GenICam Schongau Meeting Minutes - 2013-10-21/22

1. Homework Status/Voting Members
   - Active Silicon – CXP SFNC proposal
   - AVAL DATA – CXP SFNC proposal
   - Allied Vision – GenTL Validation Framework
   - Basler – GenICam 3.0 proposal
   - Baumer – Proposals for SFNC
   - BitFlow - CXP SFNC proposal
   - JAI – C-structs for GenCP
   - MathWorks – GenApi 2.4
   - Matrix Vision – GenApi 2.4, GenTL
   - Matrox Imaging – SFNC
   - Mikrotron – CXP SFNC proposal
   - MVTec – Administration, GenApi 2.4, GenTL, GenTL SFNC
   - National Instruments – GenApi extensions
   - Pleora – SFNC proposals
   - Sensor2Image - Meeting
   - STEMMER IMAGING – GenCP, GenTL
   - Teledyne DALSA – SFNC proposals

2. GenAPI/CLProtocol – Status & Roadmap (Fritz Dierks, Basler)
   - Release v2.4
     - Work in progress, first RC already built by Hartmut, Shankar, Stefan, and Tom
       - approx. 40 tickets closed
       - Updated log4cpp
       - Multiple fixes for Linux and BigEndian systems (Eric Gross, NI)
       - Added Python bindings via SWIG
       - ToDo: Get rid of named semaphores
       - ToDo: Small documentation and cosmetics issues
       - ToDo: Include patch for IntegerSet
     - Roadmap: Close tickets and go for release in Dec 2013
     - Further new and still open tickets for v2.4 are postponed to v3.0 release
   - GenApi v3.0
     - Key objectives: Make it smaller, faster, and ready for deep embedded use!
     - Re-factor GenICam
       - No DOM any more
       - Small footprint
       - Load extremely fast
       - Fix some annoying problems
       - Keep full interface compatibility to v2.3
     - No more static use case
     - New module structure within GenApi v3.0
• XSD/e license should be based on per generated code option
  ➢ How to raise the money? Can EMVA help?
• Distribute workload in homework packages:
  ▪ XMLLoader
  ▪ CNodeMapXxx
  ▪ Build System
  ▪ Deep Embedded
  ▪ GenApiTests
  ▪ Performance
  ▪ Maintaining
• Roadmap
  ▪ Release v3.0 in Q3/2014

3. GenCP (Rupert Stelz, STEMMER IMAGING)
   • Open comments to v1.0
     ▪ Clarify timeout handling for PendingAck
     ▪ Clarify how to handle commands with same request id
     ▪ Clarify chapter 3.1.4.1 about corrupt packets
     ▪ Increase max size for command packets to more than 16bit? No.
     ▪ Deprecate Endianness registers
     ▪ No names in manifest table
     ▪ Clarify access options in chapter 5.4.19
     ▪ Clarify that custom warning status codes do not indicate errors
     ▪ Clarify use of channel ids for different TL technologies
   • Further extensions for v1.1
     ▪ New commands to enable stacked read and write commands
     ▪ Parallel/queued requests? Or simply use multiple communication channels
     ▪ Multiple events per packet (via reserved field in event command)
   • Roadmap
     ▪ Prepare RC for next meeting

4. GenTL (Rupert Stelz, STEMMER IMAGING)
   • GenTL v1.4 release candidate is already available
     ▪ Removed technology specific names from chapter 7 and refer to GenTL SFNC
     ▪ Hyperlinked function names
     ▪ Added chapter 3.7 to clarify module enumeration issues
     ▪ Extended return code information for GenTL functions
     ▪ Added Module Event to allow GenApi aware events
     ▪ Renamed Feature Device Event to Remote Device Event
     ▪ Renamed of TLTYPE USB3 to U3V
     ▪ Port names in module XMLs are no more mandatory
     ▪ New error codes
       ➢ GC_ERR_BUFFER_TOO_SMALL
       ➢ GC_ERR_INVALID_INDEX
       ➢ GC_ERR_PARSING_CHUNK_DATA
       ➢ GC_ERR_INVALID_VALUE
- GC_ERR_RESOURCE_EXHAUSTED
- GC_ERR_OUT_OF_MEMORY
- Added reference to SFNC Transfer Control features.
- Added numeric constants for infinite timeouts and invalid handles
- Added PFNC to PixelFormatNamespaces
- Added UTF8 encoding
- Added Device and Buffer info commands
- Added Pixel Endianness
- New PAYLOADTYPE_IDS according to GEV2.0
- Added functions to retrieve the parent modules
- New URL_INFO_command
- Many clarifications

- Roadmap
  - Start voting on v1.4 in mid November

- GenTL v1.5 / v2.0
  - 3D buffer proposal
  - Static/dynamic number of streams
  - Collect more ideas in Trac discussion forum

