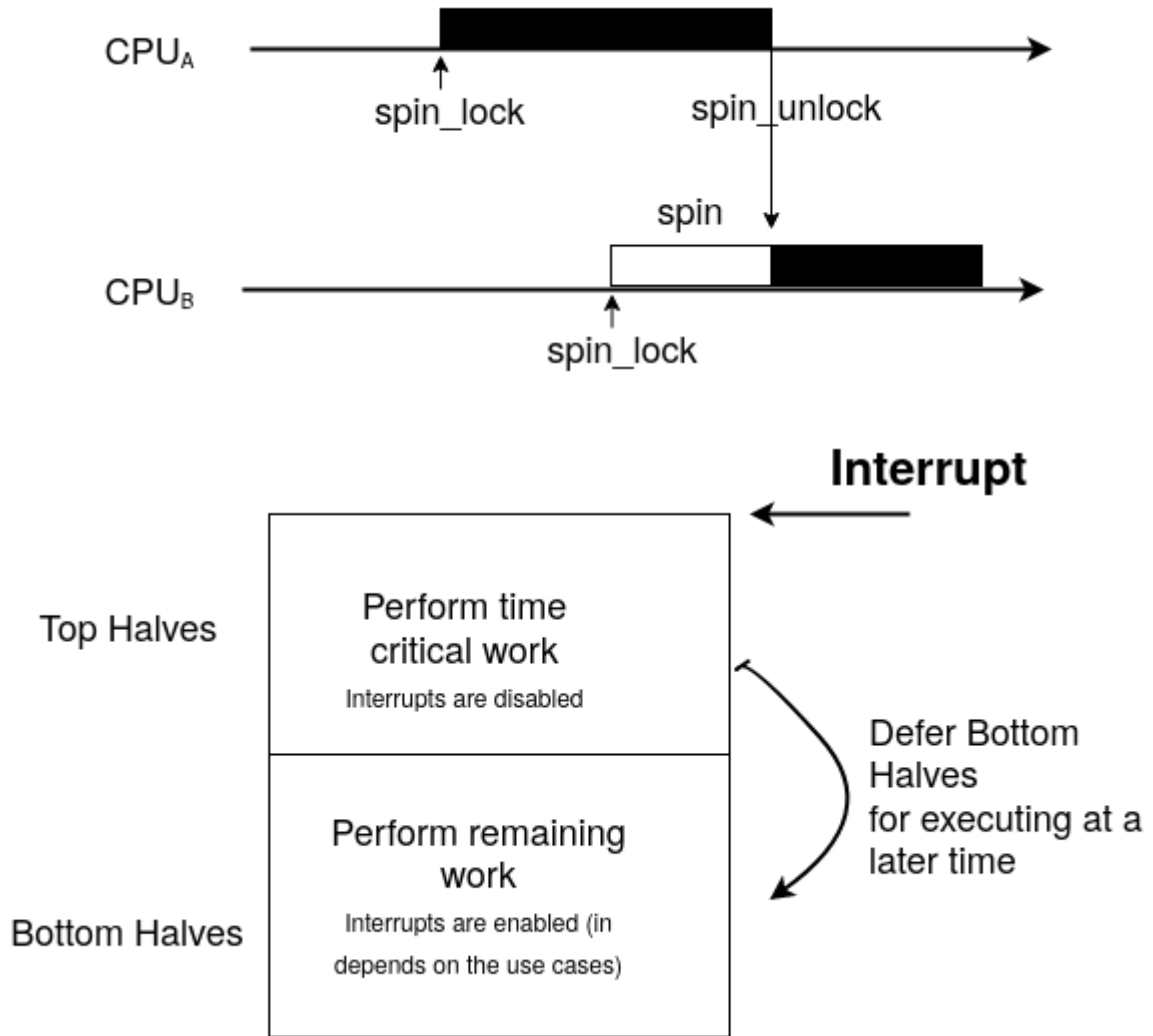


Chapter 1: Linux Kernel Concepts for Embedded Developers



Chapter 2: Leveraging the Regmap API and Simplifying the Code

