



VPS hosting for speed and security

And those extra bits that get forgotten



Mike Little

WordPress specialist

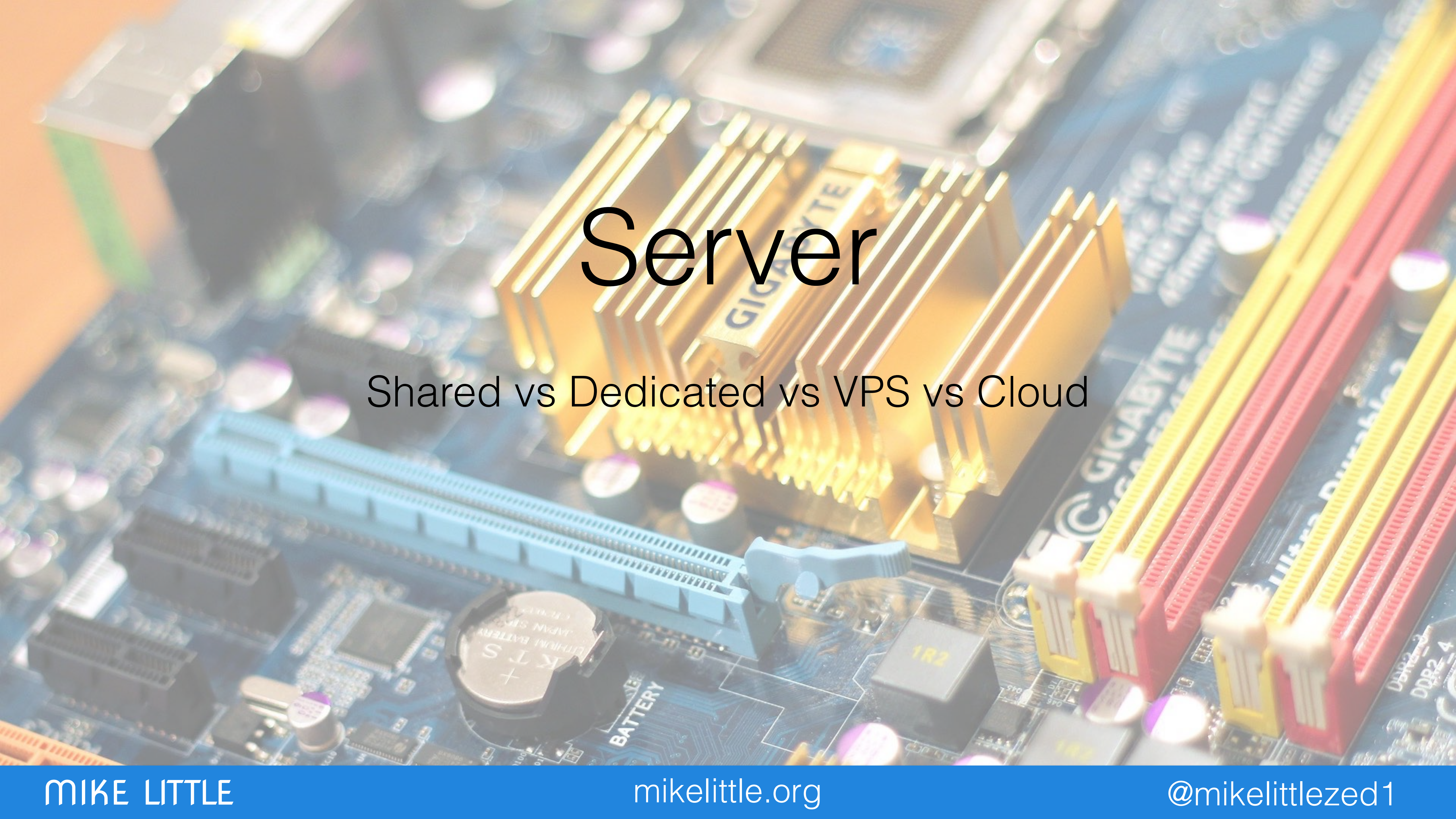
<https://mikelittle.org/>
[@mikelittlezed1](#)

Intro

- Servers
- Application Stack
- Security
- Performance
- Other Stuff

Technical but not too..

```
root@example:~# apt-get install mosh
root@example:~# adduser mike
root@example:~# service ssh reload
root@example:~# apt-get update && apt-get dist-upgrade
root@example:~# pico /etc/hosts
root@example:~# opendkim-genkey -s mail -d example.wp-hosting.co.uk
root@example:~# service postfix restart
root@example:~# service opendkim start
root@example:~# ee site create example.co.uk --subdom --w3tc
root@example:~# cronab -uroot /etc/wp-hosting/.cronab
root@example:~# dpkg-reconfigure -plow postfix
root@example:~# service php5-fpm restart
root@example:~# cat /dev/urandom | tr -dc 'a-zA-Z0-9 -@' | fold -w 25 | head -n1
```

Server

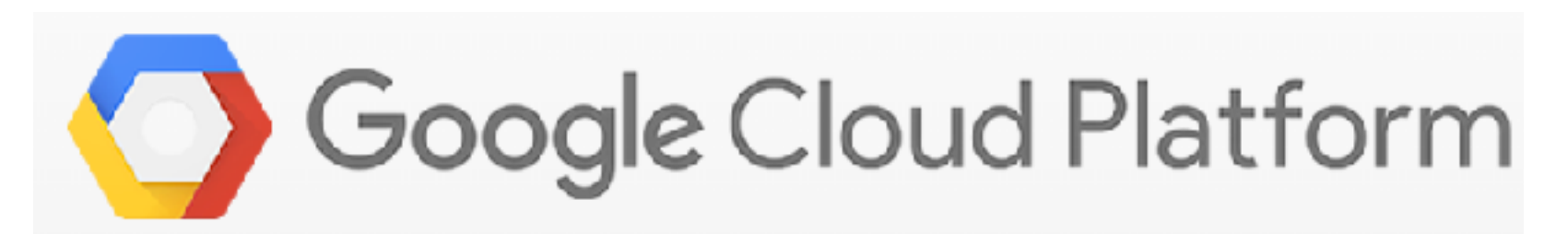
Shared vs Dedicated vs VPS vs Cloud

Server

- Shared : - Cheap, low traffic, overloaded
- Dedicated: - Expensive, high traffic, inflexible
- VPS: - Cheap, high traffic, flexible
- Container: - 'lightweight vps'
- Cloud: Cheap/Expensive, ultimate flexibility, complexity

Server

- Memory
- CPU
- Storage (SSD)
- Bandwidth
- Location, location, location



Server

- Different eggs in different baskets
- Domain Registration
- DNS Hosting
- Site Hosting
- Email Hosting
- Backup Storage



Application Stack

Linux/CentOS/Ubuntu
LAMP/LEMP/LIMP/LUMP

Application Stack

- Linux
- Ubuntu

ubuntu[®]



CentOS

LEMP

- Linux
- NginX (“Engine X”)
- MySQL / MariaDB
- PHP (FPM)

Easy Engine

<https://rtcamp.com/easyengine/>

EasyEngine

[Installation](#)

[Docs](#)

[FAQ](#)

[Roadmap](#)

[Premium Support](#)

[Get A Quote](#)



Create “15” Types of WordPress Sites!

