

# Catastrophic Unplanned Success

Pete Stevens  
Mythic Beasts Ltd

# Ancient History



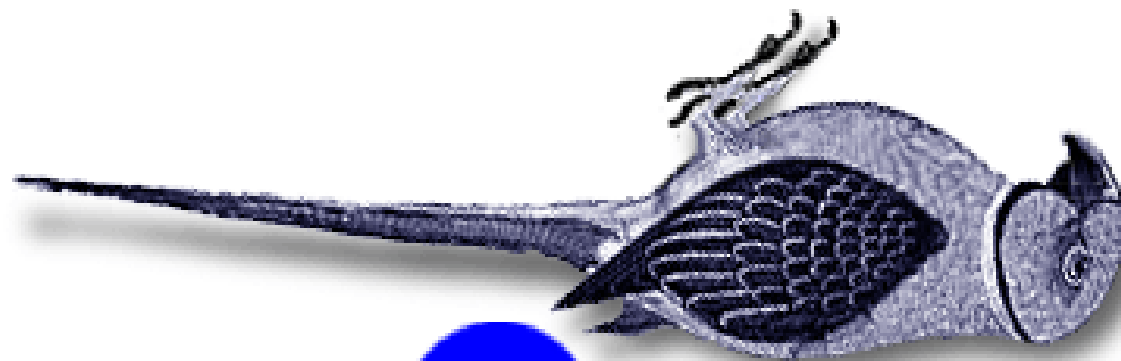
# Chris Lightfoot



- “Within mySociety he was involved right from the start through the development of WriteToThem, HearFromYourMP and PledgeBank.” Tom Steinberg

mySociety





exparrot

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Get full control of your hosting with root access on dedicated hardware in our data centres. All servers include:

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Enjoy the flexibility and resilience of virtualized hosting.

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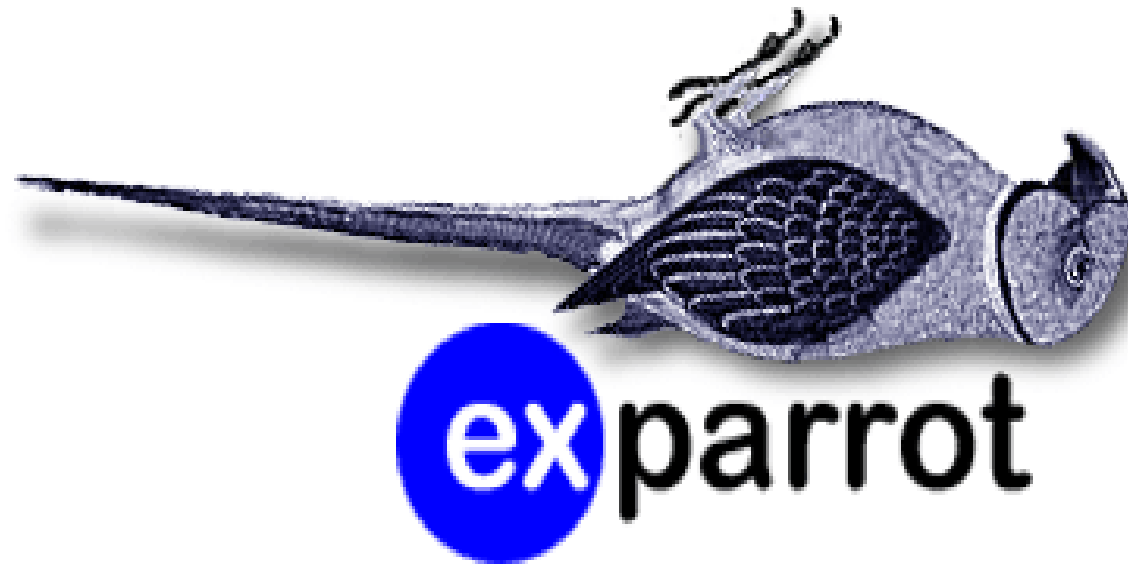
## Web & Email Hosting

Our flexible hosting accounts allow you to run your own website and use email addresses on your own domain name.

