

New features in 2.6.35

Context

This page highlights changes in the imx_2.6.35 tree.

Content

The imx_2.6.35 is actually rebased to 2.6.35.3 from the <http://git.kernel.org/?p=linux/kernel/git/stable/linux-2.6.35.y.git;a=summary>. Here are the list of features add/changed to 2.6.35: <http://lwn.net/Articles/398371/>.

MSL Changes

Internally, the FSL BSP is a bit more synced up with the imx MSL from the Linux community. Here are the list of changes to the imx MSL:

- Using iomux-v3 for all MX5x platforms. Other platforms will get converted to iomux-v3 after the imx_2.6.35 tree is stabilized.
- Using the `_REGISTER_CLOCK(p,d,n)` macro. This implementation align's with the Linux i.MX community using the common ARM clkdev structure. This usage has been in the upstream since 2.6.31. Please note clkdev matching method -- fuzzy matching. The order of precedence is dev+con > dev only > con only. The use of `propagate_rate()` function may not be needed anymore because we're using the `clk_get_rate()` from the Linux community which SHOULD be returning the *current* parent clock rate, not the static rate definition.
- Use slab.h in most of our drivers.
- Dropped support for i.MX37

Regulator Changes

- Between the 2.6.31 and 2.6.35 kernels, there have been some modifications to the core regulator API that required some updates in i.MX platform regulator drivers. See ENGR00132011, ENGR00132880, ENGR131707.
 - Regulators may not be enabled/disabled via `regulator_enable()/regulator_disable()` unless the `REGULATOR_CHANGE_STATUS` flag is defined in the `valid_ops_mask` field of the `regulator_init_data` structure.
 - Regulators may not be enabled unless the `is_enabled()` function (defined as part of the `regulator_ops` structure) is implemented and returns to indicate that the regulator is not already enabled. If the `is_enabled()` function is not implemented, the regulator core driver will assume that the regulator is already enabled and will not take any additional action to enable the regulator.

Power supply changes

- The kernel commit "5f487cd34" changes the function `power_supply_register`. It changes the initialization sequency of power supply drivers. So i.MX power supply drivers need to be updated to adopt it.
 - Split `w1_ds2438` driver as `w1_ds238` (w1 slave) driver and `ds2438_battery` driver to avoid dead lock in driver initialization. See ENGR00131906
 - Fix MC13892 battery probe failure. See ENGR00131911.

WIFI changes

- The `WLAN_80211` config option has been changed to `WLAN` in 35 kernel. `WEXT` configuration method is changed. See ENGR00132491.

I2C changes

- Switch to use upstream i2c driver `i2c-imx.c`. See ENGR00127274

SSI changes

- Switch SSI driver to FSL version instead of upstream version. See ENGR00131389.

Toolchain change

- Switch to use the gcc-4.4.4 toolchain built with FSL which enables NEON.