Linux Servers: Admin them in a more "Mac-like" way.

by Christian Woodward

What are we going to cover?

- OS X Server: Where it's at
- Why Linux?
- Keep it simple
- Keep it secure
- Keep it monitored

OS X vs. Linux

- OS X:
  - Apple drives everything,
  - “keeps us safe”

- Linux:
  - You’re on your own.
  - Do it, get help, or use a service.
  - Do not ignore it.

Linux OSes

- Different Distributions
  - Arch Linux
  - CentOS/Redhat
  - Debian
  - Fedora
  - Gentoo
  - openSUSE
  - Slackware
  - Ubuntu

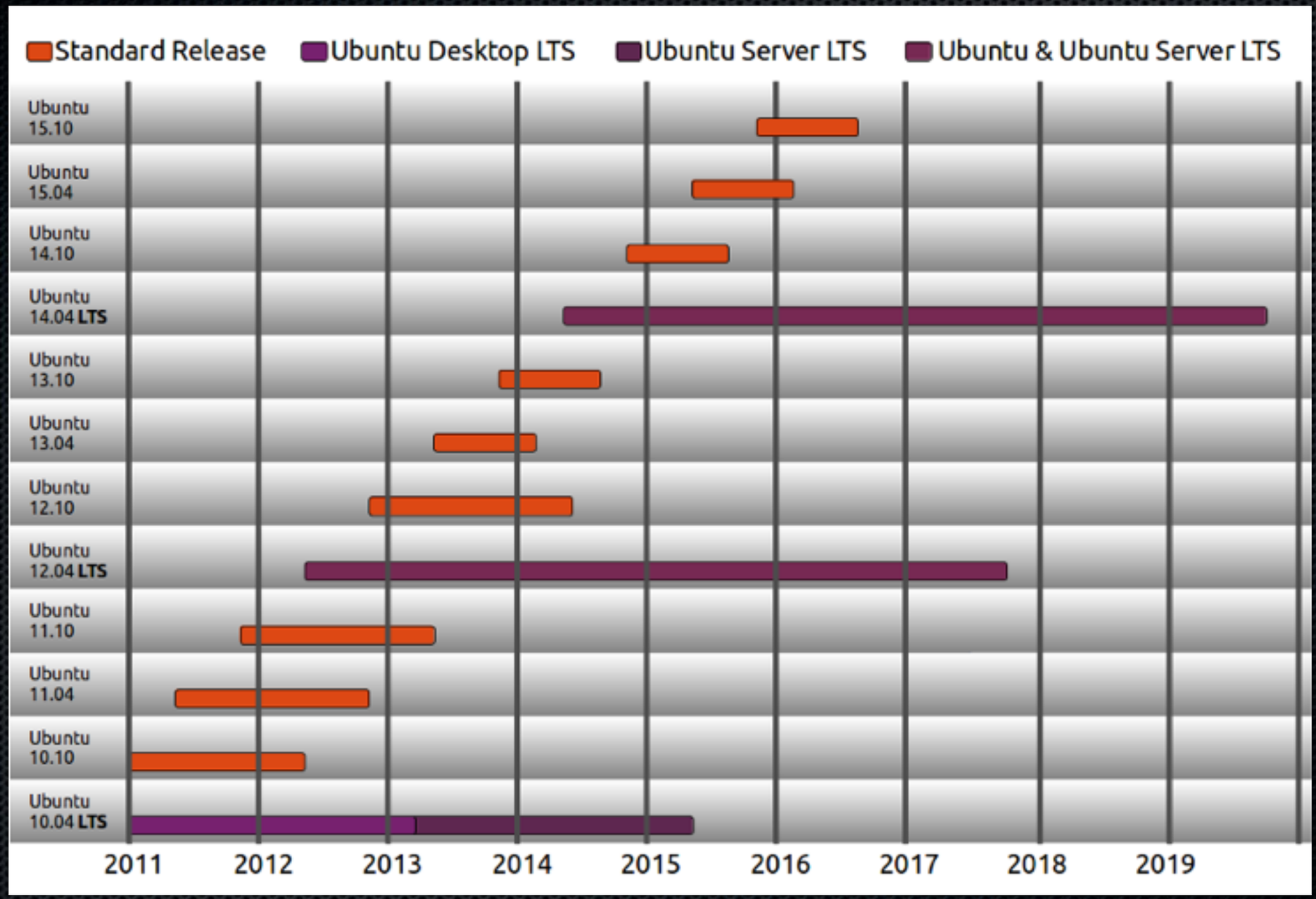
Linux OSes

- Choosing a distribution
  - Look at what you will do
  - What's supported and vibrant
  - What's compatible with your software choices
  - Pick the bistro based on what you want to do

Ubuntu LTS

- What's Ubuntu Long Term Solution (LTS)?
  - Every two years
  - Five year support
  - 14.04 LTS Supported until 2020
  - Focus on hardening functionality of existing features, not new features (generally)

Ubuntu LTS


Standard Release
Ubuntu Desktop LTS
Ubuntu Server LTS
Ubuntu & Ubuntu Server LTS
Ubuntu 15.10
Ubuntu 15.04
Ubuntu 14.10
Ubuntu 14.04 LTS
Ubuntu 13.10
Ubuntu 13.04
Ubuntu 12.10
Ubuntu 12.04 LTS
Ubuntu 11.10
Ubuntu 11.04
Ubuntu 10.10
Ubuntu 10.04 LTS
2011
2012
2013
2014
2015
2016
2017
2018
2019

