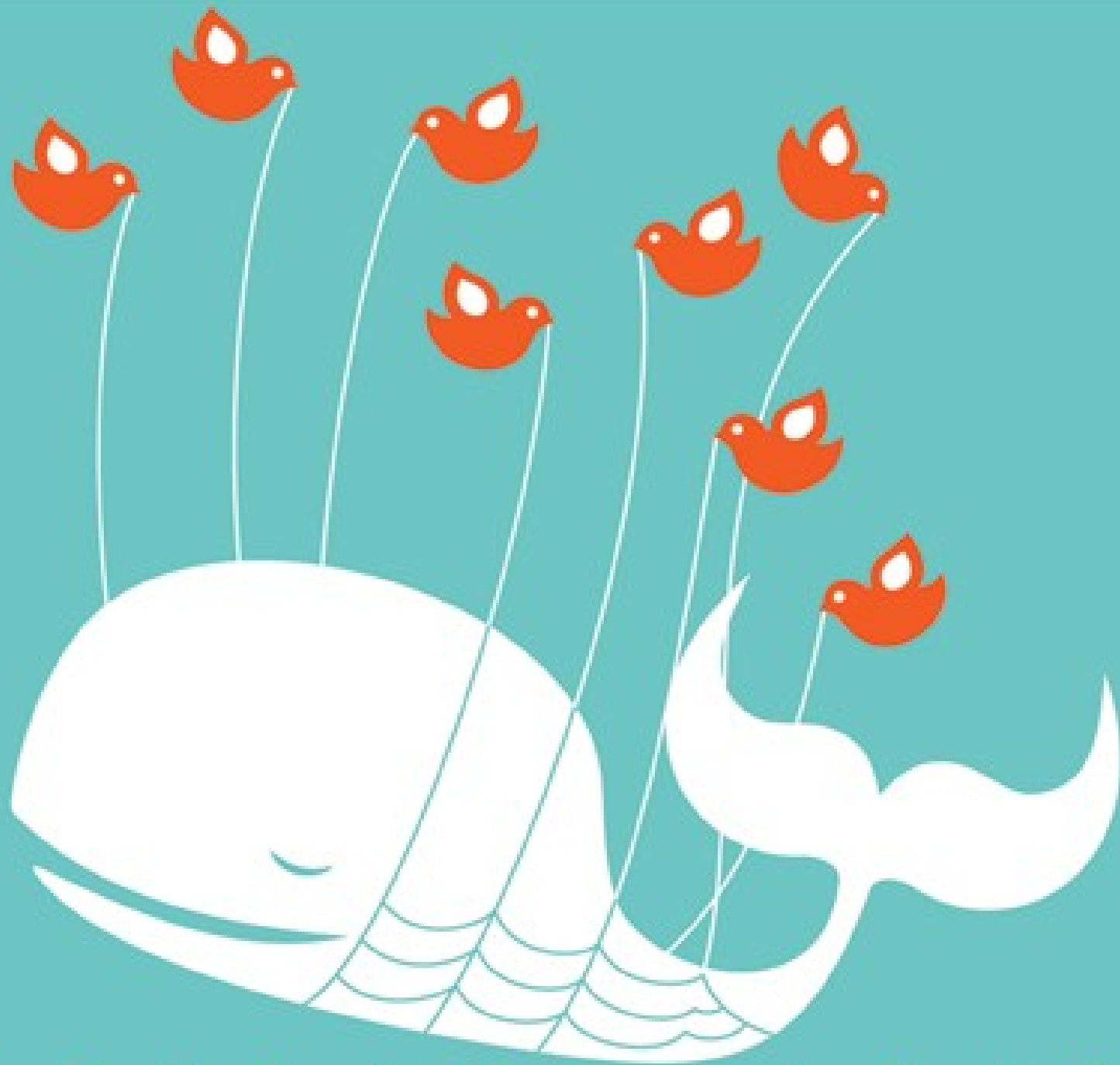


# Scale Fail

*or, how I learned to stop worrying  
and love the downtime*





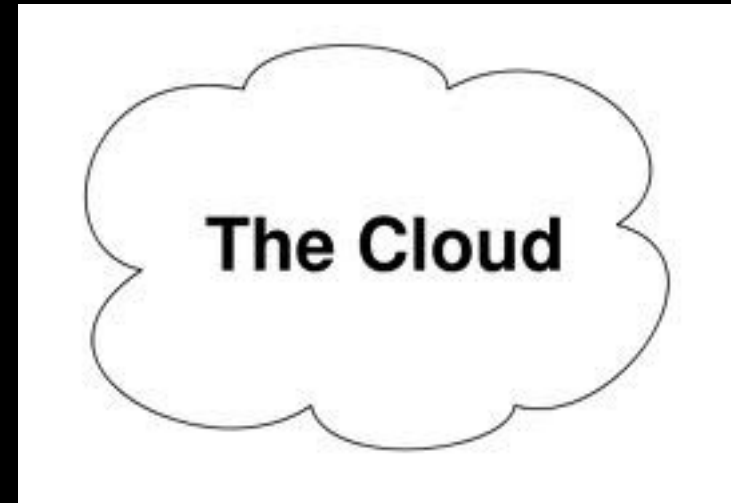
## We'll be back shortly

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.

**Downtime**  
**is**  
**Sexy**



# 1. Be Trendy





Be one with your servers. Cloudkick developer account: all features unlocked for 1 server, free forever. (cloudkick.com)

promoted by cloudkick

69 comments share save hide

sponsored link

1 155 Google images: Making C documentation sexy since June 2001 (i.imgur.com)

submitted 4 hours ago by the\_color\_burple  
46 comments share save hide report

2 27 How Judy arrays work and why they are so fast (judy.sourceforge.net)

submitted 3 hours ago by damg  
