

Description: Guide to setting up SNMP devices without browsing support.

OS Requirement: Windows Server 2003 x64/Vista x64/ Server 2008 x64/Windows 7 x64/ Server 2008 R2 x64

General Requirement: GENESIS64 v10.5x or higher, SNMP device (MIB files), SNMP Service, Getif utility.

Introduction

SNMP stands for Simple Network Management Protocol that allows devices to expose useful information to other applications. This information can be the CPU fan speed of a computer or the routing table of a router or temperature from a sensor. Almost every network device answers to SNMP requests. SNMP gives Network Managers access to information from nearly every device connected to the Network.

If a device does not fully support SNMP browsing (because of a different implementation) it is still possible to add the OIDs manually to SNMP Configurator. This application note describes how to setup SNMP devices that are not browse able by using the Data Browser. It also shows how to change the SNMP version manually, depending on the SNMP device version.

SNMP Service and PC Setup

Before you begin setting up SNMP devices in the ICONICS SNMP Configurator please follow the steps below to configure SNMP device that is not fully supported by Unified Data Browser for browsing.

1. Install the SNMP Service to enable data gathering. For more details on how to setup SNMP Service, look for the application note titled *SNMP Connector – Setting up Windows to Support SNMP Connectivity*.
2. Set up the community on your device:
 - **public** – read (e.g. for all in the subnet),
 - **private** - read/write (for the specific IP).
3. Launch the SNMP Configurator by going to Start → All Programs → ICONICS → GENESIS64 → Workbench

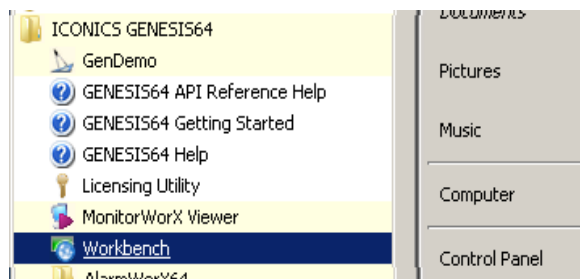


Figure 1 – Workbench64

4. Once the Workbench opens, click on the “SNMP” button toward the bottom of the Project Explorer.
5. There is a default configuration database. You can use this default or create a new configuration.

NOTE: If you need more details about SNMP Configuration, see the SNMP documentation which is available on the GENESIS64 Product disk.

6. Parse the MIB files that have been provided by your device vendor. Right-click on “MIB” in the Project Explorer and click on “Edit”.

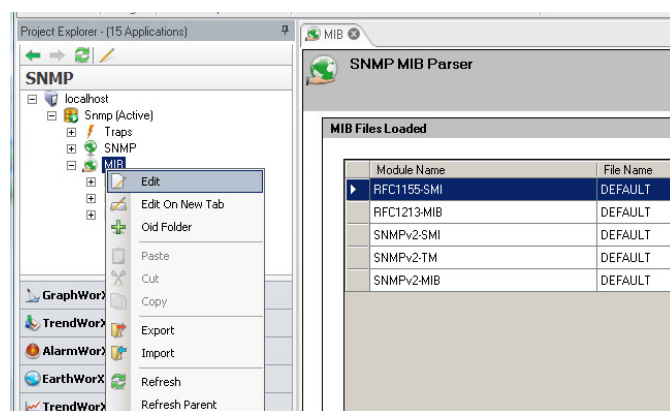


Figure 2 - Adding Custom MIB File to SNMP

7. You will get the list of MIB files loaded. Click on the “ADD” button to the right to add files provided by your device vendor.
8. Check the SNMP version which is supported by the device and change it to the correct one in the SNMP Configurator, you can do that under SNMP → Default Network as shown below.

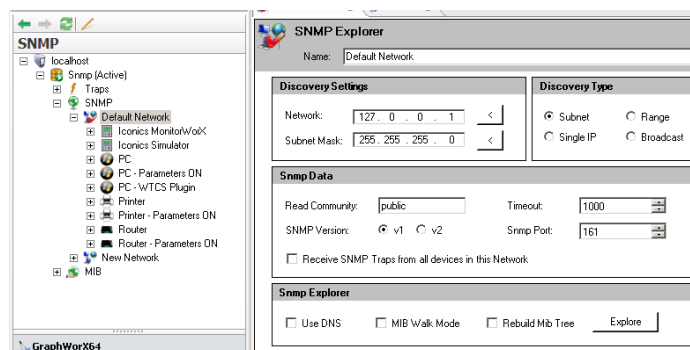


Figure 3 - SNMP Version in SNMP Configurator

Using the Getif to Get OIDs Manually

If you are still not able to explore the device after setting the SNMP version, you need to add the OIDs to your SNMP Configurator manually.

