SNMP
Segmented Network Support

APPLICATION NOTE

September 2013

Description: Guide to applying SNMP in a segmented network environment.
OS Requirement: Vista x64/ Windows 7 x64/ Windows 8 x64/ Windows Server 2008 x64/ Windows Server 2008 R2 x64/ Windows Server 2012.
General Requirement: SNMP device or computer with SNMP service enabled.

Introduction

Simple Network Management Protocol (SNMP) is a communication standard that facilitates the exchange of information between SNMP-enabled devices. This information can be information like the CPU fan speed of a computer, the routing table of a router, or the 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.

An SNMP network consists of a Network Management System (NMS), Managed Devices, and Agents. An NMS would monitor or control managed devices that provide SNMP information through the agents. The SNMP Protocol is based on the communication between an Agent and a Manager.

The **Agent** is software installed on a **Managed Device** (a router, a printer a PC, etc.) that simply answers to the messages of the NMS. These messages can be

- *Read* – manager wants to retrieve data
- *Write* – manager wants to set data
- *Traps* – alarms (such as, "CPU temperature is too high!")

The **Network Management System** (NMS) is software (for example the ICONICS SNMP Connector) that collects data from the devices, organizes it and provides it to users or clients. The SNMP Provider in GENESIS64 is a NMS.

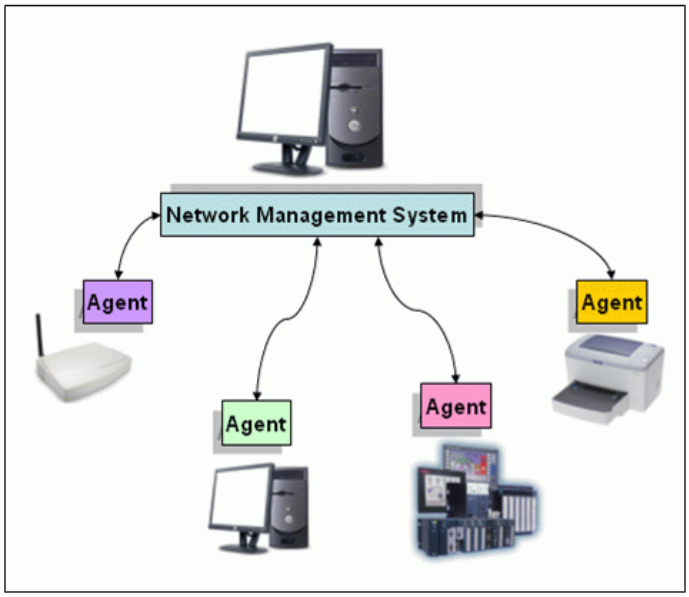

Figure 1 - Network Management System

Configuring the SNMP Provider

In GENESIS64, the SNMP Provider allows you to view SNMP data in other GENESIS64 clients, such as GraphWorX64 or TrendWorX64. To configure the provider, follow the steps below:

1. Open Workbench from Start → All Programs → ICONICS → Workbench and select the SNMP Provider.
2. Right click on SNMP and select Network. This will create a new network container.

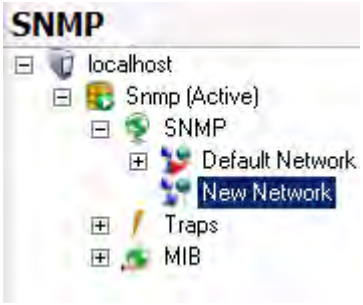

Figure 2 - Network Container

3. On the right side of the screen, an interface for segmented network explore is shown for the configuration as you can see from Figure 3. Here you can pick up a single IP, or a range of IP addresses, or you can setup a subnet with Network address and Subnet Mask. Discovery is a very

powerful SNMP tool that allows you to search for SNMP devices and import their tags into a database.

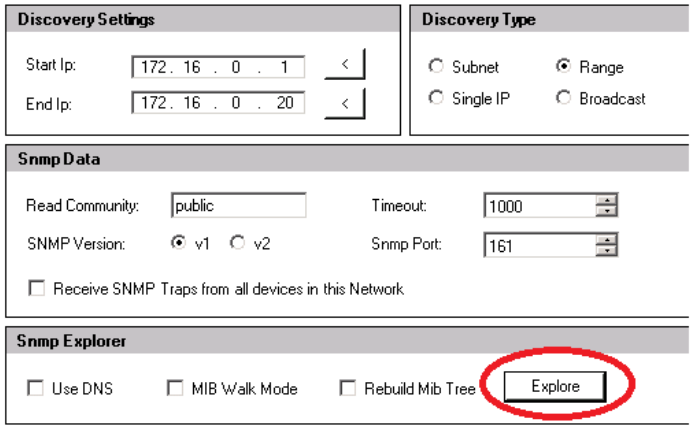

Figure 3 - Segment Network Setup

4. If you want to receive traps from all SNMP devices in this Network container, check the "Receive SNMP Traps from all devices in this Network" box.
5. Make any other changes as necessary, then click Apply.
6. Click the Explore button to let SNMP explore the segmented network you setup in step 2. The SNMP Explorer will appear with the information for the devices that respond to the request from ICONICS SNMP connector. See Figure 4 as an example.

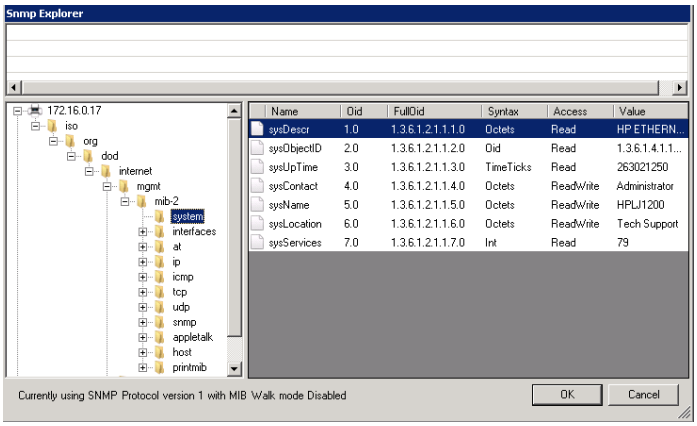

Figure 4 - Exploring devices in the range

7. Once you have devices in the SNMP Explorer, you can select the SNMP OIDs you are interested in and add them in the database (right click on folder/item and select "Enter up"). Click OK when you have made your selections.

NOTE: You can create your own structure if you pre-configure devices then add new OIDs for each of them. This is useful for creating custom names for your devices and properties.

You can create as many networks as you want. Networks under SNMP setup here are only "containers" of devices under specific IP Address or Segmented network. There is no relationship between networks in the database and your real world networks. We hope you find this feature useful in organizing your network devices.