KINGSTAR 3.6.1

MOTION RUNTIME

INSTALLATION GUIDE

KS-DOC-x64-0002-R21

IntervalZero

KINGSTAR IntervalZero

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KINGSTAR Motion

KINGSTAR Motion provides two installations: a Runtime and a Software Development Kit (SDK). The Runtime supplies the KINGSTAR Motion Subsystem that will be deployed as part of your application, while the SDK supplies headers and libraries for you to develop your own KINGSTAR applications.

KINGSTAR also provides Runtime Merge Modules components for you to incorporate Runtime into your installer.

KINGSTAR Motion Runtime contains:

- The KINGSTAR Motion Subsystem.
- An Analysis Console to debug the system.
- An ESI Import Tool to add custom hardware profiles into the KINGSTAR Subsystem.
- A Tuning Console to easily tune motors.
- Sample applications that show the capabilities of KINGSTAR Motion.

Merge Modules contains:

- Merge Modules that allows for inclusion of the KINGSTAR Motion Runtime into your product installation.

Product editions and requirements

The difference between product editions and the hardware, software requirements for KINGSTAR are listed below.

Product editions

KINGSTAR Motion provides the following Runtime editions.

Edition	Supports
ENTRY	• 1-millisecond timer, and 1 core dedicated to real-time I/O and motion control. • Motion capabilities, including T-Curve, S-Curve, aliasing, basic ladder logic and PLCopen. • EtherCAT capabilities with simulated drives and I/Os support.
PRO	• 50-microsecond timer, and up to 3 cores dedicated to real-time I/O and motion control. • Motion capabilities, including T-Curve, S-Curve, aliasing, basic ladder logic, PLCopen, torque and Tuning Console. • EtherCAT capabilities with simulated drives and I/Os, and 3rd party EtherCAT master support. • PLC and EtherCAT safety add-on.

Hardware requirements

This section lists hardware requirements for KINGSTAR and the considerations about processors.

Drives and I/O

KINGSTAR supports many servo drives, stepper drives, EtherCAT I/O modules and EtherCAT couplers. For the up-to date list, see the KINGSTAR Supported Hardware PDF file at kingstar.com.

Network interface card (NIC)

KINGSTAR requires a dedicated NIC. The NIC is configured when the Install Wizard is run. For the up-to-date list, see the KINGSTAR Supported NIC PDF file at kingstar.com.

EtherCAT

KINGSTAR uses EtherCAT technology for communication. Do the following to set up the EtherCAT network:

1. Make sure your computer and devices have the network interface cards (NICs) or chips that support the EtherCAT protocol. The EtherCAT protocol allows up to 65,535 devices to be connected. To know whether the hardware supports EtherCAT:

    - Computers: In Windows, go to **Device Manager** and find the NIC under **Network adapters**. Make a note of the model number of the NIC. Check the KINGSTAR online help from kingstar.com > **Support** > **Soft Motion Help** > **Network interface cards**, or check the offline help by clicking **Start** > **KINGSTAR Runtime** > **Help System** > **Network interface cards**. If your NIC is listed in the document, it supports EtherCAT.

    - Devices: See the manual of your device, or contact the device manufacturer.

2. Prepare the Ethernet cables that are CAT-5 (Category 5) or higher. The transmission rate needs to be at least 100 Mbps.

3. Connect your computer and devices using the Ethernet cables.

Hardware considerations

KINGSTAR requires a multiprocessor platform that supports 64-bit Windows 10 with Update, Windows 10 IoT Enterprise, Windows 8.1 with Update or Microsoft Windows 7 with Service Pack 1. Uniprocessor systems are not supported. At minimum, two cores are required; one core must be dedicated to Windows and another core must be dedicated to the KINGSTAR Subsystem. Systems with up to 64 cores are supported.

NOTE: If your system is hyper-threaded, you should assign an even number of processors between Windows and KINGSTAR real-time components. The Windows logical processor and real-time logical processor must not share the same physical processor.

Some hardware configurations are not supported by the KINGSTAR Runtime installations. Although KINGSTAR runs on most x64 platforms, unique attributes of some processors require special consideration before using them in your system.

- For a comprehensive list of approved and supported hardware, see the Windows hardware certification web page:
- https://docs.microsoft.com/en-us/windows-hardware/drivers/dashboard/windows-certified-products-list
- For a comprehensive list of system requirements for Windows 10, see the Windows 10 System Requirements web page:

  https://www.microsoft.com/en-us/windows/windows-10-specifications
- For a comprehensive list of system requirements for Windows 8.1, see the Windows 8.1 System Requirements web page:

  https://support.microsoft.com/en-us/help/12660/windows-8-system-requirements

Software requirements

This section lists software requirements for KINGSTAR and things to know before you install the software.

Operating system requirements

KINGSTAR are supported on 64-bit multiprocessor configurations for the following operating systems:

- Windows 10 Spring Creators Update Version 1803
- Windows 10 Fall Creators Update Version 1709
- Windows 10 IoT Enterprise Long Term Servicing Channel (LTSC) Version 1607
- Microsoft Windows 8.1 with Update
- Windows Embedded 8.1 (must support MSI installation to allow RTX64 to be installed)
- Microsoft Windows 7 with SP1
- Windows Embedded Standard 7 with SP1 (must support MSI installation to allow RTX64 to be installed)

Microsoft Visual Studio

Microsoft Visual Studio 2017, 2015, 2013 or 2012 with at least Update 1, must be installed in your system if you want to develop KINGSTAR applications.

Microsoft .NET Framework

Microsoft .NET Framework 4.5.1 is required. It the client is not detected, the Install Wizard installs the client for you.

Real-Time Subsystem

KINGSTAR requires, at minimum, RTX64 3.5 Runtime. If it is not already installed in your system, the product installer installs and configures the RTX64 real-time Subsystem for you.

Real-Time Software Development Kit

KINGSTAR SDK is required for KINGSTAR application development. If it is not already installed in your system, the Install Wizard will install and configure the SDK for you.

Administrator privileges

Administrator privileges are required for installing and uninstalling the KINGSTAR, which provides local Windows Groups to control user access to KINGSTAR features. By default, all users can access the KINGSTAR features. You should modify groups to limit the access to specific users.

Request a free trial

For access to evaluation kits, go to http://kingstar.com/download-trial/. In the form that appears, select KINGSTAR from the product choices, fill out the contact information, and then click **Start Trial**.

Install KINGSTAR Motion Runtime

After purchasing KINGSTAR Motion Runtime, you will receive an email confirmation that includes the activation key and a link to the KINGSTAR Motion download page. After downloading the file, complete the steps that follow to install KINGSTAR Motion Runtime.

In this guide, our operating system is Windows 10.

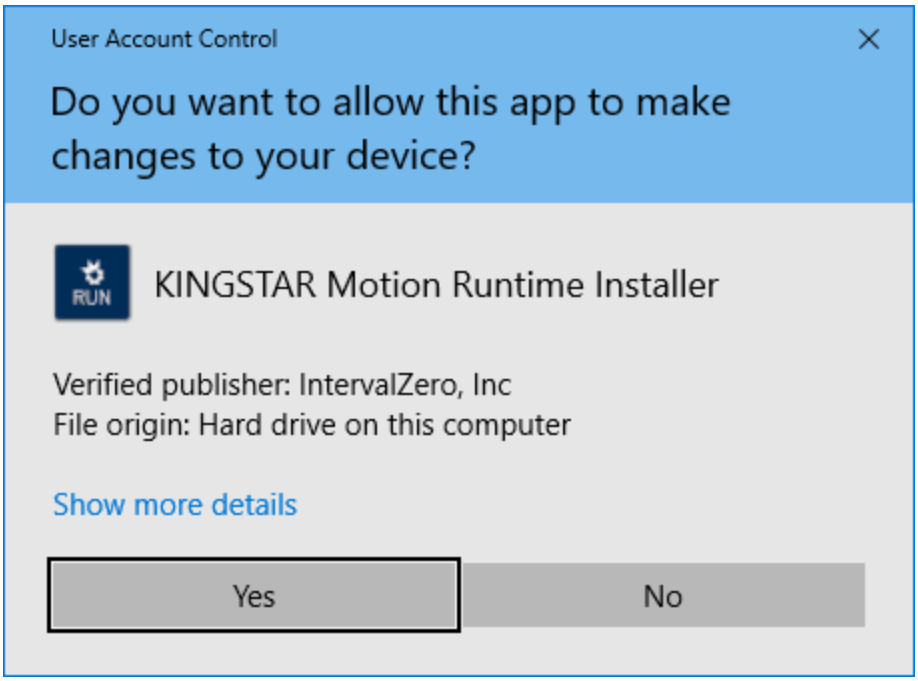
1. Go to **Control Panel** > **Uninstall a program**. Select the previous version of KINGSTAR Motion Runtime from the list and uninstall it. The RTX64 Runtime should be uninstalled together with KINGSTAR Motion Runtime. If not, uninstall it manually.

   IMPORTANT: Because KINGSTAR Motion Runtime 3.6.1 and the included RTX64 Runtime are incompatible with their previous versions, you need to uninstall the previous KINGSTAR Motion and RTX64 Runtime version before installing v3.6.1.

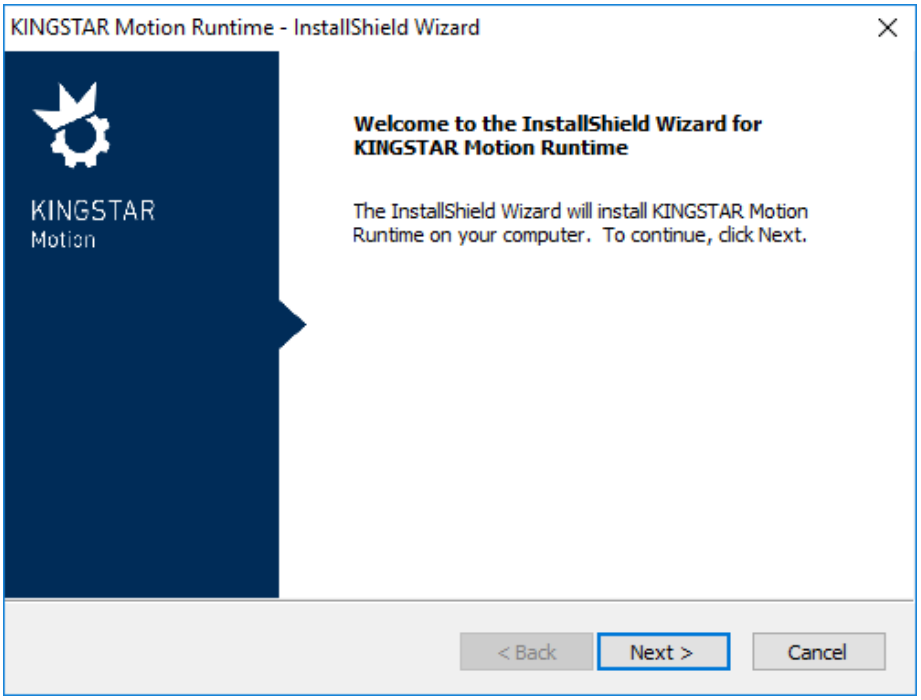
   IMPORTANT: KINGSTAR Motion Runtime and KINGSTAR EtherCAT Runtime can't exist on the same computer. Uninstall either of them if you want to install the other.

2. Double-click `KINGSTARMotionRuntimeInstaller.exe`.

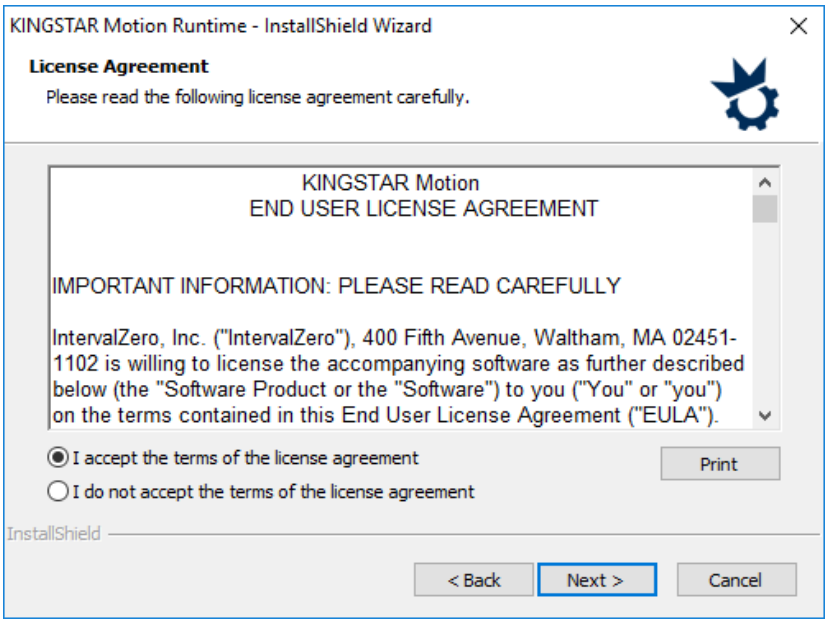
   NOTE: You must have the administrator permission to install KINGSTAR Motion Runtime. Before the installation begins, the **User Account Control** dialog box may ask if you want the installer to make changes to your computer. Click **Yes** to continue the installation.



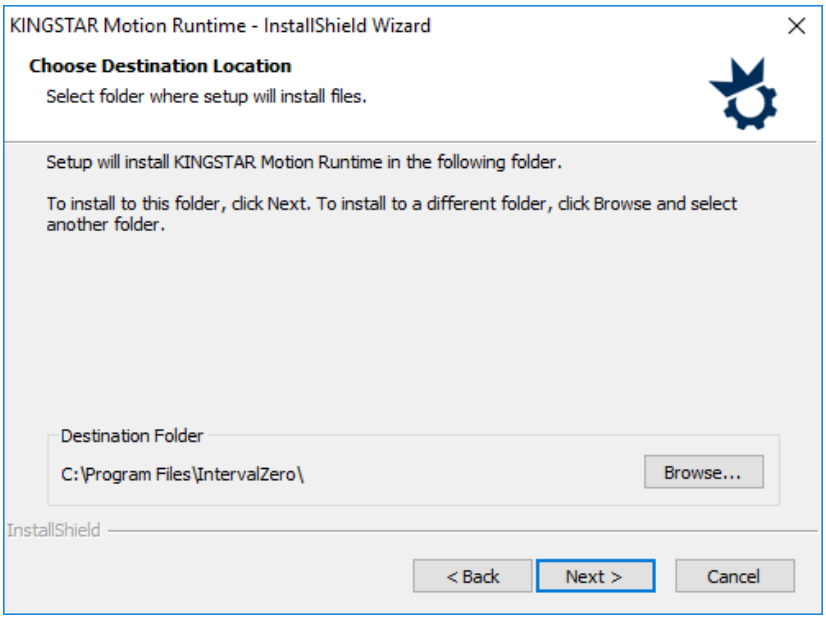
3. In the **KINGSTAR Motion Runtime - InstallShield Wizard** dialog box, click **Next** to begin the installation.



4. Read the End User License Agreement, select **I accept the terms of the license agreement** and click **Next**.



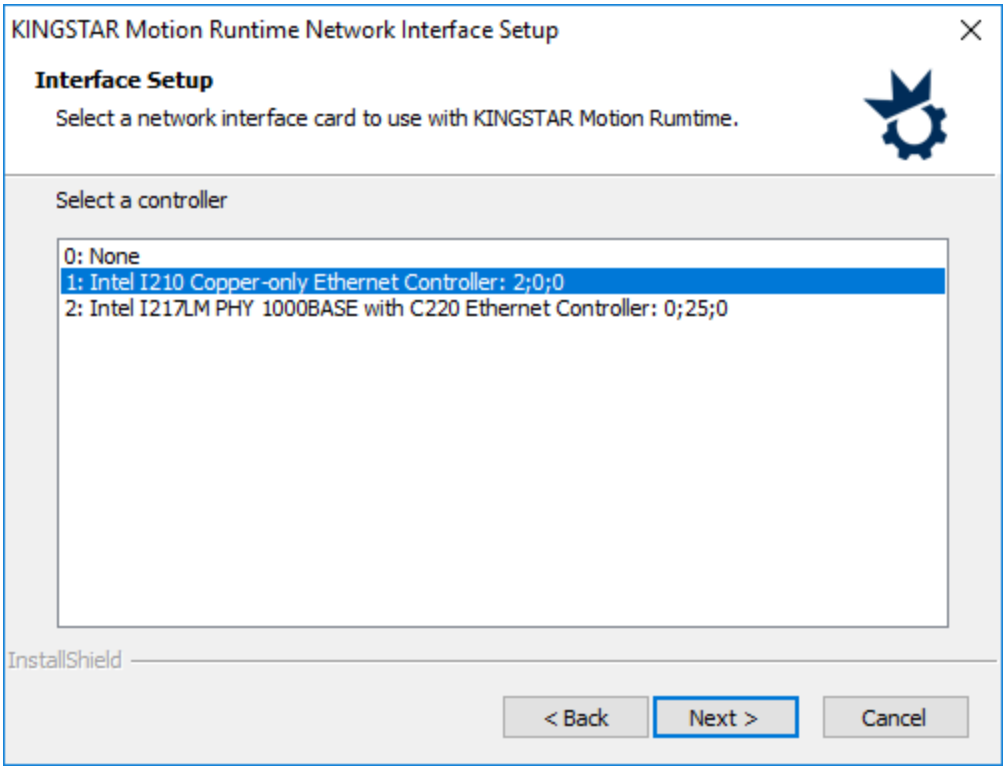
5. Choose the location you want to install KINGSTAR Motion Runtime. You can accept the default installation path, or click **Browse** to choose a different location. When you finished, click **Next**.



