BNCS Alarm System

**Atos IT Services**

# Configuration of Alarm System

# BNCS Driver Status Acquisition Module

config_alm_acq_bncs_drv_stat.dll

Written by: Richard Kerry

# Contents

BNCS

# 1 Alarm System – BNCS Driver Status Acquisition Module

## 1.1 Overview

This module (config_alm_acq_bncs_drv_stat.dll) is part of the suite of modules that form the BNCS Alarm System.

This module is used to configure the module which gathers input information for the alarm system from CSI regarding the status of BNCS device drivers.

## 1.2 Description

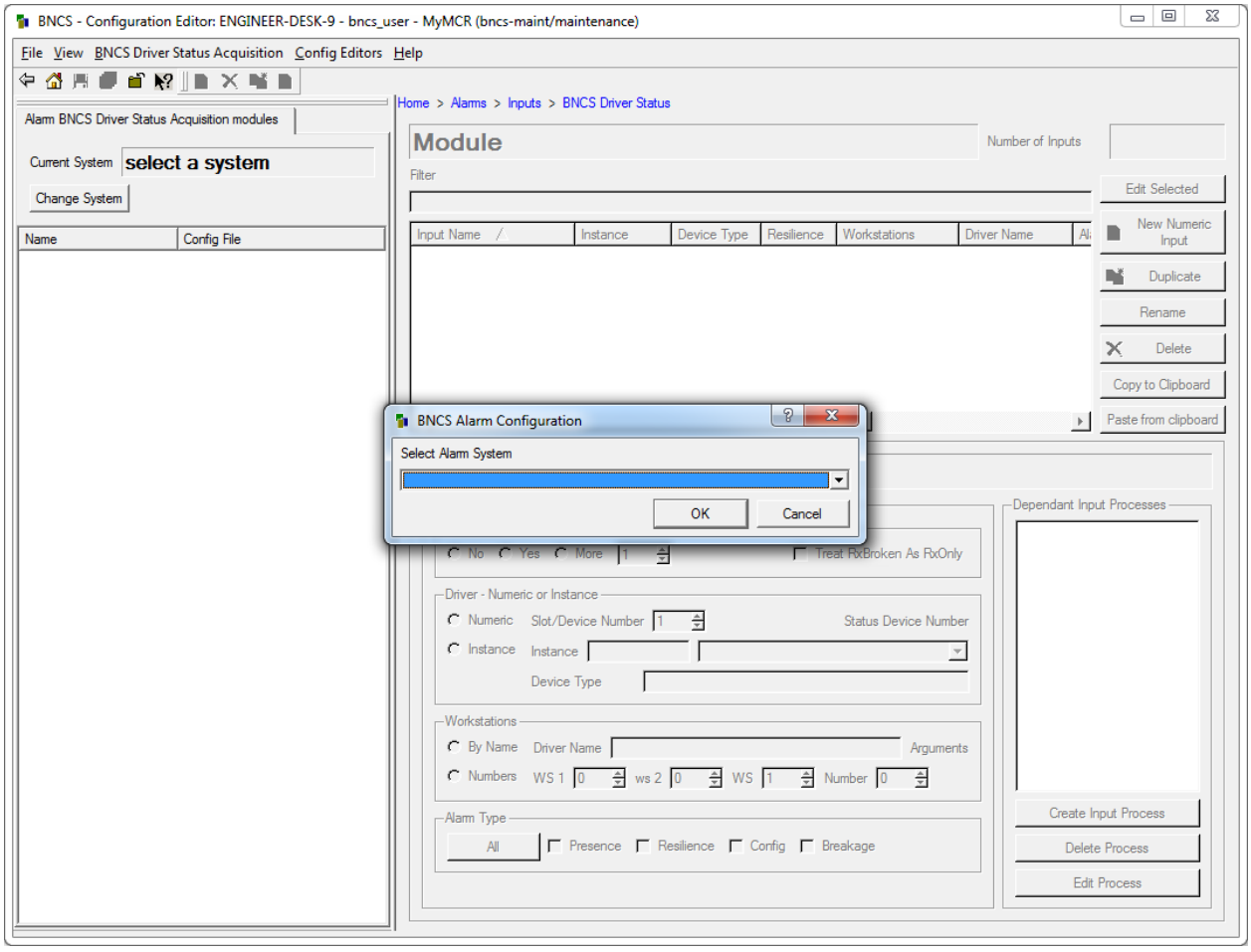
The module registers with CSI. It reads CSI's configuration to find the driver status infodriver number, and then polls the slots as required to monitor the Tx/Rx status of the various BNCS devices' drivers. The status values are presented to the logic module, which is part of the host application.

