GenICam Meeting Minutes

Montréal, September 24th and 25th, 2009

Eric Bourbonnais
DALSA Corp.

GenICam Meeting Attendees

Representative	Company
Andreas Koch	Kappa
Christoph Zierl	MVTec
Damian Nesbitt	Point Grey Research
Eric Carey	DALSA Corp.
Eric Bourbonnais	DALSA Corp.
Eric Gross	National Instruments
François Gobeil	Pleora Technologies
Fritz Dierks	Balser
Jeff Fryman	AIA
John Le	JAI
Karsten Ingeman Christensen	JAI
Mark Delaney	Micro Encoder
Malcom Steenburgh	Point Grey Research
Manny Romero	DALSA Corp.
Michel Doyon	Matrox
Peifang Zhou	DALSA Corp.
Pierre Yapety	DALSA Corp.
Rupert Stelz	Stemmer Imaging
Simon Jubinville	DALSA Corp.
Stéphane Laplante	Matrox
Stéphane Maurice	Matrox
Thies Moller	Basler
Vincent Rowley	Pleora Technologies

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GenICam Meeting – Day 1

Welcome (Eric Carey, DALSA)

ACTION: Close all completed tickets

COMPLETED:
- Homework Review
- Established a list of voting members in effect until the next meeting:
    o Basler
    o DALSA
    o Leutron
    o Matrox
    o MVTec
    o National Instrument
    o Pleora
    o Stemmer

GenAPI 1.2 Status (Fritz Dierks)

ACTION: Have SFNC automatically generate the enumeration entry documentation

Code Changes between 1.2.1 and 1.2

New Features:

#382: GenICam callbacks outside lock are
#383: Self Clearing Enums
#384: pIsNotCached Not Implemental
     pBlockPolling Instead
#423, #435: Node injection / merge
#380: ExposeStatic
#380: pCastAlias
#389: ValidValueSet
     ACTION: Implement the functionality to SFNC
#387: IPV4Address
#428: Add version to GenICam_LOG_CONFIG & GENICAM_CACHE
#387: GenApiTerminate function for MFC
#480: GetEntryByName
     Add GetEntry
     Add GetEntry
     ACTION: Fix the parameter name
#396: Maintain setup project

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#396: Add Comment to function in static use case
#385: XML loading time
ACTION: Investigate the lengthy Pleora XML loading time

#482: CNodeCallback is missing GetNode()
#475: GetSelectedFeatures NO FIX
ACTION: Create a Do&Don't for GetSelectedFeature
#397: Maintain GenApi to CI
ACTION: Implement a continuous integration for GenApi

Bugs Fixed

#427 Different Cacheability for the AccessMode and Value

GenApi 1.2 Roadmap

The next release candidate (RC2) is planned for the week of October 9th, 2009

Reminding tasks

Fix GenICam Version
GenApi do not follow the GenICam versioning
GenICam 2.0, GenApi 1.2, Schema 1.1
ACTION: Split the version definition in multiple defines
Bypassing XML validation
ACTION: Add recommendations to the 'Do & Don't' document and to the function headers

Beyond 1.2

Due to the current repository structure, module maintenance is very difficult. We need to use the Subversion capability to manage the modules as externals.
ACTION: Rework the Subversion folders

GenApi allows users to write to the device without performing the XML defined validations. This can cause various types of errors. The committee agrees that this is a problem and that the validation bypass should be avoided. However, since existing devices rely on this validation bypass to persist their configurations, the feature must be kept.
ACTION: Add the recommendation not to use validate=false on the write node access to functions in the comments and the Do&Don't document.

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Multiple XML / Multiple ROOT
ACTION: Create an XML nodes extractor.
ACTION: Extend the validation suite to include an extractability certification.

GenICam Documentation (Fritz Dierks)

GenApi is seen as a very complex technology. The main reason behind this complexity is the limited documentation on the technology and its availability. The committee should make sure that the standard is well Googled and that we have good tutorials, manuals, FAQs, WebCasts, etc. to support new users.

ACTION: Prepare a GenApi tutorial
ACTION: Prepare an XML tutorial
ACTION: Improve the documentation of the public interface
ACTION: Prepare a GenICam overview
ACTION: Create a FAQ from the mailing list archive
ACTION: Collect existing presentations and make them available form a Wiki page.
ACTION: Improve the Wikipedia GenICam profile

The GenApi and GenICam standard texts are in the same document for historic reason. This is creating some confusion since we have multiple modules that are not part of the GenICam standard text.
ACTION: Rework the GenICam standard text and create a separate GenApi standard text.

