GenICam Meeting, Austin, Texas
February 7 – 9, 2006
Attendee List Attached at end

Tuesday, February 7
I.Introduction – Kevin Schultz
II. Status of the standard - Fritz
III. Discussion begins:

>a. **Serial support:** Serial nodes for ASCII protocol are not implemented. Needs to be added and testing needs to be done. Need an owner.
>Need to differentiate between CL and ASCII. The only requirement from Dalsa and Pleora is ASCII support, not full Camera Link support. (no control lines, etc). Pleora will work with Dalsa to determine time frame/resources. ASCII support in GenICAM will be ongoing, but not required by the GigEVision release. ASCII support is now owned by NI, Dalsa and Pleora.
>
>**Action Item:** Pleora will work on implementation of what is already defined for serial port protocol.
>
>b. **GenAPI:** Need to freeze interface of GenAPI
>Once the callback fix is tested and approved (next week) we should vote to freeze GenAPI and release GenICAM.
>
>c. **GenICam 1.1 release plans:** Do we release GenICam schema now and allow for errata or wait for errata and then call release? GenICam schema 1.0 is already released. For the GigE Vision vote, it will be sufficient to have a Release Candidate of 1.1 schema and text and a beta release of Reference Implementation
>
>d. **Requirements for application software to comply with GenICam standard**: Version 1.3 of the GenICam standard document includes the interface for GenAPI Only requirement for GenICam for software is that you can read an XML file and provide an API but there is no need to expose GenAPI or even use the reference implementation.
>
>e. **Transport Layer:** Stemmer thinks that we need a reference implementation of the Transport Layer for GigE (built on top of WinSock is okay).
>
>**Action Item:** Stemmer will adapt transport layer to frozen interface of GenAPI
>
>**Action Item:** Atmel will adapt XML file validator of schema
>
>**Action Item:** Pleora may or may not be willing to contribute code for Transport Layer. They will have internal discussions and report back.

f. High level description of GenICam: The GenICam specification lacks a stong introduction with a high level description of intentions and components.

Action Item: We will form a sub committee to develop high level document to discuss high level intentions and components of GenICam. Roughly 3 page description. Jean-Michel (Euresys) will take charge of this discussion, Dalsa Coreco, Pleora, Basler, Stemmer, Matrox have agreed to join the subcommittee.

g. Reference Implementation Testing: Overview of test plan and test code by Fritz.
We need one man week from each customer dedicated to testing. Goal is to be complete by the end of March. 10 companies have volunteered resources for developing automated tests.
Milestones for GenAPI Reference Implementation – Testing completed End of March, Release May.

Action Item: Fritz will divide test plan into 10 equal parts

Action Item: All 10 companies will develop test code according to plan

h. Compiler support: Propose to maintain code in VC 2003 and 2005. Agreed.

i. Misc:
Action Item: Fritz will post version 1.3 of GenICam standard document to mailing list

Action Item: All member companies to review version 1.3 of the standard and the latest version of the code.

Action Item: Fritz - schedule a phone conference 3 weeks from now where we vote on Release Candidate of standard document. This will include the high level 2-3 pages of overview information.

Action Item: Fritz will follow up with EMVA on announcement of new members to GenICam group.

III. GigEVision Compliance (Eric Carey):
1. Re-layout of spec with requirement designators - exists
2. Compliancy matrix for devices and application software – exists
3. We will have a private plug fest at the Vision Show in Boston (Monday)
4. Compliance tool will be developed. The compliance matrix will be the official proof of compliance - the tool is simply a tool – contributing developers to the tool will be Basler, Dalsa/Coreco, Pleora, JAI
Action Items: Jeff Fryman – Organize plug fest at Vision Show East
Action Item: Pleora (lead), Basler, Dalsa Coreco, JAI/Pulnix develop compliance tool

IV. Results of GigE Vision Balloting (Jeff Fryman):
53 companies on original balloting - 31 responses, 31 affirmative votes. Procedures have been accepted. Membership Application forms are not all turned in.
Multiple comments regarding uniquely identifiable divisions having multiple votes as well as one voter for multiple companies. This topic will be discussed at larger meeting in Boston.

V. Standard Features:
The standard feature document needs to be restructured – for acquisition, we need low level and high level API.

