

How to config to Shutdown HikCentral VMS safely when the UPS is LOW

As per the Regulation when the UPS battery is low to handle the load, all the Device (SERVER, NVR) shutdown safely. Therefore, we have integrated the HikCentral to monitor the UPS TRAP signal and Shutdown safely.

HikCentral (SIRA APPROVED V1.3.1.50)

Fill the below two field, you can get this from UPS Manufacture OID Document.

The screenshot displays the HikCentral Web Client interface for configuring SNMP settings. The left sidebar shows a navigation menu with categories: Normal, Network, Storage, Schedule, Email, Report, and Advanced. The 'SNMP' option under the 'Network' category is selected and highlighted in red. The main content area is titled 'SNMP Setting' and contains the following configuration fields:

- Enable SNMP:
- *Port: 162
- *OID: 1.3.6.1.4.1.318.2.3.3.0 (highlighted in red)
- *Message Format: UPS Low battery, system going to shut
- *Battery Low Power: The battery power is too low to contin (highlighted in red)
- *Battery Power Normal: NA
- *Inline Power: NA
- *Battery Power: NA
- *Battery charged: NA

A red 'Save' button is located at the bottom of the configuration area.

Config Trap receiver in UPS, IP is the VMS server IP



UPS Network Management Card 2 Smart-UPS/Matrix Application

- Home
- Status
- Control
- Configuration
- Tests

Trap Receiver

Trap Generation: Enable

NMS IP/Host Name:

Language:

SNMPv1

Community Name:

Authenticate Traps: Enable



UPS Network Management Card 2 Smart-UPS/Matrix Application

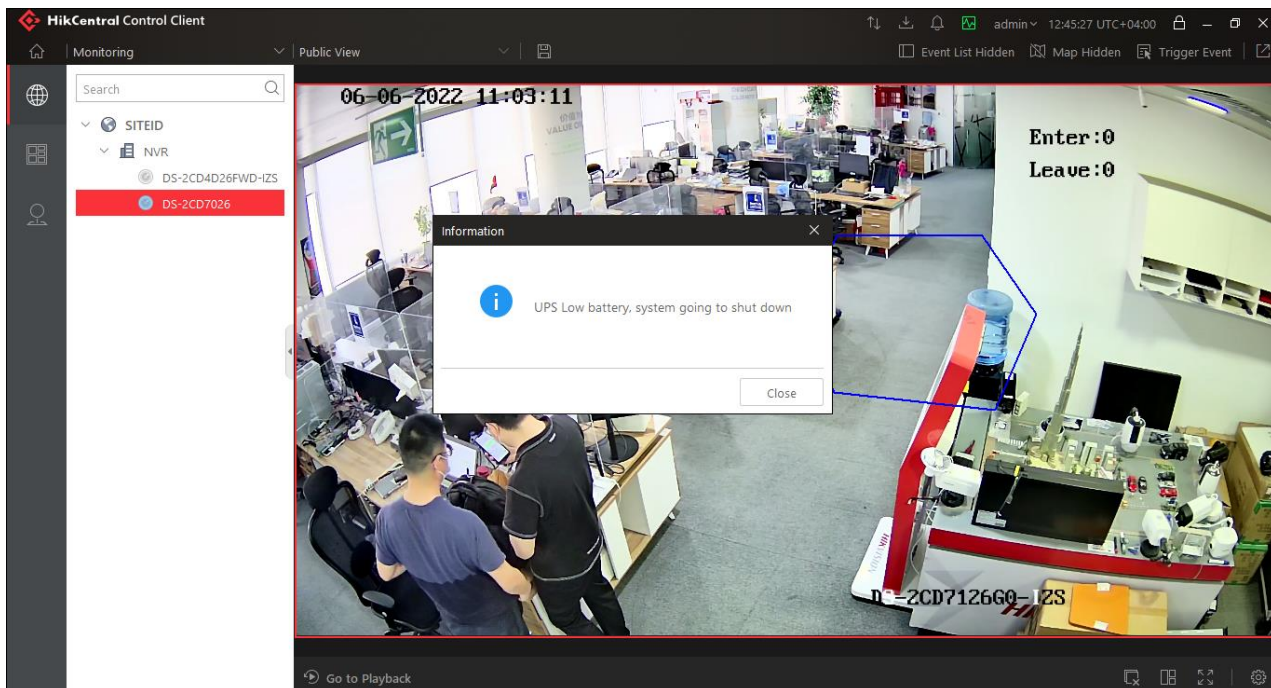
No Alarms
apc | English | Log Off | Help

- Home
- Status
- Control
- Configuration
- Tests
- Logs
- About

Trap Receivers

NMS IP/Host Name	Trap Type	Generation	Language
192.168.100.87	SNMPv1	Enabled	English
192.168.101.246	SNMPv1	Enabled	English

HikCentral Control client show the Popup message



To verify we receive trap signal

1, Check Capture packet and analyze

The screenshot shows a network traffic capture in Wireshark. The top pane displays a list of packets, with packet 493 highlighted in red. The middle pane shows the decoded structure of the selected packet, which is an SNMP trap. The bottom pane shows the raw packet bytes in hexadecimal and ASCII, with a red box highlighting the ASCII text: "mUPS: The battery power is too low to support the load; if power fails, the UPS will be shut down immediately."