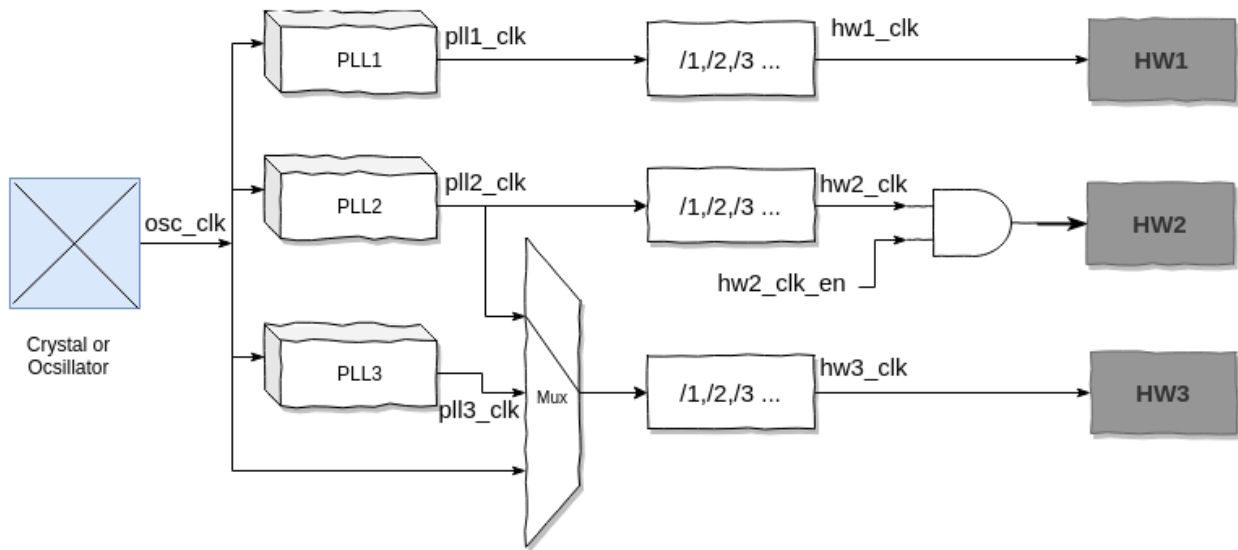
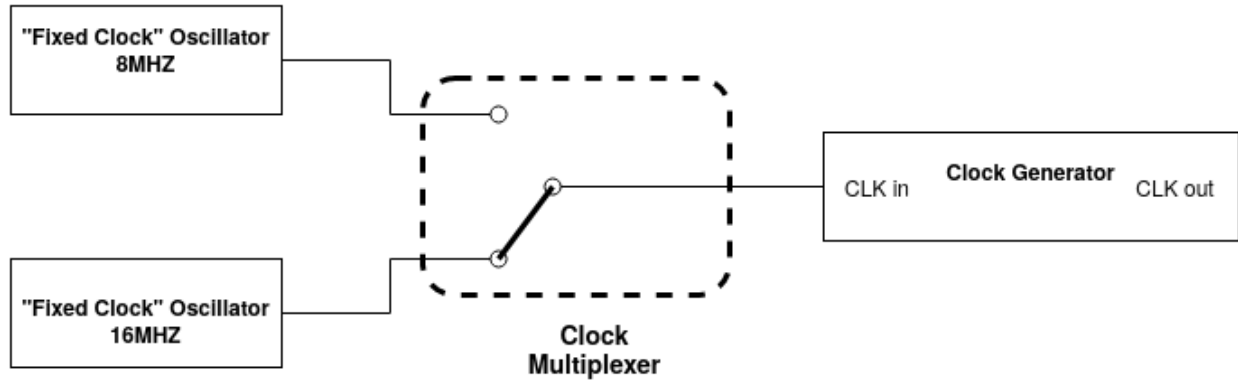
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Chapter 3: Delving into the MFD Subsystem and Syscon API