9 comments share save hide report

3 608 If you are going to do email validation, at least read the spec. (i.imgur.com)

submitted 20 hours ago by mishagale  
424 comments share save hide report

4 8 Solving the Expression Problem with Clojure (lbn.com)

submitted 2 hours ago by boscop  
3 comments share save hide report

5 280 Traveling Salesman via spacefilling curves (lsye.gatech.edu)

submitted 21 hours ago by alexeyr  
64 comments share save hide report

6 12 Typography in 8 bits: System fonts (damleng.com)

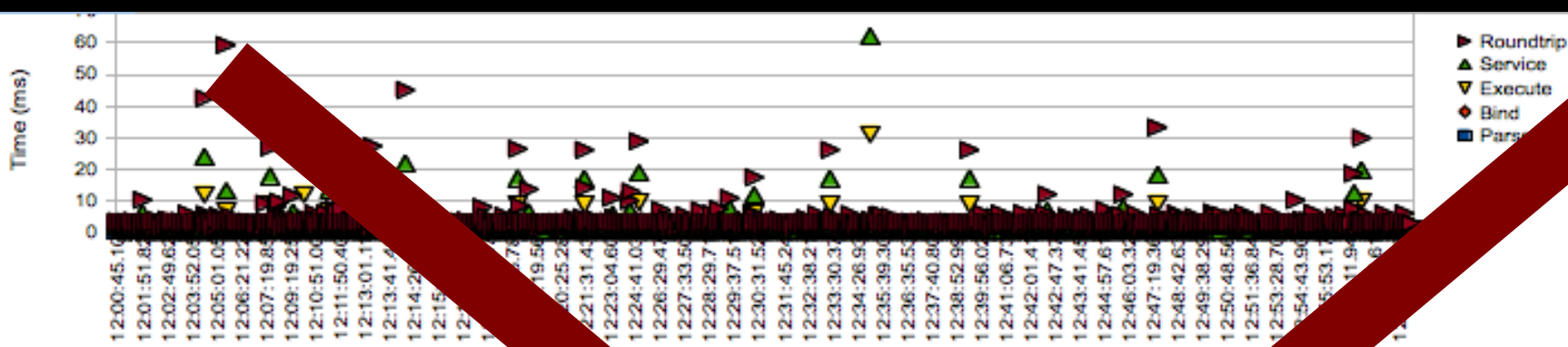
submitted 5 hours ago by gst  
11 comments share save hide report

7 74 Qt Developer: Qt on the desktop is currently not a priority for our R&D team (labs.qt.nokia.com)

