magentolive
UK 2012

Barcelona
11th May 2011

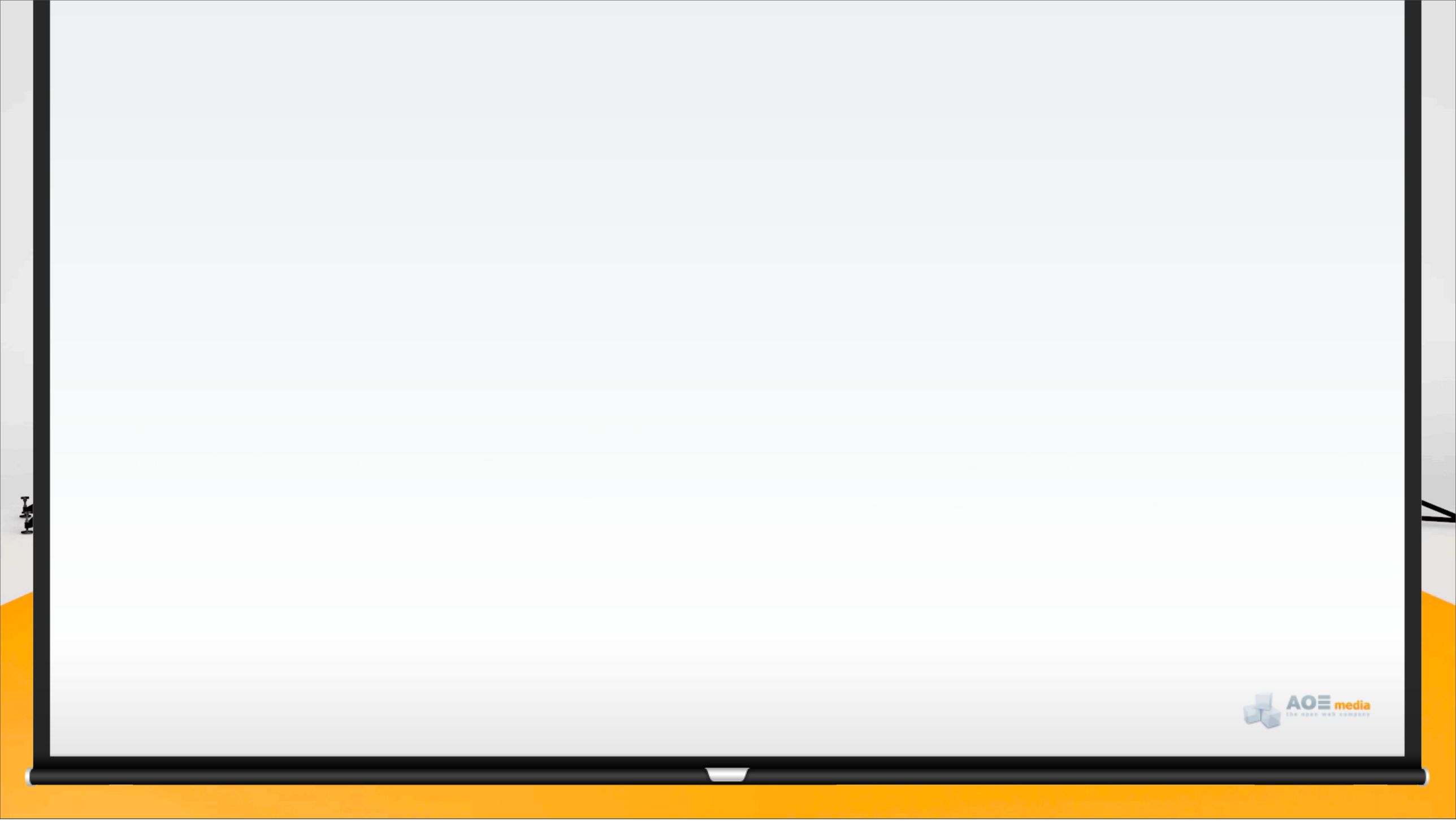
Angry Birds Shop
Cloud Auto-Scaling

Presented by
Kian T. Gould

AOE media
the open web company

The Angrybirds Merchandize Shop

AOE media
the open web company



Europe, Middle-East & Africa | Change region

Login or Register

Shopping basket
2 item(s)
Total €9.9
View Checkout

ANGRY BIRDS ONLINE SHOP

TOYS | GAMES | APPAREL | ACCESSORIES | BOOKS & STATIONARY | VIEW BY

Home > Games > **PC Games**

Show 6 items Sort By select...