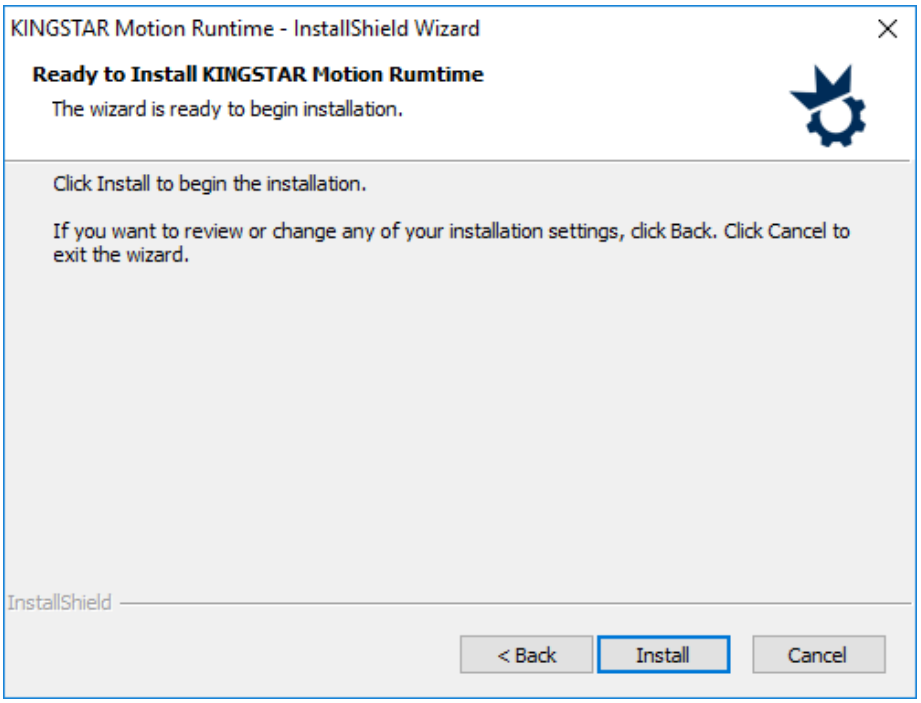
6. In the **KINGSTAR Motion Runtime Network Interface Setup** dialog box, select a network interface card (NIC) for KINGSTAR to use, and then click **Next**.

   - **None** – Do not associate an NIC with KINGSTAR Motion Runtime now. You need to manually associate an NIC and configure it before you can use KINGSTAR Motion Runtime.
   - **<NIC>** – Select an NIC to associate with KINGSTAR Motion Runtime, and configure its interface to use this NIC for KINGSTAR Motion network communication.

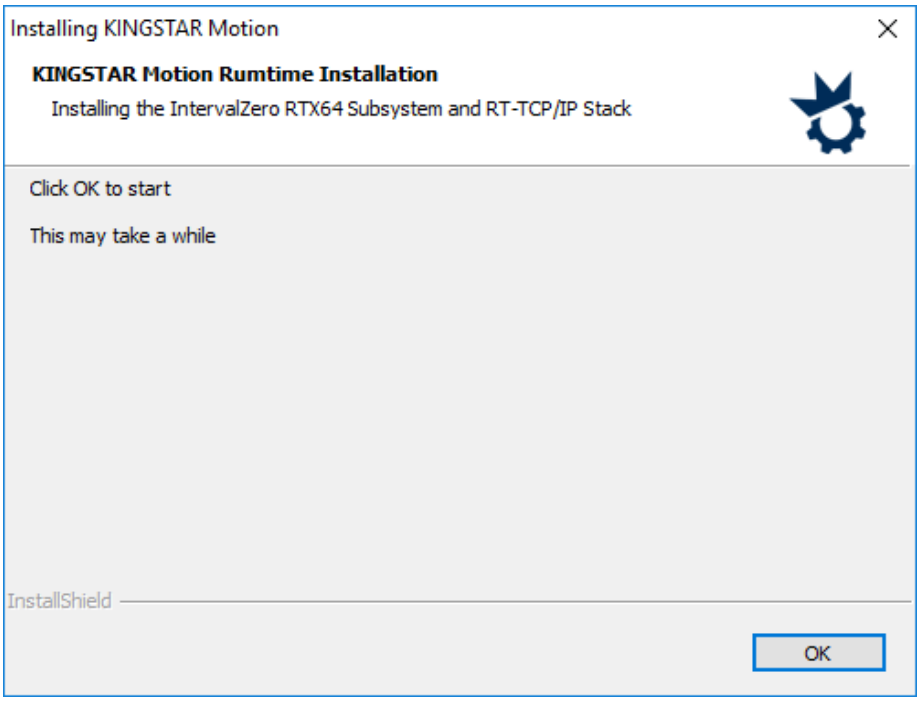
   We suggest you select an NIC. KINGSTAR Motion will automatically associate and configure the card so you don't need to manually configure it later.



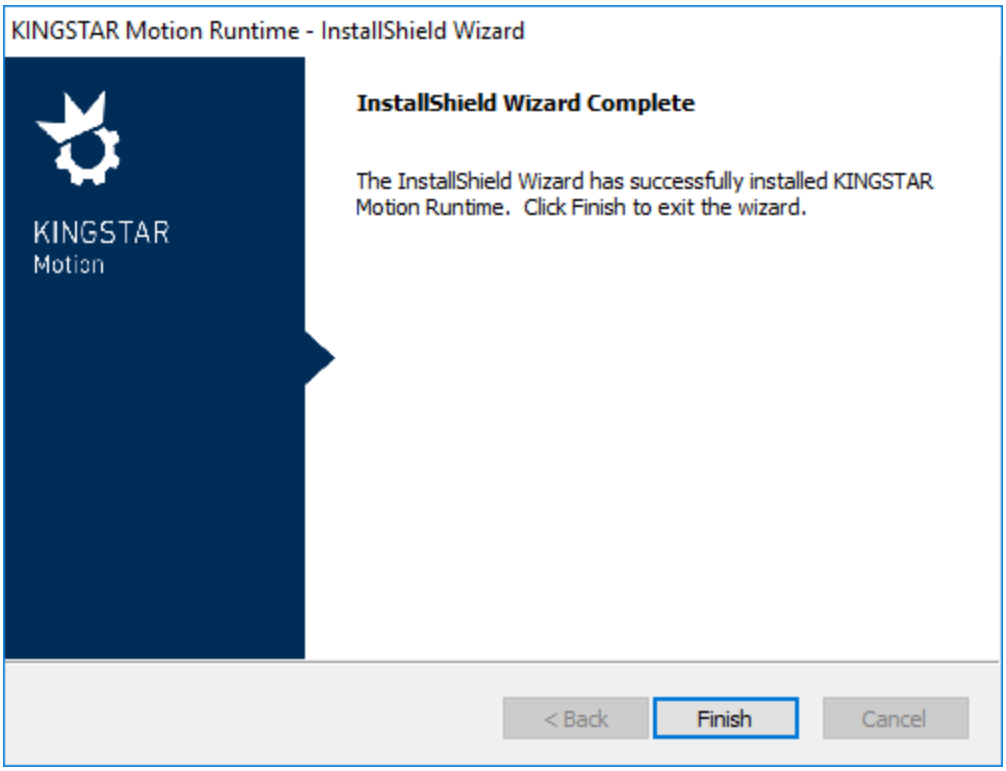
7. In the **KINGSTAR Motion Runtime - InstallShield Wizard** dialog box, click **Install**.



8. In the **Installing KINGSTAR Motion** dialog box, click **OK** to start installation. RTX64 will be installed first, and then KINGSTAR Motion.



9. After completing the installation, click **Finish** to close the wizard. For more information about activating your KINGSTAR Motion components, see Activate and configure KINGSTAR.



Activate and configure KINGSTAR

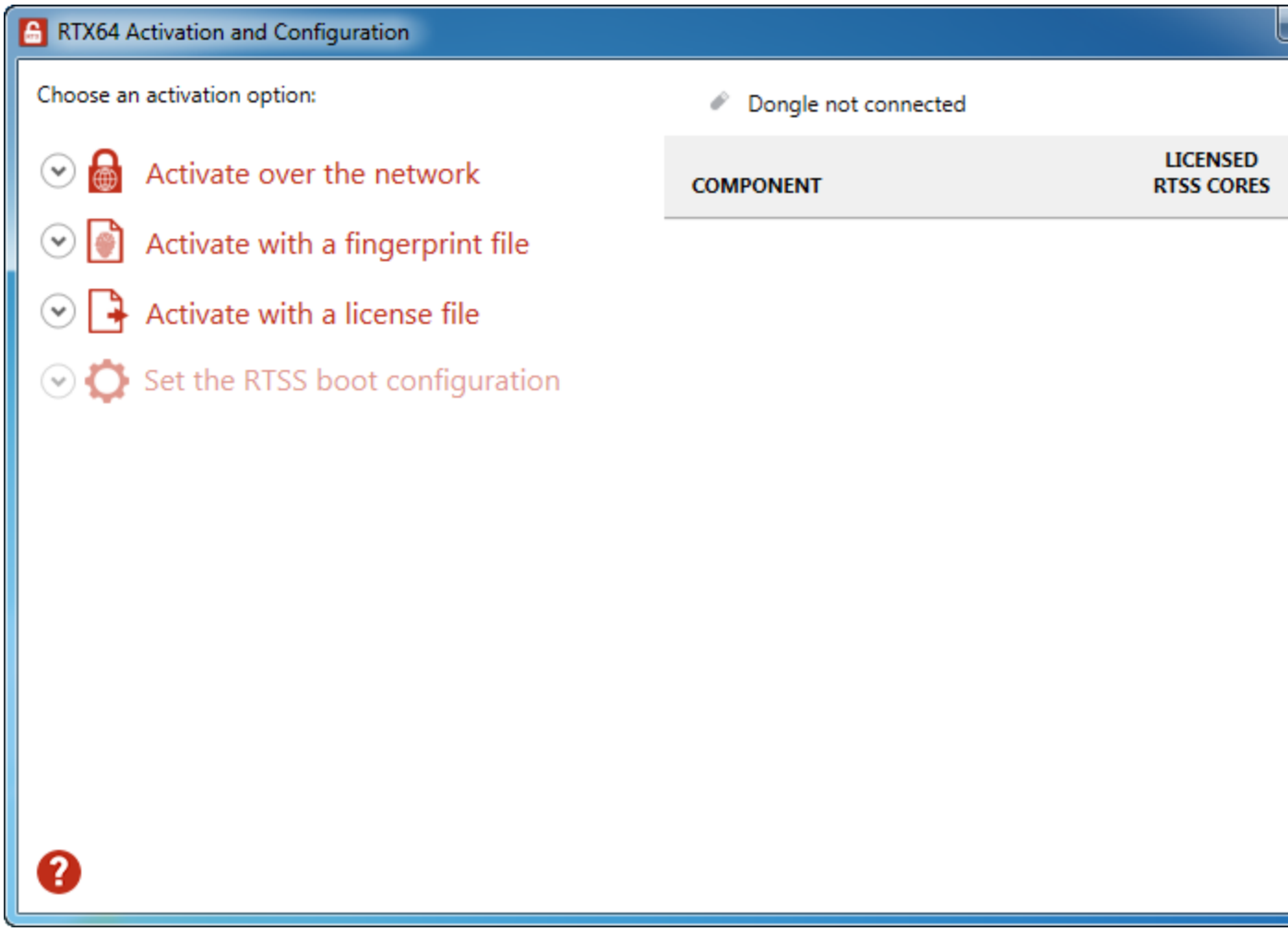
The following steps to activate and configure KINGSTAR is applicable to KINGSTAR 3.5 and later version.

Activate over the internet

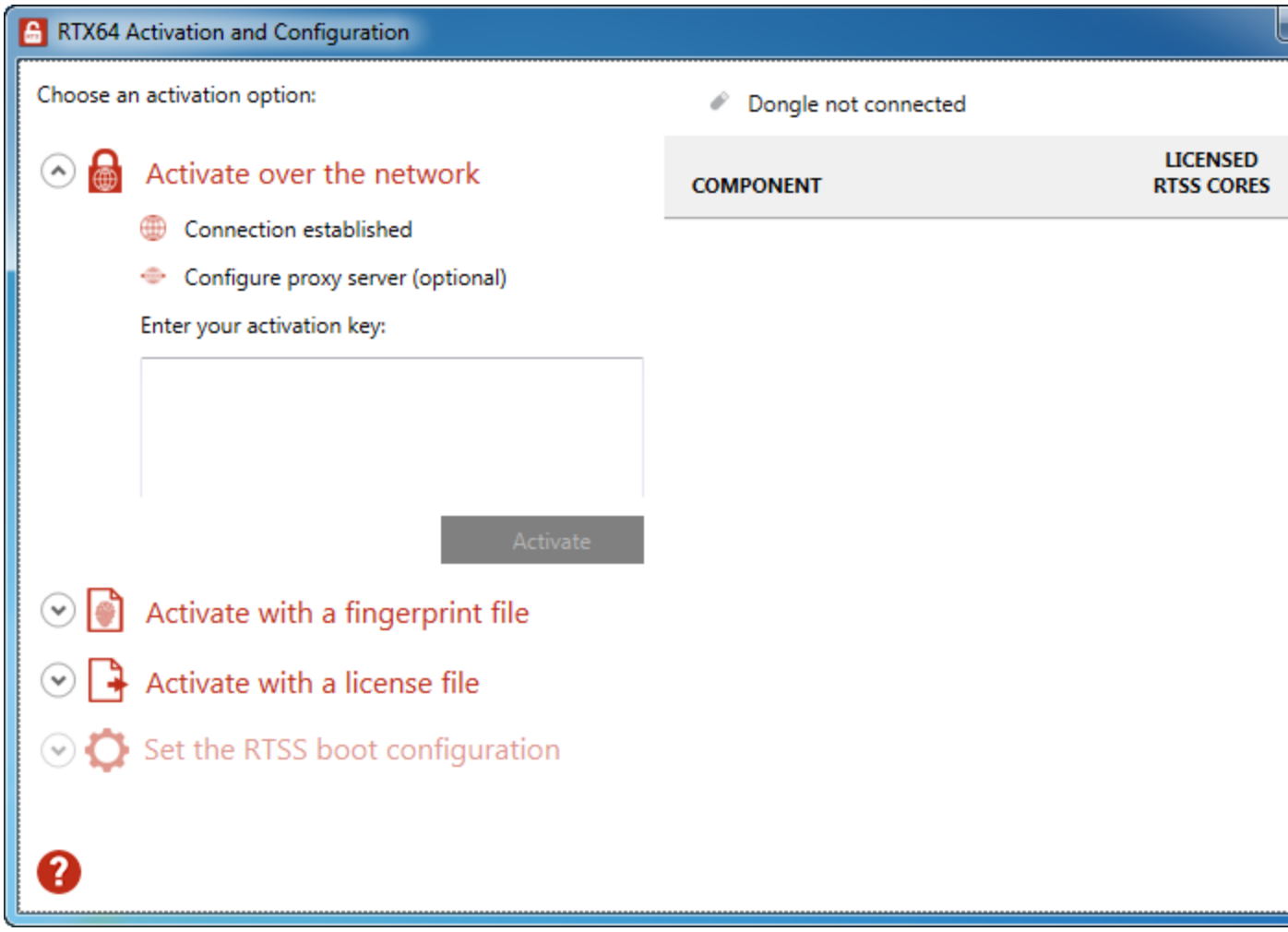
Follow the steps below if you can access the IntervalZero license server. If you do not have the internet access, see the section Activate by the file.

1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Activation and Configuration**. The **RTX64 Activation and Configuration** dialog box appears.

   NOTE: You must have administrative permissions to launch this utility. Before the utility starts, the **User Account Control** dialog box may ask if you want the program to make changes to your computer. Click **Yes** to continue.



2. Click **Activate over the network**. Make sure your machine is connected to the internet with access to the IntervalZero license server. If a connection is available, you will see **Connection established**. If the connection is not available, make sure all network cables are plugged in and click Unable to establish a connection to refresh. If the connection is still not available, you may need to configure a proxy server.



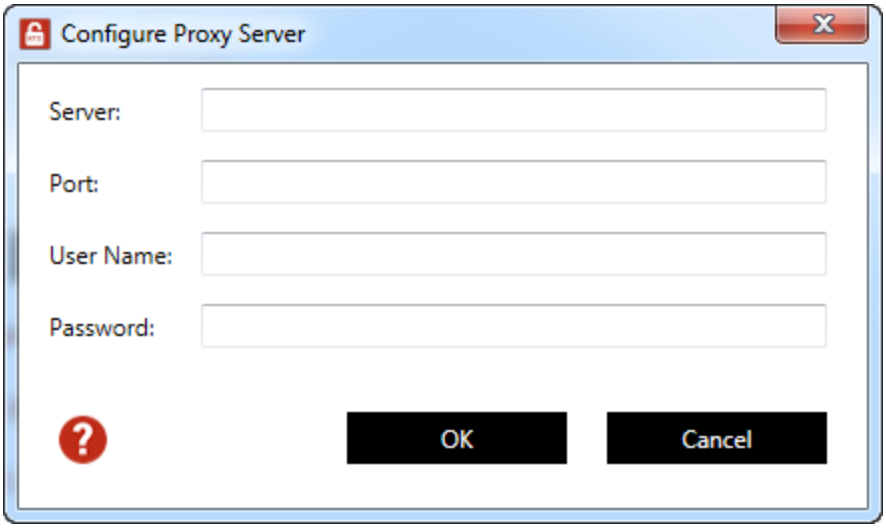
3. To configure a proxy server:

   a. Click **Configure proxy server**.

   b. In the **Configure Proxy Server** dialog box, enter the information in the empty boxes and click **OK**. The information should be available from your IT department.

