



User Reference

The TAZ SNMP Command

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SNMP Overview

SNMP (Simple Network Management Protocol) manages IP network devices, such as routers, servers, etc. **TAZ** uses the **Net-SNMP** library (<http://www.net-snmp.org>) of Windows executables. If unfamiliar with SNMP, this is an excellent resource. For instructions on downloading the **Net-SNMP** libraries see our [Downloading Net-SNMP for use with TAZ](#) document.

The SNMP command is in **TAZ** 7_3_2_6 and later.

TAZ SNMP Command /EquipmentTable Relationship

One of the benefits of **TAZ** SNMP commands – as with **TAZ** in General – is portability. **TAZ** achieves this by using the **EquipmentTable** to separate equipment specific information, such as IP address, from the **TAZ** commands. The **EquipmentTable** is also used to store commonly used SNMP options to minimize command repetition. When formatting a **TAZ** SNMP command, details such as Version number, IP address, and other common options are drawn directly from the **EquipmentTable**, while specific details such as the Object Identifier (OID) and agent parameters are entered in the **TAZ** SNMP command. By integrating the **Net-SNMP** executables and the **TAZ** command syntax in this way, **TAZ** ensures the user can quickly write efficient and portable SNMP commands.

The EquipmentTable - SNMP Device Settings

Most settings pertain to the connection of the SNMP device. However, Misc1 and Version are shortcuts to enter commonly used options. When the **TAZ** command runs, it will automatically use the Misc1 value as options, unless overwritten by values in the **TAZ** SNMP command. The **EquipmentTable** “Version” field will always enter as an SNMP version number in commands that require it.

Here are the **EquipmentTable** settings for an SNMP protocol device (From the [TAZ Command Manual](#)):

-
- a. Group – **DUT**
 - b. Function – **DUT**
 - c. Protocol – **SNMP**
 - d. Language – *Empty* defaults to **SNMP**. Used only to create *OrderSets*.
 - e. Address – <the device IP address>
 - f. Port - <the device port>, *Empty* defaults to **161**
 - g. Version - SNMP version **1** OR **2c** OR **3**
 - h. Misc1 – the common options
 - i. Misc2 – the path to the **Net-SNMP** libraries. *Empty* defaults to c:\usr\bin, the **Net-SNMP** installation default.

The EquipmentTable - SNMP Devices Connection

Net-SNMP commands do not have a permanent connection; each command is independent. When **TAZ** initially connects to an SNMP device from the Connect Equipment screen, **TAZ** is only checking that communication is possible via the SNMP protocol (at that moment). **TAZ** SNMP commands sent via a *TestCase* are also independent.

TAZ SNMP Command

TAZ Commands are broken into pipe delimited Arguments (Args) whereas a **Net-SNMP** command is the command name followed by a list of options and parameters.

For example:

The **Net-SNMP** command

```
snmpwalk -c public -v 2c 192.168.0.201 -O qUv IfDescr
```

Would translate to the **TAZ** Command:

```
SNMP{1|walk|SNMP|IfDescr|} -O qUv}
```

Where “-c public -v 2c 192.168.0.201” is taken from the *EquipmentTable*

Misc1 = -c public

Version = 2c

Address = 192.168.0.201

NOTE:

There is nothing in the **TAZ** command itself that ties this command to a particular piece of equipment. The equipment that receives this command is the equipment that was connected in the *EquipmentTable*.

TAZ SNMP Command Arguments

Let's look in more detail at the arguments.

ArgA, **ArgB**, and **ArgC** are common to many **TAZ** commands.

ArgA – which device

ArgB – the action

- **Get** –

-
- **GetNext((<number>))**
 - **Translate**
 - **Walk**
 - **snmp**< any command >

ArgC – the language (defaults to **SNMP**)

ArgD, **ArgE**, and **ArgF** are specific to this command

ArgD – the Object Identifier for this command

ArgE – will overwrite the **EquipmentTable** entry for common options

ArgF – the optional Agent parameters, specific to this command

ArgG – ETselect. This will place the SNMP device response in the selected **ETable**. For more information on **ETables**, please see the **TAZ Command Manual**.

ETable Example:

The **TAZ** command

```
SNMP{1|Walk|SNMP|IfDescr| |-O qUv|ETable1}
```

Would Return

```
snmpwalk -v 2c -c public 10.243.9.101:161 ifDescr
IF-MIB::ifDescr.101 = STRING: 1/1/g1
IF-MIB::ifDescr.102 = STRING: 1/1/g2
IF-MIB::ifDescr.103 = STRING: 1/1/g3
```

And would place the circled text in **ETable1**

```
IF-MIB::ifDescr.101 = STRING: 1/1/g1
IF-MIB::ifDescr.102 = STRING: 1/1/g2
IF-MIB::ifDescr.103 = STRING: 1/1/g3
```

Column1

Column2

The TAZ Return from the SNMP Command

The first line of the **TAZ Return** is the **Net-SNMP** command, displayed exactly as **TAZ** sent it. This includes any text that was pulled from the **EquipmentTable**. This is the first place to look to troubleshoot unexpected responses.

Following the echoed command, **TAZ** will display the output from the device.

```
snmpwalk -v 2c -c public 10.243.9.101:161 ifDescr
IF-MIB::ifDescr.101 = STRING: 1/1/g1
IF-MIB::ifDescr.102 = STRING: 1/1/g2
IF-MIB::ifDescr.103 = STRING: 1/1/g3
```

← Net-SNMP command

} Device Output

Extended TAZ SNMP Command Features

The Complete Net-SNMP Library

TAZ can send any command from the **Net-SNMP** library by entering the complete **Net-SNMP** command in *ArgB*.

For example:

```
SNMP{1|snmpwalk -c public -v 2c 192.168.0.201 -O qUv IfDescr}
```

This will execute the command from the directory specified in Misc2 of the connected equipment. The entire command with all parameters must be specified. As written, this command is tied to a particular IP address, but variables from the *EquipmentTable*, including Address, may be substituted. Use the `$<column name>$` notation to place column values in your *TAZ* commands at runtime.

For example:

For a selected device at 192.168.0.201

```
snmpwalk -c public -v 2c $Address$ -O qUv IfDescr
```

will resolve to

```
snmpwalk -c public -v 2c 192.168.0.201 -O qUv IfDescr
```

GetNext

Unlike the `snmpGetNext`, the *TAZ ArgB* GetNext can specify how many to Get. This is actually achieved behind the scene with the `snmpBulkGet` command.

Object Identifier (OID)

Usually the OID is specifically defined. With *TAZ* you can select a **Random** identifier of user specified length. This can be useful for stress and boundary testing.

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