Scale Fail

or, how I learned to stop worrying and love the downtime
We'll be back shortly

We may have forgotten to feed the wild Tumbeasts that roam our datacenter, which often results in unexpected downtime due to gnawing and/or mutiny. Animal control has been alerted.

Artwork by The Oatmeal
1. Be Trendy

- Rails
- The Cloud
- RabbitMQ
- MapReduce
- NoSQL
Be one with your servers. Cloudkick developer account: all features unlocked for 1 server, free forever. (cloudkick.com)

Google images: Making C documentation sexy since June 2001 (i.imgur.com)

How Judy arrays work and why they are so fast (judy.sourceforge.net)

If you are going to do email validation, at least read the spec. (i.imgur.com)

Solving the Expression Problem with Clojure (ibm.com)

Traveling Salesman via spacefilling curves (isye.gatech.edu)

Typography in 8 bits: System fonts (damieng.com)

Qt Developer: Qt on the desktop is currently not a priority for our R&D team (labs.qt.nokia.com)

ZeroOne: the editor for programmers who think in binary (secretgeek.net)
Resource Monitoring
Performance Testing
Traffic Monitoring
Load Testing
Tuning Analysis
Let History Be Your Guide

• Was database to slow last time?
  • The database is too slow this time.
• Did the network cards fry last time?
  • They're frying this time.
• Did Apache choke on memory leaks last time?
  • It's Apache this time.
• Fixed things by using queues at your last job?
  • Then fix them with queues at this job!
Don't Worry About It Programming
How to Single-Thread Your Code

- Locks, Locks, Locks!
- Ignore scope and memory address space
- Frequently-updated single-row table
- Master Control Server process
- Single Master Queue
- Blocking threads which wait while checking on a remote data source
The Old Way: Caching
The New Way: Direct2DB
Easy to Scale

- Web servers
- Caches
- Shared-nothing hosts
- Simple App Servers

For Wimps!
Hard to Scale

- Databases
- Queues
- Shared Filesystems
- Web Frameworks

For Real Developers!
SPoF
Cascading Failure

- UserDB
- PageDB
- Task Manager
- App Server
- App Server
- Load Balancer
- Web Server
- Load Balancer
- Web Server
- Web Server
Be Sexy:

Go Down!