	Single Site	Multisite w/ Subdir	Multisite w/ Subdomain
NO Cache	<code>--wp</code>	<code>--wpsubdir</code>	<code>--wpsubdomain</code>
WP Super Cache	<code>--wpSC</code>	<code>--wpsubdir --wpSC</code>	<code>--wpsubdomain --wpSC</code>
W3 Total Cache	<code>--w3tc</code>	<code>--wpsubdir --w3tc</code>	<code>--wpsubdomain --w3tc</code>
Nginx cache	<code>--wpfc</code>	<code>--wpsubdir --wpfc</code>	<code>--wpsubdomain --wpfc</code>
Redis cache	<code>--wpreDis</code>	<code>--wpsubdir --wpreDis</code>	<code>--wpsubdomain --wpreDis</code>

Security

OS and server level security



Security

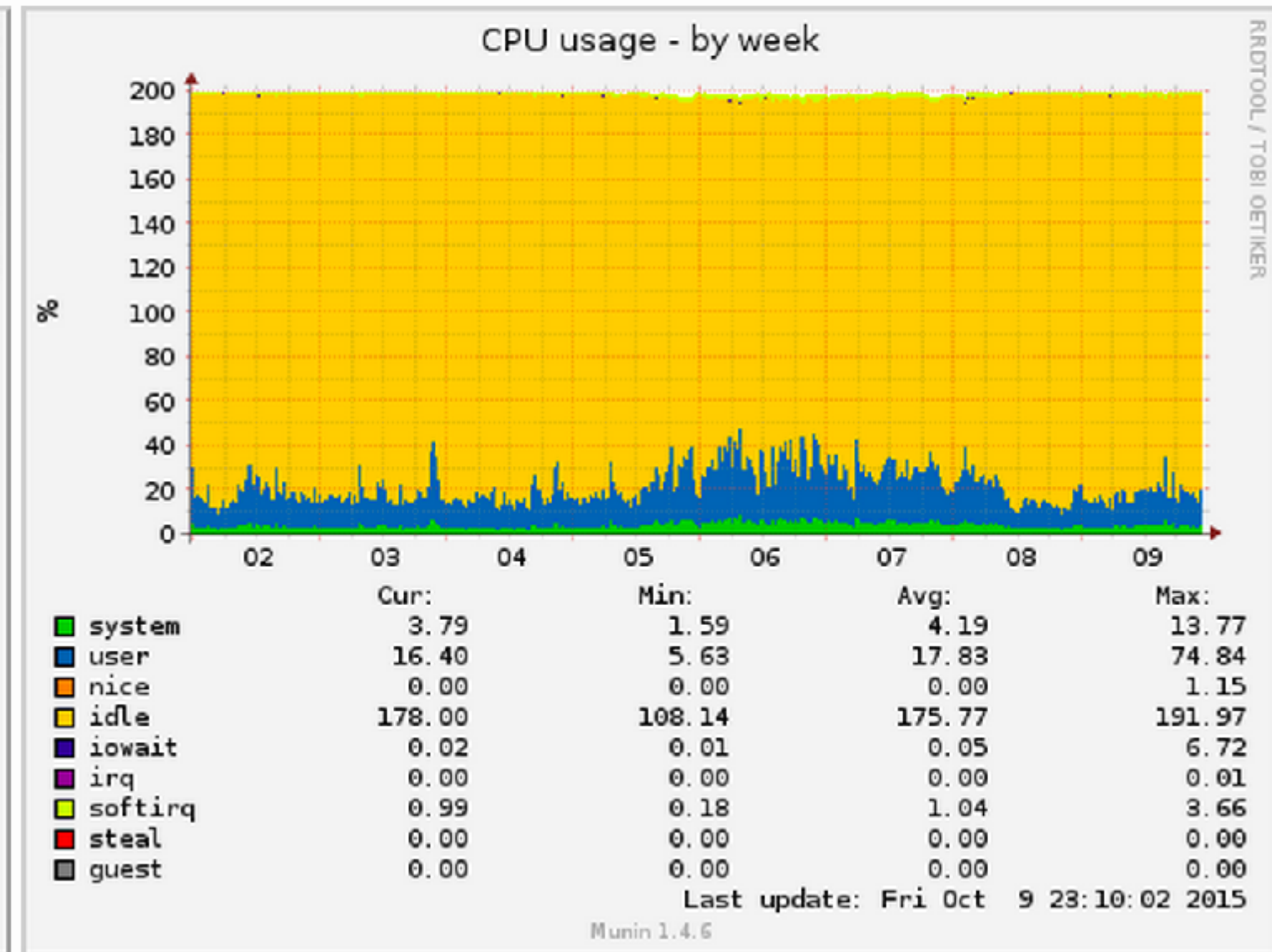
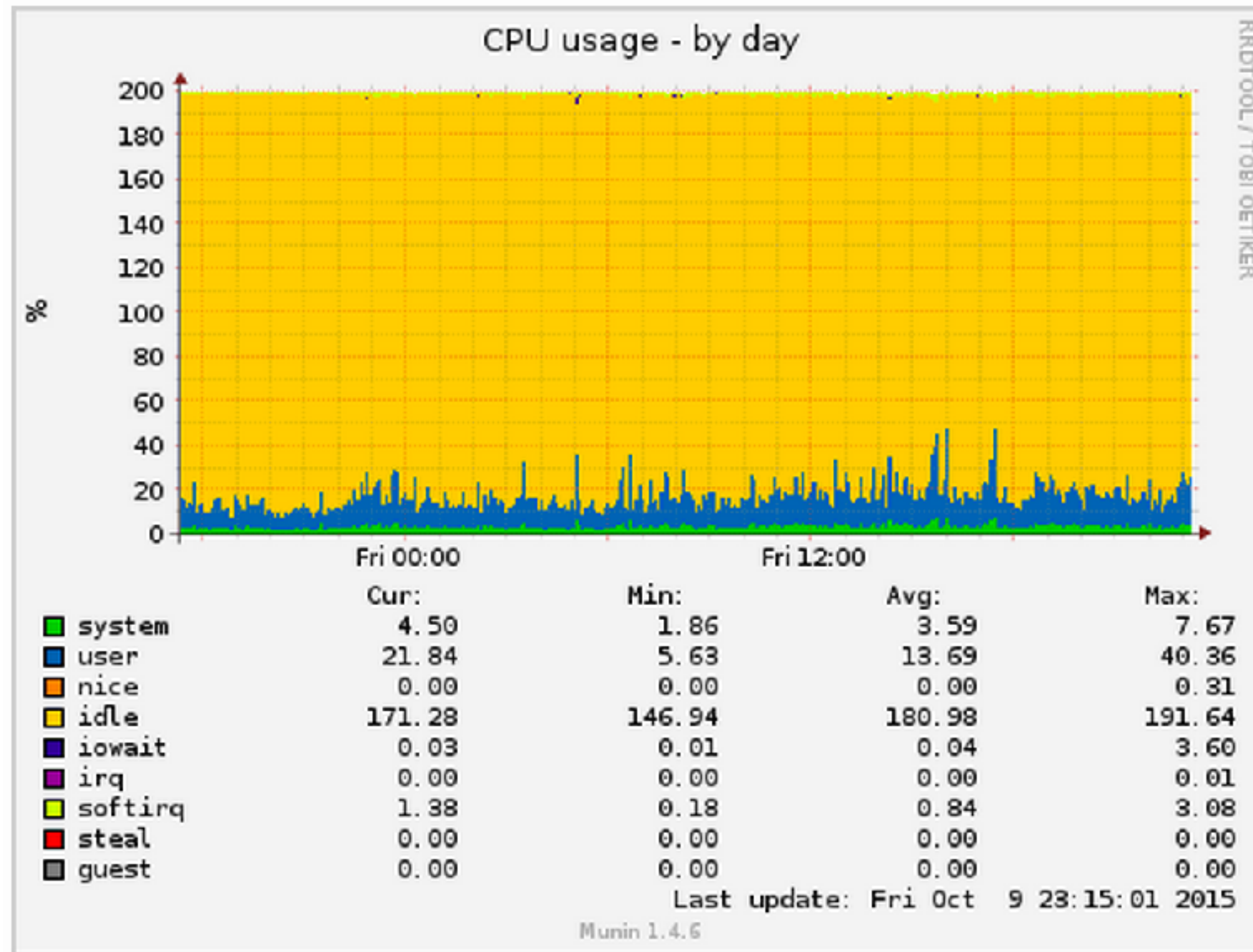
- Firewall - Block ports
- Fail2Ban - Ban naughty IPs
- Minimise attack surface
- Monitor and Alert
- Backups - OS and configuration - Offsite