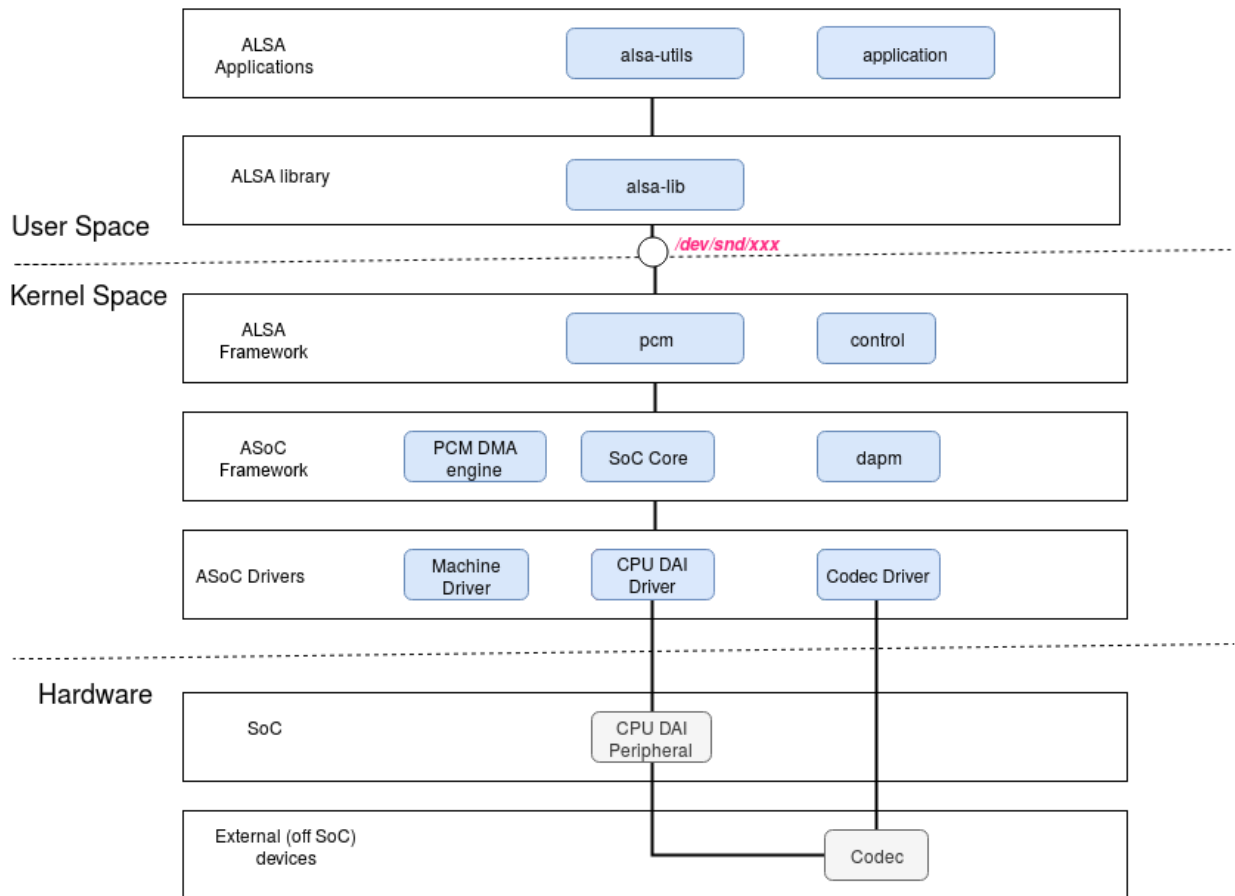
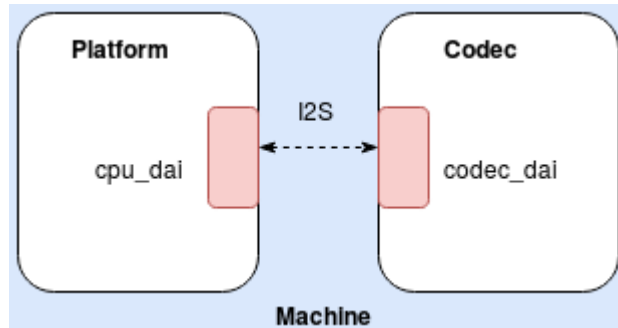
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