5.16 SNMP IO Server

5.16.1 Introduction

The SNMP IO server (Simple Network Management Protocol) is used to communicate with any SNMPv1 device on the network. It allows both read and write operations on 32-bit objects. It supports access to several different devices at the same time.

Only the following Object types are supported: INTEGER, 32bits COUNTER, GAUGE, UNSIGNED, TIMETICK.
There is no handling of MIB files.

SNMP IOServer is available in eWON with Firmware 5.6s2 and above.

5.16.2 Setup

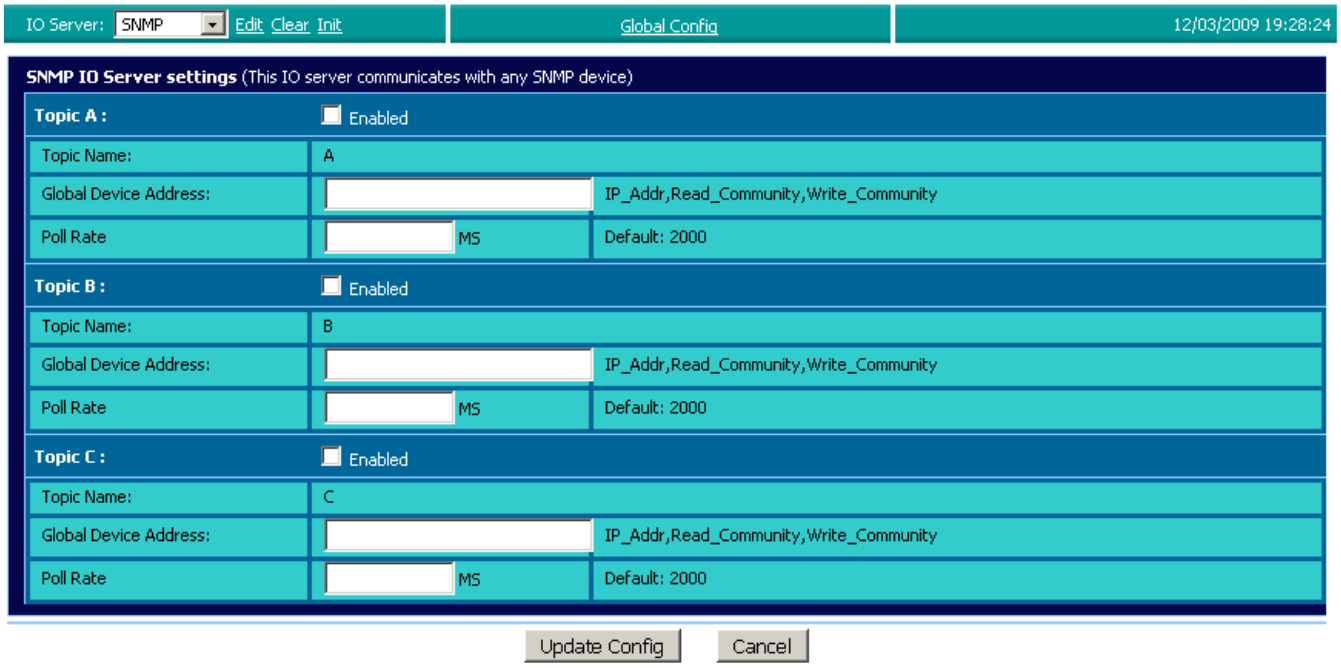


Figure 108: SNMP IOServer: setup

Three (3) topics can be used for the IO Server. These topics are used to give a common property to a group of SNMP Tags like:

- Enable/Disable
- Global Device Address
- Polling Rate

Topic configuration item	Description
Topic enabled	Enables or disables polling of all the Tags in the topic.
Global Device Address	Select the target SNMP Server device. Syntax: • **IP_Addr,Read_Community,Write_community** **IP_Addr:** IP address of the SNMP Server **Read_Community:** Community used for Reading **Write_Community:** Community used for Writing • **IP_Addr,Community** **IP_Addr:** IP address of the SNMP Server **Community:** Community used for Reading and Writing If an address is specified here, it will replace (overload) the address-defined Tag by Tag.
Poll rate	Defines the refresh rate of the Tag name. In a complex application, we can imagine that some Tag names must be refreshed every second - typically for digital input - and other every minute - typically: temperature-.

