

## GigE Vision<sup>®</sup> – Multicasting with MATRIX VISION devices

### *Introduction*

The GigE Vision<sup>®</sup> standard allows to stream media over a network via Multicast simultaneously. The advantage of Multicasting is that in the same network several receivers can get data from one sender with constant bandwidth. For this, Multicast uses a special IP Multicast group address.

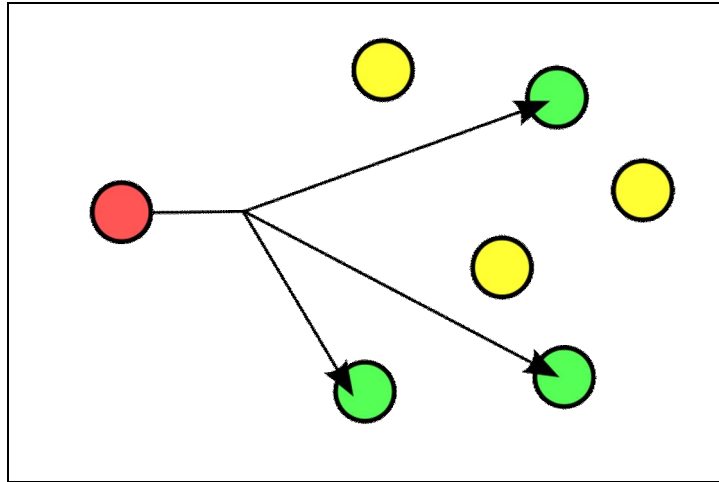


Figure 1 Multicast routing scheme [source: wikipedia.org]

### *Possible Application Scenario*

Following application scenario is possible:

One camera acquires live images and sends it using Multicast over the network. Now, there can be different types of receivers. One group of receivers, for example, can be used for displaying the live images, the other group can process the data.

As mentioned before, it does not matter how many receivers there are in the multicast network, the bandwidth remains always the same!

## Setting up Multicast with wxPropView

### Setting the primary application (sender)

On (the primary) application, the sender, you have to establish "Control" access. For this,

