Readme for Shared Variable Custom Device 2.0

Software support

Custom Device build:

* Veristand 2016, 2017 and 2018
* LabVIEW Run Time Engine 2016, 2017 or 2018 (NI Variable Engine)
* Currently only tested on Pharlap and RT Linux x64 Targets
* Optional: NI Distributed System Manager

Source code

* LabVIEW 2017 FDE or PDE
* LabVIEW 2017 RealTime Module
* OpenG Toolkit

Notes

* Import/Export Configuration is not yet Implemented, only Double Precision Real (DBL) and Boolean data type is supported.
* Only Pharlap RealTime OS is currently supported.
* Installer is not complete, only manual install. Due to CAR#460388.

Known Issues

* ~~When removing multiple variables in “Add Shared Variable” multiple Remove confirmation dialogs are shown~~.
* In the “Add Shared Variable” dialog the update of tree structure is slow. Should be handled with defer FP Updates.
* Still lacking proper benchmarking.

Install the custom device

Option 1: Installer

~~Run Installer~~

Option 2: Manual install

Add the Shared Variable CD 2.0 folder with all content from the Build folder to C:\Users\Public\Documents\National Instruments\NI VeriStand [version]\Custom Devices

Optional: (If LabVIEW Development Environment is not installed)

* NI Distributed System Manager (DSM)

Using the Custom Device

Start VeriStand

In Veristand, open the System Definition File

* Configure controller (Currently only Pharlap Targets tested)

Add Custom Device to Definition

* Right click and [Add Custom Device](http://zone.ni.com/reference/en-XX/help/372846K-01/veristand/add_configure_custom_dev/) and select Shared Variable CD 2.0 
* The Read container holds channles connected to variables VeriStand can read from.
* The Write container holds channles connected to variables VeriStand can write to.
* The Status container holds a status channel (for error status).

Configure the Custom Device

First configure the Shared Variable Custom Device

* Go to the Shared Variable CD 2.0 Page and set the Update Rate. This is the rate of the asynchronous loop updating Shared Variables during Runtime. 

Work with Shared Variables in the custom Device

To add one or multiple variable to Read or Write container

Right-click the container to manage variablesRead or Write and select “Add Shared Variables ”



The “Add Shared Variable” dialog opens



* Enter the IP Address of the target hosting the Network Published Shared Variable you would like to add. Press to update the list.
* List of available Shared Variables on the selected target.
* A variable that can be added to VeriStand. icon indicates the variable’s data type.
* A greyed-out variable is already added to either the Read or Write Container
* Shows the library/process that the variable belongs to.
* List of variables already added to VeriSTAND.
* Buttons to Add and Remove variables from the Veristand list [3]. When Removing Variables a confirmation dialog is opened.

Press Done to close the dialog.

When selecting a variable page, the variable Name and URL is shown.



Remove Variable

In Veristand you can directly remove a Variable by right-clicking and selecting “Remove Selected Variable”



Help

[VeriSTAND HYPERLINK "http://zone.ni.com/reference/en-XX/help/372846K-01/veristand/add\_configure\_custom\_dev/" HYPERLINK "http://zone.ni.com/reference/en-XX/help/372846K-01/veristand/add\_configure\_custom\_dev/" HYPERLINK "http://zone.ni.com/reference/en-XX/help/372846K-01/veristand/add\_configure\_custom\_dev/" Help](http://zone.ni.com/reference/en-XX/help/372846K-01/veristand/add_configure_custom_dev/)