VoiceCollect©

## How to implement

# VC Hardware Monitoring RM 6 and RM 8

## Voice Recording System VC-MDX

Version V2007-2

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## 1. Remark

The implementation of the hardware monitoring task in **RM6 and RM8** required the development of a SNMP agent, which can provide information about the following monitored parameters:

- Voltage
- Fan speed
- Temperature
- The digital IO ports status (for IEE WSB-810)
- The RAID parameters fan speed and temperature (RAID iR2022 model).

## 2. Installation steps

This instruction applies for recorders equipped with IEE WSB-810 and RAID iR2022):

### 2.1 Power Supply

To have the capability to monitor the PSU please mount a cable connecting the PSU TTL output connector of ACE-R4130AP redundant power supply to Input3 (pin7) and GND (pin1) of DIO1 from IEE WSB-810

The digital I/O connector provides programmable input and output for external devices.

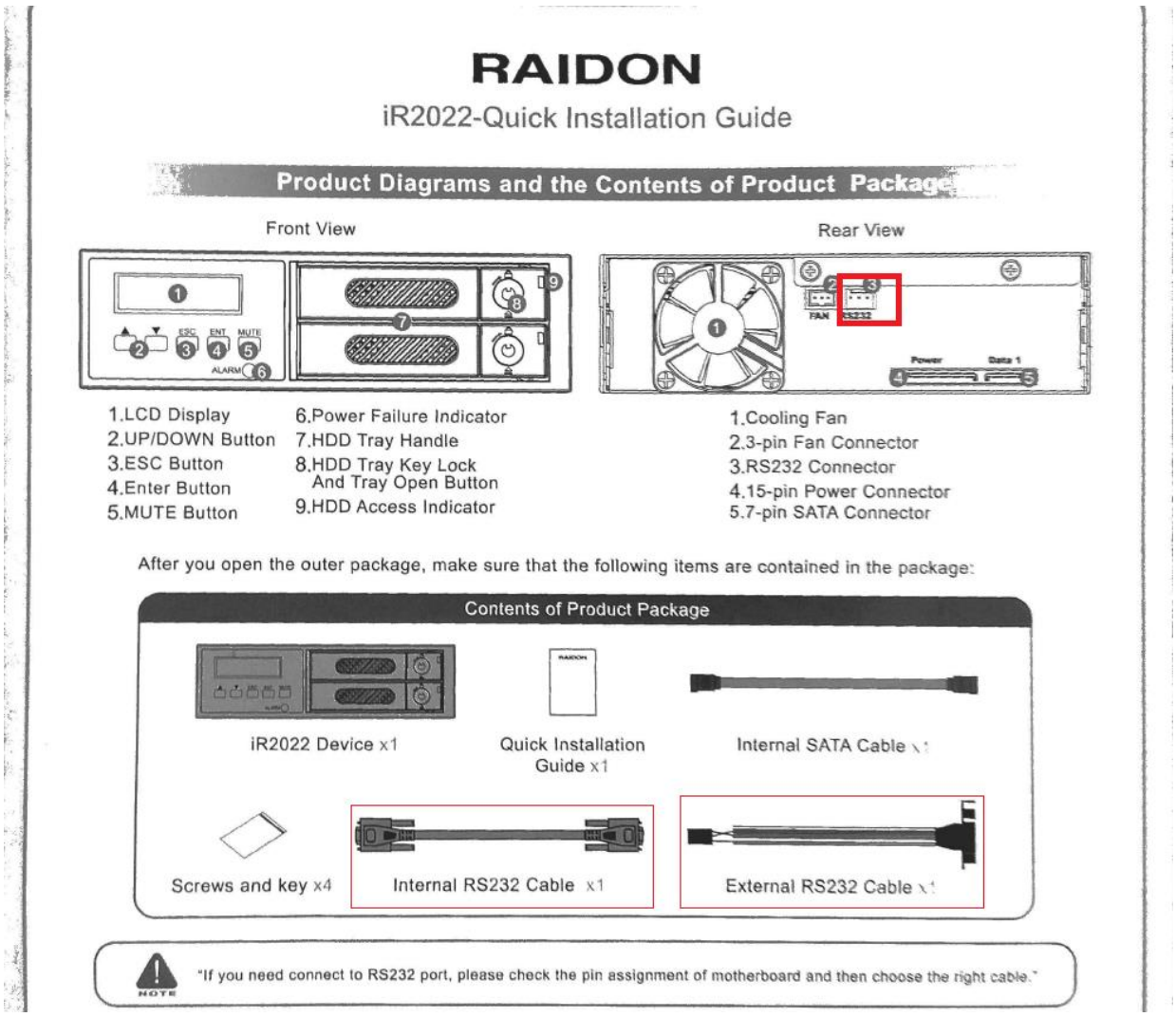
Figure 3-8: Digital I/O Connector Location

| Pin | Description | Pin | Description |
|---|---|---|---|
| 1 | GND | 2 | VCC |
| 3 | Output 3 | 4 | Output 2 |
| 5 | Output 1 | 6 | Output 0 |
| 7 | Input 3 | 8 | Input 2 |
| 9 | Input 1 | 10 | Input 0 |

Table 3-8: Digital I/O Connector Pinouts

## 2.2 RAID

To have the capability to monitor the RAID parameters it is necessary to connect the RS232 RAID connector (item 3 from Rear View) using the External RS232 Cable and the Internal RS232 Cable (contained in the RAID package) to mandatory connect at **COM1** of the IEE WSB-810 motherboard.