      NOTE: The proxy server must be able to process HTTP connections. SOCKS proxies are not supported.

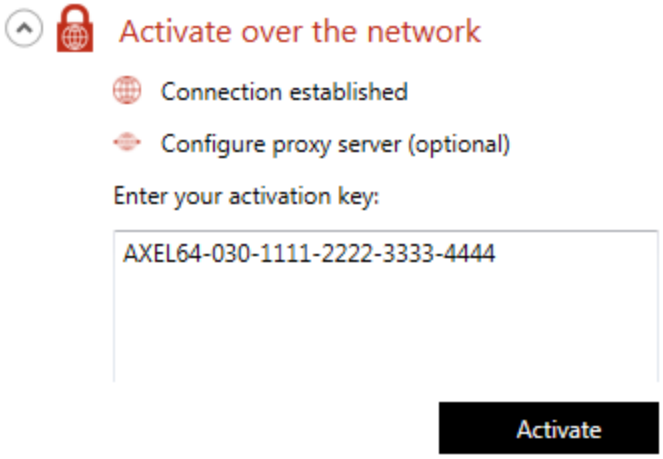
      NOTE: If no network connection can be established, see the section Activate by the file.



4. Back to the **RTX64 Activation and Configuration** dialog box, in the **Enter your activation key** box, enter your activation key and click **Activate**.
   The product components activated by your key are listed on the right. You should see the following components:

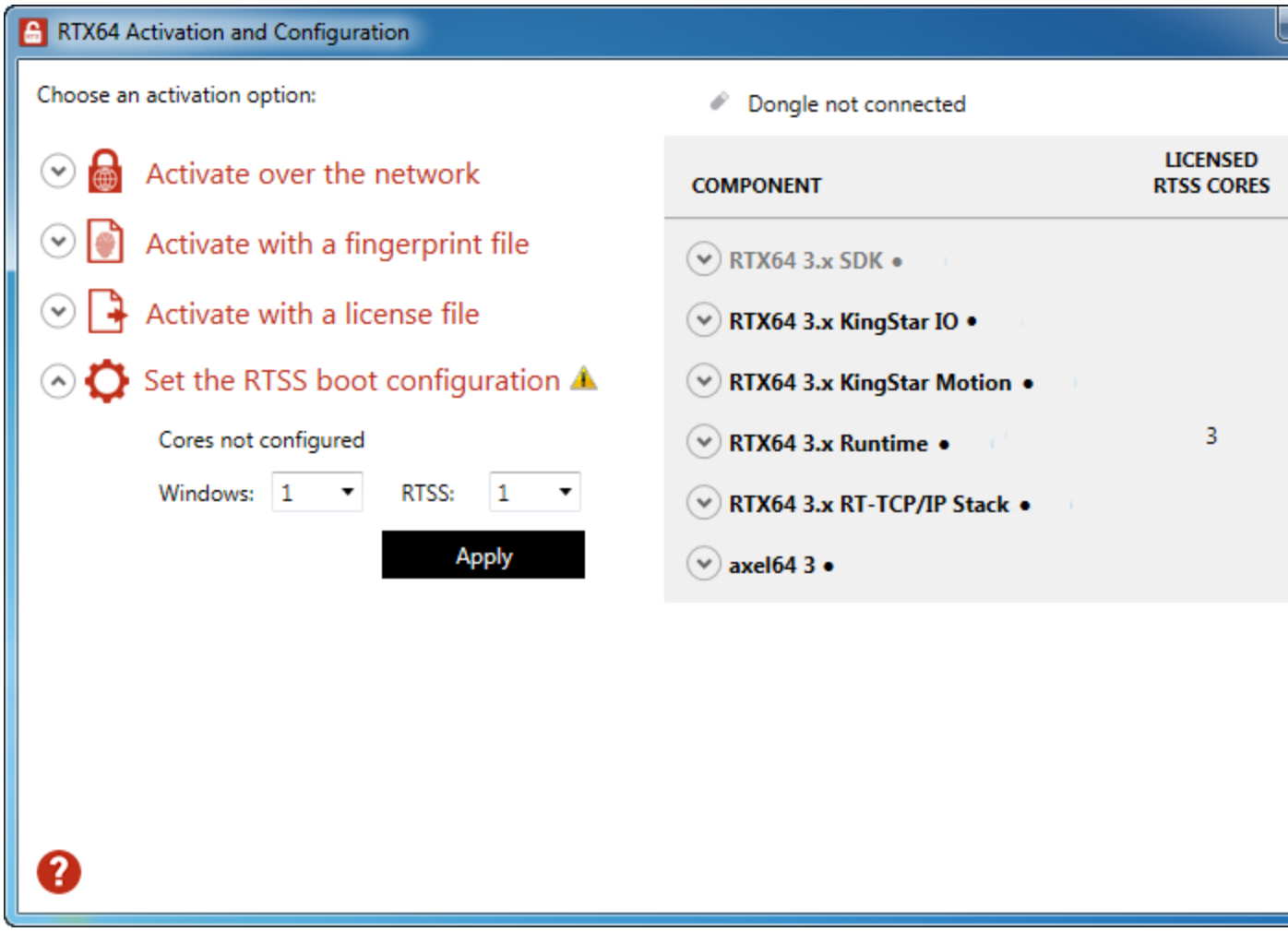
   - RTX64 SDK (this component is dimmed if you didn't purchase the license)
   - RTX64 KingStar IO (KINGSTAR EtherCAT)
   - RTX64 KingStar Motion (KINGSTAR Motion)
   - RTX64 Runtime
   - RTX64 RT-TCP/IP Stack
   - axel64 (this component won't be displayed if you didn't purchase the license)

   NOTE: If you want to activate part of the product, copy part of the activation key and paste it to the **Enter your activation key** box and click **Activate**. For example, if you want to activate axel64 (KINGSTAR PLC Runtime), paste the axel64 key to the activation box and activate it:

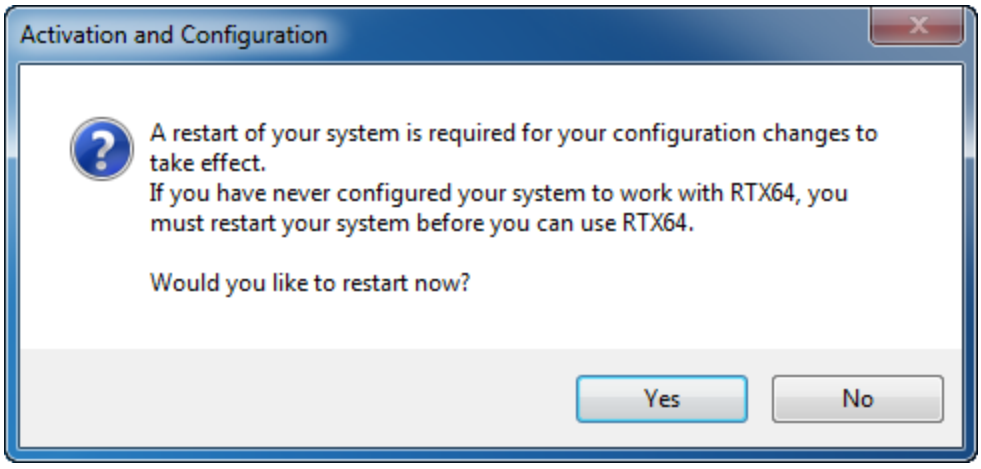


5. Click **Set the RTSS boot configuration**. Assign processors between Windows and RTX64 (RTSS). There must be at least one processor for Windows. You must configure this setting before you use KINGSTAR. Click **Apply** after you complete the configuration.

    - If you have purchased the KINGSTAR ENTRY edition, you can assign 1 processor to RTX64.
    - If you have purchased the KINGSTAR PRO edition, you can assign up to 3 processors to RTX64.



6. When you are prompted to restart your computer, click **Yes**.



7. Choose the RTX64 boot configuration at system startup:
    - Windows 10: Windows 10 – RTX64
    - Windows 8: Windows 8 – RTX64
    - Windows 7: Windows 7 – RTX64

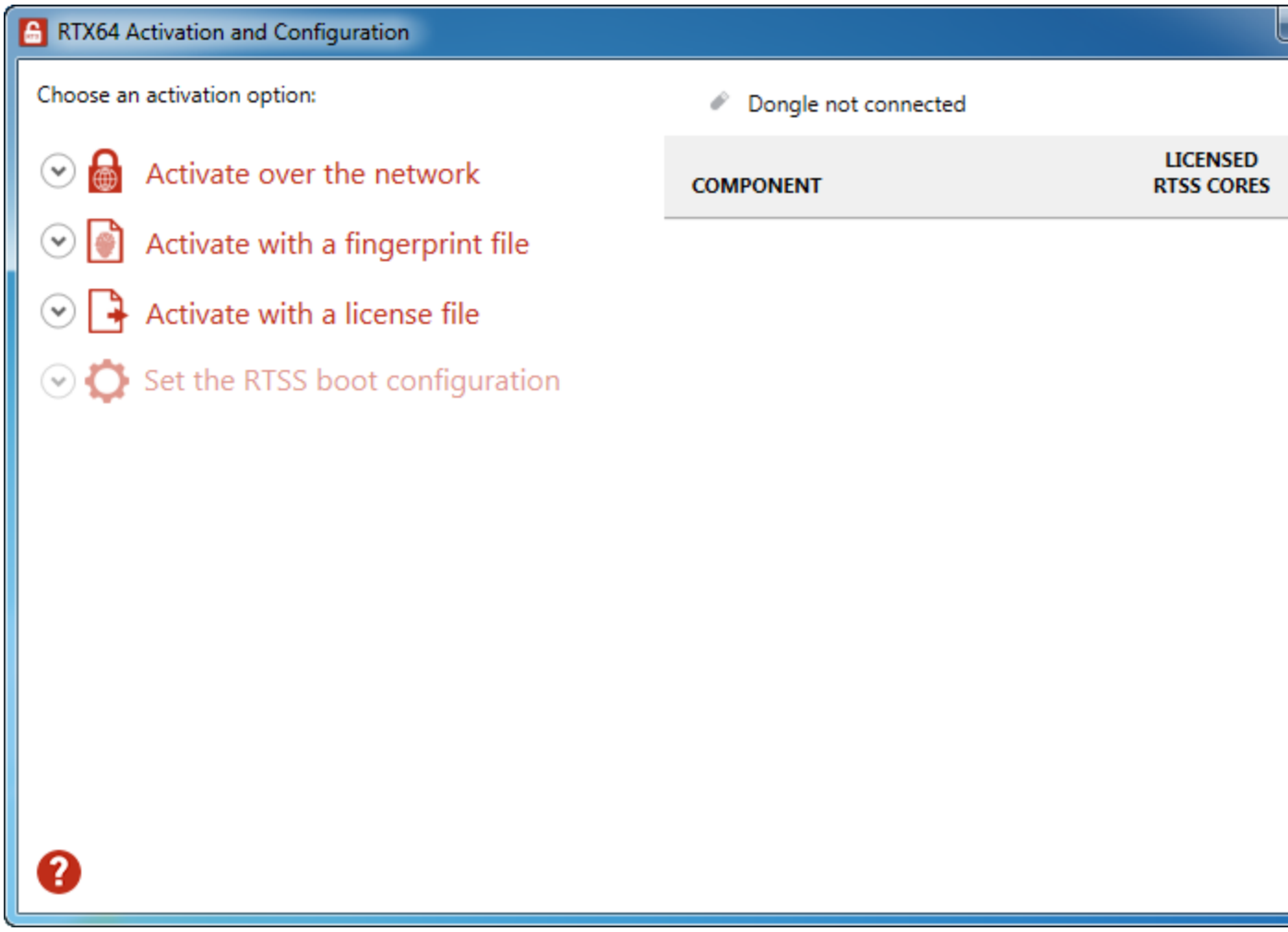
    NOTE: If you start your system with a configuration other than RTX64, KINGSTAR won't work properly.

Activate by the file

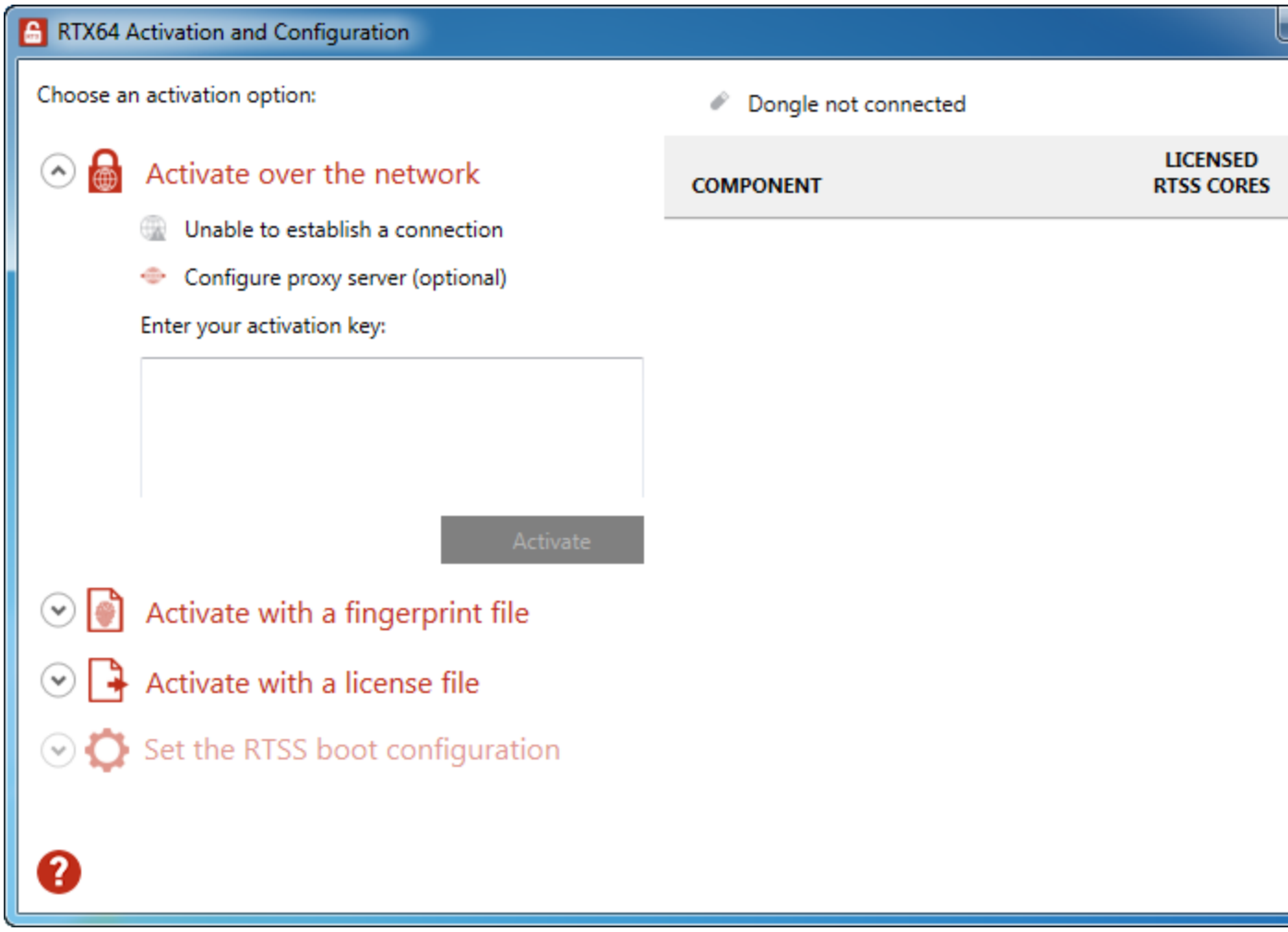
Follow the steps below if you can't access the IntervalZero license server.

