SNMP Device Driver

Features
- Gives Ignition the ability to communicate with SNMP devices.
- Can connect over TCP and UDP.

Configuration
- After installation, add a "Kymera SNMP Driver" device.
- Fill in the name parameter.
- Fill in the Connectivity section with the information for your SNMP device.
- The advanced options can be used to further customize the driver, but the defaults should be sufficient in most cases.
- Click create new device.
- Click the "Device MIB" link on the right hand side of the newly created device.
- Click the "Choose File" button and import the MIB file for your SNMP device.
- Select the appropriate MIB type from the drop down box.
- You are now ready to collect data from your SNMP device.

V1 Properties

Name	The name of the device.
Enabled	To enable or disable the device instance.
SNMP Host Name	The host name or IP address assigned to the SNMP device.
SNMP Port	The port your SNMP device is listening over.
SNMP Transport	Transport method used to carry the SNMP data (TCP or UDP).
SNMP Community	SNMP Community used to communicate with the SNMP device.
Maximum Items	The maximum Items that can be added to a read request.
Read Timeout	Period in milliseconds before reporting a read timeout.
Write Timeout	Period in milliseconds before reporting a write timeout.
Retries	The number of retries before reporting a timeout.
Concurrent Requests	The number of concurrent requests supported by the driver.

V2c Properties

Name	The name of the device.
Enabled	To enable or disable the device instance.
SNMP Host Name	The host name or IP address assigned to the SNMP device.
SNMP Port	The port your SNMP device is listening over.
SNMP Transport	Transport method used to carry the SNMP data (TCP or UDP).
Use GetBulk	Do bulk read requests instead of sequential requests for reading data from the tables.
SNMP Community	SNMP Community used to communicate with the SNMP device.
Maximum Items	The maximum Items that can be added to a read request.
Read Timeout	Period in milliseconds before reporting a read timeout.
Write Timeout	Period in milliseconds before reporting a write timeout.
Retries	The number of retries before reporting a timeout.
Concurrent Requests	The number of concurrent requests supported by the driver.

V3 Properties

Name	The name of the device.
Enabled	To enable or disable the device instance.
SNMP Host Name	The host name or IP address assigned to the SNMP device.
SNMP Port	The port your SNMP device is listening over.
SNMP Transport	Transport method used to carry the SNMP data (TCP or UDP).
Use GetBulk	Do bulk read requests instead of sequential requests for reading data from the tables.
Maximum Items	The maximum Items that can be added to a read request.
Read Timeout	Period in milliseconds before reporting a read timeout.
Write Timeout	Period in milliseconds before reporting a write timeout.
Retries	The number of retries before reporting a timeout.
Concurrent Requests	The number of concurrent requests supported by the driver.
SNMPv3 Username	The username associated with the authentication and privacy keys.
SNMPv3 Security Name	The security name associated with the authentication and privacy keys. (Usually the same as the username)
SNMPv3 Context	The context name associated with the authentication and privacy keys.
SNMPv3 Authentication Protocol	The protocol used to authenticate the user during requests.
SNMPv3 Pass phrase	The pass phrase used to authenticate the user during requests.
SNMPv3 Privacy Protocol	The protocol used to encrypt the requests.
SNMPv3 Privacy Pass Phrase	The pass phrase used to encrypt the requests.

Direct OID Addressing

It is now possible to directly address an OID through the Ignition Designer. In order to do this, simply create a new tag, with the format – [%DeviceName%]%OID%. Such as "[SNMPDevice]0.1.2.3.0". Please note that for non-table OIDs, a ".0" must be appended to the end of the OID. Addresses that refer to the child element of a table do not require this to be appended.

To take advantage of "bulk" functionality, you can format an OID such as "[SNMPDevice]0.1.2.3[4]", where 4 refers to the index of an item in a table. This will signal the driver to batch reads with the proceeding OID together, in an attempt to be more efficient.

Custom MIB Support

In order to specify a custom MIB configuration, you must choose the "Multiple MIB" setting in the dropdown of the "Device MIB" panel. This reveals a multi-column grid, depending on resolution, with all of our included MIB files, as well as any custom ones uploaded via the interface. Simply check off which MIBs you want to use, and these will be parsed by the driver.

SNMP Trap (Notification) Event Scripting

Scripts can be executed when a trap is received by a v1 or v2c device. Configuration of these scripts is done from the Designer -> Project -> Scripts -> Snmp Events window.

- Script Name : Used to identify the script to be executed. Unique names are not enforced, but it is highly recommended you use only unique script names to avoid complications.
- Port Number: The port to listen for traps on (default 162). Note: On Unix systems ports less than 1024 require the script to be run as "root", which is often not the case. Using a utility like "authbind" will allow you to listen on any port you desire.
- Community : The community is used to limit which scripts get executed on the matching port. A script with a community that match the trap received, and with a blank community, will be executed every time a trap is received on the matching port.
- Address: The IP address of the Ignition server. This address must be one that belongs to the Ignition server and is also on the same network as the SNMP device. The recommended address is 0.0.0.0 (which will bind all available local interfaces) but it is also possible to set this as 127.0.0.1.

SNMP Event Scripts have easy access to the listener and trap properties using the link icon on the right side of the script editing workspace. They also have easy access to the tag browser using the tag icon on the right side of the workspace.

The following snippet updates the Tooltip of a tag to indicate that a trap was handled
```
system.tag.editTag("Tags/Ramp/Ramp0", {"Tooltip":"Trap Handled"})
```

Change Log

- v1.7.0b1362 : Added v1 and v2 SNMP Event Scripting when traps (notifications) are received.
- v1.7.0b1217 : Implemented Direct OID addressing and Multiple MIB Support. Please restart the Gateway after install for proper activation.
- v1.6.0b1056 : Initial release

Support

- Support is only provided to license modules with an active I.A. TotalCare Contract.
- Support may be contacted via email, at support@kymerasystems.com, or via phone, at 1-800-470-2302.   Please allow up to 24 hours for a response from our support team.