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Scaling Drupal Hosting

The Plan

- Scaling Drupal
- Cloud Computing
- Configuration Management

WHAT IS SCALING?

Not how fast

How Much

How Much

Scaling Drupal

- Caching
- Module bloat
  - Statistics
- Index optimization
- MySQL Engine Selection


CACHING

Drupal Caching

- Built-in caching
- CSS Aggregation
- Block Cache
- Advanced Cache

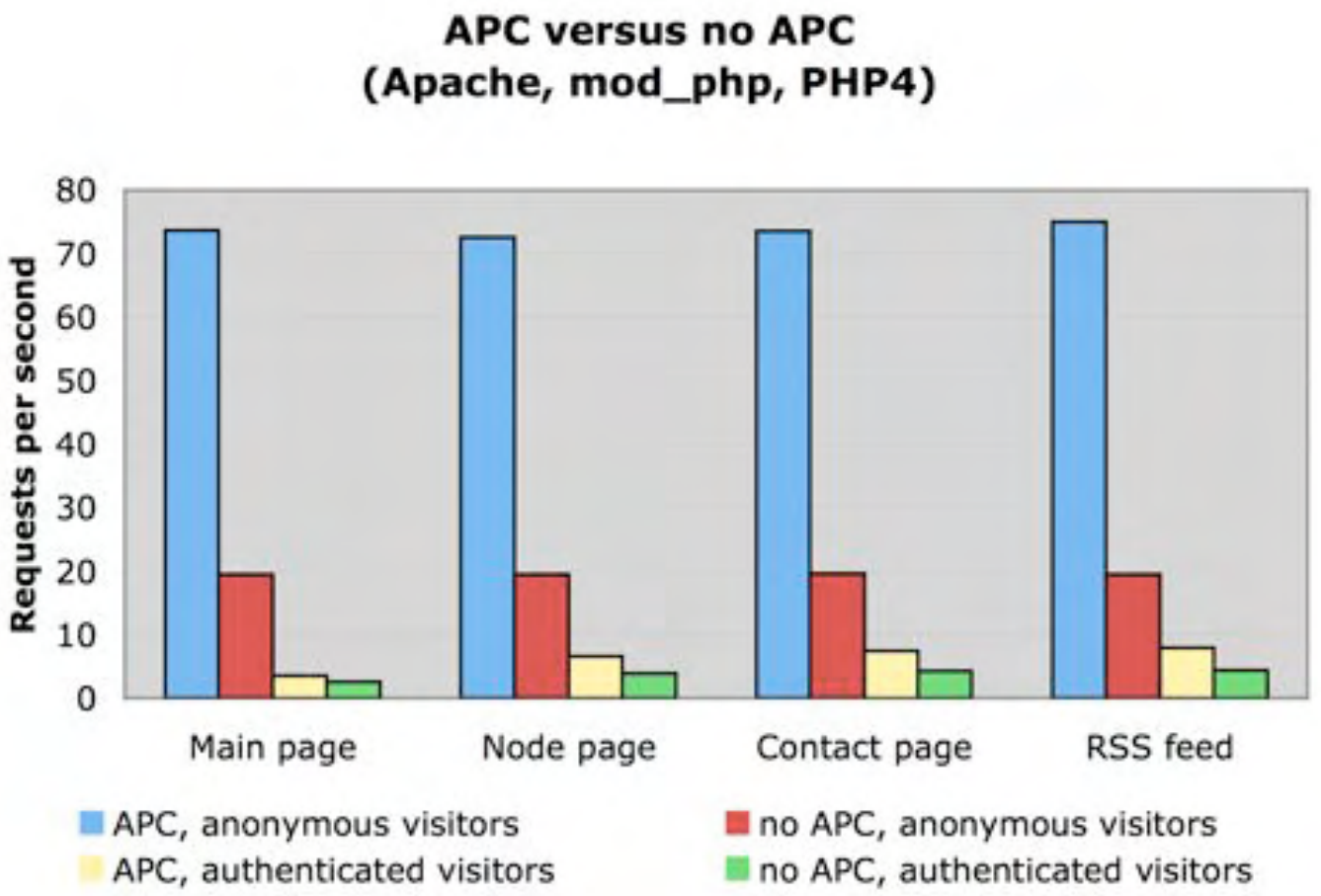
Scaling your install

- Load testing
- Code performance
- Query optimization

Drupal Infrastructure

- Memcached
- Caching proxy
- Scale Databases out
- Offload static content
  - Content Delivery Network
  - Second lightweight web server
  - S3

Opcode Caches



Graph from Dries Buytaert

Server Tuning

- RAM
- Apache Processes
- Replace Apache with Nginx and FastCGI
- Replace PHP with Resin
- Monitoring

