

Hanwha Techwin

SNMP MIB ver.2.2 Guide

v2.2

2021-04-01

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Table of Contents

Revision History	3
MIB Hierarchy	4
Products MIB Hierarchy and Object IDs.....	5
Traps.....	12
SNMP Commands	13
Examples of commands for each SNMP versions	13
Examples of SNMP queries and results.....	15
SNMP Query.....	15
SNMP Result.....	17
SNMP Test.....	20
snmpwalk Command.....	20
snmpget Command.....	20
snmpset Command.....	21

Revision History

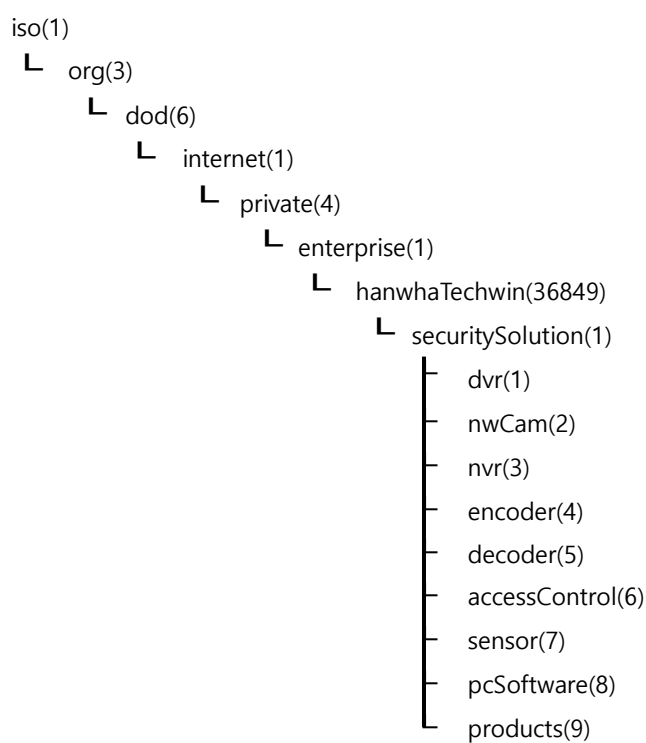
The table below provides the version information and revision history of this document.

Version	Date	Description
2.2	2021-04-01	[SNMP Commands] <ul style="list-style-type: none">• Added SNMP v3 examples [SNMP Test] <ul style="list-style-type: none">• Added SNMP v3 examples
2.2	2019-04-01	[MIB Hierarchy] <ul style="list-style-type: none">• Added channel-based videoType and audioType OID
2.1	2018-12-15	[MIB Hierarchy] <ul style="list-style-type: none">• Added serialNumber OID
2.0	2018-11-01	First edition.

MIB Hierarchy

OID (Object ID) provided by Hanwha Techwin is as follows. "Hanwha Techwin (hanwhaTechwin, 36849)" is located under "enterprise (1)", and "Security Division (securitySolution, 1)" under Hanwha Techwin is assigned as "1". Under the Security Division, there are product families classified. In the product families, network camera (nwCam, 2) and encoder (encoder, 4) have a model based specific OID. Refer to 'SNMP Product ID (HTW_SNMP_Product_ID_en.pdf)' document for more details.

In SNMP MIB ver.2, new OID (products, 9) is added. This OID includes integrated information for recorders (NVR, DVR), network cameras and encoders.



Note

From X series version 1.40 and P series version 1.3, this MIB version is supported.

The MIB hierarchy and object IDs for products are as follows. All features are described in new MIB but, specific features are dedicated to specific products. For example, hddStatus and raidStatus are for recorder products.