ANGRY BIRDS - PC VERSION
The survival...
€4.95 ADD TO BASKET

ANGRY BIRDS RIO - PC VERSION
Angry Birds ...
€4.95 ADD TO BASKET

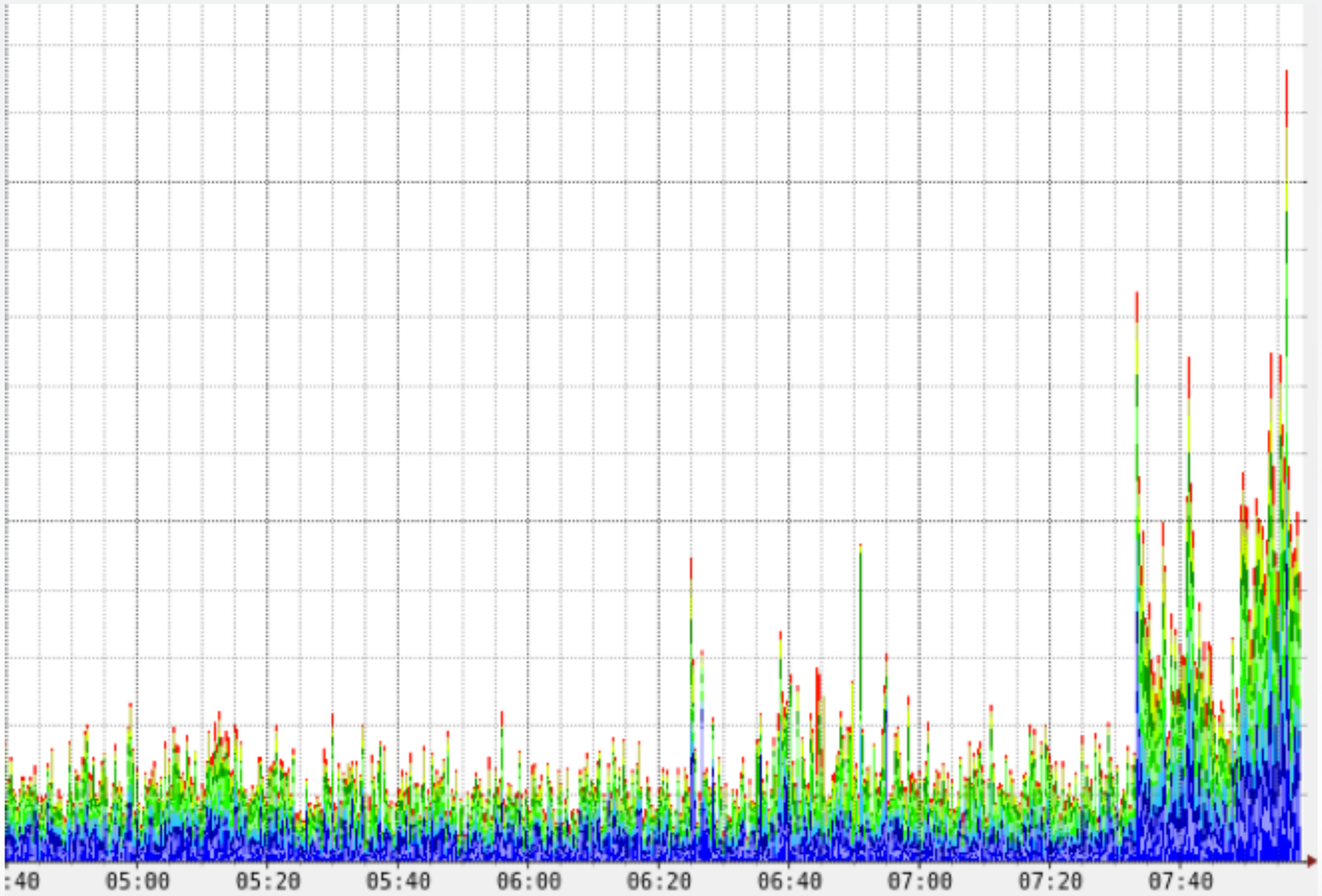
ANGRY BIRDS SEASONS - PC VERSION
Angry Birds ...
€4.95 ADD TO BASKET