1. Please start wxPropView and click on the "Device" section.
2. Click on "DesiredAccess" and choose "Control".

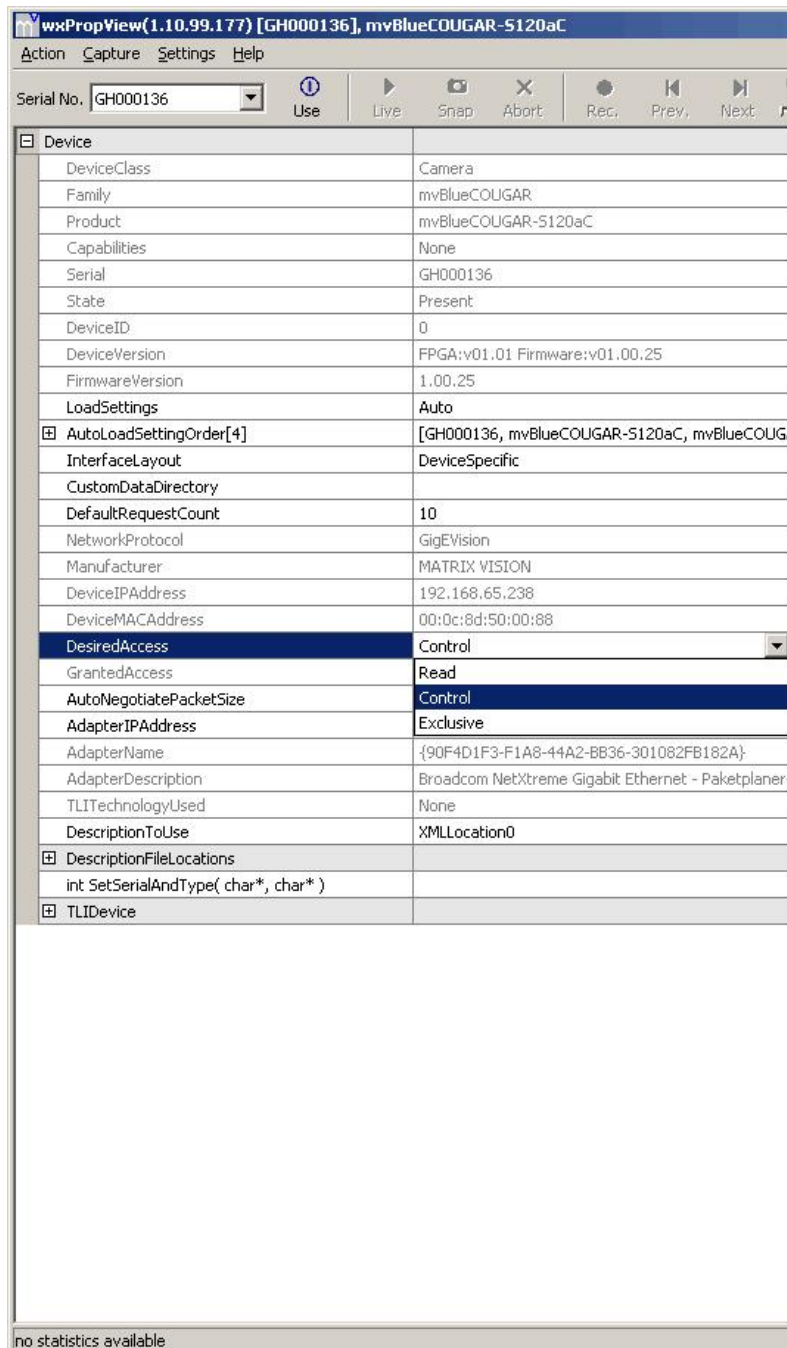


Figure 2 wxPropView - Primary application setting DesiredAccess to "Control"

See also:  
desiredAccess and grantedAccess in

```
mvIMPACT::acquire::Device (C++ developers)  
TDeviceAccessMode (C++ developers)
```

3. Now, select the "**System Settings**" section and open the "**TransportLayer**" subsection.
4. In "**GevSCDA**" enter a Multicast address.

[-] Statistics	
[-] System Settings	
WorkerPriority	TimeCritical
RequestCount	10
[-] TransportLayer	
PayloadSize	319480
GevVersionMajor	1
GevVersionMinor	0
GevDeviceModeIsBigEndian	1
GevDeviceModeCharacterSet	1
GevInterfaceSelector	0
GevMACAddress	0xc8d500088
GevSupportedIPConfigurationLLA	1
GevSupportedIPConfigurationDHCP	1
GevSupportedIPConfigurationPersistentIP	1
GevCurrentIPConfigurationLLA	1
GevCurrentIPConfigurationDHCP	1
GevCurrentIPConfigurationPersistentIP	0
GevCurrentIPAddress	0xc0a841ee
GevCurrentSubnetMask	0xfffff00
GevCurrentDefaultGateway	0xc0a8410f
GevFirstURL	Local:MATRIVISION_mvBlueCOUGAR-5_GigE_2
GevSecondURL	http://www.matrix-vision.com/downloads/camera
GevNumberOfInterfaces	1
GevPersistentIPAddress	0x0
GevPersistentSubnetMask	0x0
GevPersistentDefaultGateway	0x0
GevMessageChannelCount	1
GevStreamChannelCount	1
GevSupportedOptionalCommandsUserDefined	1
GevSupportedOptionalCommandsSerialNumber	1
GevSupportedOptionalCommandsEVENTDATA	0
GevSupportedOptionalCommandsEVENT	0
GevSupportedOptionalCommandsPACKETRES	1
GevSupportedOptionalCommandsWRITEMEM	1
GevSupportedOptionalCommandsConcatenati	1
GevHeartbeatTimeout	3000
GevTimestampTickFrequency	100000000
int GevTimestampControlLatch( )	
int GevTimestampControlReset( )	
GevTimestampValue	2584878438370
GevMCPHostPort	2776
GevMCDA	0xc0a841ec
GevMCTT	0
GevMCRC	0
GevStreamChannelSelector	0
GevSCPIInterfaceIndex	0
GevSCPHostPort	2778
GevSCPSFireTestPacket	0
GevSCPSDoNotFragment	1
GevSCPSPacketSize	1440
GevSCPD	32
GevSCDA	0xe0000101
int GevTimestampControlLatchReset( )	
[-] TLI	
MethodPollingInterval_ms	100 ms
MethodPollingMaxRetryCount	5
AcquisitionMode	Continuous
AcquisitionIdleTimeMax_ms	150 ms
[-] FileExchange	

