## **SNMP Feature on Yealink IP Phones**

This guide provides instructions on how to configure SNMP feature on Yealink IP phones and test SNMP feature using a free SNMP test tool.

The configurations described in this guide take the Yealink SIP-T28P IP phone with firmware version 71 as an example.

### **Overview**

SNMP (Simple Network Management Protocol) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor network-attached devices for conditions that warrant administrative attention. SNMP exposes management data in the form of variables on the managed systems, which describe the system configuration. These variables can then be queried (and sometimes set) by managing applications. The variables accessible via SNMP are organized in hierarchies, which are described by Management Information Bases (MIBs).

IP phones only support SNMPv1 and SNMPv2. They act as SNMP clients, receiving requests from the SNMP server. The SNMP server may send requests from any available source port to the configured port on the client, while the client responds to the source port on the SNMP server. IP phones only support the GET request from the SNMP server.

MIB	OID	Description
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.1.0	The textual identification of the contact person for the IP phone, together with the contact information. For example, Sysadmin (root@localhost)
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.2.0	An administratively-assigned name for the IP phone. If the name is unknown, the value is a zero-length string. For example, IPPHONE
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.3.0	The physical location of the IP phone. For example, Server Room
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.4.0	The time (in milliseconds) since the network management portion of the system was last

The following table lists the basic object identifiers (OIDs) supported by IP phones.



MIB	OID	Description		
		re-initialized.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.5.0	The firmware version of the IP phone.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.6.0	The hardware version of the IP phone.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.7.0	The IP phone's model.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.8.0	The MAC address of the IP phone.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.9.0	The IP address of the IP phone.		
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.10.0	The target version to which the current version is automatically updated. Format: MacVersion[*]ComVersion[*] For example,		
		MacVersion[0.0.0.1]ComVersion[0.0.0.1]		

## **Configuring SNMP Feature on Yealink IP Phones**

SNMP can be configured via web user interface or using the configuration files.

To configure SNMP via web user interface:

- 1. Click on Network->Advanced.
- 2. In the SNMP block, select Enabled from the pull-down list of Active.
- 3. Enter the SNMP port in the Port (1~65535) field.

4. Enter the IP address or domain name of the SNMP server in the **Trusted Address** field.

				Log Out
	Status	Network DS	SKey Features Setting	s Directory Security
Basic	LLDP 🕜			NOTE
BC Boxt		Active	Enabled	N/ AN
PCPOIL		Packet Interval (1~3600s)	60	A VLAN is a logical local area
Advanced	VLAN 🕜			beyond a single traditional LAN
	WAN Port	Active	Disabled 💌	given specific configurations.
		VID (1-4094)	0	QoS When the network capacity is
1		Priority	0	insufficient, QoS could provide priority to users by setting the
	PC Port	Active	Disabled	value.
		VID (1-4094)	0	Local RTP Port Define the port for voice
		Priority	0	transmission.
	DHCP VLAN	Active	Enabled	
		Option	132	
	Port Link 🕜			
		WAN Port Link	Auto Negotiate	
		PC Port Link	Auto Negotiate	
	Voice QoS 🕜			
1		Voice QoS (0~63)	46	
		SIP Qos (0~63)	26	
	Local RTP Port	0		
		Max RTP Port (1~65535)	11800	
		Min RTP Port (1~65535)	11780	
	SNMP 🕜			
		Active	Enabled 💌	
		Port (1~65535)	161	
		Tursted Address	192.168.1.30	

Multiple IP addresses should be separated by space.

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5. Click **Confirm** to accept the change.

A dialog box pops up to prompt that settings will take effect after reboot.

6. Click OK to reboot the IP phone.

#### To configure SNMP using configuration files:

1. Add/Edit SNMP parameters in the configuration file.

The following table lists the SNMP parameters:

Parameter	Description	Valid Value	Default Value
network.snmp.enable	Enables or disables SNMP feature. <b>0</b> -Disabled <b>1</b> -Enabled It takes effect after reboot.	Boolean	The default value is 0. For T4X IP phones, the default value is 1.
network.snmp.port	Configures the SNMP port. It takes effect after reboot.	Integer from 1 to 65535	The default port is blank. For T4X IP



Parameter	Description	Valid Value	Default Value
			phones, the default value is
			161.
network.snmp.trust_ip	Configures IP address(es) or domain name of the trusted SNMP server. Multiple IP addresses should be separated by space. If set to "0.0.0.0", the IP phone accepts and handles GET requests from any IP address.	IP address or domain name	The default value is blank. For T4X IP phones, the default value is 0.0.0.0
	It takes effect after reboot.		

**2.** Upload the configuration file to the root directory on the provisioning server and perform auto provisioning to configure the Yealink IP phones.