Providers

- In-house:
  - Why?
  - Don't.
- Traditional providers
  - HostGator, DreamHost, BlueHost, GoDaddy, 1&1
- Linode, Digital Ocean, VPSie, VULTR, and others
- Specialized Providers
  - Drupal: Acquia, Pantheon, etc…
  - WordPress: WordPress.org, Pantheon, etc…

Real World Setup

- Examples for our process
- Tools selected important
- Compatibility
- Order of install:
  - Longview often first
  - Server management panel must be already installed, nor any web service

Why we chose Linode

- Competitive pricing
- Better support
- Longview
- Interface easier to understand
- Backups that made more sense

Let's Build a Linode

- Add a linode (choosing size and data center)
- Deploy an Image
  - Ubuntu 14.04 LTS
- Choose size for swap disk and main disk
  - Generally, use max size of 512MB for swap
  - Can do multiple disks
  - May want to reserve for later
- Settings > Linode Label (enter new name and save)

Linode: IP and DNS

- Remote Access tab, and you'll see your server's IP address listed
- Add the IP to your DNS
- Set the reverse DNS
  - Remote Access » Reverse DNS
- Boot the Linode

Linode: Hostname

- ssh to server
  - Click on the Remote Access tab
- Set the hostname:
  - Replace *hostname* with a fqdn of your choice.
  - echo "*hostname*" > /etc/hostname
  - hostname -F /etc/hostname

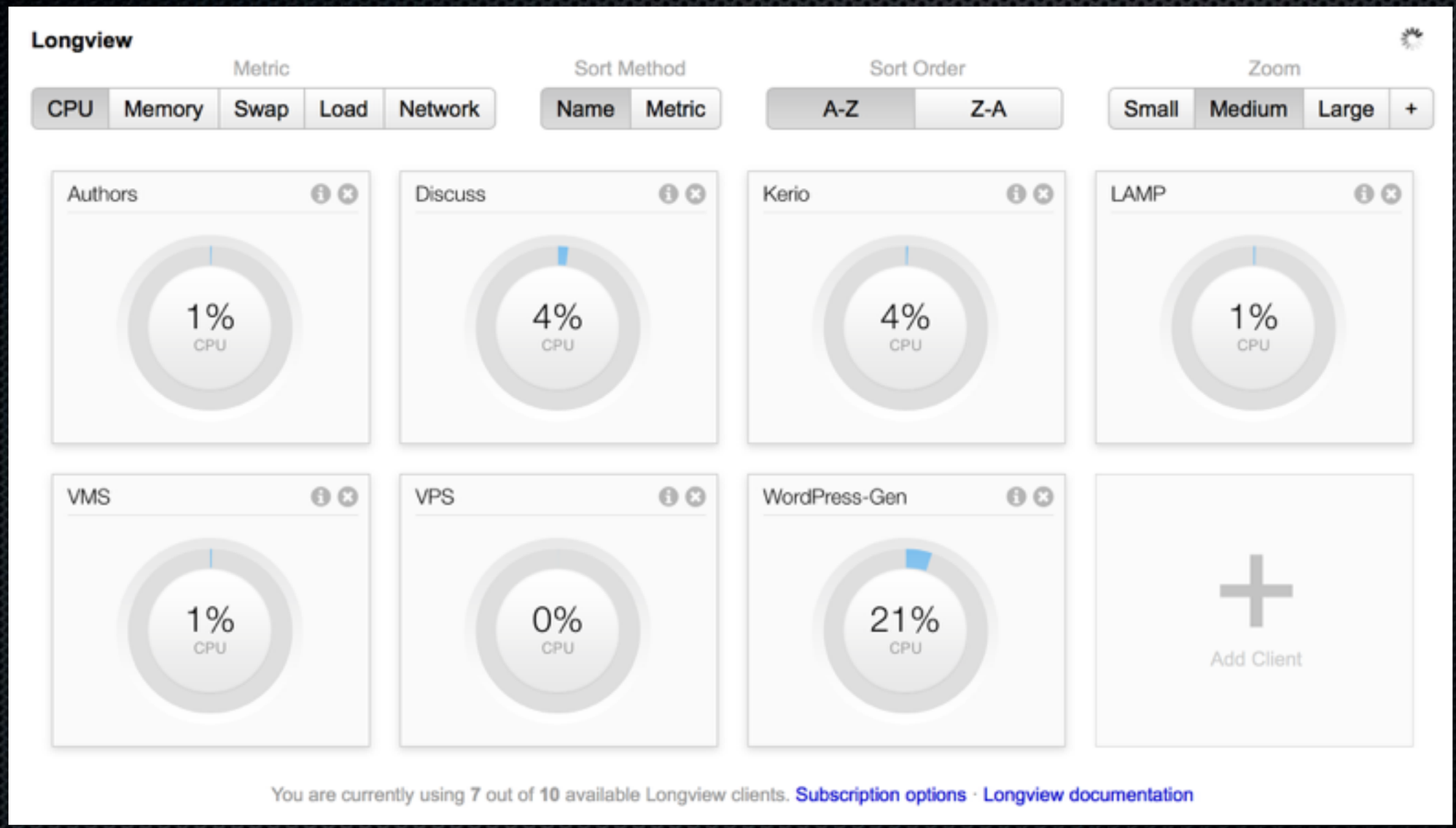
Linode: Time Zone

- Set the time zone for the server with this command:
  - dpkg-reconfigure tzdata
  - follow the on screen messages
    - select your region, and time zone

