

## SNMP

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## 1 Installation

```
#apt-get snmp
```

```
$ snmpwalk -v 2c -c public -On 192.168.1.81 .
...
.1.3.6.1.2.1.1.7.0 = INTEGER: 79
.1.3.6.1.4.1.19947.1.1.1.0 = INTEGER: 1
...
```

Afin d'obtenir le nom des noeuds, il faut préalablement ajouter la MIB spécifique *WIENER-CRATE-MIB.txt* côté client.

```
$ snmpwalk -v 2c -c public -Of 192.168.1.81 .
...
.iso.org.dod.internet.mgmt.mib-2.system.sysServices.0 = INTEGER: 79
.iso.org.dod.internet.private.enterprises.19947.1.1.1.0 = INTEGER: 1
...

$ mkdir -p ~/.snmp/mibs
$ cp WIENER-CRATE-MIB.txt ~/.snmp/mibs
$ export MIBS+=WIENER-CRATE-MIB
$ snmpwalk -v 2c -c public -Of -m +WIENER-CRATE-MIB 192.168.1.81 .
...
.iso.org.dod.internet.mgmt.mib-2.system.sysServices.0 = INTEGER: 79
.iso.org.dod.internet.private.enterprises.wiener.crate.system.sysMainSwitch.0 = INTEGER: ON(1)
...
```

The SNMP community names for different views. The rights of the different communities are :

- public : no write access
- private : can switch power on/off, generate system reset
- admin : can change supervision levels
- guru : can change output voltage & current (this may destroy hardware if done wrong!)

## 2 Requête set

Cette commande allume l'alimentation *192.168.1.86*.

```
$ snmpset -v 2c -c admin -Of 192.168.1.86 .1.3.6.1.4.1.19947.1.1.1.0 i 1
.iso.org.dod.internet.private.enterprises.19947.1.1.1.0 = INTEGER: 1
```

### 3 Requêtes get

Informations :

- get état (on/off)

```
sysStatus OBJECT-TYPE
    SYNTAX  BITS {
        mainOn (0) ,
        mainInhibit (1) ,
        localControlOnly (2) ,
        inputFailure (3) ,
        outputFailure (4) ,
        fantrayFailure (5) ,
        sensorFailure (6) ,
        VmeSysfail (7) ,
        plugAndPlayIncompatible (8)
    }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "A bit string which shows the status (health) of the complete crate.
        If a bit is set (1), the explanation is satisfied
        mainOn (0),                system is switched on, individual outputs
                                   may be controlled by their specific ON/INHIBIT
        mainInhibit(1),           external (hardware-)inhibit of the complete system
        localControlOnly (2),     local control only (CANBUS write access denied)
        inputFailure (3),         any input failure (e.g. power fail)
        outputFailure (4),        any output failure, details in outputTable
        fantrayFailure (5),       fantray failure
        sensorFailure (6),        temperature of the external sensors too high
        VmeSysfail(7),            VME SYSFAIL signal is active
        plugAndPlayIncompatible (8) wrong power supply and rack connected
        "
```

```
outputStatus OBJECT-TYPE
    SYNTAX  BITS {
        outputOn (0) ,
        outputInhibit (1) ,
        outputFailureMinSenseVoltage (2),
        outputFailureMaxSenseVoltage (3),
        outputFailureMaxTerminalVoltage (4),
        outputFailureMaxCurrent (5),
        outputFailureMaxTemperature (6),
        outputFailureMaxPower (7),
        -- reserved
        outputFailureTimeout (9),
        outputCurrentLimited (10),
        outputRampUp (11),
        outputRampDown (12),
    }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "A bit string which shows the status (health and operating conditions) of one output channel.
        If a bit is set (1), the explanation is satisfied:
        outputOn (0),output channel is on
        outputInhibit(1),external (hardware-)inhibit of the output channel
        outputFailureMinSenseVoltage (2), Supervision limit hurt: Sense voltage is too low
        outputFailureMaxSenseVoltage (3), Supervision limit hurt: Sense voltage is too high
        outputFailureMaxTerminalVoltage (4), Supervision limit hurt: Terminal voltage is too high
        outputFailureMaxCurrent (5),      Supervision limit hurt: Current is too high
        outputFailureMaxTemperature (6), Supervision limit hurt: Heat sink temperature is too high
        outputFailureMaxPower (7),Supervision limit hurt: Output power is too high
        outputFailureTimeout (9), Communication timeout between output channel and main control
        outputCurrentLimited (10),        Current limiting is active (constant current mode)
        outputRampUp (11),                 Output voltage is increasing (e.g. after switch on)
        outputRampDown (12),               Output voltage is decreasing (e.g. after switch off)"

.1.3.6.1.4.1.19947.1.3.2.1.9.1 = INTEGER: ON(1)
.1.3.6.1.4.1.19947.1.3.2.1.9.2 = INTEGER: ON(1)
.1.3.6.1.4.1.19947.1.3.2.1.9.4 = INTEGER: ON(1)
.1.3.6.1.4.1.19947.1.3.2.1.9.5 = INTEGER: ON(1)

.1.3.6.1.4.1.19947.1.1.2.0 = BITS: 80 00 mainOn(0)
.1.3.6.1.4.1.19947.1.3.2.1.4.1 = BITS: 80 outputOn(0)
.1.3.6.1.4.1.19947.1.3.2.1.4.2 = BITS: 80 outputOn(0)
.1.3.6.1.4.1.19947.1.3.2.1.4.4 = BITS: 80 outputOn(0)
.1.3.6.1.4.1.19947.1.3.2.1.4.5 = BITS: 80 outputOn(0)
```