Figure 3 wxPropView - Primary application setting GevSCDA in "GevSCDA"

One or more applications running on different machines can then establish "read-only" access to the very same device.

**i** The machines of the secondary applications have to be connected to the same network as the primary application.

### Setting the secondary application(s) (receivers)

1. Please start wxPropView on the other machine and click on the "Device" section.

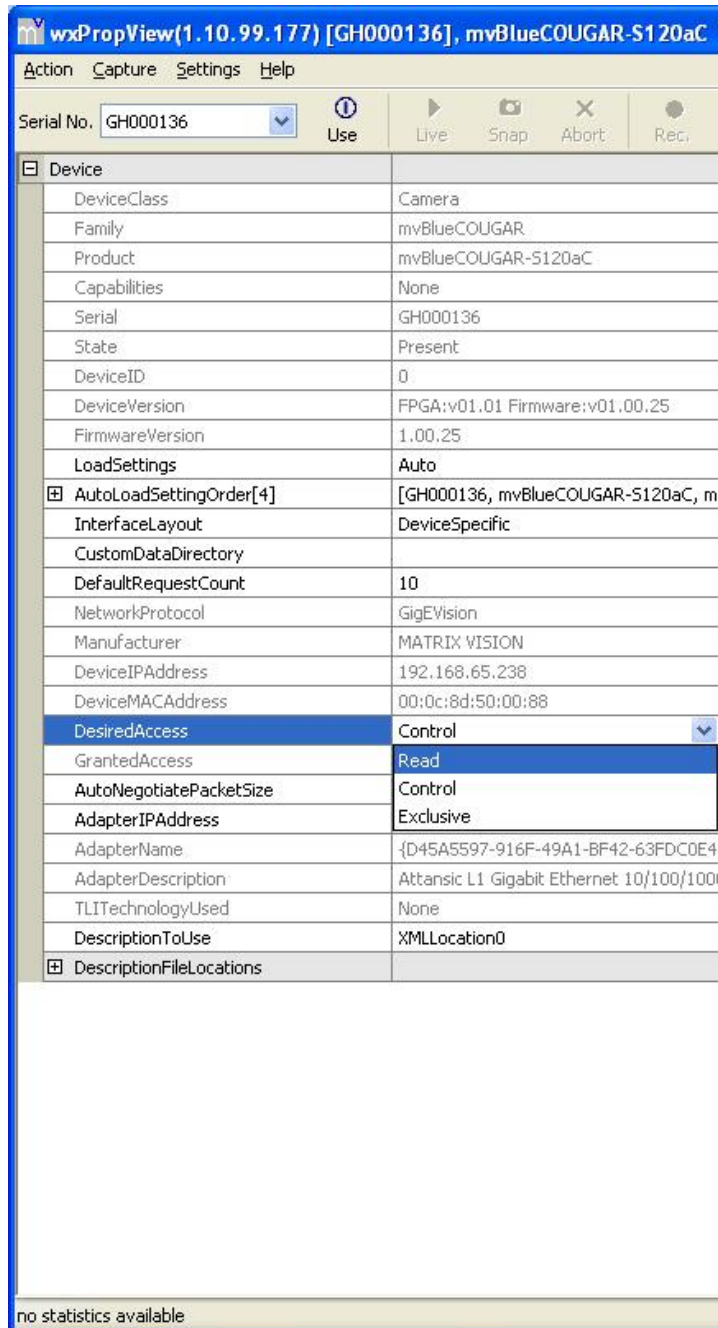


Figure 4 wxPropView - Secondary application setting DesiredAccess to "Read"

- Features will not be writeable as you can see at the "TransportLayer" parameters in Figure 5.