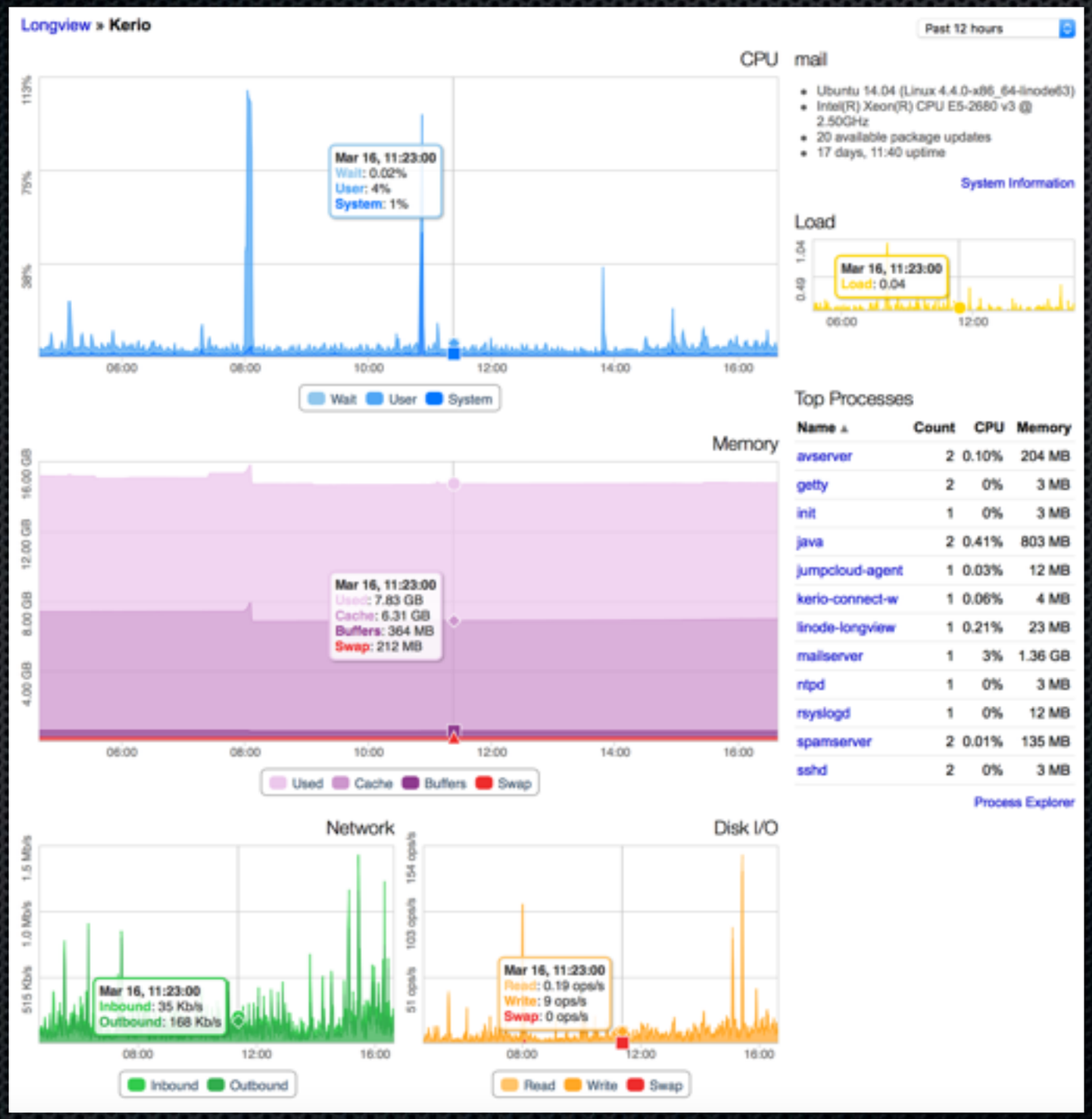
Linode: Monitoring

- Longview
  - Press the “+” to add a client
  - Copy command to install Longview via the curl
  - Rename your Longview
    - the “i” icon for the new Longview
- Watchman Monitoring (to come)
- Enable Backups:
  - Costs 20% of the cost of your Linode

Linode's Longview



Linode's Longview



Control Panels

- Why?
  - Base server config
  - Services Configuration
  - Scripted Installers
  - User Access
  - Database Configuration
  - Security
- Industry Standards:
  - cPanel, Plesk, InterWorx, zPanel, ISPConfig

