GenICam Meeting Minutes

Munich, April 21\textsuperscript{th} – 23\textsuperscript{th} 2009

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# Table of Contents

Table of Contents........................................................................................................2

GenICam/GigE Vision Meeting Attendees ....................................................................3

GenICam Meeting – Day 1..............................................................................................4
  Welcome (Christoph Zierl, MVTec)........................................................................4
  GenApi Status (Fritz Dierks, Basler)........................................................................4
  Camera Link Support (Fritz Dierks, Basler)............................................................6
  Presentation of the Wiki (Christoph Zierl, MVTec)................................................6
  GenApi v1.2 Roadmap (Fritz Dierks, Basler)............................................................6

GenICam Meeting – Day 2..............................................................................................7
  DOs and DONTs (Jan Bečvář, Leutron)....................................................................7
  GenTL Status (Rupert Stelz, STEMMER).................................................................7
  GenTL Open Problems (Jan Bečvář, Leutron)..........................................................7
  GenTL Roadmap (Rupert Stelz, STEMMER)..............................................................8
  GenApi v1.2 Roadmap (Fritz Dierks, Basler)..............................................................8
  Status from Marketing Sub-Committee (Vincent Rowley, Pleora).........................8
  License (Fritz Dierks, Basler)..................................................................................8
  Collecting Homework (Christoph Zierl, MVTec)......................................................8

GenICam Meeting – Day 3..............................................................................................9
  SFNC (Stephane Maurice, Matrox).........................................................................9
  General Discussion:...............................................................................................10
  GenICam Meeting Wrap-Up (Christoph Zierl, MVTec)........................................10
## GenICam/GigE Vision Meeting Attendees

April 21 to April 24, 2009  
SkyMeeting/Events over Munich, München, Germany

<table>
<thead>
<tr>
<th>Company</th>
<th>Representative</th>
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<tbody>
<tr>
<td>Basler</td>
<td>Fritz Dierks</td>
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<tr>
<td>Basler</td>
<td>Thies Möller</td>
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<td>DALSA</td>
<td>Eric Carey</td>
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<td>e2v</td>
<td>Frédéric Devriere</td>
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<td>EMVA</td>
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<td>Patrick Schwarzkopf</td>
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<td>Euresys</td>
<td>Jean-Michel Wintgens</td>
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<td>Andreas Koch</td>
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<td>Christoph Zierl</td>
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<td>Pleora</td>
<td>Vincent Rowley</td>
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<td>Sensor to Image</td>
<td>Werner Feith</td>
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<td>STEMMER</td>
<td>Sascha Dorenbeck</td>
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<td>Rupert Stelz</td>
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<td>SVS-VISTEK</td>
<td>Eckhard Kantz</td>
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<td>SVS-VISTEK</td>
<td>Gerd Reichle</td>
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<td>VRmagic</td>
<td>Thomas Ruf</td>
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GenICam Meeting – Day 1
Tuesday, April 21, 2009
SkyMeeting/Events over Munich, München, Germany

Welcome (Christoph Zierl, MVTec)
- Introduction of persons
- Welcome note by Olaf Munkelt, managing director of MVTec
- Homework review
- Established list of new voting members:
  o Basler
  o DALSA
  o Leutron
  o MATRIX VISION
  o Matrox
  o MVTec
  o NI
  o Pleora
  o STEMMER

GenApi Status (Fritz Dierks, Basler)
- Maintenance release 1.1.2
  o Release candidate RC4 was accepted by all contributing members
  o The following Mantis bug entries have been fixed: #373, #376, #364, #363, #292, #291, #289, #20, #356, #352, #338, #359, #353, #354, #339, #279, #284, #283, #286, #336, #271, #127, #287
- Bugfixes in v1.2
  o 11+2 Mantis issues fixed
  o Bug fixing in two branches is very expensive
  o The next release should be v1.2
  o Maintenance release 1.1.3 should be avoided
  o The following Mantis bug entries have already been fixed: #375, #361, #351, #349, #360, #110, #99, #346, #334, #108, #278, #125, #378
- New features in v1.2
  o 64 new Mantis feature entries resolved since v1.1
  o Test code grows with implementation code
  o #138 : Get a list of supported schema versions
    ▪ New method GetSupportedSchemaVersions()
  o #282 : Multiplexer functionality for float nodes
  o #350 : Add <pValueDefault> to integer and float nodes
  o Improve XML file caching
    ▪ XML loading is speeded up by factor 4 to 5
  o #340 : Logger for debugging dependencies
  o #281, 369 : GenApi persistence code – error handling
    ▪ Extended the error handling in LoadFromBag method
#048 : Extend <Representation> to IP, MAC
  - New format used in FromString()/ToString() for IP and MAC addresses

