NAME

owc - Dallas Semiconductor 1-Wire Controller

SYNOPSIS

device owc

DESCRIPTION

The **owc** module implements Dallas Semiconductor 1-Wire signaling. It attaches the ow(4) driver 1-Wire bus protocol. The **owc** device implements the Link Layer of the 1-Wire bus protocol stack.

Bit banging a pin on a gpiobus(4) is the only supported controller. Both standard and overdrive transfer timings are implemented. Strong pull-up functionality needed to support parasitic mode is not implemented.

To enable 1-Wire for FDT systems requires modifying the DTS for your board to add something like:

```
/ {
        ...
        onewire {
                compatible = "w1-gpio";
                gpios = <&gpio 4 1>;
        };
        ...
};
```

The gpios property describes the GPIO pin the 1-Wire bus is connected to. For more details about the *gpios* property, please consult */usr/src/sys/dts/bindings-gpio.txt*.

On a device.hints(5) based system these values are required for the **owc**:

hint.owc.%d.at The **gpiobus** you are attaching to.

hint.owc.%d.pins This is a bitmask that defines a pin on the **gpiobus** that is to be used for the 1-Wire bus. For instance, to configure pin 10, use the bitmask of 0x400. Please note that this mask should have only one bit set (any other bits - i.e., pins - will be ignored).

SEE ALSO

gpiobus(4), ow(4), ow_temp(4), owll(9), own(9)

LEGAL

1-Wire is a registered trademark of Maxim Integrated Products, Inc.

HISTORY

The **owc** driver first appeared in FreeBSD 11.0.

AUTHORS

The **owc** device driver and this manual page were written by Warner Losh.

CAVEATS

The gpio driver implements timing by busy waiting, which can cause a high load on slower systems.

BUGS

Overdrive mode has not actually been tested.