Resin

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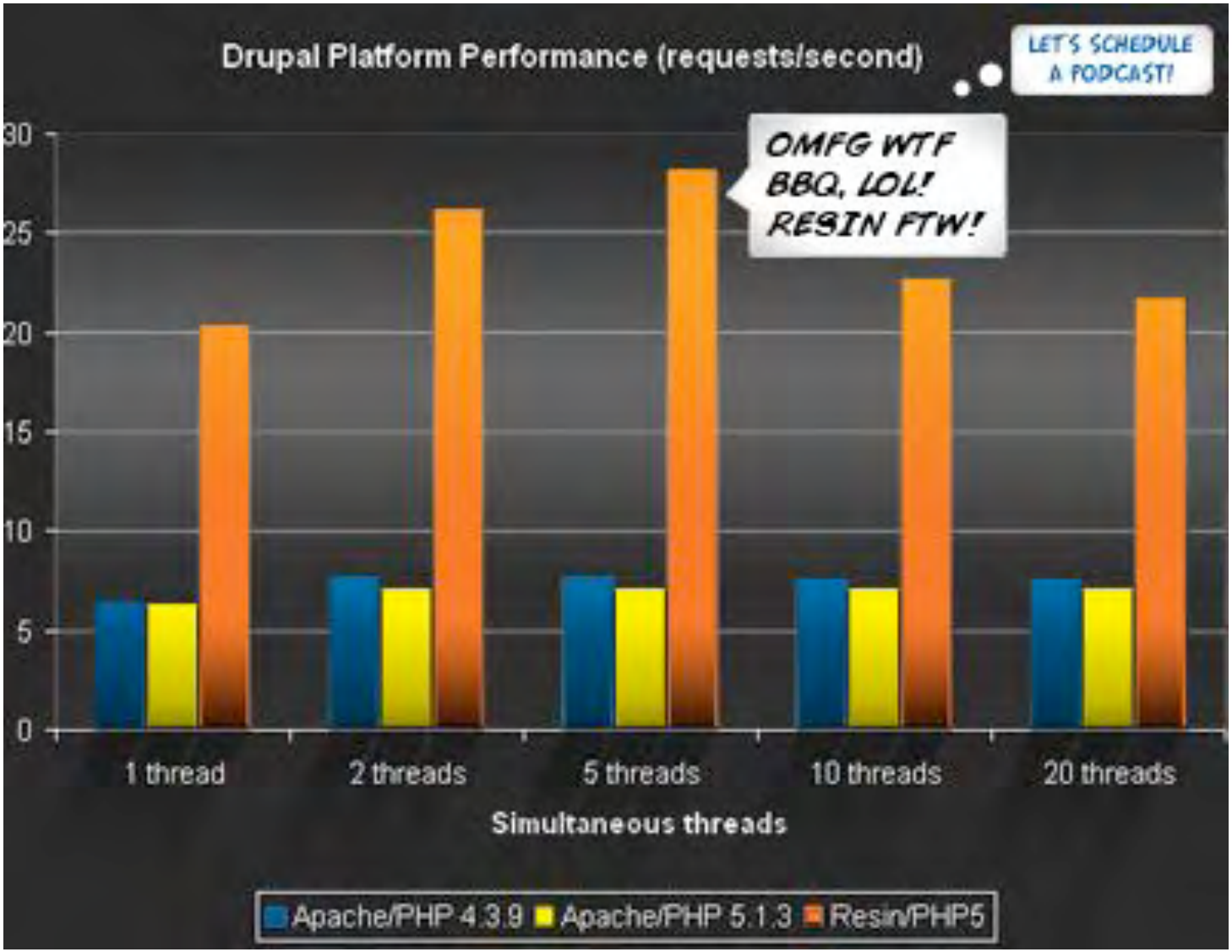
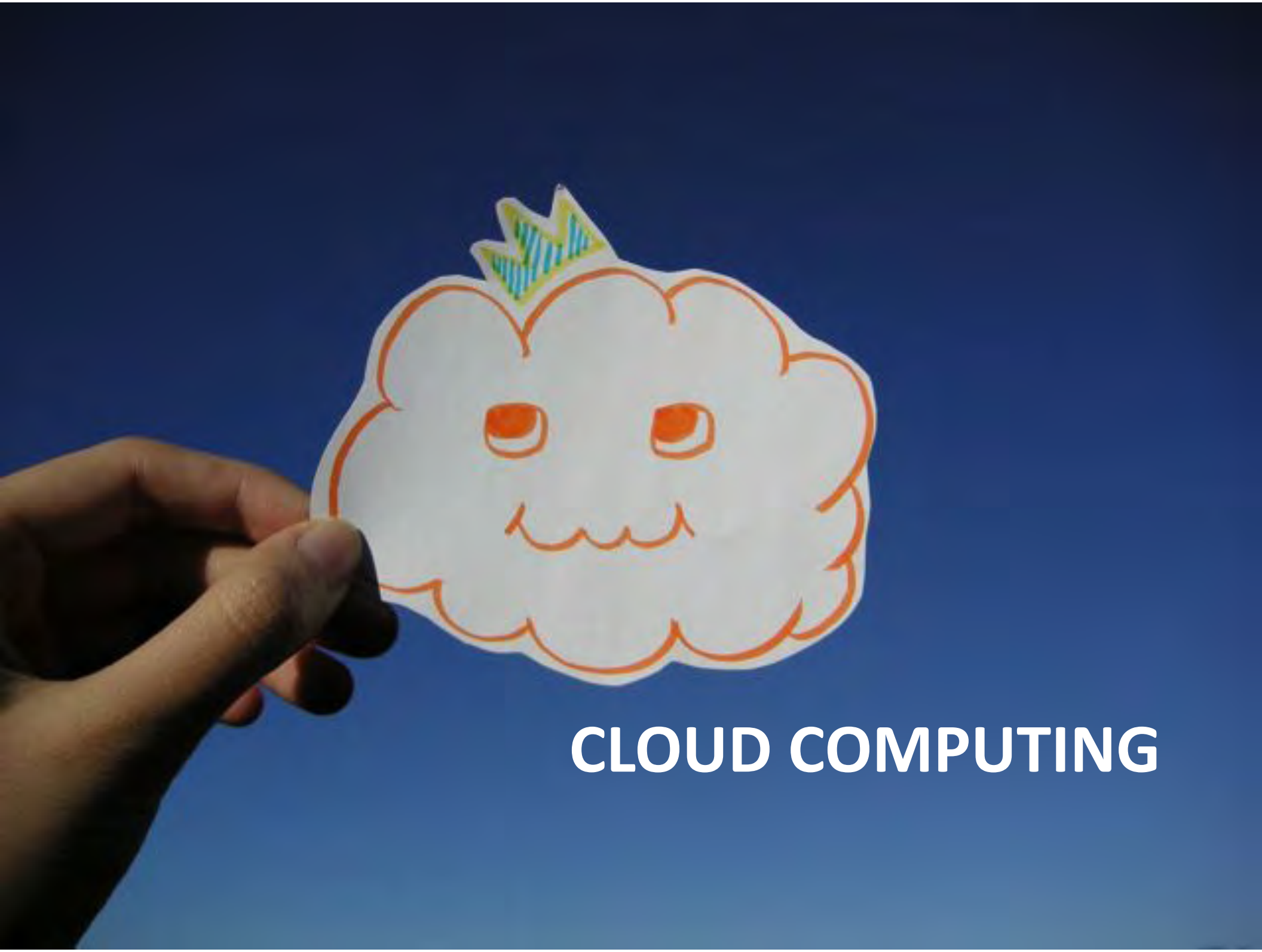


Scaling High Points

- Cache as much as possible
- Tune your queries
- Tune your code
- Don’t install stuff you don’t need
- Serve Drupal from one server, static from another
- Run an opcode cache


