

Free Your Business: The Benefits of Managed Linux® Hosting

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The advantages of a dedicated server — without the management responsibilities and the higher price tag.

Linux Virtual Private Server (VPS)

The Verio Linux® VPS allows companies to achieve high levels of performance, control, and security while avoiding server management responsibilities. In this paper, Verio, the inventor of VPS technology, examines the features of Linux-based virtual server hosting and its benefits for a range of business needs and applications.

A flexible solution for addressing many challenges

Businesses face a variety of challenges in selecting a hosting solution.

Among these are that:

- Small businesses have little or no IT staff available for server management.
- Web designers, developers, and systems integrators have limited time for learning new languages and tools.
- Hosting service providers (HSPs) and VARs demand the highest levels of reliability and support.
- ASPs and software vendors require the most secure, up-to-date, and powerful applications.

COMMON USES FOR LINUX-BASED SERVERS

- Host an e-commerce Website
- Support a corporate intranet
- Build a custom development/test environment
- Provide Web-based calendaring
- Provide multimedia applications
- Host an online game site
- Manage an email system
- Create a customer support tracking system
- Back up important data
- Host multiple Websites
- Deploy podcasts
- Host a blog



The Verio Linux VPS addresses each of these challenges by delivering a private, protected “sandbox” that operates as an independent server. The Linux VPS behaves like a stand-alone physical server and offers excellent security, performance, and flexibility.

Because of operating system–level server virtualization, secure virtual environments coexist on a single physical server. Each account operates in isolation, similar to a stand-alone server.

There are alternative approaches to operating system–level server virtualization, but each approach requires some form of compromise.

- *Hardware emulation* – Also referred to as virtual machine technology, hardware emulation can run almost any operating system without extensive modification, but the solution offers little scalability and therefore fails to provide an easy growth path. Management of this type of system tends to be complex, requiring additional IT specialization, time, or resources.
- *Para-virtualization* – This server technology allows clients to run multiple, modified operating systems. A virtual machine monitor manages the server resources, which are shared. Although this approach can deliver performance superior to hardware emulation, resource allocation is static because operating systems must be modified, meaning that scalability is still limited.

Verio Linux VPS is far more flexible, allowing you to achieve the control, performance, security, and reliability your business demands.

Linux: Is it the operating system for you?

Selecting a hosting solution includes deciding which operating system to use. Linux now garners a significant share of the OS market, and its adoption rate continues to climb. Some of the reasons for this include:

- *Linux is free.* Developed and released under the GNU General Public License, the source code for Linux is available to everyone at no cost.
- *Linux is robust.* Linux is a UNIX-like operating system that is highly functional, adaptable, and robust. Developers can easily extend functionality with e-commerce, databases, and a wide variety of applications.
- *Linux is popular.* Because Linux is such a popular alternative to Microsoft® operating systems, the Linux developer community is large and continues to grow. Because of that, a significant number of Linux applications are now available. Governments around the world are now beginning to endorse Linux as the OS of choice.

Verio Linux VPS features Red Hat® Enterprise Linux (RHEL), a widely used OS based on open standards. The RHEL operating system provides support for a storage area network (SAN), a GNU compiler collection (GCC), and the Red Hat Package Manager (RPM). Those familiar with open source software applications are likely to find it easy to perform basic essential configuration, administration, and troubleshooting tasks.

Verio delivers a superior approach to virtualization.

Verio distinguishes its solution from other available Linux server offerings with superior virtualization software. The software partitions the resources of a physical server such that each user, or VPS account, realizes performance, security, and control benefits that otherwise could be realized only with an actual dedicated server.

In addition, the Verio solution has been developed to help customers avoid many of the management hassles commonly associated with dedicated hardware resources. In short, Verio Linux VPS delivers a unique combination of performance, control, security, and manageability. In the following pages, each benefit is examined in greater detail. An explanation of the Verio Linux VPS advantage should begin with Verio FairShare technology.

FairShare technology: The high-performance approach to resource management

Verio FairShare technology manages how each Linux VPS uses processing power, memory, and network resources. Each is allocated its “fair share” and insulated from others on the same server, thereby protecting the individual account from the problems of others. A fault in one application running within a Linux VPS account does not affect any applications running on other Linux VPS accounts on the same physical server.

Each Linux VPS is allocated its own disk space and processes, which cannot be abused by a “neighboring” account. Usage thresholds are implemented, monitored, and enforced. As a result, customer Websites and applications perform consistently and reliably.

A brief technical overview of the virtualization features

Verio Linux VPS is built on operating system–level virtualization, which differs from traditional virtual machine architecture in that it always runs the same OS kernel as the host system. This approach allows Linux VPS accounts to run with near-zero overhead, gaining higher efficiency and manageability.

Technical highlights of Verio Linux VPS include:

- From an “applications” point of view, each Linux VPS is an independent system by virtue of a virtualization layer in the kernel of the host OS, which is installed on a hardware node.
- Linux VPS systems behave like a dedicated Linux system with standard startup scripts.
- Software runs inside a Linux VPS without operating system–level modifications or adjustment.
- Users can change configuration files and install additional software.

DEFAULT APPLICATIONS

Many applications come installed by default with each Verio Linux VPS account, including:

- Red Hat Enterprise Linux (RHEL) ES 4
- Apache Web server and Apache modules
- FTP server
- POP and IMAP servers
- Sendmail SMTP server
- OpenSSH
- SSL
- GNU compiler collection (gcc)
- Perl and mod_perl
- Ruby
- Python

- Each Linux VPS has its own IP address, so the network virtualization layer isolates each Linux VPS account, making traffic “snooping” impossible.
- Firewall rules can be established from inside a Linux VPS.
- Advanced routing features are supported.

