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Beneath the Surface: Analyzing Nested CVM Performance on KVM/QEMU and Linux Root Partition for Microsoft Hyper-V/Cloud-Hypervisor

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As cloud technologies continue to advance at a rapid pace, there arises a critical need to assess the performance disparities among various virtualization stacks. This presentation aims to shed light on the comparative performance, scalability, and efficiency of two prominent hypervisor technologies—KVM/QEMU and Linux as Root Partition for Microsoft Hyper-V with Cloud-Hypervisor as VMM—within the realm of nested virtualization. Through a comprehensive evaluation, we will scrutinize diverse performance metrics encompassing CPU utilization, memory consumption, I/O throughput, and latency across varying workloads and configurations. Also, we try to examine the guest attestation process and the security aspects within these distinct hypervisor stacks. By delving into these key aspects, we seek to offer valuable insights into the operational characteristics and suitability of each hypervisor technology for nested confidential guest environments.

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