Products MIB Hierarchy and Object IDs

MIB Hierarchy				Object Name	Value	Read/Write
10	11	12	13			
1				modelName	For example; "SRD-1670", "XNP-6320H"	RO
2				systemInfo		
	1			SystemSubInfo		
		1		fwVersionInfo	"v1.xx_XXXXXXXXXX"	RO
		2		dateTimelInfo	"yyyy-mm-dd hh-mm-ss"	RW
		3		reboot	"GMT+hh:mm"	RW
		4		factoryReset	0 or 1	RW
		5		networkInterface	1 to 4	RO
		6		alarmInputCount	1 to 16	RO
		7		alarmOutputCount	1 to 16	RO
		8		sdCardCount	1 to 5	RO
		9		serialNumber	"XXXXXXXX"	RO
	2			avInfo		
		1		videoType		
			1	videoTypeAtCH01	"NTSC" or "PAL"	RW
			2	videoTypeAtCH02	"NTSC" or "PAL"	RW
			3	videoTypeAtCH03	"NTSC" or "PAL"	RW
			4	videoTypeAtCH04	"NTSC" or "PAL"	RW
			64	videoTypeAtCH64	"NTSC" or "PAL"	RW
		2		audioType		
			1	audioTypeAtCH01	"G.711" or "G.726" or "AAC"	RO
			2	audioTypeAtCH02	"G.711" or "G.726" or "AAC"	RO
			3	audioTypeAtCH03	"G.711" or "G.726" or "AAC"	RO
			4	audioTypeAtCH04	"G.711" or "G.726" or "AAC"	RO
			64	audioTypeAtCH64	"G.711" or "G.726" or "AAC"	RO
		3		channelCount	1 to 64	RO
	3			netInfo		
		1		net01		
			1	macAddress01	"XX:XX:XX:XX:XX:XX"	RO

		2	ipAddress01	"xxx.xxx.xxx.xxx"	RW
		3	gateway01	"xxx.xxx.xxx.xxx"	RW
		4	subnetMask01	"xxx.xxx.xxx.xxx"	RW
	2		net02		
		1	macAddress02	"XX:XX:XX:XX:XX:XX"	RO
		2	ipAddress02	"xxx.xxx.xxx.xxx"	RW
		3	gateway02	"xxx.xxx.xxx.xxx"	RW
		4	subnetMask02	"xxx.xxx.xxx.xxx"	RW
	4		net04		
		1	macAddress04	"XX:XX:XX:XX:XX:XX"	RO
		2	ipAddress04	"xxx.xxx.xxx.xxx"	RW
		3	gateway04	"xxx.xxx.xxx.xxx"	RW
		4	subnetMask04	"xxx.xxx.xxx.xxx"	RW
3			systemNotification		
	1		powerNotifcation		
		1	coldPowerOnDate	"yyyy-mm-dd hh-mm-ss"	RO
		2	warmPowerOnDate	"yyyy-mm-dd hh-mm-ss"	RO
		3	shutDownDate	"yyyy-mm-dd hh-mm-ss"	RO
		4	abnormalStartDate	"yyyy-mm-dd hh-mm-ss"	RO
	2		videoStatus		
		1	videoStatusAtCH01	"On" or "Vloss" or "Disable" or "NotSupported"	RO
		2	videoStatusAtCH02	"On" or "Vloss" or "Disable" or "NotSupported"	RO
		3	videoStatusAtCH03	"On" or "Vloss" or "Disable" or "NotSupported"	RO
		4	videoStatusAtCH04	"On" or "Vloss" or "Disable" or "NotSupported"	RO
		64	videoStatusAtCH64	"On" or "Vloss" or "Disable" or "NotSupported"	RO
	3		otherStatus		
		1	recordStatus	"On" or "Off" or "Fail"	RO
		2	fanStatus	"OK" or "Fail"	RO
		3	batteryStatus	"OK" or "Fail"	RO
		4	beepStatus	"On" or "Off"	RO
4			eventStatus		
	1		alarmInput		
		1	alarmInput01		
		1	alarmInputStatus01	"Low" or "High"	RO
		2	alarmInputDate01	"yyyy-mm-dd hh-mm-ss"	RO

