

SNMP Management of Tripp Lite Devices



Introduction

Tripp Lite LX Platform devices (such as WEBCARDLX, PDU3E-series PDUs, PDU3XE-series PDUs and LX-suffix PDUs) contain an Ethernet network interface that enables remote monitoring, control and condition reporting. The LX Platform supports several methods for performing these functions:

1. Direct Access

LX Platform devices support the following direct-access interfaces:

- Web interface, using a standard web browser (such as Chrome)
- Menu interface -- via a Telnet or SSH session -- using a terminal emulator
- Command Line Interface (CLI), accessed via Telnet or SSH session

2. Management Software

A wide variety of management software applications is available in the marketplace (examples include SolarWinds, Zabbix, What's Up Gold and PowerIQ). Typically, these applications will discover Tripp Lite devices on the network, but additional integration effort may be required to access all monitoring and control capabilities.

3. SNMP Commands

Management Information Base (MIB) browsers and similar utilities facilitate the use of Simple Network Management Protocol (SNMP) commands for monitoring and control of devices. **Note:** *The remainder of this document focuses on this method.*

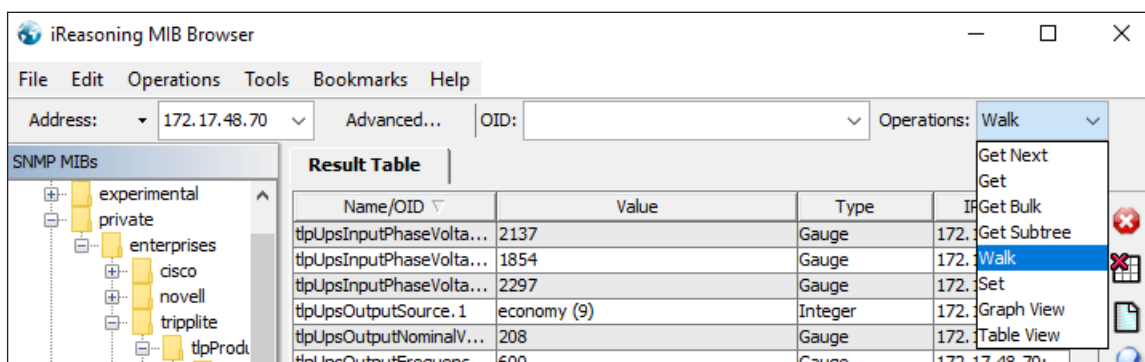
SNMP Commands

Like many industry-standard, network-accessible devices available today, LX Platform devices communicate via SNMP. MIB browsers are commonly used to establish SNMP communication with devices for configuring, monitoring and controlling devices. MIB browsers (such as those offered by iReasoning and ManageEngine) are available as free downloads from the Internet. Management Software applications (described above) often employ an embedded MIB browser in their operations.

Before establishing SNMP communications with an LX Platform device, ensure the latest Tripp Lite MIBs are uploaded to the MIB browser. The Tripp Lite MIB package is available for free download on Tripp Lite's website (see link below). **Note:** *MIBs should be loaded in the order specified in the Release Notes, which are contained in the MIB package.*

<https://assets.tripplite.com/firmware/tripplite-mib.zip>

Once the Tripp Lite MIBs have been loaded and communication is established with the LX Platform device, perform an SNMP Walk to view the extent of available device information. Referencing the screenshot below, enter the IP address of the Tripp Lite device in the Address field, then select "Walk" from the Operations pulldown menu. The Result Table will display the walk contents.



Device Monitoring: The Result Table will display the value of any metrics supported by the device. Depending on device model and variable, certain entries may require factorization. In the example below, the Input Phase Voltage and Output Line Voltage support accuracy to tenths of a volt. For this reason, the value “2137” for Input Phase Voltage is interpreted as 213.7 Volts.