CLProtocol for Camera Link (Fritz Dierks)

To avoid a conflict with the GenApi release, the development of the CLProtocol is being done in a branch "Branch _v1_2_CLProtocol_development".

Changes since version 0.0

#477: State
Added clpDisconnect
#479: Error message without error number
GetLastError
GetErrorText gets a cookie parameter
#478: Long Timeout
CL_ERR_PENDING_WRITE & clpContinueWriteRegister
#481: Installation path in registry key
Do not use the CL registry key
Do not use a Windows registry

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Missing a Linux / Win64

Retrieving XML file

Problems: No schema version, missing version, missing overwrite

ACTION: Prepare a proposal for retrieving the XML that includes the multiple schemas and the multiple device version support.

Comments

IScalar is C++ but the API is C!

ACTION: Change IScalar to a C structure

CLProtocol is not validated on Linux or Win64

Delay to the next version

ACTION: Create a Linux release

ACTION: Create a Win64 release

In order to build upon the CLProtocol in the future, we need a protocol version function in the API.

ACTION: Create a function that returns the standard version

The current test suite does not accomplish 100% of the test coverage.

ACTION: Increase the test coverage to an acceptable level

CLProtocol roadmap

ACTION: Create a CLProtocol RC1 for week 41.

GenICam for new Transport Layer (Fritz Dierks)

GiGEVision

GenICam is well supported by GigEVision devices.

Camera Link

ClProtocol will allow GenICam over Camera Link.

The committee hopes that the CL community will adopt this standard.

IIDC 1.3

Fix the register set, but not the common XML

Since the GenICam standard was created after IIDC, camera vendors do not see the benefit.

The IIDC register map is hard to map in SFNC using the GenICam schema 1.0

IIDC 2.0

Same problems as 1.3 with SFNC

GenICam should promote its standards at this committee

ACTION: Elect a GenICam champion for IIDC 2.0 standard

USB 2.0

There is no machine vision standard to promote GenICam

USB 3.0

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There is no machine vision standard to promote GenICam. However, since this is a new technology, it is possible for the machine vision industry to create a standard.

ACTION: Investigate the creation of a committee for Vision on USB3.0 that promotes one GenICam compatibility layer (API, protocol).

CameraLink 2.0

The GenICam should promote its standard to the committee

ACTION: Elect GenICam champion for the CameraLink 2.0 standard.

GenICam Meeting – Day 2

Montréal, September 25th, 2009
Hotel Marriott Courtyard Montréal Airport
Montréal, Québec, Canada

GenTL (Rupert Stelz)

Wiki

The GenTL standard porting to Wiki is on its way. The committee feels that the overhead for maintaining this Wiki entry might not be worthwhile. No solution was found on how to collaborate on the revision of the official documents.

Release 1.1:

New features

Improved gcc compatibility
Standard text was reworked to accommodate the new features
Header files were updated

Changes

Multiple interfaces
Support for streaming mode
Distributed installation

ACTION: Release standard text 1.1

Roadmap

Update Wiki to 1.1
Update reference implementation (GcBase)
Remove GenApi dependency

GenTL 1.2

High frame rate
Pre-processing
Streaming output
Non frame base streaming

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SFNC 1.3 Release Status (Stéphane Maurice)

Changes form 1.2 and 1.3

Added SFNC category
Deprecated raw/abs
Color transformation
Action features
Event callback naming convention
GEV 1.1 features

Text reformatting to be scriptable
Exporting script for SFNC validation
Remove some feature units Bytes, Pixels , bitfield and ticks

Some of the removed units might still be needed for interoperability. We need to review the pertinence of the non SI units.
ACTION: Propose the creation of SFNC standard units.

