MR.PLANB FIELD GUIDE · VIRTUALIZATION

Proxmox vs Raw KVM: Comparison and Decision Sheet

Same hypervisor underneath. The choice is how you want to manage it.

Updated **2026-10-29** · Full guide: www.mrplanb.com/comparisons/proxmox-vs-kvm

> This is not an either/or choice. Proxmox VE is built on KVM, so every Proxmox VM is a KVM virtual machine underneath. You are deciding whether to manage KVM through Proxmox's web UI and tooling, or directly through QEMU, libvirt and the command line.

1 hypervisor underneath both: KVM

6 areas compared

3 reasons to choose Proxmox

3 reasons to choose raw KVM

Side-by-side comparison

Area	Proxmox VE	Raw KVM
Ease of use	Web console, simplified setup, integrated VM/container lifecycle	Needs qemu, virsh and XML familiarity; for advanced Linux admins
Feature integration	KVM and LXC in one interface with ZFS, clustering, replication	Modular: add libvirt, virt-manager, Cockpit and others yourself
Security and maintenance	Customized Ubuntu kernel and patched QEMU packages	Distribution kernels and QEMU; admin handles patching
Automation and APIs	REST API, CLI (`qm` / `pct`), Terraform modules, cloud-init	libvirt-based automation, wider orchestration support, needs setup
Architectures	Primarily x86_64; ARM and RISC-V not enabled by default in packaged QEMU	Full support depending on QEMU build and kernel config
Use cases	Home labs, small businesses, GUI-driven admin	Developers, researchers, automation engineers needing granular control

Choose Proxmox if

- [ ] You value convenience and rapid deployment.
- [ ] You prefer graphical management and ZFS integration.
- [ ] You need clustering and backup without additional configuration.

Choose raw KVM if

- [ ] You want full control over QEMU parameters and architectures.
- [ ] Your workflow depends on libvirt and command-line tooling.
- [ ] You plan to build a custom automation or orchestration pipeline.

What each one is

Proxmox VE
An integrated hypervisor platform combining KVM and LXC with a web interface, backup features and ZFS support.

Raw KVM
A Linux kernel module that turns Linux into a type-1 hypervisor, managed with QEMU, libvirt and virt-manager.

Common questions

- Is Proxmox the same as KVM? No, but it is built on it. Proxmox manages KVM and does not replace it.
- Why use Proxmox? It wraps QEMU command lines and libvirt XML in a web UI with ZFS/Ceph integration, live migration and scheduled backups.
- Does Proxmox limit KVM? For most uses no: CPU pinning, PCI passthrough and custom machine types are exposed.
- Bleeding-edge QEMU flags can still be set through its configuration files.

Sources and notes: Proxmox VE official overview · KVM official documentation · libvirt and QEMU project documentation