# 2 Configuration procedure

To configure the module the BNCS v4.5 configuration tool should be used. The following explanation assumes that you are running the configuration editor and that this is connected to the relevant configuration server.

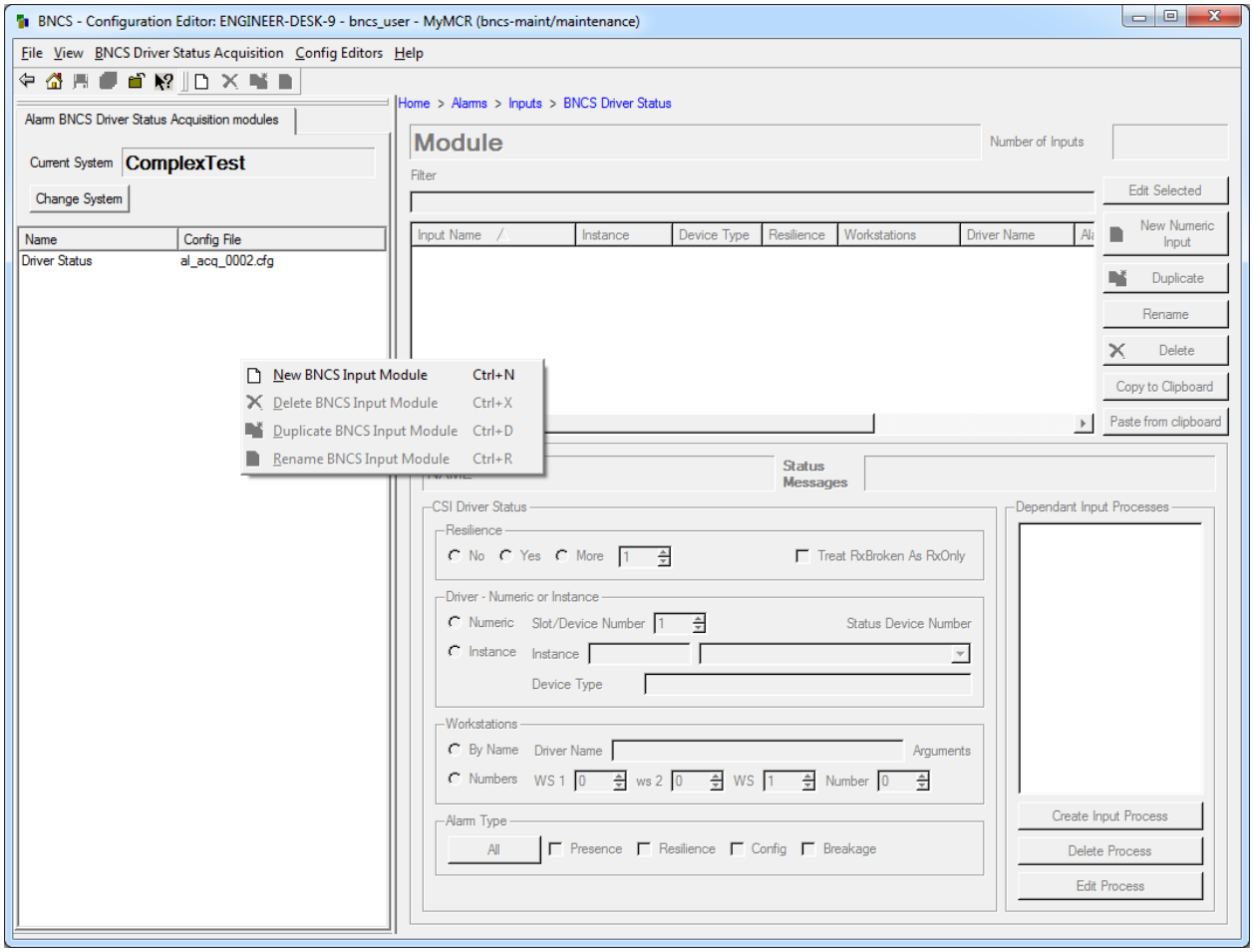
Select Alarms, then Inputs, then BNCS Acquisition.