Server Monitoring

- Munin
- NetData
- StatusCake

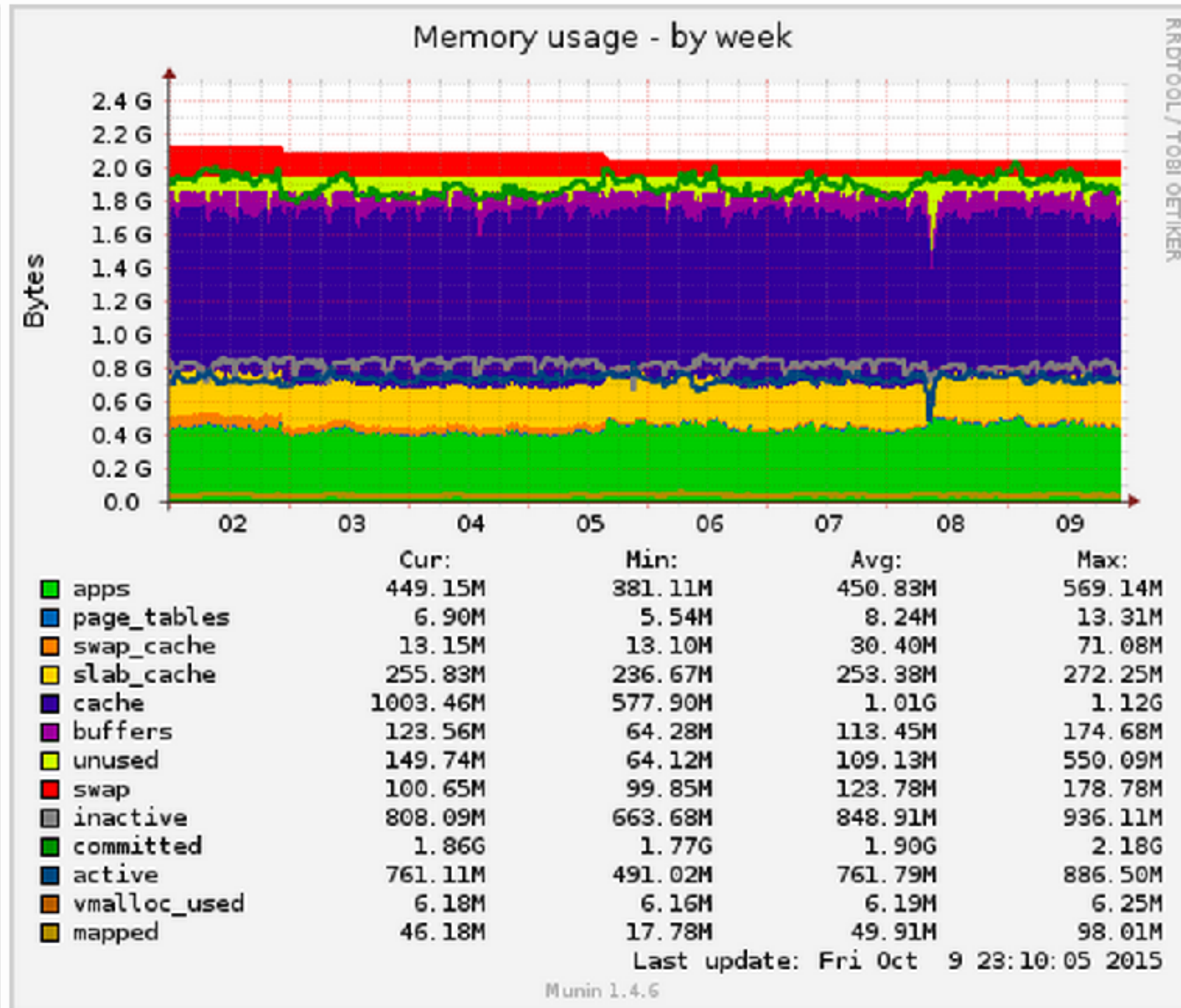
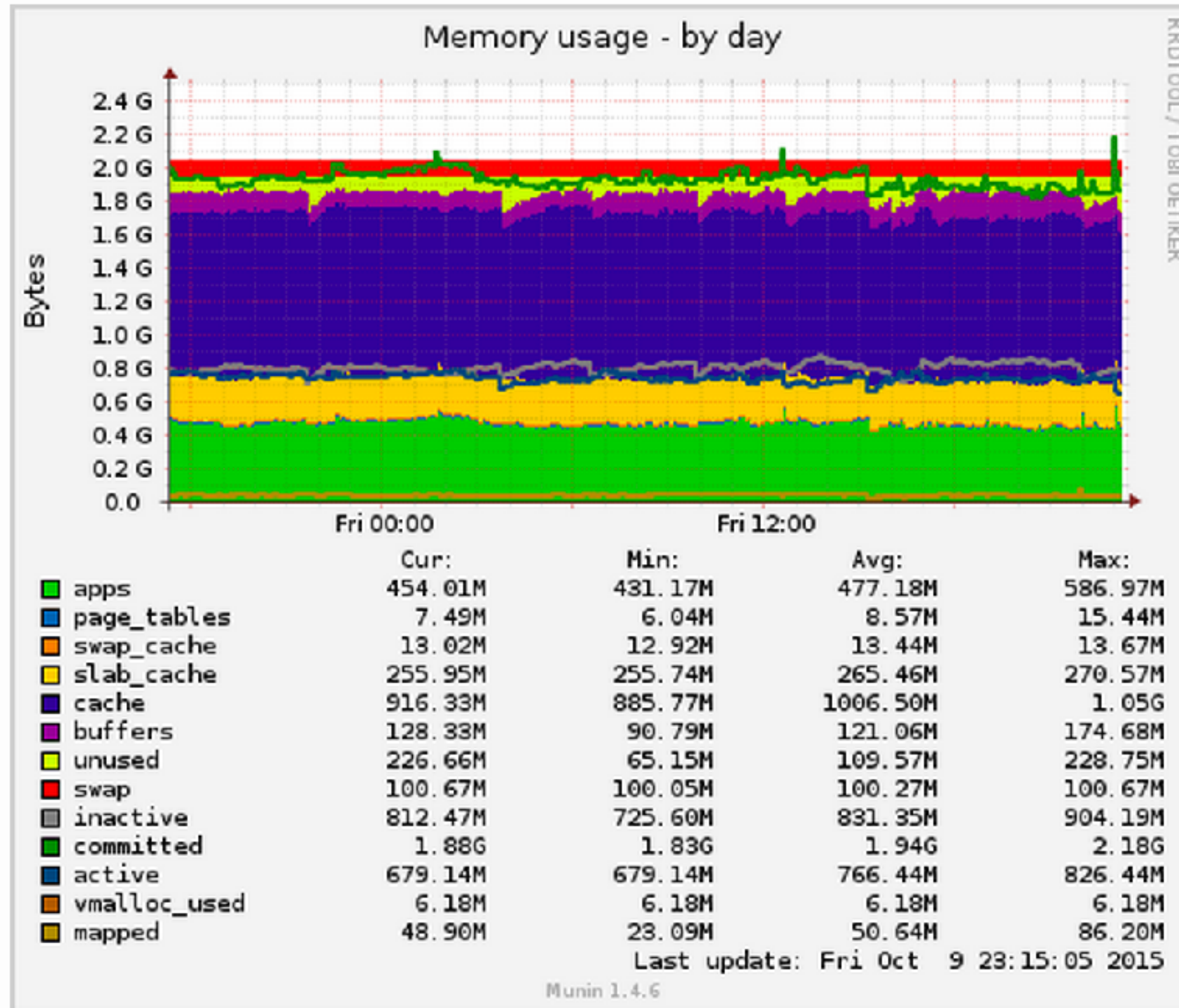
Site Monitoring - Munin