CLOUD COMPUTING

Hardware scaling

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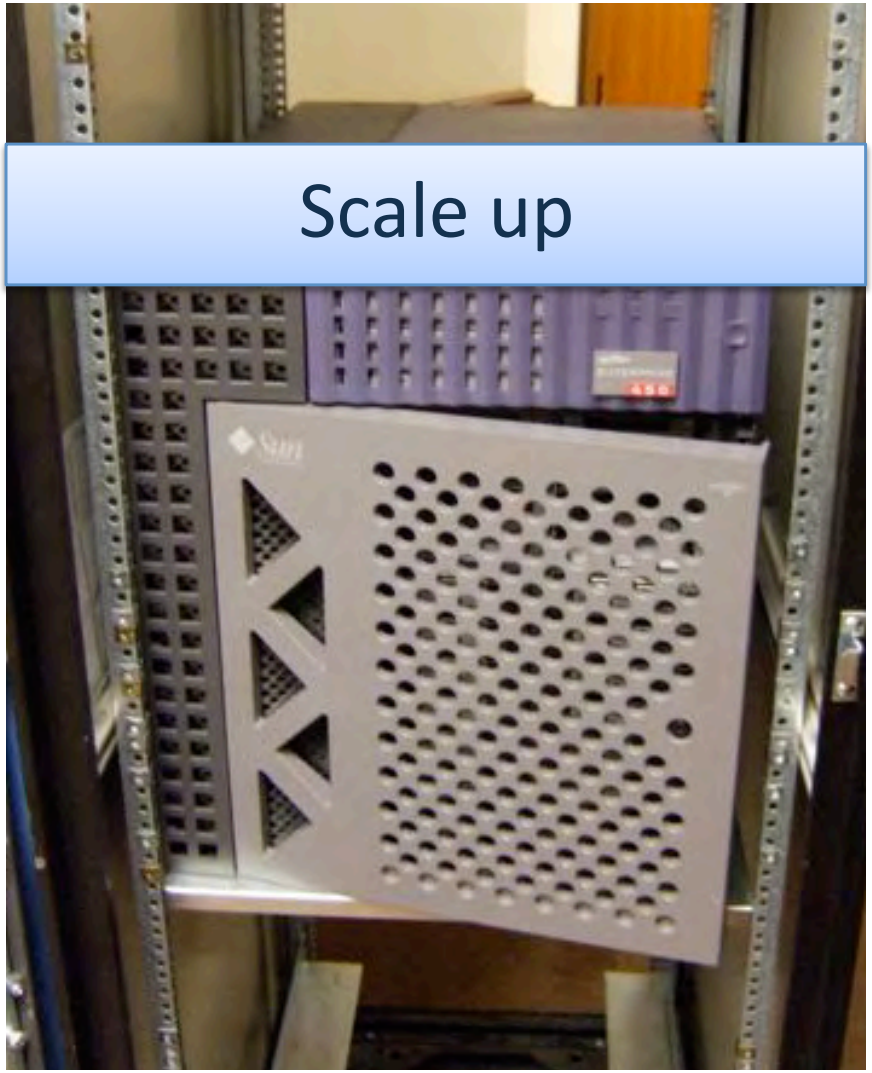
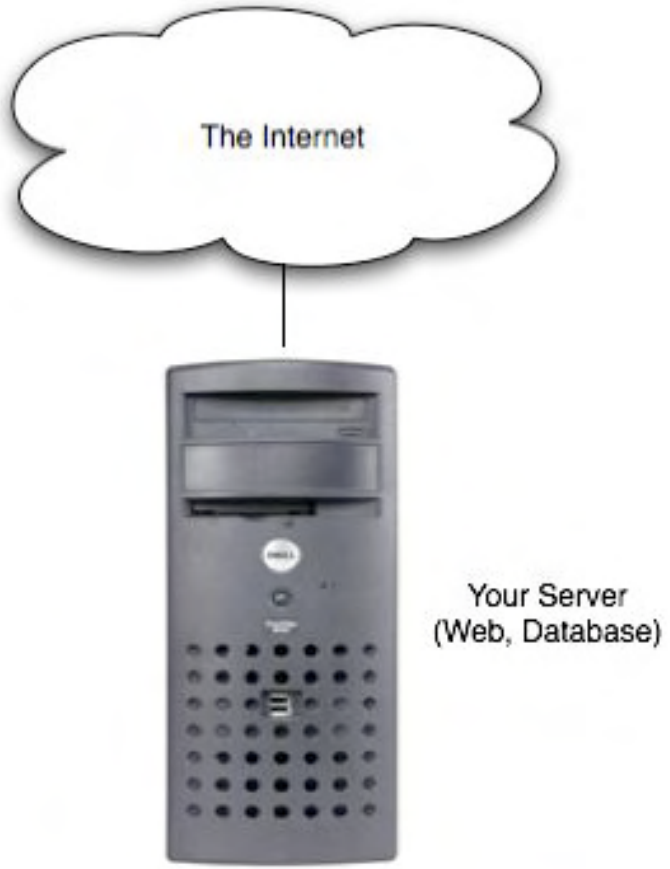


