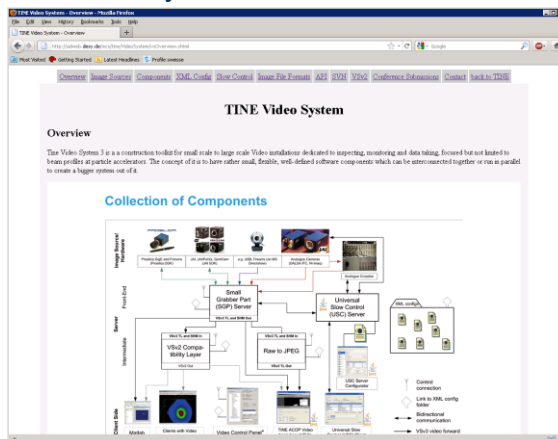
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December 2011

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Video System: Status Report

What happened in the last months? (cont'd)

- Video System website

- accessible via TINE website:

  1. http://tine.desy.de
  2. Services
  3. Video system

Please give us feedback on the website!

http://adweb.desy.de/mcs/tine/VideoSystem/index.html

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Video System: Status Report
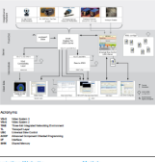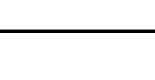
What happened in the last months? (cont'd)

presentation at ICALEPCS 2011 (October, Grenoble/F)

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Video System: Status Report

What happened recently

- **JAI SDK improvements**
  - in direct communication with JAI
  - new JAI SDK v1.4.0 (October 2011)
  - fixes some bugs which I spotted or needed to work around
  - needs adapted SGP JPGE
  - field tests not done yet, but looks promising
  - ready to upgrade from rather old release v1.2.5

- **JAI BM141 camera (Regae, Petra 3, PITZ)**
  - Increase of knowledge about this type of hardware and how to provide stable operation
- **JAI BB141 (colour version)**
  - firsts tests and integration successful

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Video System: Status Report

What happened recently (cont'd)

- tests of **high** frame rates
  - 50 Hz, 70 Hz, 80 Hz successful
    - at reduced resolution (no camera available which performs that fast if megapixel resolution is read out)
    - about 1024x512x8bit, 640x480x8bit, 400x300x8bit
    - Prosilica GC1350, JAI BM141 used for tests (Prosilica API+JAI SDK)
  - Raw data can be very fast
    - requires good network, PCIe NIC, TINE using TCP
    - Server works stable (no drops), GigE end-to-end (10GE backbone), stable transmission was possible at 50, 60, 70, 80 Hz (reduced framesize otherwise camera does not provide it), with client displaying in Java ACOP Video Application (core2duo machine from ~2007)

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Video System: Status Report

What happened recently (cont'd 2)

- tests of **high** frame rates (cont'd)
  - JPEG conversion needs powerful CPU
    - On low-end Core2Duo machine (from 2007) ~ 30 fps (1360x1024x8bit) are possible to encode
    - may be possible to optimize (using Intel performance primitives library (commercial))
  - Conclusion
    - I don't want to advertise too much, but…
    - I think we're well-prepared for a user test case which wants to have such high rates

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December 2011

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Video System: Status Report

Current Work

Name search!

If you have any idea, please tell me.
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Video System: Status Report

Current work: Matlab I/F

- some independent implementations at the moment

- streamlining is going on to prevent dozens of similar MEX implementations hard to maintain
  - use Video System 3 and TINE shared library
  - Matlab c++ code (mex) is going to be multiplatform compatible
    - Linux, Win32 (XP), Win64 (7), Matlab R2007 to R2011b+ (for user satisfaction)

- general support
  - take a single frame (repetitively or a single time)
  - take a sequence of frames
  - load in old image (sequences) file formats from VSv2
  - open for suggestions to extend functionality

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Video System: Status Report

Current work (cont'd)

- Video System shared library
  - work in progress
  - Win32, Win64 (XP, 7), Linux
  - references TINE shared library (e.g. tine32.dll)
  - provides API for Matlab MEX functions (and other clients of course)

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Video System: Status Report

For the near future

- finish Matlab interface
- finalize name for Video System
- Video System shared library
  - foreseen to release initial version for users (verified code, includes documentation)

- investigation and tests on native server components for Win7/64 platform

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Video System: Status Report

Next months…

- Work towards easier set-up, maintenance and use
  - first attempt: Server for Prosilica finds a single camera on network by itself (-> Video System on Notebooks)
  - backward compatibility will be considered of course

- Andor iXon camera at Regae -> SGP server component?

- LP
  - TINE video archive storage and retrieval
  - Linux' server components
  - removal of VSv2 legacy support (at PITZ)

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