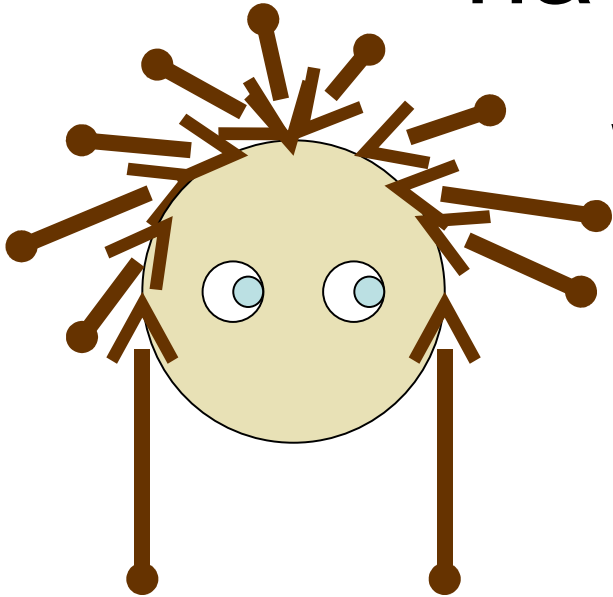
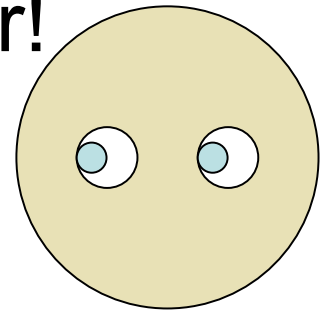


# Why systems engineers don't have short hair



We have long hair!

... or none at all...



# Application Scalability

- SMTP, IMAP & POP
- HTTP & Webmail
- Databases
- What to do when 100 TCP connections per second isn't enough.

# RoundCube: on the bleeding edge

Rolling out a version 0.1 project to support real customers.

What to do when your old webmail is out of support, out of licence – and out of luck

You need to migrate the 5% of users who actually use webmail.

You plan to allow for 200% customer growth

But after the roll-out you discover that **everyone** wants to use it!

# RoundCube: on the bleeding edge

What is RoundCube?

- OSS
- PHP
- CSS
- AJAX
- IMAP
- LDAP
- *Acronym soup du jour?*

# Virtualization

- Technology
  - Machine-within-machine versus Partitioning
  - CPU, memory, filesystem, network
  - 802.1q wrap/unwrap
- Purpose and Advantages
  - Replication
  - Mobility
  - Snapshot & restart
- VMware
  - Disk I/O limits
  - NTP pain!
  - VLAN leakage
  - Snapshots very costly
- *Audience contributions...*
  - *Xen?*

# Network Load Balancing

- Purpose
- Technology
- Linux ipvsadm & keepalived

# How to lose more hair

## Horror stories from the trenches

- What's wrong with MySQL
  - Log-based replication good for scalability but doesn't help reliability
  - “InnoDB” better but not a panacea
- Push back on Marketing's “branding”
  - Meddling with CSS can make webmail hard to use
- *Audience suggestions...*