Linux SDK FAQs

## Question 1: The interfaces and GigE cameras cannot be enumerated by GalaxyView or GxGigeIPConfig.

Possible causes:

1) There is no camera connected to the PC or the PC does not connect to the network.

2) The user does not set the PC's IP manually, but get the PC's IP automatically.

3) Network firewall is enabled.

Answer:

1) Check whether the host (PC) and the camera are connectedproperly and whether the camera LED indicator turns green.

2) Set the IP manually with the following method:
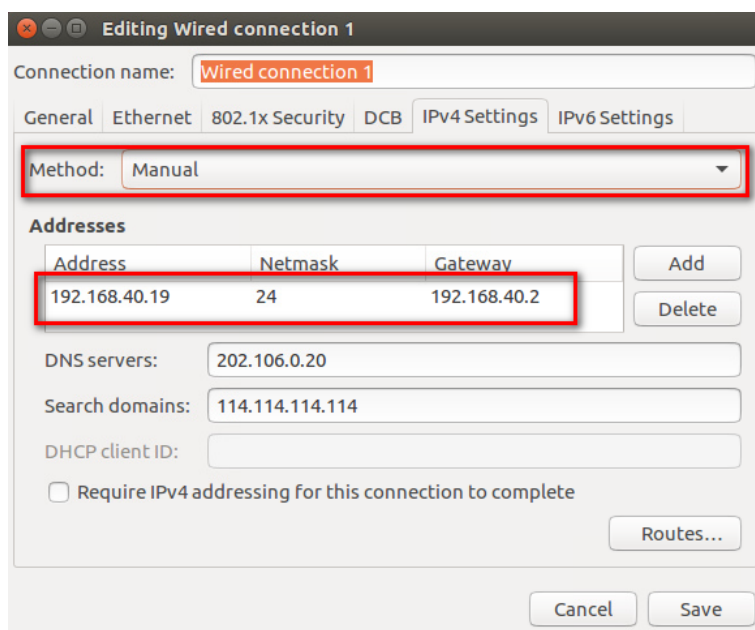
3) Please confirm that the network firewall is disabled, otherwise the device enumeration and receiving data may fail.

Question 2: When using the GxGigeIPConfig tool, the cameras of different subnets cannot be enumerated, or some cameras cannot be enumerated when there many network cards in the PC.

Possible cause:

The cameras cannot be enumerated with GxGigeIPConfig tool due to the reverse-path filtering technology of the Linux system.

Answer:

When you are sure that the camera is connected properly, you can check to see whether the reverse-path filtering function is enabled by the following command:

sysctl -a 2>/dev/null | grep '\.rp_filter'

The following output can be seen in the terminal:

net.ipv4.conf.all.rp_filter = 1

net.ipv4.conf.eth0.rp_filter = 1

net.ipv4.conf.eth1.rp_filter = 1

The **eth0** and **eth1** are the network cards that connected to the camera. When the value is 1, the reverse-path filtering function is enabled.

Command **net.ipv4.conf.all.rp_filter** is a global switch that controls all the network cards.

Command **net.ipv4.conf.eth0(eth1).rp_filter** controls each single network card.

To close the reverse-path filtering function, the "all" should be closed first. You can use the following command to close the reverse-path filtering function:

sudo sysctl net.ipv4.conf.all.rp_filter=0

sudo sysctl net.ipv4.conf.eth0.rp_filter=0

sudo sysctl net.ipv4.conf.eth1.rp_filter=0

Then re-enumerate the camera with the GxGigeIPConfig tool, the camera can be enumerated.

When the system is restarted, the reverse-path filtering function also will be restarted, and if you want to close this function permanently, you should edit the above settings to the **/etc/sysctl.conf** files.

Question 3: When the reverse-path filtering function is closed, the GigE cameras still cannot be enumerated.

Answer:

You should check whether the camera's IP address is the same as the network card's IP address. You can change the network card's IP or change another network card to connect with the camera, and try enumerating again.

Question 4: The acquisition frame rate and display frame rate are 0.0 after GigE cameras start acquisition.

Answer:
Please try to check it by the following steps:

1) Please check whether the camera and the network card is connected properly and the power supply is working properly.

2) Check the statistics in the Stream Features in GalaxyView to see whether there are many incomplete frames, if there are, try to increase the BlockTimeout in the settings.

Question 5: There are incomplete frames in GigE cameras acquisition process.

Answer:

1) If the network adapter supports jumbo frames, we recommend you to set the packet size to 8192.

   The command is as follows:

   sudo ifconfig ethx mtu 8192
   Then set the camera's packet size to 8192. (You can do this by changing "PacketSize" value by setting the corresponding value via the API.)

2) If the network transmission performance is still insufficient, try to increase the camera's packet delay.(You can do this by changing "PacketDelay" value by setting the corresponding value via the API.)

3) For large resolution cameras, you can try to increase the BlockTimeout in the Stream Features in GalaxyView. (You can do this by changing "BlockTimeout" value by setting the corresponding value via the API.)

Question 6: Many incomplete frames appear when GigE cameras acquire images on the TK1 development board.

Possible cause:

The system is running in low power mode, resulting in a lot of packet loss. In Linux, the kernel developers defined a set of framework models, which is CPU Freq system, to adjust the CPU frequency dynamically. Though the front-end software is slightly different in each Linux release version , it will eventually implement the CPU frequency dynamic adjustment function through the CPU Freq system of the Linux kernel. These software will provide CPU modes (governor parameters) such as **ondemand**, **interactive**, **performance**, **powersave** and so on.

The **ondemand** is the default mode of the system; Performance is a performance mode in which the system runs at the highest frequency but with high power consumption

Answer:

When this problem happens, try setting the CPU mode to **performance.**

Take the ubuntu system as an example, adjust the working mode of the CPU through the cpufreq management software. The steps are as follows:

1)   Install cpufrequtils management software.

The command is as follows:

sudo apt-get install cpufrequtils

2)   Modify the configuration file **/etc/init.d/cpufrequtils**.

Modify **GOVERNOR="ondemand"** to **GOVERNOR="performance"**, and save it.

Then it will be taken effect when execute the following command:

/etc/init.d/cpufrequtils restart

3)   Finally, you need to disable the ondemand daemon, otherwise the settings will be overwritten after reboot.

The command is as follows:

sudo update-rc.d ondemand disable