	2	alarmInput02		
		1 alarmInputStatus02	"Low" or "High"	RO
		2 alarmInputDate02	"yyyy-mm-dd hh-mm-ss"	RO
	16	alarmInput16		
		1 alarmInputStatus16	"Low" or "High"	RO
		2 alarmInputDate16	"yyyy-mm-dd hh-mm-ss"	RO
	2	alarmOutput		
	1	alarmOutput01		
		1 alarmOutputStatus01	"Low" or "High"	RW
		2 alarmOutputDate01	"yyyy-mm-dd hh-mm-ss"	RO
	2	alarmOutput02		
		1 alarmOutputStatus02	"Low" or "High"	RW
		2 alarmOutputDate01	"yyyy-mm-dd hh-mm-ss"	RO
	16	alarmOutput16		
		1 alarmOutputStatus16	"Low" or "High"	RW
		2 alarmOutputDate16	"yyyy-mm-dd hh-mm-ss"	RO
	3	motionDetection		
	1	motionDetectionAtCH01		
		1 motionDetectionStatusAtCH01	"Low" or "High"	RO
		2 motionDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2	motionDetectionAtCH2		
		1 motionDetectionStatusAtCH02	"Low" or "High"	RO
		2 motionDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64	motionDetectionAtCH64		
		1 motionDetectionStatusAtCH64	"Low" or "High"	RO
		2 motionDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
	4	videoAnalytics		
	1	videoAnalyticsAtCH01		
		1 videoAnalyticsStatusAtCH01	"Low" or "High"	RO
		2 videoAnalyticsDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2	videoAnalyticsAtCH02		
		1 videoAnalyticsStatusAtCH02	"Low" or "High"	RO
		2 videoAnalyticsDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64	videoAnalyticsAtCH64		
		1 videoAnalyticsStatusAtCH64	"Low" or "High"	RO
		2 videoAnalyticsDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
	5	faceDetection		
	1	faceDetectionAtCH01		
		1 faceDetectionStatusAtCH01	"Low" or "High"	RO
		2 faceDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO

	2		faceDetectionAtCH02			
		1	faceDetectionStatusAtCH02	"Low" or "High"	RO	
			2	faceDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
		64		faceDetectionAtCH64		
			1	faceDetectionStatusAtCH64	"Low" or "High"	RO
				2	faceDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"
	6		networkDisconnection			
	1		networkDisconnection01			
		1	networkDisconnectionStatus01	"Low" or "High"	RO	
			2	networkDisconnectionDate01	"yyyy-mm-dd hh-mm-ss"	RO
		2		networkDisconnection02		
			1	networkDisconnectionStatus02	"Low" or "High"	RO
		2		networkDisconnectionDate02	"yyyy-mm-dd hh-mm-ss"	RO
	4		networkDisconnection04			
		1	networkDisconnectionStatus04	"Low" or "High"	RO	
			2	networkDisconnectionDate04	"yyyy-mm-dd hh-mm-ss"	RO
		7		tamperingDetection		
		1		tamperingDetectionAtCH01		
1			tamperingDetectionStatusAtCH01	"Low" or "High"	RO	
	2		tamperingDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO	
2			tamperingDetectionAtCH02			
	1		tamperingDetectionStatusAtCH02	"Low" or "High"	RO	
			2	tamperingDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
64			tamperingDetectionAtCH64			
	1		tamperingDetectionStatusAtCH64	"Low" or "High"	RO	
			2	tamperingDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
8			audioDetection			
1			audioDetectionAtCH01			
	1		audioDetectionStatusAtCH01	"Low" or "High"	RO	
		2	audioDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO	
	2		audioDetectionAtCH02			
		1	audioDetectionStatusAtCH02	"Low" or "High"	RO	
			2	audioDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		audioDetectionAtCH64			
		1	audioDetectionStatusAtCH64	"Low" or "High"	RO	
			2	audioDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
	9		defocusDetection			
	1		defocusDetectionAtCH01			
		1	defocusDetectionStatusAtCH01	"Low" or "High"	RO	

		2	defocusDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2		defocusDetectionAtCH02		
		1	defocusDetectionStatusAtCH02	"Low" or "High"	RO
		2	defocusDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		defocusDetectionAtCH64		
		1	defocusDetectionStatusAtCH64	"Low" or "High"	RO
		2	defocusDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
10			fogDetection		
	1		fogDetectionAtCH01		
		1	fogDetectionStatusAtCH01	"Low" or "High"	RO
		2	fogDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2		fogDetectionAtCH02		
		1	fogDetectionStatusAtCH02	"Low" or "High"	RO
		2	fogDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		fogDetectionAtCH64		
		1	fogDetectionStatusAtCH64	"Low" or "High"	RO
		2	fogDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
11			soundClassification		
	1		soundClassificationAtCH01		
		1	soundClassificationStatusAtCH01	"Low" or "High"	RO
		2	soundClassificationDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2		soundClassificationAtCH02		
		1	soundClassificationStatusAtCH02	"Low" or "High"	RO
		2	soundClassificationDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		soundClassificationAtCH64		
		1	soundClassificationStatusAtCH64	"Low" or "High"	RO
		2	soundClassificationDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
12			shockDetection		
	1		shockDetectionAtCH01		
		1	shockDetectionStatusAtCH01	"Low" or "High"	RO
		2	shockDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2		shockDetectionAtCH02		
		1	shockDetectionStatusAtCH02	"Low" or "High"	RO
		2	shockDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		shockDetectionAtCH64		
		1	shockDetectionStatusAtCH64	"Low" or "High"	RO
		2	shockDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
13			temperatureDetection		
	1		temperatureDetectionAtCH01		
		1	temperatureDetectionStatusAtCH01	"Low" or "High"	RO