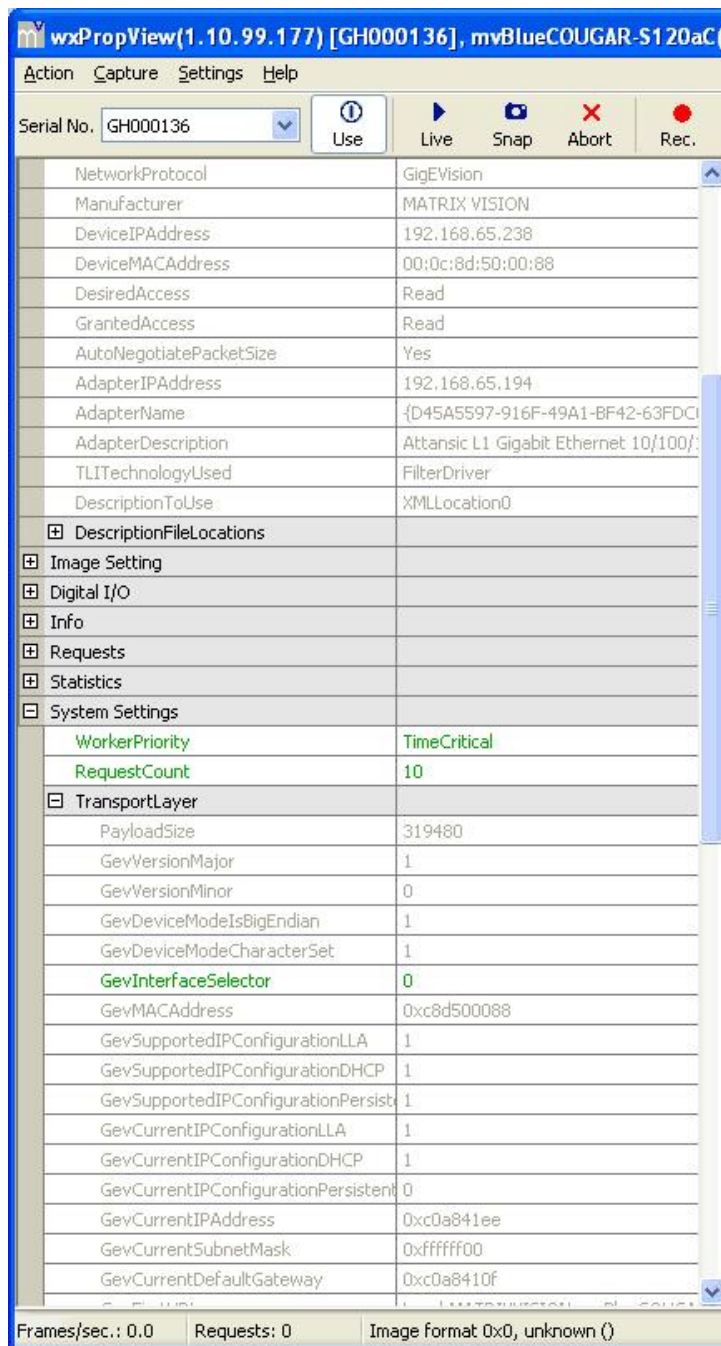


Figure 5 wxPropView - Secondary application read-only "TransportLayer" parameters

- Once the primary application starts to request images, the secondary applications will be able to receive these images as well. Please click on "Live".

