

## Page-Based Hardware Attributes (PBHA) on arm64

*Thursday 23 September 2021 07:00 (30 minutes)*

Version 8.2 of the Armv8 architecture introduced some mysterious bits to the PTE entries used by the CPU and SMMU which result in IMPLEMENTATION DEFINED behaviours. These bits are known as *Page-Based Hardware Attributes (PBHA)* and their opaque nature has resulted in them being disabled upstream.

This session will include a quick reminder of the arm64 MMU, before introducing the concept of PBHA and outlining some possible use-cases in hardware along with the challenges in supporting them in Linux. The hope is both to attract additional use-cases from the audience, but also to discuss the scope of support that may be possible upstream.

### I agree to abide by the anti-harassment policy

I agree

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**Session Classification:** VFIO/IOMMU/PCI MC

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