- GenTL Validation Suite (Holger Edelbüttel, Allied Vision)
  - Multiple solved issues: #1180, #1187, #1194, #1195, #1197, #1118
  - Open issues
    - Remove boost-based code
    - Remove zlib
    - Add more logging levels
    - Improve messages
    - Port to Linux
    - Tests for GenTL 1.4
  - ToDo: open Trac discussion topic to collect feedback

- TLSimu
  - Updated to support Win64
  - New information in Wiki about how to build TLSimu

5. GenTL SFNC (Christoph Zierl, MVTec)
   - GenTL SFNC 1.0 released in May 2013
   - Collect ideas for v1.1 in Trac discussion forum
     - Adaption to changes in GenTL v1.4
     - Timeouts for Interface-/DeviceUpdateList
     - New features for better GEV IP-Assignment
     - Version info of implemented TL standards
     - Additional buffer handling mode “NewestOnly”
   - Roadmap
     - Collect ideas for v1.1 via Trac tickets and discussion forum
     - Prepare v1.1 RC before next meeting

6. Marketing & Operations (Christoph Zierl, MVTec)
   - General
• Currently approx. 130 member companies and 380 individual members
• New members more often refer to GenTL
• Establish operations with new EMVA
  ➢ Official member list (with member companies) maintained by EMVA
  ➢ Trac accounts maintained by MVTec
  ➢ Mailing list maintained by STEMMER IMAGING
  ➢ Public member list at www.genicam.org to be maintained by EMVA
• Trac
  ➢ Now Trac systems in parallel for GenICam, GEV, U3V, CXP, and CLHS
  ➢ ToDo:
    ➢ Common entry web page
    ➢ Overview about who is in charge for each Trac project
• Marketing
  ➢ Fritz and Christoph contributed to upcoming FSF brochure on MV standards
  ➢ Open issues:
    ➢ Extend info at www.genicam.org
    ➢ Update content of existing GenICam flyer
    ➢ Combined GEV/GenICam demo for MV standards booth at SPS/ipc/drives in Nürnberg and ITE in Yokohama
    ➢ Review GenICam license text
  ➢ Review procedures to ensure GenICam compliancy / certification
    ➢ No plans to initiate compliancy procedures for “standard” GenICam
    ➢ Initiate procedures for GenICam GenTL certification
      ➢ Based on old proposal from Rupert
      ➢ Similar to procedures of GEV/U3V/CXP compliancy
      ➢ Re-define right to use the (redesigned?) GenICam GenTL logo

7. **3D Proposal (Jan Becvar, Groget & Mattias Johannesson, SICK)**
• Adding 3D specific formats to PFNC
• Transferring additional data, e.g., pixel validity/confidence
• Allow the GenTL buffer to have multiple parts
• Add new GEV payload type to transfer multiple parts
• First round of 3D SFNC feature proposals (*Mattias Johannesson, SICK*)

8. **SFNC (Stephane Maurice, Matrox Imaging)**
• **PFNC (Eric Carey, Teledyne DALSA)**
  ➢ Make PFNC official part of GenICam SFNC, i.e., transfer it from GigE Vision technical committee to GenICam standard working group
  ➢ New appendix C “Pixel Format Value Reference”, inspired by U3V and CXP
  ➢ Procedure to enable an easy way to request a new pixel format name and id
• UserSet feature proposal (*UserSetFeatureSelector, UserSetFeatureEnable*)
  ➢ Accepted for SFNC v2.1
• Sequencer proposal
  ➢ Accepted for SFNC v2.1
  ➢ Software trigger proposal to be reviewed separately
• Deprecate list of GEV-specific features, e.g. GevDeviceClass
• Allow PayloadSize of 0 in SFNC
• Add PixelFormatInfoID[DevicePixelFormatInfoSelector]

Generic Firmware Update proposal (Thies Möller, Basler)
  ▪ Update archive as zip container with .guf binary file and JSON control file
  ▪ Use SHA1 for file validation instead of MD5
  ▪ Need for DeviceFirmwareUpdateEnable feature
  ▪ Further discussion/review needed

• New features for Binning/Decimation/Scaling
  ▪ Further discussion/review needed

Proposal for Generic Software Trigger
  ▪ SoftwareCommand selector in new category SoftwareCommandControl
  ▪ Further discussion/review needed

Rotary Decoder proposal (Mattias Johannesson, SICK)
  ▪ Further discussion/review needed

DeviceSupportedOption feature?
  ▪ Currently not needed

GEVPaddingY feature?
  ▪ Not for now

Changes to the CXP TL specific features
  ▪ Accepted for SFNC v2.1

New U3V TL specific features
  ▪ New TestControl category (invisible)
  ▪ New event for test data

Roadmap
  ▪ Next release will be SFNC 2.1, including Sequencer, UserSet, and revised CXP features
  ▪ Target date before next meeting
  ▪ Firmware Update proposal will be included later

9. Homework session

• Homework list/items
• Next meeting: March/April 2014, hosted by a US/CAN company