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VSOCK: From Convenience to Performant VirtIO Communication

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The VSOCK family of sockets has traditionally been embraced for its convenience in enabling communication between virtual machines and the host in virtualized environments. However, recent practical advancements have developed VSOCK into more than just a convenience; it has become a viable networking protocol even for some extremely demanding networking workloads across the host/VM boundary.

This talk will delve into virtio/vsock and its new support for datagrams, unlocking new potential for efficient packet exchange between VMs and the host. By comparing VSOCK datagrams with UDP over virtio, we showcase its practical performance advantages, making it a compelling choice for high-throughput point-to-point socket-based communication scenarios.

Additionally, we'll explore the integration of sockmap for VSOCK, empowering eBPF programs to interact with VSOCK sockets within the kernel. This capability allows for dynamic socket management, providing the ability to leverage the performance advantages of both sockmap and VSOCK in the same practical applications.

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