Kernel driver adm1021
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Supported chips:
  * Analog Devices ADM1021
    Prefix: 'adm1021'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Analog Devices website
  * Analog Devices ADM1021A/ADM1023
    Prefix: 'adm1023'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Analog Devices website
  * Genesys Logic GL523SM
    Prefix: 'gl523sm'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet:
  * Intel Xeon Processor
    Prefix: - any other - may require 'force_adm1021' parameter
    Addresses scanned: none
    Datasheet: Publicly available at Intel website
  * Maxim MAX1617
    Prefix: 'max1617'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Maxim website
  * Maxim MAX1617A
    Prefix: 'max1617a'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Maxim website
  * National Semiconductor LM84
    Prefix: 'lm84'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the National Semiconductor website
  * Philips NE1617
    Prefix: 'max1617' (probably detected as a max1617)
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Philips website
  * Philips NE1617A
    Prefix: 'max1617' (probably detected as a max1617)
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Philips website
  * TI THMC10
    Prefix: 'thmc10'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the TI website
  * Onsemi MC1066
    Prefix: 'mc1066'
    Addresses scanned: I2C 0x18 - 0x1a, 0x29 - 0x2b, 0x4c - 0x4e
    Datasheet: Publicly available at the Onsemi website

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Module Parameters
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* read_only: int
  Don't set any values, read only mode

Description

The chips supported by this driver are very similar. The Maxim MAX1617 is the oldest; it has the problem that it is not very well detectable. The MAX1617A solves that. The ADM1021 is a straight clone of the MAX1617A. Ditto for the THMC10. From here on, we will refer to all these chips as ADM1021-clones.

The ADM1021 and MAX1617A reports a die code, which is a sort of revision code. This can help us pinpoint problems; it is not very useful otherwise.

ADM1021-clones implement two temperature sensors. One of them is internal, and measures the temperature of the chip itself; the other is external and is realised in the form of a transistor-like device. A special alarm indicates whether the remote sensor is connected.

Each sensor has its own low and high limits. When they are crossed, the corresponding alarm is set and remains on as long as the temperature stays out of range. Temperatures are measured in degrees Celsius. Measurements are possible between -65 and +127 degrees, with a resolution of one degree.

If an alarm triggers, it will remain triggered until the hardware register is read at least once. This means that the cause for the alarm may already have disappeared!

This driver only updates its values each 1.5 seconds; reading it more often will do no harm, but will return 'old' values. It is possible to make ADM1021-clones do faster measurements, but there is really no good reason for that.

Xeon support

Some Xeon processors have real max1617, adm1021, or compatible chips within them, with two temperature sensors.

Other Xeons have chips with only one sensor.

If you have a Xeon, and the adm1021 module loads, and both temperatures appear valid, then things are good.

If the adm1021 module doesn't load, you should try this:
        modprobe adm1021 force_adm1021=BUS,ADDRESS
        ADDRESS can only be 0x18, 0x1a, 0x29, 0x2b, 0x4c, or 0x4e.

If you have dual Xeons you may have appear to have two separate adm1021-compatible chips, or two single-temperature sensors, at distinct addresses.