The Current System will show "select a system" if you have not yet selected one, in which case then select the Change System button, then select an alarm system from the drop down list. This step is needed because there may be several alarm systems within one BNCS installed system.




If there are no BNCS Driver Status Acquisition modules configured yet create a new one. This can be achieved in two ways, either from the context (right-click) menu in the left hand pane or using the "New" icon in the tool menu at the top of the dialog.

(*** being reworded)




The new module may be given a more meaningful name using the menu or pressing F2.

Change the name to a meaningful one and press return.

## 2.1 Add Inputs

Inputs may be added manually using the New Numeric Input control. On selecting this a new input is created and the cursor left in the name field. Once this has been set the other parameters may be set using the parameter dialog at the bottom of the page.

Each acquisition entry corresponds to one driver running in the system.

When adding inputs to a system there are several required settings. These are detailed below along with an example of adding some inputs.

## 2.2 Required Settings

The system is able to generate alarms based on whether a number of resilience-related issues are detected.

### 2.2.1 Name

Each input must have a unique name.

This may only be set using Rename in the context menu (or F2), not from the parameter values dialog.

### 2.2.2 Resilience Type

This section is where the expected resilience for the specified driver specified. It doesn't specify any actual alarms, but tells the system what the expected level of resilience is for this driver.

#### *2.2.2.1 No*

The driver is being run without resilience. There is one instance of the driver running in the system. It is presumed always to be in Tx/Rx state.

In some places this is referred to as a resilience level of one.

#### *2.2.2.2 Yes*

The driver is being run with resilience. There are two instances of the driver running in the system. One driver will be Tx/Rx and the other RxOnly at all times. This is managed by CSI using various messages dedicated to this purpose.

In some places this is referred to as a resilience level of two.

#### *2.2.2.3 More*

This setting works in conjunction with the adjacent numeric value.

The driver is being run with resilience, but there are more than two instances of the driver running in the system, the number being given by the associated numeric control. One driver will be Tx/Rx and the others should be RxOnly at all times. This is managed by CSI using various messages dedicated to this purpose.

This is referred to as a resilience level of greater than two.

Note that if More is selected a level of one or two may be selected, being equivalent to No and Yes as described above.

Note that levels above two, although often found to work satisfactorily, are not properly supported by the BNCS resilience mechanism.

### 2.2.3 Driver Definition - Instance or Numeric

This selects the driver to be monitored.

It may be defined via an Instance name or by its device number. This setting corresponds to the slot number in the driver status infodriver.

#### *2.2.3.1 Numeric*

If Numeric is selected, the device number should be entered in the numeric entry box.

If the device is set numerically the instance name will not be shown as it is not necessarily possible to work it out.

#### *2.2.3.2 Instance*

If Instance is selected the instance name may be selected from the drop-down combo box, or it may be entered in the text edit box. Once a valid name is detected the combo box will

change to show the value. If a name is selected from the combo box it will appear in the edit control.

Once a valid instance is present the device type and number will appear in the other controls, greyed-out.

If the device is set by an instance name which is a complex instance the device number will show as 1. Composite instances are not shown.

The driver status infodriver device number is read from CSI's configuration file and shown greyed-out.

### 2.2.4 Workstations

The system is able to monitor whether the workstations where the driver is running are as configured. To use this alarm it is necessary to configure the workstations on which the driver is expected.

This may be done either by supplying the workstation numbers explicitly, or by entering the name of the driver application name and number. In the latter case the system will look up the workstation details in the launch configuration file – launch.xml.

#### *2.2.4.1 Workstation List from Driver name*

If the name is used it is combined with the driver number as configured above. The driver name is looked for as the application name and the device number in the arguments attribute.

If the driver name and number are found the numbers will be displayed, greyed-out in the workstation number controls.

The application name is searched for using the base name, ie the file-name excluding any folder names or extension.

### 2.2.5 Alarm Type

The alarm type selects the properties which will generate alarms.