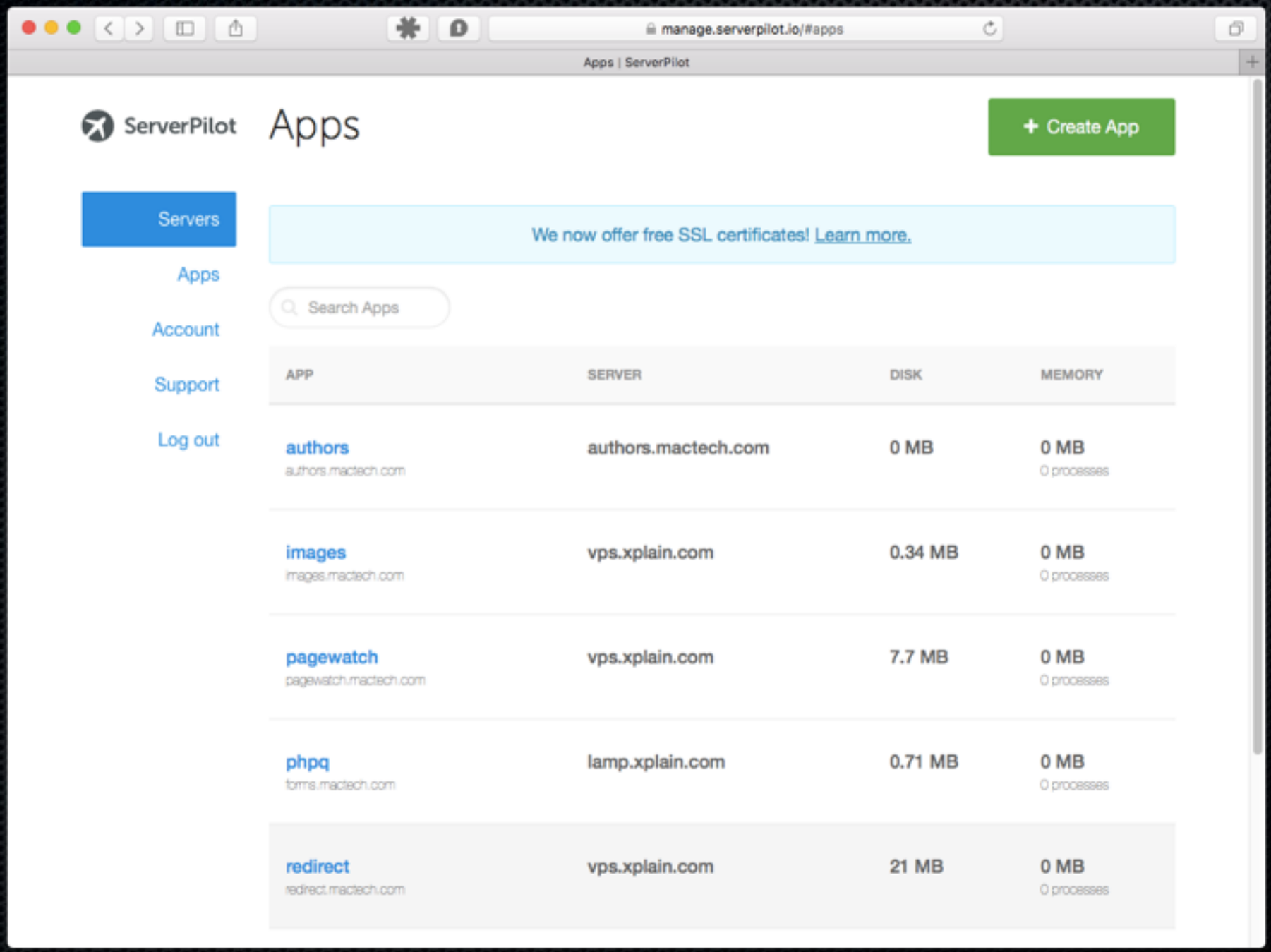
Control Panels

- Light, fast, and secure with modern interface
- New Breed, multi-servers
  - ServerPilot.io
  - webmin (virtualmin)
  - Sentora http://sentora.org
- Single Servers
  - Webuzo
  - VestaCP