- Install popular web applications

# Ancient History





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- Eben and Liz found a new charity to teach computer science
- Eben puts a Wordpress blog on his personal account with Mythic Beasts
- Installs a lot of plugins so Liz can do some analytics
- Announces to the world the \$25 prototype
- Not very many people come and visit the site but it struggles under the load anyway

# Why so slow?

- Realtime stats
- Full history recalculation on every page view
- Code is  $O(N^{\text{(quite a lot)})}$
- Can't possibly scale



# Happy Christmas

- Xmas 2011 profiling and deleting code
- Wordpress cache
- Launch with a static page
- Aim to send 10k users to the sale pages with RS & Farnell

# Launch day 2012

- Static page
- 6am Launch
- Linked to search
- Load issues at RS & Farnell
- 'irked'
- Mission accomplished... by 6:30am
- ... and again by 7am
- Oh bugger, what have we done.

# New problems

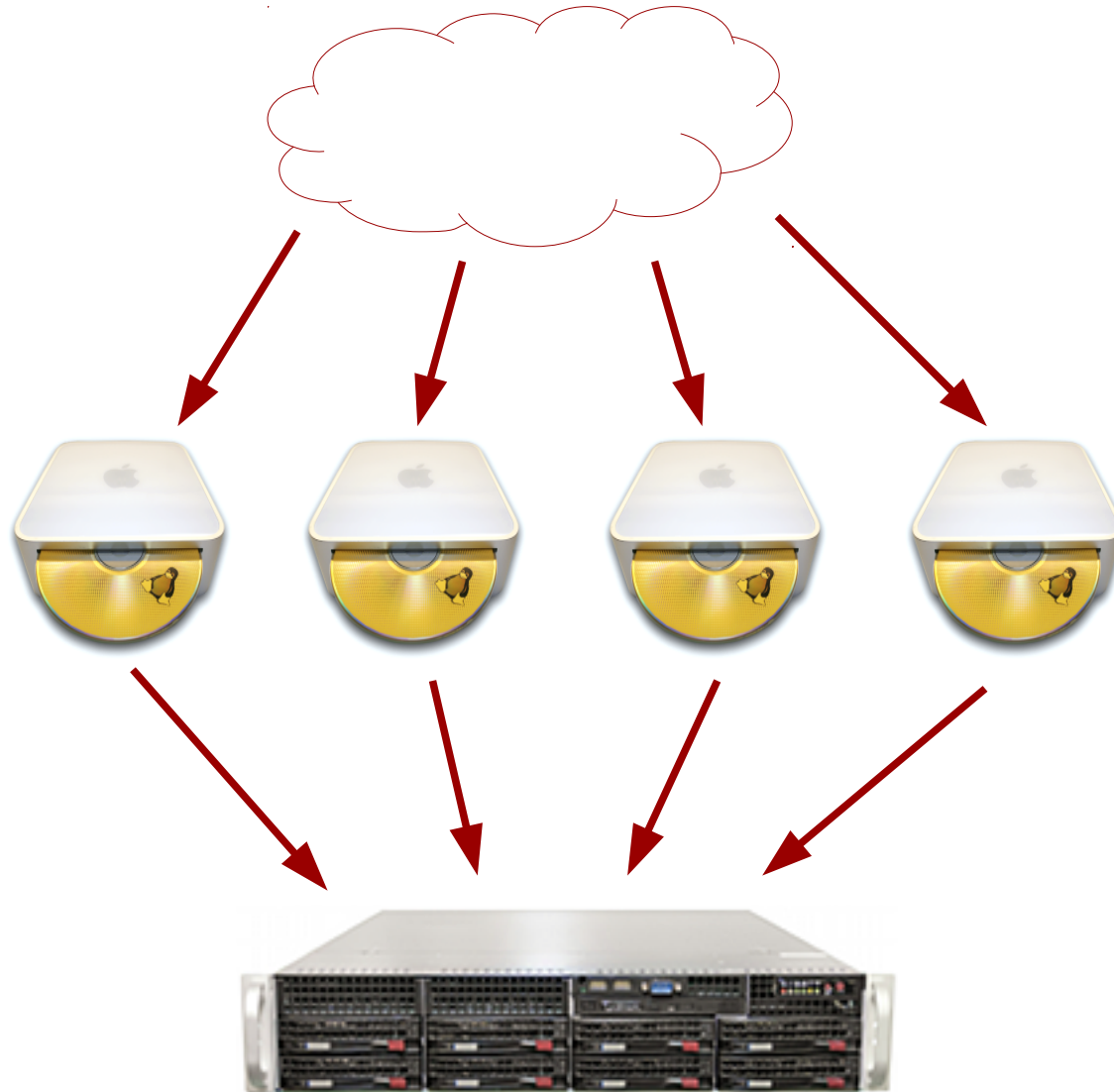
- Human denial of service
- No staff
- Trolls
- Forum comments and Wordpress comments
- Dedicated server with lots of RAM
- Supercache (again)
- Conditional compilation
- Advanced PHP Cache