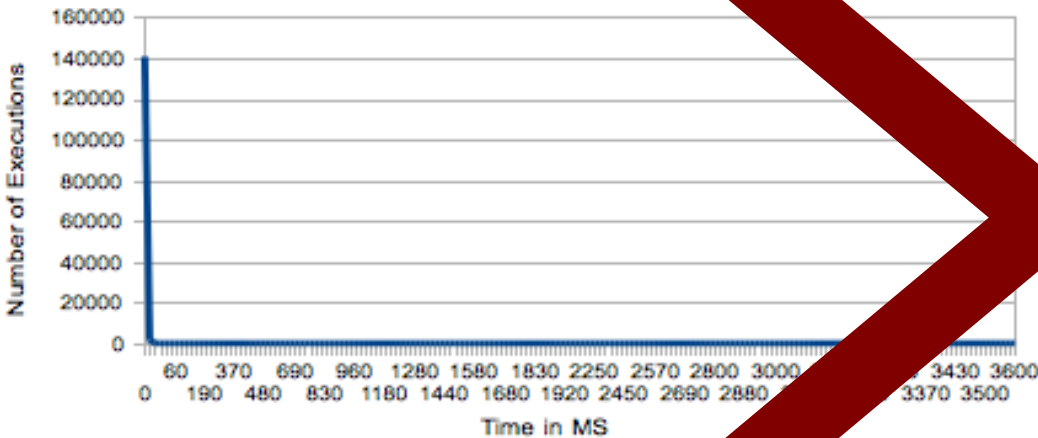
submitted 15 hours ago by elder\_george  
91 comments share save hide report

8 4 ZeroOne: the editor for programmers who think in binary (secretgeek.net)

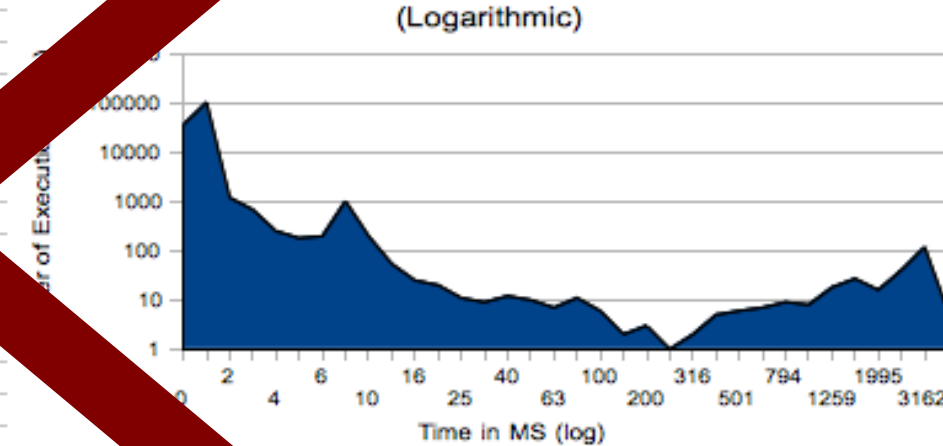
submitted 4 hours ago by gst  
2 comments share save hide report



