



# **SPI: Rule Manager**

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# Introduction

- The Rule Manager is used for:
  - Copy of Data between two fields
    - Text to Text fields
    - Numeric to Numeric Fields
    - Numeric to Text (additional steps may be required)
  - Consistency of Data
    - Between SPI items
    - Text (Upper and Lower Case)
  - Rejection of data and items
    - Inconsistency between SPI items
  - Disabling Properties
    - Disabling drop down lists
    - Disabling Fields

# Introduction

- All Rule Manager rules are activated once the function is turned ON and the rules are Enabled
  - Any previous data implemented will not be impacted by these rules unless they are modified after
- There are several pre-defined rules that are related to SPI and DCS Interfaces
- The Rule Manager rules are executed when tables are triggered by the data that the SPI user is entering

# Rule Examples

- In this presentation, we will show the following examples:
  - Copy of Data between two fields
  - Consistency of Data
  - Rejection of data and items
  - Disabling Properties

# Copy of Data between two fields

- Copy of Control Valve Type to a Spec UDF:
  - It is always recommended to map process data fields to spec sheets to eliminate maintaining data in different fields
  - However, when using the SPI workflow function or restricting users from modifying process data fields on data sheets, the control valve type field will not be editable on the data sheet
  - The Rule Manager can help bypass this issue by copying the control valve type to the data sheet when a spec UDF instead of the cv\_valve\_type\_id field

# Copy of Data between two fields

- Modify the data sheet field for control valve type to use a spec UDF
- Since the `cv_valve_type_id` field is a Numeric (ID) value; therefore, the spec UDF must be implemented as a DDDL or DDDW
- Ensure that the `cv_valve_type_id` ID values in the DDDL are matching the SPI table ID values

# Copy of Data between two fields

Database - 1 Connection: (Active Connection - DEMO)

Results

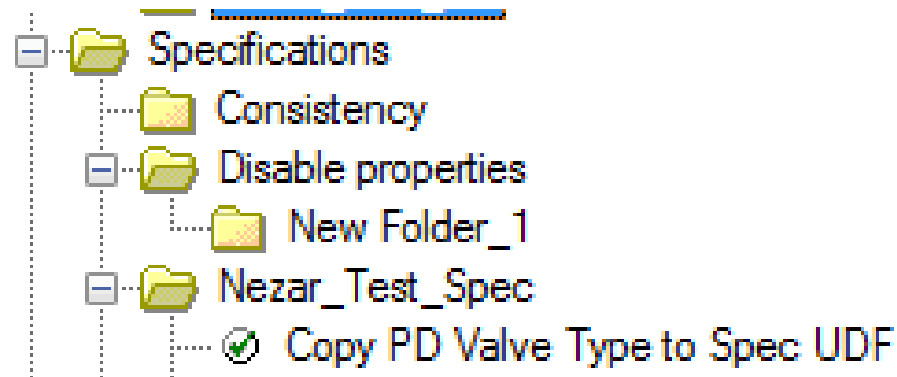
Cv Valve Type Id	Cv Valve Type Name
0	
1	Single Seat Globe
2	Double Seat Globe
3	Angle
4	Ball/Rotary
5	Butterfly
6	Eccentric Plug
7	Segment
8	Knifegate
9	Pinch
10	Diaphragm

Code Table

	Display Value	Data Value
1	Single Seat Globe	1
2	Double Seat Globe	2
3	Angle	3
4	Ball/Rotary	4

