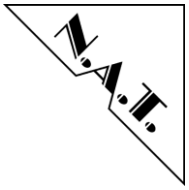

NAT-MCH SNMP Overview V1.2

NAT-MCH SNMP Overview:

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1 NAT-MCH SNMP Overview

This document provides information about the new SNMP functionality of the NAT-MCH firmware.

2 SNMPv1 Protocol Stack

The next firmware release of the NAT-MCH will support the SNMPv1 protocol. This protocol stack is a part of the Light Weight IP project, which is licensed under a BSD-style license.

The SNMP of LwIP supports the following methods:

- GET-Response
- GET-NEXT-Response
- SET-Response
- SEND Trap
- Variable binding
- Community

3 Standard and Private MIBs

All SNMP communication between a management software and the NAT MCH is based on the Object Identifier (OID) tree. It is possible to extend this OID tree so new devices can be integrated. This extension is done by so-called MIB files which can usually be imported by the SNMP management software. (MIB is an abbreviation for Management Information Base).

3.1 MIB-II

The MIB-II [OID = *1.3.6.1.2.1*] is the most important standard MIB specified by RFC1213.
This management group is defined for use with network management protocols in TCP/IP-based internets. MIB-II support is already integrated into the protocol stack.

3.2 Private MIBs

N.A.T. supplies all necessary SNMP related information about the N.A.T. MCH using private MIBs. These MIBs are representing:

- Generic Board Information of the N.A.T.-MCH and its modules (e.g. version and serial number see Figure 1).
- Text Based Information (ASCII Buffer)
  - History buffer
  - Summered FRU information of system
- SNMP Traps for IPMI Events

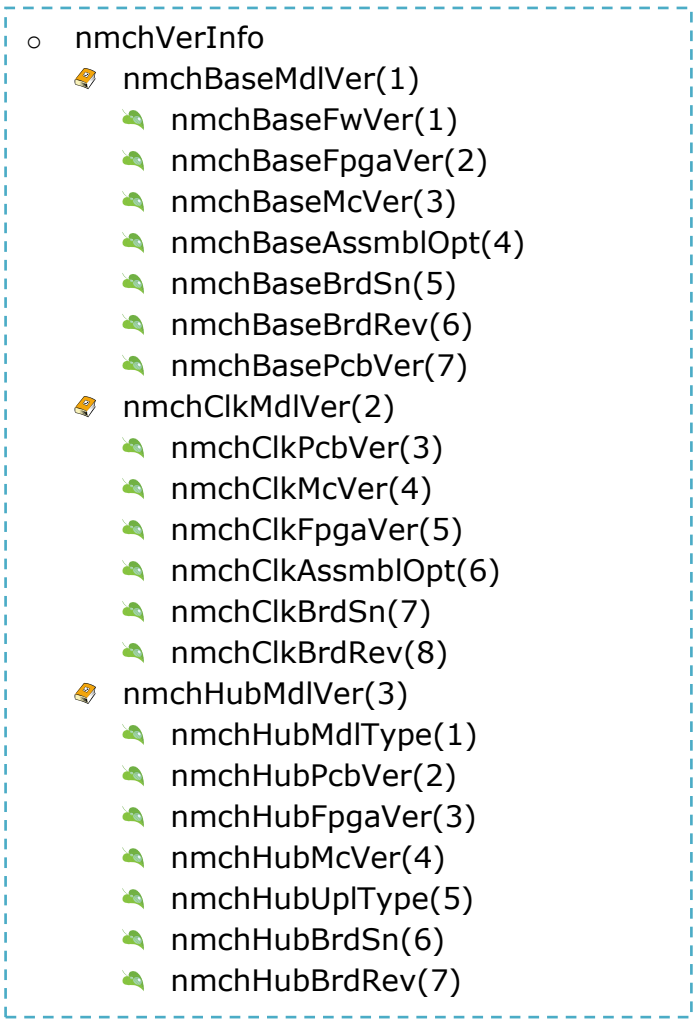
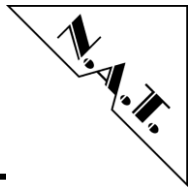


Figure 1: NAT-MCH module Information



4 IPMI Traps

Whenever a sensor threshold is trespassed IPMI events are being generated and sent to the carrier manager. SNMP implements this behaviour by using so-called SNMP traps that are being sent to the SNMP manager. SNMP traps are specified in *IPMI Platform Event Trap Format Specification v1.0 (1998)* and implemented by *Wired for Management* MIB [OID = 1.3.6.internet(1).private(4).enterprises(1).wired_for_management(3183). .PET(1).version(1)].

5 SNMP Settings

The SNMP has two parameters that can to be configured. "Enable/Disable" state and IP address of the Trap Receiver.
The first parameter determines the initialization state of SNMP server after MCH-firmware startup. The next parameter set the IP address of the host, which has to receive and to process the SNMP traps generated by the NAT-MCH. To apply the reboot of MCH is necessary. If Trap Receiver option has not been configured or IP address is set to <0.0.0.0> the NAT-MCH generates no SNMP Trap.

5.1 SNMP Settings(FW V2.15)

The SNMP can be enabled by using of CLI of the NAT-MCH.
To enable SNMP server on NAT-MCH use console to enter following command:

```
ce add snmp_ena true
```

to set the trap parameter enter

```
nat>ce add snmp_trap_ip0 XXX.XXX.XXX.XXX (IP address of your trap
receiver)
```

then to check the changes enter:

```
nat>ce
```

find and verify the settings:

```
$RW snmp_ena = true
$RW snmp_trap_ip0 = XXX.XXX.XXX.XXX
```

Then backup the setting on board FLASH:

```
nat>ce save
```

Finally, reboot NAT-MCH to apply configuration:

```
reboot
```

5.2 SNMP Settings (FW V2.16)

The SNMP can be configured over web interface of the NAT-MCH. Use "SNMP Options" which are available in the "Base Configuration" menu.

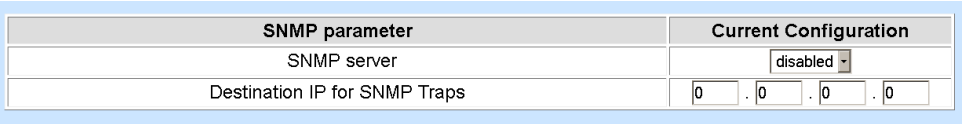


Figure 2: web interface - SNMP Options

To apply new configuration please confirm the changes by "Save" and reboot NAT-MCH.

Appendix A: Reference Documentation

[1] RFC 1157 - A simple network management protocol
[2] RFC 1213 - Version 2 of management information base (MIB-2) for network management of TCP/IP-based internets
[3] IPMIv2.0 - Intelligent Platform Management Interface Specification (Second Generation)
[4] IPMI Platform Event Trap Format Specification v1.0

Appendix B: Document's History

Revision	Date	Description	Author
1.0	14.03.2014	initial release	al
1.1	08.12.2014	Removed 4. Field Replaceable Unit (FRU) representation in SNMP; Removed 5. IPMI Sensor Data Records (SDR) Added 5. SNMP Settings(FW V2.15)	al
1.2	14.012015	Added 5. SNMP Settings(FW V2.16)	al