



Evolving support for sync_state to subsystems beyond genpd

Ulf Hansson, Qualcomm

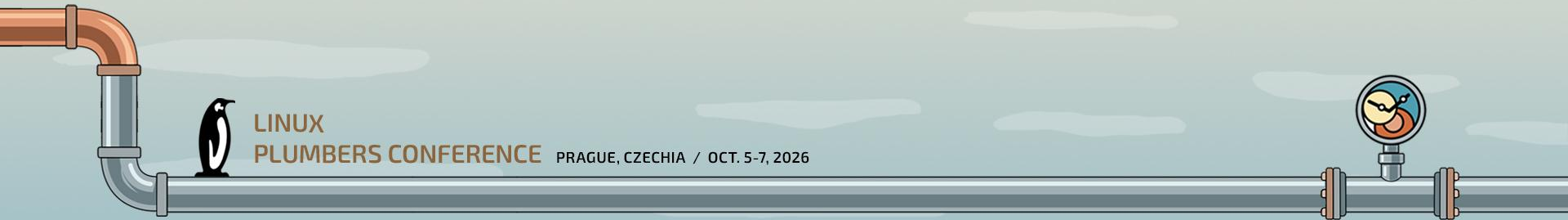


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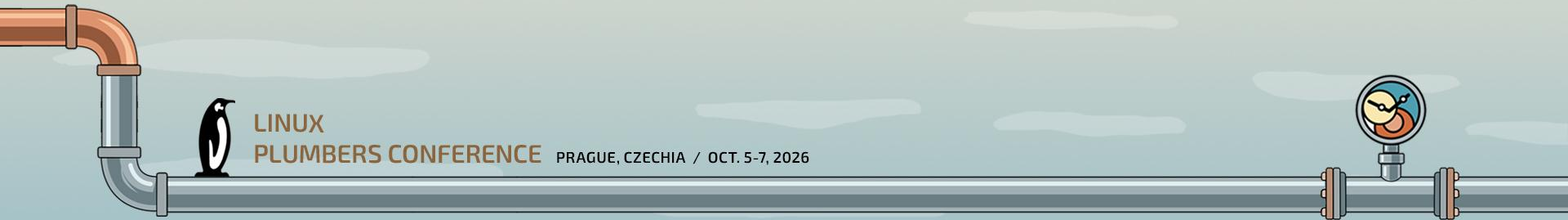
Recap

- Why sync_state?
- Support landed for genpd in v6.17.



Recap genpd

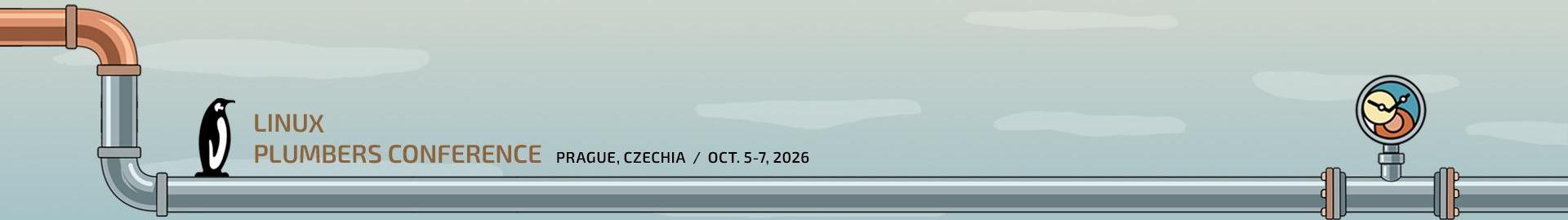
- Providers need to opt out - generic support in genpd.
- Fine grained sync_state support - v4 in progress
 - [PATCH v3 00/13] driver core / pmdomain: Add support for fined grained sync_state
lore.kernel.org/all/20260508123910.114273-1-ulf.hansson@linaro.org
- Next: Drop genpd_power_off_unused().



Beyond genpd - clk, etc

- Latest: [PATCH 0/4] clk: implement sync_state support
 - lore.kernel.org/all/20260626-clk-sync-state-v1-0-4156d8196dc8@redhat.com from Brian Masney.

Co-existing subsystem support must play along!



#1 Providers of multiple types

```
hsio_blk_ctrl: blk-ctrl@32f10000 {  
    compatible = "fsl,imx8mp-hsio-blk-ctrl", "syscon";  
  
    ...  
    #power-domain-cells = <1>;  
    #clock-cells = <0>;  
};
```



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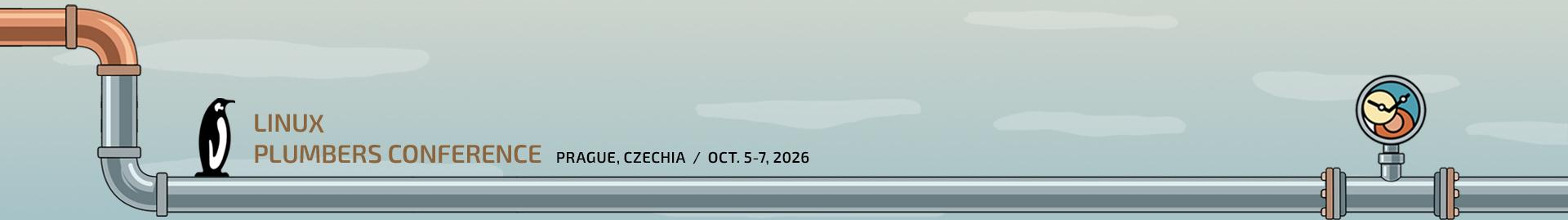
#2 Unpopulated providers

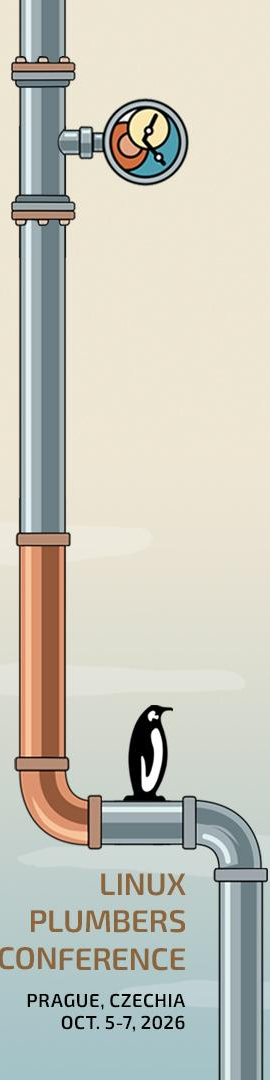
```
foo: foo {  
    compatible = "foo,bar";  
  
    ...  
    child_provider: child-provider {  
        #power-domain-cells = <1>;  
        #clock-cells = <1>;  
    };  
};
```



Considerations

- One `->sync_state()` callback per driver.
- Assigning driver callbacks dynamically.
- The `fwnode` is limited to be tracked for one device.
- Calling `->sync_state()` requires `device_lock()` to prevent unbind.



A vertical pipe with a gauge and a penguin on a horizontal section. The pipe is blue with orange joints. A gauge with a yellow face and blue needle is attached to the top. A penguin is perched on a horizontal section of the pipe near the bottom.

Thank you!

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