

747s on Treadmills

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\$Charity

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The Campaign

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A brief history...

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2006

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\$Hosting_Company

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~~\$! Hosting_ Company~~

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~~\$! Hosting Company~~

Oops.

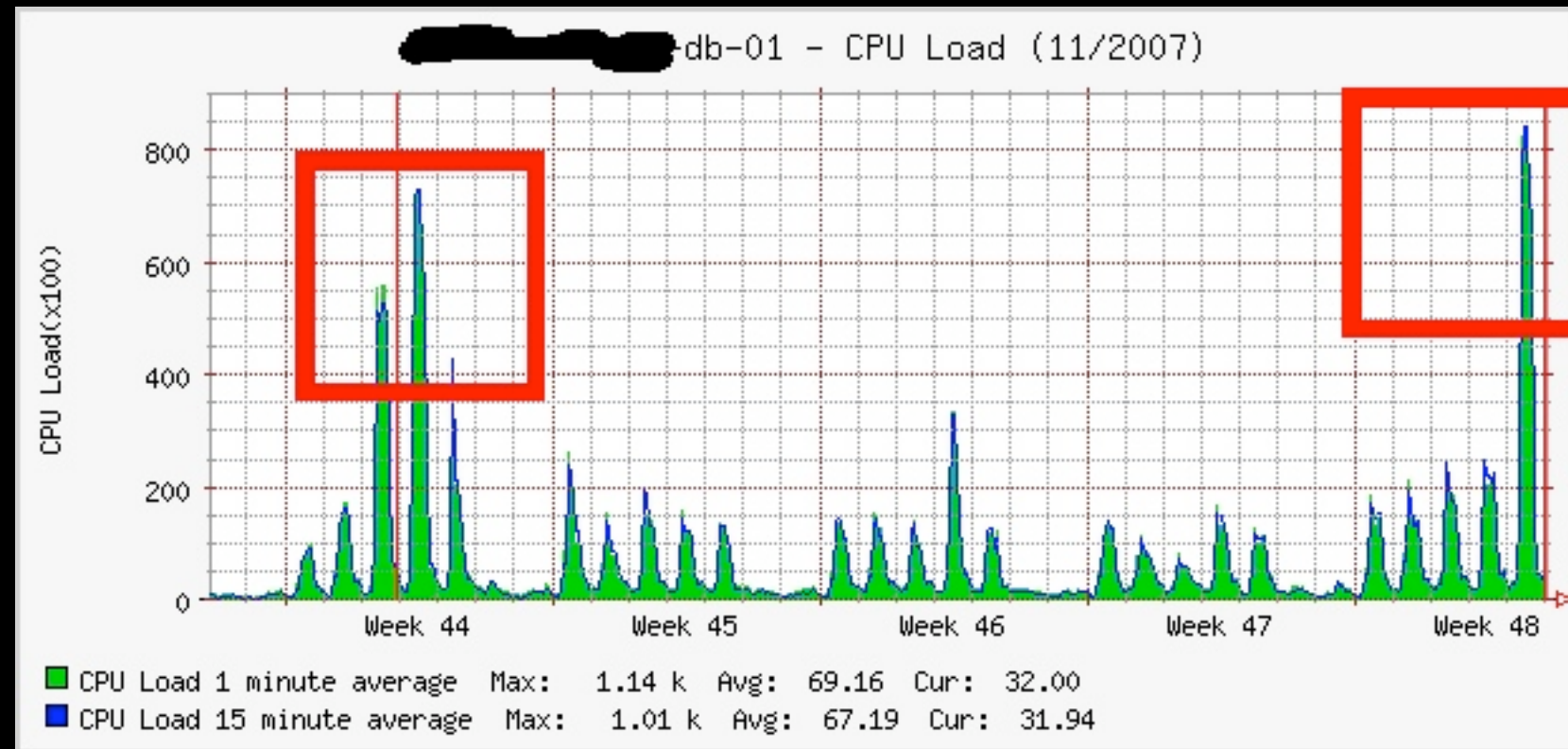
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2007

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How bad could it really be?

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Oh, Sh*t.

July, 2008

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Parameters

Downtime is expensive. A\$3-5k per minute expensive.

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Something's gonna break.

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User experience == Latency.