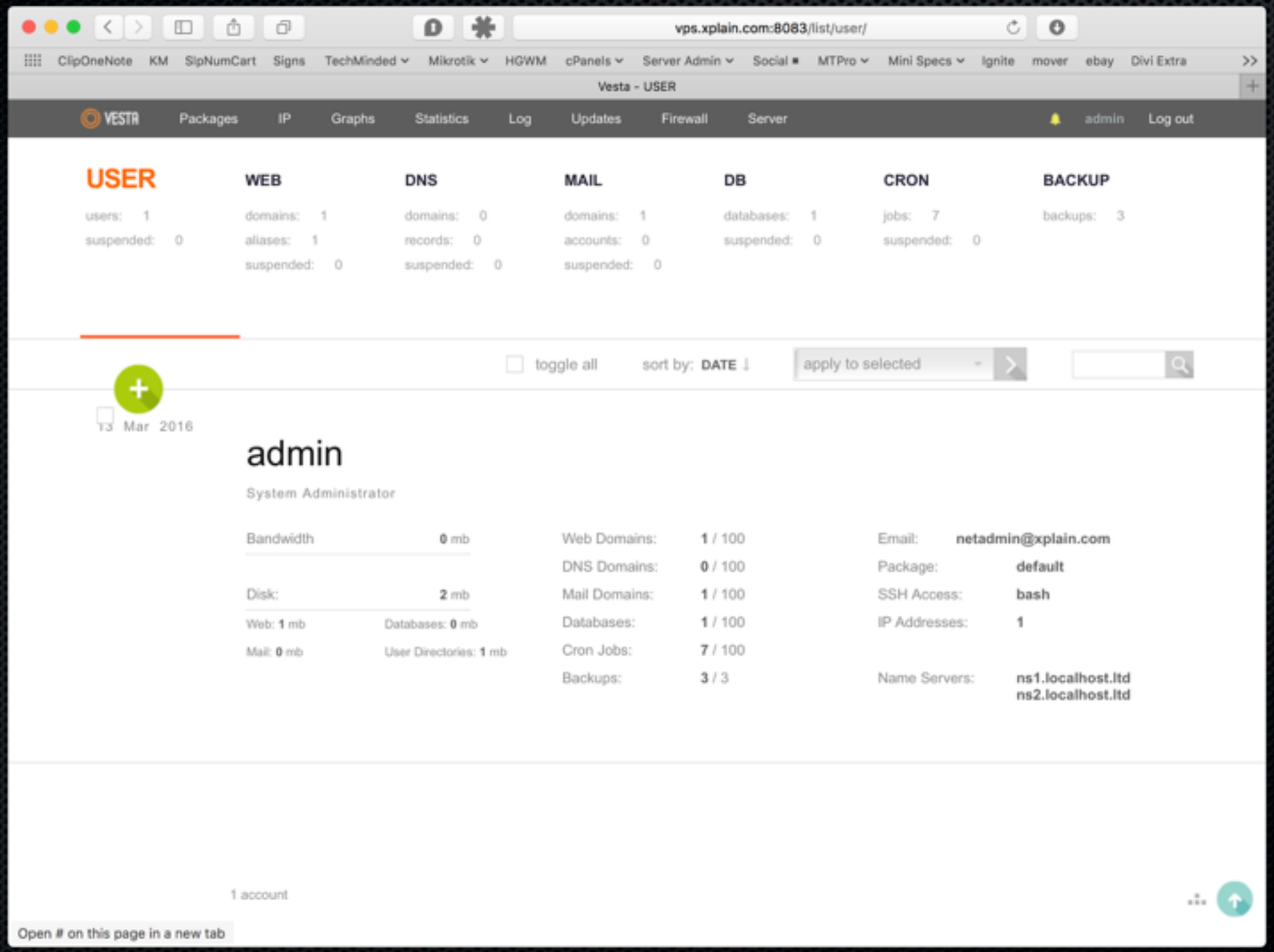
Types of Services

- Nginx Web Server
- Apache Web Server (as backend)
- Bind DNS Server
- Exim or other mail server
- Antivirus Antispam
- Dovecot POP3/IMAP Server or others
- MySQL Database Server
- FTP Server
- Firewall and automatic banning
- … and others