Result Table	
Name/OID	Value
tlpAgentAttributesSSHMenuPort.0	22
tlpAlarmControlIndex.1.23	22
upsInputVoltage.1	214
upsOutputVoltage.1	214
tlpUpsInputPhaseVoltage.1.1	2137
tlpUpsOutputLineVoltage.1.1	2135
.1.3.6.1.2.1.4.33.0	2126233
tlpAgentAttributesSSHCLIPort.0	2112
tlpAlarmControlIndex.1.22	21
upsConfigInputVoltage.0	208
upsConfigOutputVoltage.0	208
tlpUpsInputNominalVoltage.1	208
tlpUpsOutputNominalVoltage.1	208
tlpUpsConfigInputVoltage.1	208
tlpAgentConfigCurrentTime.0	2019-04-18 09:25:08-05:00
tlpUpsBatteryPackDetailLastReplaceDa...	20181208
tlpUpsConfigLowBatteryThreshold.1	20
tlpAlarmControlIndex.1.21	20

Device Configuration: Each line item in the Result Table is actionable, typically by right-clicking the line item and selecting an available option. This can include configuration actions, such as setting or modifying a device threshold. In the example below, selecting “Set” from the action options for item “tlpUpsConfigLowBatteryThreshold.1” opens an SNMP SET dialog box in which the threshold value can be entered (note the range of viable values is provided: 5 to 95).

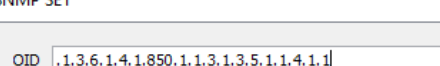
tlpUpsBatteryPackDetailLastReplaceDate.1.1.1	20181208
tlpUpsConfigLowBatteryThreshold.1	20
tlpAlarmControlIndex.1.21	20
ifNumber.0	2
ifIndex.2	2
atIfIndex.2.1.172.17.48.1	2
ipAdEntIfIndex.172.17.48.70	2
ipRouteIfIndex.0.0.0.0	2
ipRouteIfIndex.172.17.48.0	2
ipNetToMediaIfIndex.2.172.17.48.1	2
.1.3.6.1.2.1.4.25.0	2
.1.3.6.1.2.1.4.31.1.1.38.1	2
.1.3.6.1.2.1.4.31.1.1.39.1	2
.1.3.6.1.2.1.4.34.1.3.1.4.172.17.48.70	2
.1.3.6.1.2.1.4.34.1.3.1.4.172.17.48.255	2
.1.3.6.1.2.1.4.34.1.3.2.16.254.128.0.0.0.0.0.0....	2



The image shows a dialog box titled "SNMP SET". It contains three input fields: "OID" with the value ".1.3.6.1.4.1.850.1.1.3.1.5.3.1.2.1", "Data Type" with the value "Integer", and "Value" with the value "(5..95)". At the bottom right, there are "Ok" and "Cancel" buttons.

Device Control: Device controls can be executed in a similar manner. In the example below, selecting “Set” from the right-click pulldown menu for item “t1pUpsOutletState.1.1” opens a dialog box in which the specified outlet – currently on -- can be turned off by entering ‘2’ in the Value field.

tipAgentConfigRemoteRegistration.0		
tipUpsOutletState.1.1	on (2)	
tipUpsOutletState.1.2	on (2)	Graph View Ctrl+R
tipUpsOutletState.1.3	on (2)	Get Ctrl+G
tipUpsOutletControllable.1.1	true (1)	Get Next Ctrl+N
tipUpsOutletControllable.1.2	true (1)	Get Bulk Ctrl+B
tipUpsOutletControllable.1.3	false (2)	Set Ctrl+S
tipUpsOutletCommand.1.1	idle (0)	Walk Ctrl+W
tipUpsOutletCommand.1.2	idle (0)	Add to Watches Ctrl+D
tipUpsOutletCommand.1.3	idle (0)	Find in Tree (double click)
tipUpsOutletRampAction.1.1	remainOff (0)	Copy
tipUpsOutletRampAction.1.2	remainOff (0)	Delete
tipUpsOutletRampDelay.1.1	0	
tipUpsOutletRampDelay.1.2	0	
tipUpsOutletShedAction.1.1	remainOn (0)	
tipUpsOutletShedAction.1.2	remainOn (0)	



SNMP SET

OID: .1.3.6.1.4.1.850.1.1.3.1.3.5.1.1.4.1.1

Data Type: Integer

Value: {unknown(0), off(1), on(2)}

OK Cancel

For questions regarding SNMP management of your Tripp Lite device, contact Tripp Lite Tech Support at 773.869.1234 (7am – 6pm CST).