ROVIO

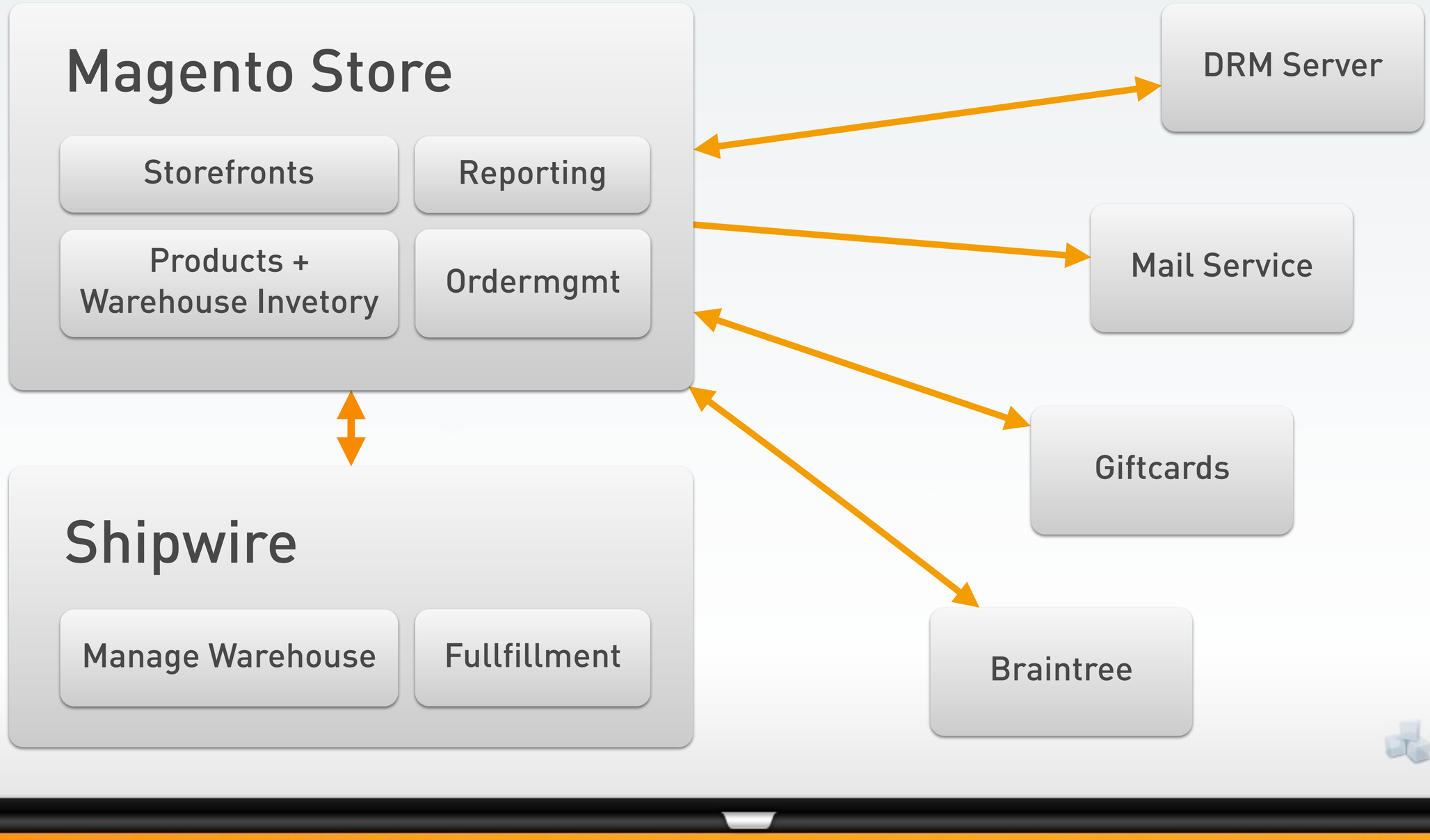
Copyright © 2011 Rovio Entertainment Ltd | About Us | FAQ | Terms of Service | Privacy Policy | Contact Us | Sitemap

AOE media

Traffic Peaks



Angrybirds Magento Universe



Angrybirds Magent

Magento

Storefront

Products +
Warehouse Inve

Shipwire

Manage Warehouse

DRM Server

Mail Service

cards

Braintree

Shipwire

- [x] Manages Worldwide Warehouses
- [x] Find best way for order Fullfillment

Why Amazon Cloud ?