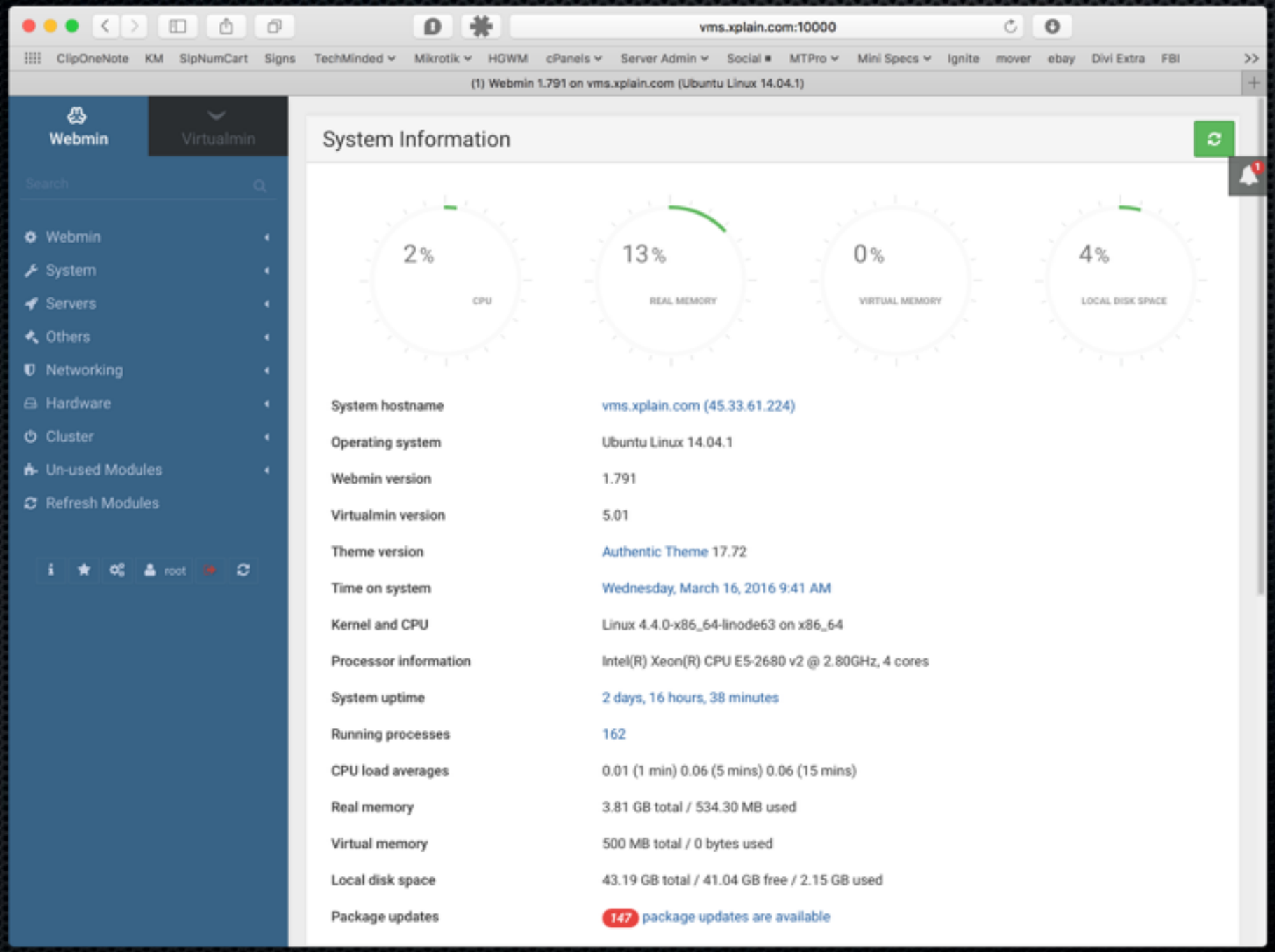
ServerPilot.io



VestaCP


vps.xplain.com:8083/list/user/
Vesta - USER
VESTA
Packages
IP
Graphs
Statistics
Log
Updates
Firewall
Server
admin
Log out
USER
users: 1
suspended: 0
WEB
domains: 1
aliases: 1
suspended: 0
DNS
domains: 0
records: 0
suspended: 0
MAIL
domains: 1
accounts: 0
suspended: 0
DB
databases: 1
suspended: 0
CRON
jobs: 7
suspended: 0
BACKUP
backups: 3
toggle all
sort by: DATE
apply to selected
13 Mar 2016
admin
System Administrator
Bandwidth 0 mb
Disk: 2 mb
Web: 1 mb
Databases: 0 mb
Mail: 0 mb
User Directories: 1 mb
Web Domains: 1 / 100
DNS Domains: 0 / 100
Mail Domains: 1 / 100
Databases: 1 / 100
Cron Jobs: 7 / 100
Backups: 3 / 3
Email: netadmin@xplain.com
Package: default
SSH Access: bash
IP Addresses: 1
Name Servers: ns1.localhost.ltd ns2.localhost.ltd
1 account
Open # on this page in a new tab

webmin


vms.xplain.com:10000
ClipOneNote KM SlpNumCart Signs TechMinded Mikrotik HGWM cPanels Server Admin Social MTPro Mini Specs Ignite mover ebay Divi Extra FBI
(1) Webmin 1.791 on vms.xplain.com (Ubuntu Linux 14.04.1)
Webmin
Virtualmin
Search
Webmin
System
Servers
Others
Networking
Hardware
Cluster
Un-used Modules
Refresh Modules
root
System Information
2%
CPU
13%
REAL MEMORY
0%
VIRTUAL MEMORY
4%
LOCAL DISK SPACE
System hostname vms.xplain.com (45.33.61.224)
Operating system Ubuntu Linux 14.04.1
Webmin version 1.791
Virtualmin version 5.01
Theme version Authentic Theme 17.72
Time on system Wednesday, March 16, 2016 9:41 AM
Kernel and CPU Linux 4.4.0-x86_64-linode63 on x86_64
Processor information Intel(R) Xeon(R) CPU E5-2680 v2 @ 2.80GHz, 4 cores
System uptime 2 days, 16 hours, 38 minutes
Running processes 162
CPU load averages 0.01 (1 min) 0.06 (5 mins) 0.06 (15 mins)
Real memory 3.81 GB total / 534.30 MB used
Virtual memory 500 MB total / 0 bytes used
Local disk space 43.19 GB total / 41.04 GB free / 2.15 GB used
Package updates 147 package updates are available

Or choose none…

- Remember…
  - Ask yourself why?
- And if none, you need to remember
  - Updates and Security Patches
  - Prevent password and root login
  - Firewall
  - Monitoring

Auto-Updates

- sudo apt-get install unattended-upgrades
- sudo dpkg-reconfigure -p low unattended-upgrades

Check the Schedule

```
mactech@someserver:~$ cat /etc/apt/apt.conf.d/10periodic
 APT::Periodic::Update-Package-Lists “1";
 APT::Periodic::Download-Upgradeable-Packages “0";
 APT::Periodic::AutocleanInterval “0";
```

```
mactech@someserver:~$ cat /etc/apt/apt.conf.d/20auto-upgrades
 APT::Periodic::Update-Package-Lists "1";
 APT::Periodic::Unattended-Upgrade “1”;
```

Note: The 1 means it will update every day. 7 is weekly

Forcing Updates

- Find available updates, and force an upgrade now:

```
sudo apt-get update
sudo apt-get dist-upgrade
```

- Testing it?
  - list available updates

```
sudo apt-get -u upgrade
```

  - simulate update process

```
sudo apt-get -s upgrade
```

- Brute Force Testing
  - `sudo reboot now`
  - you should not see updates now

Firewall

Configure the firewall

Typical ports you may want to open:

```
sudo ufw allow ssh
sudo ufw allow 80/tcp
sudo ufw allow 443/tcp
sudo ufw allow 25/tcp
sudo ufw show added
sudo ufw enable
```

