

# ENHANCEMENTS FOR POWER MANAGEMENT OF INTERDEPENDENT DEVICES

DANIEL BALUTA



INTERNAL



SECURE CONNECTIONS  
FOR A SMARTER WORLD

# Problem description

- devices partitioned across multiple power domains
  - DSP integration into i.MX8 boards
  - Nvidia Tegra 124/210 X-USB system

```
dsp: dsp@5a190000 {  
    power-domains = <&pd IMX_SC_R_DSP>,  
                  <&pd IMX_SC_R_DSP_RAM>,  
                  <&pd IMX_SC_R_IRQSTR_DSP>;  
}
```

# Problem solution

- **[PATCH 0/9] PM / Domains: Add support for multi PM domains per device**
  - Introduced by Ulf Hansson
  - almost complete solution
    - A driver needs to “manually” attach each of the PDs with dev and create the links between devices
    - Lots of duplicate code
  - Proposed enhancements
    - **[RFC PATCH v2 1/2] PM / domains: Introduce multi PM domains helpers**
    - drivers still needs to call PM helpers
      - dev\_multi\_pm\_attach / dev\_multi\_pm\_detach
      - Not ideal. Can we put this into PM core?