RAIDON

iR2022-Quick Installation Guide

Product Diagrams and the Contents of Product Package

Front View

Rear View

1.LCD Display
2.UP/DOWN Button
3.ESC Button
4.Enter Button
5.MUTE Button
6.Power Failure Indicator
7.HDD Tray Handle
8.HDD Tray Key Lock And Tray Open Button
9.HDD Access Indicator

1.Cooling Fan
2.3-pin Fan Connector
3.RS232 Connector
4.15-pin Power Connector
5.7-pin SATA Connector

After you open the outer package, make sure that the following items are contained in the package:

Contents of Product Package

iR2022 Device x1
Quick Installation Guide x1
Internal SATA Cable x1
Screws and key x4
Internal RS232 Cable x1
External RS232 Cable x1

"If you need connect to RS232 port, please check the pin assignment of motherboard and then choose the right cable."

## 2.3 The RS232 connection

The RS232 connectors on the IEE WSB-810 motherboard:

### 3.2.22 Serial Port Connectors, RS-232

| | |
|---|---|
| CN Label: | COM1, COM3, COM4, COM5 |
| CN Type: | 10-pin box header, p=2.54 mm |
| CN Location: | See Figure 3-23 |
| CN Pinouts: | See Table 3-24 |

Each of these connectors provides RS-232 connections.

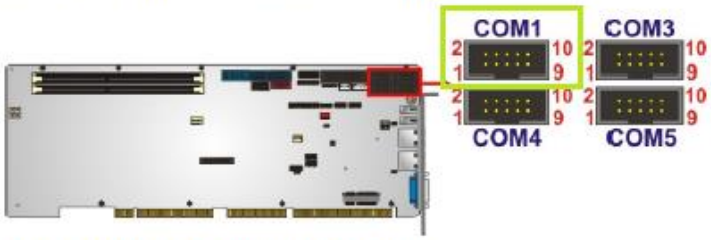



Figure 3-23: Serial Port Connector Locations

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You will find the the RS232 cable optionally in the package of WSB –H810 CPU card:



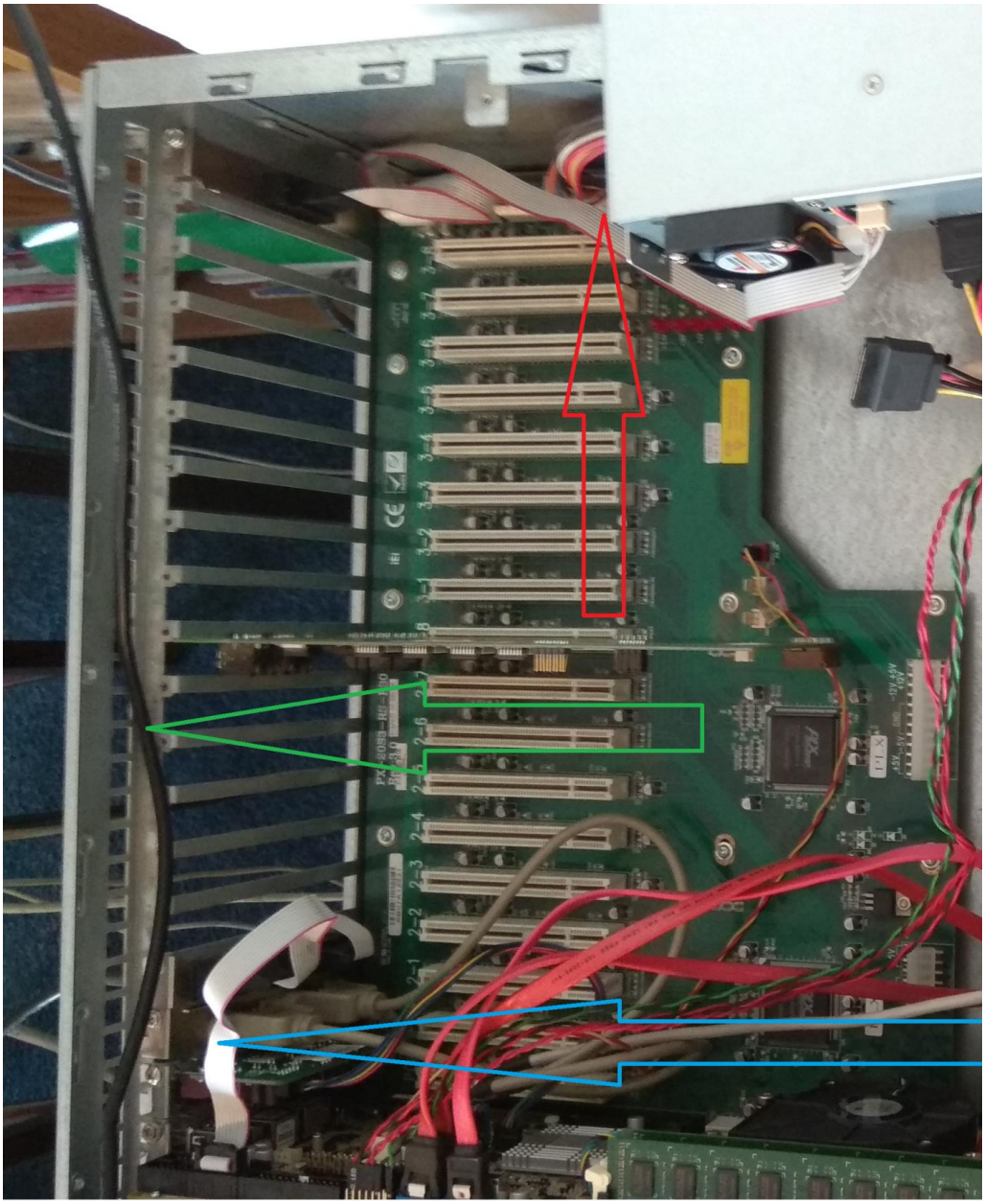
## 2.4 Optional Items

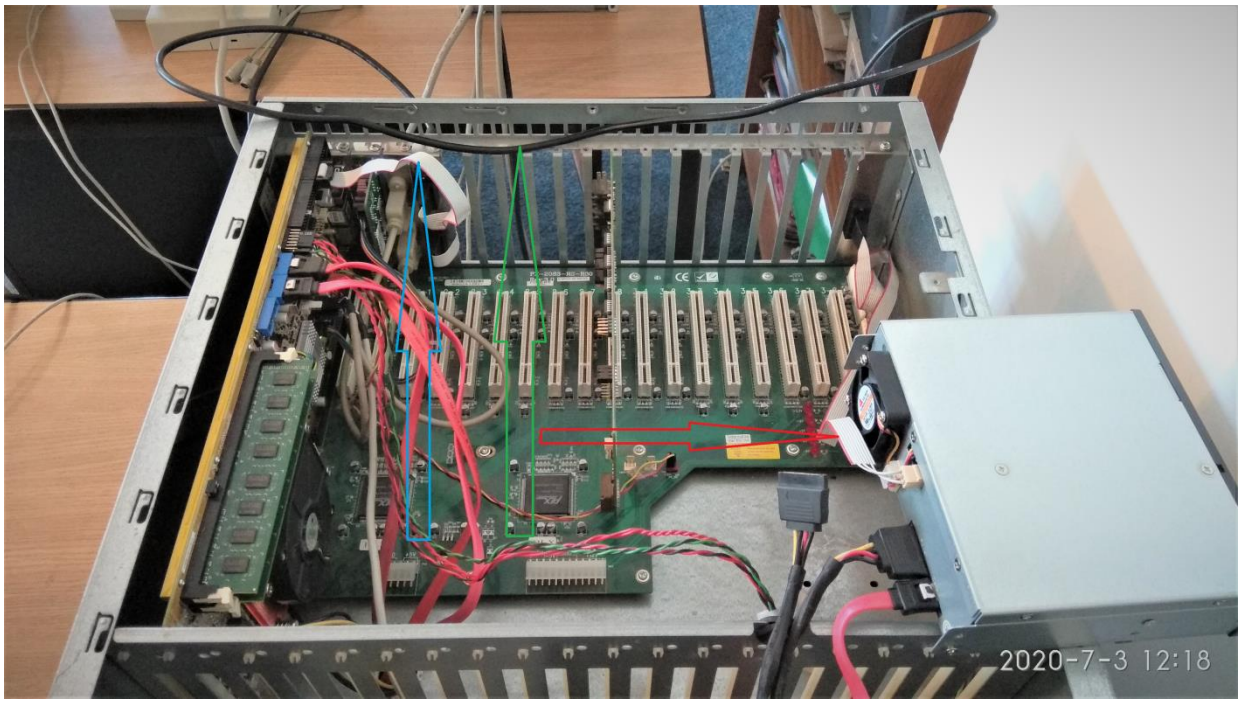
The following are optional components which may be separately purchased:

| Item and Part Number | Image |
|---|---|
| Dual RS-232 cable, 230 mm, P=2.54<br>(P/N: 19800-000051-RS) | |
| RS-422/485 cable, 200 mm<br>(P/N: 32205-003800-300-RS) | |
| Dual-port USB 3.0 cable with bracket<br>(P/N: 19800-010500-200-RS) | |
| Dual-port USB cable with bracket, 300 mm, P=2.54<br>(P/N: 19800-003100-300-RS) | |
| KB/MS cable with bracket<br>(P/N: 19800-000075-RS) | |
| SATA power cable<br>(P/N: 32102-000100-200-RS) | |
| LPT flat cable, 280 mm<br>(P/N: 32200-015100-RS) | |
| LGA1150 cooler kit ,high-performance compatible, 65W<br>(P/N: CF-1150SB-R11) | |

In conclusion there are three cables used to be able to do RAID HW monitoring:

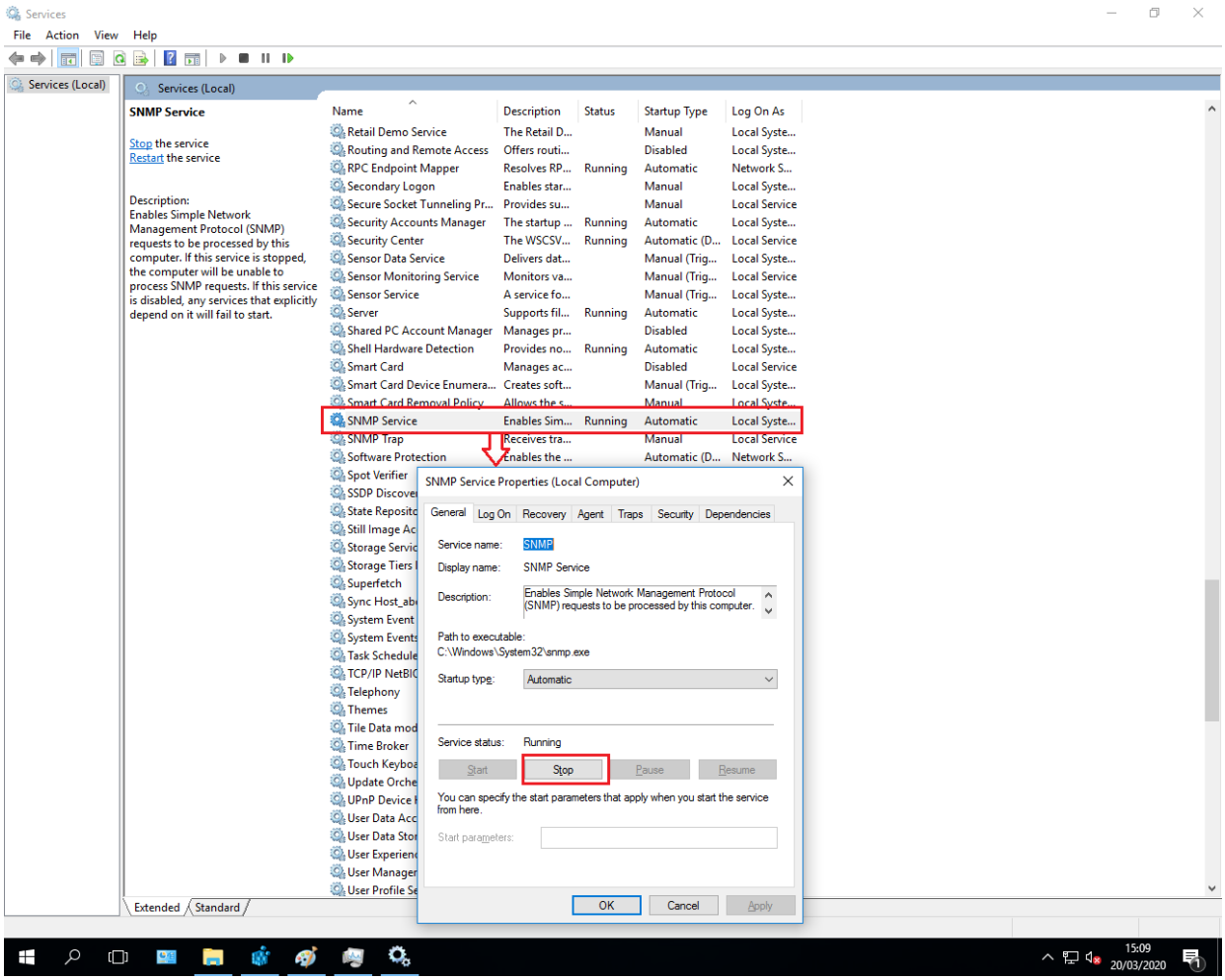
- the External RS232 Cable (contained in the RAID package) (red arrow in below picture)
- the Internal RS232 Cable (contained in the RAID package) (green arrow in below picture)
- RS232 cable of the IEE WSB-810 motherboard (optional in the package of WSB –H810 CPU card) (blue arrow in below picture)




2020-7-3 12:18

## 3. SNMP Service:

a. Check if the SNMP service is installed on the machine. If not, please install and configure it.
b. To be able to install the VoiceCollectHardwareMonitoringKit please be sure that SNMP.exe (Windows service) is stopped. If not, please stop it.