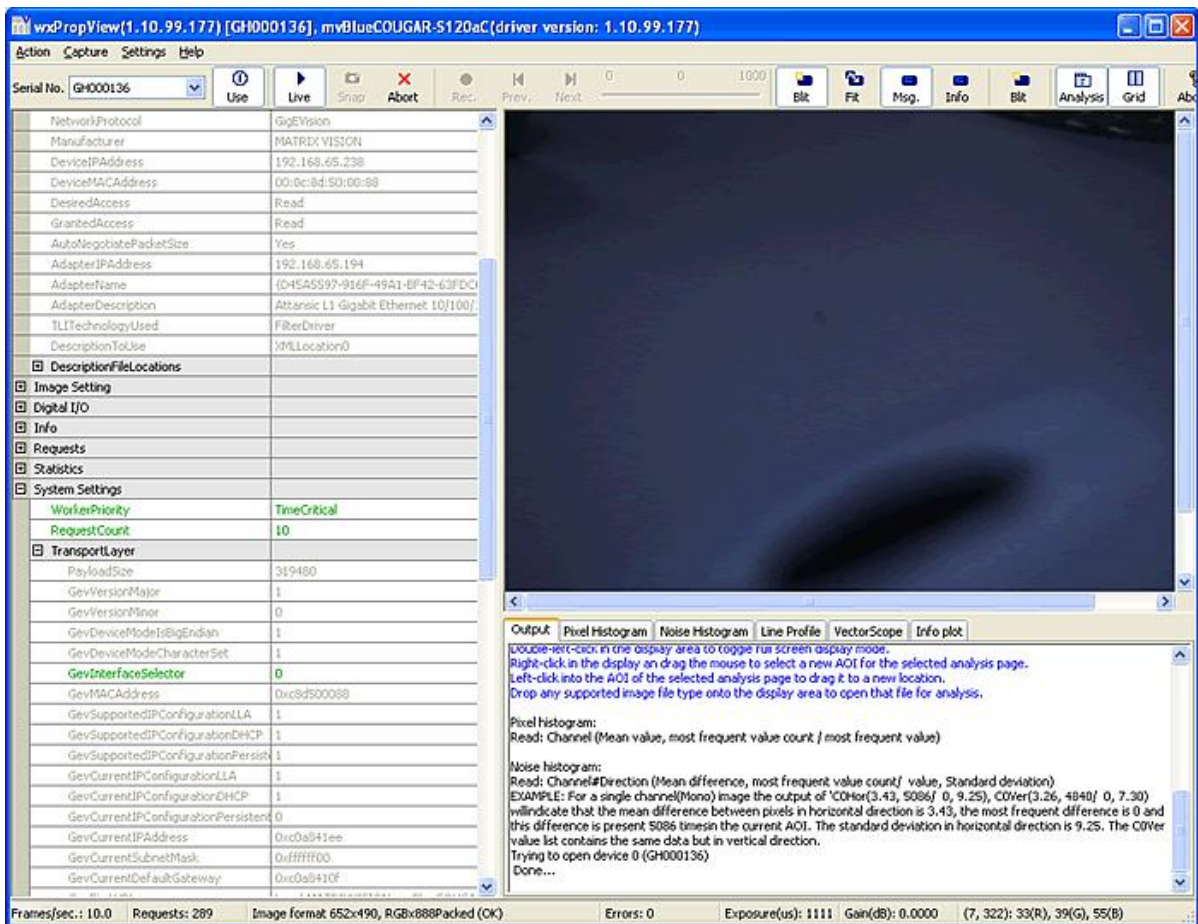


Figure 6 wxPropView - Secondary application receives images from the primary application

## Multicast Supporting MATRIX VISION products

- mvBlueCOUGAR-P
- mvBlueCOUGAR-S
- mvBlueCOUGAR-X
- mvBlueLYNX-M7

## Weblinks

- <http://en.wikipedia.org/wiki/Multicast>
- [http://en.wikipedia.org/wiki/Multicast\\_address](http://en.wikipedia.org/wiki/Multicast_address)