MAKING YOUR LINUX SECURE, STABLE & PROFITABLE

CloudLinux OS Overview
WHO WE ARE

- Founded in 2009
- Headquartered in Arcadia, CA with a development team in Ukraine
- Stable, profitable, privately funded
- Staff of 100+
- Expertise in the Linux hosting and datacenter market and with technical depth in hosting, kernel development and open source

85 000+ installs | 4 000+ Partners
Unlimited Support
High Cost of ‘Bad Neighbors’
Abuse resources, slow down servers
Bring down the server altogether
Cause major security issues

Average shared hosting server hosts 500-600 tenants
Each can be a ‘Bad Neighbor’:

• Rapidly and unknowingly overuse resources on the server and slow down all other sites
• Run unstable scripts, spam, bridge permissions
• Distribute malware and viruses, and attack other sites and users

High Cost of ‘Bad Neighbors’
Abuse resources, slow down servers
Bring down the server altogether
Cause major security issues
Put an End to ‘Bad Neighbors’

Isolate tenants by creating a Lightweight Virtual Environment (LVE)

- Partition, allocate, and limit resources for each customer
- Cage customers to avoid security breaches

CloudLinux OS is making your shared server behave like a virtual one, but with a very high density of tenants
Improvements You Can Expect

- 3x drop in reboots
- 6x drop in customer suspensions
- 5% drop in customer churn
- 70% drop in tickets for performance issues

Approximately 80% utilization of server resources
Resource limitations and partitions per user shield against performance spikes & ensure the most STABLE SERVER

Caging users from each other disables possible access to server & other user information delivering the most SECURE SERVER

Allocation of server resources allows for a high density of tenants, with up to 80% of server utilization; LVE allows for more feature options within a single server for HIGHEST MARGINS

Per-tenant resource allocation and limits reduce server loads; together with performance--enhancing features delivers the FASTEST SERVER

Making Your Linux Secure, Stable & Profitable
CloudLinux works with **most software** commonly used with **CentOS** and **RHEL** in the shared hosting industry.
Easy to Deploy and Learn

Run a **single script** to convert existing servers

- No customer data changed
- No customer configs changed

CentOS look-a-like:

- Admins feel right at home
- Same commands
  ... plus additional tools

30K CloudLinux OS servers in the world, most of them run cPanel
CloudLinux OS Features

Built from the ground up to secure and control individual tenants in the multi-tenant environment
Get full control over:
- CPU
- Memory
- IO
- Concurrent Connections
- Number of Processes
- Inodes (for cPanel only)

Kernel-level technology sets resource limits per tenant. They can never use more than what’s given to them!

Prevents traffic spikes and ‘bad neighbor’ effect
See exactly how much resources each customer consumes;
Detect heavy users and upgrade them to a more advance package.

**LVE [Lightweight Virtual Environment] Manager**

Get Insights on Usage

<table>
<thead>
<tr>
<th>LVE id</th>
<th>Username</th>
<th>Domain</th>
<th>CPU</th>
<th>nCPU</th>
<th>vMEM(MB)</th>
<th>pMEM(MB)</th>
<th>EP</th>
<th>nPROC</th>
<th>IO(KB/s)</th>
<th>PACKAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>user11</td>
<td>test1</td>
<td>25</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>700</td>
<td>test1</td>
</tr>
<tr>
<td>502</td>
<td>user12</td>
<td>test1</td>
<td>44</td>
<td>1</td>
<td>-</td>
<td>1024</td>
<td>20</td>
<td>20</td>
<td>3333</td>
<td>test1</td>
</tr>
<tr>
<td>503</td>
<td>user21</td>
<td>test2</td>
<td>33</td>
<td>1</td>
<td>-</td>
<td>512</td>
<td>30</td>
<td>35</td>
<td>1024</td>
<td>test2</td>
</tr>
<tr>
<td>504</td>
<td>user22</td>
<td>test2</td>
<td>33</td>
<td>1</td>
<td>-</td>
<td>30</td>
<td>35</td>
<td></td>
<td>1024</td>
<td>test2</td>
</tr>
<tr>
<td>506</td>
<td>user6</td>
<td>test1</td>
<td>44</td>
<td>1</td>
<td>-</td>
<td>1024</td>
<td>20</td>
<td>20</td>
<td>1024</td>
<td>default</td>
</tr>
<tr>
<td>510</td>
<td>user31</td>
<td>test3</td>
<td>55</td>
<td>1</td>
<td>1024</td>
<td>1024</td>
<td>20</td>
<td>12</td>
<td>1000</td>
<td>test3</td>
</tr>
</tbody>
</table>

Sortable headers

Filtering by username

Non-default values are in red

Change individual account settings

Reset to use default package settings

View usage history

STABILITY
SECURITY
PROFITABILITY
PERFORMANCE
Customer is provided with exact information on how much resources they are using right now, as well as historically.