Step I. Create a fingerprint file

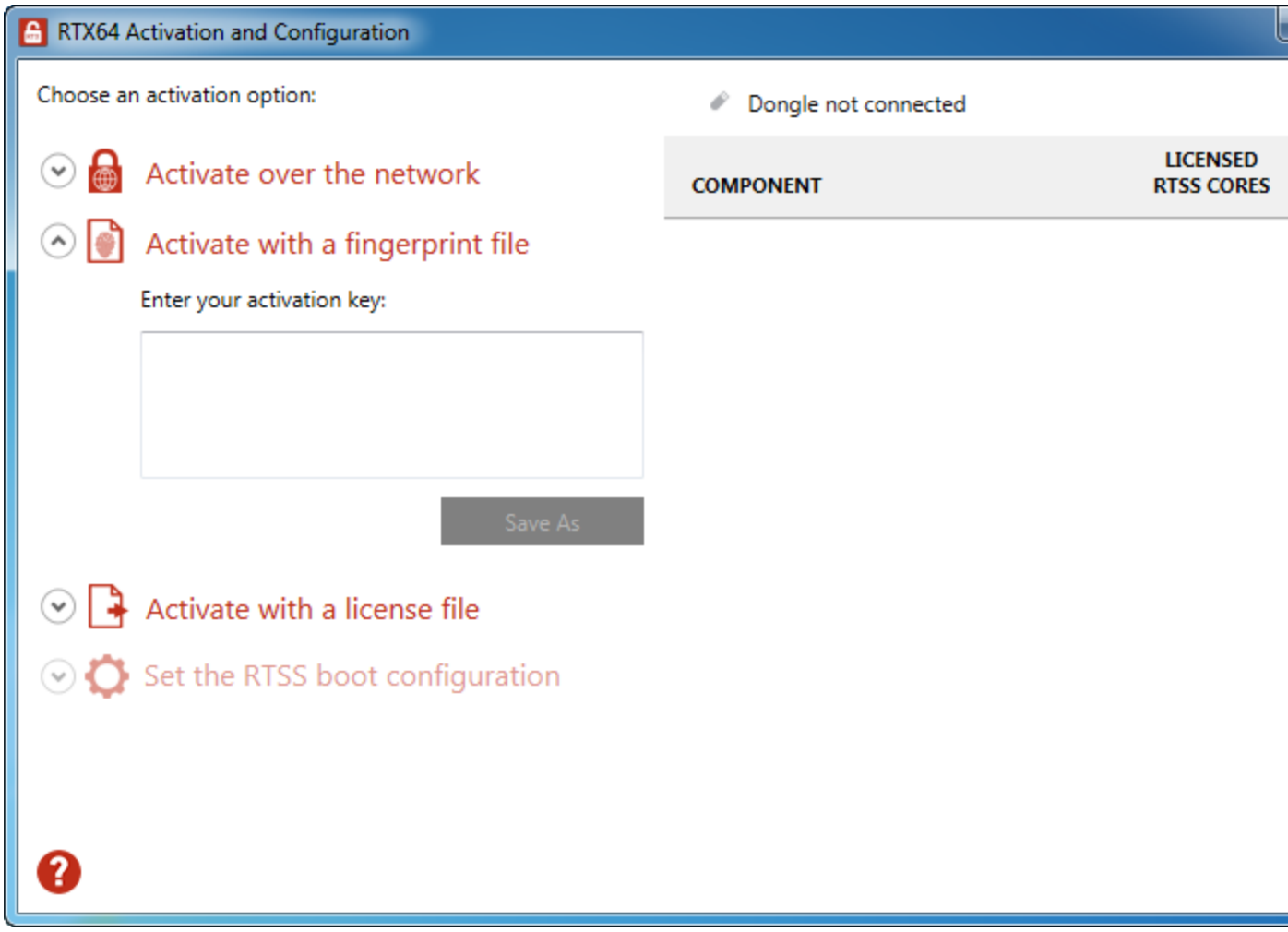
1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Activation and Configuration**. The **RTX64 Activation and Configuration** dialog box appears.



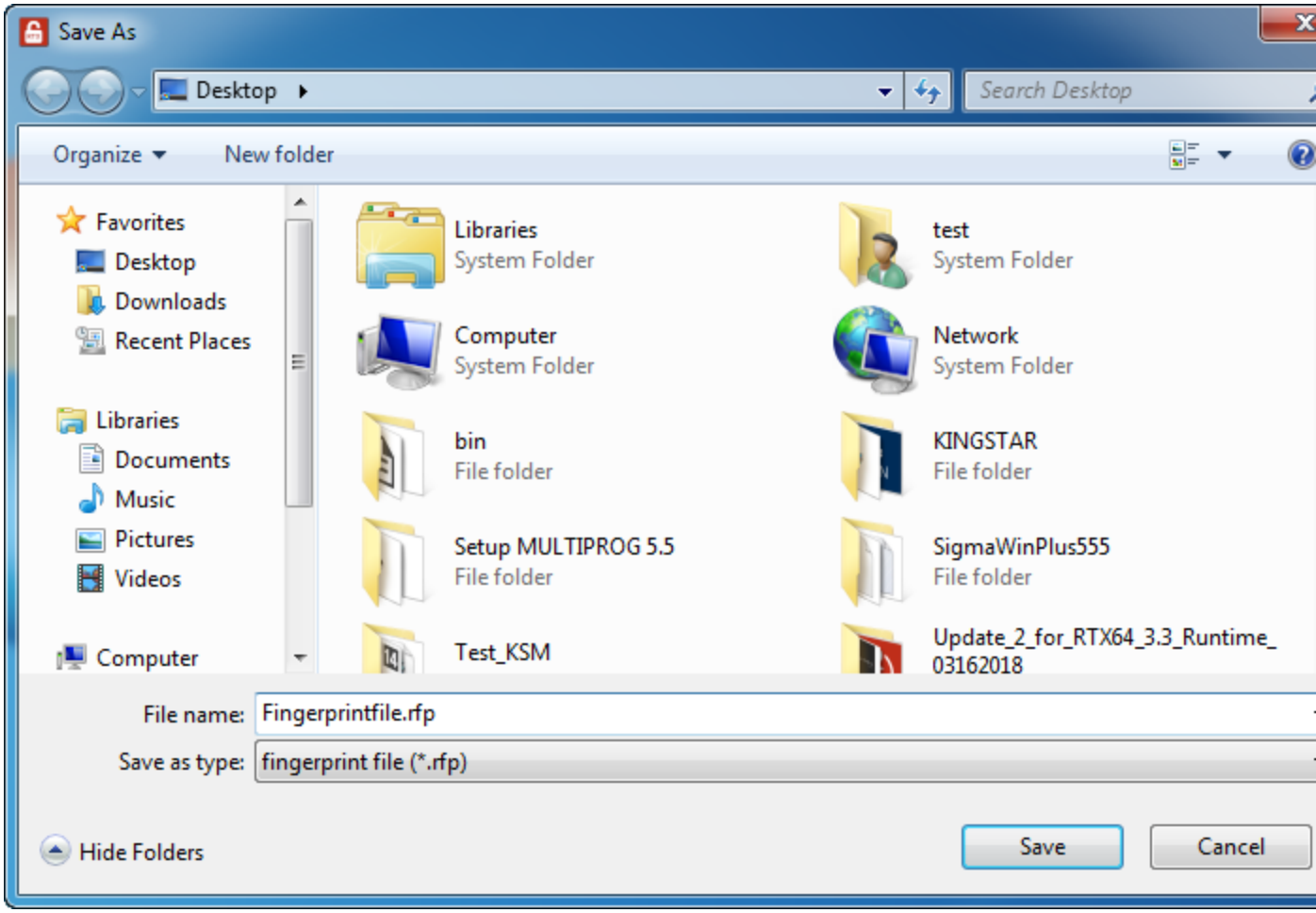
2. Click **Activate over the network**. If it doesn't connect to the IntervalZero license server, you'll see **Unable to establish a connection**. If the connection is available, you will see **Connection established**. For further details, see the section Activate over the internet.



3. Click **Activate with a fingerprint file**.



4. In the **Enter your activation key** box, enter your activation key and click **Save As**.
5. In the **Save As** dialog box, the file is automatically named `Fingerprintfile.rfp`. Click **Save**. By default, the file is saved to the desktop.

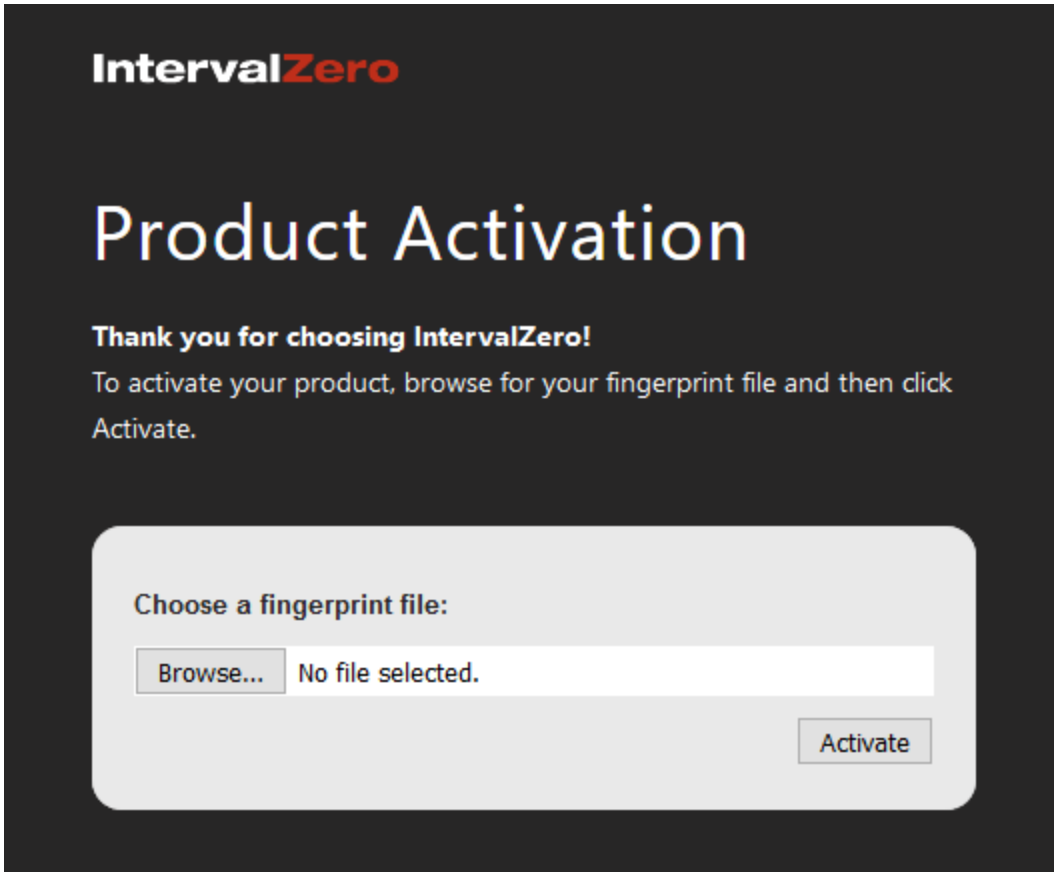


6. Navigate to the desktop, and copy the `Fingerprintfile.rfp` file to your USB flash drive.

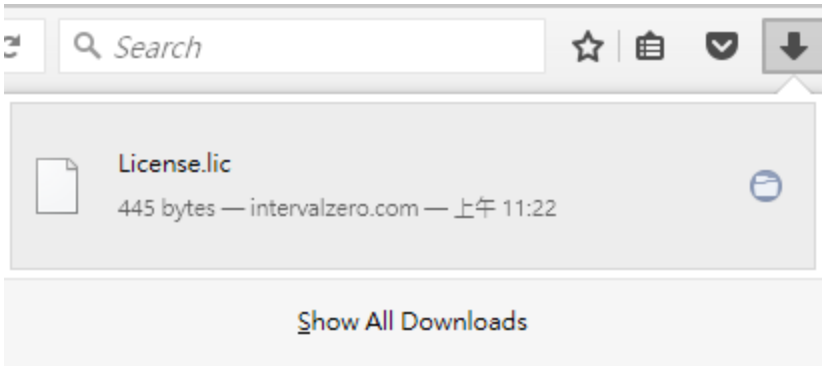
7. Plug the flash drive into a machine with internet connectivity.

Step II. Create the license file and activate the product

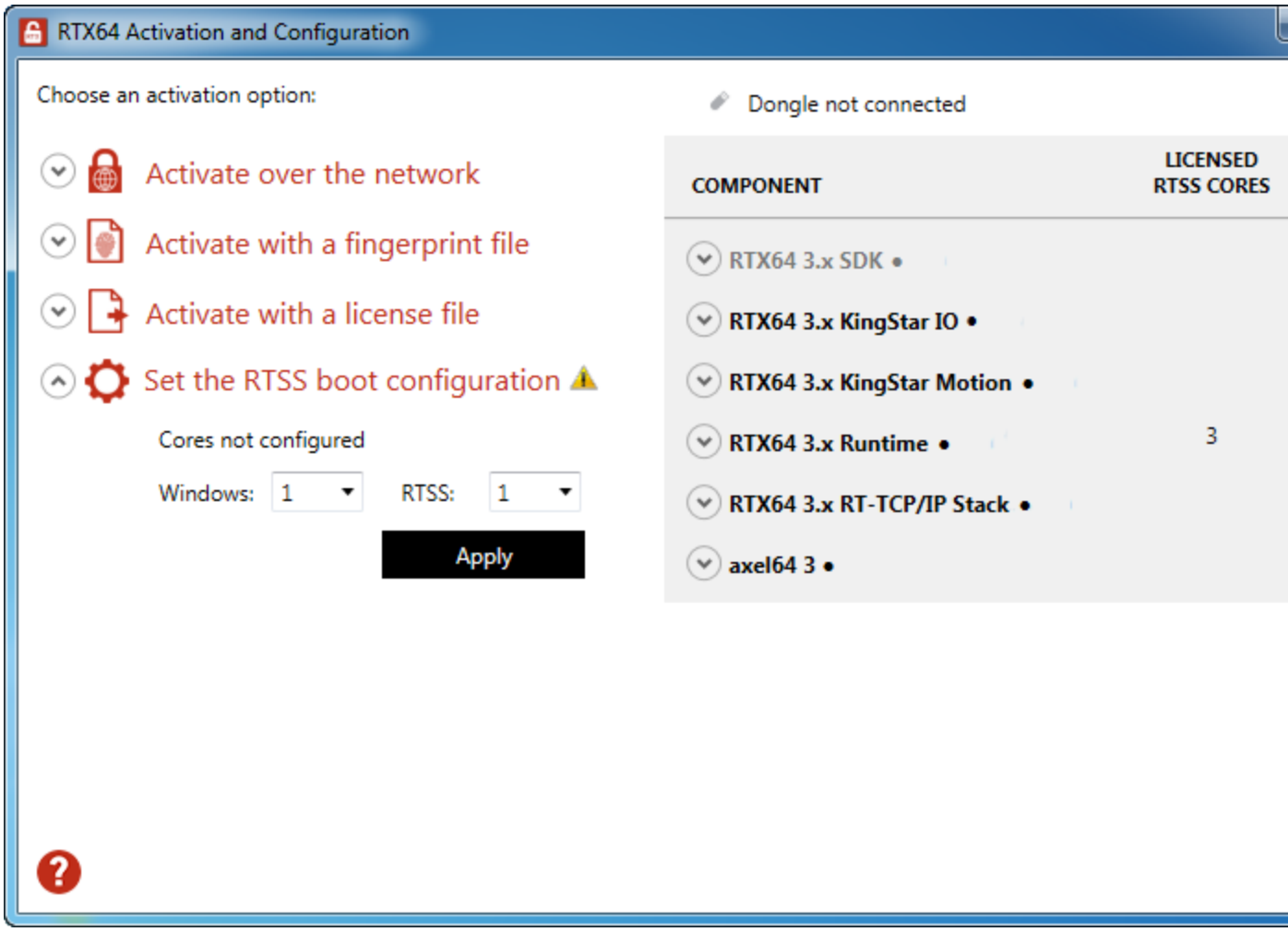
1. Launch a web browser, and go to http://activation.intervalzero.com.



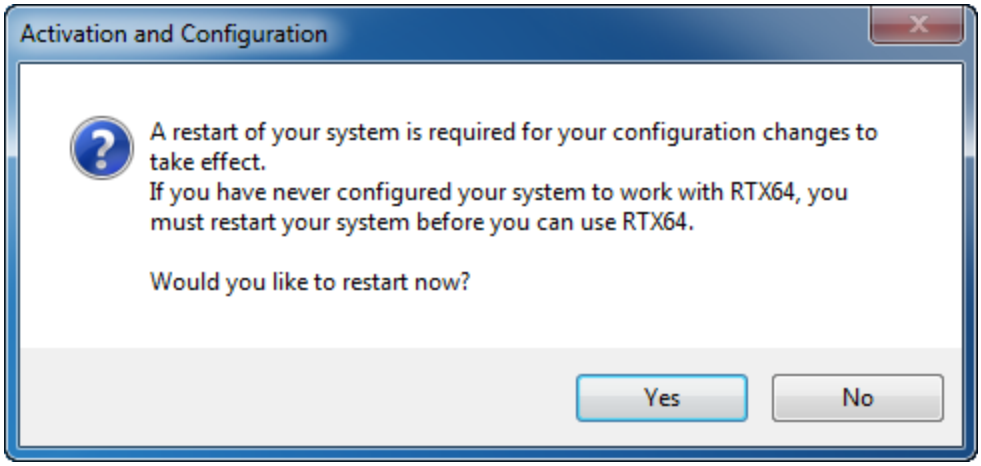
2. Click **Browse**, browse to and open the file `Fingerprintfile.rfp`.
3. Click **Activate** to generate a license (.lic) file.
4. Download the `License.lic`. Depending on your browser, you may be prompted to save the file.



5. Copy the file `License.lic` to your USB flash drive, and use it to transfer the license file to the machine on which KINGSTAR is installed.
6. In the **RTX64 Activation and Configuration** dialog box, click **Activate with a license file** and click **Import**.
7. Browse for, and then open `License.lic`. The product components activated by your key are listed on the right. You should see the following components:
    - RTX64 SDK (this component is dimmed if you didn't purchase the license)
    - RTX64 KingStar IO (KINGSTAR EtherCAT)
    - RTX64 KingStar Motion (KINGSTAR Motion)
    - RTX64 Runtime
    - RTX64 RT-TCP/IP Stack
    - axel64 (this component won't be displayed if you didn't purchase the license)
8. Click **Set the RTSS boot configuration**. Assign processors between Windows and RTX64 (RTSS). There must be at least one processor for Windows. You must configure this setting before you use KINGSTAR. Click **Apply** after you complete the configuration.
    - If you have purchased the KINGSTAR ENTRY edition, you can assign 1 processor to RTX64.
    - If you have purchased the KINGSTAR PRO edition, you can assign up to 3 processors to RTX64.