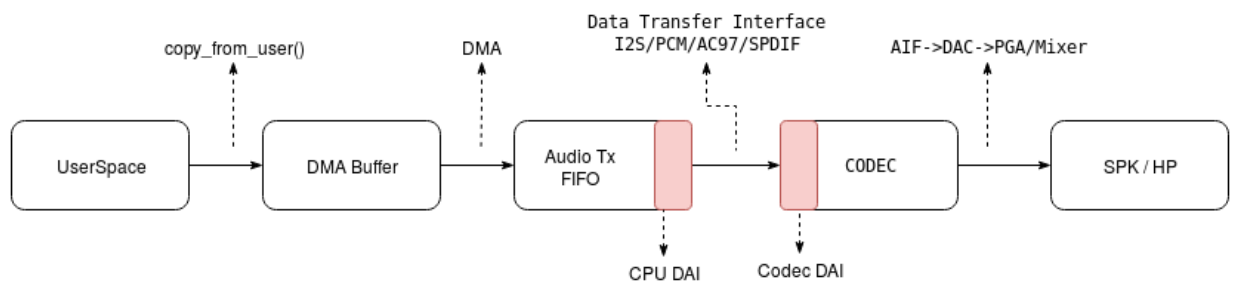
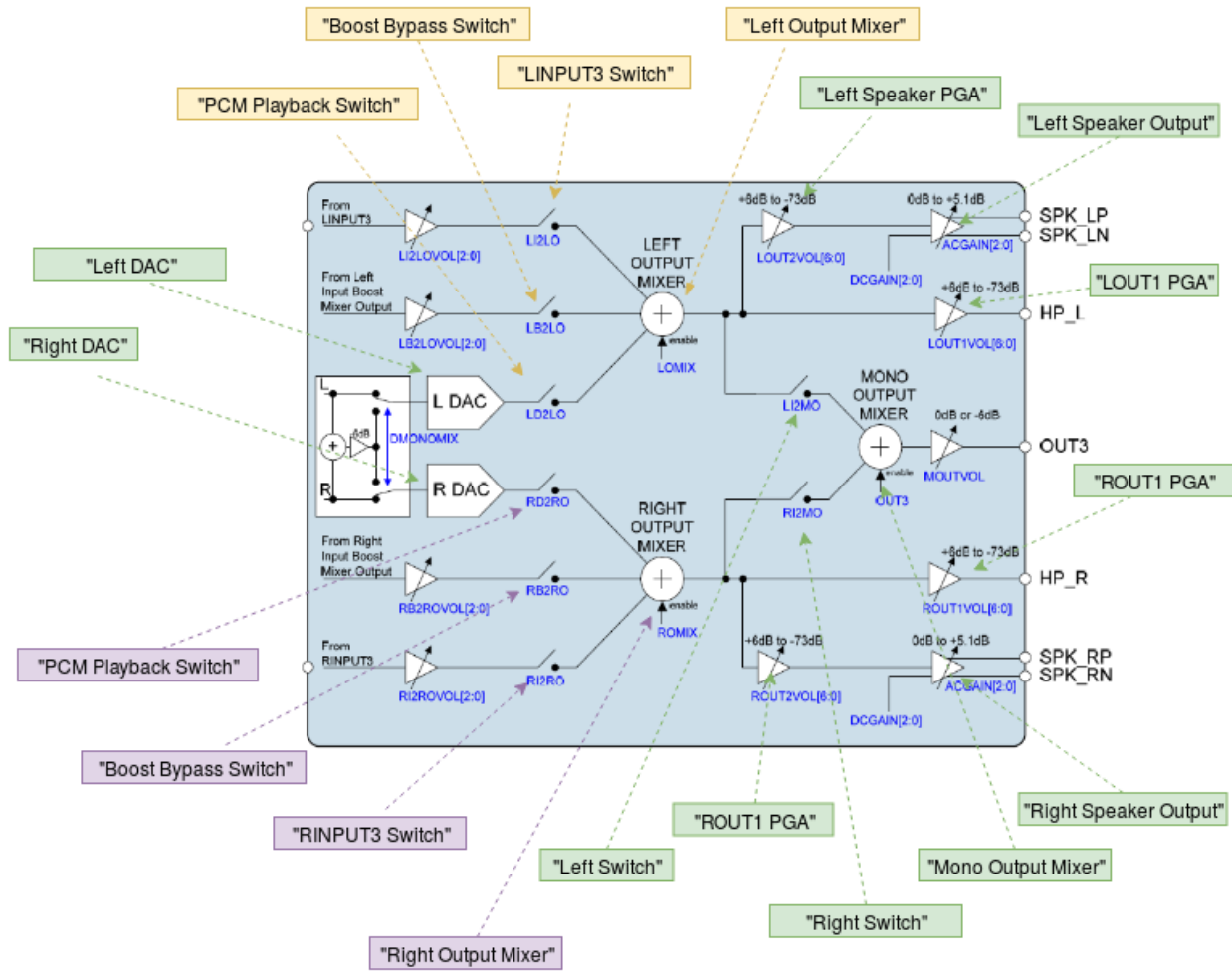
Chapter 4: Storming the Common Clock Framework

