On non-embedded systems device management in Linux is a task split between kernelspace and userspace. Since the implementation of the devtmpfs pseudo filesystem the kernel is solely responsible for creating device nodes while udev in userspace is mainly responsible for consistent device naming and permissions. The devtmpfs filesystem however is not namespace aware. As such devices always belong to the initial user namespace. In times of SR-IOV enabled devices it is possible and needed to hand off devices to non-initial user namespaces.

The last couple of months I’ve been working on enabling userspace to be able to target device events to specific user namespaces. With recent patchsets of mine we have now reached that goal. As such userspace can now tie devices to a specific user namespace. This talk aims to explain the concept of namespace aware device management and to explain the patchsets that were needed to make device management namespace aware and possible future improvements.

I agree to abide by the anti-harassment policy

Presenter: BRAUNER, Christian
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