For more information on auto provisioning, refer to Yealink IP Phones Auto Provisioning Guide.

## **Testing SNMP Feature**

An SNMP server may send requests from any available source port to the IP phone which acts as an SNMP client. The IP phone will then send response to the source port.

After configuring SNMP feature on Yealink IP phones, you can test SNMP feature using your enterprise management system or a free SNMP test tool. Free SNMP test tools available from website include SNMPUTI, Paessler SNMP Tester, net SNMP, etc.

The following table shows download links for some free SNMP test tools:

Tool Name	Links for Downloading	
SNMPUTIL	http://ishare.iask.sina.com.cn/f/24546863.html	
Paessler SNMP Tester	http://www.onlinedown.net/softdown/78224_2.htm	
Net Snmp	http://net-snmp.sourceforge.net/download.html	

#### Note

It is commended that the firewall on the SNMP server is turned off before testing SNMP feature.

To Test SNMP (take Paessler SNMP Tester 3.2 as an example):

1. Download the Paessler SNMP Tester 3.2 from the website. The source file is a



compressed package.

- 2. Unpack the compressed package.
- **3.** Double click "snmptest.exe" to start the tool.

A screenshot of the main page is shown as below:

e Help			
1. Set SNMP Setting	s		- IP address of PC running SNMP Server
Local IP:	10.3.6.213		
Device IP:	10.3.6.107	◀───	- IP address of the Yealink IP phone
Port:	161		
SNMP Version:	SNMP V2c 💌		
Community:	public		SNMP port of Yealink IP phone for
/3 Authentication:	MD5 C SHA     SHA		receiving requests from SNMP server
'3 Password:			
3 Encryption Key:			
Advanced Settings —			
Force 32bit	Slow" Tweak		
Single Get	Signed		
Read As:	String		
2. Select Request T	уре		
32 bit Traffic Count	er (V1/2/3): 1		
64 bit Traffic Count	er (V2/3): 1		
Custom OID:	1.3.6.1.2.1.37459.2.1		<ul> <li>Basic object identifiers (OIDs)</li> </ul>
C Read Device Uptime	2		supported by Yealink IP phones
C Scan Available Star	dard Interfaces		
C Scan Available OID	s from OIDLIB:		
1.3.6.1.2.1.1.3.0 1.3.6.1.2.1.37459.2.1.5.0 1.3 🚔			
Multiget Test (uses	counter number from first option)		
3. Run Test	Repeat every 5 🕺		
Save Log to File	Clear Log	1	

- 4. Enter IP address of the PC in the Local IP field.
- 5. Enter IP address and SNMP port of the IP phone in the **Device IP** field and **Port** field respectively.
- 6. Enter the desired value in the Custom OID field.
- 7. Click Run Test.

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For example, the values of the **Device IP** and **Custom OID** are configured as10.3.6.107 and 1.3.6.1.2.1.37459.2.1.8.0 respectively. During test, the SNMP server will send requests carrying OID 1.3.6.1.2.1.37459.2.1.8.0 to the IP phone whose IP address is 10.3.6.107. The specified IP phone will send response with its own MAC address to the SNMP server.

A screenshot of the main page is shown as below:

Paessler SNMP Tester 3.2						
File Help						
1. Set SNMP Settings			Paessler SNMP Tester 3.2	A		
Local IP:	10.3.6	6.213 🔹	Device: 10.3.6.107			
Device IP:	10.3.6	5.107	2013/8/21 14:57:28 (4 ms) : Start using SNMP V2c			
Port:	161	14	2013/8/21 14:57:28 (34 ms) : Value: 0015651128d9			
SNMP Versi	on: SNMP	V2c 💌	2013/8/21 14:57:28 (35 ms) : Done			
Community	: public					
V3 Authent	ication: 💿 MD	os C SHA				
V3 Passwor	rd:					
V3 Encrypt	ion Key:					
Advanced	Settings					
Force 3	2bit 📃	"Slow" Tweak				
📄 Single (	Get 🗖	Signed				
Read As:	Str	ring 💌				
2. Select	Request Type					
C 32 bit T	raffic Counter (V1/2/3	i): 1				
C 64 bit T	raffic Counter (V2/3):	1				
Custom	OID:	6.1.2.1.37459.2.1.8.0				
C Read D	evice Uptime					
C Scan A	vailable Standard Inter	faces				
C Scan A	vailable OIDs from OID	LIB:				
1.3.6.1.2.1.1.3.0 1.3.6.1.2.1.37459.2.1.5.0 1.3 🚔						
C Multiget Test (uses counter number from first option)		umber from first option)				
3. Hun Test Repeat every 3 2						
Save	Log to File	Clear Log				
			4			