Scale up

Scale out

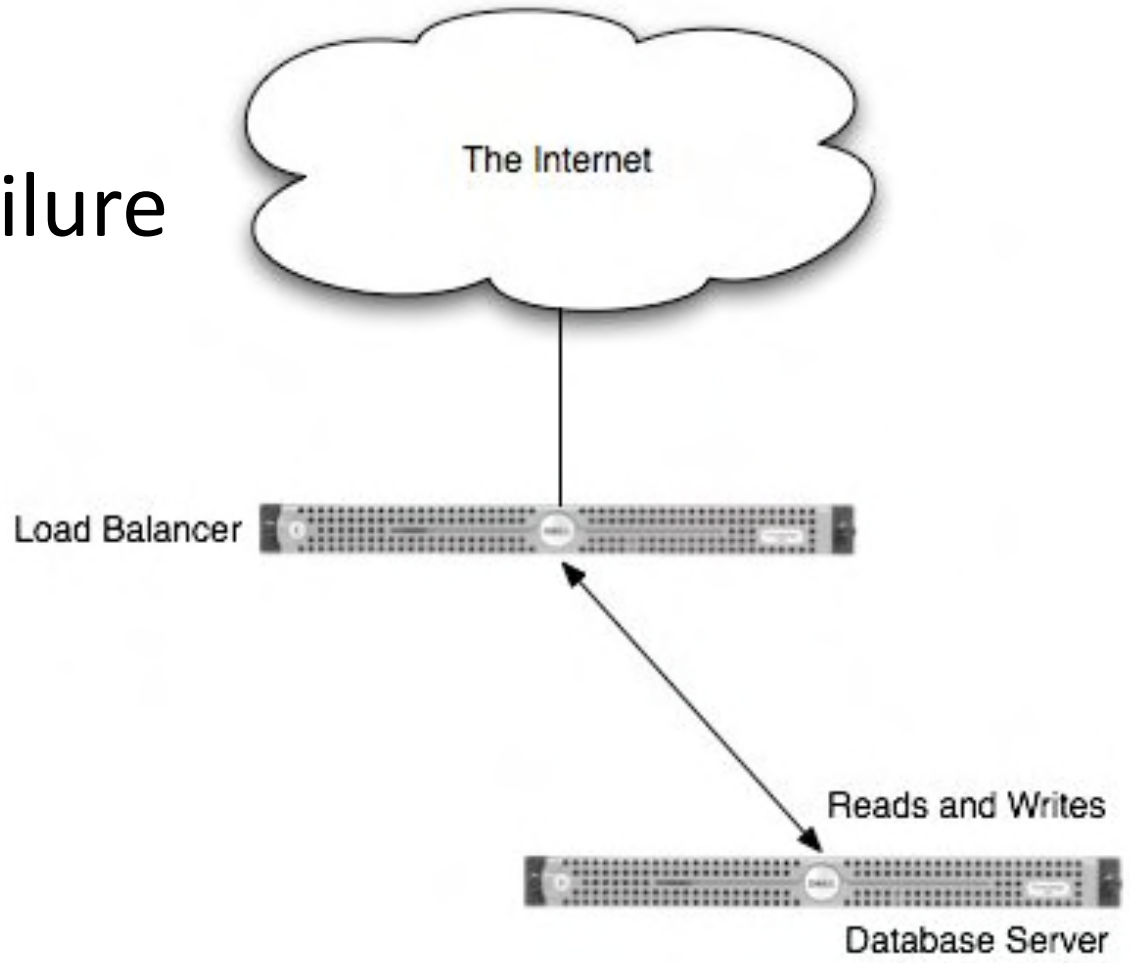
Single Server

- Simple
- Hard to tune
- Single point of failure



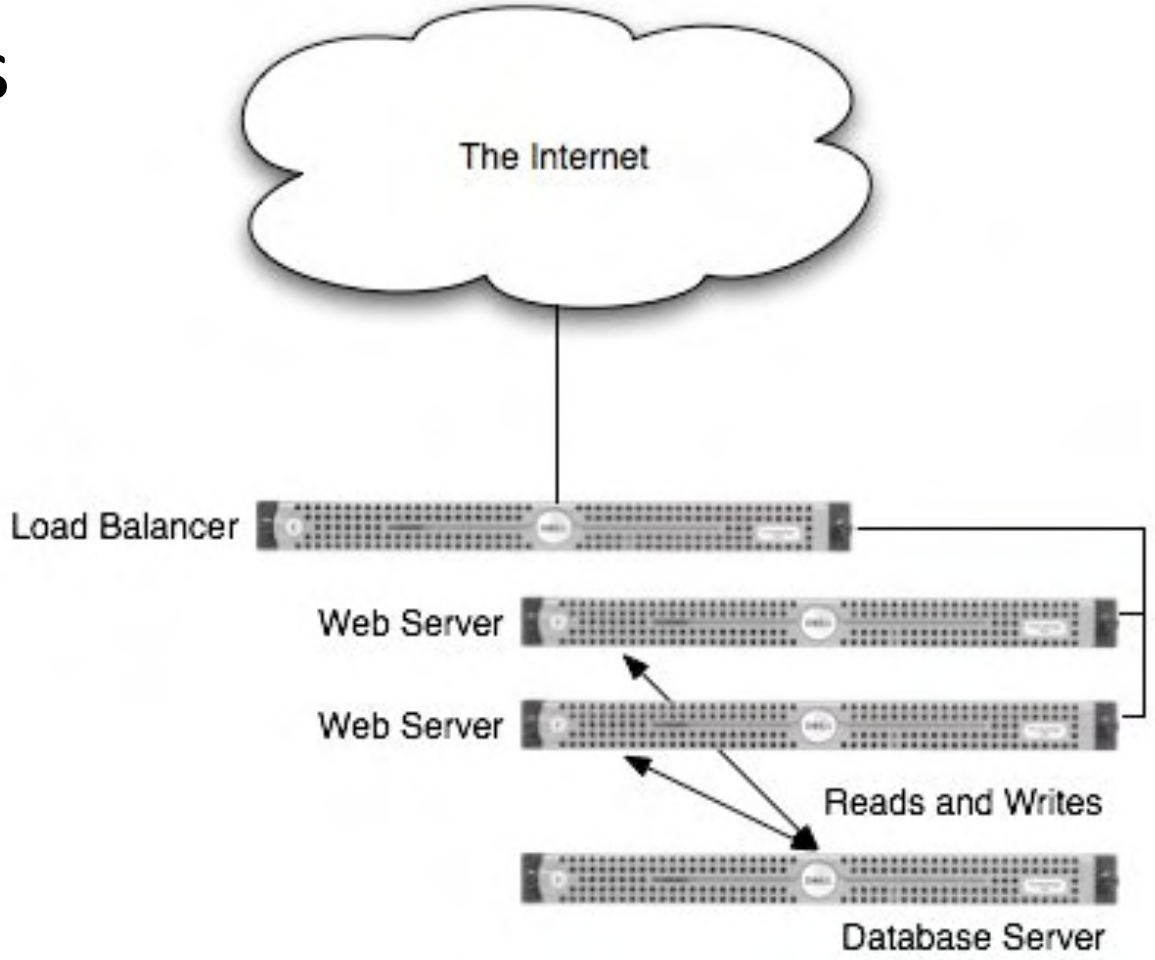
Two servers

- Easier to tune
- Two points of failure



Three servers

- Two web servers
- Database server
- Load balancer



Spread the load

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What if One Server Fails?