9. When you are prompted to restart your computer, click **Yes**.



10. Choose the RTX64 boot configuration at system startup:

    - Windows 10: Windows 10 - RTX64
    - Windows 8: Windows 8 - RTX64
    - Windows 7: Windows 7 - RTX64

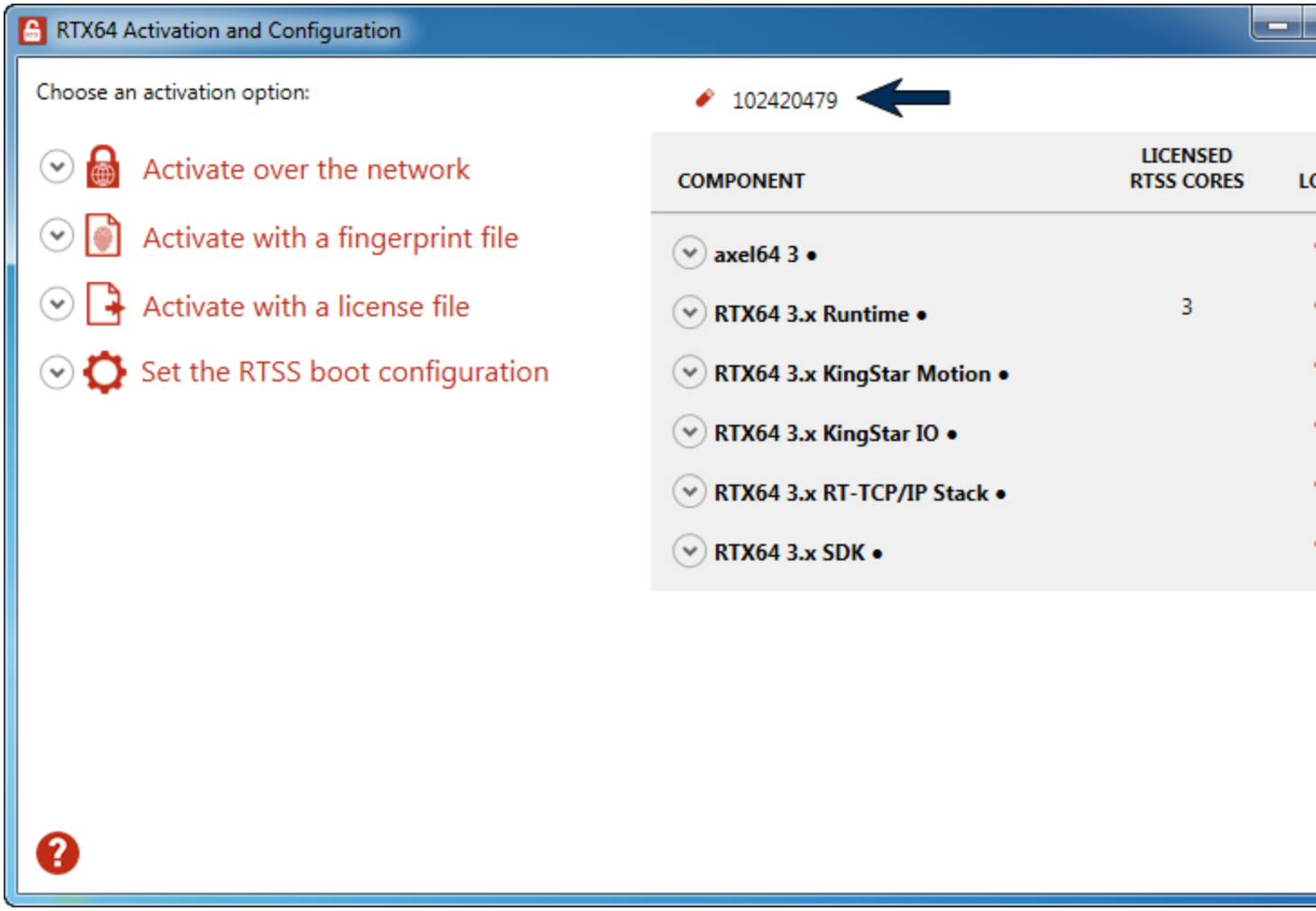
    NOTE: If you start your system with a configuration other than RTX64, KINGSTAR won't work properly.

Activate using the dongle

A dongle is a USB flash drive specifically designed for containing KINGSTAR license. It is convenient for people who need to take the license with them. When you purchase the KINGSTAR license, it's optional to purchase a dongle.

- If you purchase the KINGSTAR licenses with the same number of dongles, we'll put the license files in the dongles and activate them in advance. When you get the dongles, just plug them into the computers that have the corresponding KINGSTAR products and the activation is done. After assigning the processors to Windows and RTX64, you can start to use KINGSTAR.
- If you purchase the KINGSTAR licenses with the different number of dongles, we'll give you empty dongles so you can decide which dongle you want to put the license in and activate it. Once you activate a dongle, just plug it into a computer that has the corresponding KINGSTAR product and the activation is done. After assigning the processors to Windows and RTX64, you can start to use KINGSTAR. For more information about activating a dongle, visit the IntervalZero website (www.intervalzero.com), go to **Downloads** > **Add-Ons, Tools & Utilities** and download **Dongle Activation Utility**. It includes the file and manual.

After the dongle is plugged in, a dongle icon is displayed above the component list.


RTX64 Activation and Configuration
Choose an activation option:
Activate over the network
Activate with a fingerprint file
Activate with a license file
Set the RTSS boot configuration
102420479
COMPONENT
LICENSED RTSS CORES
axel64 3
RTX64 3.x Runtime
3
RTX64 3.x KingStar Motion
RTX64 3.x KingStar IO
RTX64 3.x RT-TCP/IP Stack
RTX64 3.x SDK

Manually configure system settings

The KINGSTAR installer installs and configures the RTX64 and RTX64 Virtual NIC for you. If you didn't select a network interface card (NIC) when you install KINGSTAR Runtime, or the IP address of the Windows Virtual NIC is not set correctly, you must configure RTX64 manually.

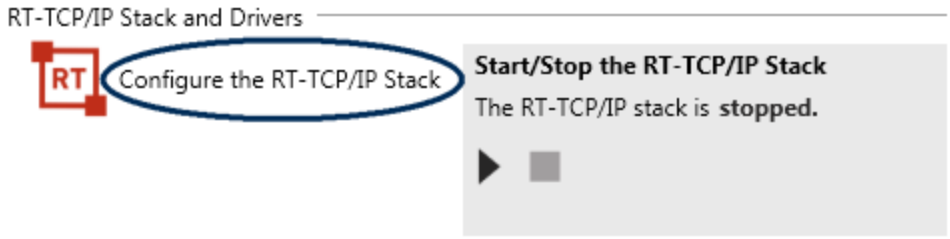
NOTE: The following procedures are only necessary if your NIC is not associated with KINGSTAR and the IP address of the Wnidows Virtual NIC is not set automatically.

Configure Virtual NIC

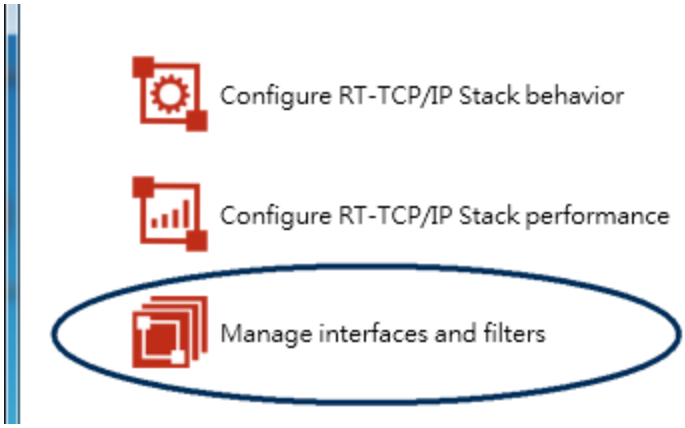
Virtual NIC for both RTX64 and Windows are automatically configured when you install KINGSTAR. You don't need to configure them, but if you want to change their IP addresses, or you need to manually configure Virtual NIC, take the following steps.

Configure Virtual NIC for RTX64:

1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.
2. Click **Configure the RT-TCP/IP Stack**.



3. Click **Manage interfaces and filters**.

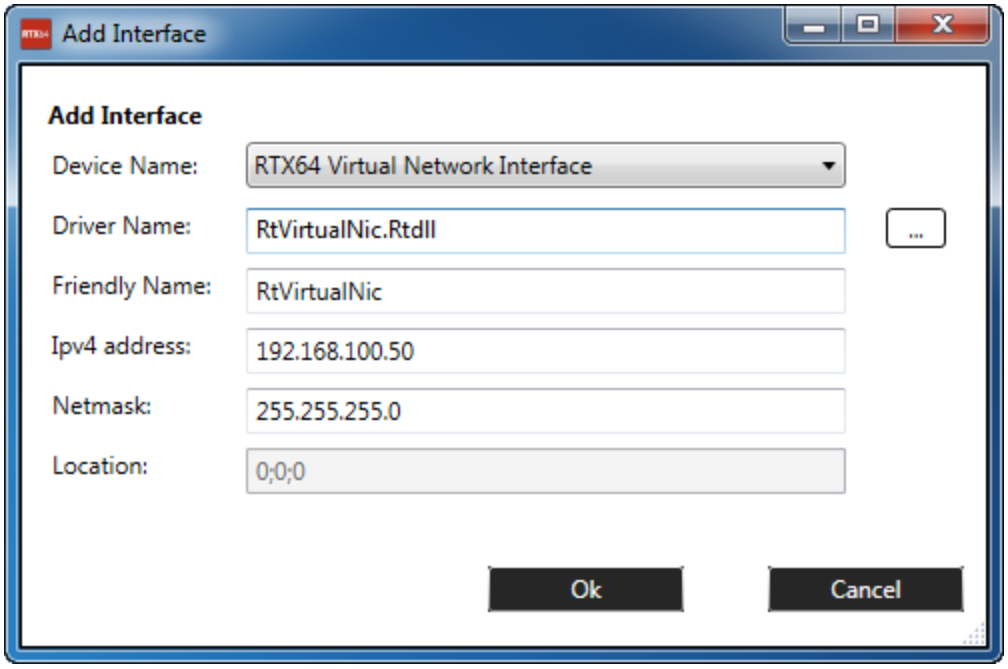


4. On the left pane, click ✚ to add a new interface.

5. In the **Add Interface** dialog box, in the **Device Name** list, select **RTX64 Virtual Network Interface**. Other fields are automatically populated after you made the selection. The first three octets of the Virtual NIC IP address of Windows and RTX64 must be the same. By default, the **Ipv4 address** is 192.168.100.50.

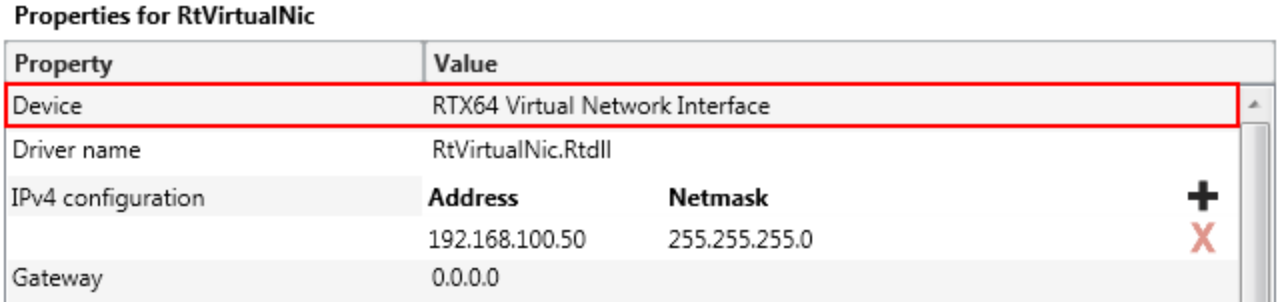
   IMPORTANT: The IP address of Virtual NIC, EtherCAT, internet must be in three different networks, or they conflict.

   NOTE: If you want to use EoE, you may want to set the IP address to 192.168.100.253. For more information, see Concepts > Ethernet over EtherCAT.



6. In the **Properties for RtVirtualNic** list, in the **Device** list, the **RTX64 Virtual Network Interface** added on the left pane should be displayed. If it isn't, select the Virtual NIC you added on the left pane.

   NOTE: When you use RTX64 Virtual NIC, you can use the EoE filter `kse64eoe.rtdll` (see Ethernet over EtherCAT) if you need EoE, but you can't use `ksio64filter.rtdll`, which can be used only with a real network card.



Configure Virtual NIC for Windows:

1. Open the Internet Protocol Version 4 (TCP/IPv4) Properties:

   - Windows 10 and Windows 8.1: **Control Panel** > **Network and Internet** > **View Network Status and Tasks** > **Change adapter settings** > **Ethernet: Windows Virtual RTX64 Ethernet** > **Properties** (right-click) > **Internet Protocol Version 4 (TCP/IPv4)** > **Properties** > **Use the following IP address**

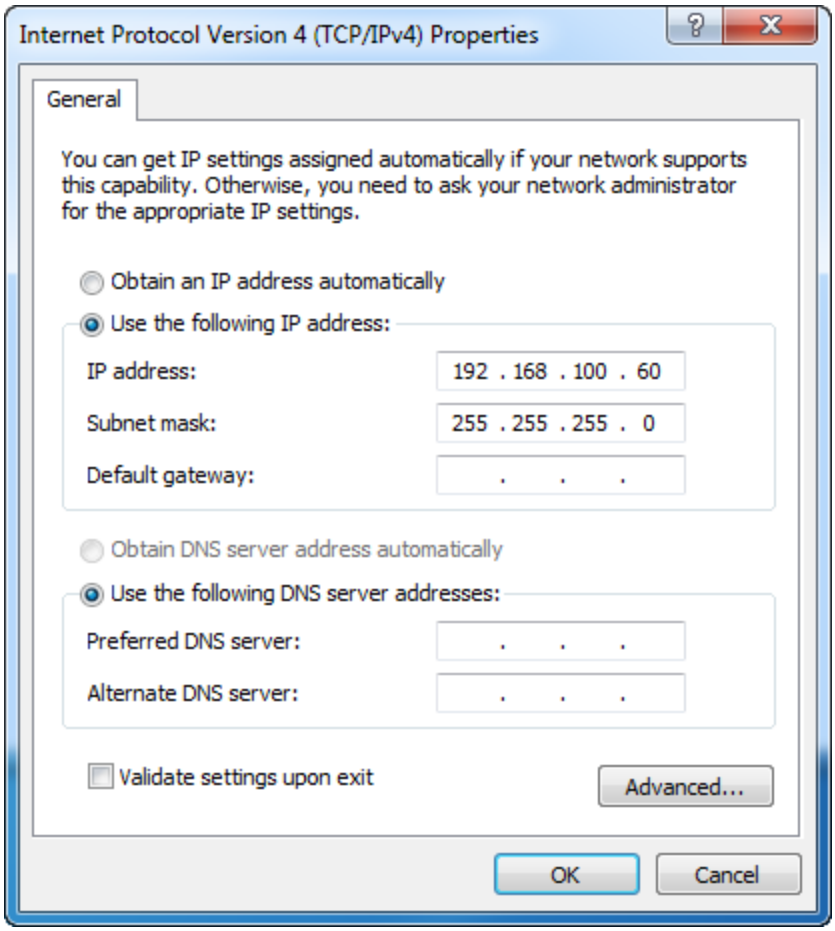
   - Windows 7: **Start** > **Control Panel** > **Network and Internet** > **View Network Status and Tasks** > **Local Area Connection N (Windows Virtual RTX64 Ethernet)** > **Properties** (right-click) > **Internet Protocol Version 4 (TCP/IPv4) > Properties** > **Use the following IP address**

2. Set the IP Address you wish to use. The last octet of the IP address of Windows and RTX64 must be different, or the IP address conflict occurs.

   Windows: 192.168.100.60

   Subnet mask: 255.255.255.0

   IMPORTANT: The Subnet mask you specify in Windows must match the Subnet mask specified in the RTX64 Control Panel. By default, the RtVirtualNic interface sets the Subnet mask to 255.255.255.0.