#347: Introduce <DocuURL>

#367 : Add a HasInc()/GetInc() method to IFloat

#381 : Attach float numbers to EnumEntries

#311 : Add Int/Enum alias access helpers to CFloatPtr

Multi-Type support subcommittee (Stephane Maurice, Matrox)
  - Deprecate raw/abs by float increment
  - A list of valid values and the range (min, max, inc) should be available
  - Multi-type support will not be added to the upcoming version v1.2
  - The int/enum alias support on IFloat will be kept
  - ACTION: Add a new element <ListOfValidValues> for float and integer nodes (and their derivative nodes) to the schema, thus making sure we can add in a later version of GenApi at least a restricted version with a constant list of valid values without having to change the schema. In the meantime the element is ignored by the code (Basler).
  - ACTION: Provide a first sketch how a solution dealing with a list of values may look in a future version (Basler)
  - ACTION: A <pCastAlias> element will be added to support that in order to avoid backward compatibility issues because the <pAlias> has a broader meaning than a strict “feature A can be casted to feature B” definition (Basler)

#370 : Extend PolyInteger pointers to IFloat

#342 : Rename FloatNotation and Precision
  - Rename <FloatNotation> to <DisplayNotation> and <Precision> to <DisplayPrecision>

#105: Register <pIndex>

#241, #368 : Introduce GetPrincipleInterfaceName()
  - New method to query the type of an Interface

#343 : Let GenApi client choose a max size for cached chunks
  - Set MaxChunkCacheSize to -1 to set max size automatically

#357 : Add a method to chunk adapter to clear caches

#288: SwissKnife: lower case variable names
  - In schema 1.0 variable names are always converted to upper case
  - Newer schema supports mixed case variable names

#105: SwissKnife <Constant> and <Expression>
  - Now it is possible to define constants and expressions for SwissKnife/Converters

#335: Extend (Int)SwissKnife/(Int)Converter variables
  - Give access to non-value items in SwissKnife formulas

#371: Static pointer not inheriting from CNodeMapRef

#343 : Add extensions to make GenApi run with Pharlap

#355 : Add a method to check if a node is a feature

#380 : Control feature exposure in static use case

#377 : Renovate ICommand behaviour

#383 : Support self clearing enums

#384 : Introduce pIsNotCached element

#335: Batch access to multiple registers
  - The write commands flowing through the Port can be recorded into a PortWriteList, which can be replayed
  - The transport layer may pack the replayed write commands into a single network packet
ACTION: Check how to implement batch access to multiple registers for GenTL
  o #372 : Ports may be features now
  o #355 : Make the lock object publicly accessible
    - Improves thread-safety
  o #382 : Allow callbacks to fire outside the lock guarded area
    - Improves thread-safety
  o #379: XML injection / glue logic
    - Adds possibility to merge two XML files into one and to provide access to hidden registers by new method LoadFromFileInject() and attribute Merge
    - This would allow to define some kind of Glue layer
    - Conclusion, that this feature should be deferred for a later GenApi release

- ACTION: Create meta project and integrate project file generator to build/test system (Cmake)

**Camera Link Support (Fritz Dierks, Basler)**

- Presentation of test results
  o First prototype works with Matrox MIL/Intellicam, DALSA CamExpert, NI IMAQ, and Basler pylon viewer
  o Still problems with state-less DLL, error management, binaries for different operating systems, fixed timeout parameter, C++ interface
  o Ready for Vision Show in Stuttgart in November?
  o Present results on Camera Link committee meeting in June
  o Discussion about different feature names for the critical features like PixelFormat on camera and frame grabber side
  o ACTION: Provide SFNC for CL with Tap Geometry, Configuration, Time Slots, Baud Rate

