OVERVIEW

Proxmox VE is a complete open-source solution for enterprise virtualization that tightly integrates KVM hypervisor and containers (LXC), software-defined storage and networking functionality on a single platform. With the central user interface you can easily run VMs and containers, manage software-defined storage resources and networking functionality, highly available clusters, and multiple out-of-the-box tools like backup/restore, live migration, storage replication, or the integrated firewall. Proxmox VE enables you to virtualize even the most demanding Linux and Windows application workloads.

By combining two virtualization technologies on a single platform, Proxmox VE provides maximum flexibility to your data center. It includes strong high-availability (HA) support and—thanks to the unique multi-master design—you don’t need an additional management server thus saving resources and allowing HA without single point of failure (SPOF).

ENTERPRISE-READY

Enterprises use the powerful Proxmox VE platform to easily install, manage and monitor hyperconverged infrastructures (HCI) in their data center. Multiple authentication sources combined with role-based user and permission management enable full control of the HA clusters. The REST API enables easy integration of third-party management tools like for example custom hosting environments.

The future-proof and open-source development model of Proxmox VE guarantees full access to the products source code as well as maximum flexibility and security.
KEY FEATURES

INDUSTRY-LEADING ENTERPRISE VIRTUALIZATION
• Linux and Windows servers, 32 and 64 bit operation systems.
• Support for the latest Intel and AMD server chip sets – for great VM performance.
• Performance relative to bare-metal for real-world enterprise workloads.
• Management layer containing all the capabilities to manage and monitor an open-source software-defined data center.

OPEN-SOURCE SOFTWARE
• Published under the free and open-source GNU Affero General Public License, version 3 (AGPL, V3: http://www.gnu.org/licenses/agpl-3.0.html).
• Designed for community cooperation.
• Public code repository (Git).
• Bugtracker for issue tracking.
• Community support forum.
• Documentation, wiki, video tutorials, HOW-TOs ...

ENTERPRISE SUPPORT AGREEMENT
• Subscriptions to ensure business continuity.
• Exclusive access to the stable Enterprise Repository.
• Updates and version upgrades via GUI.
• Professional support from the Proxmox developers.

HIGHLY AVAILABLE (HA) CLUSTER
• No single point of failure (no SPOF).
• Multi-master cluster.
• Manage the HA settings for KVM and LXC via GUI.
• pmxcfs—unique Proxmox VE Cluster File System: database-driven file system for storing configuration files replicated in real-time on all nodes using Corosync.
• Based on proven Linux HA technologies, providing stable and reliable HA service.
• Resource agents for KVM and containers (LXC).
• Watchdog-based fencing.

COMMAND LINE (CLI)
• Manage all components of your virtual environment.
• CLI with intelligent tab completion.
• Full UNIX man page documentation.

FENCING
• The Proxmox VE HA Manager uses self fencing provided by hardware Watchdog or kernel Softdog.
• No simultaneous data access or corruption.
• Works `out-of-the-box`.
• Included Proxmox VE HA Simulator for testing.

WEB-BASED MANAGEMENT INTERFACE
• Integrated - no need to install a separate management tool or any additional management node.
• Fast, search-driven interface, able to handle thousands of VMs.
• Based on the Ext JS JavaScript framework.
• Secure HTML5 console, supporting SSL.
• Let's Encrypt TLS certificates via the DNS-based challenge mechanism (or http).
• Fast and easy creation of VMs and containers.
• Seamless integration and easy management of a whole cluster.
• Subscription management via GUI.
• Integrated documentation

REST API
• Easy integration for third-party management tools.
• REST like API (JSON as primary data format).
• Easy and human readable data format (native web browser format).
• Full support for API tokens
• Automatic parameter verification (verification of return values).
• Automatic generation of the API documentation.
• Easy way to create command line tools (use the same API).
• Resource Oriented Architecture (ROA).
• Declarative API definition using JSON Schema.