# DDoS

- Every teenagers' favourite hobby
- Gigabits of traffic, all syn packets
- Randomised source addresses
- Cloud based DDOS protection
- 'I am not a bot'
- Build a DDOS protection system
- Internal links all IPv6, no RFC1918 space

# Baby DDOS Protection



# Site refresh

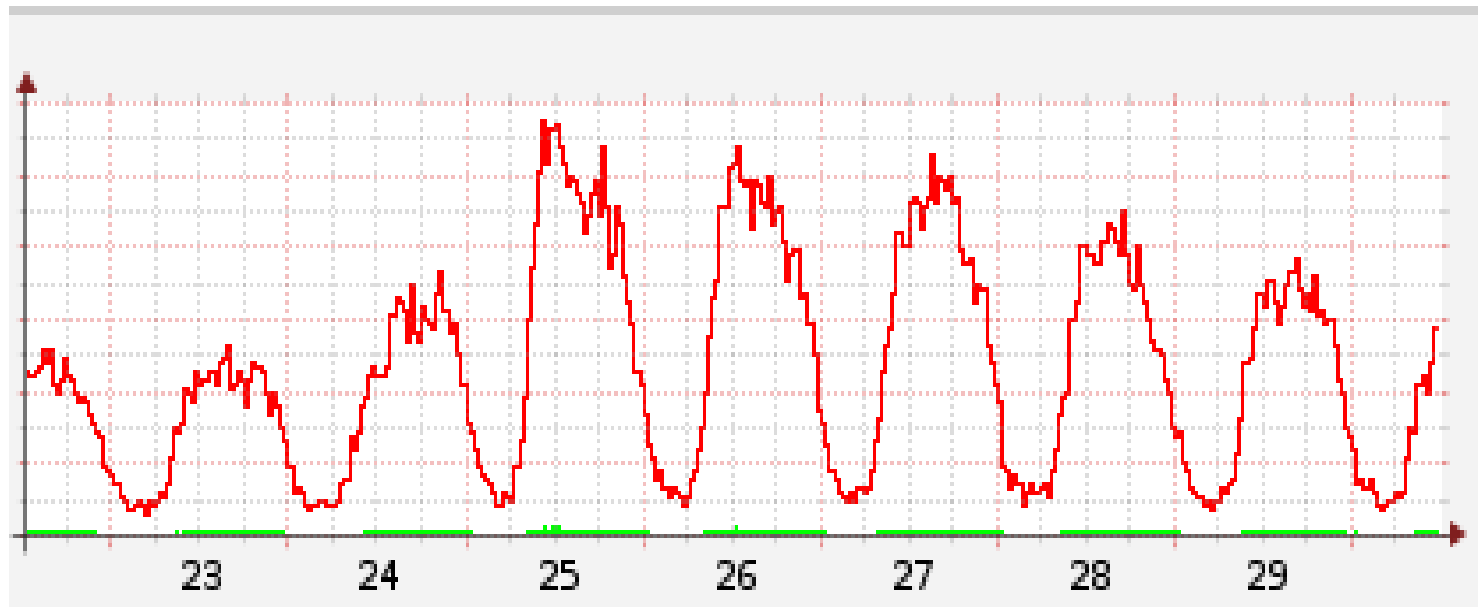
- New design
- Similar performance to the old site
- Everything moves around
- Severe load issues
- We just can't find the cause



# 404

- 404 page does a search
- We broke a lot of links
- Can't be cached
- Didn't think of or test that!

# Last Christmas, I gave you a Pi...



# HHVM

- HipHopVM, Facebook accelerates PHP
- 5x as fast
- Forums don't work
- Single apache
- Selective upgrade for blog hard
- Re-architect with VMs
- Couple of weeks of reconfiguration
- Liz asks 'What are you doing on the 2<sup>nd</sup> Feb?'

