Feature-based Private MIB

Ethernet Switch

ZyNOS 4.10



Version 4.10 Sep 2013



Purpose

A management information database (MIB) is a virtual database used for managing the entities in a communications network. Most often associated with the Simple Network Management Protocol (SNMP). Our switches communicate with SNMP services by using specified OID and parameters. However, there are three limitations, as discussed below.

- 1. It is difficult to support all of the feature that network administrator want to use, because our MIB file is designed by model to include and support standard features.
- 2. The same features are defined by different OIDs on some models.
- It is inconvenient for the network administrator to configure the same feature on various kinds of models because the corresponding MIB file to access the specified switch must be loaded. Therefore, we have developed a new architecture on the MIB files to resolve the above problems. The following are enhancements on the MIB files.
- 1. Compare some latest MIB files and combine it to be a big MIB file.
- 2. Define some rules to classify and rename these entries.
- 3. Regroup these features and divide the big file by feature.
- 4. Set specified common OIDs for each feature.

Features

In the original architecture, the network administrator must loads the corresponding MIB file if he wants to access the specified switch using the MIB browser. It is inconvenient to use if the network administrator wants to configure the same feature on various models.

For "Feature-based Private MIB", we define a common OID for each feature and divide the MIB file by feature. The network administrator only needs to load the feature MIB file that he wants to use, and then use the same MIB file to access all the switches that support the new architecture. In addition, the network administrator can purchase a new ZyXEL switch and access it with the same MIB file.

Scenario



In this scenario, we install iReasoning MIB browser on the PC and every switch has a different IP address as the management IP address. Follow the steps for VLAN tagging on the switch.

Step 1:

We have two switches with the following IP interfaces:

GS1920-24 IP: 192.168.1.20

GS1920-24HP IP: 192.168.1.10

Open iReasoning MIB browser and setup port / community/ device MGMT IP address.

iReasoning MIB Browser			
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Step 2: Load the specific MIB file (HW Monitor).

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File <u>n</u> a	me:	ZYXEL-HW-	MONITO	R-MIB.mib			
Files of	type:	All Files					

Step 3:Then we can see the MIB tree in the left window. Click on zyxelHwMoniotrStatus to get values

of every item on the GS1920-24.

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		zyHwMo	onitorTemperatur	HighThres	ho	zyHwMonitorTemperatureC	42	Integer	192.168.1.20:	
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SNMP MIBs Result Table							
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📄 🍌 esMgmt		zyHwMonitorVoltageDescri	2.5V	OctetString	192.168.1.20:	W	
📄 🚽 zyxelHwMonitor		zyHwMonitorVoltageDescri	1.8V	OctetString	192.168.1.20:	xn	
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yHwMonitorVoltageIndex		zyHwMonitorVoltageDescri	3.3V	OctetString	192.168.1.20:		
zyHwMonitorVoltageDescription		zyHwMonitorVoltageDescri	1.05V	OctetString	192.168.1.20:	_	
zyHwMonitorVoltageCurrentValue		zyHwMonitorVoltageDescri	1.2V	OctetString	192.168.1.20:	🚔	
zyHwMonitorVoltageMaxValue		zyHwMonitorVoltageCurre	2519	Integer	192.168.1.20:		
zyHwMonitorVoltageMinValue		zyHwMonitorVoltageCurre	1810	Integer	192.168.1.20:		
	-	zyHwMonitorVoltageCurre	3291	Integer	192.168.1.20:		
zyHwMonitorYoltageLow I hreshold		zyHwMonitorVoltageCurre	5065	Integer	192.168.1.20:		
		zyHwMonitorVoltageCurre	11906	Integer	192.168.1.20:		
		zyHwMonitorVoltageCurre	996	Integer	192.168.1.20:		
		zyHwMonitorVoltageCurre	908	Integer	192.168.1.20:		
Name zyHwMonitorVoltageStatus		zyHwMonitorVoltageCurre	3291	Integer	192.168.1.20:		
OID .1.3.6.1.4.1.890.1.15.3.26.1.3.1.8		zyHwMonitorVoltageCurre	1054	Integer	192.168.1.20:		
MIB ZYXEL-HW-MONITOR-MIB		zyHwMonitorVoltageCurre	1218	Integer	192.168.1.20:		
Syntax DisplayString		zyHwMonitorVoltageStatus.1	Normal	OctetString	192.168.1.20:		
Access read-only		zyHwMonitorVoltageStatus.2	Normal	OctetString	192.168.1.20:		
Status current		zyHwMonitorVoltageStatus.3	Normal	OctetString	192.168.1.20:		
DefVal	_	zyHwMonitorVoltageStatus.4	Normal	OctetString	192.168.1.20:		
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Descr Normal' indicates that the voltage is within an acceptable		zyHwMonitorVoltageStatus.6	Normal	OctetString	192.168.1.20:		
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Step 4: After checking the GS1920-24, we changed the IP address and community to check the GS1920-24HP.

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