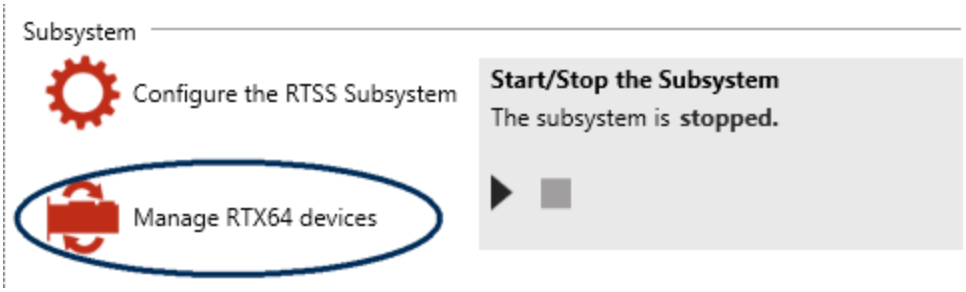

Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 100 . 60
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

3. Click **OK**.

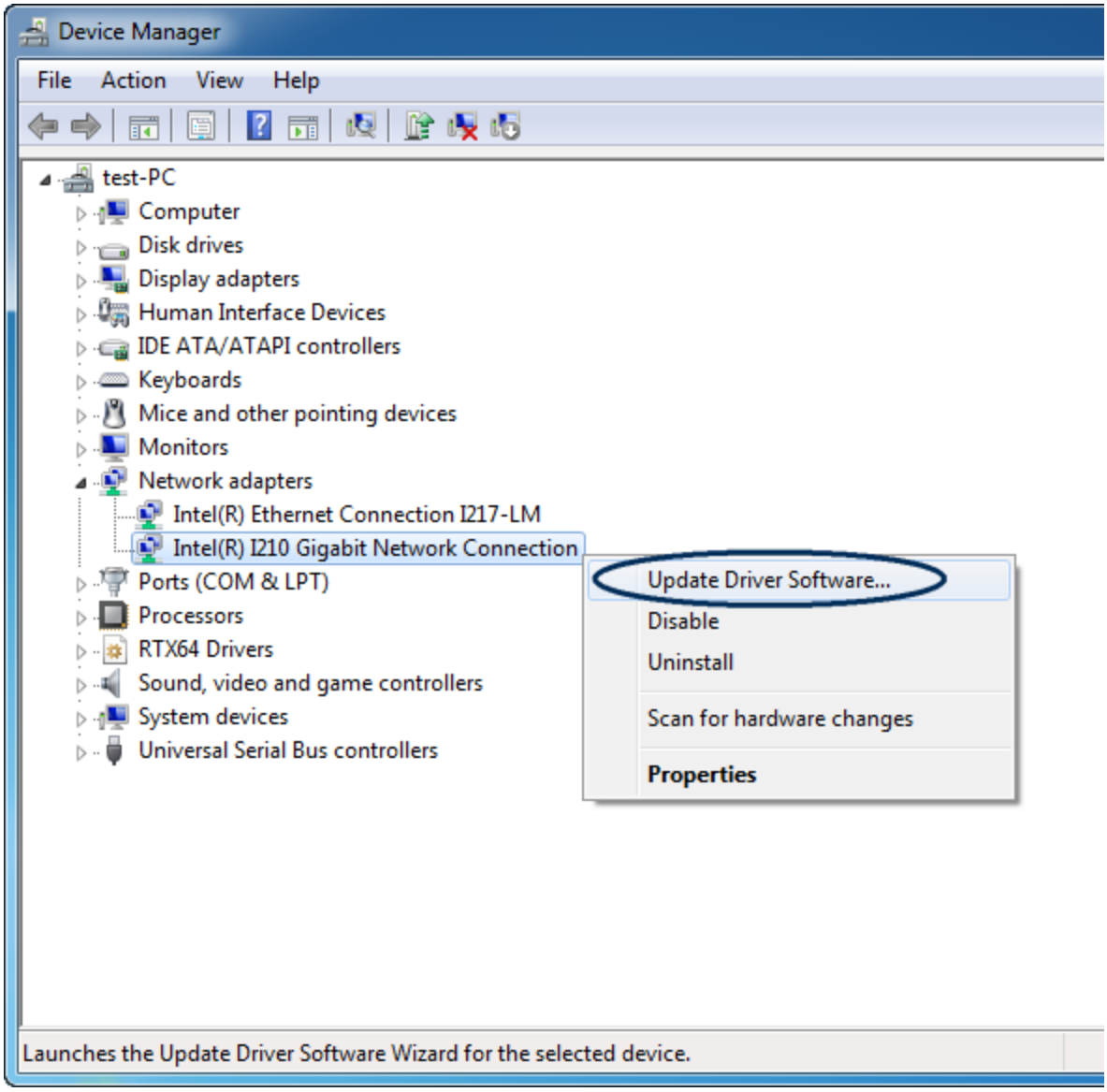
Manually associate a NIC

To manually associate a network interface card (NIC) with KINGSTAR, complete the steps that follow:

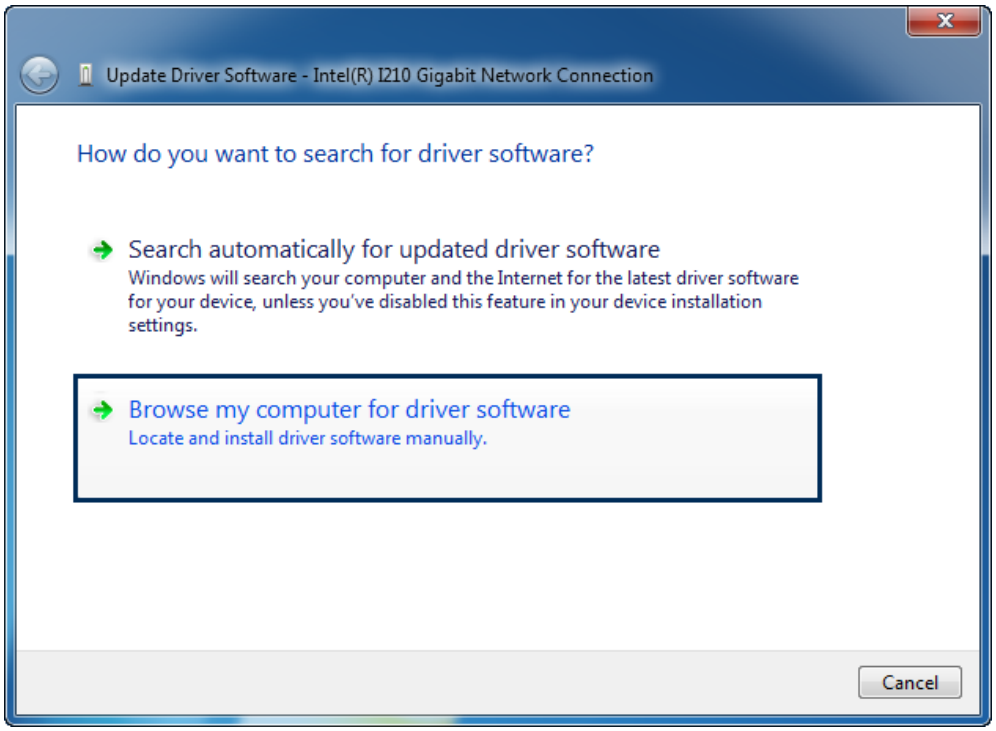
1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.
2. In **RTX64 Control Panel**, click **Manage RTX64 devices** to launch Windows **Device Manager**.



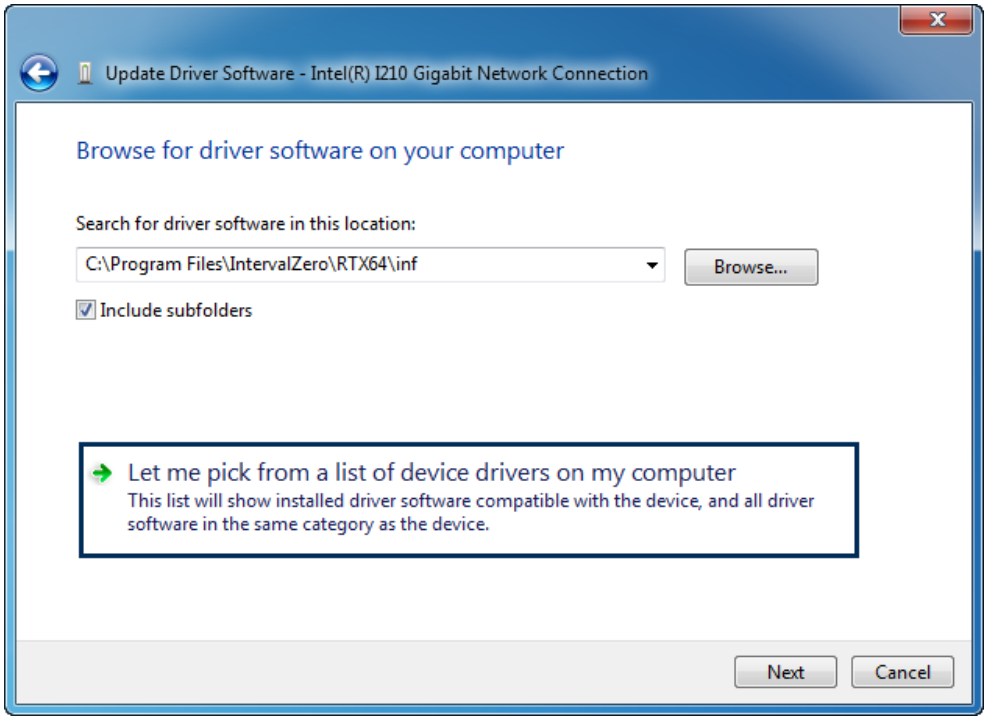
3. In the **Device Manager** dialog box, expand **Network adapters**, right-click on the network adapter you want to associate with KINGSTAR, and then click **Update Driver Software**. The adapter must be supported by both RTX64 and KINGSTAR.



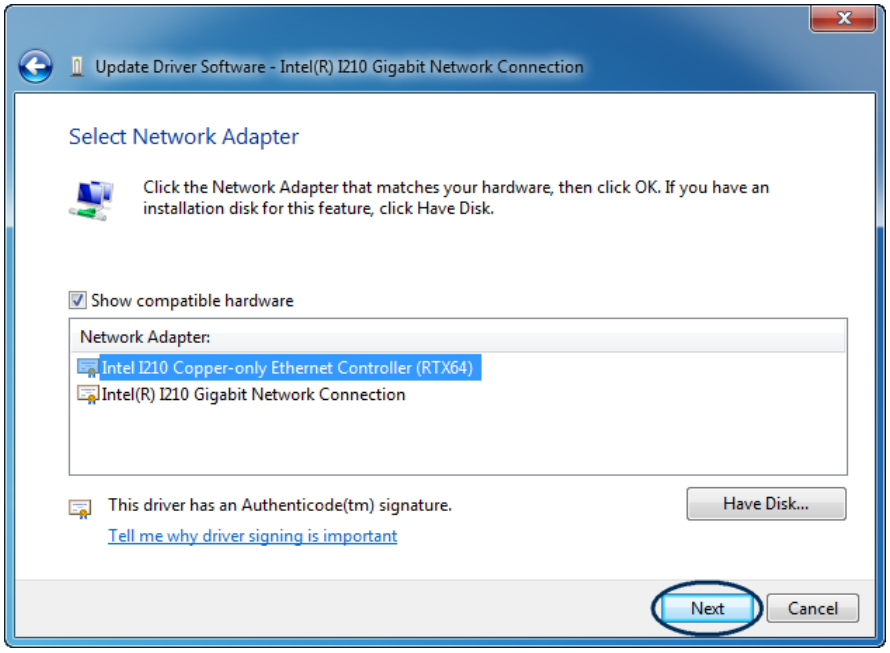
4. In the **Update Driver Software** dialog box, click **Browse my computer for driver software**.



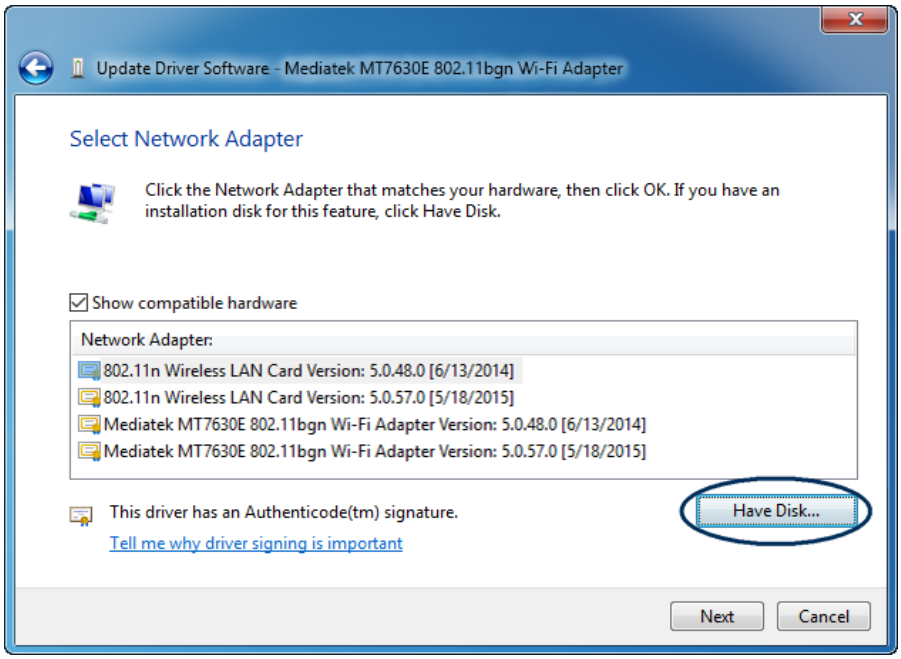
5. Click **Let me pick from a list of device drivers on my computer**.



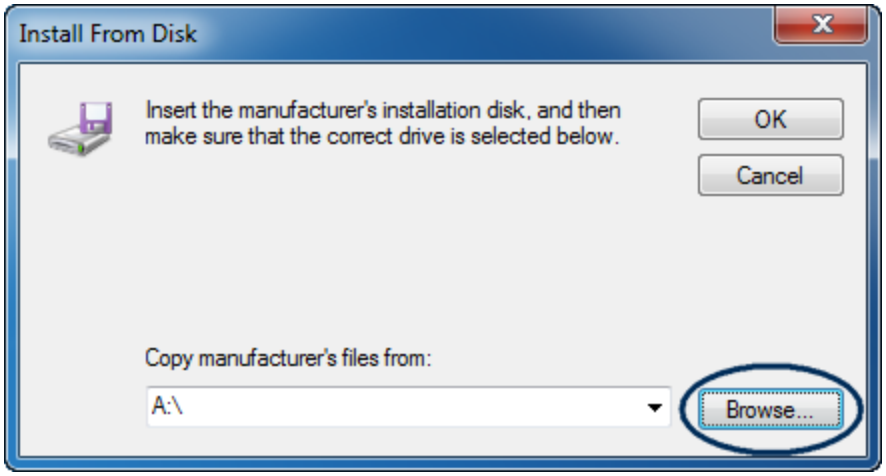
6. In the list of adapters, do one of the following:
    - If your network adapter shows in the list, select the adapter that includes RTX64 in the name, and then click **Next**.



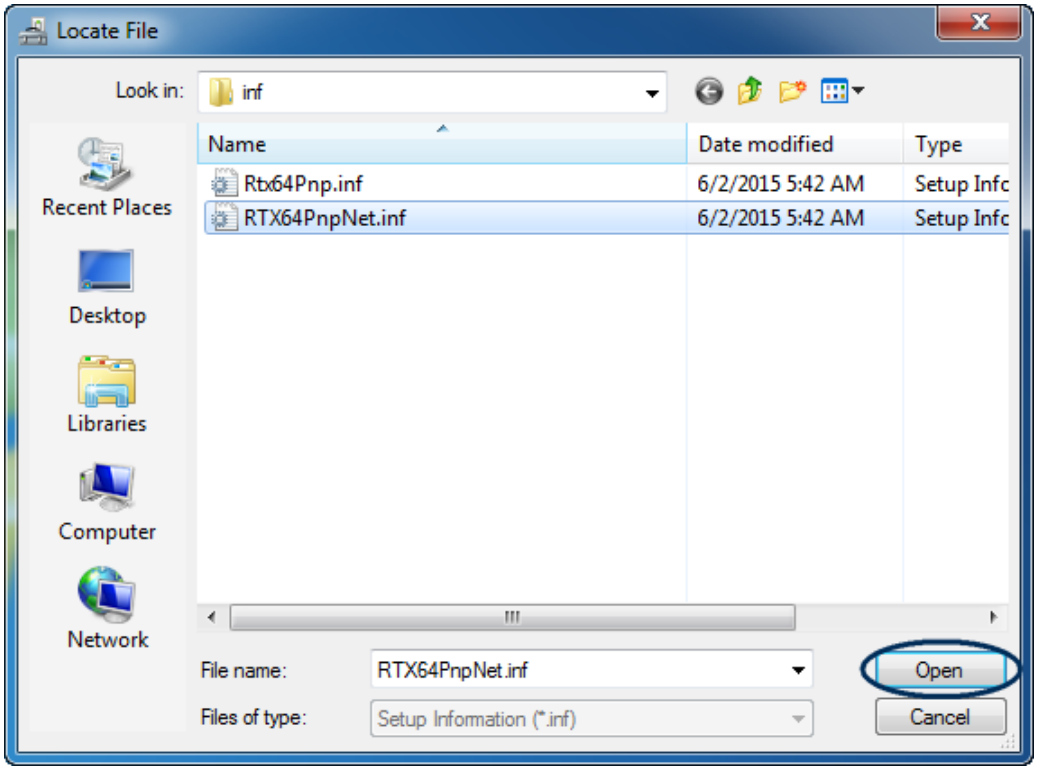
    - If your network adapter does not show up in the list, click **Have Disk**.



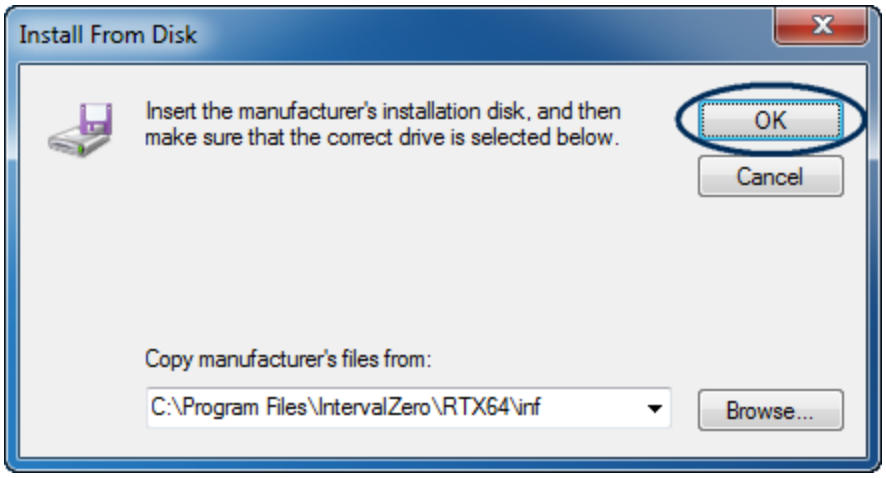
a. In the **Install From Disk** dialog box, click **Browse** and navigate to the RTX64 inf location `C:\program files\IntervalZero\RTX64\inf` if you installed RTX64 in the default location.



