Kernel Driver IBMPOWERNV

Supported systems:

- Any recent IBM P servers based on POWERNV platform

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Description

This driver implements reading the platform sensors data like temperature/fan/ voltage/power for 'POWERNV' platform.

The driver uses the platform device infrastructure. It probes the device tree for sensor devices during the __init phase and registers them with the 'hwmon'. 'hwmon' populates the 'sysfs' tree having attribute files, each for a given sensor type and its attribute data.

All the nodes in the DT appear under "/ibm,opal/sensors" and each valid node in the DT maps to an attribute file in 'sysfs'. The node exports unique 'sensor-id' which the driver uses to make an OPAL call to the firmware.

Usage notes

The driver is built statically with the kernel by enabling the config CONFIG_SENSORS_IBMPOWERNV. It can also be built as module 'ibmpowernv'.

Sysfs attributes

fanX_input	Measured RPM value.
fanX_min	Threshold RPM for alert generation.
fanX_fault	• 0: No fail condition • 1: Failing fan
tempX_input	Measured ambient temperature.
tempX_max	Threshold ambient temperature for alert generation.
tempX_highest	Historical maximum temperature
tempX_lowest	Historical minimum temperature
tempX_enable	Enable/disable all temperature sensors belonging to the sub-group. In POWER9, this attribute corresponds to each OCC. Using this attribute each OCC can be asked to disable/enable all of its temperature sensors. • 1: Enable • 0: Disable
inX_input	Measured power supply voltage (millivolt)
inX_fault	• 0: No fail condition. • 1: Failing power supply.
inX_highest	Historical maximum voltage
inX_lowest	Historical minimum voltage
inX_enable	Enable/disable all voltage sensors belonging to the sub-group. In POWER9, this attribute corresponds to each OCC. Using this attribute each OCC can be asked to disable/enable all of its voltage sensors. • 1: Enable • 0: Disable
powerX_input	Power consumption (microWatt)
powerX_input_highest	Historical maximum power
powerX_input_lowest	Historical minimum power
powerX_enable	Enable/disable all power sensors belonging to the sub-group. In POWER9, this attribute corresponds to each OCC. Using this attribute each OCC can be asked to disable/enable all of its power sensors. • 1: Enable • 0: Disable
currX_input	Measured current (milliampere)
currX_highest	Historical maximum current
currX_lowest	Historical minimum current

currX_enable	Enable/disable all current sensors belonging to the sub-group. In POWER9, this attribute corresponds to each OCC. Using this attribute each OCC can be asked to disable/enable all of its current sensors. • 1: Enable • 0: Disable
energyX_input	Cumulative energy (microJoule)