Action Item – Eric will coordinate the restructuring of the Standard Features document including reorganization of appendix
> ? Section 2.4.5.2 and 2.4.5.3 introduce convention which need to be incorporated into section 2.5.1
> ? Remove Device Acquiring and TL Acquiring from section 2.5.1 for now. Perhaps introduce concepts in future revision.
> ? Remove **TLTrigger0, TLVirtualFrameTrigger0, PixelClock, HSync, VSync, FVAL, LVAL, DVAL, Interrupt0, Interrupt1** from section 2.5.1.
> ? Change all signal names in 2.5.1 to the standard set in section 2.4

Wednesday February 8, 2006
I. Standard Features: Acquisition and Triggering (Euresys)
There is no point in finalizing this by May, no one can implement by then anyway.
High Level Acquisition features and commands:
Action Item: Matrox will integrate these "Presets" and Commands into the Standard working with Euresys

Features in place of Section 2.4 - the conceptual information in the appendix
Presets:
> Acquisition Mode (enum)
>> Continuous (M)
>> Multiple Frames
>> Single Frame
> Trigger Mode (enum)
>> Software
>> Hardware
>> Free Run
> Frame Count (int)
>> Number of Frames
> Status Flags (bool)
>> Active
>> Waiting on Trigger
Commands:
> Start – (M)
> Stop – (M)

Abort
Software Trigger

Action Item: Dalsa Coreco – Update GigE Vision Standard to reflect these changes

Upcoming action for group: Review model and precise mapping of 14 Standard Features to high level features defined above. It is recommended to make the Euresys proposal available to GigE Vision Committee as a draft of "what will come."

II. Standard Features: Image Size and Display
Action Item: Dalsa - Develop proposal for multiple AOI support

Action Item: Eric will lead discussion of line pitch (or something more generic) concept to be added to GigE Vision Specification

III. Standard Feature: Device Information
Action Item: Dalsa - Peifang - Introducing concept of multiple taps for the purposes of independent analog control of each tap.

Thursday February 9, 2006
I. Standard Feature: Analog Features
Action Item: Dalsa – Define AutoGain Target

Action Item: Dalsa – Define Section of Standard features for features related to TDI cameras

Removed "Image Correction" section completely for this version

Action Item: JAI – Add table to section defining standard for units [ms, us, etc.] ASCII characters only

II. Standard Features: Digital I/O
Action Item: Leutron, Basler - Bring the Digital I/O information from 2.4.7 into Digital I/O section and review document for consistency.

Action Item: Leutron and Euresys will add feature for selecting trigger source

Action Item: Basler - Need better introduction/overview to Digital I/O section including improving graphic.

Pins:
In Port
Out Port
Camera:
In Event or In Flag
Out Event or Out Flag

"In Event/Flag" connects to "In Port." "Out Event/Flag" connects to "Out Port." Reference *Digital IO Model Diagram.ppt*

Action Item: Leutron – Section 2.5.2 – Make proposal for better description of how physical pins change electrical types for next revision

Need to discuss and define terminology "IssueEvent" vs "EventIssue" (as part of overall consistency review) considering Intellesense.

Action Item: Basler - Look into definition of official Float format for GenICam and must me compatible with IIDC

Action Item: MVTec Develop installer for GenAPI – Recommendation: use MSVC 2005 tools

III. Next meeting
> a. Short meeting at Vision Show East (Boston) in May in same room as Plug-Fest
> b. Next meeting: GenICam Technical meeting to prioritize Transport Layer (week 23/24 – Early June in Montreal)
> **Action Item:** Eric - Post proposal for meeting date to list – best to get closure quickly

IV. Recommended Features: Test Images and LUT
For future development: Serializer helper class for GenAPI – walks the tree to determine and save User set to disk on Host computer. Can also load file from host computer and write it to tree.
Action Item: Add to User Set section of document statement that features which are saved as a User Set on the camera is defined by camera manufacturer.

V. Recommended Feature: Stamping the Image
Action item: Basler – Combine tables 2.9.1 and 2.9.2 and group features by category

Action item: Basler - This section needs to have
> ? "Exposure" changed to "Shutter"
> ? "Color Code" changed to "Pixel Format"
> ? "Left/Top" changed to "offset X and Y"
> ? "Pin In/Pin Out" changed to "<previously defined terminology>"

Action Item: Basler – What does following mean in the proposal?

> "TBD: The arbitrarily chosen grouping of the io- and AOI-chunks in the ChunkEnable section should be broken up into single enables for each chunk to be consistent with the remaining registers"

VI. Recommended Feature: User Sets
Action Item: Eric - Need to split section into Saving/Loading User Sets and Feature Validation Enabling/Disabling

Name	Company
Tony Iglesias	NI
Yves Joskin	Euresys
Jean-Michel Wintgens	Euresys
Gerd Reichle	SVS-Vistek
Sascha Dorenbeck	Stemmer
Rupert Stelz	Stemmer
Martin Kersting	Stemmer
Christoph Zierl	MVTech
Mattias Johannesson	SICK IVP
Frederic Mathieu	Atmel
Michael Krag	JAI A/S
Tue Moerck	JAI A/S
Johann Scholtz	NI
Eric Gross	NI
Chris Graf	NI
Fritz Dierks	Basler
Francois Gobeil	Pleora
Stefan Thommen	Leutron Vision
Stephane Maurice	Matrox
Peifang Zhou	Dalsa Coreco
Eric Carey	Dalsa Coreco
Jeff Fryman	AIA