747s on Treadmills

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$Charity
The Campaign
A brief history...
Oops.
How bad could it really be?
Oh, Sh*t.
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Parameters

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

Downtime is expensive. A$3-5k per minute expensive. Something’s gonna break.
Parameters

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User experience == Latency.
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Something’s gonna break.
User experience == Latency.
Minimal budget.
Pimp my cluster.
Active/Active is too freaking hard.
(when you need to keep state)
Active/Passive Failover

- Active Node
- Floating IP
- Passive Node

Replication (DRBD/MySQL)
Test, optimise, test
Configuration management is awesome.
Configuration management is awesome.
(but I didn’t get to use it)
Reality, dammit.
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.
You can save money by running stage on the production infrastructure.

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
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
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Rows: 5,000,000

Worst Time: 794s
Virtualisation
Scalability isn’t about systems engineering.
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Scalability isn’t about systems engineering.  
Scalability isn’t about software engineering.  
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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(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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