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Scale out

- Add lots of web servers
- Multiple load balancers
- Now your database is a point of failure

Scaling the database

- Second DB
- MySQL replication
- Write to master, read from both

Time passes

- Keep adding web servers
- Keep adding MySQL slaves

Chaos

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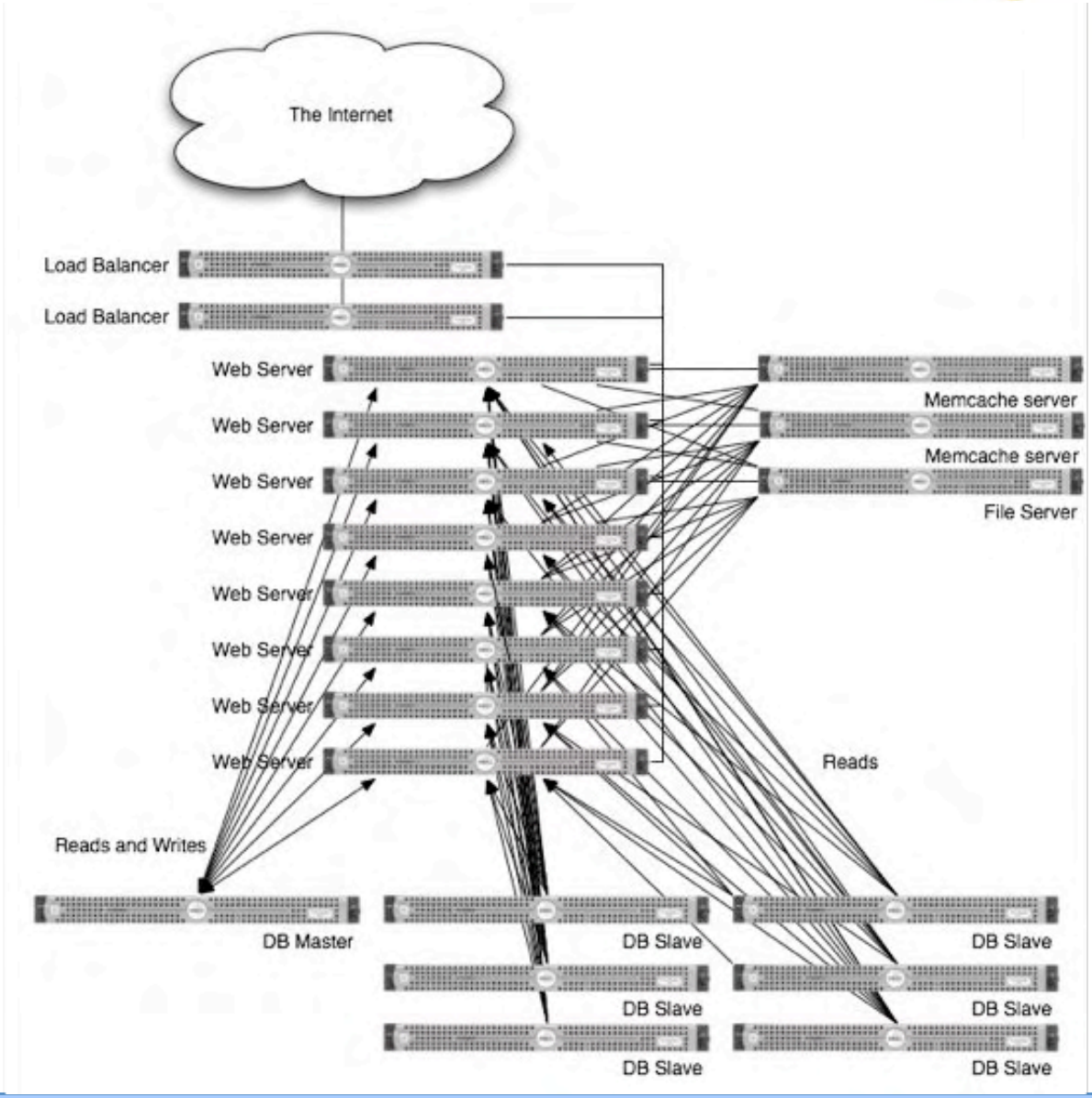

DIY HOSTING

Capacity Planning

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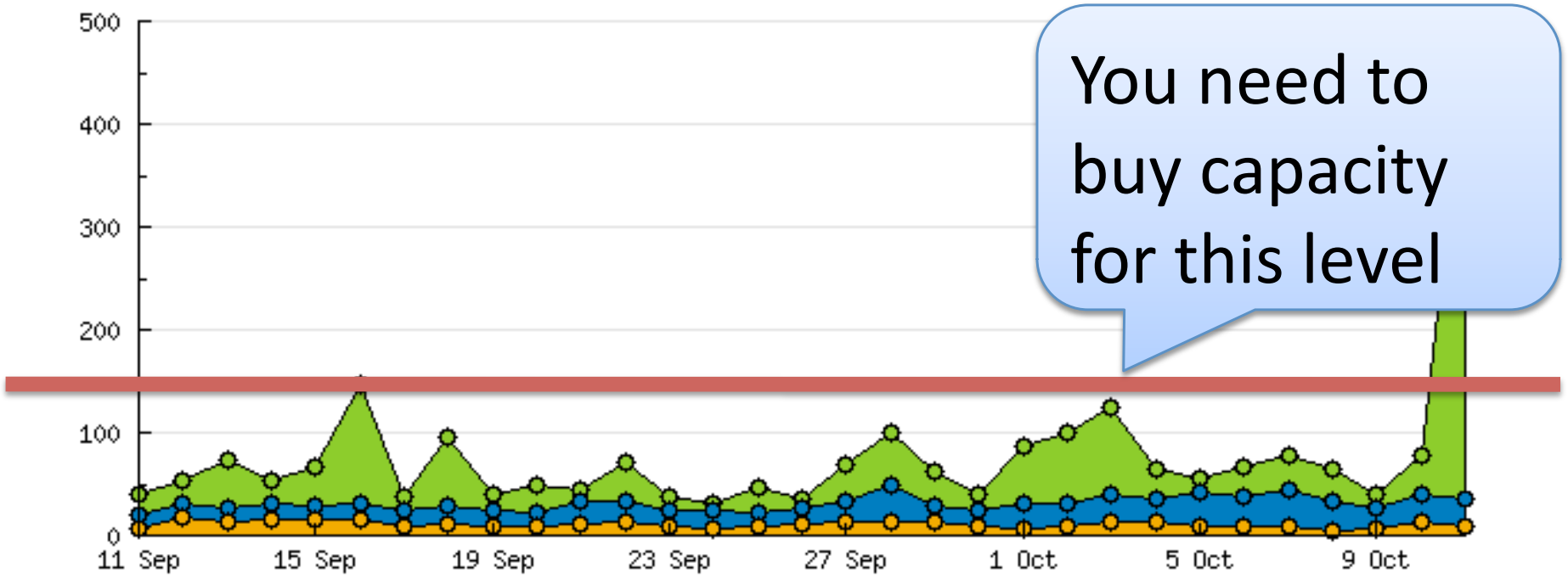