		2	temperatureDetectionDateAtCH01	"yyyy-mm-dd hh-mm-ss"	RO
	2		temperatureDetectionAtCH02		
		1	temperatureDetectionStatusAtCH02	"Low" or "High"	RO
		2	temperatureDetectionDateAtCH02	"yyyy-mm-dd hh-mm-ss"	RO
	64		temperatureDetectionAtCH64		
		1	temperatureDetectionStatusAtCH64	"Low" or "High"	RO
		2	temperatureDetectionDateAtCH64	"yyyy-mm-dd hh-mm-ss"	RO
5			sdCard		
	1		sdCard01		
		1	sdCardCheck01	"Not Install" or "Install"	RO
		2	sdCardFullStatus01	"Not Full" or "Full"	RO
		3	sdCardFailStatus01	"Normal" or "Fail"	RO
		4	sdCardFormat01	"OK"	RW
	2		sdCard02		
		1	sdCardCheck02	"Not Install" or "Install"	RO
		2	sdCardFullStatus02	"Not Full" or "Full"	RO
		3	sdCardFailStatus02	"Normal" or "Fail"	RO
		4	sdCardFormat02	"OK"	RW
	3		sdCard03		
		1	sdCardCheck03	"Not Install" or "Install"	RO
		2	sdCardFullStatus03	"Not Full" or "Full"	RO
		3	sdCardFailStatus03	"Normal" or "Fail"	RO
		4	sdCardFormat03	"OK"	RW
	4		sdCard04		
		1	sdCardCheck04	"Not Install" or "Install"	RO
		2	sdCardFullStatus04	"Not Full" or "Full"	RO
		3	sdCardFailStatus04	"Normal" or "Fail"	RO
		4	sdCardFormat04	"OK"	RW
	5		sdCard05		
		1	sdCardCheck05	"Not Install" or "Install"	RO
		2	sdCardFullStatus05	"Not Full" or "Full"	RO
		3	sdCardFailStatus05	"Normal" or "Fail"	RO
		4	sdCardFormat05	"OK"	RW
5			hddStatus		
	1		hdd01Status		
		1	hdd01Check	"Not Installed" or "Installed"	RO
		2	hdd01TotalSize	"xxxGB"	RO
		3	hdd01FullStatus	"Not Full", "Full", "Under-Raid"	RO
		4	hdd01FailStatus	"Not Full", "Full", "Under-Raid"	RO

	2		hdd02Status		
		1	hdd02Check	"Not Installed" or "Installed"	RO
		2	hdd02TotalSize	"xxxGB"	RO
		2	hdd02FullStatus	"Not Full", "Full", "Under-Raid"	RO
		3	hdd02FailStatus	"Not Full", "Full", "Under-Raid"	RO
	12		hdd12Status		
		1	hdd12Check	"Not Installed" or "Installed"	RO
		2	hdd12TotalSize	"xxxGB"	RO
		2	hdd12FullStatus	"Not Full", "Full", "Under-Raid"	RO
		3	hdd12FailStatus	"Not Full", "Full", "Under-Raid"	RO
7			usbStatus	Supported by trap message	
	1		usbConn	usbString	-
	2		usbDisconn	usbString	-
	3		usbString	"Usb Connected", "Usb Disconnected"	RO
8			raidStatus		
	1		raidArray01Status		
		1	raidArray01Check	"Not Use", "Use"	RO
		2	raidArray01Level	1, 5, 6	RO
		3	raidArray01State	"Active", "Degraded", "Rebuilding", "Fail", "Building"	RO
		4	raidArray01FullStatus	"Not Full", "Full"	RO
		5	raidArray01TotalSize	"xxxGB"	RO
		6	raidArray01AssembleHDD	From "HDD01" to "HDD12"	RO
		7	raidArray01AssembleCount	2 to 6	RO
		8	raidArray01RebuildPercent	0 to 100	RO
		9	raidArray01RebuildRemainTime	0 to 60 (minutes)	RO
		10	raidArray01HDDLlistToCheck	From "HDD01" to "HDD12"	RO
	2		raidArray02Status		
		1	raidArray02Check	"Not Use", "Use"	RO
		2	raidArray02Level	1, 5, 6	RO
		3	raidArray02State	"Active", "Degraded", "Rebuilding", "Fail", "Building"	RO
		4	raidArray02FullStatus	"Not Full", "Full"	RO
		5	raidArray02TotalSize	"xxxGB"	RO
		6	raidArray02AssembleHDD	From "HDD01" to "HDD12"	RO
		7	raidArray02AssembleCount	2 to 6	RO
		8	raidArray02RebuildPercent	0 to 100	RO
		9	raidArray02RebuildRemainTime	0 to 60 (minutes)	RO
		10	raidArray02HDDLlistToCheck	From "HDD01" to "HDD12"	RO