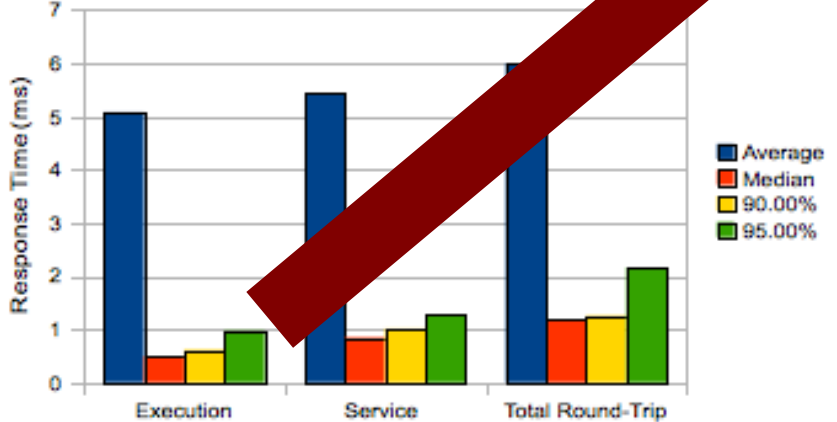
Distribution of Execution Times



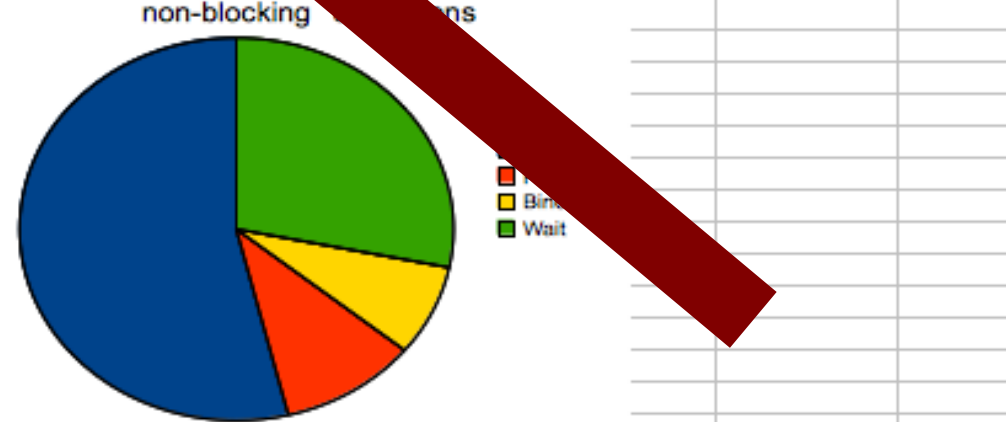
Distribution of Execution Times (Logarithmic)



Overall Response Times



Average Time by Task





**Resource Monitoring**  
**Performance Testing**  
**Traffic Monitoring**  
**Load Testing**  
**Tuning Analysis**



# Let History Be Your Guide

- Was database too 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!

# Barn Door Troubleshooting



# Parallel Programming



**NOT SEXY**

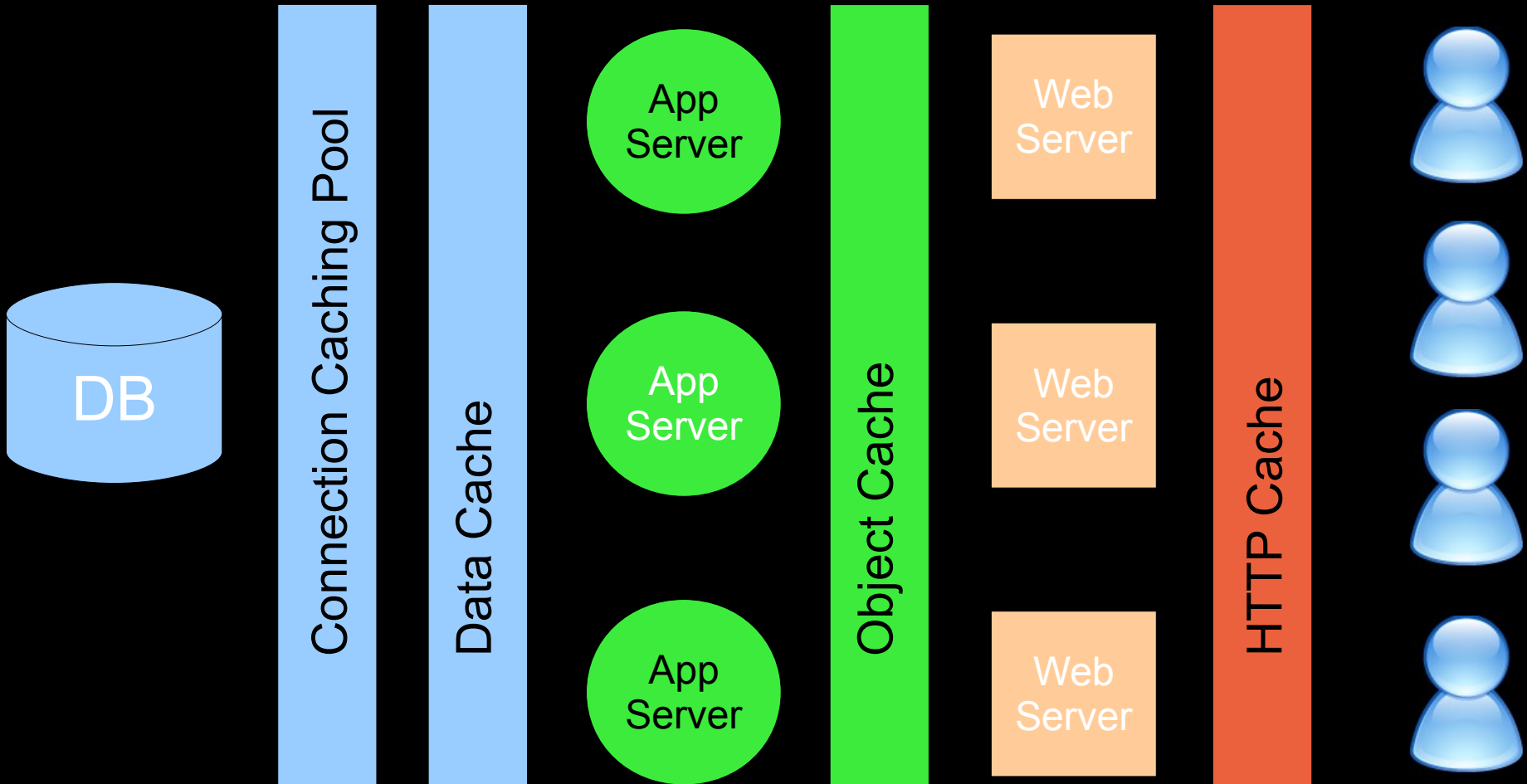
**Don't  
Worry  
About  
It  
Program-  
ming**