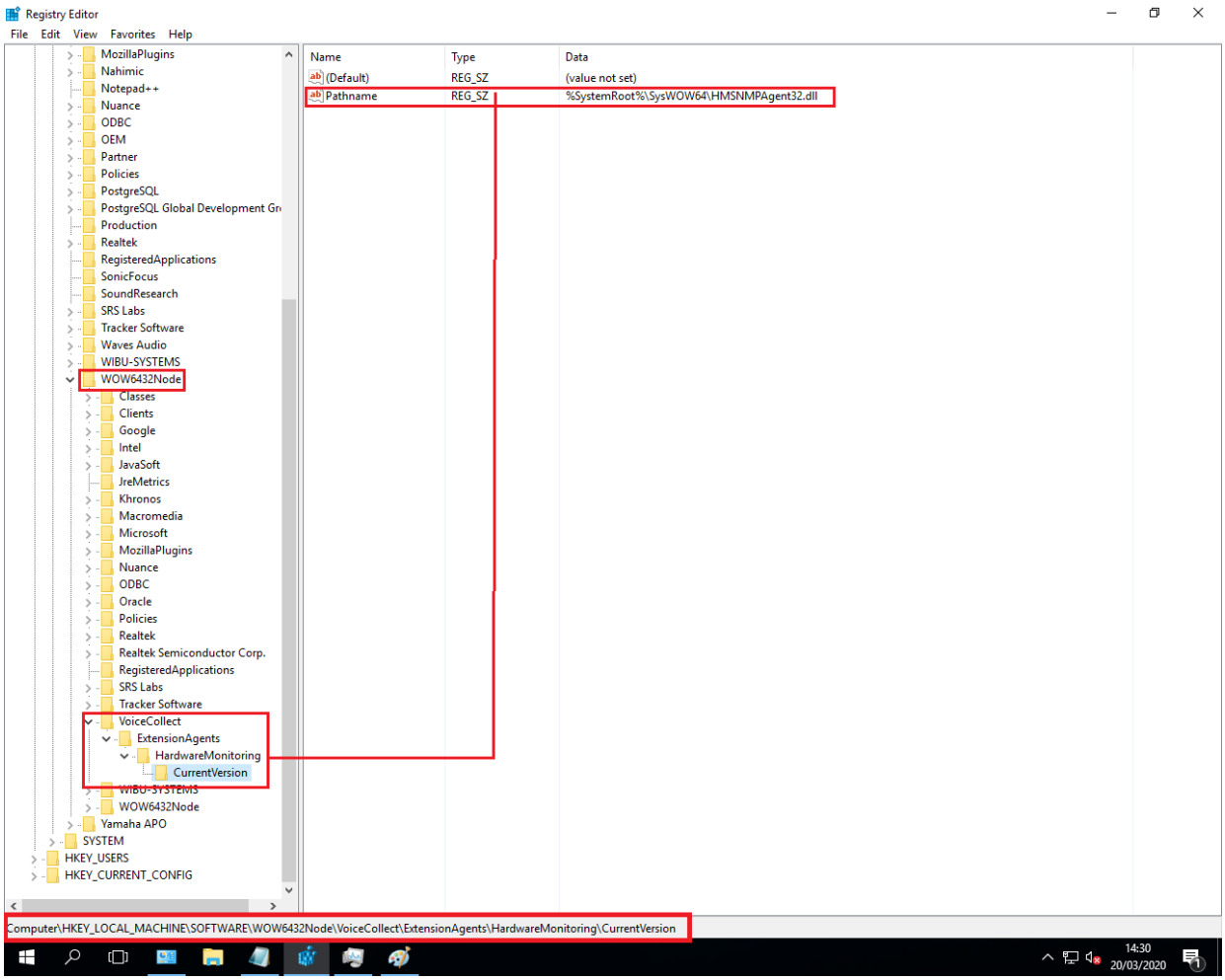


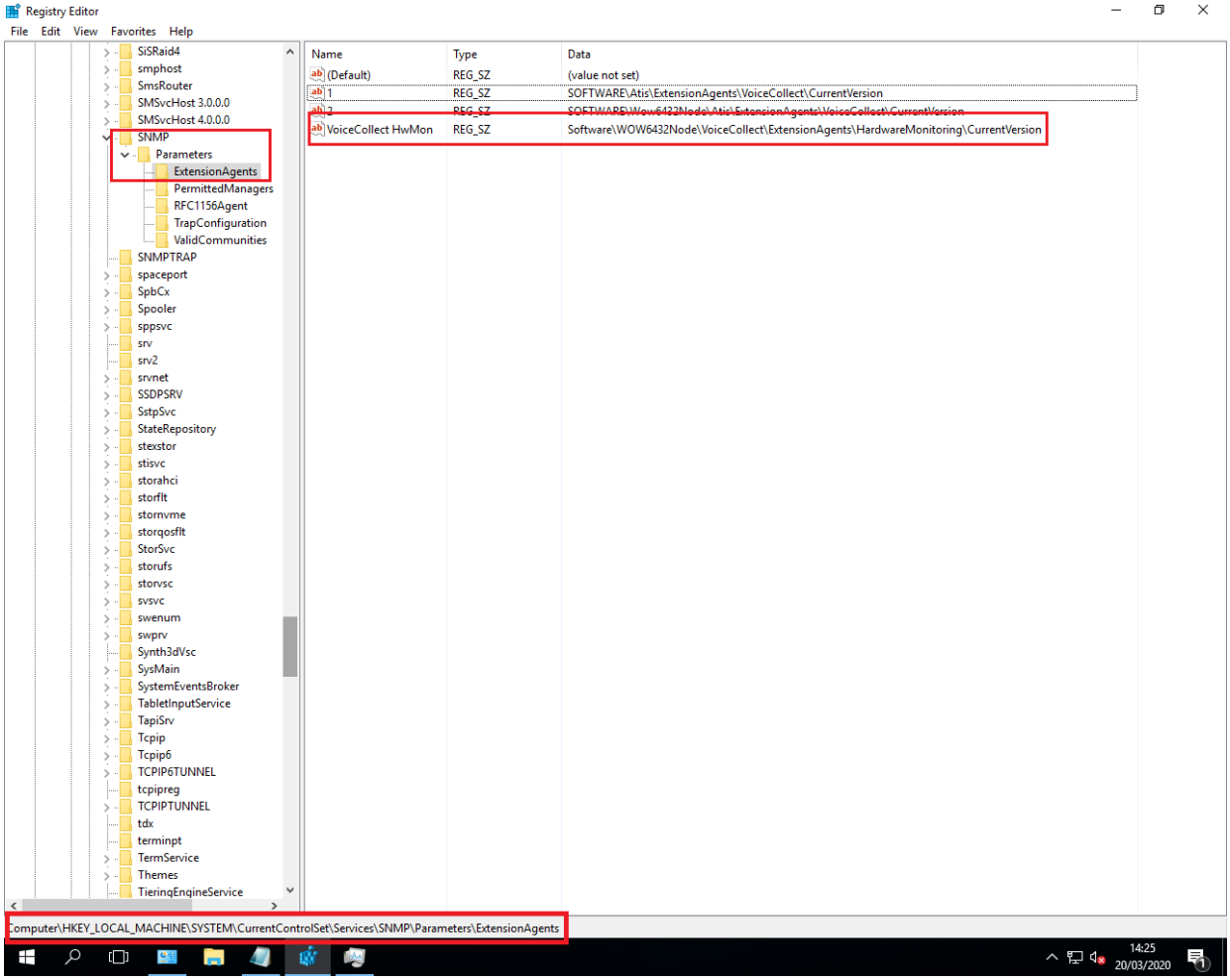
After a successful installation:
-on the path ...Windows/SysWOW64 there are the following files:

- HMSNMPAgent32.dll
- SerialRW.exe
- isMMPlusSDK.dll // IEI sdk dll

-there are 2 new keys in the machine registry:

- *HKLM\Software\Wow6432Node\VoiceCollect\ExtensionAgents\HardwareMonitoring\CurrentVersion*
- *HKLM\System\CurrentControlSet\Services\SNMP\Parameters\ExtensionAgents*




Registry Editor
File Edit View Favorites Help
SNMP
Parameters
ExtensionAgents
PermittedManagers
RFC1156Agent
TrapConfiguration
ValidCommunities
Name
Type
Data
(Default)
REG_SZ
(value not set)
1
REG_SZ
SOFTWARE\Atis\ExtensionAgents\VoiceCollect\CurrentVersion
VoiceCollect HwMon
REG_SZ
Software\WOW6432Node\VoiceCollect\ExtensionAgents\HardwareMonitoring\CurrentVersion
Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\ExtensionAgents
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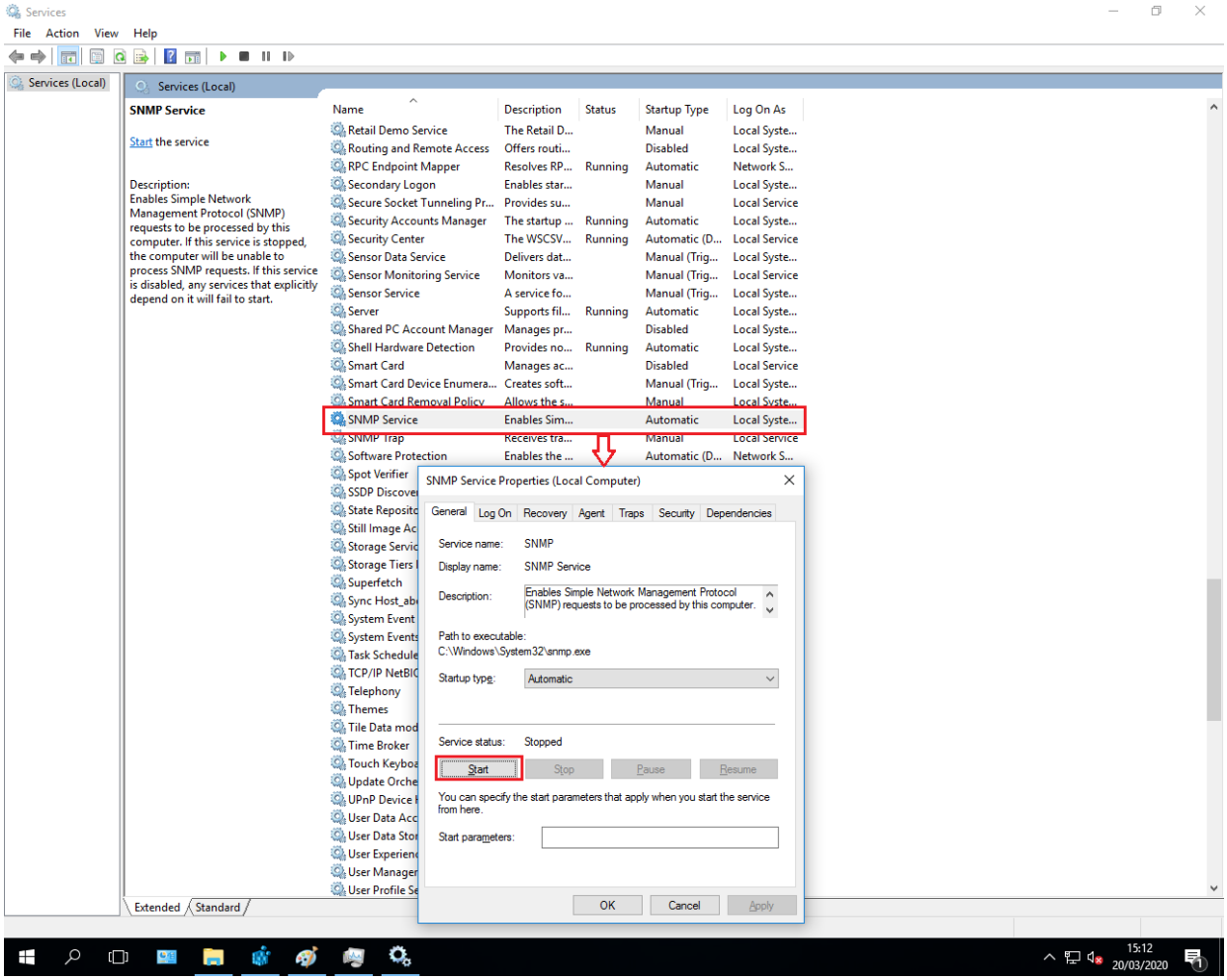
Please start the SNMP service