:: CPU usage



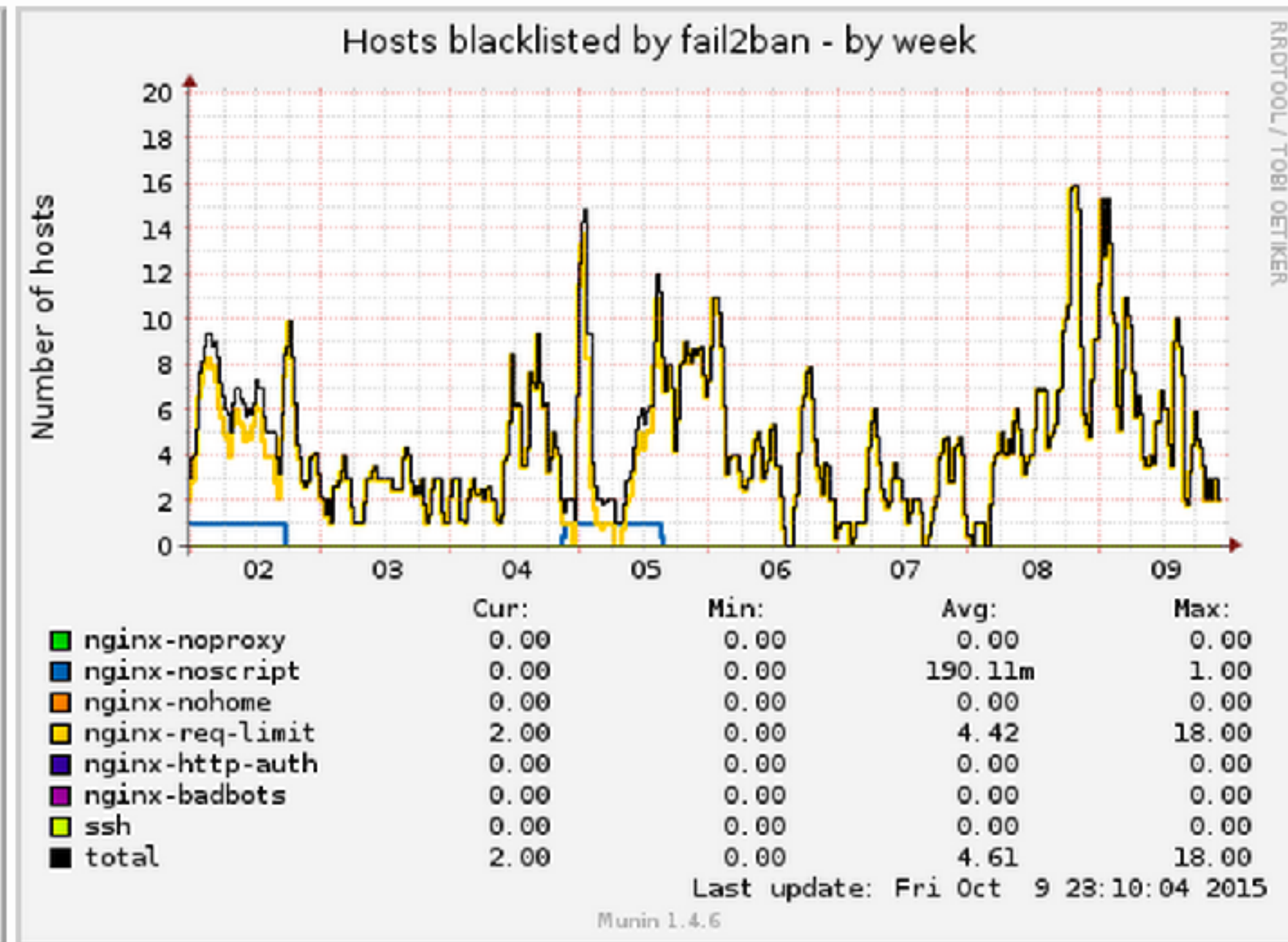
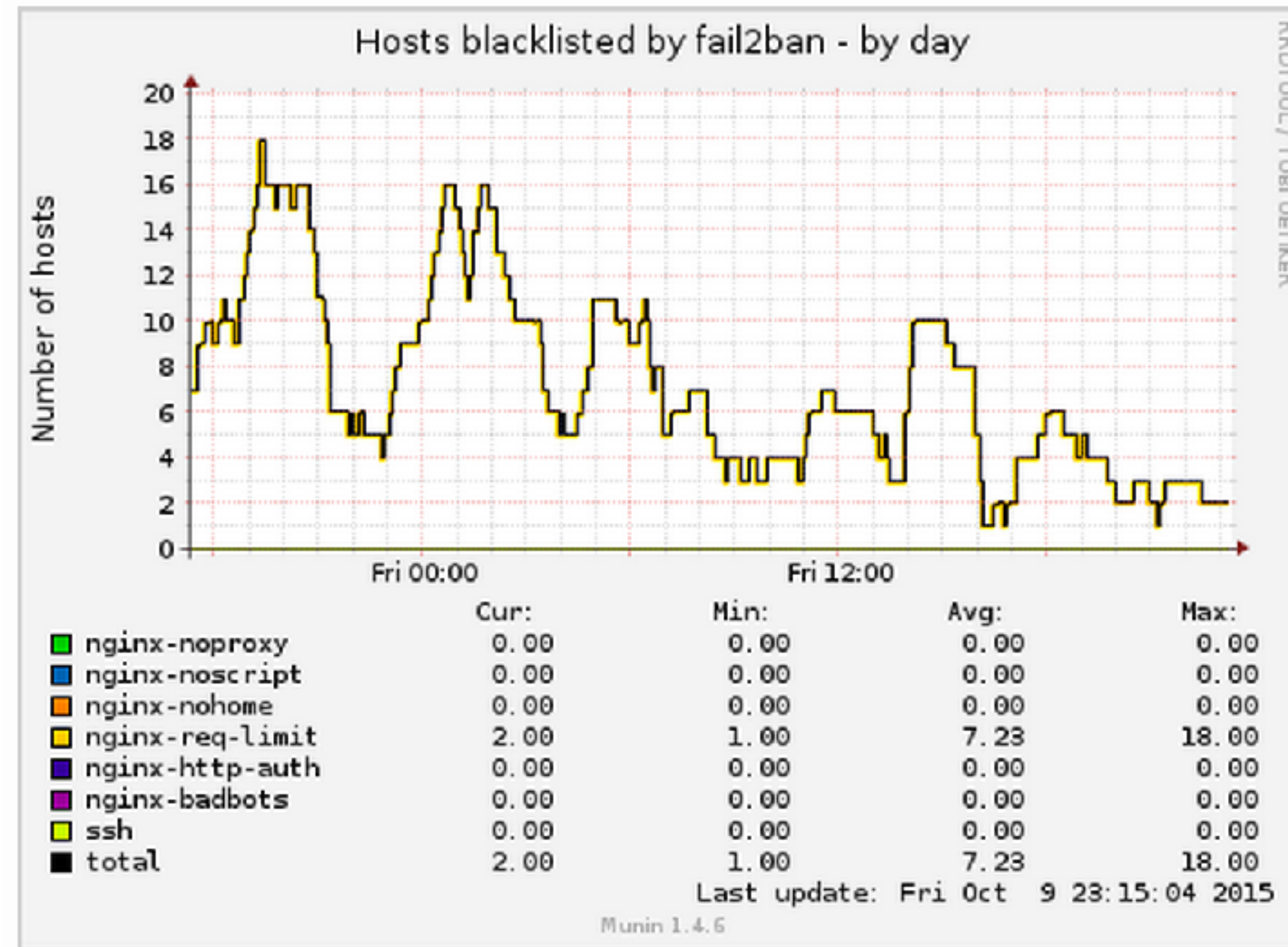
Site Monitoring - Munin

:: Memory usage



Site Monitoring - Munin