Many utilities exist, but “Getif” is preferred for this purpose. You can download it from this site:

<http://www.wtcs.org/snmp4tpc/getif.htm>

Here are the steps on how to use the Getif utility to get and manually add the OID SNMP Configurator:

1. Run the Getif utility from Start → Programs.
2. Click on the Parameters tab, specify the Host name or IP address, and click on the Start button.

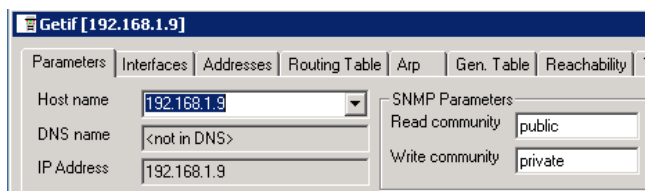


Figure 4 - Host Name Tab in Getif Utility

3. When you have the SysInfo variables from your device, navigate to the MBrowser tab.
4. Browse for iso → org → dod → internet → mgmt (1.3.6.1.2) which is the root OID available on every SNMP device and try to resolve the data by clicking on **Start**. You should get results similar to the figure below.

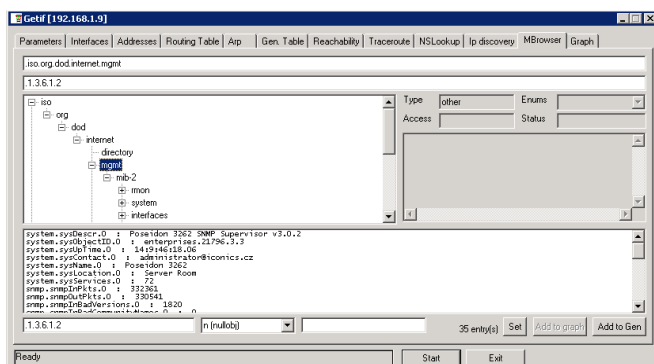


Figure 5 - Getting OIDs in MBrowser Tab of Getif Utility

5. Select the OID from the list (like sysDescr, which matches to 1.3.6.1.2.1.1.1) and copy the string to the clipboard by using CTRL+C. Don't copy the “.” character from the beginning of the OID string.
6. Switch back to the SNMP Configurator and create a new device by right-clicking on SNMP → New → Device.

7. Specify the Name, Device Type and Host. Customize the Polling Rate (in sec.) depending on how often you want to poll the data.
8. Create a folder structure (e.g. system) if you want and then select New → Data Item and name it (e.g. sysDescr).
9. Paste the OID to the Full OID field (e.g. 1.3.6.1.2.1.1.1.0).
10. Select the Data Type (e.g. String), Data Access (e.g. read) and click Apply.
11. You should now see the full MIB information like Name, Type, Syntax, Access and Description.

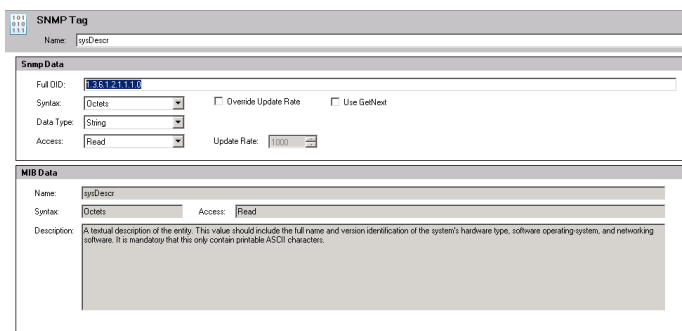


Figure 6 - Data Item in SNMP Configurator

Test in GraphWorX64

Once you have successfully configured your device with the right IP and OID, you can confirm that the SNMP information is readable in GraphWorX32.

1. Launch the GraphWorX64 by going to Start → Programs → ICONICS → GENESIS64 → GraphWorX64 → GraphWorX64
2. Select Dynamics Tab and add a new process point by clicking on the “Process Point” **3.45** icon.
3. Browse for the SNMP tag by clicking on the Data Source button.
4. Navigate to OPC Classic Servers → My Server → SNMP → Network → Device and select Data Item you just created in SNMP Configurator.

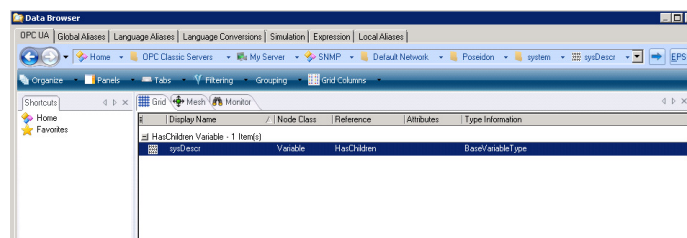


Figure 7 - Browsing for SNMP Data

5. Click OK and go to runtime. You should now see the SNMP data resolved where tooltip shows following syntax:
@snmp64:\Node\Device\System\sysDescr.Value