

Linux Plumbers Conference 2025



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IDPF live-update support

This microconference proposal aims to facilitate a discussion on the challenges and solutions for adding live-update support to Linux networking drivers, using the IDPF driver as a primary case study. Live-update is a specialized reboot process that preserves selected devices and kernel state, minimizing disruption in cloud environments. A key use case is enabling hypervisor updates while keeping virtual machines running with minimal interruption.

Successfully implementing live-update for a complex device like an IDPF requires addressing several critical issues. The session in this microconference will focus on topics such as:

- **Preserving Device State:** Discussing the mechanisms needed to save and restore the state of the IDPF driver, including the hardware registers, transmit/receive rings, and other internal state, particularly for SR-IOV virtual functions (VFs) and physical functions (PFs).
- **Integration with Core Subsystems:** Examining how to integrate the live-update logic with crucial kernel subsystems such as the PCI, and IOMMU, to ensure seamless state preservation and restoration.

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