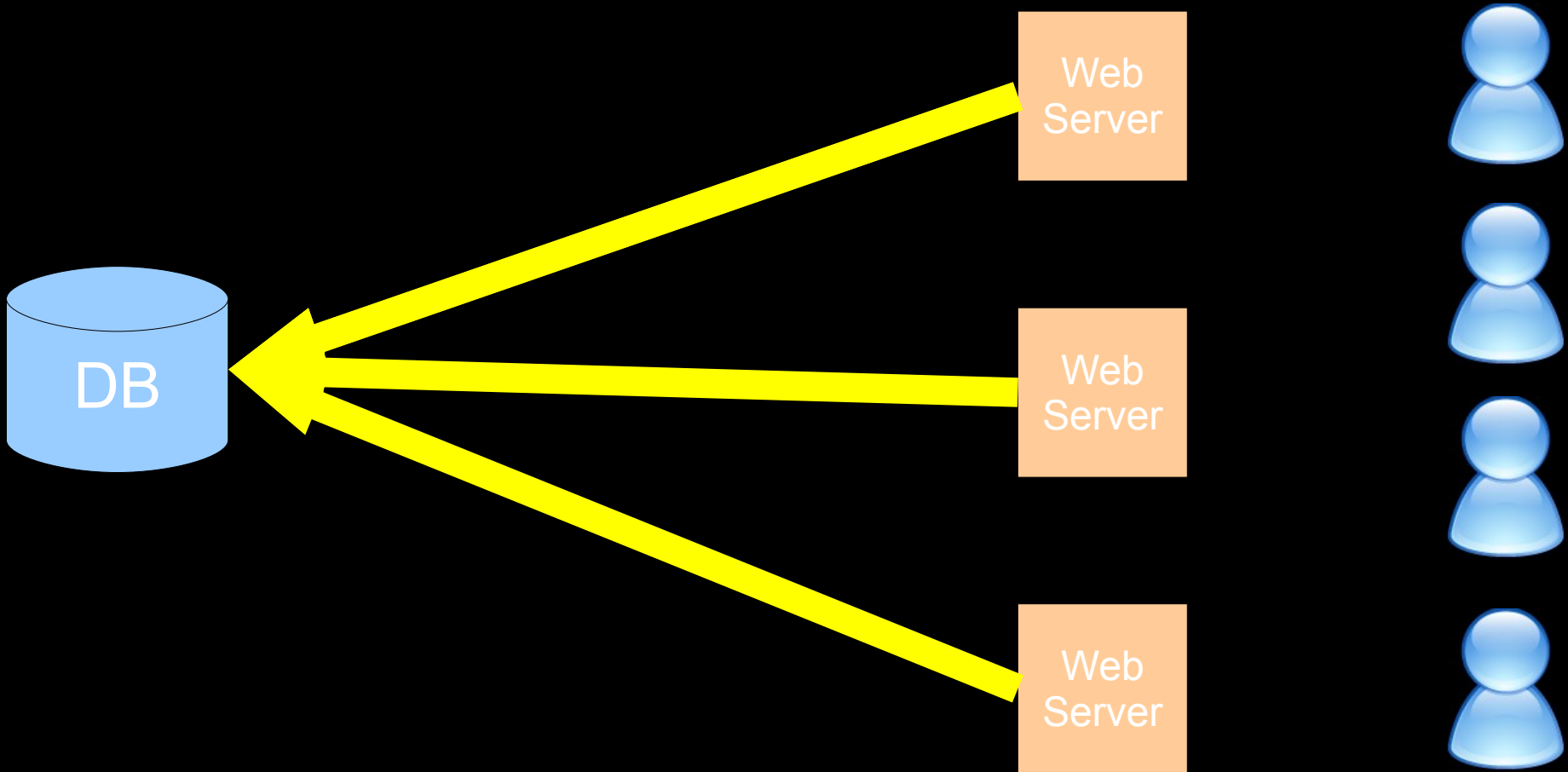
# How to Single-Thread Your Code

- 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!**