✓ Scales quickly on demand

✓ Pay only what you need

Useful AWS Services

EC2 S3 RDS Cloud Front Elastic Cache ELB R53

Amazon Webservices & Amazon Console

RS Rightscale Services

Cloud Drawbacks?

Complexity

Plan for EC2 Failover

Plan Security

Need to adjust Application

Lack of Service

Cloud Drawbac

Co EC2 Failover

Plan o adjust
cation

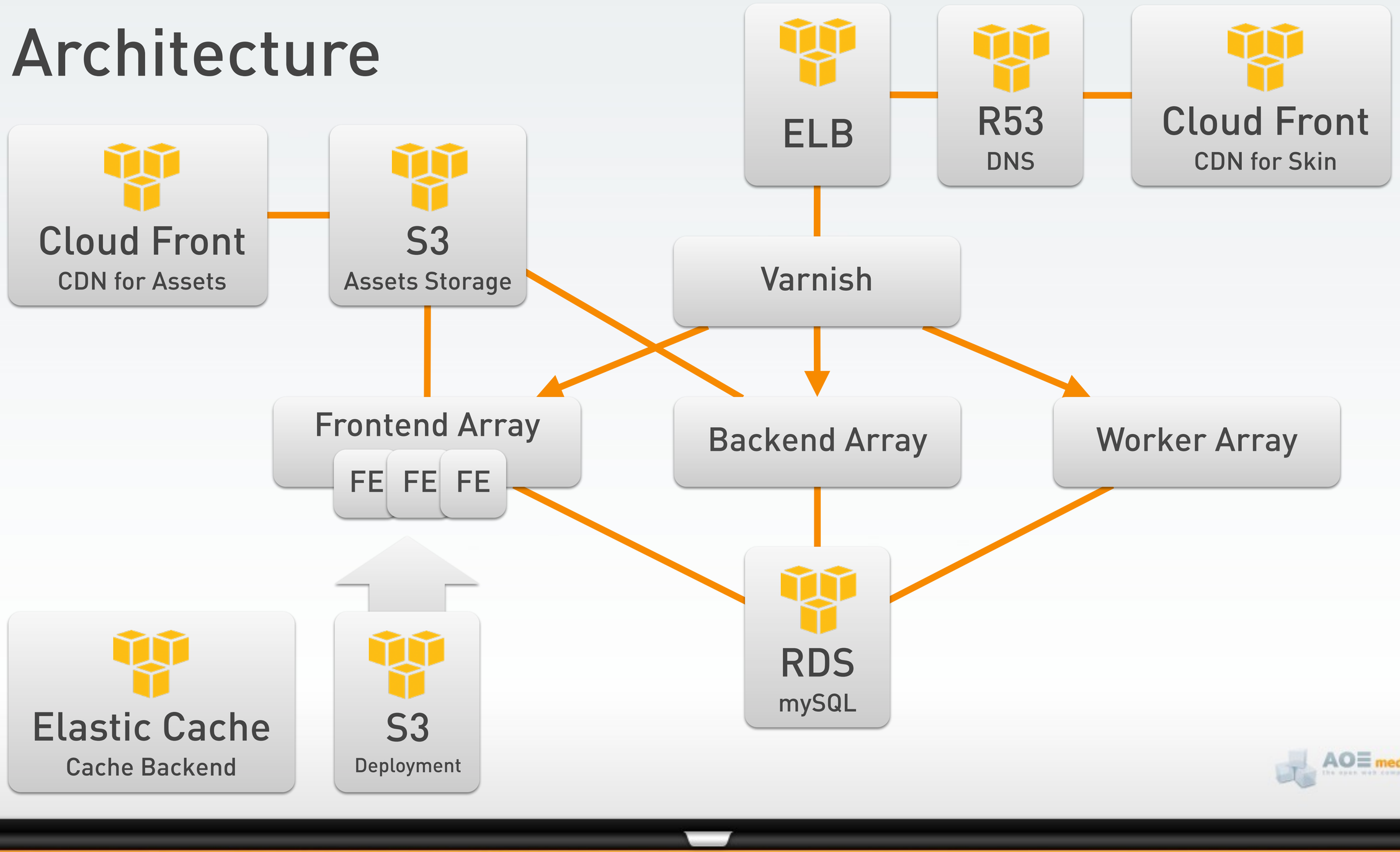
Architecture Requirements

- [x] High availibility (Multiple Failover and Loadbalancing)
- [x] Magento admin Backend independent from Shop-Frontend
- [x] Efficient and independent background task management
- [x] Aggressive caching
- [x] Asset management in the cloud

AOE media
the open web company

How does the cloud architecture look?