	gate	change rate	single parent	multiplexer	root
.prepare					
.unprepare					
.enable	y				
.disable	y				
.is_enabled	y				
.recalc_rate		y			
.round_rate		y **			
.determine_rate		y **			
.set_rate		y			
.set_parent			n	y	n
.get_parent			n	y	n
.recalc_accuracy					
.init					



Chapter 5: ALSA SoC Framework - Leveraging Codec and Platform Class Drivers





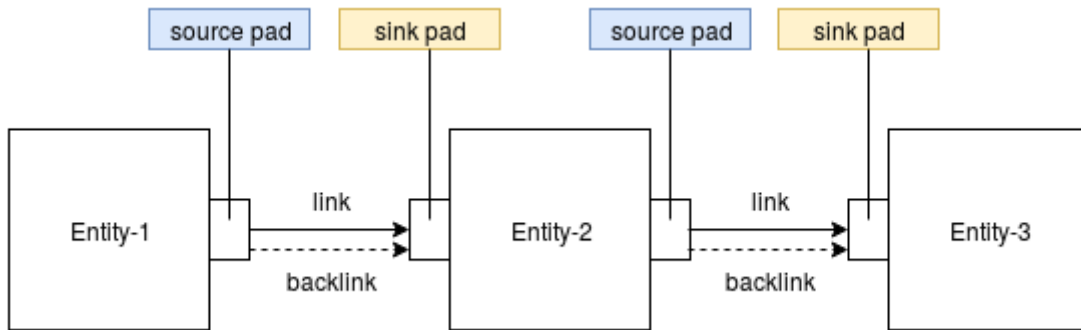
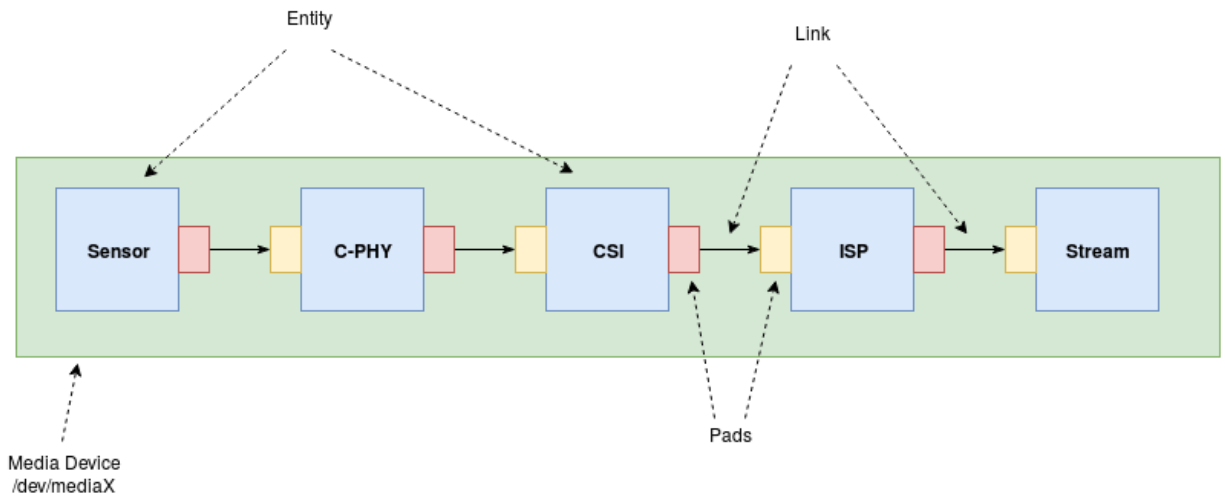
Chapter 6: ALSA SoC Framework - Delving into the Machine Class Drivers

