Bus scaling enhancements

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Agenda

- Brief overview
- Current status
- Features review
Example topology overview
Example topology overview
What got merged in 5.1-rc1

- The interconnect API
  - Lives in drivers/interconnect

- Platform support
  - Qualcomm SDM845

- Integration with consumers
  - Adreno 6xx GPU
How a device can determine it’s bandwidth needs

- The device can calculate the needed bandwidth
- Hardware specific value
- Predefined bandwidth values that scale with frequency
- Predefined bandwidth values according to use-case
Path tagging

Diagram showing the following connections:
- Linux
- Modem
- DSP
- WiFi
- NPU
- RPM

Each component is connected to RPM, indicating a central role in the diagram.
Proxy votes (boot-constraints)
Path blacklisting, Access Control Lists

A  E  F  B
C  E  D
Other types of constraints

- Bandwidth is supported now
- Plan to support latency
- Dynamic QoS configuration
Framework tests

● Test interconnect provider and consumer modules

● Topology tests

● Aggregation tests
Platform support

- Qualcomm SDM845
- Qualcomm MSM8916
- Qualcomm MSM8996
- Qualcomm QCS404
- NXP i.MX7ULP
- NXP i.MX8MM
- Other
Integration with drivers

- UART
- I2C
- SPI
- USB
- SDHC
- UFS
- PCI
- Video Encoder/Decoder
- Camera
- RNG
- GPU
- CPU
Discussion
Thank you

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