# Copy of Data between two fields

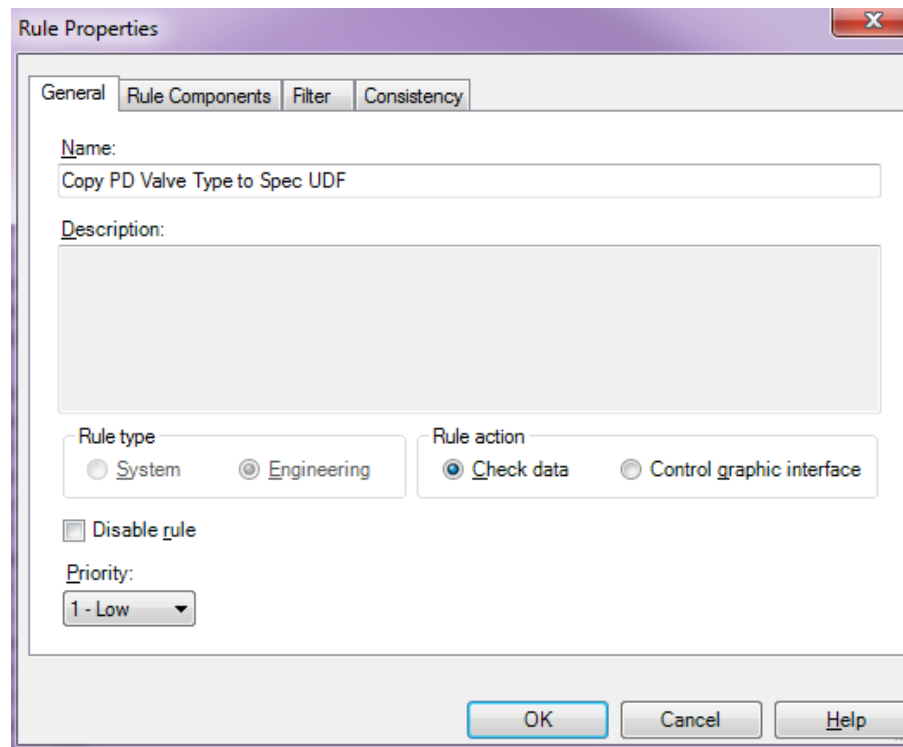
- Create the Rule to Copy as a Bi-directional between the Spec UDF and the control valve type
- Create a Folder under the Specification Folder or under the Consistency





# Copy of Data between two fields

- Add the Rule to the New Folder and specify the name, the action, and the priority



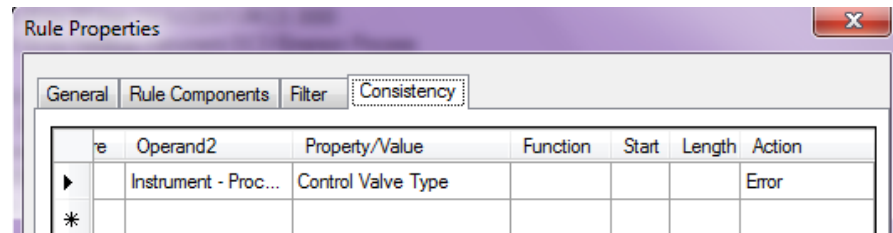
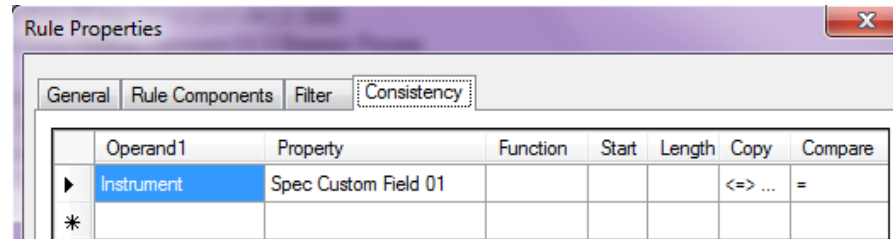
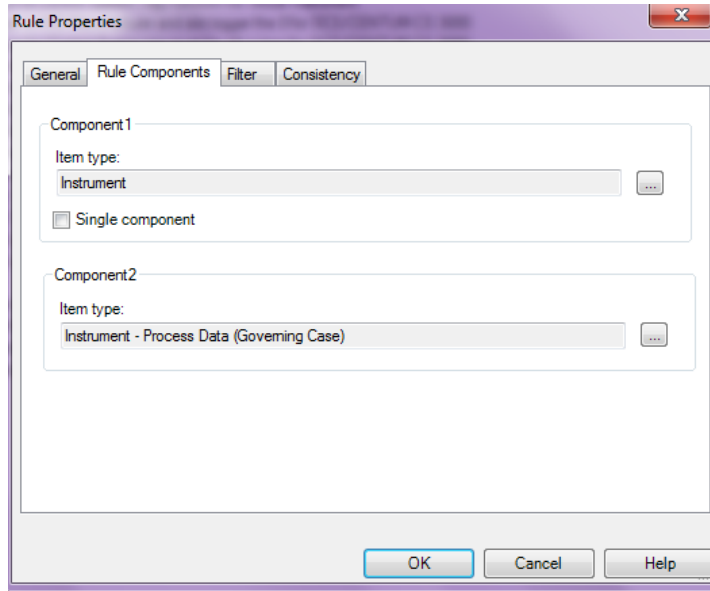
The screenshot shows a 'Rule Properties' dialog box with the following configuration:

