

Description: Guide to using SNMP Traps with GENESIS32.
OS Requirement: Win 2000 Pro/Server, XP Pro, Server 2003
General Requirement: Installation of GENESIS32 version 9 and basic knowledge of SNMP.

Introduction

Simple Network Management Protocol (SNMP) is a protocol that allows devices to expose useful information to other devices or applications. This information can be the CPU fan speed or the routing table of a router.

The SNMP Protocol is based on the communication between an Agent and a Manager.

The **Agent** is software installed on a device (a router, a printer a PC, etc) and it simply answers to the messages of the Manager. These messages can be

- Read – manager wants to retrieve data
- Write – manager wants to set data
- Traps – alarms (e.g. "the CPU Temperature is high!")

The **Manager** is software (for example the ICONICS SNMP Connector) that collects data from the devices, organizes it and provides it to users/clients.

Traps are alarms automatically sent through SNMP messages by a device. These messages can say that the "Printer door is open" as well as "The machine has been reset". Thanks to the translation of the SNMP connector, there is practically no difference between traps and OPC alarms management within the GENESIS32 suite.

This document will walk you through the steps of setting up and viewing traps. We can start by exploring the GenDemo display SNMP_NetworkSim.gdf.

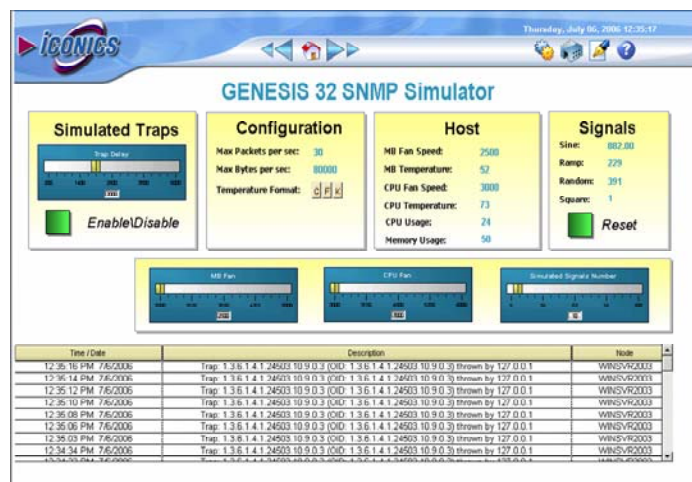


Figure 1 - GenDemo: SNMP_NetworkSim.gdf

SNMP Installation and System Setup

You have to install and configure the SNMP Service before you can start with your own SNMP configuration for sending and receiving traps. For information on how to do this, please refer to the application note entitled *GENESIS32 – Setting up Windows to Support SNMP Connectivity*.

Using the SNMP Configurator

1. Launch the SNMP Configurator by going to Start → Programs → ICONICS Tools → SNMP Configurator
2. There is a default configuration with predefined devices; you may use this configuration if you wish.
3. You can also select File → New, and follow the database wizard to create your own configuration.

NOTE: Please see the SNMP documentation for more details on the SNMP Configurator setup.

4. Right-click on MIB and select New → MIB Folder. This is where you would define the Object Identifier (OID) of your device. Any OID defined will be translated into text that makes sense to you. You can obtain the OIDs from the manual of your SNMP enable device

NOTE: You can import and export the preconfigured MIB list from the default configuration and import it into your own configuration.

5. Once you are done editing the MIB, we can configure your device.
6. Right-click on SNMP and select New → Device
7. Give the device a name and select the PLC as the type.
8. In the Receive Traps dropdown list, set it to All Traps.
9. In the Device Data section, set the Specify IP to Yes and give the IP address 127.0.0.1 and click on "Apply".

