Allied Vision

Vimba

Vimba

Vimba Features

6.1.0

Vimba - Feature Overview

Vimba provides additional functionality that is not directly covered by API functions with GenICam Features. These Features can only be accessed via certain entities within Vimba. According to the API Entity Model described in chapter API Entities Overview, the entities providing Feature access are:

- The **Vimba System**, which includes functionality for managing interfaces and cameras.
- The **Interface**, which allows configuration of hardware interfaces (e.g. a GigE port).
- The **Camera**, which allows access to all features provided by camera device, data transport features, and some driver features.
- The **AncillaryData** for each Frame.

This chapter lists features that are potentially available in this module. Some features are only available under certain circumstances.

The following categories can be found below the Root category:

- Info
- Discovery
- ForceIP
- ActionControl

Info [Allied Vision]

Elapsed [Allied Vision]

Name	Elapsed
Interface	IFloat
Access	Read
Visibility	Beginner
Values	0.0..

Elapsed time since the API was initialized.

GeVTLIsPresent [Allied Vision]

Name	GeV TL Is Present
Interface	IBoolean
Access	Read
Visibility	Beginner

The GigE Vision Transport Layer is present and working.

FiWTLIsPresent [Allied Vision]

Name	FiW TL Is Present
Interface	IBoolean
Access	Read
Visibility	Beginner

The FireWire Transport Layer is present and working.

UsbTLIsPresent [Allied Vision]

Name	Usb TL Is Present
Interface	IBoolean
Access	Read
Visibility	Beginner

The USB Transport Layer is present and working.

CLTLIsPresent [Allied Vision]

Name	CL TL is present
Interface	IBoolean
Access	Read
Visibility	Beginner

The Camera Link Transport Layer is present and working.

Discovery [Allied Vision]

This category contains **features for camera and interface discovery** with Vimba, for example:

- Camera availability

- Notifications about camera availability
- Discovery process for GigE devices

The description below applies to the C API. For more information, see Vimba C Manual, Vimba CPP Manual, or Vimba .NET Manual.

Discovery of GigE cameras

The discovery process of GigE cameras usually takes some time, especially if multiple cameras are connected. Many applications open only one camera directly By its ID, IP address or MAC address. Consequently, Vimba initially does not discover devices automatically.

- *GeVDiscoveryAllOnce* starts the discovery once to get a complete camera list.
- *GeVDiscoveryAllAuto* detects GigE cameras permanently, which consumes a considerable amount of bandwidth.
- Both commands wait for *GeVDiscoveryDuration* milliseconds before returning. This allows you to directly get the list of cameras afterwards.
- *GeVDiscoveryAllOff* stops automatic discovery.

Notifications

Notifications about camera discovery and interface discovery work with the same mechanism:

- *DiscoveryCameraEvent* notifies about changes to the overall camera list and changes of the accessibility status of the cameras. During a notification, querying *DiscoveryCameraIdent* returns the camera change that caused the notification.
- *DiscoveryInterfaceEvent* notifies about interface-related changes, and querying *DiscoveryInterfaceIdent* returns the interface identifier.

For more information, see chapter Using Event in the API manuals.

GeVDiscoveryAllOff [Allied Vision]

Name	GeV Discovery All Off
Interface	ICommand
Access	Read/Write
Visibility	Beginner

Turns devices discovery OFF for all GigE interfaces.

GeVDiscoveryAllAuto [Allied Vision]

Name	GeV Discovery All Auto
Interface	ICommand
Access	Read/Write
Visibility	Beginner

Turns devices discovery ON for all GigE interfaces.

GeVDiscoveryAllOnce [Allied Vision]

Name	GeV Discovery All Once
Interface	ICommand
Access	Read/Write
Visibility	Beginner

Turns devices discovery temporary ON for all GigE interfaces.

GeVDiscoveryStatus [Allied Vision]

Name	GeV Discovery Status
Interface	IEnumeration
Access	Read
Visibility	Beginner
Values	AllOff, AllAuto, AllOnce

Provides state of discovery for GigE interfaces.
Possible values:

- AllOff: Discovery is OFF for all GigE interfaces.
- AllAuto: Discovery is ON for all GigE interfaces.
- AllOnce: Discovery is temporary ON for all GigE interfaces.

GeVDiscoveryAllDuration [Allied Vision]

Name	GeV Discovery Duration
Interface	IInteger
Access	Read/Write
Visibility	Beginner

The time in ms to wait for response from any device after device discovery was started in mode "Once" or "Auto".
Defaults to 150 ms.

DiscoveryCameraIdent [Allied Vision]

Name	Discovery Camera Ident
Interface	IString
Access	Read/Write
Visibility	Beginner

Identifier of the camera that triggered the last camera discovery event.

