



Reflective Ethernet Custom Device for VeriStand Example Project

Thank you for using the Reflective Ethernet Custom Device for VeriStand. This document describes the example project that ships with the Custom Device and is intended to guide you through how the Reflective Ethernet Custom Device is configured.

After installing the Reflective Ethernet Custom Device, the example project is found under '<VeriStand folder>/Examples/DVel/Reflective Ethernet Custom Device'. This example is based on two targets, a windows PC and a sbRIO running VxWorks. You will need to view this example as a guide and recreate it using your own targets.

System Explorer

After opening the example, first open the 'Reflective Ethernet' System Definition File. Expand the two targets 'sbRIO VxWork Controller (192.168.16.178)' and 'Windows (192.168.16.92)'. The IP addresses are included in the names to keep them handy as this helps during the configuration. Right-click both targets Custom Devices and choose 'Open Item Hierarchy' to view the configuration of the Reflective Ethernet Custom Devices.

The input of the device on one target is the output of the device on the other target. Their names must be identical for the custom device to recognize the link. Also note that the Output target names must be the ip address of the target to communicate with. This is the information needed for the targets to communicate using the Reflective Ethernet Custom Device.

A Reflective Ethernet Custom Device is added to a target by right-click on the 'Custom Devices' of the target and choosing 'DVel->Reflective Ethernet'. The device can have any name.

An input channel is added to the device by right-click on the 'Input' of the device and choosing 'Add Channel'. Please care about naming the channel considering that an output channel on another target will need to have the same name.

A output target is added to a device by right-click on the 'Output' of the device and choosing 'Add Target'. The target must be named with the ip address of the target. An output channel is added to the output target by expanding 'Output' and right-click on the target, then choosing 'Add Channel'. Again, please care about naming the channel considering that an input channel on another target will need to have the same name.