Capacity Planning

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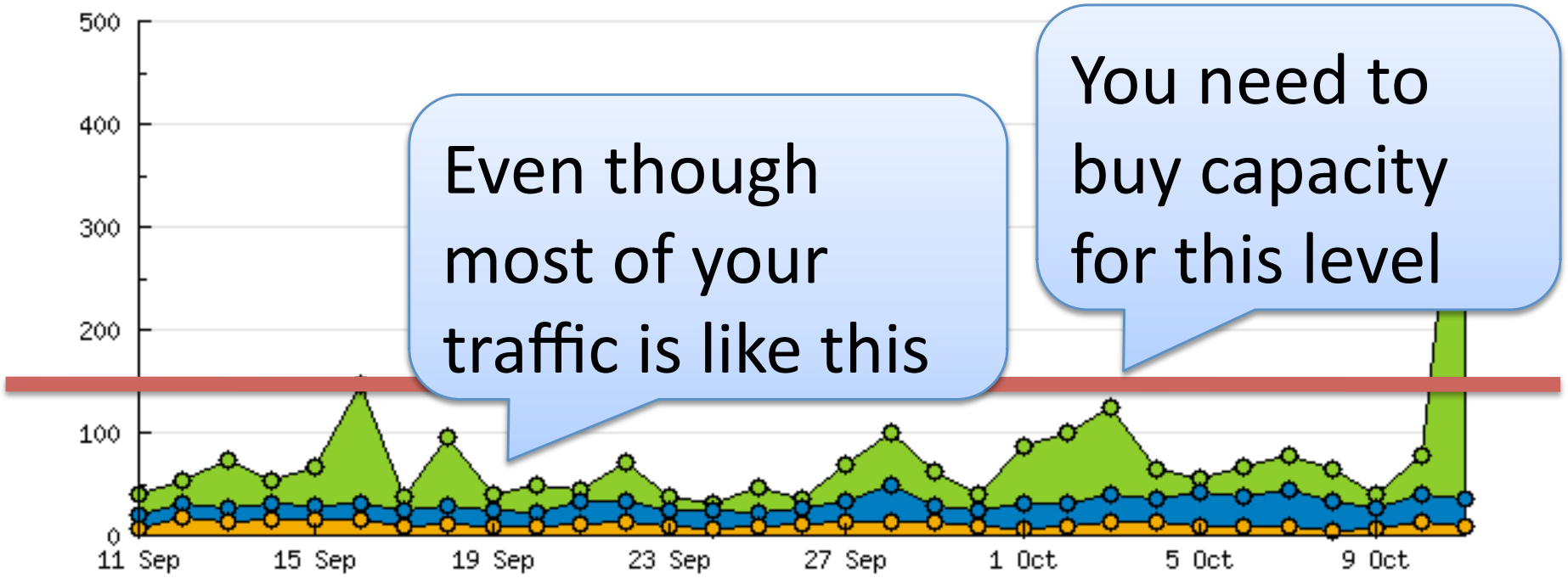

Capacity Planning

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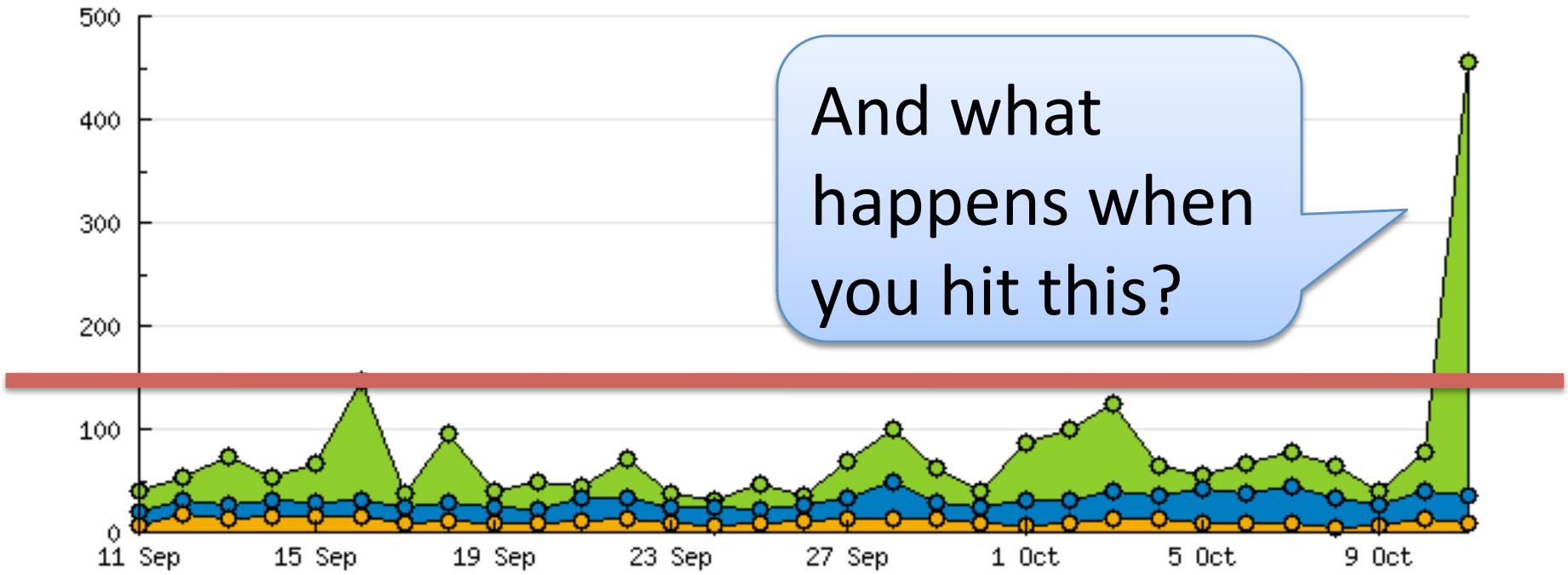

DIY Issues?

