

GenICam San Jose Meeting Minutes – 2014-03-24/25

1. Homework Status/Voting Members

- Allied Vision – GenTL Validation Framework , SFNC proposal
- Automation Technology – SFNC 3D proposal
- Basler – GenApi 2.4, GenApi 3.0
- Baumer – SFNC proposals, GenApi 3.0
- JAI – Meeting host, C-structs for GenCP
- MathWorks – GenApi 2.4, GenApi 3.0
- MATRIX VISION – GenApi 2.4, GenApi 3.0, GenTL
- Matrox Imaging – SFNC 2.1, SFNC proposals
- MVTec – Administration, GenApi 2.4, GenApi 3.0, GenTL
- National Instruments – GenApi 3.0
- Pleora – SFNC proposals, GenApi 3.0
- Point Grey – SFNC proposals
- SICK –3D proposal
- STEMMER IMAGING – GenCP 1.1, GenTL 1.4, GenApi 3.0
- Teledyne DALSA – SFNC proposals, GenApi 3.0
- Toshiba TELI – GenApi 3.0

2. GenICam v2.4 (Fritz Dierks, Basler)

- Voted and released on 2014-02-11
- Includes the following module versions:
 - GenApi v2.4
 - SFNC v2.1
 - GenTL v1.4
 - GenTL SFNC v1.0
 - GenCP v1.0
 - CLProtocol v1.1
- Thanks to GenApi platform maintainers:
 - Hartmut Nebelung, Basler (Windows)
 - Thomas Hopfner, MVTec (Linux)
 - Shankar Subramanian, MathWorks (Mac OS X)
 - Stefan Battmer, MATRIX VISION (Linux/ARM)
- New bug reported by Teledyne DALSA regarding verifying children links

3. GenApi v3.0 – Status & Roadmap (Fritz Dierks, Basler)

- Key objectives: Make it smaller, faster, and ready for deep embedded use
- Large progress made since last meeting by the following contributors:
 - Eric Bourbonnais (Teledyne DALSA)
 - Sascha Dorenbeck (STEMMER IMAGING)
 - Francois Gobeil (Pleora)
 - Ryan Robe (National Instruments)

- Tom Hopfner (MVTec)
 - Stefan Battmer (MATRIX VISION)
 - Silvio Voitzsch (Baumer)
 - Thies Möller, Fritz Dierks (Basler)
 - Kazunari Kudo (Toshiba Teli)
- Performance Results (on Lenovo T430)
 - Cache file size has shrunk to 20%
 - Code size has shrunk to 20-45%
 - Peak private memory has shrunk to 25%
 - 1st loading time has shrunk to 12%
 - Cache loading time has shrunk to 20%
- Review homework packages
 - XMLLoader – Teledyne DALSA
 - NodemapXXX – STEMMER IMAGING
 - Build System – National Instruments
 - GenApiTest – MATRIX VISION / Baumer
 - Performance – Pleora
 - Maintaining – Basler
 - Mac OS Issues – Toshiba Teli, MathWorks
 - Generate Xcode project via cmake (*Kazunari Kudo, Toshiba Teli*)
 - 2 GenApi versions for Mac OS X (g++ 4.2 and clang 5.0)
- Open topics / New homework packages
 - VC++ Compiler Versions
 - Private Installations
 - Improving Run-Time Performance
 - Cleaning Up
 - Testing
 - Deep Embedded
 - Infrastructure
- Roadmap
 - Pre-release candidate until e/o June
 - Everybody please test, test, test in July & August
 - Provide RC in September 2014 right for the next technical meeting

4. GenTL (*Rupert Stelz, STEMMER IMAGING*)

- GenTL v1.4 has been released in December 2013
- Growing number of released implementations
- Open issues for v1.5/v2.0
 - 3D buffer proposal from Jan
 - Support static/dynamic number of streams
 - Better grabber support
 - Self-describing buffers
- Improvements to TLSimu
- Validation framework (*Holger Edelbüttel & Stefan von der Weihe, Allied Vision*)
 - Updated version available
 - Several solved and improved issues

- Boost library will not be removed (for future multithreading tests)
- Next steps
 - *Contribute to GenTL v1.5 to strengthen the GenTL standard in order to enable the development of a real compliance test framework*
 - *Port validation framework to Linux (#1226)*

5. *GenTL Certification (Christoph Zierl, MVTec)*

- Based mainly on self-certification
- GenTL Producers must prove compliancy with official Validation Framework
- Prove interoperability with 3 compliant “counterparts” from different manufacturers
- Make plugfest attendance mandatory? Probably not.
- Open issue: How to manage/minimize the paperworks
- Logo usage:
 - All products providing a compliant GenTL Producer or Consumer are allowed to use the (redesigned?) GenICam GenTL logo
 - Public list of compliant GenTL Producers/Consumers
- Impact on Validation Framework:
 - Introduce more functional use cases to ensure not only syntactical compliancy, but in particular functional compliancy
 - For this, add more mandatory requirements to next GenTL version to enable developing functional use cases
 - Improve output of validation framework to support test protocol
- Next steps
 - List all current use cases in „human-readable“ form in Wiki
 - Extend validation framework by more (functional!) use cases
 - Develop formal proposal for certification procedures
 - Contribute to GenTL v1.5 for necessary enhancements