Be transparent with your customers

### Stats
- **Main Domain**: pokemonstars.com
- **Home Directory**: /home/pokemons
- **Last login from**: 118.97.95.22
- **CPU Usage**: 50 / 100 %
- **Memory Usage**: 262144 / 262144 KB
- **Entry Processes**: 1 / 50
- **Disk Space Usage**: 308.37 / 500 MB
- **Monthly Bandwidth Transfer**: 8870.01 / 50000 MB
Monitor and operate MySQL usage in shared hosting environment

- Done via resource usage statistics per each MySQL thread
- Tracks exact CPU and IO usage in REAL TIME

Detect and throttle abusers in REAL TIME!
CageFS

Virtualized file system and set of tools that locks each user in its own ‘cage’

- Only safe binaries are available to user
- User will not see any other users, and no ability to detect presence of others & their user names on server
- User will not be able to see server config files, such as Apache config files
- User will have limited view of /proc file system, and will not be able to see other user’s processes
## CageFS vs JailShell

<table>
<thead>
<tr>
<th>Feature</th>
<th>CageFS</th>
<th>JailShell</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSH, Cron</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Web</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>No SUID scripts</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Fully Functional environment</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Namespaces</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Limited view top &amp; ps</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Tools to add custom software</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Stability**: can be used to gain root
- **Security**: chroot possible to break out
- **Profitability**: top & ps broken
- **Performance**: -
SecureLinks is a kernel-level technology that prevents all known symbolic link attacks, which enhances the security level of the servers even further.
WE ❤️ ALL PHP

Offer PHP 4.4, 5.1-5.6, 7.0 on ONE SERVER

- Allows end users to select PHP versions 4.4, 5.1, 5.2, 5.3, 5.4, 5.5 and 5.6, 7.0
- Allows to choose from more than 120 PHP extensions UI to manage php.ini settings
HardenedPHP

- Maintains and patches old PHP versions not patched by the PHP.net community, making them secure again - 4.4, 5.1, 5.2 & 5.3, 5.4
- Over 100 vulnerabilities, many were critical, have been discovered and all have been patched by CloudLinux OS

About 85% of all PHP sites use highly popular PHP versions - 5.2, 5.3, and 5.4

Do not force customers to re-write old scripts or break their sites

STABILITY  SECURITY  PROFITABILITY  PERFORMANCE
Ruby Selector

WE ❤️ ALL RUBY

Supports 1.8, 1.9, 2.0, and 2.1 & 2.2 Ruby versions

- Allows end users to choose the Ruby version for application
- Allows end users to install additional modules (gems) to the application environment
- Ruby Selector uses mod_passenger for optimum performance
WE ❤ PYTHON

- Allows end users to choose the Python version as an application
- Allows end users to install additional modules
- Python Selector uses mod_passenger to get the best performance from Python applications
OptimumCache

Doubles IO Throughput
BEST FOR WORDPRESS, JOOMLA HOSTING, ETC.

✓ Creates cache of duplicate files (best for WordPress, Joomla and other popular software)
✓ All duplicates get loaded from a singular copy of the file, creating only one instance in system cache
✓ System bypasses disk IO for duplicates, significantly improving the speed of reading that file, decreases memory footprint, while lowering load on the hard disk

Customers Reported:
✓ 30% drop of average system CPU usage
✓ 52% drop of average IO wait
✓ 25% drop of average CPU usage
✓ 50% drop of average disk utilization
✓ Up to 20% latency improvements for popular

STABILITY  SECURITY  PROFITABILITY  PERFORMANCE
mod_isapi

- New way to serve PHP from Apache faster than mod_php, FCGID, and PHP-FPM
- Lower memory footprint
- Opcode compatible PHP
- Selector compatible PHP
- Options in .htaccess
Unlimited Support

Decrease Your Support Costs

24x7 expert support
What CloudLinux OS can do for YOU

**Simplified Server Administration**
Top of the line server monitoring and resource control tools

**Improved Customer Satisfaction**
Multiple PHP versions, ultimate stability & security

**Increased Server Profitability & Customer Retention**
Reduced load averages, increased performance
Host more customers on one server!
Thank you!

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