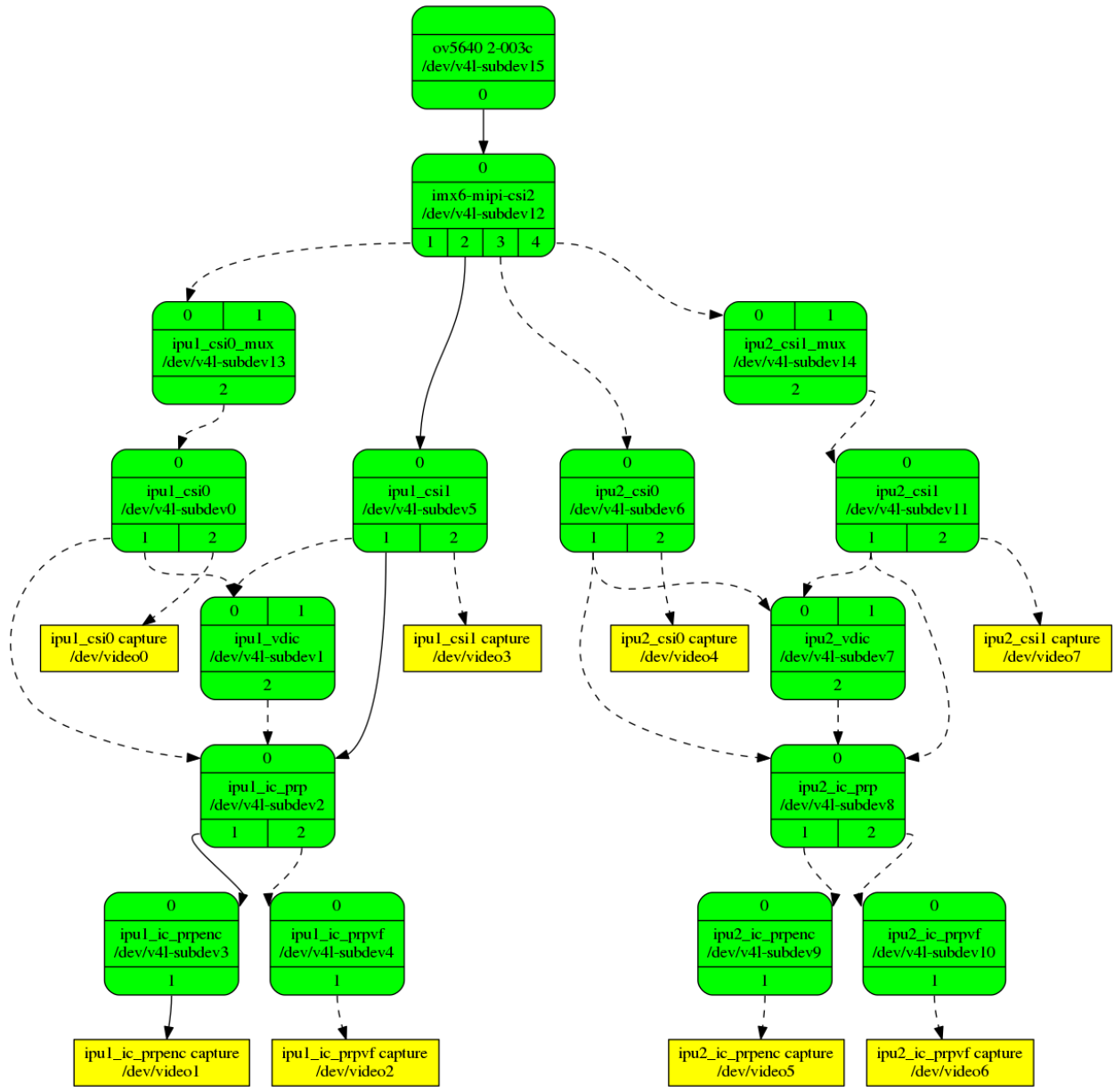
No Images

Chapter 7: Demystifying V4L2 and Video Capture Device Drivers

No Images

Chapter 8: Integrating