Disable Access

Disable password access for root

```
sudo passwd -l root
```

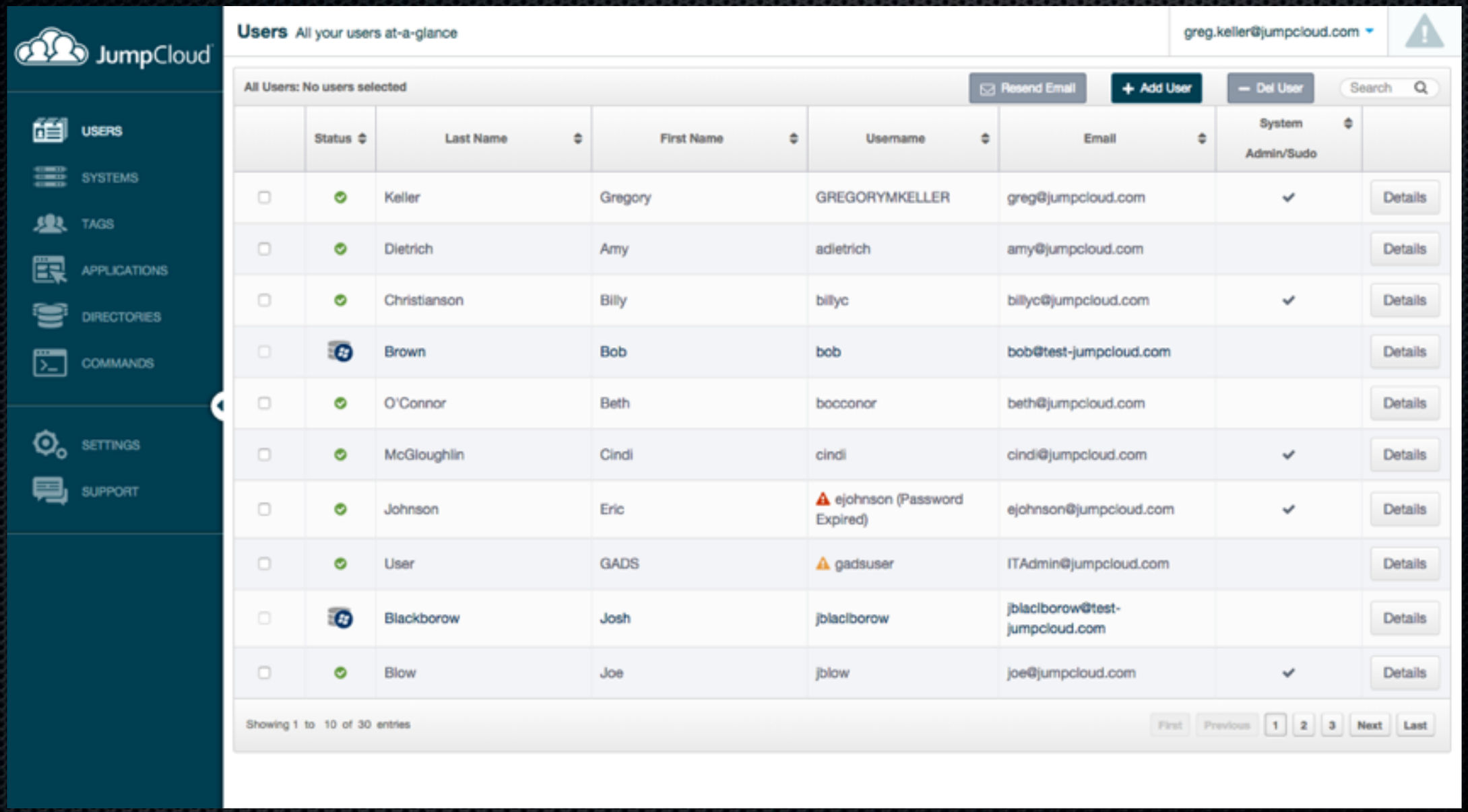
Service Updates

- Keep them up to date.
  - SSL, Apache, Nginx, MySQL, php updates are a must
  - Beyond the scope of this presentation
  - Make sure it's being done

Managing Users

- JumpCloud
  - https://console.jumpcloud.com/#/systems
  - get your Linux install curl command and execute it at the command line for the ssh session you have to the server
  - add a tag to the system so you can manage it
  - make sure to assign yourself (and anyone else) and the server
- Other solutions as well

JumpCloud


JumpCloud
USERS
SYSTEMS
TAGS
APPLICATIONS
DIRECTORIES
COMMANDS
SETTINGS
SUPPORT
Users All your users at-a-glance
greg.keller@jumpcloud.com
All Users: No users selected
Resend Email
+ Add User
– Del User
Search
Status
Last Name
First Name
Username
Email
System Admin/Sudo
Keller Gregory GREGORYMKELLER greg@jumpcloud.com Details
Dietrich Amy adietrich amy@jumpcloud.com Details
Christianson Billy billyc billyc@jumpcloud.com Details
Brown Bob bob bob@test-jumpcloud.com Details
O'Connor Beth bocconor beth@jumpcloud.com Details
McGloughlin Cindi cindi cindi@jumpcloud.com Details
Johnson Eric ejohnson (Password Expired) ejohnson@jumpcloud.com Details
User GADS gadsuser ITAdmin@jumpcloud.com Details
Blackborow Josh jblaclborow jblaclborow@test-jumpcloud.com Details
Blow Joe jblow joe@jumpcloud.com Details
Showing 1 to 10 of 30 entries
First Previous 1 2 3 Next Last

Integrated Monitoring

- Go to your watchman setup:
- define the group
- install on (two commands) watchman client

```
run-client --auto-update true
sudo run-client -F
```

