Protocol

Topic	Standard Feature List			
of	12.-13.12.2005	**time**		hours
Location	Basler, Ahrensburg, Germany			

Planner	Fritz Dierks	**Date**	15.12.2005
Moderator	Fritz Dierks		V1.1
Protocol-chief	Alex Happe, Sven Seeger, Fritz Dierks	**No. of pages**	**4**

Participants

Company	Name	email
SVS-Vistek	Gerd Reichle	g.reichle@svs-vistek.com
Stemmer	Sascha Dorenbeck	s.dorenbeck@imaging.de
Sick	Mattias Johannesson	mattias.johannesson@sickivp.se
NI	Chris Graf	chris.graf@ni.com
MVTec	Christoph Zierl	christoph.zierl@mvtec.com
Matrox	Stephane Maurice	smaurice@matrox.com
Leutron	Jan Becvar	jan@leutron.com
JAI	Tue Moerk	tum@jai.com
JAI	Michael Krag	mkr@jai.com
JAI	Ole Krogh Joergensen	okj@jai.com
EURESYS	Jean-Michael Wintgens	jean.michel.wintgens@euresys.com
EURESYS	Yves JOSKIN	yves.joskin@euresys.com
DALSA/Coreco	Eric Carey	eric.carey@dalsa-coreco.com
Basler	Fritz Dierks	friedrich.dierks@baslerweb.com
Basler	Alex Happe	alexander.happe@baslerweb.com
Basler	Andreas Gaer	andreas.gaer@baslerweb.com
Basler	Thies Möller	thies.moeller@baslerweb.com
Basler	Sven Seeger	sven.seeger@baslerweb.com
Basler	Dietmar Ley	part time only

Item	Result	When	Who
1	Dietmar Ley, CEO of Basler and member of the AiA board, informs the group about some decisions taken by the AiA board on its last meeting in cw49. The board is dissatisfied with the progress of the GigE Vision standard committee. The IP problem is not yet solved and the release has been postponed until the Vision East show in May 2006. The AiA board has formed a sub-committee responsible to ensure that the standard activities of the AiA get on track again. This group consists of: ~ Dietmar Ley, Basler (chair) ~ Hedrik Ilsby, JAI/Pulnix ~ Keith Reuben, DALSA/Coreco ~ Kevin Schulz, National Instruments		

Item	Result	When	Who
	In addition the board has decided to replace George Chamberlain and Toshi Hori as chairs of the GigE Vision committee by Eric Carey, DALSA/Coreco. The board expects that a release candidate of the GigE Vision standard is available e/o January 2006 for balloting and that the IP issues are clarified until then.		
2	Fritz Dierks, Basler, gives a presentation of the GenICam means available for describing camera features. See attached presentation.		

3	The committee decides that the GigE Vision standard should make the following use case mandatory: an arbitrary generic viewer connects to a GigE Vision compliant camera and shows a live image.
	
	In order to achieve that the camera needs to implement the mandatory bootstrap registers as described in the GigE Vision standard plus the following mandatory features which must be exposed via the camera description file:
	
	// Width of the image in [pixel]
	IInteger::Width
	
	// Height of the image in [pixel]
	IInteger::Height
	
	// Entries according to the GigE Vision standard
	IEnumeration::PixelFormat = { … }
	
	// Size of the buffer required to receive one image
	IInteger::TotalBytesPerFrame
	
	// Enables and disables live image acquisition
	IEnumeration::AcquisitionControl = { Idle, Continuous }
	
	The camera's factory defaults must ensure that the camera shows a suitable live image when acquisition control is turned on without any further configuration.
	
	Note that it is not required that all GigE Vision bootstrap registers are exposed via the camera description file to the customer because many of them are relevant to the transport layer driver only. The camera description file however is intended to expose only those features which are relevant to the user.
	
	In addition to the 5 mandatory features there is a list of recommended features available (see next topic). GigE Vision compliant cameras should follow this list if possible. Note that custom features not coming from this list can be accessed by generic software such as image processing libraries but since their meaning is not known in advance the		

Item	Result	When	Who
	generic software cannot really use them in a meaningful manner but can only expose them to the user. The committee decided after a some discussion not to make more of these features mandatory for GigE Vision compliance. The group believes that the market forces are strong enough to ensure that most cameras will be implemented according to the recommended feature list in the end because any company ignoring the recommended features names and types will have to face lacking support by software library vendors and will have to explain that to their customers. Making the features on the list recommended instead of mandatory however has the advantage that the list can grow fast and unbureaucratically. In addition it allows camera vendors to port existing implementations to GigE and migrate the feature interface step by step to match the recommended feature list.		
4	The list of recommended features was grouped by use cases. Each use case had one company as keeper which had prepared the text and ran the respective session during the meeting. **Use case ⇔ Keeper** (in order of discussion) Determining the image size ⇔ SVS-Vistek Displaying images ⇔ Matrox Data transfer 1394 IIDC ⇔ Stemmer Data transfer GigE Vision ⇔ DALSA/Coreco Controlling the acquistino ⇔ NI Triggering image exposure ⇔ Leutron Digital IO ⇔ Basler Analog Control ⇔ JAI/Pulnix Automated Analog Control ⇔ Euresys LUT & Test Images ⇔ MVTec Camera information ⇔ Sick Stamping the image ⇔ Basler (not discussed due to lack of time) Euresys presented a unified model for camera behavior covering acquisition and trigger control (see papers attached). This model combines in effect the proposals of Leutron and NI for the use cases Controlling acquisition and Triggering image exposure. Euresys offered to adapt their unified model to fit in the recommended feature list and the group was glad to accept because the unified model seems to deliver a very good definition of the camera's dynamic behavior under the different trigger and acquisition modes. As a result of the meeting's work the recommended feature list is now scattered with on-line comments and needs to be revised before it can be posted for comments to the broader public. Here the action items to be performed:		

Item	Result	When	Who
	Basic restructuring of the document	e/o cw50	Basler
	First version of the Euresys proposal	b/o cw02	Eurosys
	First draft revision of all other sections	cw51	Keepers
	Final revised version of all other sections	e/o cw02	Keepers
	First draft for appendix 1 of the GigE Vision standard text	cw51	Eric
	Due to the necessary restructuring of the document the responsibility for the sections have changed a bit. If more than one company is listed as keeper for a section the company with bold printed name will please take care of the teamwork. **Use case ⇔ Keeper** Determining image size and displaying ⇔ **Matrox**, SVS-Vistek Data transfer ⇔ **DALSA/Coreco**, Stemmer Acquisition and trigger control ⇔ **EURESYS**, Leutron, NI Analog (automated) control ⇔ JAI/Pulnix Digital IO ⇔ Basler LUT & Test Images ⇔ MVTec Camera information & User Sets ⇔ Sick Stamping the image ⇔ Basler		
	The revised list of recommended features is due to be posted to the GigE Vision, GenICam, and IIDC list on 16.01.06.	16.01.06	Fritz
	The next meeting of the sub-committee will be hosted by National Instruments in Austin/Texas and take place from 06.-08.02.06.		
	NI checks the date and sends an invitation to the mailing list.	cw51	NI
	Any proposed changes to the list should be submitted to the mailing lists in the three weeks between the posting of the revised list and the Texas meeting. During the meeting the list will be reviewed a last time, shortened if necessary, and voted at by the sub-committee.		
	The final version of the list ready for balloting should be presented shortly after the meeting.	cw07	participants of the Texas meeting
5	Other decisions made by he group: If possible features should be expressed using the selector pattern rather than by describing them in a flat namespace.		