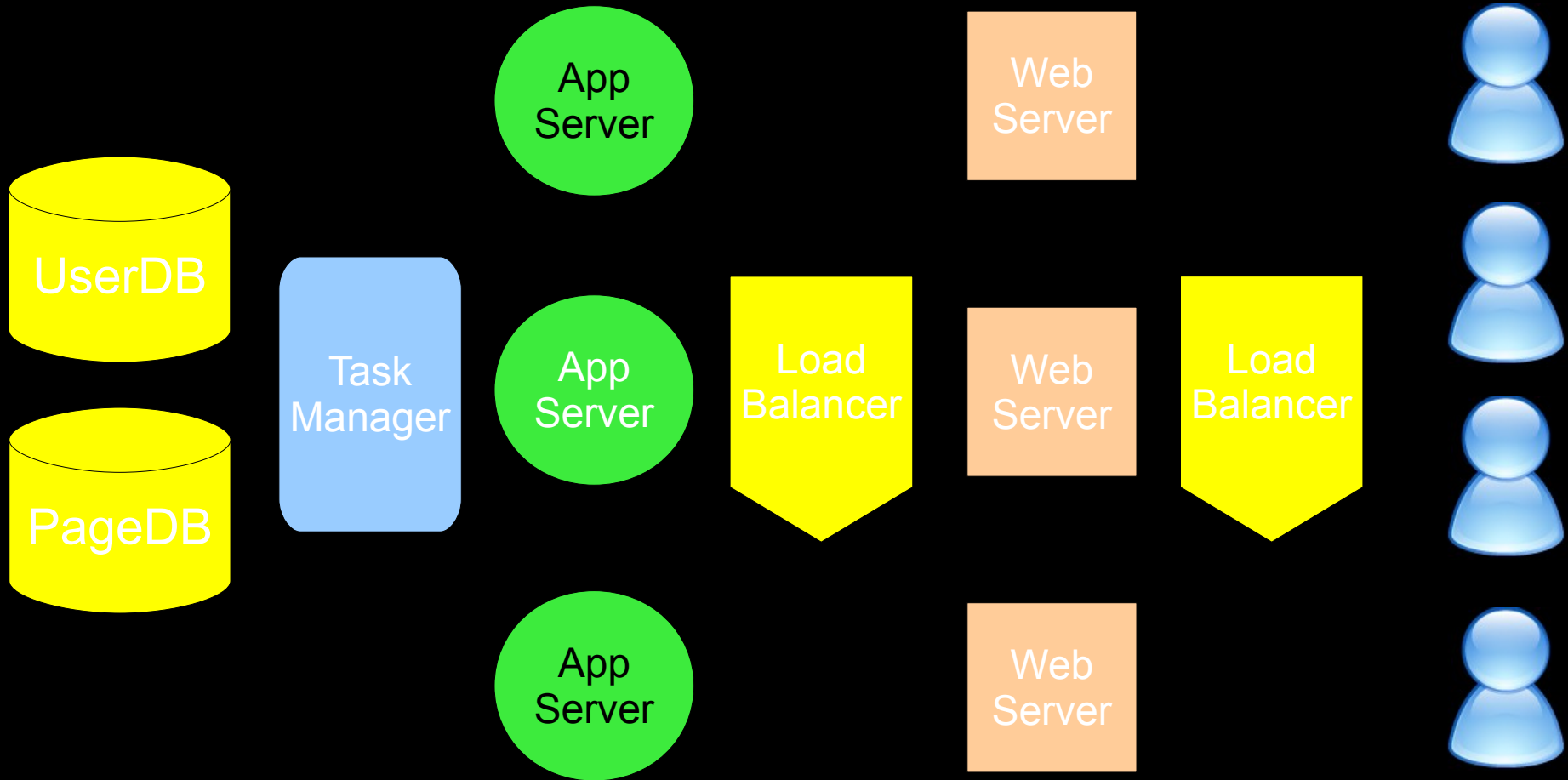
# Hard to Scale

- Databases
- Queues
- Shared Filesystems
- Web Frameworks