**Presentation of the Wiki (Christoph Zierl, MVTec)**

- First prototype based on TWiki already online
- Review of changes?
- Support of syntax highlighting?
- Discussion whether to switch to trac / Subversion (bug tracking tool including Wiki and access to Subversion repository) instead of Mantis/CVS/TWiki
  - ACTION: Rename Wiki website to genicam-wiki.mvtec.com
  - ACTION: Add meetings and timeline, attendance, conclusion, history of meetings, …
  - ACTION: Add meeting planer
  - ACTION: Add information about ftp server, Mantis server, how to subscribe to mailing list, maybe even mailing list archives
  - ACTION: Add member list
  - ACTION: List subcommittees with member companies
  - ACTION: Evaluate trac which combines Wiki and bug tracking system

**GenApi v1.2 Roadmap (Fritz Dierks, Basler)**

- First round of discussion about releasing v1.2
DOs and DONTs (Jan Bečvár, Leutron)
- Discussion about endianess, see also below
  o ACTION: Put revised DOs and DONTs document in the standard text

GenTL Status (Rupert Stelz, STEMMER)
- 3 new functions for the port module: GCGetNumPortURLs, GCGetPortURLInfo, GCSetPortActiveURL
- Roadmap
  o Add Bayer conversion?
  o ACTION: Define SFNC names for specific layers and acquisition modes

GenTL Open Problems (Jan Bečvár, Leutron)
- General
  o Open points should be always added to Mantis
  o The next GenTL version should support devices, which cannot store the data at any address, but need e.g. some specific alignment
  o All open device handles remain valid if IFUpdateDeviceList() is called
  o ACTION: Add symbol decoration and visibility to the standard text
  o ACTION: Fix the header file (avoid stdcall on 64-bit)
  o ACTION: Clarify the standard text for the known open points
  o ACTION: Provide information in the Wiki
- Header files
  o Client.h should be renamed into GenTL.h
  o GenTL.h and GCTypes.h should be fully C-compatible
  o ACTION: Remove GenApi headers from GenTL headers
  o ACTION: Use the same values for error codes in GenApi and GenTL
  o ACTION: Declare error constants and some other missing definitions
  o ACTION: Fix typos and differing function names
  o ACTION: Vote on the mailing list to accept above changes
- Discussion about endianess
  o Add new feature DeviceEndianessMechanism in node map, which is optional for v1.0 and mandatory for v1.1
  o ACTION: Add new feature GenTL DeviceEndianessMechanism (Enumeration: Legacy, Standard) to Dos and Don’ts
- Discussion about the location of CTI files
  o Use environment variable GENICAM_GENTL_32_PATH and GENICAM_GENTL_64_PATH as general path, i.e., the installer of a new producer should append the actual directory to this variable(s)
**GenTL Roadmap (Rupert Stelz, STEMMER)**
- Release of v1.1 planned for autumn (vote on next meeting)

**GenApi v1.2 Roadmap (Fritz Dierks, Basler)**
- Continued discussion about releasing v1.2
- Release of v1.2 including schema v1.1 planned for July or August
- Do bugfixes based on v1.2 only
- Get camera and library support
- Plugfest on next meeting
- Launch schema v1.1 products on Vision Stuttgart
- In case of problems or less time: Block usage of new schema and delay it until next meeting
- **ACTION:** Provide a migration guide in the Wiki

**Status from Marketing Sub-Committee (Vincent Rowley, Pleora)**
- Releasing GenICam as a 'packet', which version number(s) should be used?
- Proposal: Release GenICam v2.0 in Q3 2009 including
  - GenApi v1.2
  - GenTL v1.1
  - SFNC v1.3
- Establishing of a new self-certification sub-committee postponed for next meeting
- Presentation of the latest version of the 1-pager
- The "must" for SFNC usage in a GenICam compliant product will stay in the text definitively as it was decided originally at the creation of this 1-pager
- Patrick Schwarzkopf new member of the marketing sub-committee
- **ACTION:** Provide proposal about rules for version numbering
- **ACTION:** Provide text to EMVA for press articles
- **ACTION:** Provide an additional 1 pager about the benefits of GenICam