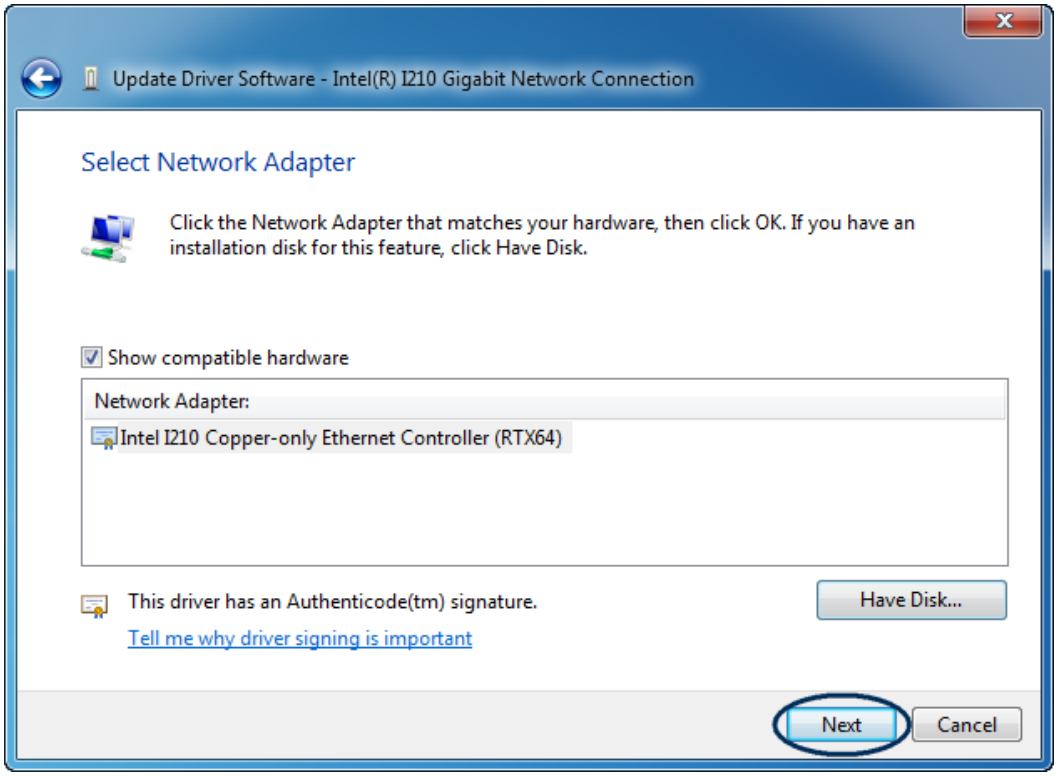
b. In the **Locate File** dialog box, select `RTX64PnpNet.inf` and click **Open**.



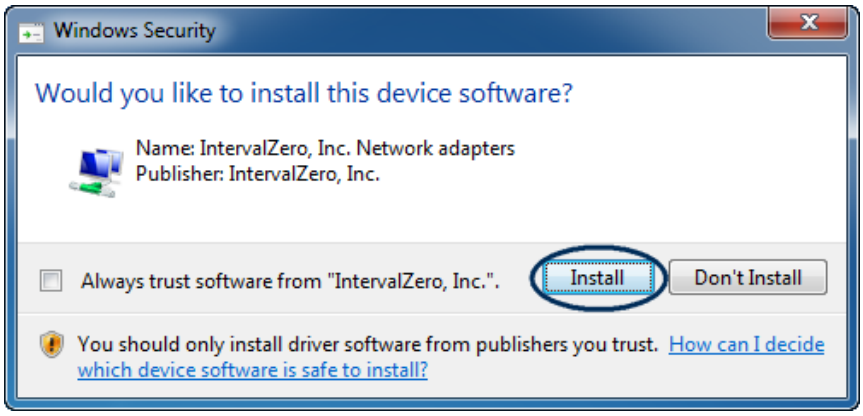
c. In the **Install From Disk** dialog box, click **OK**.



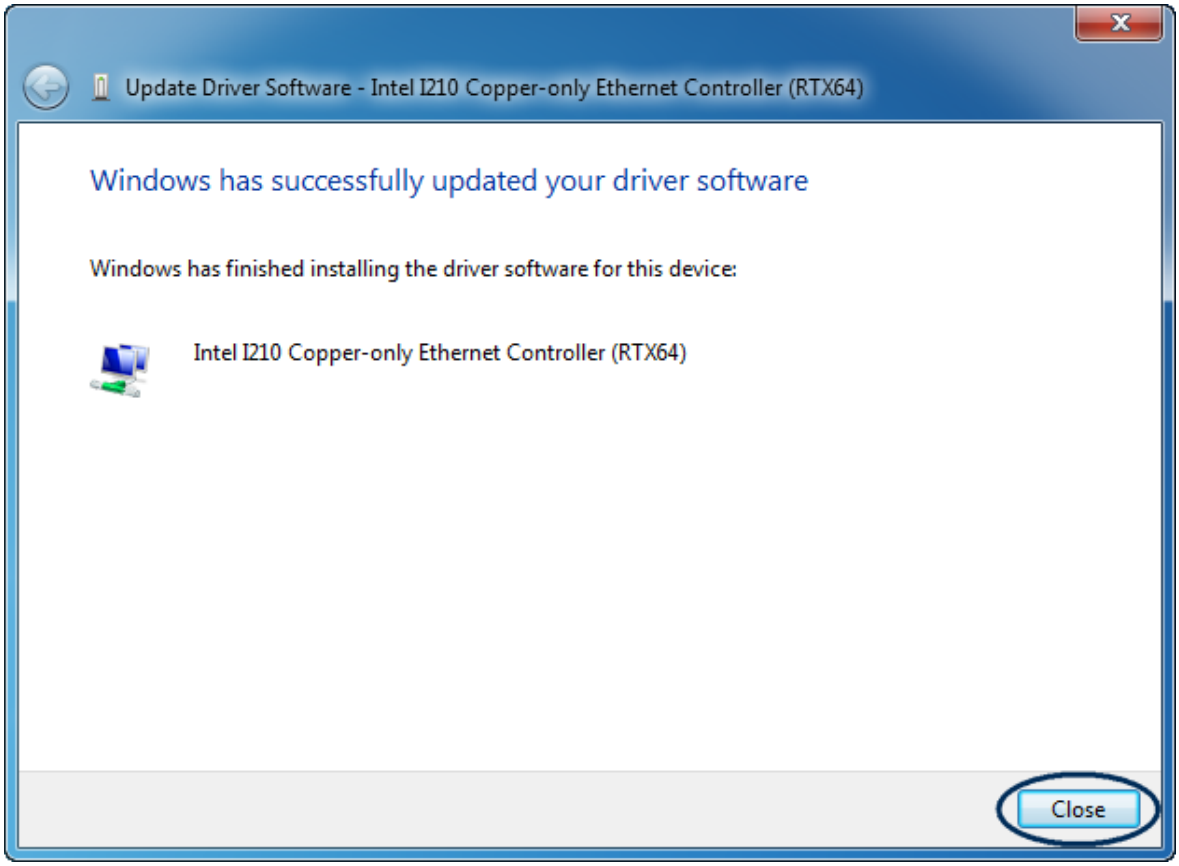
7. In the **Update Driver Software** dialog box, select the network adapter that includes RTX64 in the name, and then click **Next**.



8. A **Windows Security** dialog box may display asking if you would like to install the driver. Click **Install**.



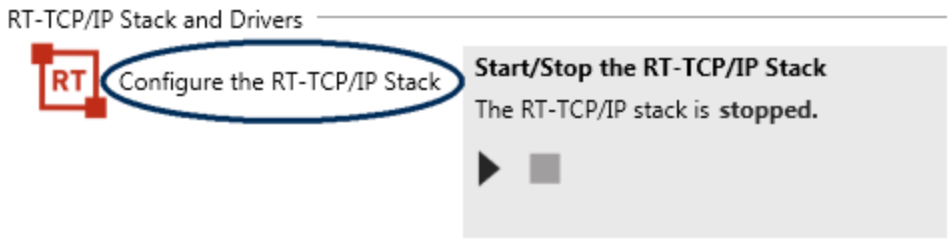
9. The RTX64 driver installs for the network adapter. Click **Close** after the installation is completed. The network adapter is now available for use with KINGSTAR.



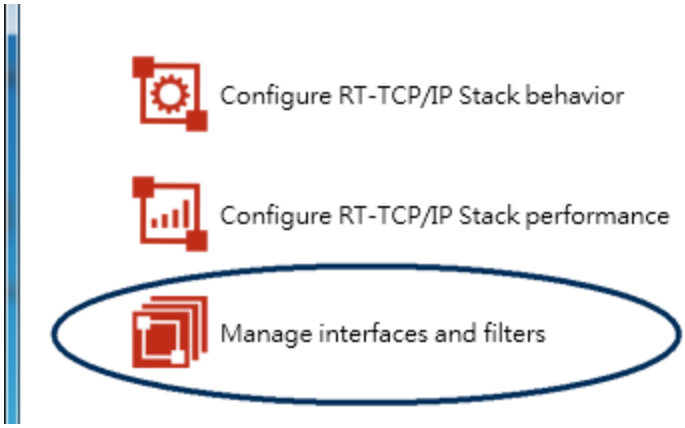
Manually configure the RT-TCP/IP stack

To manually set up the RTX64 RT-TCP/IP stack to use the dedicated NIC for KINGSTAR, complete the following steps.

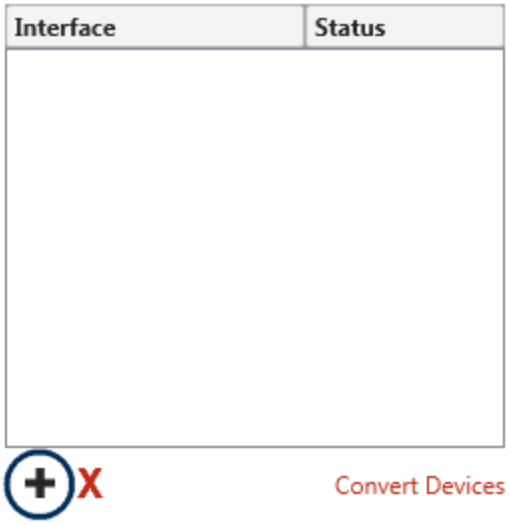
1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.
2. Click **Configure the RT-TCP/IP Stack**.



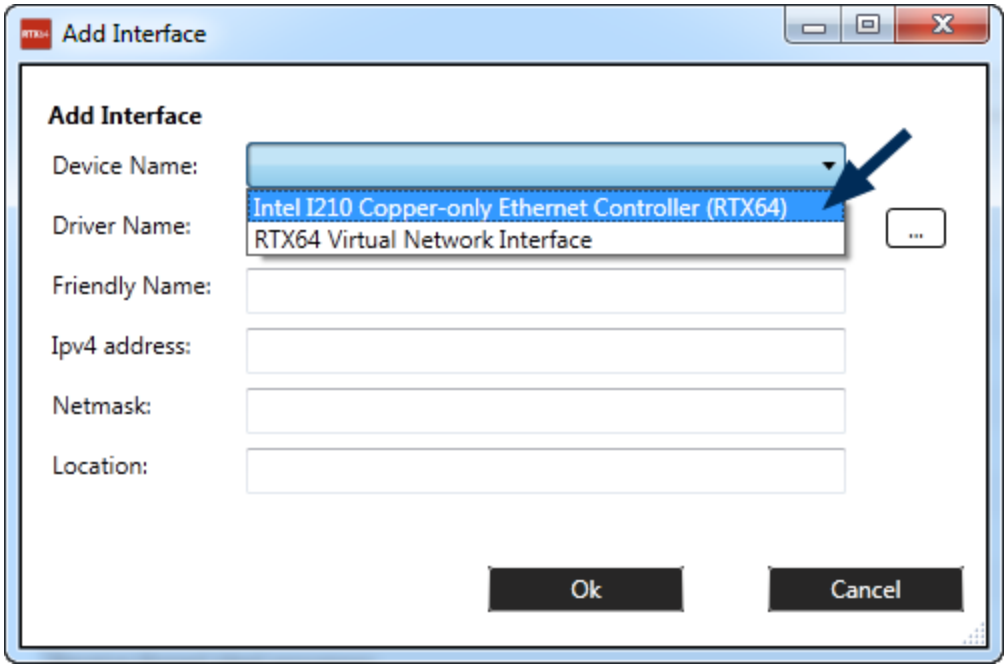
3. Click **Manage interfaces and filters**.



4. On the left pane, click ✚ to add a new interface.

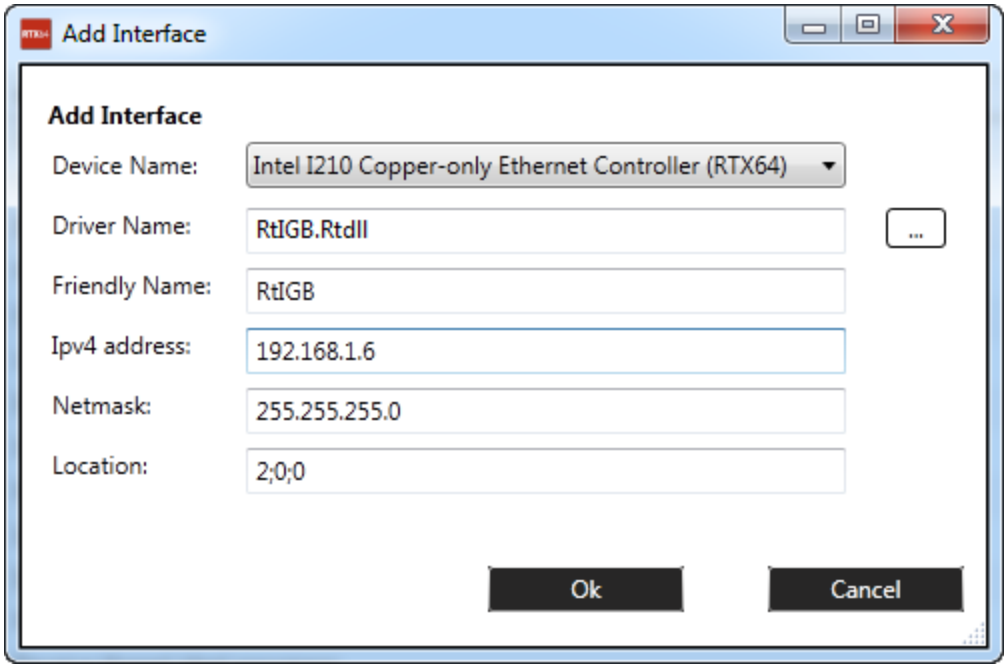


5. In the **Add Interface** dialog box, in the **Device Name** list, select a NIC that has RTX64 in its name. If the name of the NIC doesn't have RTX64, it means your NIC is not associated with KINGSTAR. See Manually associate a NIC to configure your NIC.

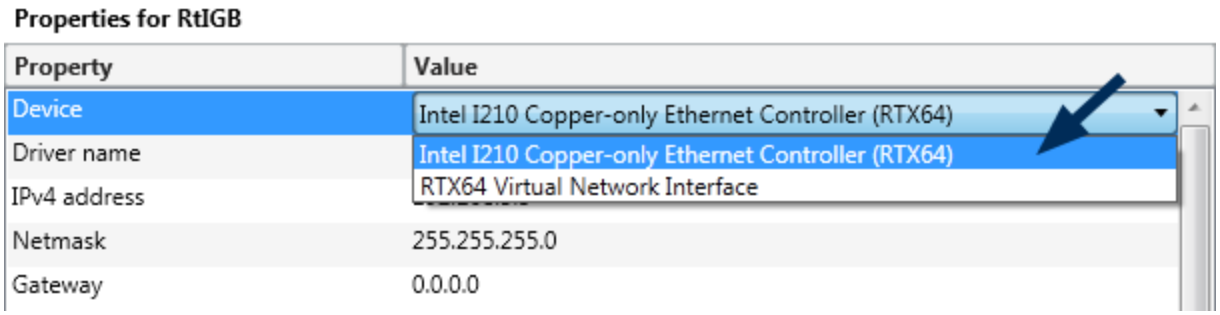


6. In the **IPv4 address** and **Netmask** box, enter the information to use with the selected NIC, and then click **OK**. For example, you can enter 192.168.1.6 for **IPv4 address** and 255.255.255.0 for **Netmask**. If you have more than two NICs installed on the same computer, make sure the IPv4 address of the selected NIC doesn't conflict with that of other NICs.

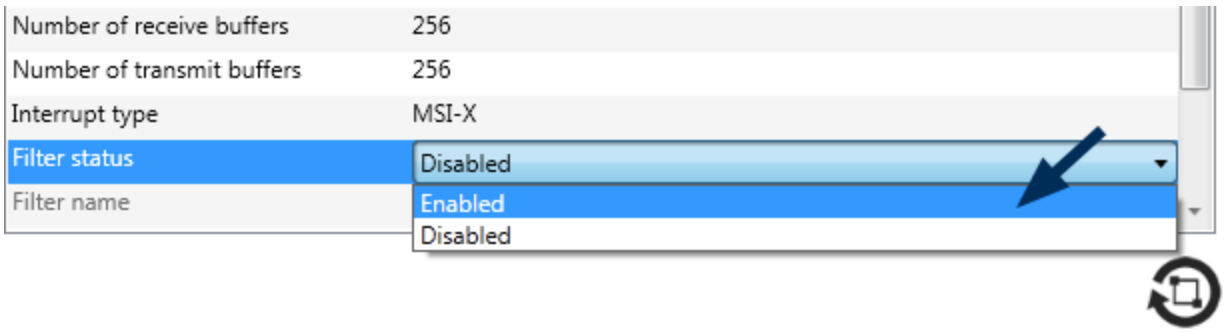
   NOTE: To ensure the IPv4 address doesn't conflict with your NIC, go to **Start Menu** > **Accessories** > **Command Prompt** (Windows 7), or **Start** > **Windows System** > **Command Prompt** (Windows 10). Enter `ipconfig` and you'll see the IPv4 address your NIC is using.