:: *Hosts blacklisted by fail2ban*



Uptime monitoring

- Status Cake
- Uptime Robot
- Pingdom

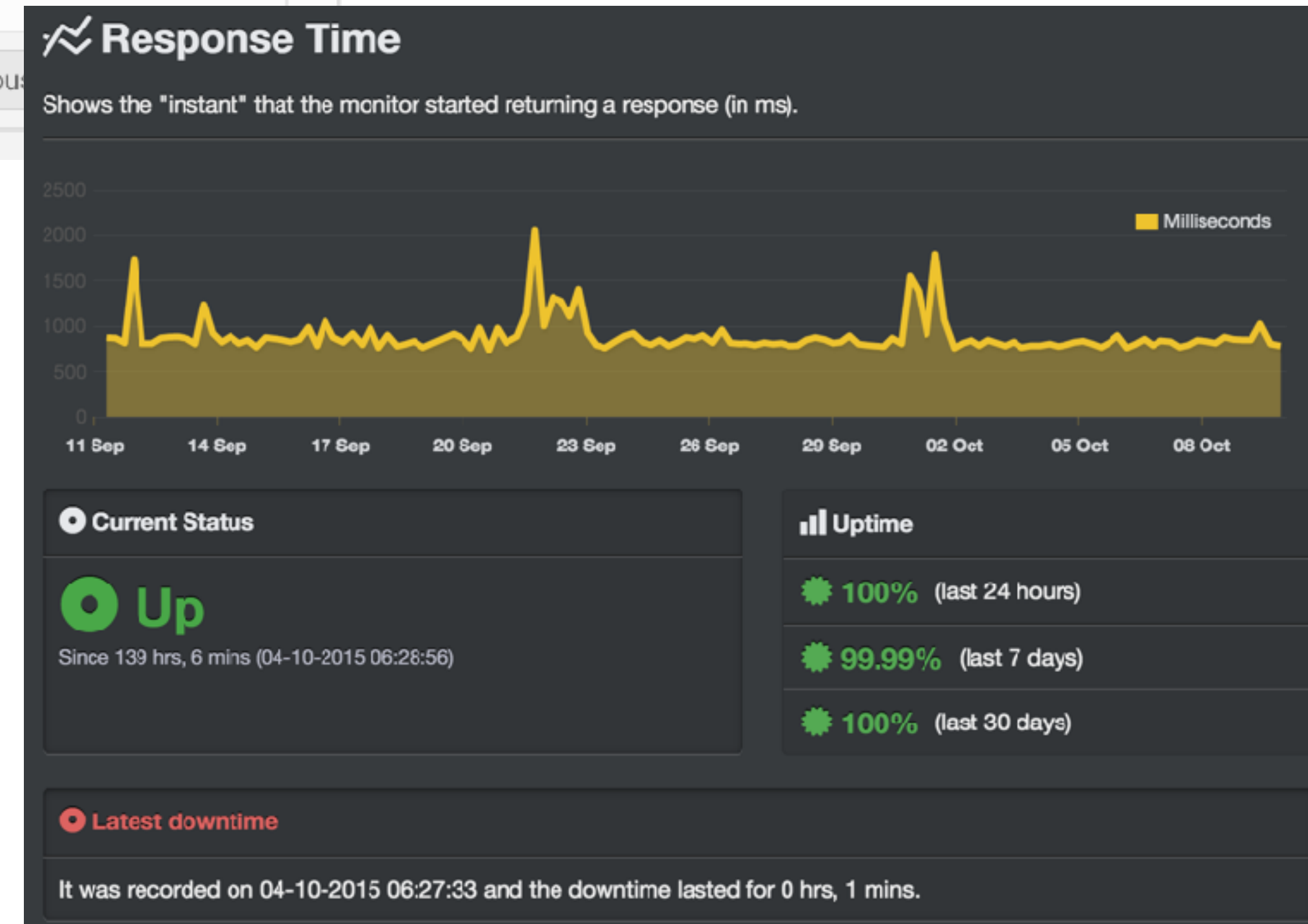
Alerts: Email, SMS/Text message, Push Bullet

