

# Kernel driver for Mellanox systems LEDs

Provide system LED support for the nex Mellanox systems: "msx6710", "msx6720", "msb7700", "msn2700", "msx1410", "msn2410", "msb7800", "msn2740", "msn2100".

## Description

Driver provides the following LEDs for the systems "msx6710", "msx6720", "msb7700", "msn2700", "msx1410", "msn2410", "msb7800", "msn2740":

- mlxcpld:fan1:green
- mlxcpld:fan1:red
- mlxcpld:fan2:green
- mlxcpld:fan2:red
- mlxcpld:fan3:green
- mlxcpld:fan3:red
- mlxcpld:fan4:green
- mlxcpld:fan4:red
- mlxcpld:psu:green
- mlxcpld:psured
- mlxcpld:status:green
- mlxcpld:status:red

"status"

- CPLD reg offset: 0x20
- Bits [3:0]

"psu"

- CPLD reg offset: 0x20
- Bits [7:4]

"fan1"

- CPLD reg offset: 0x21
- Bits [3:0]

"fan2"

- CPLD reg offset: 0x21
- Bits [7:4]

"fan3"

- CPLD reg offset: 0x22
- Bits [3:0]

"fan4"

- CPLD reg offset: 0x22
- Bits [7:4]

Color mask for all the above LEDs:

[bit3,bit2,bit1,bit0] or [bit7,bit6,bit5,bit4]:

- [0,0,0,0] = LED OFF
- [0,1,0,1] = Red static ON
- [1,1,0,1] = Green static ON
- [0,1,1,0] = Red blink 3Hz
- [1,1,1,0] = Green blink 3Hz
- [0,1,1,1] = Red blink 6Hz
- [1,1,1,1] = Green blink 6Hz

Driver provides the following LEDs for the system "msn2100":

- mlxcpld:fan:green
- mlxcpld:fan:red
- mlxcpld:psu1:green
- mlxcpld:psu1:red
- mlxcpld:psu2:green
- mlxcpld:psu2:red
- mlxcpld:status:green
- mlxcpld:status:red
- mlxcpld:uid:blue

"status"

- CPLD reg offset: 0x20
- Bits [3:0]

"fan"

- CPLD reg offset: 0x21
- Bits [3:0]

"psu1"

- CPLD reg offset: 0x23
- Bits [3:0]

"psu2"

- CPLD reg offset: 0x23
- Bits [7:4]

"uid"

- CPLD reg offset: 0x24
- Bits [3:0]

Color mask for all the above LEDs, excepted uid:

[bit3,bit2,bit1,bit0] or [bit7,bit6,bit5,bit4]:

- [0,0,0,0] = LED OFF
- [0,1,0,1] = Red static ON
- [1,1,0,1] = Green static ON
- [0,1,1,0] = Red blink 3Hz
- [1,1,1,0] = Green blink 3Hz
- [0,1,1,1] = Red blink 6Hz
- [1,1,1,1] = Green blink 6Hz

Color mask for uid LED:

[bit3,bit2,bit1,bit0]:

- [0,0,0,0] = LED OFF
- [1,1,0,1] = Blue static ON
- [1,1,1,0] = Blue blink 3Hz
- [1,1,1,1] = Blue blink 6Hz

Driver supports HW blinking at 3Hz and 6Hz frequency (50% duty cycle). For 3Hz duty cycle is about 167 msec, for 6Hz is about 83 msec.