After this it will be created the folder c:\VoiceCollect containing the file SerialRW.exe by the HMSNMPAgent32.dll (loaded by SNMP.exe just started). On this path it will be created the log files too (HMSNMP32Log.txt and SerialRW.txt)

Using a MIBBrowser, according to the specification contained in the *VChardwaremonitoring.mib* file, it can be monitored the following parameters:

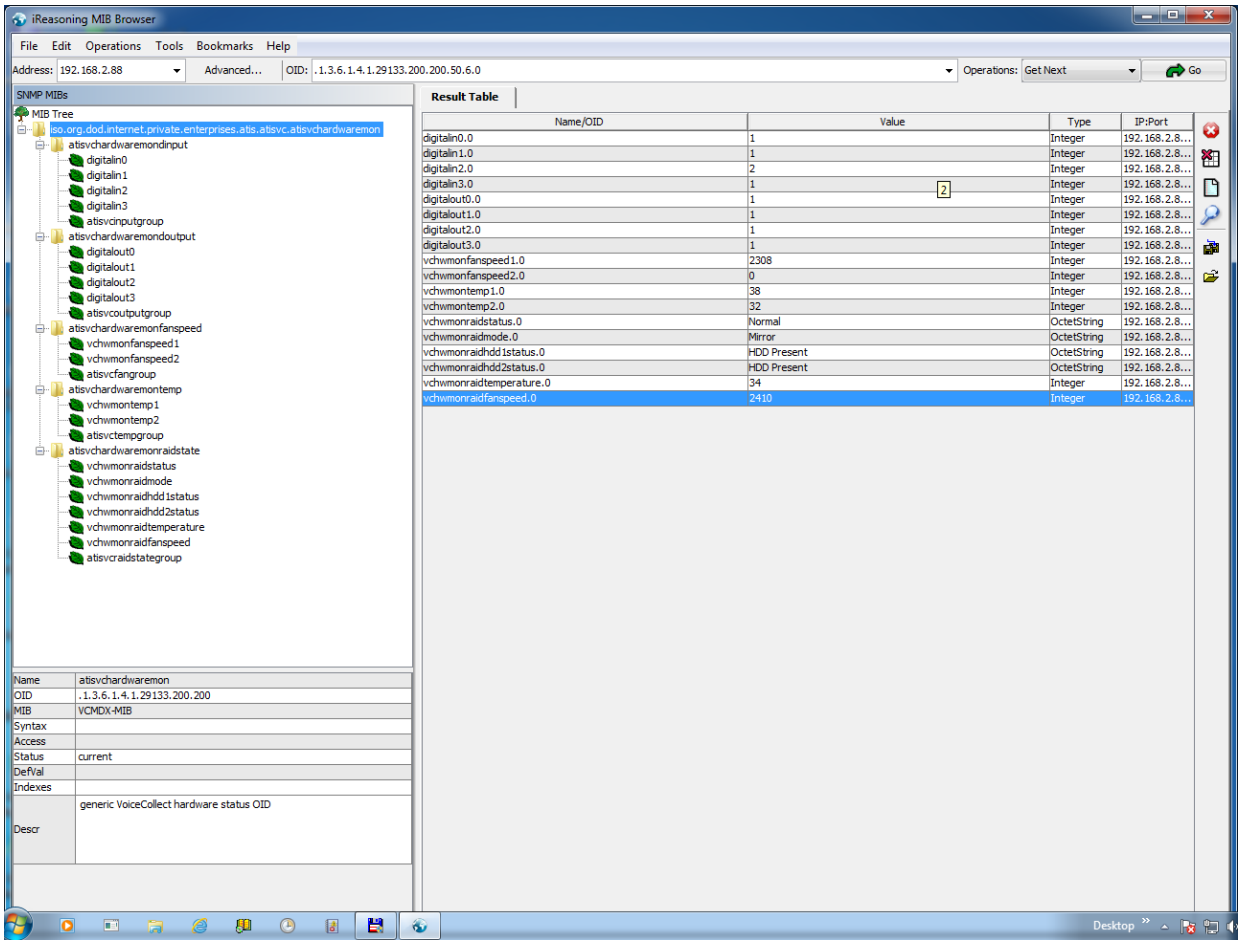
```
// digital input ports
-- 1.3.6.1.4.1.29133.200.200.10.1.0
-- 1.3.6.1.4.1.29133.200.200.10.2.0
-- 1.3.6.1.4.1.29133.200.200.10.3.0
-- 1.3.6.1.4.1.29133.200.200.10.4.0   //  Status of redundant power supply

// digital out ports
-- 1.3.6.1.4.1.29133.200.200.20.1.0
-- 1.3.6.1.4.1.29133.200.200.20.2.0
-- 1.3.6.1.4.1.29133.200.200.20.3.0
-- 1.3.6.1.4.1.29133.200.200.20.4.0

-- 1.3.6.1.4.1.29133.200.200.30.1.0  // FAN CPU
-- 1.3.6.1.4.1.29133.200.200.30.2.0  // FAN SYS

-- 1.3.6.1.4.1.29133.200.200.40.1.0  // temperature CPU
-- 1.3.6.1.4.1.29133.200.200.40.2.0  // temperature SYS

-- 1.3.6.1.4.1.29133.200.200.50.1.0  // RAID status
-- 1.3.6.1.4.1.29133.200.200.50.2.0  // RAID mode
-- 1.3.6.1.4.1.29133.200.200.50.3.0  // RAID HDD1 status
-- 1.3.6.1.4.1.29133.200.200.50.4.0  // RAID HDD2 status
-- 1.3.6.1.4.1.29133.200.200.50.5.0  // RAID temperature
-- 1.3.6.1.4.1.29133.200.200.50.6.0  // RAID fan speed
```




