

## Scope of this document

Vimba was tested on ARMv7 32-bit boards and the SOM (system-on-module) NVIDIA® Jetson TX1. This document lists the following topics:

- Recommended embedded systems
- Tested operating systems
- Optimizing the GigE performance of Jetson TX1
- Requirements for developing on a PC

## Recommended embedded systems

### ARMv7 boards

Vimba runs on ARM boards with ARMv7-compatible 32-bit processor (500 MHz or better). VFP3 support and Thumb extension are required.

Vimba was tested with ODROID-XU.

Tested operating system: Ubuntu version 14.04 LTS "Trusty Tahr" and 16.04 LTS "Xenial Xerus". In most cases, Vimba is also compatible to higher versions or other Linux distributions.

### ARMv8 SOM

Vimba was tested with the ARMv8 64-bit SOM (system-on-module) Jetson TX1 and Linux for Tegra X1 R24.2.1 (Jetson TX1). Note that R24.2.1 contains Ubuntu 16.04 and several bug fixes. Please do not use its predecessor Tegra X1 R24.2.

## Optimizing the GigE performance of Jetson TX1

To achieve the best possible performance with the internal host adapter of Jetson TX1:

1. Set the host adapter's MTU (the packet size) to 7750.
2. Add to `/etc/sysctl.conf`:  
`net.core.rmem_max=33554432`  
`net.core.wmem_max=33554432`  
`net.core.rmem_default=33554432`  
`net.core.wmem_default=33554432`

3. Make sure that the packet size is set in the camera manually. To do this with Vimba Viewer:
  - a. Open Vimba Viewer.
  - b. Click **Settings** and **Start Options**.

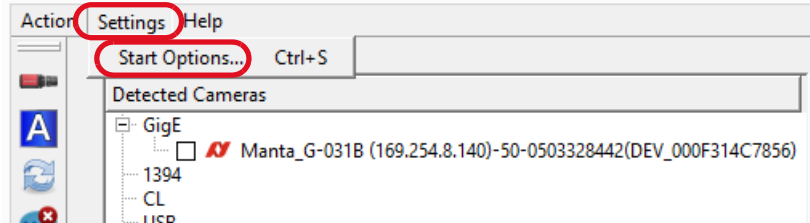


Figure 1: Click Settings and Start Options

- c. In the Start Options window, deselect **Auto Adjust Packet Size** and click **OK**.

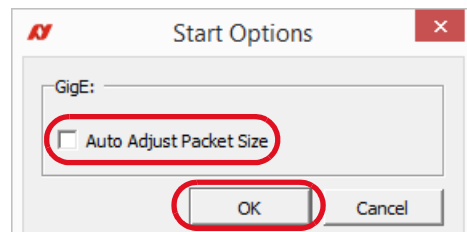


Figure 2: Deselect Auto Adjust Packet Size

- d. Open the camera and select the **All** tab.

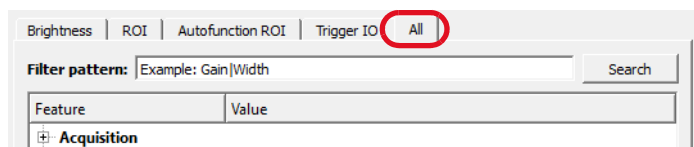


Figure 3: Select the All tab

- e. Set GSVP Packet Size to 7730.
  - f. Set StreamBytesPerSecond to 106000000.
7. Download the Jetson TX1 Driver Package from:
   
<https://developer.nvidia.com/embedded/linux-tegra-r2421>
8. Use the jetson\_clocks.sh script as described in the Tegra Linux Driver Package R24.2.1 release notes, section Maximizing Tegra X1 Performance.

## Requirements for developing on a PC

Although it is possible to develop directly on the embedded system, many users prefer writing their source code on a Linux PC and cross-compiling it with Vimba's included Makefiles.

## Hardware

You need a PC with 1 GHz x86 processor (32-bit or 64-bit) or better.

## Tested operating systems

Vimba was tested with the following desktop operating systems (32-bit and 64-bit):

- Ubuntu version 14.04 LTS "Trusty Tahr" (32-bit)
- Ubuntu version 16.04 LTS "Xenial Xerus" (32-bit and 64-bit)
- Debian version 7 "Wheezy" (64-bit)
- Fedora version 23 (64-bit)

In most cases, Vimba is also compatible to higher versions or other distributions.

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