6. *GenCP (Rupert Stelz, STEMMER IMAGING)*

- New issues for v1.1
 - Make heartbeat mandatory on serial links
 - Custom commands
- Roadmap
 - Prepare RC for next meeting
- Work package
 - Provide a simulator

7. *GenTL SFNC (Christoph Zierl, MVTec)*

- Open issues for v1.1
 - 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”
 - Create proposal for GenTL module events

- Roadmap
 - Work on v1.1 RC before next meeting

8. 3D (Mattias Johannesson, SICK & Thomas Hopfner, MVTec)

- Introduction
- 3D PFNC proposal (Thomas Hopfner, MVTec)
 - Generic formats with A/B/C components
 - C is always the depth/range component
 - 3D coordinate pixel formats with prefix "Coord3D_"
 - Full 3D data (Coord3D_ABC) vs. 2.5D data (Coord3D_C)
 - Confidence pixel formats with mask, e.g., Confidence1p, Confidence8, Confidence32f
 - Support of floating pixel based on IEC 60559:1989 (IEEE 754)
 - Avoid NaN in floating point data due to performance reasons
 - 2-component pixels, e.g., Coord3D_AC16 for line scan devices
 - Final proposal version already integrated in PFNC 2.0 Draft A
- GenTL Multipart proposal (Thomas Hopfner, MVTec)
 - Covers several use cases like multiple ROIs, not only 3D
 - New payload type PAYLOAD_TYPE_MULTI_PART and buffer info commands
 - Proposal ready to be integrated into GenTL and GenTL SFNC
- 3D SFNC proposal (Mattias Johannesson, SICK)
 - Image Format Control: RegionMode[RegionSelector]
 - New root node Scan3dControl
 - Extended chunks using ChunkPartSelector

9. Marketing & Operations (Christoph Zierl, MVTec)

- Membership issues
 - Get rid of unused Trac accounts
 - Delete new accounts which never logged in within 4 weeks
 - Delete old accounts which never logged in Trac yet (work in progress)
 - Sync member list with Trac accounts and mailing list (work in progress)
- Marketing issues since last meeting
 - Press release regarding GenICam v2.4 release
 - Contribution to FSF brochure about MV standards
 - Demo setups at SPS/ipc/Drives in Nürnberg and iTE in Yokohama
- Open issues
 - Extent content at www.genicam.org
 - Activities for Stuttgart VISION show in November
 - 3D demo?
 - How to demonstrate GenApi v3.0, e.g., on an embedded system?
 - Presentation at Industrial Vision Forum
 - Possible press releases
 - San Jose meeting
 - GenICam and 3D in general
 - GenApi v3.0

- Miscellaneous
 - Update Trac/SVN version at genicam.mvtec.com
- Roadmap
 - Release GenICam v3.0 until e/o 2014
 - GenICam 3.0 might include
 - GenApi v3.0
 - SFNC v2.2 (including 3D)
 - GenTL v1.5 (incl. Multi-part proposal)
 - GenTL SFNC v1.1 (incl. 3D contribution))
 - GenCP v1.1
 - CLProtocol v1.1
- Update GenICam license text
 - Update old license document v1.1 to current status quo
 - Draft version v1.5 already available
 - Renamed to “GenICam License, Rules, and Application Form”
 - No fundamental change, i.e., no re-signing will be necessary
 - Important: The updated license v1.5 is still not a “lawyer-proofed” license!
 - ToDo: Send draft version to mailing list for further review, then start ballot

10. SFNC (*Stephane Maurice, Matrox Imaging*)

- SFNC v2.1 has been released in January 2014
- PFNC
 - PFNC now included as a member of the SFNC module and already available at www.genicam.org
 - New Pixel Format request form could be available on EMVA web site
 - Separate appendix C from PFNC
- Encoder proposal (*Mattias Johannesson, SICK*)
 - New features with EncoderSelector in CounterAndTimerControl category
 - Scheduled to be included in next SFNC release
- Binning/Decimation/Scaling proposal (*Damian Nesbitt, Point Grey*)
 - Ready to be included in next SFNC release
- Shutter mode proposal (*Damian Nesbitt, Point Grey*)
 - New SensorShutterMode feature with values “Global”, “Rolling”, “GlobalReset”
 - Scheduled to be included in next SFNC release
- U3V TL specific features
 - New TestControl category (invisible)
 - New TestEventGenerate feature
- Color exposure time proposal (*Eric Bourbonnais, Teledyne DALSA*)
 - New features ExposureTimeMode, ExposureTimeSelector
 - Follow-up ticket for multi-slope exposure
- Trigger over the link proposal (*Stephane Maurice, Matrox Imaging*)
 - Ready to be included in next SFNC release
- New tap geometries (*Stefan Battmer, MATRIX VISION*)
 - Scheduled to be included in next SFNC release

- To be reviewed by Euresys
- Clarification for naming scheme for individual sequencer features with selector
- PFNC proposal for bi-color pixels (Eric Bourbonnais, Teledyne DALSA)
- Roadmap
 - Next release will be SFNC v2.2 including 3D features, Encoder features, new tap geometries, Test category, TriggerLink features, new ShutterMode feature, new Binning/Decimation features
 - FirmwareUpdate proposal deferred to future release
 - Target date before next meeting

11. Homework session

- Homework list/items
- Next meeting: September/October 2014, hosted by JIA in Tokyo