**License (Fritz Dierks, Basler)**
- Current license text is very old and looks unprofessional
- EMVA offers to generate an official license text
- **ACTION:** Revise and update license text

**Collecting Homework (Christoph Zierl, MVTec)**
GenICam Meeting – Day 3
Thursday, April 23, 2009
SkyMeeting/Events over Munich, München, Germany

SFNC (Stephane Maurice, Matrox)
- New categories:
  o In case of discrepancy between the features described in the SFNC and the “GenICam Standard text” the SFNC document prevails
  o ACTION: Rename GEV section to “Transport Layer Control” and move GEV (and eventually CL in it) to subsections
  o ACTION: Move payload size out of GEV section. PayloadSize will be located directly in the new common top subsection
- As approved in Pilsen, Raw and Abs features are deprecated. A new increment mechanism for float is now available and should solve the main blocking problems that justified the Raw version in the past
- All the ICommands of the SFNC (except DeviceReset) are now (Read)/Write
- There will be no multi-type feature in the SFNC as it was decided when the Abs/Raw feature were created. Instead, a “List of valid values” for the IInteger and IFloat nodes will be supported
- Added features for color transformation
- Added action feature for multiple camera trigger
  o ACTION: Improve description text
- Event / callback handling and event categories naming convention
  o Discussion about naming and providing of events
  o ACTION: Change section about event handling as discussed
- Deprecated the GigEVisionEvent enum of EventNotification to replace it by the more generic and TL agnostic On (vs Off) value as approved in Montreal
- ActionControl features should all have guru visibility
- GEV 1.1 new features were added in the GEV section and a proposal to deprecate a few GEVSupported… features and regroup them with a selector
  - ACTION: Remove GevManifestEntryCount and ActionCount
  - ACTION: Change access of features from 'read-only' to 'read'
- VBA script for SFNC features extraction from Word document was created, but is missing the inclusion of tooltips, description and category for each feature
- ACTION: Provide a XML file generated from SFNC, maybe in Wiki
- Minor changes accepted
  - GevCurrentIPConfigurationLLA, GevCurrentIPConfigurationDHCP, GevCurrentIPConfigurationPersistentIP, GevPersistentIPAddress, GevPersistentSubnetMask, and GevPersistentDefaultGateway features changed from expert to beginner visibility as agreed on the mailing list
  - Added missing selector for BalanceRatioAbs
  - Changed visibility of GevInterfaceSelector to beginner
- **ACTION**: Descriptions and tooltips for each feature need to be added
- CL features will not yet be included into SFNC 1.3
- Questions on some SFNC features
  - Separate source and activation for all features? Yes.
  - **ACTION**: Separate source and activation for all features, e.g., add CounterEventSource=Line0 and CounterEventActivation=LevelHigh and deprecate the compound enum such as Line0LevelHigh
  - Should we add CounterResetSource=AutoReset (or a new CounterMode=AutoReset)?
  - **ACTION**: Support a writable CounterValue to be able to specify a start value
  - Some Counter, Timer and Line features will be studied for a formal proposal by Leutron and Matrox for SFNC 2.0
- Added support note with direct E-Mail address for questions about the SFNC
- **Roadmap**
  - RC of SFNC 1.3 at the end of May 2009
  - Final release at beginning of July 2009

**General Discussion:**
- **ACTION**: Cleanup repository and re-organize directory structure
- Take two steps in one and use trac as bug tracking tool including Wiki with subversion support?
- **ACTION**: Evaluate possibility to convert to trac (MVTec)
- **ACTION**: Migrate CVS to Subversion (MVTec)

**GenICam Meeting Wrap-Up (Christoph Zierl, MVTec)**
- Homework assignment
- Next meeting will be in Montreal hosted by DALSA, presumably at the end of September or beginning of October 2009