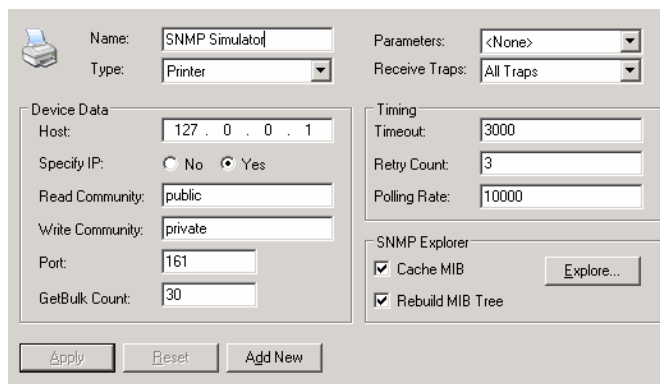


Figure 2 - Creating a Device: SNMP Simulator

10. Click on the "Explorer..." button and browse to simSignals as show in Figure 3.

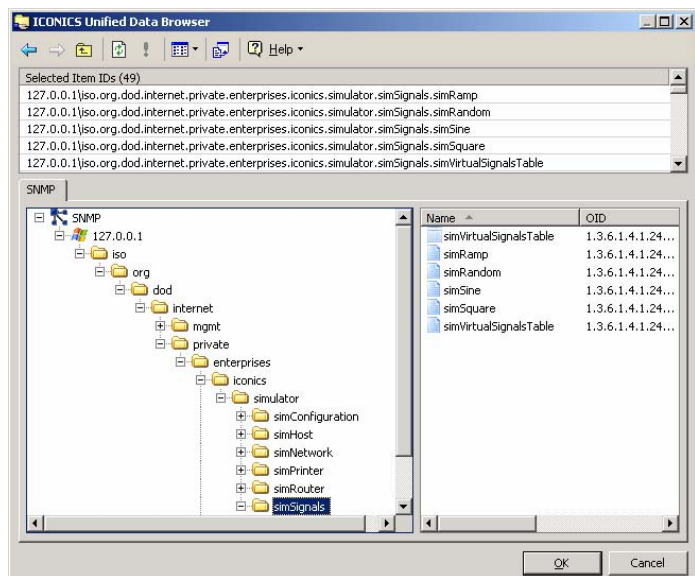


Figure 3 - Unified Data Browser

11. Right-click on a tag in the right-hand side and select “Select All”.
12. Right-click in the right-hand pane again and select “Enter Up”. Click “OK” to exit.
13. You should now see those tags in the left-hand side of the configurator under your device.
14. Click on File → Make Active to activate your configuration.

Viewing Traps in GraphWorX32

1. Launch GraphWorX32 by going to Start → Programs → ICONICS GENESIS32 → GraphWorX32 → GraphWorX32
2. Insert an alarm viewer into the display by clicking on the “ICONICS AWWXView32”  button.
3. Double-click on the ActiveX to bring up the properties.
4. Click on the Subscription tab, select the ICONICS Awx32 Server, and click on the Delete button.
5. Select the Display tab and click on the Filter button.
6. In the Client Filters window, click on “Add”.
7. Rename the filter to TrapsOnly and click on the “Edit” button.
8. In the Filter Wizard window, click on the “Advanced...” button
9. In the Expression Editor, click on Tags → Advanced...
10. In the Alarm Tag window, select “Message” as the Tag Name, check the String Compare check box and type in “Trap*” (without quotes) in the text box and click on “OK”.
11. You should have an expression similar to the one in Figure 4.

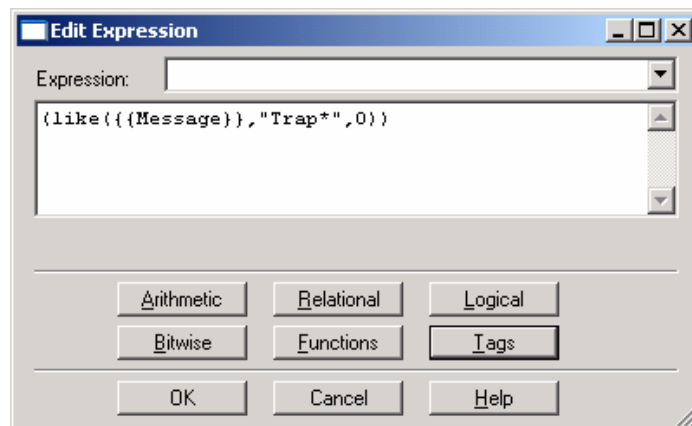


Figure 4 - Trap Filter

12. Click on “OK” to return to the Client Filters window and check the filter that we have just created.
13. Click on “OK” until you are back in your GraphWorX32 display.
14. Go into run time and you should see your traps.

Time / Date	Description	Tag	Value	Priority
3:10:35 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:33 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:31 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:29 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:27 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:25 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:23 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:21 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:19 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:17 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:15 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:13 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:11 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:09 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650
3:10:07 PM 7/6/2006	Trap: 1.3.6.1.4.1.24503.10.9.0.3 (OID: 1.3.6.1.4.1.127.0.0.1			650

Figure 5 - Traps in Alarm Viewer