#### *2.2.5.1 Presence*

This will signal a fault condition if no instance of the driver can be found with Tx/Rx state.

#### *2.2.5.2 Resilience*

This will signal a fault condition if the number of drivers reporting RxOnly status doesn't correspond to the selected resilience level. Ie if it isn't one less than the configured resilience level.

Ie. if resilience is yes/two, there should always be one instance in RxOnly state.

#### *2.2.5.3 Config*

This will signal a fault condition if the workstations on which the drive is seen to be running doesn't match the list of workstations on which it is configured to run.

#### 2.2.5.4 Breakage

This will signal a fault condition if any instance of the driver is in Broken state.

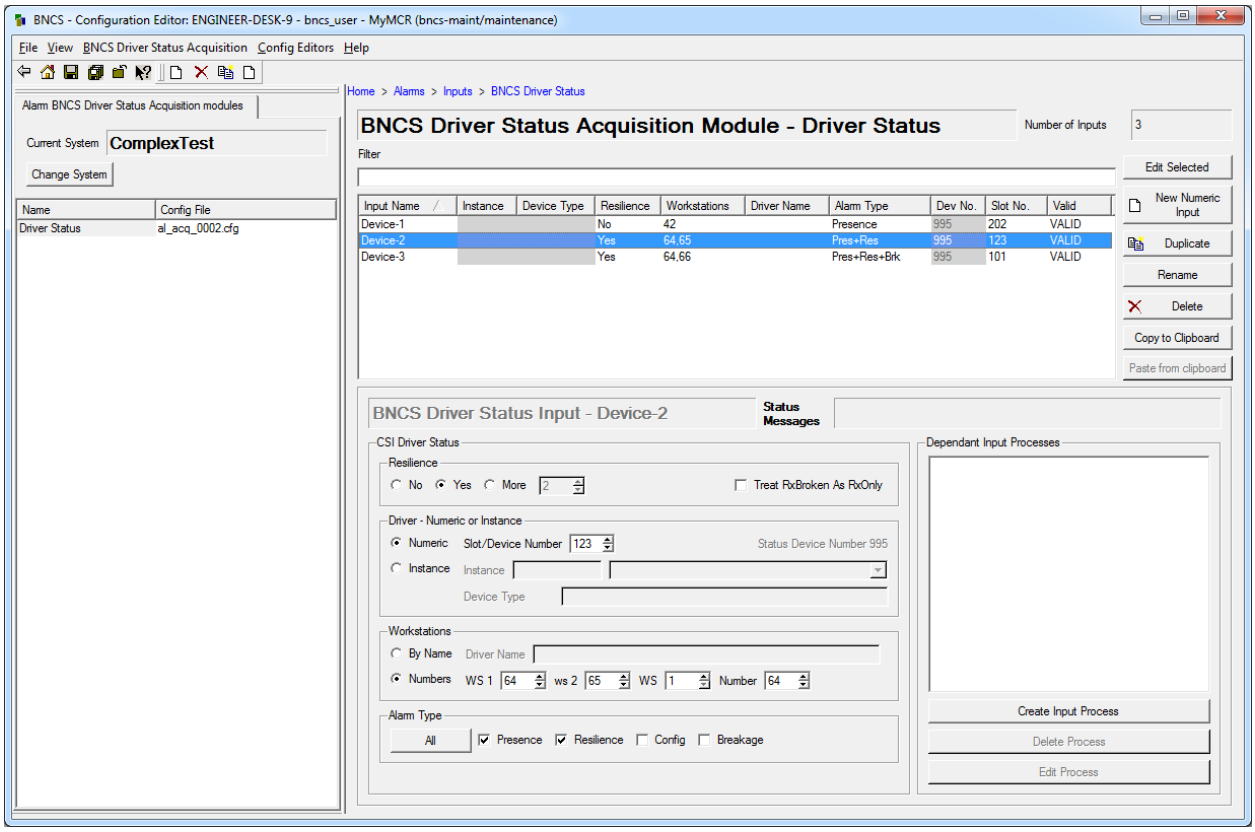
#### 2.2.5.5 Treat RxBroken as RxOnly

This causes any instances of RxBroken to be treated as RxOnly.

See below for an example.