Architecture



Scaling is about finding the Bottleneck

Scaling and Tuning

Bottleneck Bandwidth

Varnish Array

Varnish

Varnish

Cloud Front

Bottleneck CPU

Frontend Array Autoscaling

FE FE FE FE FE FE FE FE FE FE FE FE FE FE

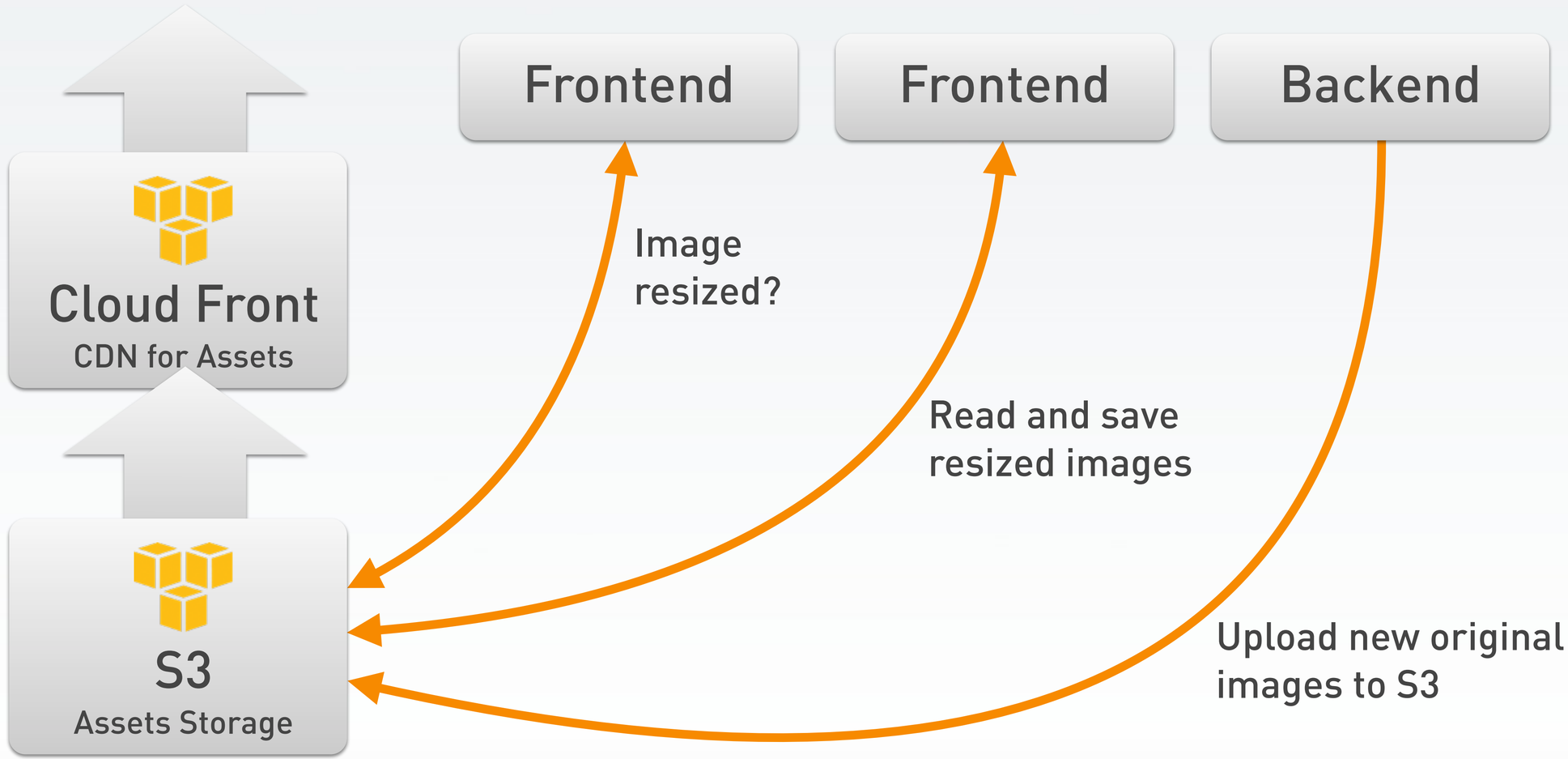
Bottleneck Database

RDS
mySQL

Elastic Cache
Cache Backend

AOE media
the open web company

Image Caching



The 6 Caching senses

1. achieve a high hit rate
2. dont flood your cache
3. deliver as fast as required
4. never loose all cache at once
5. clean up old cache entries
6. be able to clean/refresh on demand