No.	Time	Source	Destination	Protocol	Length	Info
309	2022-06-06 13:17:36.774132	192.168.100.3	192.168.100.87	SNMP	84	trap iso.3.6.1.4.1.318
310	2022-06-06 13:17:36.774164	192.168.100.87	192.168.100.3	ICMP	112	Destination unreachable (Port unreachable)
311	2022-06-06 13:17:36.774169	192.168.100.87	192.168.100.3	ICMP	112	Destination unreachable (Port unreachable)
476	2022-06-06 13:17:50.716117	192.168.100.3	192.168.100.87	SNMP	176	trap iso.3.6.1.4.1.318 1.3.6.1.4.1.318.2.3.3.0
477	2022-06-06 13:17:50.716159	192.168.100.87	192.168.100.3	ICMP	204	Destination unreachable (Port unreachable)
478	2022-06-06 13:17:50.716166	192.168.100.87	192.168.100.3	ICMP	204	Destination unreachable (Port unreachable)
493	2022-06-06 13:17:52.943876	192.168.100.3	192.168.100.87	SNMP	112	trap iso.3.6.1.4.1.318 1.3.6.1.4.1.318.2.3.3.0
494	2022-06-06 13:17:52.943917	192.168.100.87	192.168.100.3	ICMP	240	Destination unreachable (Port unreachable)
495	2022-06-06 13:17:52.943923	192.168.100.87	192.168.100.3	ICMP	240	Destination unreachable (Port unreachable)
497	2022-06-06 13:17:53.514077	192.168.100.3	192.168.100.87	SNMP	137	trap iso.3.6.1.4.1.318 1.3.6.1.4.1.318.2.3.3.0
498	2022-06-06 13:17:53.514118	192.168.100.87	192.168.100.3	ICMP	165	Destination unreachable (Port unreachable)
499	2022-06-06 13:17:53.514127	192.168.100.87	192.168.100.3	ICMP	165	Destination unreachable (Port unreachable)

```

> User Datagram Protocol, Src Port: 55495, Dst Port: 162
  Simple Network Management Protocol
    version: version-1 (0)
    community: public
    data: trap (4)
      trap
        enterprise: 1.3.6.1.4.1.318 (iso.3.6.1.4.1.318)
        agent-addr: 192.168.100.3
        generic-trap: enterpriseSpecific (6)
        specific-trap: 4
        time-stamp: 2500
        > variable-bindings: 1 item
  
```

```

0000  28 57 be eb 1f 10 00 c0 b7 f5 1b 08 08 00 45 00  (W.....E.
0010  00 c6 00 01 00 00 40 11 30 7b c0 a8 64 03 c0 a8  ....@: 0{.d...
0020  64 57 d8 c7 00 a2 00 b2 00 00 30 81 a7 02 01 00  dW.....-0.....
0030  04 06 70 75 62 6c 69 63 a4 81 99 06 07 2b 06 01  --public....+..
0040  04 01 82 3e 40 04 c0 a8 64 03 02 01 06 02 01 04  -->@...d.....
0050  43 02 0a 14 30 7e 30 7c 06 0b 2b 06 01 04 01 82  C...0@]..+.....
0060  3e 02 03 03 00 04 6d 55 50 53 3a 20 54 68 65 20  >.....mUPS: The
0070  62 61 74 74 65 72 79 20 70 6f 77 65 72 20 69 73  battery power is
0080  20 74 6f 6f 20 6c 6f 77 20 74 6f 20 73 75 70 70  too low to supp
0090  6f 72 74 20 74 68 65 20 6c 6f 61 64 3b 20 69 66  ort the load; if
00a0  20 70 6f 77 65 72 20 66 61 69 6c 73 2c 20 74 68  power fails, th
00b0  65 20 55 50 53 20 77 69 6c 6c 20 62 65 20 73 68  e UPS will be sh
00c0  75 74 20 64 6f 77 6e 20 69 6d 6d 65 64 69 61 74  ut down immediat
00d0  65 6c 79 2e                                     ely.
  
