

KVM

- [The Definitive KVM \(Kernel-based Virtual Machine\) API Documentation](#)
 - [1. General description](#)
 - [2. Restrictions](#)
 - [3. Extensions](#)
 - [4. API description](#)
 - [5. The kvm_run structure](#)
 - [6. Capabilities that can be enabled on vCPUs](#)
 - [7. Capabilities that can be enabled on VMs](#)
 - [8. Other capabilities.](#)
 - [9. Known KVM API problems](#)
- [Devices](#)
 - [ARM Virtual Interrupt Translation Service \(ITS\)](#)
 - [ARM Virtual Generic Interrupt Controller v2 \(VGIC\)](#)
 - [ARM Virtual Generic Interrupt Controller v3 and later \(VGICv3\)](#)
 - [ARM Virtual Generic Interrupt Controller v5 \(VGICv5\)](#)
 - [MPIC interrupt controller](#)
 - [FLIC \(floating interrupt controller\)](#)
 - [Generic vcpu interface](#)
 - [VFIO virtual device](#)
 - [Generic vm interface](#)
 - [XICS interrupt controller](#)
 - [POWER9 eXternal Interrupt Virtualization Engine \(XIVE Gen1\)](#)
- [ARM](#)
 - [ARM firmware pseudo-registers interface](#)
 - [Internal ABI between the kernel and HYP](#)
 - [KVM/arm64-specific hypercalls exposed to guests](#)
 - [Protected KVM \(pKVM\)](#)
 - [Paravirtualized time support for arm64](#)
 - [PTP_KVM support for arm/arm64](#)
 - [vCPU feature selection on arm64](#)
- [KVM for s390 systems](#)
 - [The s390 DIAGNOSE call on KVM](#)
 - [s390 \(IBM Z\) Ultravisor and Protected VMs](#)
 - [s390 \(IBM Z\) Boot/IPL of Protected VMs](#)
 - [s390 \(IBM Z\) Protected Virtualization dumps](#)
- [The PPC KVM paravirtual interface](#)
 - [Querying for existence](#)

- [KVM hypercalls](#)
- [The magic page](#)
- [Magic page features](#)
- [Magic page flags](#)
- [MSR bits](#)
- [Patched instructions](#)
- [Hypercall ABIs in KVM on PowerPC](#)
- [KVM for x86 systems](#)
 - [Secure Encrypted Virtualization \(SEV\)](#)
 - [KVM CPUID bits](#)
 - [Known limitations of CPU virtualization](#)
 - [Linux KVM Hypercall](#)
 - [Intel Trust Domain Extensions \(TDX\)](#)
 - [The x86 kvm shadow mmu](#)
 - [KVM-specific MSRs](#)
 - [Nested VMX](#)
 - [Running nested guests with KVM](#)
 - [Timekeeping Virtualization for X86-Based Architectures](#)
- [KVM for LoongArch systems](#)
 - [The LoongArch paravirtual interface](#)
- [KVM Lock Overview](#)
 - [1. Acquisition Orders](#)
 - [2. Exception](#)
 - [3. Reference](#)
- [KVM VCPU Requests](#)
 - [Overview](#)
 - [VCPU Request Internals](#)
 - [VCPU Requests with Associated State](#)
 - [Ensuring Requests Are Seen](#)
 - [Additional Considerations](#)
 - [References](#)
- [The KVM halt polling system](#)
 - [Halt Polling Interval](#)
 - [Module Parameters](#)
 - [KVM_CAP_HALT_POLL](#)
 - [Further Notes](#)
- [Review checklist for kvm patches](#)
 - [Testing of KVM code](#)