SoC camera subsystem status and future

Guennadi Liakhovetski

(Contact: linux-media@vger.kernel.org)

June 13, 2010

- ▶ Original purpose: driver reuse
- ▶ Currently 4 host drivers (PXA, i.MX3x, i.MX1, SH-Mobile) and multiple client (camera sensor, TV decoder) drivers. One more host driver (i.MX2x) under review.
- ▶ Redundant? Provides common functionality to host drivers: pass-through format conversion, I2C **or** other client probing.

- ▶ Translation to v4l2-subdev: all soc-camera client calls replaced with respective v4l2-subdev calls - those, that exist.
- ▶ Introduced and switched to using the mediabus API for format negotiation on the "media bus."
- ▶ A thin soc-camera client API still exists: bus parameter negotiation, control sets - used to implement queryctrl. Bus parameter remains the main unresolved dependency in client drivers. Controls will be ported to the "new control framework."
- ▶ Bus parameters must be hard coded. Problematic case: both host and client can program a specific parameter in multiple ways. Example: HSYNC polarity.
- ▶ MT9T031 has been preliminarily ported to support non-soc-camera operation.

- ▶ Decide upon a bus configuration API: device-specific or generic?
- ▶ Revisit mediabus pixel code names. Currently _LE and _BE suffixes are used. Need either better suffixes to specify sample ordering or invent new names for each such variant (e.g., RGB555X).