DiscoveryCameraEvent [Allied Vision]

Name	Discovery Camera Event
Interface	IEnumeration
Access	Read/Write
Visibility	Beginner
Values	Missing, Detected, Reachable, Unreachable

Indicates the last camera discovery event.
Possible values:

- Missing: The camera is missing.
- Detected: The camera was detected.
- Reachable: The camera is reachable (can be talked to).
- Unreachable: The camera is unreachable (cannot be talked to).

DiscoveryInterfaceIdent [Allied Vision]

Name	Discovery Interface Ident
Interface	IString
Access	Read/Write
Visibility	Beginner

Identifier of the interface that triggered the last interface discovery event.

DiscoveryInterfaceEvent [Allied Vision]

Name	Discovery Interface Event
Interface	IEnumeration
Access	Read/Write
Visibility	Beginner
Values	Unavailable, Available

Indicates the last interface discovery event.

ForceIP [Allied Vision]

This category contains features to force port features of a camera that would otherwise be inaccessible via Vimba.

1. Set the MAC address of the used camera in feature *GeVForceIPAddressMAC*
2. Set the required values of *GeVForceIPAddressIP*, *GeVForceIPAddressSubnetMask*, or *GeVForceIPAddressGateway*
3. To send these values to the camera, run *GeVForceIPAddressSend*.

GevDeviceForceIP [Allied Vision]

Name	Send camera force address
Interface	ICommand
Access	Read/Write
Visibility	Expert

Send the force address command on all interfaces

GevDeviceForceMACAddress [Allied Vision]

Name	Camera MAC Address
Interface	IInteger
Access	Read/Write
Visibility	Expert

48-bit MAC address of the camera to force IP setup

GevDeviceForceIPAddress [Allied Vision]

Name	Camera's desired IP Address
Interface	IInteger
Access	Read/Write
Visibility	Expert

IP address of the camera to be forced to

GevDeviceForceSubnetMask [Allied Vision]

Name	Camera's desired subnet mask
Interface	IInteger
Access	Read/Write
Visibility	Expert

Subnet mask of the camera to be forced to

GevDeviceForceGateway [Allied Vision]

Name	Camera's desired gateway
Interface	IInteger
Access	Read/Write
Visibility	Expert

Gateway of the camera to be forced to

ActionControl [Allied Vision]

ActionCommand [Allied Vision]

Name	Action Command
Interface	ICommand
Access	Read/Write
Visibility	Expert

Send created Action Command.

ActionDeviceKey [Allied Vision]

Name	Action Device Key
Interface	IInteger
Access	Read/Write
Visibility	Expert

The Device Key for the Action Command to be created.
This Key has to match Action Device Key within desired device(s).

ActionGroupKey [Allied Vision]

Name	Action Group Key
Interface	IInteger
Access	Read/Write
Visibility	Expert

The Group Key for the Action Command to be created.
This Key has to match Action Group Key within desired device(s).

ActionGroupMask [Allied Vision]

Name	Action Group Mask
Interface	IInteger
Access	Read/Write
Visibility	Expert

The Group Mask Key for the Action Command to be created.
This Key has to match Action Group Mask Key within desired device(s).

GevActionDestinationIPAddress [Allied Vision]

Name	Gev Action Destination IP Address
Interface	IInteger
Access	Read/Write
Visibility	Expert

Specifies the destination IP address for the Action Command.

This chapter lists the available features for Ancillary Data.

The following categories can be found below the Root category:

- ChunkData

ChunkData [Allied Vision]

Ancillary Data are non-image data that are part of the camera transfers. It relates to GenICam's Chunk Data.

Allied Vision GigE cameras usually don't expose the layout of their Ancillary Data via camera features, but the layout is the same for all cameras. Instead, they only provide feature *ChunkModeActive*, which is disabled be default. To enable transfer of Ancillary Data, set *ChunkModeActive* to "True".

ChunkAcquisitionFrameCount [Allied Vision]

Name	Chunk Acquisition Frame Count
Interface	IInteger
Access	Read
Visibility	Beginner

This is the number of the frame during the current acquisition.

ChunkUserValue [Allied Vision]

Name	Chunk User Value
Interface	IInteger
Access	Read
Visibility	Beginner

User value

ChunkExposureTime [Allied Vision]

Name	Chunk Exposure Time
Interface	IFloat
Access	Read
Visibility	Beginner

Exposure duration, in microseconds.

ChunkGain [Allied Vision]

Name	Chunk Gain
Interface	IFloat
Access	Read/Write
Visibility	Beginner

Gain value of analog A/D stage.
Units are usually in dB.

ChunkSyncInLevels [Allied Vision]

Name	Chunk Sync In Levels
Interface	IInteger
Access	Read/Write
Visibility	Beginner

Momentary logic levels of the hardware line inputs.

ChunkSyncOutLevels [Allied Vision]

Name	Chunk Sync Out Levels
Interface	IInteger
Access	Read/Write
Visibility	Beginner

Output levels of hardware sync outputs, for output(s) in GPO mode.