Installing Prosilica GX cameras: Single GigE camera on multiple ports

Operating GigE Vision GX cameras using multiple network adapters

The GX series cameras offer two Gigabit Ethernet ports for image data transfer and control. Users can connect one or both ports on the GX to Ethernet adapter ports on a host computer. Connecting both ports will increase the available bandwidth to 240 MB/sec, allowing higher frame rates and resolutions than a single port connection.

GX cameras can be operated in single port and dual port configurations. The dual port approach requires the host computer to configure a Link Aggregation Group (LAG). A LAG configuration combines multiple Ethernet ports into a single data channel.

1. Install a dual port network card in the host computer. To achieve full camera performance, you should use a Gigabit Ethernet card that supports Jumbo frames of at least 9KB size.

2. Once installed, open your Network Connections (Start > Control Panel > Network Connections) and right-click on one of the two network connection corresponding to the card that was just installed.

3. Select Properties from the contextual menu that appears when you right click the network connection icon. This will open the properties window.

4. In the properties window, click the Configure button. Select the Advanced tab. In the Property list make the following changes:
   a. Select Jumbo Frames and change the value to 9014 bytes or higher.
   b. Select Receive Descriptors on the same list and change the value to 512.
c. Select **Performance Options** and set **Interrupt Moderate Rate to Extreme**.

4. Click **OK** to validate your change (the properties window will close). The **Property list will be different between different types/brands of Gigabit Ethernet interface cards. If Jumbo Frames does not appear in this list, then your card probably does not support it. If your card does not support Jumbo Frames, then your CPU usage will be higher.

5. Re-open the **Properties** of the PRO/1000 GT adapter by right-clicking the Local Area Connection Intel® PRO/1000 GT network connection icon in the **Network Connections** window and select the **Advanced tab at the top of the Properties dialog.**

6. In the **Windows Firewall** section, select **Settings.** In the **Settings** dialog select **Off** to turn off the Windows firewall. The camera will not work if the firewall is enabled. If you installed the Prosilica GigE filter driver, this step is not required.
7. Perform Steps 1 to 8 for the other Ethernet adapter port that will be dedicated to the GX camera network.

8. The next section will provide instructions for configuring the LAG to combine the two ports dedicated to the GX network. Open Network Connections (Start > Control Panel > Network Connections) and right-click on one of the two network connections corresponding to the card that was just installed. Select Properties from the contextual menu that appears when you right-click the network connection icon. This will open the properties window.

9. In the properties window, click the Configure button in order to create a LAG between the two ports.

10. Select the Teaming tab (analogous to LAG), enable Team this adapter with other adapters and click the New Team button.

11. Specify a name for the Team (LAG). This should be something that will distinguish this adapter from others in your system. Click Next to continue.
12. Select the two Ethernet ports to which the GX camera will be connected. These ports will form the LAG or TEAM. Click **Next** to continue.

![New Team Wizard](image1.png)

13. Choose **Static Link Aggregation**. Click **Next** to continue.

![New Team Wizard](image2.png)

14. The LAG group will now be configured. You may be asked to permit the Allied Vision Prosilica GigE Vision Filter Miniport installation on the new LAG adapter. Click **Continue Anyway**.

![Hardware Installation](image3.png)
15. Once completed the properties of the TEAM (LAG) that has just been created will appear. A new Network Connections icon corresponding to the LAG group is created. You have now completed the LAG configuration.

16. Reboot the system.

17. Install the latest Prosilica filter driver and dynamic link library (DLL) to use GX cameras
Additional References

Technical manuals and GigE feature reference
https://www.alliedvision.com/en/support/technical-documentation

For technical support, please contact support@alliedvision.com.
For comments or suggestions regarding this document, please contact info@alliedvision.com.

Disclaimer

Due to continual product development, technical specifications may be subject to change without notice. All trademarks are acknowledged as property of their respective owners. We are convinced that this information is correct. We acknowledge that it may not be comprehensive. Nevertheless, Allied Vision cannot be held responsible for any damage in equipment or subsequent loss of data or whatsoever in consequence of this document.

For the latest version of this document, please visit the Allied Vision documentation website.
Copyright © 2016 Allied Vision Technologies GmbH. All rights reserved.

This document was prepared by the staff of Allied Vision Technologies Canada (“Allied Vision”) and is the property of Allied Vision, which also owns the copyright therein. All rights conferred by the law of copyright and by virtue of international copyright conventions are reserved to Allied Vision. This document must not be copied, or reproduced in any material form, either wholly or in part, and its contents and any method or technique available there from must not be disclosed to any other person whatsoever without the prior written consent of Allied Vision.