NAME

imx6_snvs - device driver for the NXP i.MX6 on-chip Realtime Clock

SYNOPSIS

To compile this driver into the kernel, place the following line in your kernel configuration file:

device imx6_snvs

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

imx6_snvs_load="YES"

DESCRIPTION

The **imx6_snvs** driver provides support for the i.MX6 on-chip realtime clock. It provides the time of day with a resolution of approximately 30 microseconds.

'SNVS' stands for Secure Non-Volatile Storage, and refers to the subsystem within the chip that (optionally) remains powered by a battery when the rest of the system is powered down. The on-chip realtime clock is part of that subsystem. Other features of the SNVS subsystem are related to security, tamper monitoring, and power control; the **imx6_snvs** driver does not currently support those features.

Many i.MX6 systems do not use a battery to provide power to the SNVS due to its relatively high power draw. In such systems, this driver is able to provide a very accurate time following a reboot, but cannot provide time at all if the power is cycled. If the system provides an i2c or other type of alternate realtime clock with lower resolution, there is value in configuring both clock drivers. Doing so allows SNVS to provide accurate time after a reboot, while the external clock provides approximate time after power cycling.

HISTORY

The **imx6_snvs** driver first appeared in FreeBSD 12.0.