

Linux Plumbers Conference 2025



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CPU Isolation and IPI interference

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CPU Isolation enables a system administrator to shield a subset of CPUs from most kernel interference, but not all of it. Activity on the housekeeping CPUs can still trigger IPIs targeting isolated CPUs, which defeats the requested isolation.

At Red Hat, we've mostly observed IPIs caused by instruction patching (e.g. static key updates) and TLB flushes (e.g. due to vmap'd stacks of dying tasks). Work to mitigate these has been happening over the past few years, this talk will present the current state of things, ongoing pain points, and discuss future work.

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