Traps

SNMP traps enable a video product to notify the management station of significant events by way of an unsolicited SNMP message.

DVR and NVR support the SNMP generic trap types: coldStart, warmStart, linkDown, linkUp, authenticationFailure. Unlike record products, network camera supports the SNMP generic trap types: coldStart, warmStart, linkUp and authenticationFailure; linkDown is excluded.

The SNMP generic trap types are described below.

- coldStart: a coldStart trap signifies that the sending protocol entity is reinitializing itself so that the agent's configuration or the protocol entity implementation can be altered.
- warmStart: a warmStart trap signifies that the sending protocol entity is reinitializing itself so that neither the agent configuration nor the protocol entity implementation can be altered.
- linkDown: a linkDown trap signifies that the sending protocol entity recognizes a failure in one of the communication links represented in the agent's configuration.
- linkUp: a linkUp trap signifies that the sending protocol entity recognizes that one of the communication links represented in the agent's configuration has come up.
- authenticationFailure: an authenticationFailure trap signifies that the sending protocol entity is the addressee of a protocol message that is not properly authenticated.

For network cameras, new trap messages are added which is for notification of USB connection.

- usbConn: when a USB device is connected, the string "Usb Connected" is sent.
- usbDisconn: when a USB device is disconnected, the string "Usb Disconnected" is sent.

SNMP Commands

SNMP commands used by Hanwha Techwin are as follows.

- `snmpget`: A command to fetch only data of a corresponding OID
ex) `snmpget -v [version] -c public [ip address] [OID value]`
- `snmpwalk`: A command to fetch all data of subtrees at once
ex) `snmpwalk -v [version] -c public [ip address] [OID value]`
- `snmpset`: A command to set data values of a corresponding OID
ex) `snmpset -v [version] -c public [ip address] [OID value] [OID value Type]`

Examples of commands for each SNMP versions

- SNMP version 1, 2c
 - ex1) `snmpwalk -v 1 -c public 192.168.1.100 system`
 - ex2) `snmpwalk -v 2c -c public 192.168.1.100 system`
 - ex3) `snmpset -v 2c -c write 192.168.1.100 enterprises.36849.1.9.2.1.2.3.0 s "OK"`
- Option description
 - v: snmp version to use (1 | 2c | 3)
 - c: set the community string
- Types of OID values
 - i INTEGER
 - u UNSIGNED
 - s STRING
 - x HEX STRING
 - d DECIMAL STRING
 - n NULLOBJ
 - o OBJID
 - t TIMETICKS
 - a IPADDRESS
 - b BITS