SOFTWARE-DEFINED STORAGE
• Local storage such as ZFS (encryption possible), LVM, LVMthin, ext4, and XFS.
• Shared storage such as FC, iSCSI or NFS.
• Distributed storage such as Ceph RBD or CephFS
• Encryption support for Ceph OSD and ZFS
• Unlimited number of storage definitions (cluster-wide).
KEY FEATURES

LIVE MIGRATION
- Moving QEMU virtual servers from one physical host to another with zero downtime

STORAGE REPLICATION STACK (ZFS)
- Built-in open-source storage replication framework.
- Redundancy for guests using local storage.
- Data availability without using shared storage.
- Asynchronous replication.
- Minimize data loss in the case of a failure.
- Improve reliability, fault-tolerance, and accessibility of your data.
- Supports live migration.

HYPER-CONVERGED INFRASTRUCTURE (HCI) WITH CEPH
- Integrated Ceph, a distributed object store and file system.
- Run Ceph RBD and CephFS directly on the Proxmox VE cluster nodes and manage Ceph via GUI.
- Easy-to-use installation wizard for Ceph.
- Proxmox delivers its own Ceph packages.
- Ceph support is included in the support agreement.

VIRTUALIZED NETWORKING
- Bridged networking model.
- Each host with up to 4094 bridges.
- TCP/IP configuration.
- IPv4 and IPv6 support.
- VLANs.
- Open vSwitch.

PROXMOX VE FIREWALL
- Supporting IPv4 and IPv6.
- Linux-based netfilter technology. Stateful firewall, provides high bandwidth.
- Distributed: main configuration in Proxmox VE cluster file system, iptable rules are stored in nodes.
- Cluster-wide settings.
- 3 levels of configuration (data center, host, VM/CT).
- Support for 'raw' tables; enable Synflood-Attack protection.

BACKUP AND RESTORE
- Full backups of VMs and containers.
- Live snapshot backups.
- Multiple schedules and backup storage.
- GUI integrations, but also via CLI.
- "Backup Now" and restore via GUI.
- Run scheduled backup jobs manually in the GUI.
- All jobs from all nodes can be monitored via the GUI tab "Tasks".
- Back up VMs with IOThreads enabled.

TWO-FACTOR AUTHENTICATION
- Providing high security.
- 2 types: Time-based One Time Passwords (TOTP) and YubiKey.
- Enabled to use a hardware-based TOTP key.

MULTIPLE AUTHENTICATION SOURCES
- Proxmox VE supports multiple authentication sources.
- Linux PAM standard authentication (e.g., 'root' and other local users).
- Built-in Proxmox VE authentication server.
- Microsoft Active Directory (MS ADS).
- LDAP

ROLE-BASED ADMINISTRATION
- User and permission management for all objects (VMs, storage systems, nodes, etc.)
- Proxmox VE comes with a number of predefined roles (lists of privileges) which satisfies most needs.
  The GUI provides an overview the whole set of predefined roles.
- Permissions to control access to objects (access control lists). In technical terms they are simply a triple containing <path,user,role>. Each permission specifies a subject (user or group) and a role (set of privileges) on a specific path.

VM TEMPLATES AND CLONES
- Deploying VMs from templates is blazing fast, very comfortable, and if you use linked clones you can optimize your storage by using base images and thin-provisioning.
- Linked and full clones.
LEARN MORE

Wiki: https://pve.proxmox.com
Community Forums: https://forum.proxmox.com
Bugtracker: https://bugzilla.proxmox.com
Code repository: https://git.proxmox.com

HOW TO BUY

Visit the Proxmox Online Shop to purchase a subscription: https://shop.maurer-it.com
Find an authorized reseller in your area: https://www.proxmox.com/partners

SALES INQUIRIES
office@proxmox.com

HELP AND SUPPORT

Proxmox Customer Portal: https://my.proxmox.com
Support Forum: https://forum.proxmox.com

TRAINING PROXMOX VE

Learn Proxmox VE easily – Visit a training: https://www.proxmox.com/training

ABOUT PROXMOX

Proxmox Server Solutions GmbH is a software provider dedicated to develop powerful and efficient open-source server solutions. The privately held company is based in Vienna (Europe).

Proxmox Server Solutions GmbH
Bräuhausgasse 37
1050 Vienna
Austria

office@proxmox.com
https://www.proxmox.com

© 2020 Proxmox. All Rights Reserved. All brand names, product names, or trademarks belong to their respective holders.