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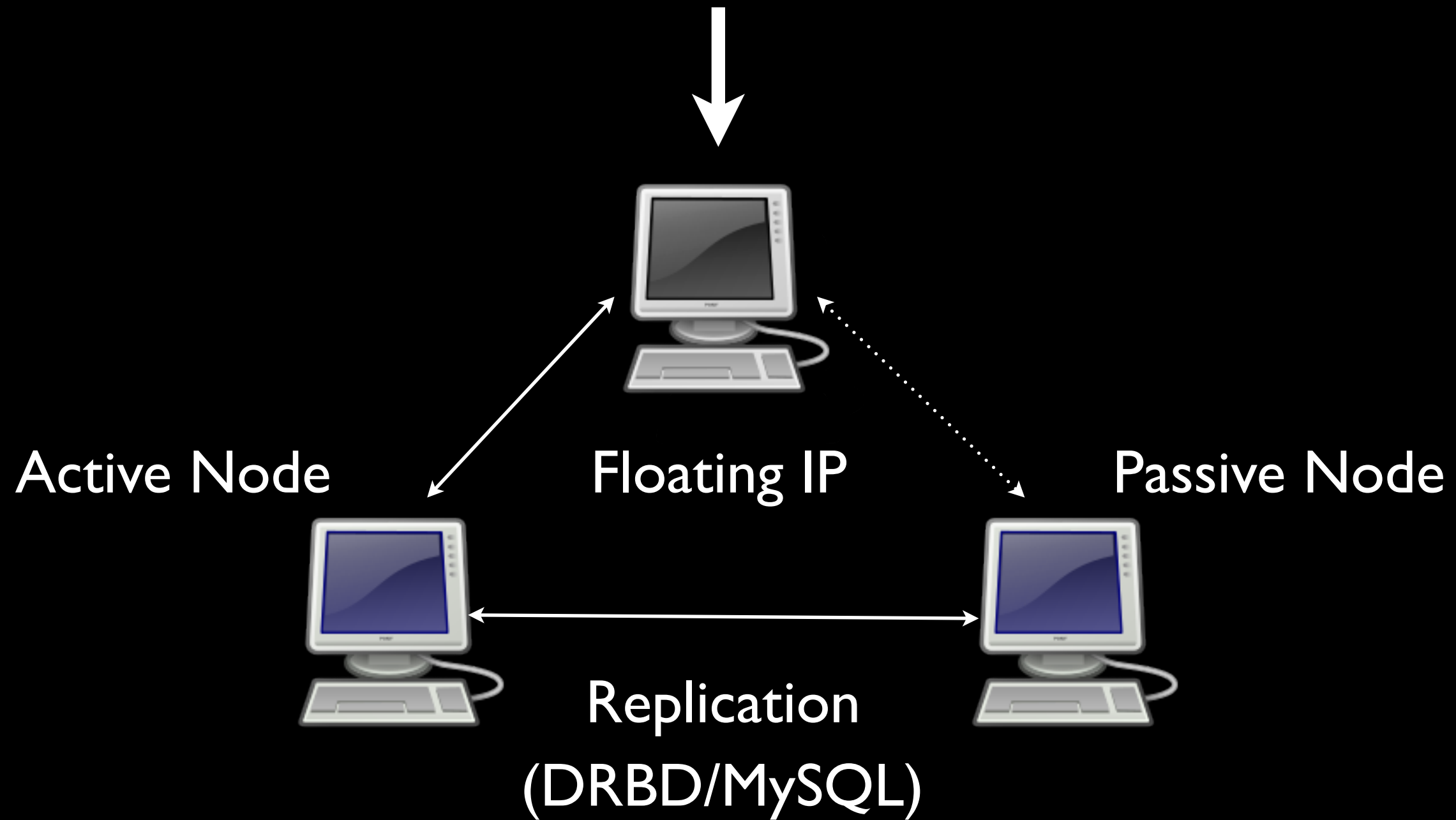
User experience == Latency.

Minimal budget.

Pimp my cluster.