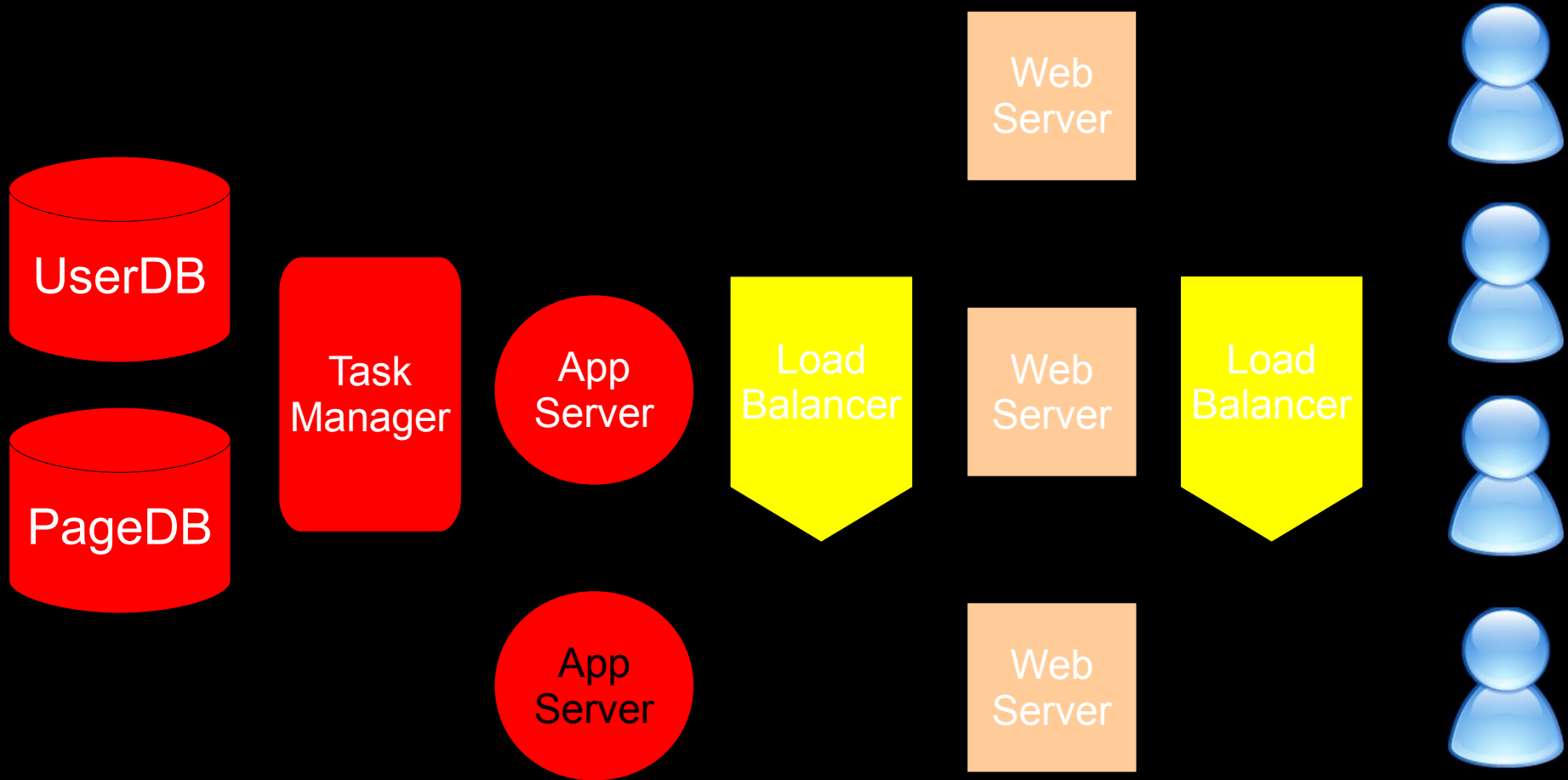
**For Real Developers!**

**SPoF**

# Single Point of Failure



# Cascading Failure



# Be Sexy:



# Go Down!