Next version

We should reintroduce the GenICam section to SFNC
VOTE: 6 in favour; 1 opposed; 1 uncast vote (absent)
ACTION: Added Root, Device and TlParamsLocked
ACTION: Add a note to SFNC specifying that ICategory and IPort are not feature names, but Node name.
ACTION: Change GenICam standard text so that it refers to SFNC for the naming of features.
To be able to extract the Chunk portion of the XML, we need to define a point of origin of the chunk tree.
ACTION: Create a ChunkROOT proposal.
SFNC currently defines the category as a feature, but GenApi do not consider categories to be features. Since the standard text suggests that categories are features, GenApi 1.2 will be changed.
ACTION: All category nods should be marked as features by GenApi
We still need to define the CL Features. Some minor changes are needed in the TAP configuration section.
ACTION: #418 (Provide SFNC for CL)
With the introduction of the validation suite and the SFNC help file, releasing this module involves multiple tasks from multiple members. We need to define a procedure in order to avoid mistakes.
ACTION: Create a SFNC check list

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SFNC Review New Proposals (Stéphane Maurice)

IO Proposal

Some changes are needed to accommodate some use cases. Those changes are needed every where in SFNC. Source features should allow the selection of functional blocks. Activation features should specify the use of the signals exported by a functional block.

ACTION: Prepare a proposal to create design pattern Source and Activation features.

To simplify some use cases, it will be interesting to have a delay module or to add a delay in the line module.

ACTION: Create a delay module

SFNC Version

To avoid forward compatibility issues in SFNC, we need to define a version.

ACTION: Integrate SNFC version feature to SFNC

Trigger Frame Count

The current SFNC do not allow for a continuous acquisition of a sequence of frame. The committee agrees that we need to add this functionality, though different options must be evaluated. This will be accomplished by a sub-committee.

ACTION: Create a Multiple-Frame pre-trigger sub-committee

Transfer Module

There is a need to define the transfer in SFNC. This is a major task that needs to be done by a sub-committee.

ACTION: Create a transfer module sub-committee

SFNC Next Release (Stéphane Maurice)

The next release should include CL SFNC and GEV 1.2 features.

ACTION: Add GEV 1.2 feature to SFNC
ACTION: Complete #418 (CL Features)

Marketing (Fritz Dierks)

Message to the market

EMVA Boot at the Stuttgart Vision Show

We need some volunteers to answer questions on GeniCam standards at the vision show. A Doodle pool has been created to coordinate the effort.

http://www.doodle.com/giu3mutbhxtygarc

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Camera Link
> ACTION: Create a CLProtocol marketing slide.

The committee should try to create a permanent exhibit in the EMVA boot at the Stuttgart vision fair.
> ACTION: Designate a Stuttgart demo champion

Miscellaneous Topics (Christoph Ziel)

We need to make the subversion instruction easier to find.
> ACTION: Create a Subversion Wiki page and add a pointer to the build document.

Some ticket entries are used in a custom way to track homework, but this is not mentioned in any document.
> ACTION: Document the use of the milestone in tickets

Some committee efforts have been temporary stopped due to the lack of resources. Those tasks are indicated in tickets. These tickets complicate homework management and can result in important tasks being forgotten.
> ACTION: Create a stalled state for tickets

Track and CVS accounts are only available to EMVA-registered individuals. This is not practical if multiple individuals of a company are working on a GenICam product. We should review the account management policy. One of the proposed solutions is to have a read-only account that can be requested by an EMVA-registered individual for company members.
> ACTION: Develop new account creation rules with the EMVA
> ACTION: Try to get rid of the dead account

The committee is afraid that some non-EMVA members can receive the posted mail from the mailing list. After clarification on the mailing list registration process, the committee thinks the current security is enough, though the mailing list members should be verified from time to time to prevent leaks.
> ACTION: Review the mailing list to ensure that all recipients belong to an EMVA-member organisation.

The committee studied the possibility of creating multiple mailing lists for different sub-committees and concluded that there was not a need for it at this time.

In addition to the EMVA registered individuals, posted mail is sent to a company generic address (Genicam-contact@<company-name>.com). Note that committee members were not aware of this practice.
> ACTION: Review the pertinence of this practice.

New License Text (Fritz Dierks)

The new license is not ready
Changes that will be made
> The licence will be split into three documents:

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- General Guidelines for EMVA standard
- Voting rules for the GenICam standard
- Use of the logo and the reference implementation

The following clarifications will be made:

A 30-day balloting rule will be instituted

Establish rules for new members that have IP rights that may be in conflict with committee technologies

Clarify that contributing members are not giving away rights to their contributions, but are giving access to them.

GenICam Roadmap and Homework (Fritz Dierks)

We would like to release GenICam 2.0 before the Stuttgart show.

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