- Plan your own architecture
- Hire systems administrators
- 24/7 Operations
  - Who's up when you're down?
- Bandwidth charges during downtime
- Your DC is a single point of failure

Cloud Infrastructure

- Focus on your business, not infrastructure
- 24/7 monitoring and support
- Redundant, highly available hosting
- Scale up ***and*** down with your traffic
- Future proof your infrastructure

Automatic scaling

- No need to purchase and maintain costly infrastructure
- Match your costs to your traffic
- Pay as you go, and only for what you use
- Highly Available – servers are fully redundant
- Scale on demand

Automatic Scaling

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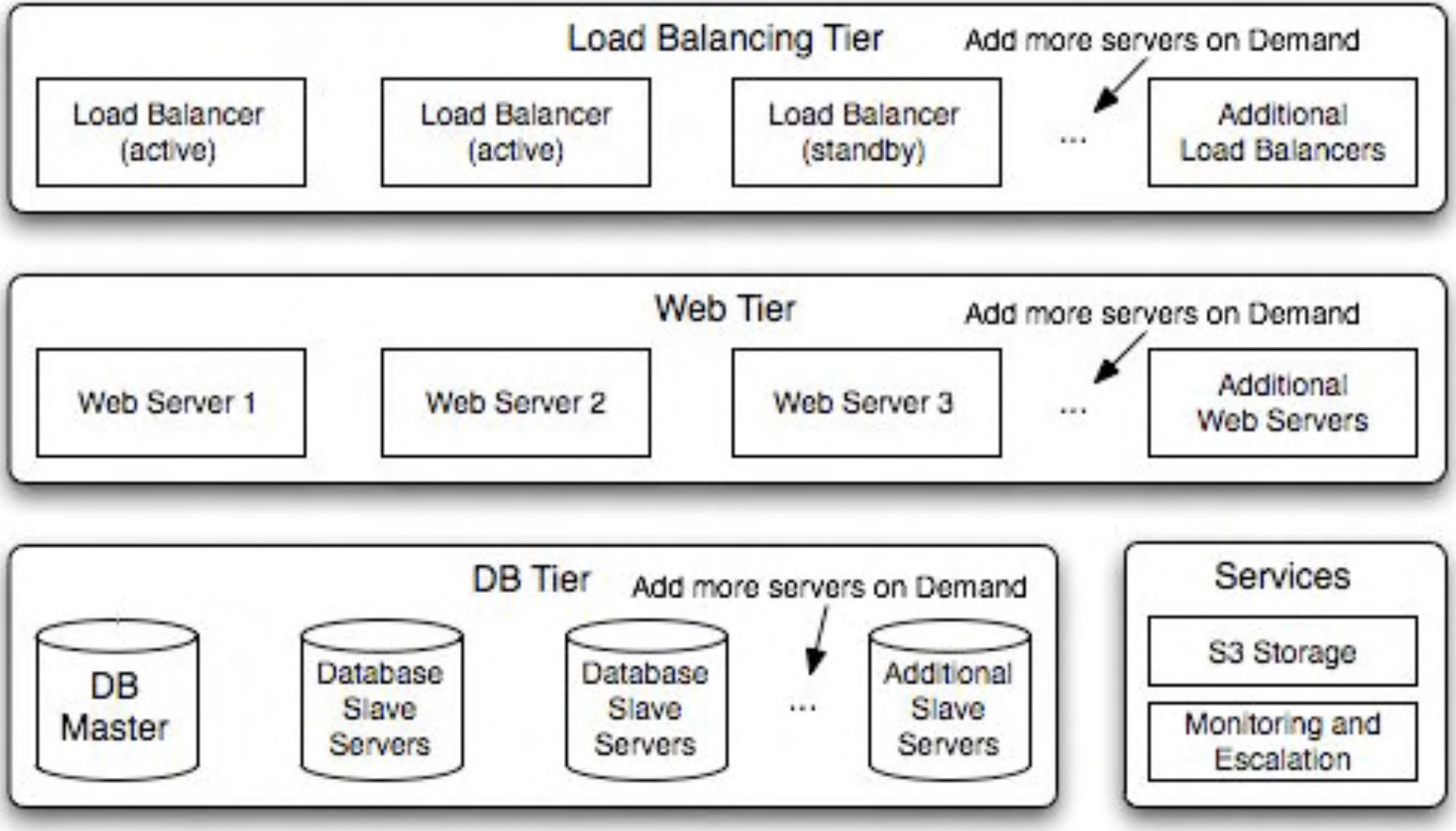

Ready When You Are

- Completely turn-key N-tier infrastructure
- Built and tuned for your online application
- No long-term contracts

Getting Started in the Cloud

- Many providers
  - Amazon, Joyent, Mosso, MediaTemple, OpSource
- Utility Billing
- Get started today with AMIs on EC2

Getting Started in the Cloud

World's shortest sales pitch:

Oh, yeah. We offer it too.

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CHANGE MANAGEMENT

Why not replace the DB?

- Production site gets out of sync during development
- New content
- New users
- New user content

The Alternative: Change Management

- Capture changes in development
- Reproduce changes on other environments (staging, production)
- Minimize errors by combining your changes with the production database
- easily roll back to a previous release
- Prevent your developers from having to be around during a release.