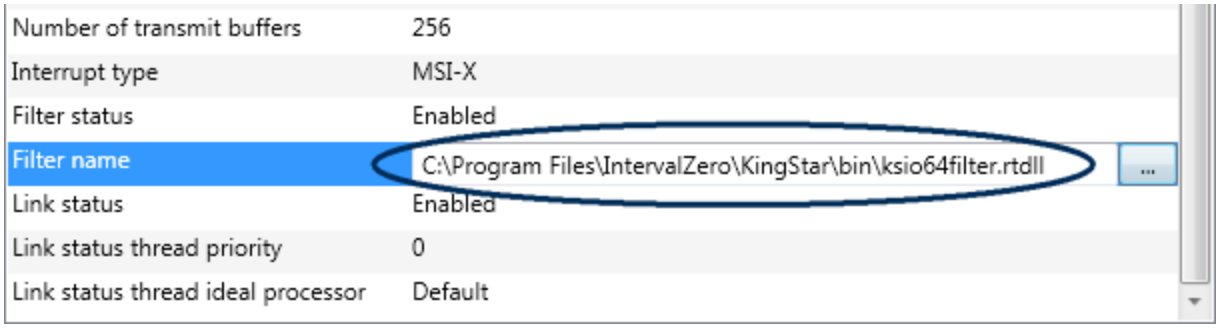
7. In the **Properties for RtIGB** list, in the **Device** list, the NIC added to the left pane should be displayed. If it doesn't, select the NIC you added to the left pane.



8. In the **Filter status** list, choose **Enabled**.



9. In the **Filter name** box, browse to the file `ksio64filter.rtdll`, which is in the `<KSMDir>\bin` (`<KSMDir>` is the location where KINGSTAR was installed). This will associate the KINGSTAR filter with the interface.

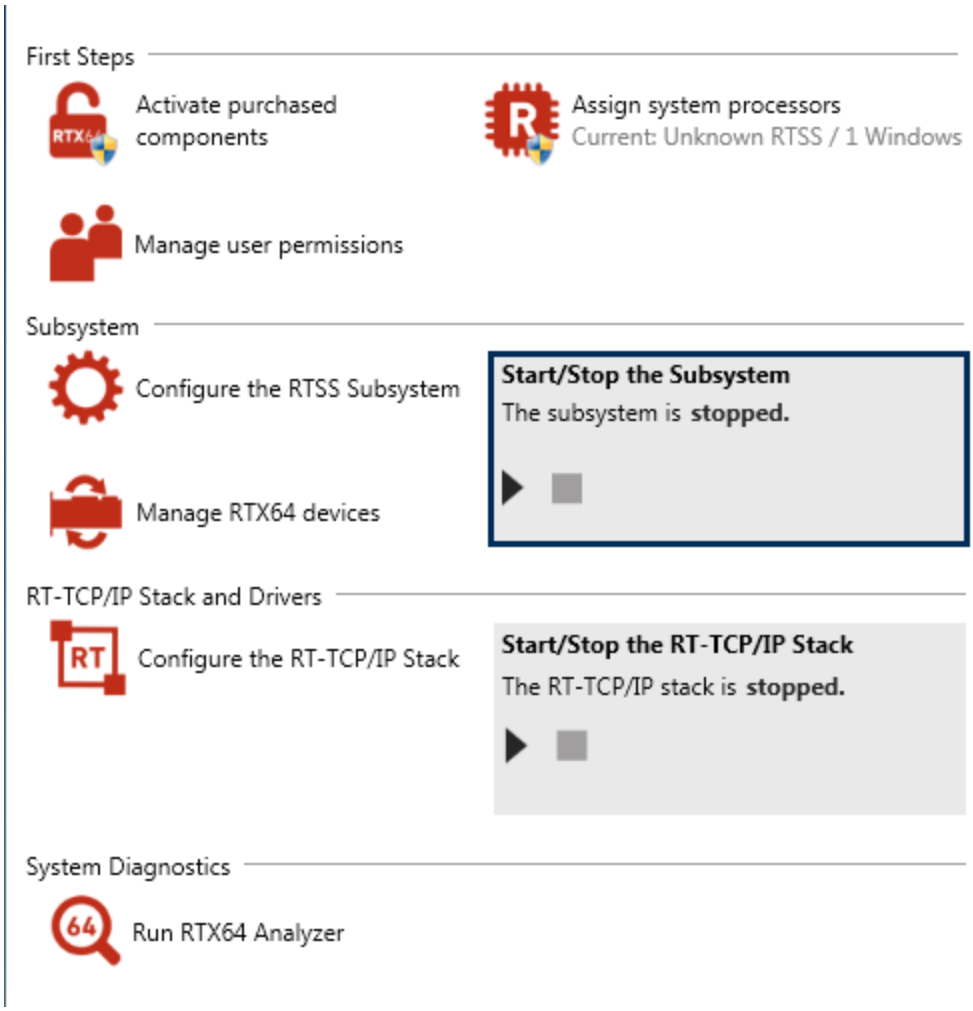


Start RTX64 Subsystem

After the RTX64 Subsystem is configured, you can start the Subsystem so it is available for use by KINGSTAR.

1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.

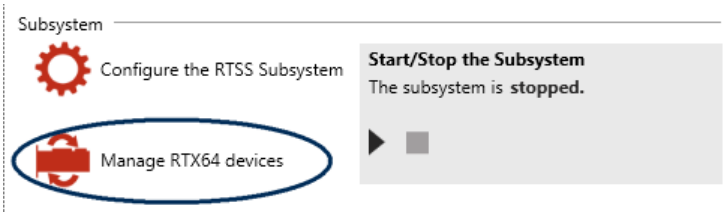
2. In the **Subsystem** area, in the **Start/Stop the Subsystem** group, click ▶ to start the RTX64. It will also start the **RT-TCP/IP Stack**.



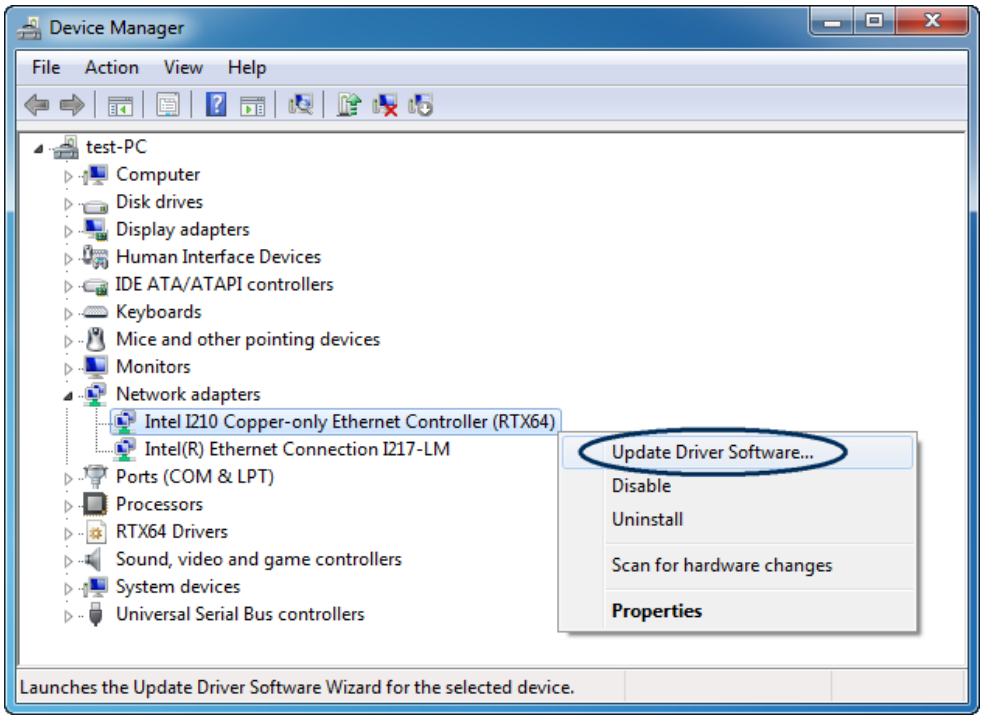
Give the NIC back to Windows

You need to give the network interface card (NIC) back to Windows if you no longer need to use it with KINGSTAR. To give the NIC back, complete the steps that follow:

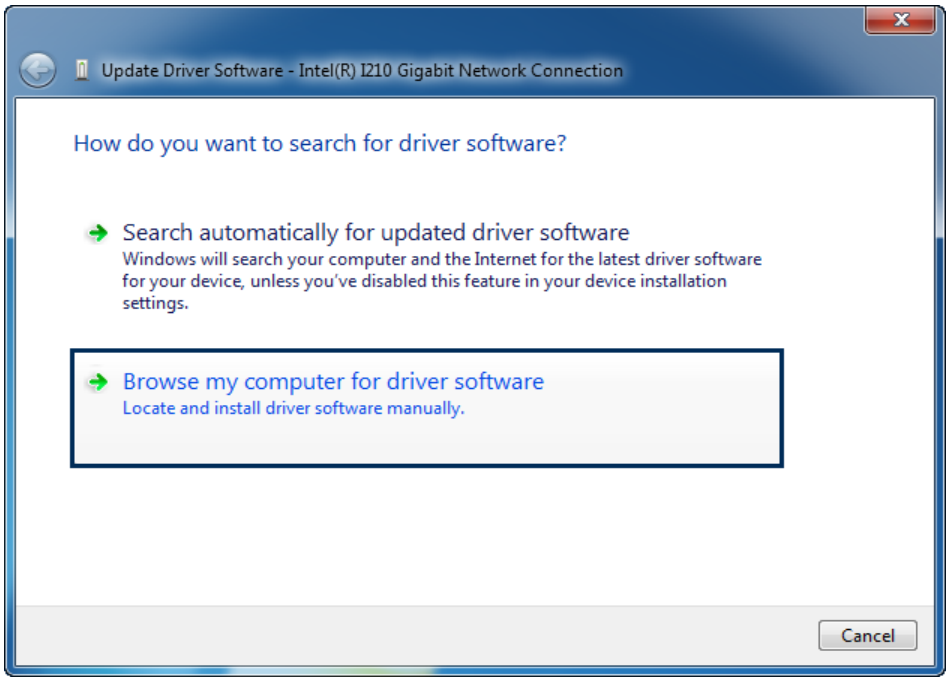
1. On the taskbar, click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.
2. In **RTX64 Control Panel**, click **Manage RTX64 devices** to launch Windows **Device Manager**.



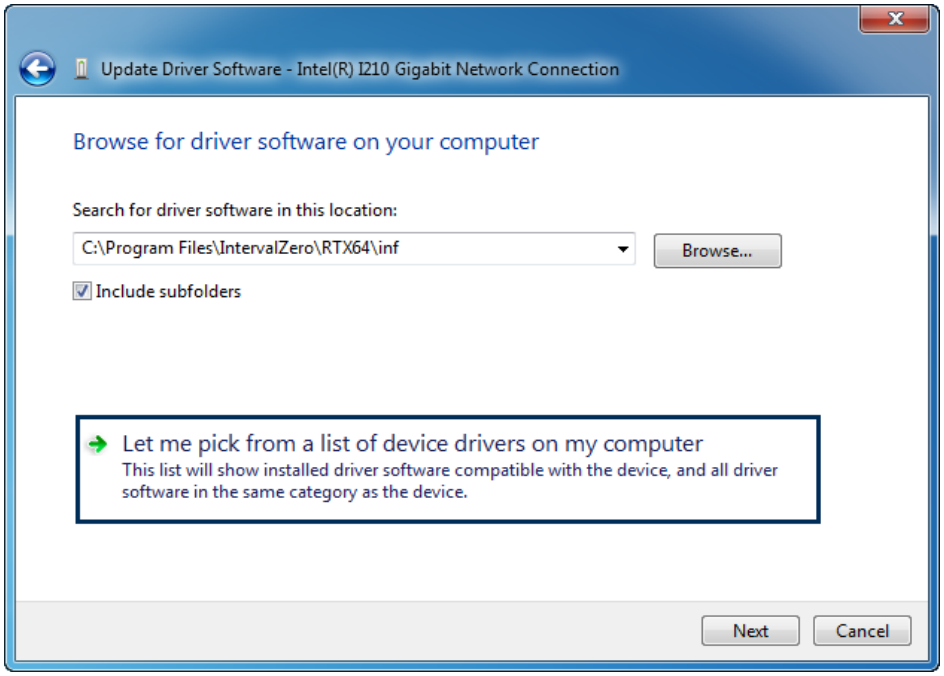
3. In the **Device Manager** dialog box, expand **Network adapters**, right-click on the network adapter that includes RTX64 in its name, and then click **Update Driver Software**.



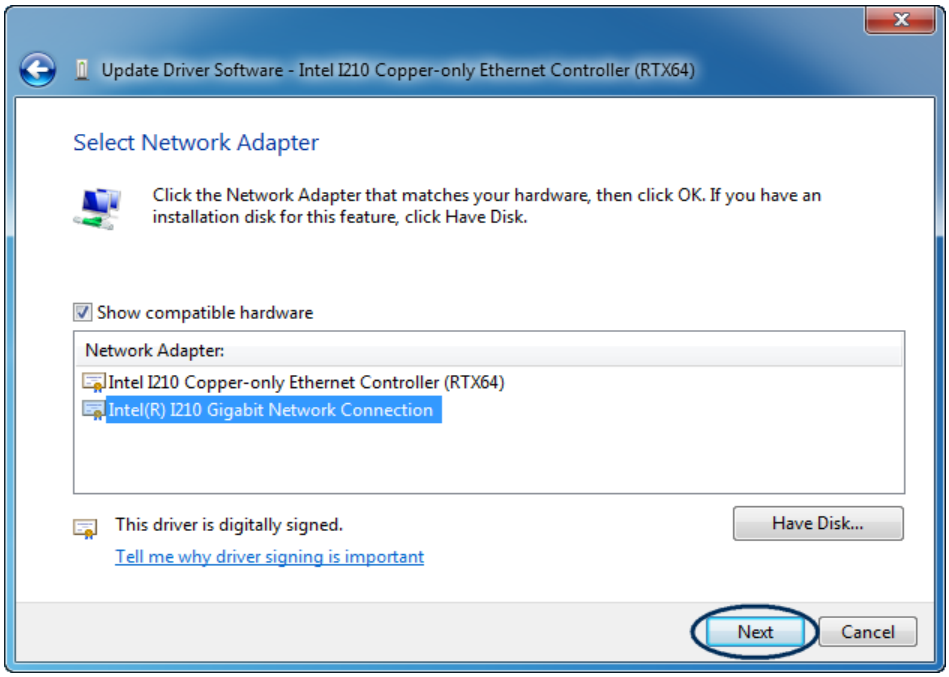
4. In the **Update Driver Software** dialog box, click **Browse my computer for driver software**.



5. Click **Let me pick from a list of device drivers on my computer**.



6. In the list of adapters, choose the adapter that doesn't include RTX64 in its name, and click **Next**.



7. The Windows driver installs for the network adapter. Click **Close** after the installation is completed. The network adapter is now given back to Windows.

Uninstall KINGSTAR

Before uninstalling consider the following:

- When RTX64 Runtime is uninstalled from a system, any device given to RTX64 will no longer have an associated driver and should be returned to Windows using the Windows **Device Manager**. For more information about how to return the NIC, see Give the NIC back to Windows.
- RTX64 **Control Panel** must be closed.
- KINGSTAR applications must not be running.
- If the RTX64 boot configuration is the only boot configuration present on uninstall, it will be retained so that you can start your system.

To uninstall KINGSTAR, take the following steps:

1. Double-click the KINGSTAR installer to uninstall, or go to **Control Panel** > **Programs and Features**. Select the KINGSTAR software from the list and uninstall it.
2. After uninstalling KINGSTAR, restart your computer.

Get support

KINGSTAR offers a number of support options for KINGSTAR users, including third-party, online and phone support.

Third-party support

If you are a customer who purchased a KINGSTAR product through a third-party reseller, contact the reseller for support.

Online support

The KINGSTAR Customer Support web page is located at:

http://kingstar.com/support/

The KINGSTAR support web pages provide electronic access to the latest product releases, documentation, and release notes. You can access the online support ticketing system to submit issues or questions.

Before calling technical support

Please have the following information ready before calling KINGSTAR Technical Support:

The version number of your RTX64 and KINGSTAR software

To obtain the RTX64 version number:

1. Click **Start** > **All Programs** > **RTX64 3.5 Runtime** > **Control Panel**.
2. In the **RTX64 3.5 Control Panel**, record **Version** shown in the **Runtime Information** area.

To obtain the KINGSTAR version number:

1. Click **Start** > **All Programs** > **KINGSTAR** > **Runtime**.
2. In **Windows Explorer**, click the `ksm64.rtdll` file, and right-click the same file again.
3. On the shortcut menu, click **Properties**.

4. In the **ksm64.rtdll Properties** window, click the **Details** tab, and record **Product version**.

Phone support

For technical support related to installing and using KINGSTAR, please call technical support at this number:

+886-2-2556-8117

Hours are Monday – Friday from 9:30 to 17:30, UTC+08:00, excluding holidays.