## 2.3 Configuring Inputs Examples

The following are some examples of configuration, showing the main features. They are not intended to be exhaustive.




Clicking on an individual input is shown above. The name is also shown in the dialog. All the input parameters can be edited here.

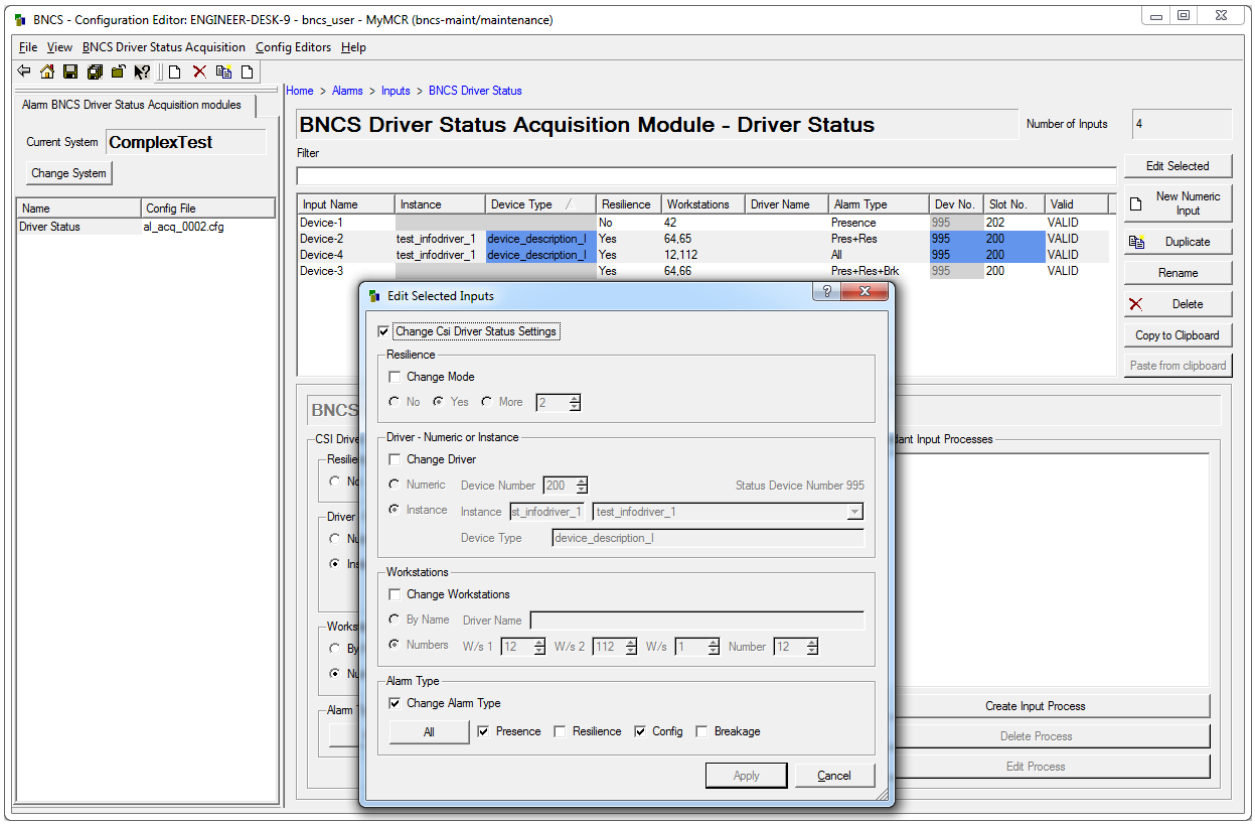
### 2.3.1 Editing Several Inputs

To edit more than one input, select a number of inputs and press the "Edit Selected" button. Use the dialog to change the features. This is useful when you want to add the same setting to more than one input. For example, we want to remove Resilience Alarm from of all the instances of the info driver test_infodriver_1. We sort the view if necessary

to see all the required inputs, select all the "test_infodriver_1" inputs, and then press the "Edit Selected" button.