# Cape Verdi

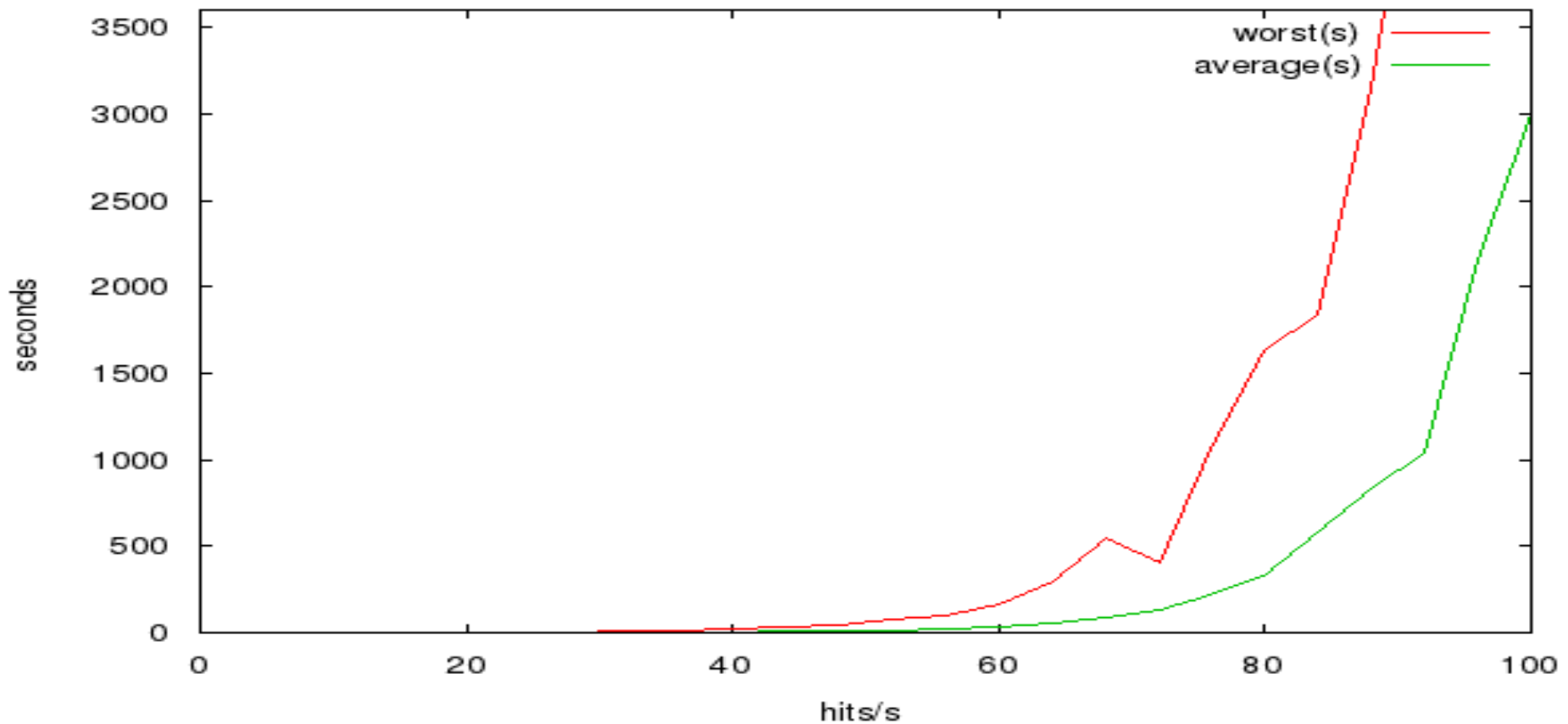


- Flight 9:05 from Gatwick, Monday 2<sup>nd</sup> Feb
- 'Oh' says Liz Upton, because

# Raspberry Pi 2

- Global Geekgasam
- Simultaneous launch at 9am, press everywhere
- Caching turned up, static holding page if busy
- Periodic load issues
- Correlated with comment posting

# $O(N^{\text{(really quite a lot)})}$



✓ Cache rebuild. Serve a supercache file to anonymous users while a new file is being generated. *(Recommended)*



# VMs

- Faster hardware
- Lots of VMs
- Main Site : DB + 2x Web
- Forums : DB + 2x Web
- Educational resources
- Git host, Admin gateway, Timelapse photography, Mpeg2 licenses
- Security much improved
- Backend 100% IPv6

# HipHop VM Again

- Still doesn't work with the forums
- Apply to the main site web VMs
- HHVM + hardware upgrade site now 75x faster
- Uptime 10 minutes
- Fiddle with the settings
- Use init to restart on frequent crashes

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# Questions?

- As soon as we run out of questions we get beer!