- Name:** Copy PD Valve Type to Spec UDF
- Description:** (Empty text area)
- Rule type:**  System,  Engineering
- Rule action:**  Check data,  Control graphic interface
- Disable rule
- Priority:** 1 - Low

Buttons at the bottom: OK, Cancel, Help

# Copy of Data between two fields

- Define the Rule Components and the Consistency Rule for the Copy

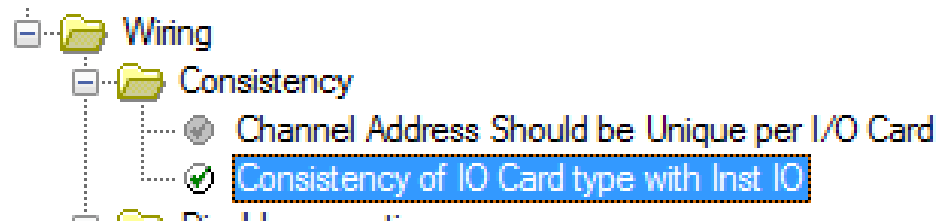


# Consistency of Data

- Ensuring Consistency between the Tag I/O and the I/O Card or I/O Termination through the CS Tag:
  - Without the Rule Manager, SPI does not validate the I/O type if a user changes the I/O type of a tag especially if the tag and CS tag are assigned to an I/O card or I/O termination
  - The Rule Manager can help bypass this issue by ensuring that the I/O type cannot be changed unless the tag is unassigned from an I/O card or an I/O termination

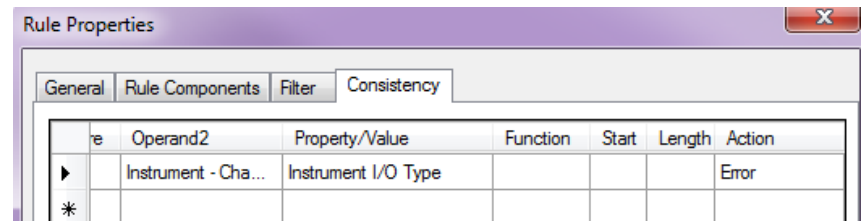
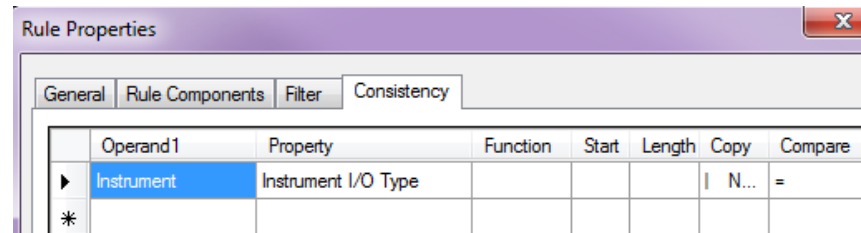
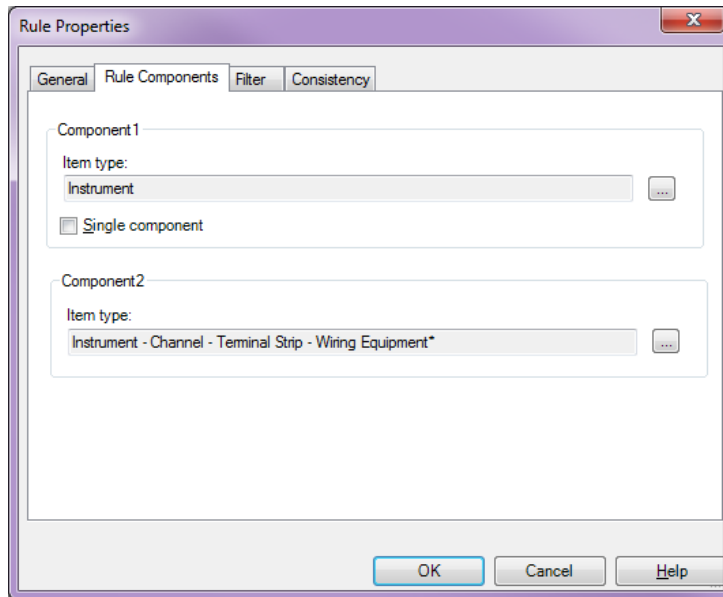
# Consistency of Data