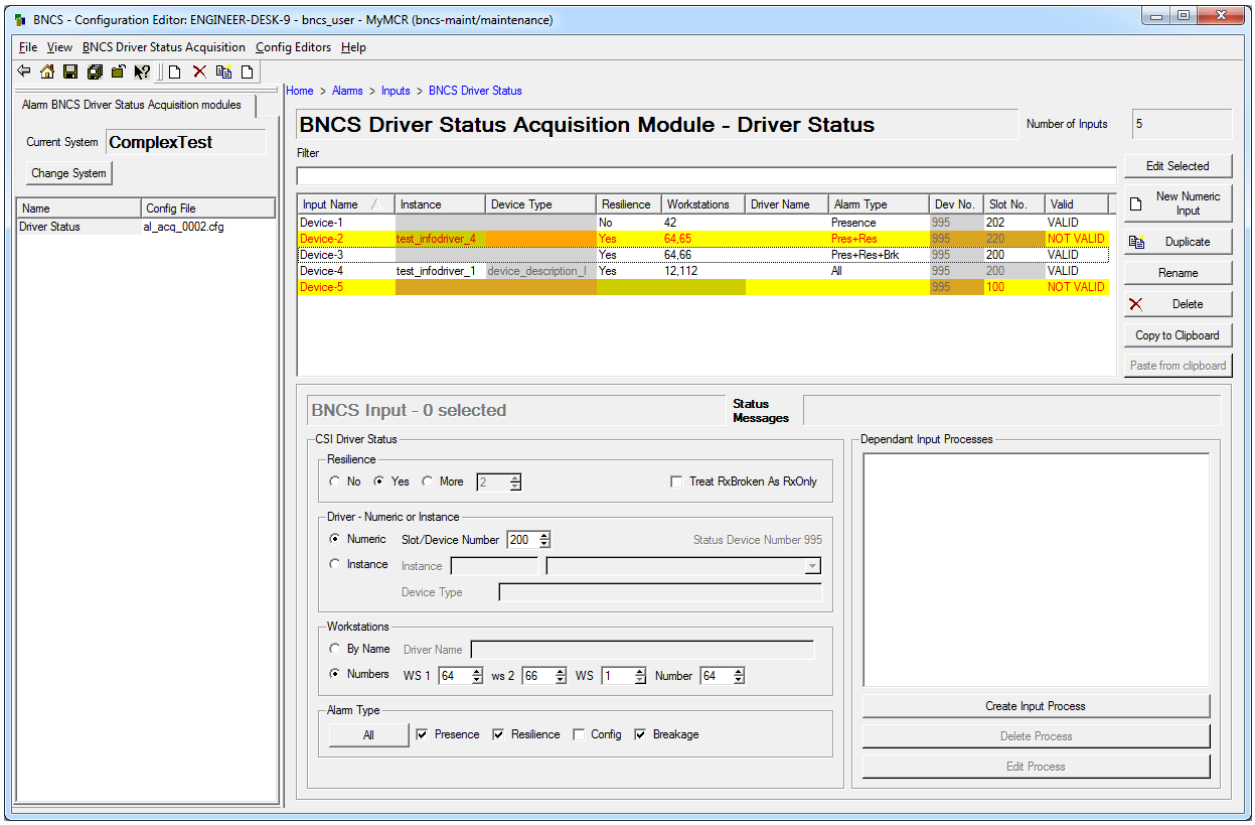
On the popup dialog, tick the "Change Csi Driver Status Settings" box, tick the "Change Alarm Type" box, then uncheck the "Resilience" box.

Then press "Apply" to assert the changes.