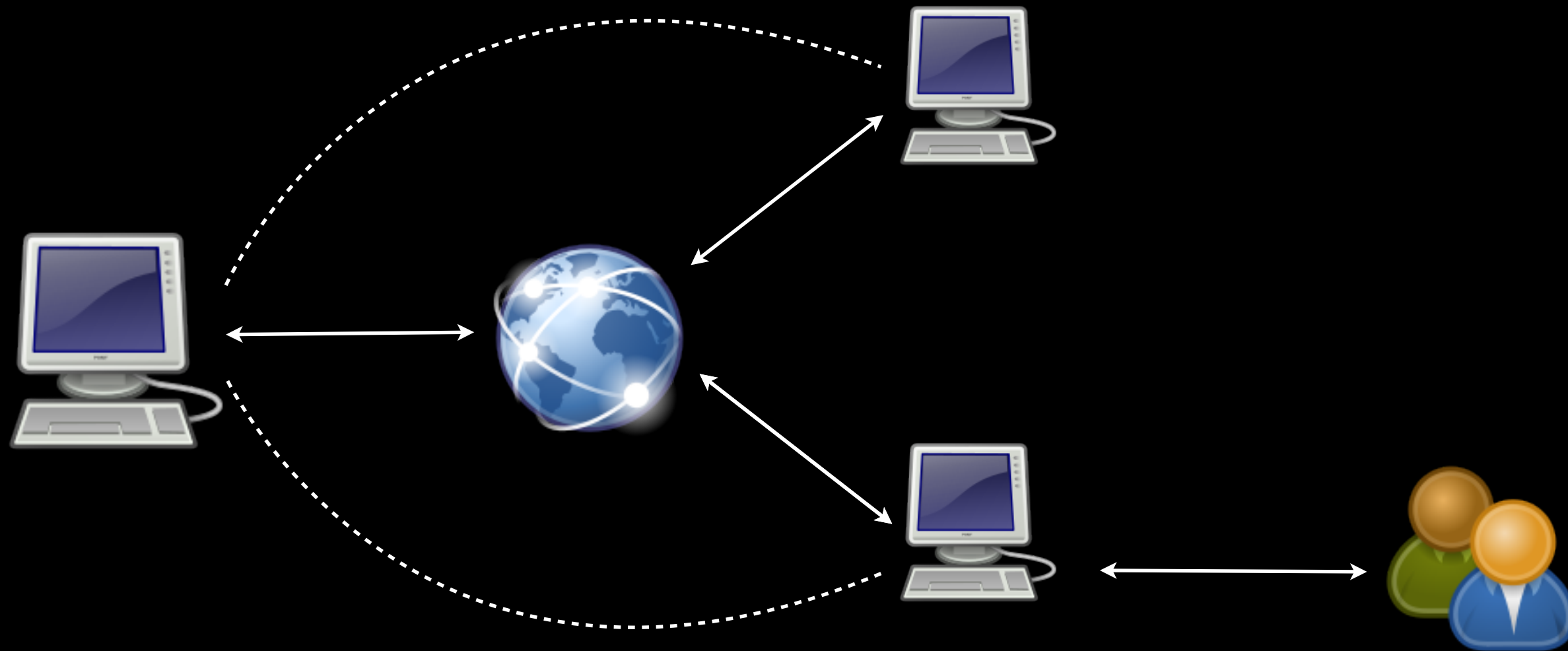
Active/Active is too freaking hard.
(when you need to keep state)

Active/Passive Failover



Use the Squid, Luke.

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Test, optimise, test

Configuration management is awesome.

Configuration management is awesome.
(but I didn't get to use it)

September, 2008

Reality, dammit.

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Murphy was an optimist

We were the first users to experience a general incompatibility between this type of system and a specific batch of 4GB DIMMs.

Superstition doesn't help anyone

You can save money by running stage on the production infrastructure.

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Inevitably, though, someone will screw up.

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Inevitably, though, someone will screw up.

So please, stop killing the kittens.

Configuration management is awesome.

Configuration management is awesome.
(I think I mentioned this before)

Inevitably, you'll miss something

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```
SELECT CASE WHEN expat THEN 'ex' ELSE m.payment_country END as country, count(distinct(p.id)) as total_donations,  
SUM(d.payment_amount) AS total_donations_amount, SUM( CASE WHEN t.id > 0 THEN d.payment_amount ELSE null  
END ) as team_donations_amount  
FROM donations d, payments p, members m  
LEFT JOIN teams t ON ( m.team_id = t.id AND t.deleted != true )  
WHERE (d.deleted != true or p.amount IS NULL) and d.member_id = m.id AND m.deleted != true  
AND d.payment_id = p.id  
GROUP BY expat, country  
ORDER by country;
```

Rows: 5,000,000

```
SELECT CASE WHEN expat THEN 'ex' ELSE m.payment_country END as country, count(distinct(p.id)) as total_donations,  
SUM(d.payment_amount) AS total_donations_amount, SUM( CASE WHEN t.id > 0 THEN d.payment_amount ELSE null  
END ) as team_donations_amount  
FROM donations d, payments p, members m  
LEFT JOIN teams t ON ( m.team_id = t.id AND t.deleted != true )  
WHERE (d.deleted != true or p.amount IS NULL) and d.member_id = m.id AND m.deleted != true  
AND d.payment_id = p.id  
GROUP BY expat, country  
ORDER by country;
```

Rows: 5,000,000

Worst Time: 794s



Virtualisation

Scalability isn't about systems engineering.

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Scalability **is** about user experience.

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Scalability **is** about user experience.
(it's too easy to forget that)

Results?

Unplanned Downtime: 1 hour
(Sustained) Traffic Peak: 20.89 Megabits/s

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Unplanned Downtime: 1 hour
(Sustained) Traffic Peak: 20.89 Megabits/s

Total Donations: ~500,000

Revenue: A\$25,000,000



The Melbourne Cup - The race that stops a website

Thanks

(Especially to: Miguel Jacq, André Pang, Arjen Lentz,
John Ferlito, The Bulletproof Team)

Questions?

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