with V4L2 Async and Media Controller Frameworks





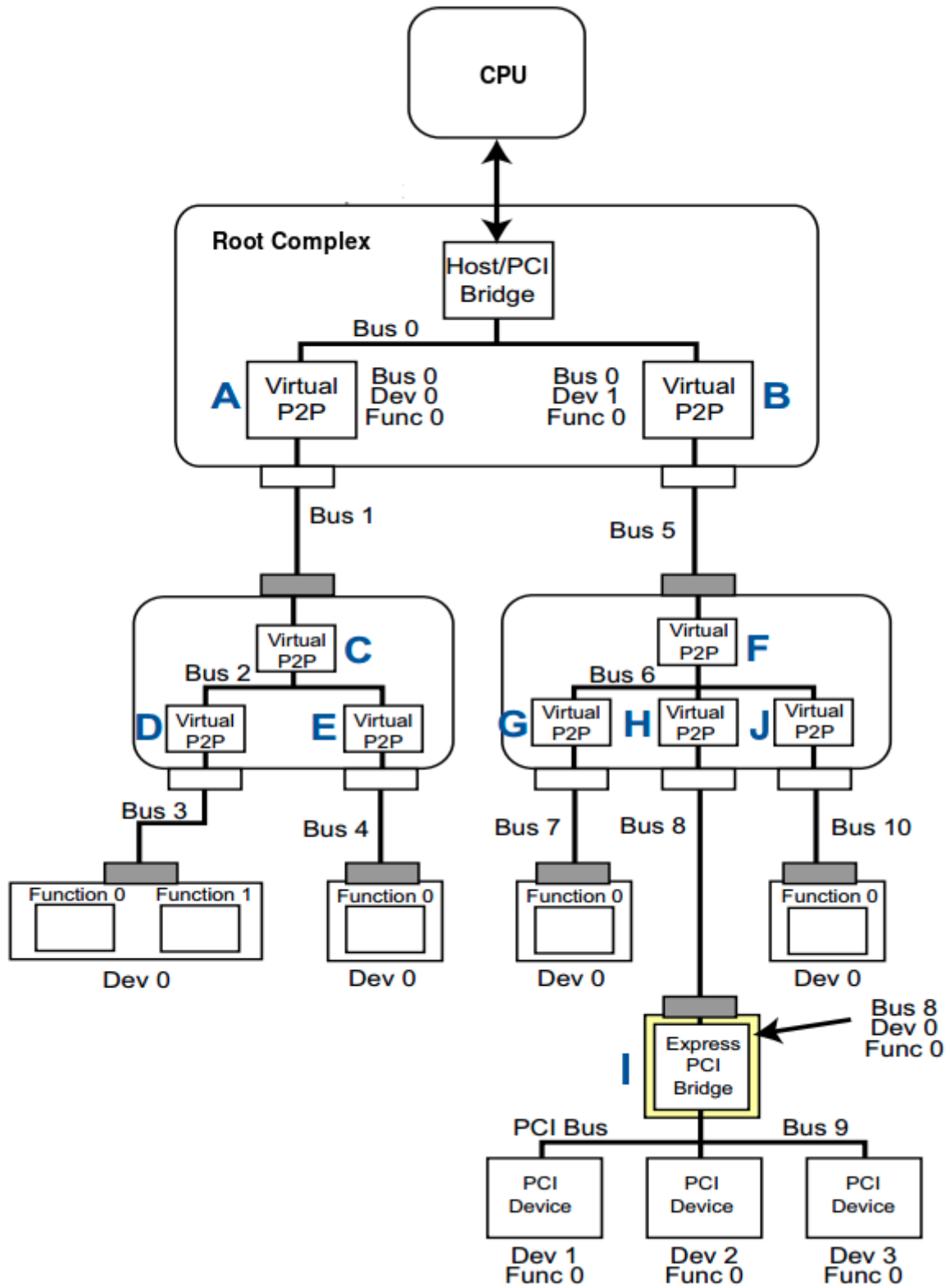
Chapter 9: Leveraging the V4L2 API from the User Space