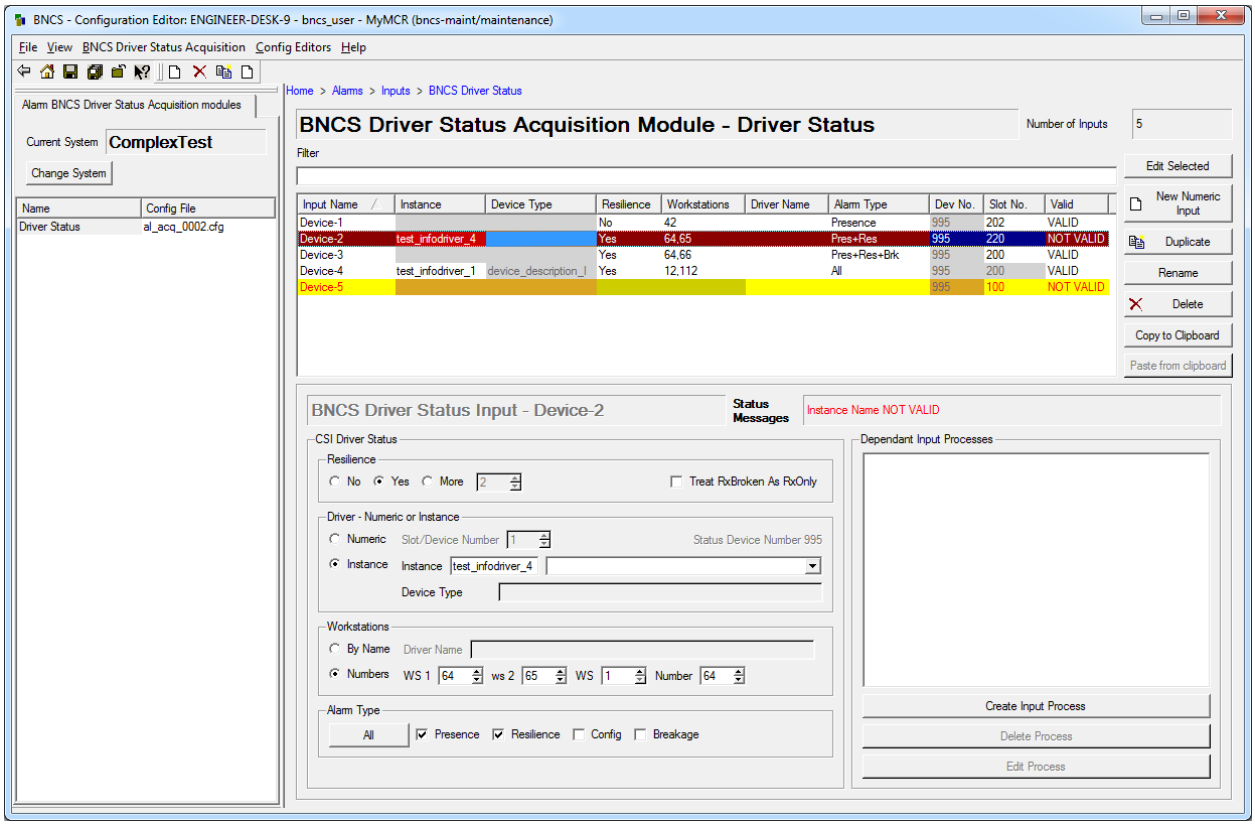



## 2.4 Validation

If the required elements are all present the screen will be monochrome. If there are any errors in the features then the affected inputs will be coloured yellow and "NOT VALID" will be shown in the Valid column. For example the example below shows an input where the instance name is not valid and one where the workstation list is not valid.




When the line itself is selected a message is shown in the Status Messages area showing one specific fault with the selected input.




## 2.5 Importing and Exporting data

It is possible to copy one or more rows to the clipboard by using the "Copy to Clipboard" button. The data is tab delimited so is easy to paste into other applications such as Excel.

It is also possible to paste in suitably formatted data into the tool. If the clipboard data is suitable then the "Paste from Clipboard" button will be enabled.

# 3 Documents Referenced

This document should be read in conjunction with other documents in the tree.

In particular:

Alarm – overview

alarm - Colledia Control Acquisition

alarm – mainapplication

The documentation relating to file formats may also be useful.

# 4 Version history

## 4.1 Software Version

Version numbers shown here may not be seen within the software itself. The implementation date is a more reliable way of determining whether a particular issue is present in any particular instance of the software.

| Version | Date | State / Changes | Author |
|---|---|---|---|
| 1.00.00 | March 2012 | Original Release | Richard Kerry |
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## 4.2 Document Version

| Version | Date | State / Changes | Author |
|---|---|---|---|
| 1.00.00 | 11 February 2015☐ | First version of documentation for this module. | Richard Kerry |
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Atos IT Services Limited
4 Triton Square
Regent's Place
London NW1 3HG, UK
http://uk.atos.net/

BNCS
Room G300
Stadium House
Wood Lane
London W12 7TA
colleadiacontrol.it-solutions.gb@atos.net