- SNMP version 3
 - snmpwalk(snmpget) -v 3 -u [name] -l [level] -a [auth protocol] -A [password]
[ip address] [OID value]
 - ex1) snmpwalk -v 3 -u admin -l authNoPriv -a MD5 -A admin4321
192.168.1.100 system
 - ex2) snmpset -v 3 -u admin -l authNoPriv -a MD5 -A admin4321 192.168.1.100
enterprises.36849.1.9.2.1.2.3.0 s "OK"
 - ex3) snmpwalk -v 3 -u admin -l authNoPriv -a SHA-256 -A admin4321
192.168.1.100 system
 - ex4) snmpwalk -v 3 -u admin -l autoPriv -a SHA-256 -A admin4321 -x AES -X
admin4321 192.168.1.100 enterprises.36849
 - ex5) snmpset -v 3 -u admin -l authNoPriv -a SHA-256 -A admin4321
192.168.1.100 enterprises.36849.1.9.2.1.2.3.0 s "OK"
- Option description
 - u: security name
 - l: security level (noAuthNoPriv | authNoPriv | authPriv)
 - A: authentication protocol pass phrase.
 - a: authentication protocol (MD5 | SHA-256)

Note

From X series version 2.00 and P series version 2.00, SHA-256 authentication protocol is supported.

Examples of SNMP queries and results

SNMP Query

An example of a query statement for receiving SNMP results

```
#!/bin/sh
target_ip=192.168.1.100
echo
echo "#####"
echo $target_ip
echo "#####"
echo
echo "-----MIB Tree-----"
echo "iso.org.dod.intenet.private.enterprise (1.3.6.1.4.1)"
echo " ~.hanwhaTechwin.securitySolution.products (~.36849.1.9)"
echo "-----"
echo
echo "-----System Information-----"
echo "[Product description, product ID, elapsed time since the boot, product
name]"
snmpget -v 1 -c public $target_ip sysDescr.0
snmpget -v 1 -c public $target_ip sysObjectID.0
snmpget -v 1 -c public $target_ip sysUpTime.0
snmpget -v 1 -c public $target_ip sysName.0
echo
echo "-----Disk Information-----"
echo "[Total capacity of flash memory, used capacity, remaining capacity, usage
ratio]"
snmpget -v 1 -c public $target_ip dskTotal.1
snmpget -v 1 -c public $target_ip dskAvail.1
snmpget -v 1 -c public $target_ip dskUsed.1
snmpget -v 1 -c public $target_ip dskPercent.1
echo
echo "-----Storage Information-----"
echo "[RAM memory size, size in use(integer * 1K = xxxKbytes)]"
snmpget -v 1 -c public $target_ip hrStorageDescr.1
snmpget -v 1 -c public $target_ip hrStorageSize.1
snmpget -v 1 -c public $target_ip hrStorageUsed.1
echo "[/ Size of directory, size in use (integer * 4K = xxxKbytes)]"
snmpget -v 1 -c public $target_ip hrStorageDescr.31
snmpget -v 1 -c public $target_ip hrStorageSize.31
snmpget -v 1 -c public $target_ip hrStorageUsed.31
```

```

echo "[/mnt/mmc(SD Card) Size of directory, size in use (integer * 4K =
xxxKbytes)]"
[SNB-6004, SNB-6003, SND-6084, SND-6083, SNO-6084R, SND-6084R, SNV-6084R, SNV-
6012M]
snmpget -v 1 -c public $target_ip hrStorageDescr.41
snmpget -v 1 -c public $target_ip hrStorageSize.41
snmpget -v 1 -c public $target_ip hrStorageUsed.41
[Other Models: Non-6004 series models]
snmpget -v 1 -c public $target_ip hrStorageDescr.36
snmpget -v 1 -c public $target_ip hrStorageSize.36
snmpget -v 1 -c public $target_ip hrStorageUsed.36
echo
echo "-----CPU Load Information-----"
echo "[1 minute average load, 5 minute average load, 15 minute average load]"
snmpget -v 1 -c public $target_ip laLoad.1
snmpget -v 1 -c public $target_ip laLoad.2
snmpget -v 1 -c public $target_ip laLoad.3
echo
echo "-----Network Interface Information-----"
echo "[Physical speed of the network, MAC address, input traffic (bytes), output
traffic(bytes)]"
snmpget -v 1 -c public $target_ip ifSpeed.1
snmpget -v 1 -c public $target_ip ifPhysAddress.1
snmpget -v 1 -c public $target_ip ifInOctets.1
snmpget -v 1 -c public $target_ip ifOutOctets.1
snmpget -v 1 -c public $target_ip ifName.1

snmpget -v 1 -c public $target_ip ifSpeed.2
snmpget -v 1 -c public $target_ip ifPhysAddress.2
snmpget -v 1 -c public $target_ip ifInOctets.2
snmpget -v 1 -c public $target_ip ifOutOctets.2
snmpget -v 1 -c public $target_ip ifName.2

snmpget -v 1 -c public $target_ip ifSpeed.3
snmpget -v 1 -c public $target_ip ifPhysAddress.3
snmpget -v 1 -c public $target_ip ifInOctets.3
snmpget -v 1 -c public $target_ip ifOutOctets.3
snmpget -v 1 -c public $target_ip ifName.3

snmpget -v 1 -c public $target_ip ifSpeed.4
snmpget -v 1 -c public $target_ip ifPhysAddress.4
snmpget -v 1 -c public $target_ip ifInOctets.4
snmpget -v 1 -c public $target_ip ifOutOctets.4
snmpget -v 1 -c public $target_ip ifName.4

echo
echo "-----Memory Information-----"