Site Monitoring

Status Periods			
Status	From	Until	Span
Up	2015-05-28 17:49:03	2015-10-10 00:33:27	134 Days 6 Hours
Down	2015-05-28 17:46:06	2015-05-28 17:49:03	2 Minutes
Up	2014-09-19 10:36:19	2015-05-28 17:46:06	251 Days 7 Hours

Show entries

First Previous



Backups

- Full backups
- Site, Database, OS configuration
- Automated
- Off-site
- Restorable

Other Stuff...

Other Stuff...

- Email
- Performance testing
- Cron
- Control Panel
- sFTP

Email

- External - Use a 'big' provider
- SPF - Sender Policy Framework
- DKIM - DomainKeys Identified Mail
- Outgoing only

Edit zone record ✕

Record type

TXT

Name

mail._domainkey.radio

.wp-hosting.co.uk

Text

```
"v=DKIM1; k=rsa;  
p=MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQDLr7vgBSkFUs6tt8WASO3Oe  
5QxXsVdcyZNGtmRATRS+KSN81xzh15s2Wa/neKvjWaiBlxjuuwN5fF5FwZuqezvmFul1  
tac34bN+gqM75tXf9JJ+3/ENTfPTyclPh6LY5Qt+q6MKvzqX/MMLd0pX+6BtgbMN2BeG  
OzyU USSUVWrHQIDAQAB"
```

TTL

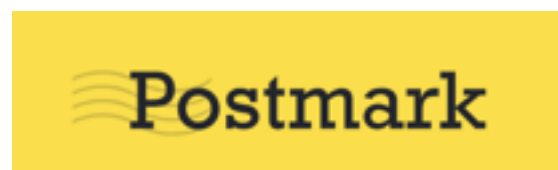
3600

Update record

Cancel

Email

- DMARC - Helps prevent spoofing
- Uses both SPF and DKIM along with a policy
- Reporting email
- postmarkapp.com



Edit zone record

Record type

TXT

?

Name

_dmarc

.zed1.io

Text

"v=DMARC1; p=none; pct=100;
rua=mailto:;
sp=none; aspf=r;"

TTL

3600

Update record

Cancel

Email

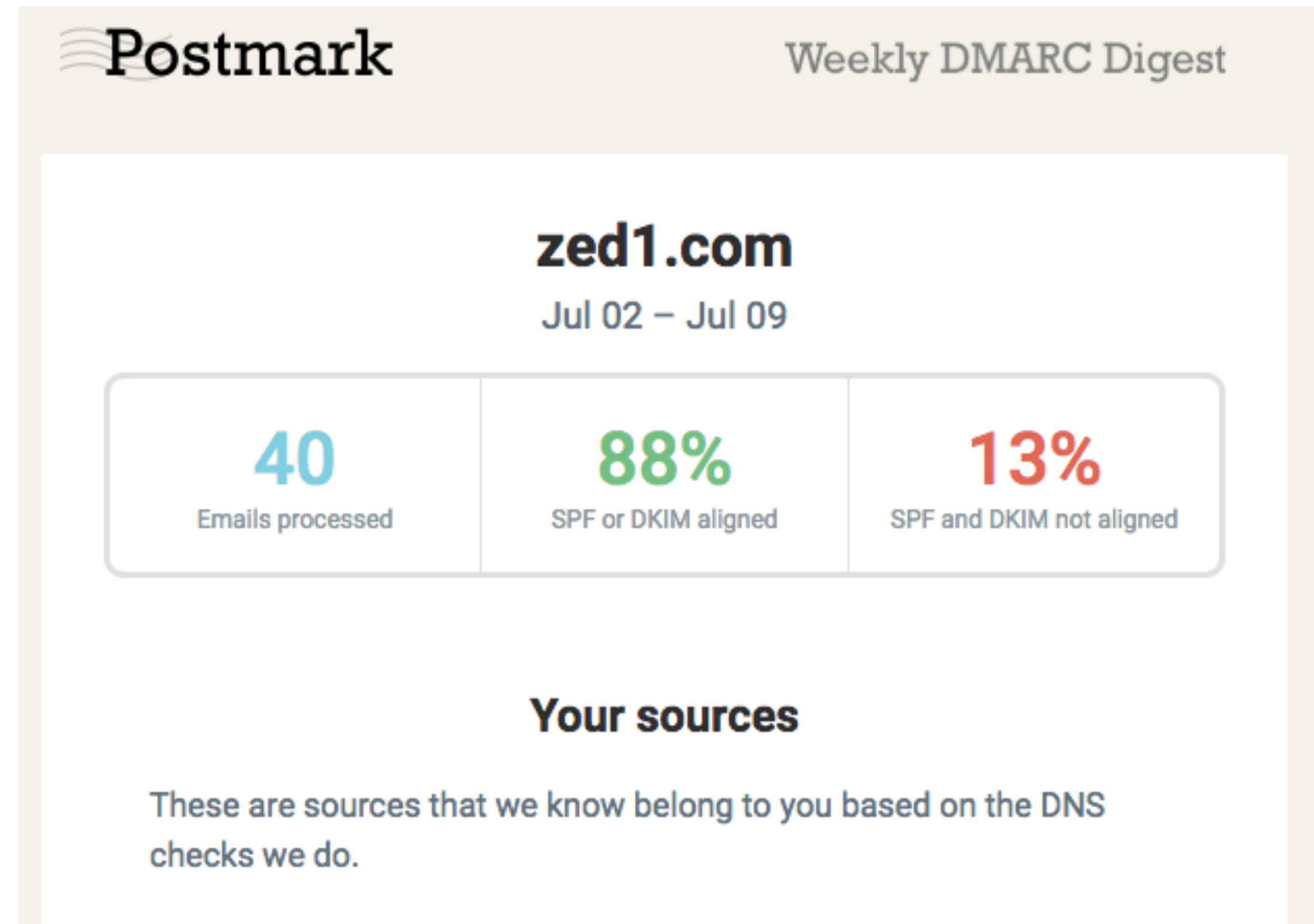
Gmail and others
check all these
methods:

Original message

Message ID	<cd886ef7-8aa3-45e2-b676-0b6ce3c5b737@mtasv.net>	
Created on:	25 July 2018 at 11:46 (Delivered after 0 seconds)	
From:	[REDACTED] Using mail (GNU Mailutils 2.99.99)	
To:	[REDACTED]@gmail.com	
Subject:	Test Postfix/postmark/DKIM	
SPF:		PASS with IP 104.245.209.201 Learn more
DKIM:		'PASS' with domain zed1.io Learn more
DMARC:		'PASS' Learn more

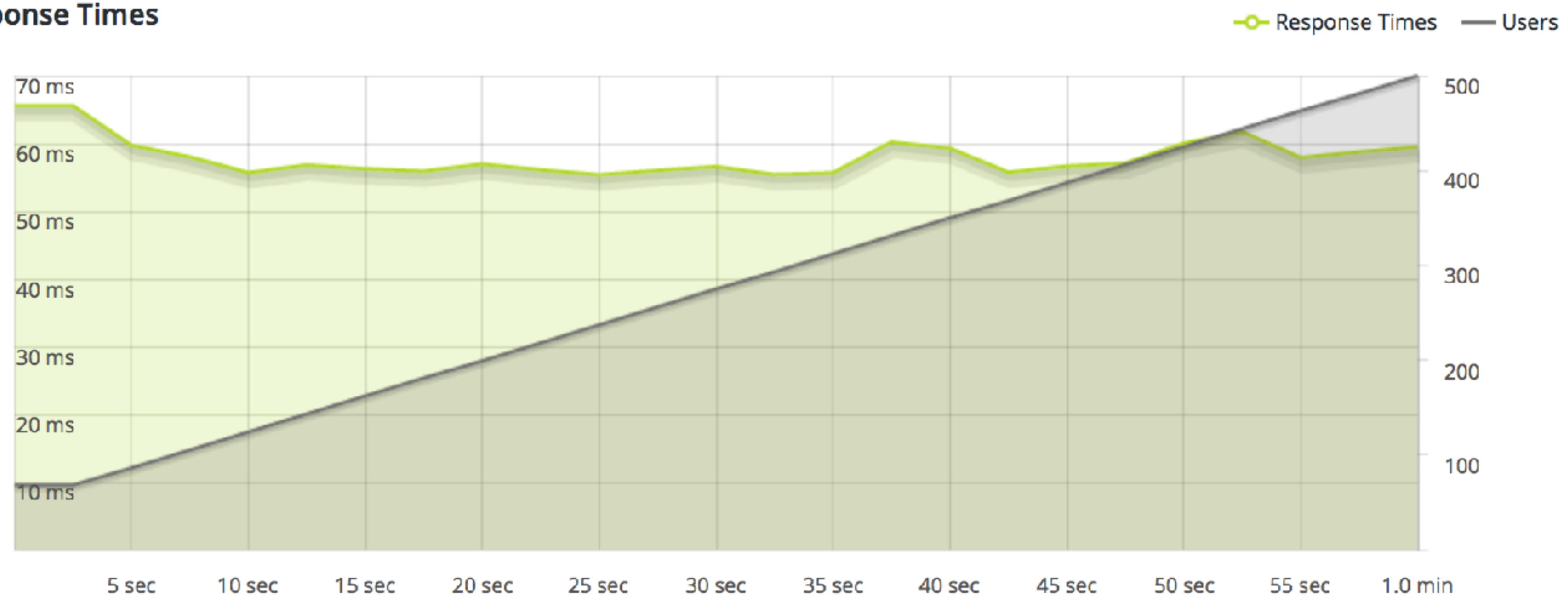
Email

DMARC weekly email reports



Performance Testing

Response Times



STEP 1
Response Times

The max response time was: 65 ms @ 68 users

Performance Testing

Load Test Report

Date: 8/4/2015

Test from : ireland

Query URL: <http://gpr.wp-hosting.co.uk/template-comments/>

Started at: Tue Aug 4 2015, 06:27:14 +01:00

Finished at: Tue Aug 4 2015, 06:28:14 +01:00

Test link: <https://www.blitz.io/to#/play>

Analysis

This rush generated **15,327** successful hits in **60 seconds** and we transferred **868.22 MB** of data in and out of your app. The average hit rate of **255/second** translates to about **22,070,880** hits/day.

The average response time was **58 ms**.

Response Times	Test Configuration	Other Stats
Fastest: 55 ms	Region: Ireland	Avg. Hits: 255 /sec
Slowest: 66 ms	Duration: 60 seconds	Transferred: 2.31 MB
Average: 58 ms	Load: 50-500 users	Received: 865.91 MB



Hits **100.00%** (15327)

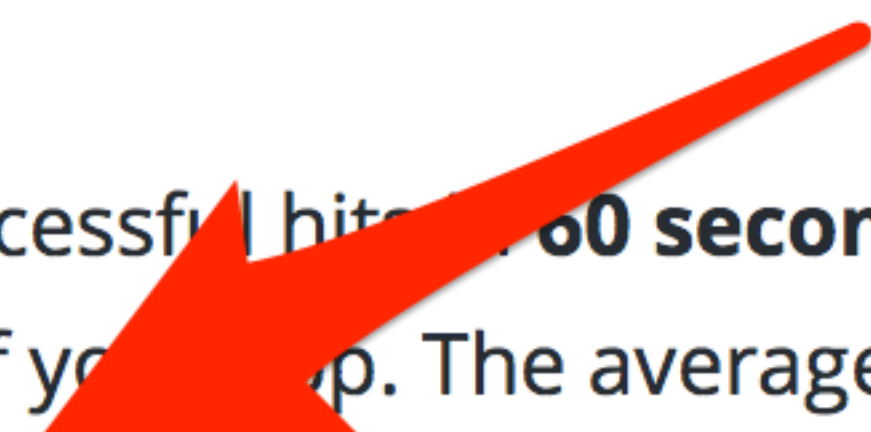
Errors **0.00%** (0)

Timeouts **0.00%** (0)

Performance Testing

Analysis

This rush generated **15,327** successful hits in **60 seconds** and we transferred **868.22 MB** of data in and out of your app. The average hit rate of **255/second** translates to about **22,070,880** hits/day.