- Create the Consistency Rule to check tag I/O type
- Create a Folder under the Wiring Folder or under the Consistency
- Add the Rule to the New Folder and specify the name, the action, and the priority



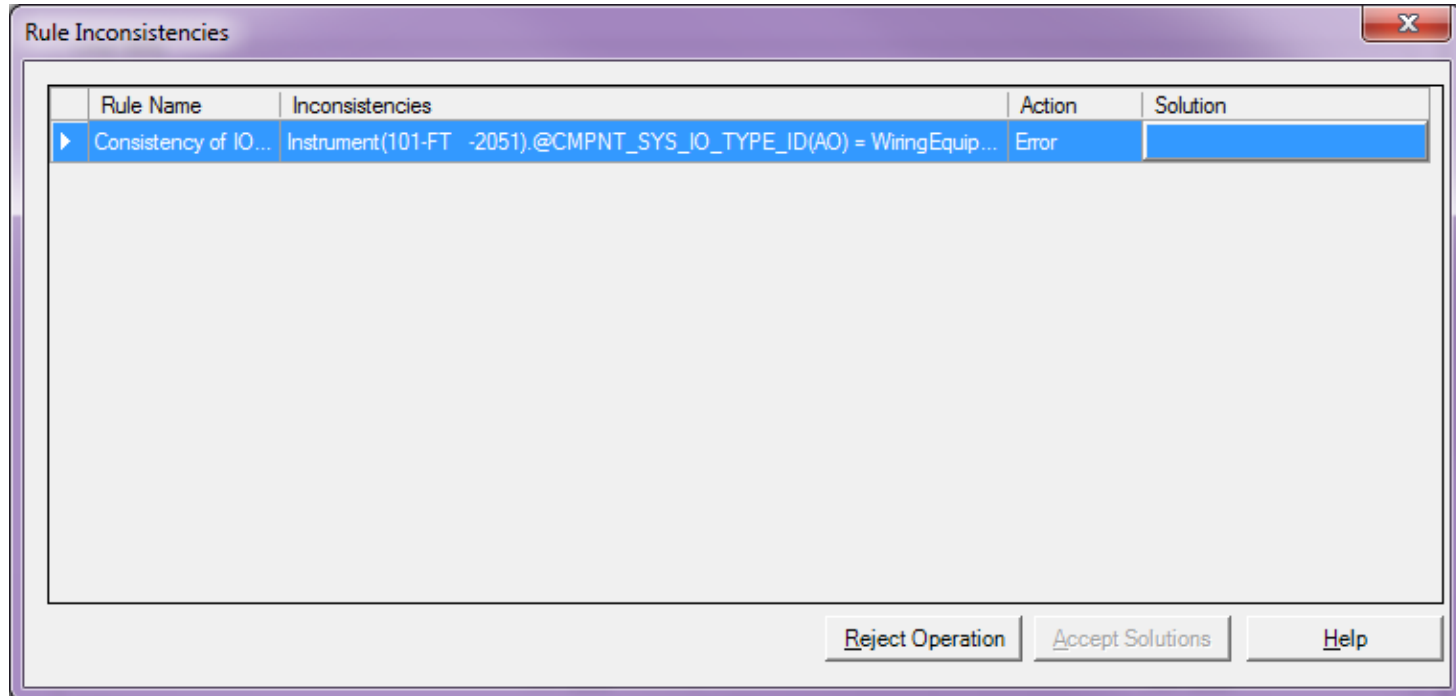
# Consistency of Data

- Define the Rule Components and the Consistency Rule for validating the I/O Type