```



```

echo "[Total memory, remaining memory]"
snmpget -v 1 -c public $target_ip memTotalReal.0
snmpget -v 1 -c public $target_ip memAvailReal.0
echo
echo "-----Test End-----"
echo

```

SNMP Result

The SNMP result of network camera XNZ-6320 is as follows.

XNZ-6320 SNMP Output

```

#####
192.168.1.100
#####

```

The following are the results from MIB Tree.

```

-----MIB Tree-----
iso.org.dod.intenet.private.enterprise (1.3.6.1.4.1)
~.hanwhaTechwin.securitySolution.products (~.36849.1.9)
-----

```

System Information is shown below. Product description, product ID, time elapsed after boot (0:10:54.49 10 minutes 54 seconds and 49) and product name are displayed.

```

-----System Information-----
SNMPv2-MIB::sysDescr.0 = STRING: Hanwha WiseNet IP Camera
SNMPv2-MIB::sysObjectID.0 = OID: SNMPv2-SMI::enterprises.36849.1.9
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (65449) 0:10:54.49
SNMPv2-MIB::sysName.0 = STRING: XNZ-6320

```

Disk Information is shown below. Total capacity of flash memory (about 678G), available capacity (about 63G), used capacity (about 579G) and usage ratio (90%) are displayed. The unit size of the block is 1KB(Kbytes).

```

-----Disk Information-----
UCD-SNMP-MIB::dskTotal.1 = INTEGER: 711016128
UCD-SNMP-MIB::dskAvail.1 = INTEGER: 67092156
UCD-SNMP-MIB::dskUsed.1 = INTEGER: 607223936
UCD-SNMP-MIB::dskPercent.1 = INTEGER: 90

```

Below is Storage Information. The unit size of physical memory and directory are 1KB(Kbytes),

4KB(Kbytes) respectively.

```
-----Storage Information-----
HOST-RESOURCES-MIB::hrStorageDescr.1 = STRING: Physical memory
HOST-RESOURCES-MIB::hrStorageSize.1 = INTEGER: 96788
HOST-RESOURCES-MIB::hrStorageUsed.1 = INTEGER: 36908
The RAM memory size (96788x 1K = 99119012 Bytes) and the size in use (36908x 1K =
37793792 Bytes) are displayed.
HOST-RESOURCES-MIB::hrStorageDescr.31 = STRING: /
HOST-RESOURCES-MIB::hrStorageSize.31 = INTEGER: 177754036
HOST-RESOURCES-MIB::hrStorageUsed.31 = INTEGER: 151800863
The size of the / directory (177754036x 4K = 711016144Kbytes), the size in use
(151800863x 4K = 621776334848Kbytes) are displayed.
HOST-RESOURCES-MIB::hrStorageDescr.36 = STRING: /mnt/logdb
HOST-RESOURCES-MIB::hrStorageSize.36 = INTEGER: 1024
HOST-RESOURCES-MIB::hrStorageUsed.36 = INTEGER: 209
The size of the /mnt/mmc (SD Card) directory (1024x4K = 4096Kbytes) and the size
in use (209x4K = 836Kbytes) are displayed.
```

CPU Load Information is shown below.

```
-----CPU Load Information-----
UCD-SNMP-MIB::laLoad.1 = STRING: 0.00
UCD-SNMP-MIB::laLoad.2 = STRING: 0.09
UCD-SNMP-MIB::laLoad.3 = STRING: 0.06
LaLoad.1 represents the average load for one minute, laLoad.2 represents the
average load for 5 minutes, and laLoad.3 represents the average load for 15
minutes. In other words, it shows how many processes are running on average per
CPU during that time. For example, laLoad.1 is 1.50, which shows that on average,
one process is in the Active state and 0.5 processes are in the Standby state. A
higher value means a more overloaded state.
```