No Images

Chapter 10: Linux Kernel Power Management

No Images

Chapter 11: Writing PCI Device Drivers



Chapter 12: Leveraging the NVMEM Framework

No Images

Chapter 13: Watchdog Device Drivers

No Images

Chapter 14: Linux Kernel Debugging Tips and Best Practices

```
# entries-in-buffer/entries-written: 72097/184701 #P:1
#
#          -----> irqs-off
#          /-----> need-resched
#          | /-----> hardirq/softirq
#          || /-----> preempt-depth
#          ||| /-----> delay
#
#          TASK-PID  CPU#  ||||  TIMESTAMP  FUNCTION
#          |         |   |   |   |         |
mmcqd/0-917 [000] d.h5  413.431967: irq_may_run <-handle_fasteoi_irq
mmcqd/0-917 [000] d.h5  413.431967: handle_irq_event <-handle_fasteoi_irq
mmcqd/0-917 [000] d.h5  413.431967: preempt_count_sub <-handle_irq_event
mmcqd/0-917 [000] d.h4  413.431967: handle_irq_event_percpu <-handle_irq_event
mmcqd/0-917 [000] d.h4  413.431967: dw_mci_interrupt <-handle_irq_event_percpu
mmcqd/0-917 [000] d.h4  413.431967: dw_mci_cmd_interrupt <-dw_mci_interrupt
mmcqd/0-917 [000] d.h4  413.431967: __tasklet_schedule <-dw_mci_cmd_interrupt
mmcqd/0-917 [000] d.h4  413.431967: __raise_softirq_irqoff <-__tasklet_schedule
mmcqd/0-917 [000] d.h4  413.431967: add_interrupt_randomness <-handle_irq_event_percpu
mmcqd/0-917 [000] d.h4  413.431967: read_current_timer <-add_interrupt_randomness
mmcqd/0-917 [000] d.h4  413.431967: note_interrupt <-handle_irq_event_percpu
mmcqd/0-917 [000] d.h4  413.431967: preempt_count_add <-handle_irq_event
mmcqd/0-917 [000] d.h5  413.431967: gic_eoi_irq <-handle_fasteoi_irq
mmcqd/0-917 [000] d.h5  413.431967: preempt_count_sub <-handle_fasteoi_irq
mmcqd/0-917 [000] d.h4  413.431967: irq_exit <-__handle_domain_irq
mmcqd/0-917 [000] d.h4  413.431967: preempt_count_sub <-irq_exit
mmcqd/0-917 [000] ..s4  413.431967: tasklet_action <-__do_softirq
```

```
# tracer: nop
#
# entries-in-buffer/entries-written: 35988/35988 #P:8
#
#          -----> irqs-off
#          /-----> need-resched
#          | /-----> hardirq/softirq
#          || /-----> preempt-depth
#          ||| /-----> delay
#
#          TASK-PID  CPU#  ||||  TIMESTAMP  FUNCTION
#          |         |   |   |   |         |
bash-16561 [002] .... 639537.102581: hrtimer_init: hrtimer=000000002ba8a2be clockid=CLOCK_MONOTONIC mode=0x9
bash-16561 [002] .... 639537.102582: hrtimer_init: hrtimer=000000000ded79d7 clockid=CLOCK_MONOTONIC mode=0x9
bash-16561 [002] .... 639537.102590: hrtimer_init: hrtimer=000000003d041aad clockid=CLOCK_MONOTONIC mode=REL
<idle>-0 [004] d.h. 639537.102680: hrtimer_cancel: hrtimer=000000007df5b21a
```

```
[29255.091518] [<c0301780>] (sysrq_handle_crash) from [<c0302128>] (__handle_sysrq+0x98/0x134)
[29255.099903] [<c0302128>] (__handle_sysrq) from [<c030259c>] (write_sysrq_trigger+0x68/0x78)
[29255.108296] [<c030259c>] (write_sysrq_trigger) from [<c0250a40>] (proc_reg_write+0x78/0x8c)
[29255.116691] [<c0250a40>] (proc_reg_write) from [<c01fcc0c>] (__vfs_write+0x48/0xf4)
[29255.124382] [<c01fcc0c>] (__vfs_write) from [<c01fd3fc>] (vfs_write+0xbc/0x144)
[29255.131724] [<c01fd3fc>] (vfs_write) from [<c01fdbdc>] (SyS_write+0x68/0xc0)
[29255.138811] [<c01fdbdc>] (SyS_write) from [<c0107780>] (ret_fast_syscall+0x0/0x1c)
```