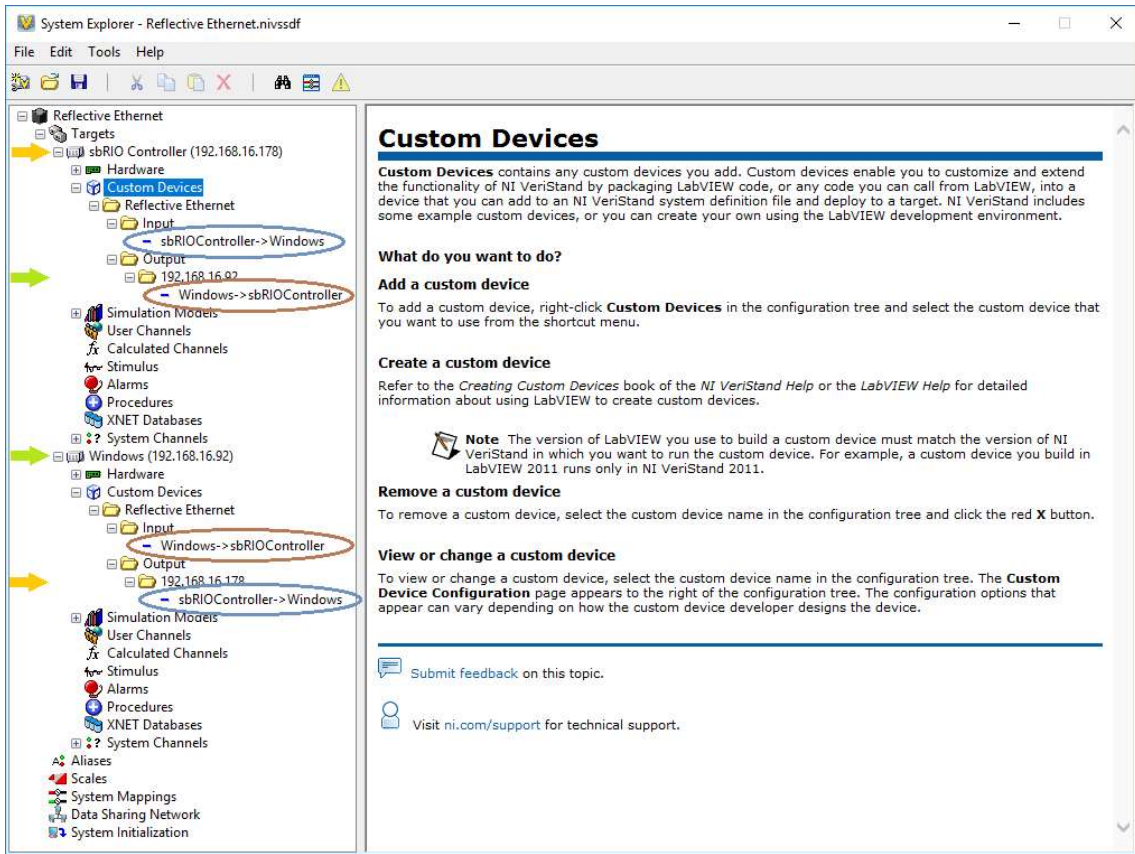


Figure 1 System Explorer with Reflective Ethernet Custom Device on two targets (nodes). Arrows show the connections between targets; blue and brown circles show the connection channels.

Note that the 'Inputs' and 'Outputs' are named from the VeriStand engine's point of view. For a Custom Device, an 'Input' is data flowing from the Custom Device into the VeriStand engine and an 'Output' is data flowing from the VeriStand engine into the Custom Device. As the Reflective Ethernet Custom Device does not communicate through the VeriStand Engine but instead directly with other Reflective Ethernet Custom Devices this notation becomes somewhat confusing. Still, the naming convention is kept in order to not cause more confusion when the Reflective Ethernet Custom Device is used in combination with other Custom Devices.



User Interface

Open the 'Reflective Ethernet' User Interface. This User Interface consists of two tabs, one showing data flowing from the Windows target to the sbRIO target and one showing data flowing from the sbRIO target to the Windows target. You can copy this User Interface file into your own project and modify the channel names to match your configuration.

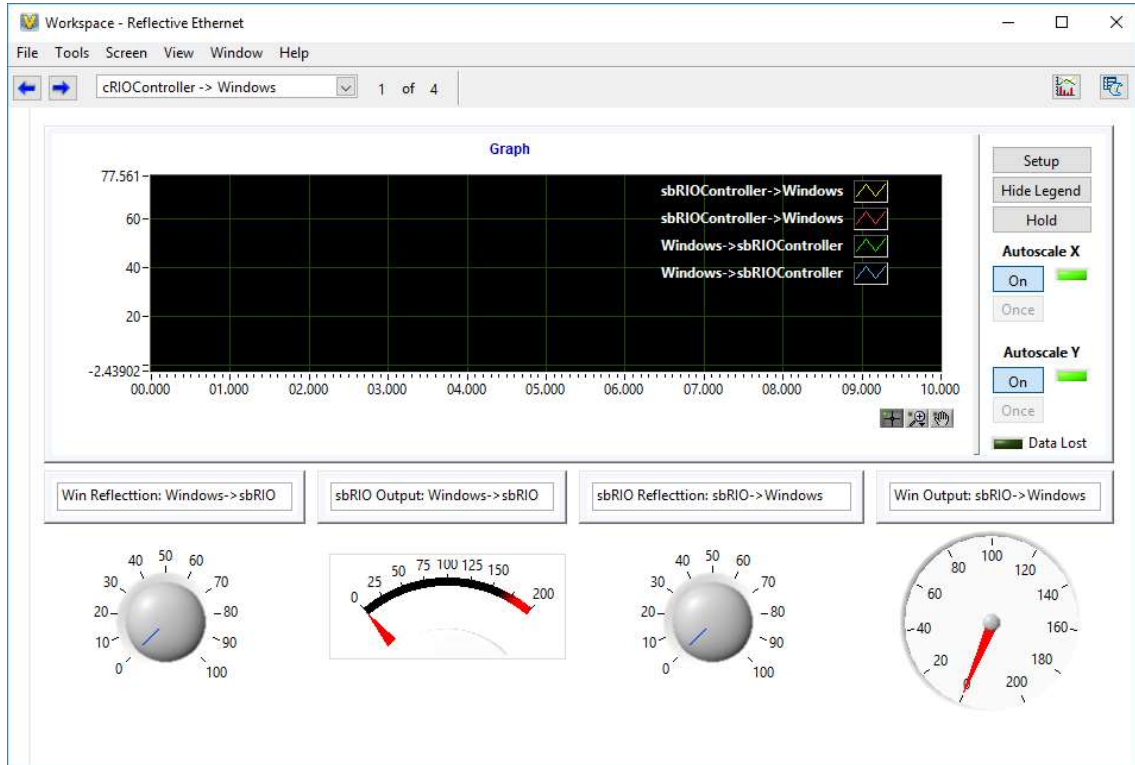


Figure 2 The example project user interface (one of the tabs)