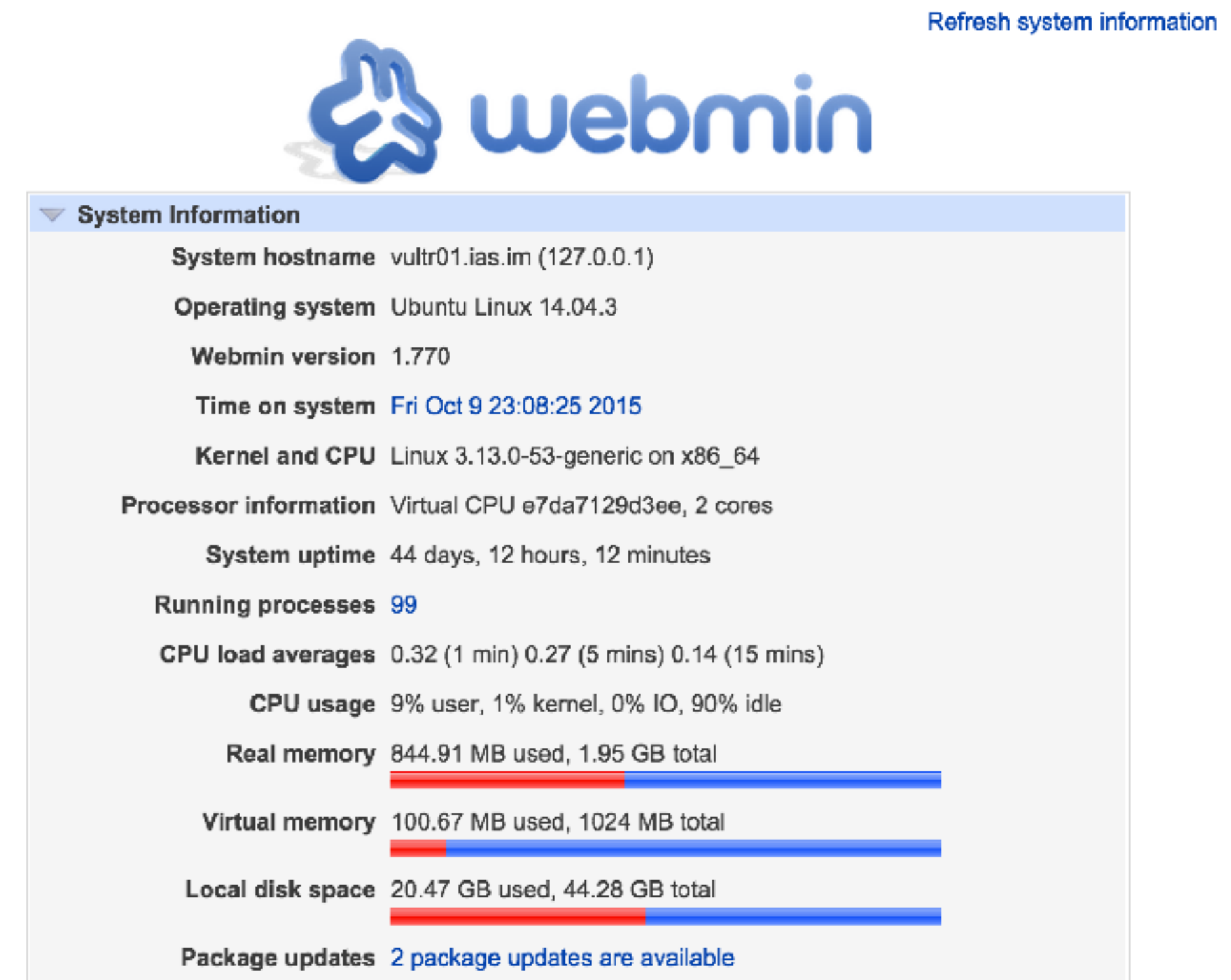
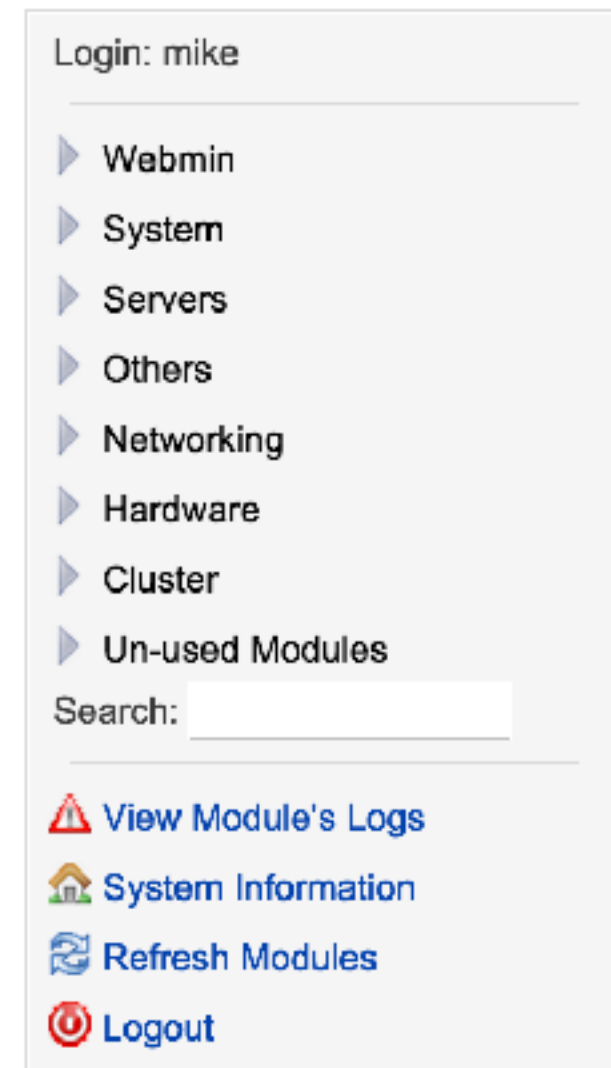
The average response time was **58 ms**.

Other Stuff...

- Cron — (not WordPress)
- Backups — (not a plugin)
- sFTP — secure and restricted (chroot)

Control Panel

- Not cPanel or Plesk
- Webmin — Open source



Links

- <https://www.vultr.com/>
- <https://www.digitalocean.com/>
- <http://www.ubuntu.com/>
- <https://easyengine.io/>
- <http://www.fail2ban.org/>
- <https://sucuri.net/>
- <https://infinitewp.com/>
- <http://munin-monitoring.org/>
- <https://www.statuscake.com/>
- <https://uptimerobot.com/>
- <http://www.dkim.org/>
- <https://dmarc.postmarkapp.com/>

Questions?

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- <https://mikelittle.org>
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