```

2, In th Hikcentral VSM Log

```

[2022-06-06 12:46:57.650][VSM][INFO][VSM::CRespTask::Exec][CvsmAccessControlTask::RequestProcess] HttpServerSynSend success, revalue = 0, handle = 9, url /ISAPI/Bumblebee/PTZCtr1/Cameras/99/lockPTZ[...]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Error Index = 0, Error Status = 0, Requestid = 0, VBCount = 1, Type = 164[.src\SnmpTrap\SnmpTrap.cpp(142)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]UPS OID: 1.3.6.1.4.1.318.2.3.3.0, Web OID: 1.3.6.1.4.1.318.2.3.3.0[.src\SnmpTrap\SnmpTrap.cpp(156)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]strValue: UPS: The battery power is too low to continue to support the load; the UPS will shut down if input power does not return to normal
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Web InlinePower: NA[.src\SnmpTrap\SnmpTrap.cpp(169)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Web BatteryPower: NA[.src\SnmpTrap\SnmpTrap.cpp(176)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Web BatteryCharged: NA[.src\SnmpTrap\SnmpTrap.cpp(186)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Web BatteryLowPower: The battery power is too low to continue to support the load[.src\SnmpTrap\SnmpTrap.cpp(193)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Web BatteryPowerNormal: NA[.src\SnmpTrap\SnmpTrap.cpp(200)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Power Status: Battery Power, Battery Status: Battery Low Power[.src\SnmpTrap\SnmpTrap.cpp(214)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback]Start Shut Down[.src\SnmpTrap\SnmpTrap.cpp(224)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback][Ups] Push Msg [<?xml version="1.0" encoding="UTF-8"?>
<Msg><Data><Ups><BatteryLowPower>1</BatteryLowPower><Message>UPS Low battery, system going to shut down</Message></Ups></Data></Msg>
], Session ID : [4E17C07A1EE74842B5BAFC56A7D2B6D1][.src\SnmpTrap\SnmpTrap.cpp(245)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback][Ups] Push Msg [<?xml version="1.0" encoding="UTF-8"?>
<Msg><Data><Ups><BatteryLowPower>1</BatteryLowPower><Message>UPS Low battery, system going to shut down</Message></Ups></Data></Msg>
], Session ID : [60CD96CDB4E143B1BE4ECD0D3151CF2D][.src\SnmpTrap\SnmpTrap.cpp(245)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback][Ups] Push Msg [<?xml version="1.0" encoding="UTF-8"?>
<Msg><Data><Ups><BatteryLowPower>1</BatteryLowPower><Message>UPS Low battery, system going to shut down</Message></Ups></Data></Msg>
], Session ID : [7335BFEC022449FE94B0BAFA15487678][.src\SnmpTrap\SnmpTrap.cpp(245)][0x0000144c]
[2022-06-06 12:47:00.302][SnmpTrap][INFO][snmptrap::callback][Ups] Push Msg [<?xml version="1.0" encoding="UTF-8"?>
<Msg><Data><Ups><BatteryLowPower>1</BatteryLowPower><Message>UPS Low battery, system going to shut down</Message></Ups></Data></Msg>
], Session ID : [DC7693E415FC4A75A3EE90683C23EF1C][.src\SnmpTrap\SnmpTrap.cpp(245)][0x0000144c]
[2022-06-06 12:47:00.303][SnmpTrap][INFO][snmptrap::callback]Device type is [2][.src\SnmpTrap\SnmpTrap.cpp(256)][0x0000144c]
[2022-06-06 12:47:00.347][SnmpTrap][INFO][snmptrap::callback]Shut Down Success Because Battery LowPower[.src\SnmpTrap\SnmpTrap.cpp(274)][0x0000144c]
[2022-06-06 12:47:00.742][vsm][INFO][VSM::CvsmAccessControlTask::SessionTokenMode]IP=127.0.0.1, Ur1=/ISAPI/Bumblebee/KeepLive, SID=DC7693E415FC4A75A3EE90683C23EF1C[.src\Security\VsmAccessControlTask.c
[2022-06-06 12:47:00.743][VSM][INFO][VSM::CRespTask::Exec][CvsmAccessControlTask::RequestProcess] HttpServerSynSend success, revalue = 0, handle = 9, url /ISAPI/Bumblebee/KeepLive[.src\Security\Respl
[2022-06-06 12:47:06.641][vsm][INFO][VSM::CvsmAccessControlTask::SessionTokenMode]IP=192.168.101.85, Ur1=/ISAPI/Bumblebee/KeepLive, SID=7335BFEC022449FE94B0BAFA15487678[.src\Security\VsmAccessControlT
[2022-06-06 12:47:06.642][VSM][INFO][VSM::CRespTask::Exec][CvsmAccessControlTask::RequestProcess] HttpServerSynSend success, revalue = 0, handle = 9, url /ISAPI/Bumblebee/KeepLive[.src\Security\Respl
[2022-06-06 12:47:11.750][vsm][INFO][VSM::CvsmAccessControlTask::SessionTokenMode]IP=127.0.0.1, Ur1=/ISAPI/Bumblebee/KeepLive, SID=DC7693E415FC4A75A3EE90683C23EF1C[.src\Security\VsmAccessControlTask.c
[2022-06-06 12:47:11.751][VSM][INFO][VSM::CRespTask::Exec][CvsmAccessControlTask::RequestProcess] HttpServerSynSend success, revalue = 0, handle = 9, url /ISAPI/Bumblebee/KeepLive[.src\Security\Respl
[2022-06-06 12:47:13.028][VSM][INFO][VG::CVGAlarmCenter::UpdateEncodeDeviceMgrState]Storate Server State Not Init, Misss UpdateStorageServerManagerState[.src\VGAlarm\VGAlarmCenter.cpp(879)][0x00001824;
  
```