Tools and Utilities

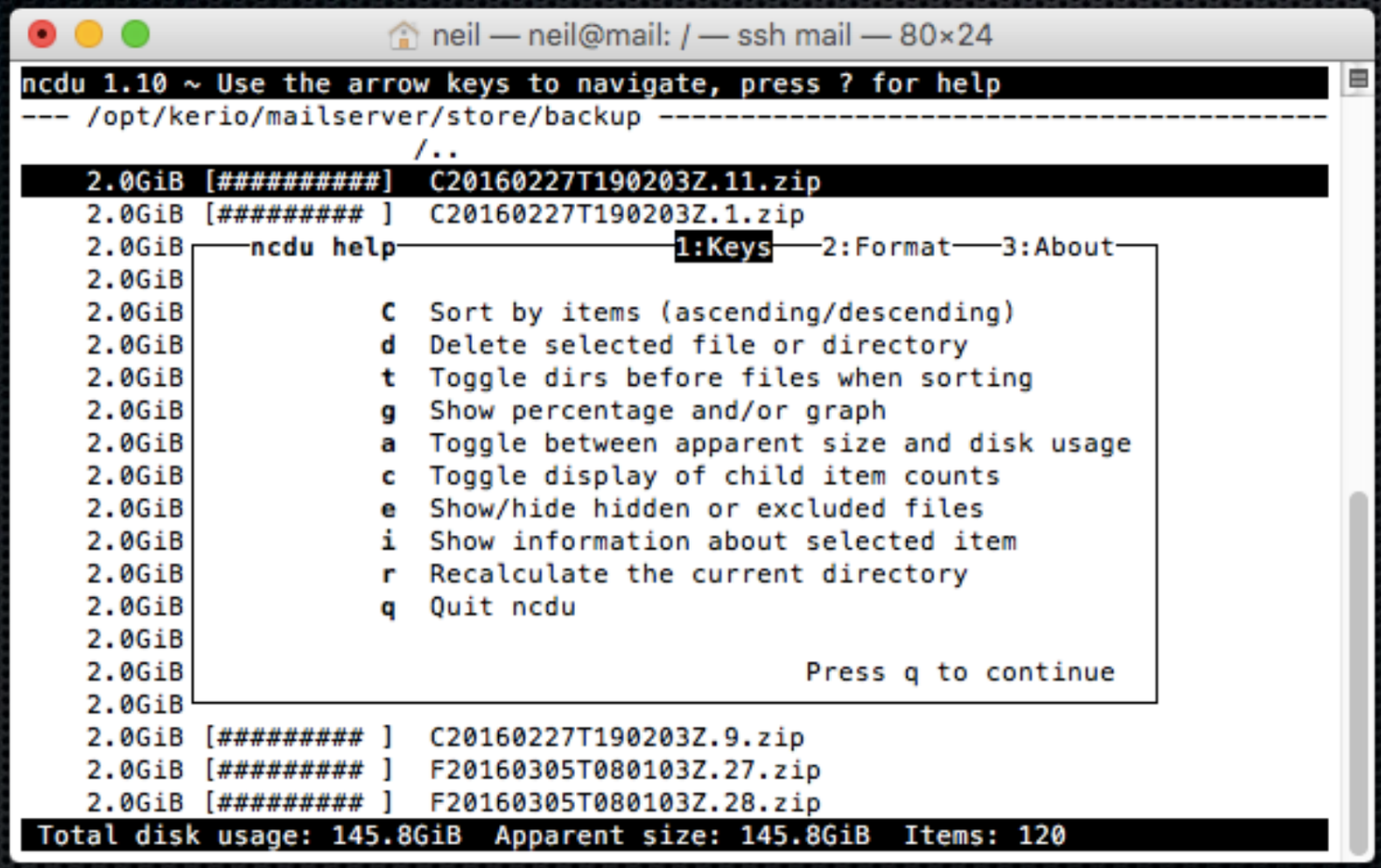
- ncdu

```
apt-get install ncdu
apt-get install yum
apt-get install yum-utils
yum-config-manager --enable
```

ncdu


neil — neil@mail: / — ssh mail — 80×24
ncdu 1.10 ~ Use the arrow keys to navigate, press ? for help
--- /opt/kerio ----------
/..
321.7GiB [##########] /mailserver
16.0KiB [ ] .DS_Store
Scanning...
Total items: 2279188 size: 123.3GiB
Current item: /opt/kerio/mailserver/sto...il/02 - Q4/#msgs/00000ded.eml
ning...
Press q to abort
Total disk usage: 321.7GiB Apparent size: 315.5GiB Items: 3198720

ncdu


neil — neil@mail: / — ssh mail — 80×24
ncdu 1.10 ~ Use the arrow keys to navigate, press ? for help
--- /opt/kerio/mailserver/store/backup ---
/..
2.0GiB [##########] C20160227T190203Z.11.zip
2.0GiB [#########] C20160227T190203Z.1.zip
ncdu help 1:Keys 2:Format 3:About
C Sort by items (ascending/descending)
d Delete selected file or directory
t Toggle dirs before files when sorting
g Show percentage and/or graph
a Toggle between apparent size and disk usage
c Toggle display of child item counts
e Show/hide hidden or excluded files
i Show information about selected item
r Recalculate the current directory
q Quit ncdu
Press q to continue
2.0GiB [#########] C20160227T190203Z.9.zip
2.0GiB [#########] F20160305T080103Z.27.zip
2.0GiB [#########] F20160305T080103Z.28.zip
Total disk usage: 145.8GiB Apparent size: 145.8GiB Items: 120

Useful Links

- https://www.linode.com
- https://www.digitalocean.com
- https://wiki.ubuntu.com/LTS
- http://serverpilot.io
- https://vestacp.com
- http://www.webmin.com
- http://jumpcloud.com

Cloud Based Storage

- Storing files in Cloud as primary storage isn't backup
- 3-2-1 still applies, even to the Cloud
  - Have 3 copies of your data
  - Store on 2 different media types
  - Store 1 backup offsite (offsite = cloud in this case)
- Backup client machine that's synced to cloud
- Cloud-based data transfer and backup (briefly)
  - https://mover.io
  - https://www.multcloud.com
  - http://www.cloudsfer.com
  - http://www.otixo.com

Questions?



Christian Woodward
christianwoodward@mac.com
Watchman Monitoring

MACTECH PRO EVENTS