High application performance and stability

Verio Linux VPS is an enterprise-class platform, which delivers the best open source technology and stability. FairShare technology balances server loads to ensure Verio Linux VPS has the highest levels of reliability.

The solution supports a host of mission-critical applications and tools. A “skel” (skeleton) package of core services is preconfigured with each Verio Linux VPS account, including:

- Hypertext Transfer Protocol (HTTP) and HTTPS
- Simple Mail Transfer Protocol (SMTP), Post Office Protocol (POP), and Internet Message Access Protocol (IMAP) for email
- File Transfer Protocol (FTP)
- Shell access tools: Secure Shell (SSH) and cron

Core services are managed by Verio, but customers can configure them to satisfy specific needs and rely on Verio for support, if needed. A new Linux VPS comes configured as a Web and email server. The account begins as a copy-on-write (COW) image of a Verio-tested, basic RHEL installation. As system administrators

update and customize the account, the account continues to use central files maintained by Verio. Verio system administrators continuously manage updates to core services.

Complete flexibility and management control

Verio Linux VPS assures root access for total administrative control. VPS customers can install the software they require and configure the server to meet their unique needs. The system’s flexibility enables users to:

- Configure and customize their server with friendly Web-based controls via the CPX Control Panel.
- Install, customize, and run almost any custom or off-the-shelf application.
- Host multiple sites with unique domain names.
- Create and run unlimited email accounts.
- Use Red Hat Package Manager (RPM), an open packaging system for Linux, to install a variety of applications and tools.

To help administrators make quick work of application installations, Verio Linux VPS includes a library of custom installation scripts, or vinstall utilities:

- SpamAssassin Spam Filtering
- Apache Tomcat
- ClamAV Virus Scanning
- CPX: Control panel
- MySQL
- PHP: Hypertext processor

Extra security, extra peace of mind

The virtualization approach employed by Verio, along with its hardened OS, makes the Linux VPS inherently secure. A server sandbox creates a fully isolated environment in which each Linux VPS has its own complete directory structure, virtual file system, and set of independent applications. Security policy limits one Linux VPS from interfering with another Linux VPS.

Verio's commitment to server security also includes:

- Round-the-clock monitoring and intrusion detection, provided by the Verio/NTT Communications global Tier-1 data center
- Triple data backups for data integrity
- Operating systems and hardware that are continuously tuned
- Verio technical experts to manage updates and patches
- World-class technical support available 24/7/365

Multiple plans to suit demanding price-performance needs

Verio offers three Linux VPS plans starting at just \$89.95 month. Customers can select Basic or Pro editions to get started and then upgrade within the Linux product portfolio as needed.

All plans offer a common set of features, including FairShare technology, but some key performance factors differ among tiers, such as disk space, total processes, total open files, CPU priority, memory, and burstable memory. The table provided here specifies resource allocation details and other key features.

Verio Linux VPS

	Linux VPS Basic	Linux VPS Pro	Linux VPS Pro Plus
Resources			
Disk Space	10 GB	20 GB	40 GB
Bandwidth Transfer	No charge	No charge	No charge
Email Accounts	No limit	No limit	No limit
User Accounts	No limit	No limit	No limit
Domain Names (Websites)	No limit	No limit	No limit
Resource Rating (CPU, memory, etc.)	Good	Better	Best
Key Features			
Root Access	X	X	X
Firewall	Up to 100 rules	Up to 200 rules	Up to 400 rules
Dedicated IP address	1	1	1
Additional IP addresses available*	4 (5 total)	9 (10 total)	19 (20 total)
Software package library	X	X	X
Urchin Web Analytics	X	X	X
Java			X

The usage guidelines table below is useful for selecting a plan, based on expected application needs and user requirements.

Usage Guidelines	Linux VPS Basic	Linux VPS 1000	Linux VPS 2000
Bandwidth Usage	Less than 100 GB per month	Less than 200 GB per month	Less than 400 GB per month
Average Number of Subhosts	15	30	60
Suggested Uses and Applications	Websites and email	E-commerce, databases, or other dynamic applications	Multimedia or enterprise development suites, including Java

Conclusion: Verio Linux VPS delivers more performance and reliability.

Verio Linux VPS is an ideal hosting solution for businesses that want to free up time and resources from ongoing server management and maintenance requirements. Verio Linux VPS allows customers to focus on business and technology issues, while certified experts manage the server.

Based on the Red Hat Enterprise Linux OS, the Verio VPS solution delivers the benefits of open source technology, supporting thousands of applications and development tools while delivering world-class stability. In addition to this optimum combination of performance, control, and security, businesses count on Verio for unparalleled support.

About Verio

Verio — now part of NTT Communications, the world’s largest telecommunications company — pioneered VPS technology over 10 years ago. Verio’s outstanding reputation and longevity in the industry make it a strong business partner for your company.

The Verio 360° Managed Servers product family delivers the managed hosting, services, and secure infrastructure that you require.

Composed of the Verio 360° Managed Private Server dedicated hosting and Verio 360° Virtual Private Server plans, these products deliver fully managed solutions designed to reduce server management hassles and minimize your time and cost requirements.