Table 128: SNMP IOServer: Topic configuration item definition

5.16.3 Tag name convention

IO Server Name	SNMP	
Topic Name	A	
	B	
	C	
Item Name	ValueName, Global Device Address	PLC address is defined Tag by Tag
	ValueName	Topic PLC Address is used.

Table 129: SNMP IOserver - Tag name convention table

The Item Name can contain the Device address where the value is polled, or not. If the address is also specified at topic level, the address specified at Tag level will be ignored.

5.16.3.1 Value Name

As the SNMP use an Abstract Syntax Notation (ASN), encode the full OID (Object ID) of the data you want to Read/Write.
You cannot import MIB files into the eWON.
Only INTEGER, 32bits COUNTER, GAUGE, UNSIGNED, TIMETICK object types are supported.

All these objects are Integer and could be truncated when eWON will store them as Float (See "Tags are stored as Float" on page 67).

Examples

address	point to
.1.3.6.1.2.1.4.3.0	read the .iso.org.dod.internet.mgmt.mib-2.ip.ipInReceives object
.1.3.6.1.2.1.4.3.0,10.0.0.55,public,private	read the .iso.org.dod.internet.mgmt.mib-2.ip.ipInReceives object at the IP 10.0.0.55 using community "public" for reading and the community "private" for writing.

Table 130: SNMP address examples

IMPORTANT:
The address of SCALAR objects ends with a 0 while the address of array items ends with their index in the array (starting from 1).

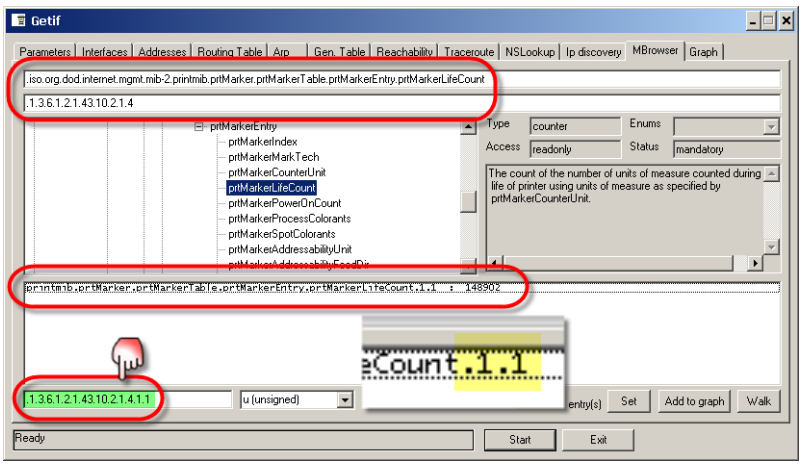
For example, to read *.iso.org.dod.internet.mgmt.mib-2.ip.ipInReceives* that have the address ".1.3.6.1.2.1.4.3", you must add a ".0" at the end to obtain ".1.3.6.1.2.1.4.3.0".

And to read *.iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifMtu* (".1.3.6.1.2.1.2.2.1.4") of the second interface, because this object is a table, you must add ".2" at the end to obtain ".1.3.6.1.2.1.2.2.1.4.2".

NOTE: We recommend you to check the SNMP address with an SNMP Client (like Getif http://www.wtcs.org/snmp4tpc/getif.htm) to find the right address.

Example: Searching in the MIB file of a network printer to find the address of the "TotalNumberOfPagePrinted", we found :
.iso.org.dod.internet.mgmt.mib-2.printmib.prtMarker.prtMarkerTable.prtMarkerEntry.prtMarkerLifeCount at address ".1.3.6.1.2.1.43.10.2.1.4"

Using the MIB file with Getif to retrieve the whole address of this Counter, we see that the Counter is in a 2 dimension table and we need to add ".1.1" to get its value.



• Status register:

The STATUS Tag is a special Tag that returns information about the current state of communication for a given device. As for the other Tags, the status Tag ValueName is composed of:

`Status, Global Device Address`

- You can define a status Tag for each Device used.
- If you use the status address, the Tag must be configured as analog.

0	Communication not initialized. Status UNKNOWN. If no Tag is polled on that device address, the communication status is unknown.
1	Communication OK.
2	Communication NOT OK.

Table 131: Tag Status meaning