- get température globale

- nombre d'alims :

```
outputNumber OBJECT-TYPE
    SYNTAX  INTEGER (0..255)
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The number of output channels of the crate."

outputName OBJECT-TYPE
    SYNTAX  DisplayString (SIZE (1..4))
    ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "A textual string containing a short name of the
```

output. If the crate is equipped with an alphanumeric display, this string is shown to identify a output channel."

```
.1.3.6.1.4.1.19947.1.3.1.0 = INTEGER: 4
.1.3.6.1.4.1.19947.1.3.2.1.2.1 = STRING: +5V0
.1.3.6.1.4.1.19947.1.3.2.1.2.2 = STRING: +12V
.1.3.6.1.4.1.19947.1.3.2.1.2.4 = STRING: +3V3
.1.3.6.1.4.1.19947.1.3.2.1.2.5 = STRING: -5V2
```

- get température par alims : non sens, les capteurs ne sont pas répartis par alims.

```
outputMeasurementTemperature OBJECT-TYPE
    SYNTAX  INTEGER { OK (-128), FAILURE(127) }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The measured temperature of the power module."

.1.3.6.1.4.1.19947.1.3.2.1.8.1 = INTEGER: OK(-128)
.1.3.6.1.4.1.19947.1.3.2.1.8.2 = INTEGER: OK(-128)
.1.3.6.1.4.1.19947.1.3.2.1.8.4 = INTEGER: OK(-128)
.1.3.6.1.4.1.19947.1.3.2.1.8.5 = INTEGER: OK(-128)
```

```
sensorNumber OBJECT-TYPE
    SYNTAX  INTEGER (0..8)
    ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The number of temperature sensors of the crate."
```

```
.1.3.6.1.4.1.19947.1.4.1.0 = INTEGER: 8
```

```
sensorTemperature OBJECT-TYPE
-- CHECK  SYNTAX  INTEGER { UNUSED(-128), (-127..127) }
    SYNTAX  INTEGER (-128..127)
    UNITS   "degres C"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The measured temperature of the sensor.
        Unused temperature probes have the special value -128"
```

```
.1.3.6.1.4.1.19947.1.4.2.1.2.1 = INTEGER: 39 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.2 = INTEGER: 37 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.3 = INTEGER: 41 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.4 = INTEGER: 40 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.5 = INTEGER: 39 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.6 = INTEGER: 41 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.7 = INTEGER: -128 <B0>C
.1.3.6.1.4.1.19947.1.4.2.1.2.8 = INTEGER: -128 <B0>C
```

- get tension terminale par alims : non disponible

```
outputMeasurementSenseVoltage OBJECT-TYPE
    SYNTAX  Float
    UNITS   "V"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The measured voltage at the sense input lines."

.1.3.6.1.4.1.19947.1.3.2.1.5.1 = Opaque: Float: 5.270000 V
.1.3.6.1.4.1.19947.1.3.2.1.5.2 = Opaque: Float: 12.169999 V
.1.3.6.1.4.1.19947.1.3.2.1.5.4 = Opaque: Float: 3.610000 V
.1.3.6.1.4.1.19947.1.3.2.1.5.5 = Opaque: Float: 5.670000 V
```

- tension constante max

```
outputSupervisionMaxSenseVoltage OBJECT-TYPE
    SYNTAX  Float
    UNITS   "V"
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
        "If the measured sense voltage is above this value, the power supply
        performs the function defined by SupervisionAction."

.1.3.6.1.4.1.19947.1.3.2.1.17.1 = Opaque: Float: 5.450000
.1.3.6.1.4.1.19947.1.3.2.1.17.2 = Opaque: Float: 12.700000
.1.3.6.1.4.1.19947.1.3.2.1.17.4 = Opaque: Float: 3.650000
.1.3.6.1.4.1.19947.1.3.2.1.17.5 = Opaque: Float: 5.660000
```

- get ampérage par alims

```
outputMeasurementCurrent OBJECT-TYPE
    SYNTAX  Float
    UNITS   "A"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
        "The measured output current."

.1.3.6.1.4.1.19947.1.3.2.1.7.1 = Opaque: Float: 37.840000 A
.1.3.6.1.4.1.19947.1.3.2.1.7.2 = Opaque: Float: 3.090000 A
.1.3.6.1.4.1.19947.1.3.2.1.7.4 = Opaque: Float: 77.150002 A
.1.3.6.1.4.1.19947.1.3.2.1.7.5 = Opaque: Float: 83.769997 A
```

- put état (on/off)

```
sysMainSwitch OBJECT-TYPE
    SYNTAX  INTEGER { OFF (0), ON (1) }
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Read: An enumerated value which shows the current state of
        the crates main switch.
        Write: Try to switch the complete crate ON or OFF.
        Only the values ON or OFF are allowed."
.1.3.6.1.4.1.19947.1.1.1.0 = INTEGER: ON(1)
```