Network Interface Information is shown below.

```
-----Network Interface Information-----
IF-MIB::ifSpeed.1 = Gauge32: 10000000
IF-MIB::ifPhysAddress.1 = STRING:
IF-MIB::ifInOctets.1 = Counter32: 0
IF-MIB::ifOutOctets.1 = Counter32: 0
IF-MIB::ifName.1 = STRING: lo
IF-MIB::ifSpeed.2 = Gauge32: 100000000
IF-MIB::ifPhysAddress.2 = STRING: 0:9:18:70:9b:e0
IF-MIB::ifInOctets.2 = Counter32: 23640565
IF-MIB::ifOutOctets.2 = Counter32: 1294399
IF-MIB::ifName.2 = STRING: eth0
IF-MIB::ifSpeed.2 = Gauge32: 100000000 represents the physical speed (100Mbps) of
the network. MAC address (0: 9: 18: 70: 9b: e0), input traffic (3237762 bytes) and
output traffic (135629515bytes) are displayed.
```

Memory Information is shown below.

```
-----Memory Information-----  
UCD-SNMP-MIB::memTotalReal.0 = INTEGER: 96788 kB  
UCD-SNMP-MIB::memAvailReal.0 = INTEGER: 61164 kB  
The total memory (96788 kB) and remaining memory (61164 kB) are displayed.  
  
-----Test End-----
```

SNMP Test

Hanwha Techwin SNMP MIB allows you to set up information such as systems, events, and data storage devices.

In case of MIB ver.1, for MIB information of each devices, please refer to 'SNMP MIB Guide V1.0 (HTW_SNMP_MIB_Guide_en.pdf)'.

SNMP commands only work with OID values, not object names. Also, when requesting the SNMP command `snmpget`, it is executed with `.0` at the end of the OID.

snmpwalk Command

- SNMP v1: `snmpwalk -v 1 -c public 192.168.1.100 enterprises.36849`
- SNMP v2c: `snmpwalk -v 2c -c public 192.168.1.100 enterprises.36849`

Tip

Public is the read community name set in the device web viewer.

- SNMP v3: `snmpwalk -v 3 -u admin -l authNoPriv -a SHA-256 -A admin4321 192.168.1.100 enterprises.36849`

Note

To use SNMP version 3, you must set the connection mode in the device web viewer to HTTPS secure connection mode.

The default ID and password for SNMP version 3 are admin and admin4321. The password can be set from the SNMP Settings page of the Device Web Viewer, and must be at least 8 characters long.

SHA-256 authentication protocol is supported from X series version 2.00, P series version 2.00.

snmpget Command

- SNMP v1: `snmpget -v 1 -c public 192.168.1.100 enterprises.36849.1.2.1.1.0`
- SNMP v2c: `snmpget -v 2c -c public 192.168.1.100 enterprises.36849.1.9.1.0`

Tip

Public is the name of read community set in the device web viewer

- SNMP v3: `snmpget -v 3 -u admin -l authNoPriv -a SHA-256 -A admin4321`

```
192.168.1.100 enterprises.36849.1.9.1.0
```

```
<Result value> SNMPv2-SMI::enterprises.36849.1.9.1.0 = STRING: "XNZ-6320"
```

snmpset Command

- SNMP v1: `snmpset -v 1 -c public 192.168.1.100 enterprises.36849.1.9.2.1.2.0 s "2011-10-30 11:40:31"`
- SNMP v2c : `snmpset -v 2c -c write 192.168.1.100 enterprises.36849.1.9.2.1.2.0 s "2011-10-30 11:40:31"`

Tip

Public is the read community name set in the device web viewer.

- SNMP v3: `snmpset -v 3 -u admin -l authNoPriv -a SHA-256 -A admin4321 192.168.1.100 enterprises.36849.1.9.2.1.2.0 s "2011-10-30 11:40:31"`

```
<Result value> SNMPv2-SMI::enterprises.36849.1.9.2.1.2.0 = STRING: "2011-10-30 11:40:31"
```