# Rejection of Data

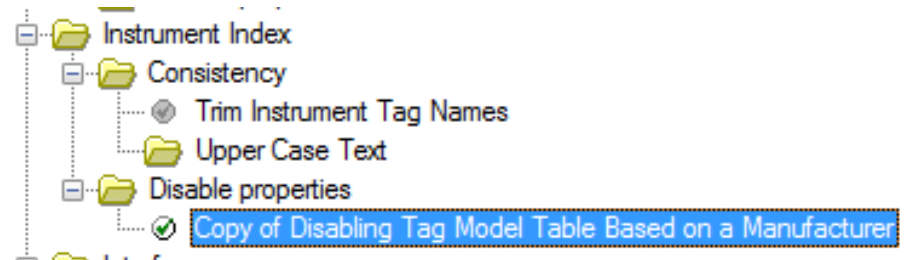
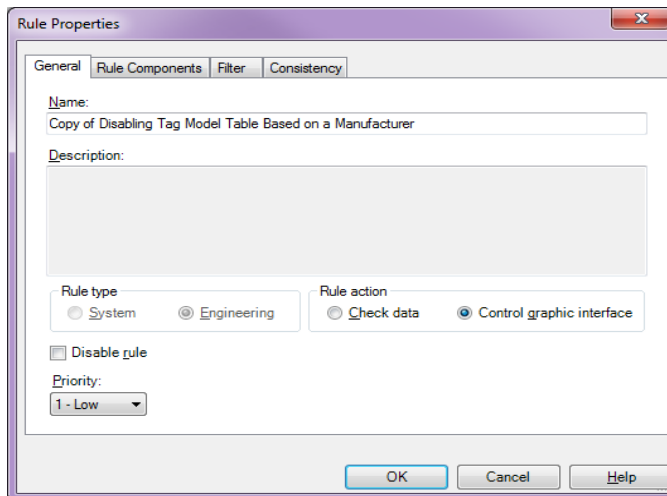
- I/O Change Error Message



- The Mixed I/O type is the only limitation to this Rule

# Disabling Properties

- Disabling the Tag Model Number for Rosemount Instruments
  - Create the Rule to Control Graphic Interface
  - Create a Folder under the Instrument Index Folder or under Disable properties



# Disabling Properties

- Define the Rule Components, the Filter, and the Consistency Rule disabling the property

Rule Properties

General Rule Components Filter Consistency

Component 1

Item type:  
Instrument

Single component

Component 2

Item type:

OK Cancel Help

Rule Properties

General Rule Components Filter Consistency

	Operand1	Property	Function	Start	Length	Operator	Operar
▶	Instrument	Instrument Manufacturer				=	Value
*							

Rule Properties

General Rule Components Filter Consistency

	Operator	Operand2	Property/Value	Function	Start	Length	Logical Operator
▶		Value	ROSEMOUNT				
*							

Rule Properties

General Rule Components Filter Consistency

	Operand1	Property
▶	Instrument	Instrument Model
*		



# Disabling Properties

Tag Number Properties

General | Power Supply | Associations | Custom Tables | Custom Fields | Associate Symbols

Loop data  
Loop number:  
101-F -9638

Properties... New Loop... Associate...

Tag number properties

Tag class:  
Conventional

Number:  
101-FT -9638

Service:

Instrument type:  
Rosemount 3051 DP Transmitter FT

Status:

Location:

I/O type:

Certification:

Signal type

Linear type

Requires power supply

Old tag number:

Internal loop order:  
1

Equipment:  
\*

Line:

P&ID:

Manufacturer:  
ROSEMOUNT

Model:  
3051

Intrinsically safe circuit type:

On signal state desc.

Off signal state desc.

Update document numbers

Note...

OK Cancel Apply New Delete Previous Next Help

Manufacturer:  
ROSEMOUNT

Model:  
3051

- The limitation with disabling properties is that they cannot be disabled through the browser module or the specification module

# Questions

Questions?