## 4. VoiceCollectHardwareMonitoring Configuration File

When the SNMP service is launched the SerialRW.exe application will start and checks on the working directory (" c:\VoiceCollect**HMDll**") for a configuration file to obtain the working parameters:

- First it is checking for a file named "SerialRWcfg.txt".
- If this doesn't exist, it is looking for a file named "SerialRWcfg_rem.txt".
- If this does not exist also, the application creates a file named "SerialRWcfg.txt" which contains the default parameters used by the SerialRW.exe application .

The application extract ( hopefully with success ) the info contained in the found or created file, then modify the file name in "SerialRWcfg_rem.txt", if necessary,  and runs according with the obtained parameters.

Then, every 20 sec., the application verify if exists a file named "SerialRWcfg.txt":

- If this does not exist, it will continue to run using the current parameters contained in the "SerialRWcfg_rem.txt".
- If finds a file with this name it analyze it , set the new parameters and then delete the old "SerialRWcfg_rem.txt" and rename "SerialRWcfg.txt" file in "SerialRWcfg_rem.txt".

By short, if the working parameters are needed to be modified, the file "SerialRWcfg_rem.txt" is edited accordingly and saved as "SerialRWcfg.txt" (file name does not contain _rem). In max 20 sec the application will know about the appearance of the "SerialRWcfg.txt" file and if it is analyzed with success change its name in “SerialRWcfg_rem.txt" and use from now the new parameters.

After a stop and start (or restart) of the SNMP service the application "SerialRW.exe" is restarted and finds only the "SerialRWcfg_rem.txt" file which is used to set the working parameters.

If, in any of the above situations the parsing fails, then the file name is changed in "SerialRWcfg_bad.txt" and the application will continue to run using the old parameters.
In the file "SerialRWcfg_bad.txt" can be found info with the line number where the error appeared. After the correction is made the file name must be changed in "SerialRWcfg.txt", etc...

If you want to return to the default parameters the SNMP service is stopped, the files with the name starting with SerialRWcfg are deleted and then, is restarted the SNMP service. As described above, it is generated a file named "SerialRWcfg.txt" which will later be renamed in "SerialRWcfg_rem.txt"

The default parameters contained in the configuration file:

```
; default parameters
query=MainData max_numb_of_retries=2 pause_time_before_resuming=10
query=Pause duration=3
query=FanSpeed max_numb_of_retries=2 pause_time_before_resuming=8
query=Pause duration=5
query=Temperature
query=Pause duration=5
query=FanSpeed max_numb_of_retries=1 pause_time_before_resuming=5
query=Pause duration=4
query=Temperature max_numb_of_retries=2 pause_time_before_resuming=3
query=Pause duration=5
```

Every line is a parsing unit.
If the line starts with a string different of "query=" it is considered a comment.

As described before the application functionality will be:

a. Comment. It will be no action.
b. Ask for MainData. If OK! goes to the next line. If fails, retries (two times maximum) with a pause of 10 sec.
c. 3 seconds pause.
d. Ask for FanSpeed. If fails, retries (two times maximum) with a pause of 8 sec.
e. 5 seconds pause.
f. Ask for the Temperature. It is not specified a number of retries so, there are not retries in case of failure.
g. 5 seconds pause.
h. Ask for FanSpeed (maximum a retry with a pause of 5 sec.)
i. 4 seconds pause.
j. Ask for the Temperature. If fails, retries (two times maximum) with a pause of 3 sec.
k. 5 seconds pause.
l. Starts from the first line.

The parameter max_numb_of_retries and pause_time_before_resuming is optional.
If it is missing it will be used the value 0.
The line query=Pause accepts only the duration parameter

If, by example the FanSpeed is not anymore wanted, then the line with query=Fanspeed can be deleted or commented (";" at the line beginning)

***** End of Document *****