Step 1: Developer Commits Code

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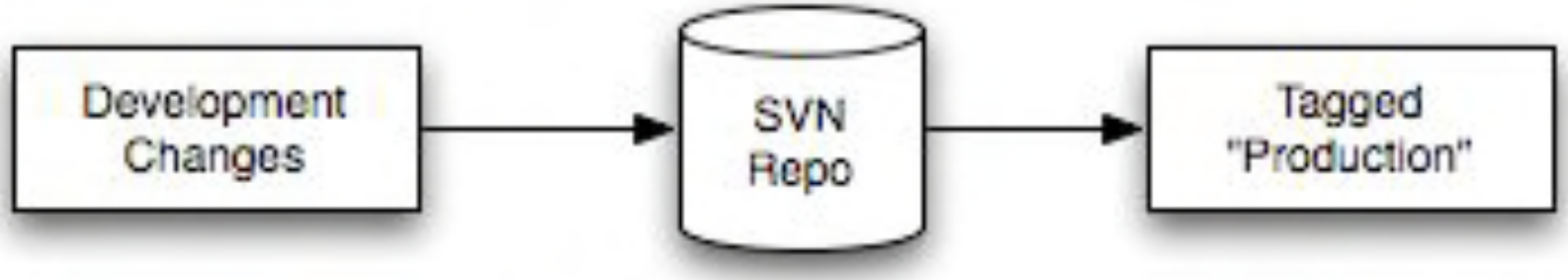
- Make changes to local site
- Record configuration changes
- Save changes to Subversion



- Then what?

Step 2: Deploy to Staging (Manually)

- Update code on staging server
- Make database changes (by hand)
- Test it
- Fix what broke

Step 2: Deploy to Staging (the AutoPilot way)

- Open AutoPilot
- Select your release
- Select “staging” as the target
- Click Deploy
- Test your changes
- (fix if necessary)

Step 3: Deploy to Production (Manually)

- Turn on maintenance mode in Drupal
- Update code on production server
- Make database changes (by hand)
- Test it
- Turn off Maintenance mode

Step 3: Deploy to Production (AutoPilot way)

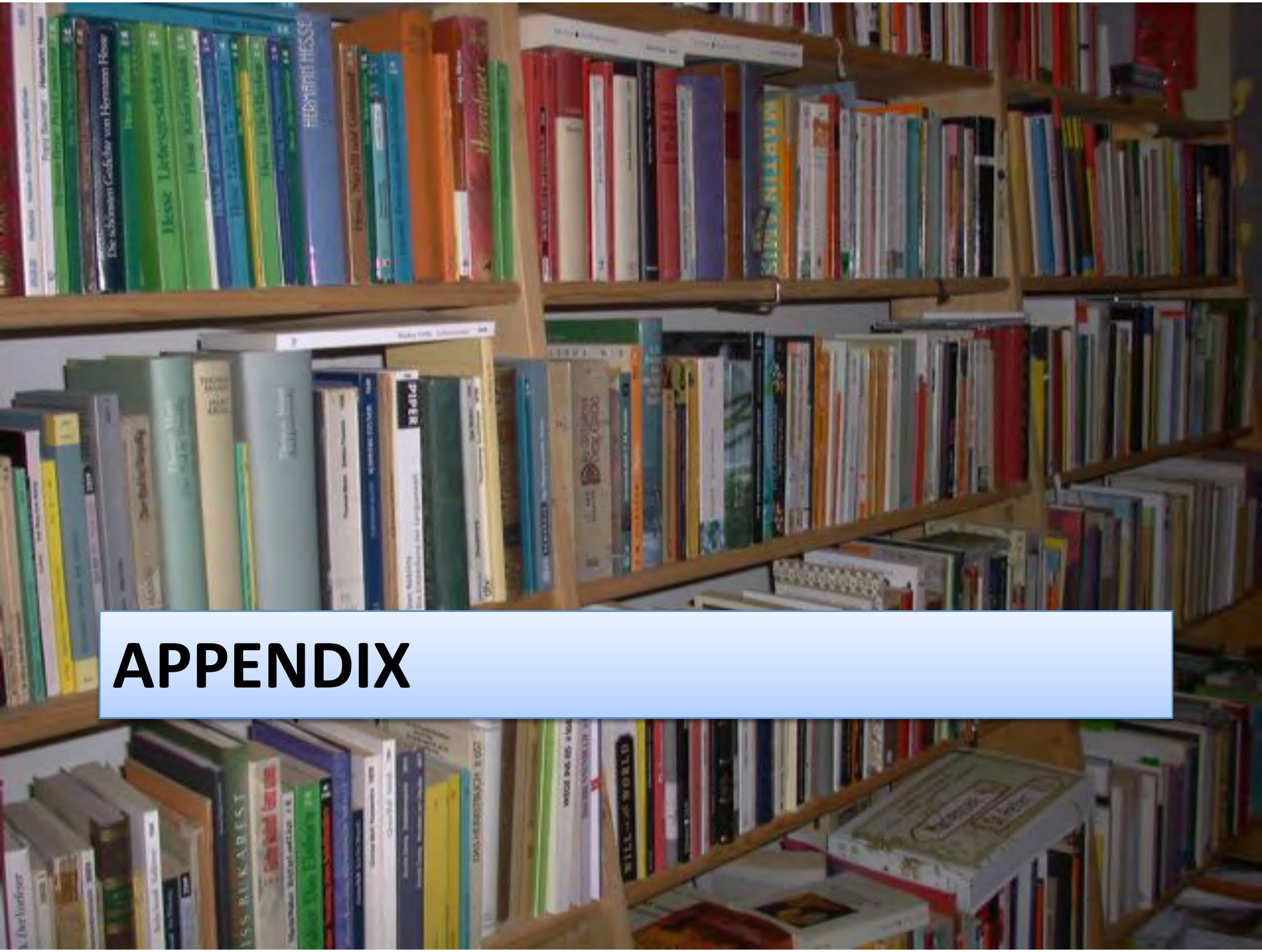
- Open AutoPilot
- Select the release you staged
- Select “production” as the target
- Click Deploy
- Test your changes
- Site is launched!

Adam Kalsey
adam@workhabit.com
866-WorkHabit

Photo Credits

Photos courtesy Flickr users

memestate, kla4067, juan23for, akakumo, library_mistress, boreritos



APPENDIX

Our Hosting Solutions

- Automated Load testing
- Automatic scaling
- Full-stack support
- Proactive Support

Automatic load testing

- Know when a change will introduce higher load on your servers before it goes live.
- Give feedback to your developers for tuning your application to reduce costs (and surprises).

Service and Support

- Fully managed platform, from the server up to. We take care of it so that you can focus on your application.
- 24x7 technical support – Developers can solve your Drupal-related issues if you have them.

Proactive services

- Database index tuning during off-hours
- Monitoring from Multiple Locations
- Escalation in the event of a problem
- Notification of traffic spikes: Know what your costs are going to be before it becomes an issue.