Magento Performance hints

1. Asyncronous Cache Clearing Queue
2. Take care of Cache Cleaning (Magento does not?!)
3. Disable Magento Logs (No option available?!)
4. Make page cacheable in Varnish (Aoe_Static)
5. and... Profiling, Profiling, Profiling:
6. xdebug + kcachegrind
7. Newrelic
8. xhprof

Magento Cloud-Adjustments

1. Compress Javascript + CSS on deploy time
2. Prefix bundeled JS and CSS with timestamp
3. Use Deployment name as Cache prefix
4. Health Check for LB
5. automatic Varnish Purging
6. Mail distribution handling
7. Asset handling

Scheduler Timeline

Generate Schedule | Cron Configuration

Today, 02:00 - Today, 12:00

00 | 08:00 | 09:00 | 10:00 | 11:00

- enterprise_logging_rotate_logs
- aoeasynccache
- aoescheduler_heartbeat
- aoeangrybirds_updatevarniships
- send_notification
- roviodrm
- aoecachecleaner
- enterprise_giftcardaccount_generage_codes_pool
- aoeshipwire
- enterprise_reward_balance_warning_notification
- enterprise_reward_expire_points
- enterprise_targetrule_index_reindex

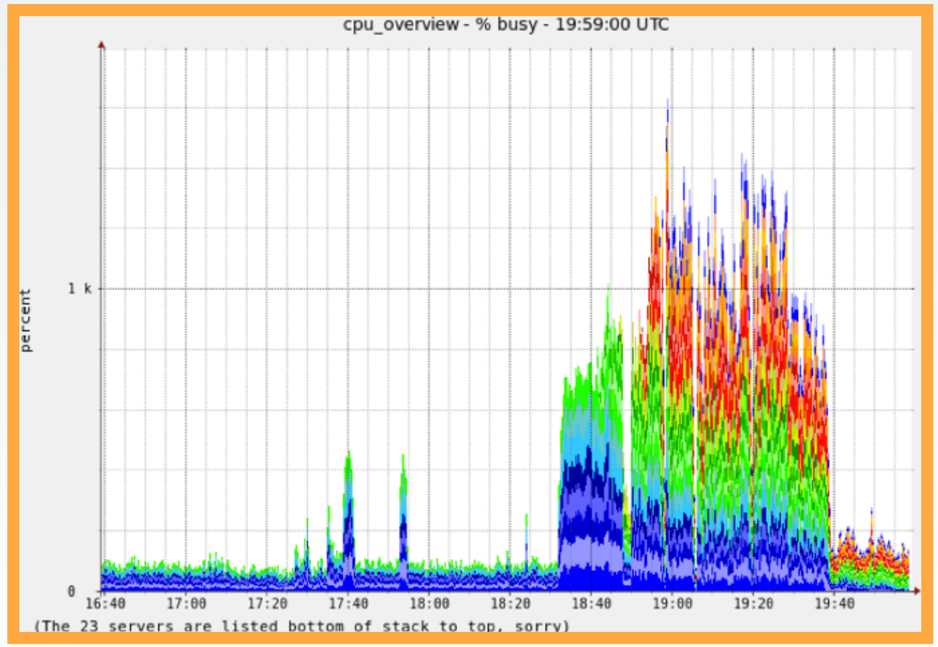
Lessons learned

1. 404 is too expensive

   => cache or redirect

2. Cloudfront with S3 backend cannot handle gzip

   => deploy time bundeling/compression



3. You cannot forsee everything (Collection handling)

   => But you can be prepared to fix things quickly

   => continuous deployment

AOE media
the open web company

Continuous Deployment

Don‘t be scared of releasing to production

Definition of Continuous Deployment

We want on demand deployment of tested features and fixes in a fast and reliable way

You can achieve this by

Automating everyting

Build

Testing

Deployment

..and

doing it frequently

AOE media
the open web company

The Deployment Pipeline

Angrybirds Deployment Pipeline

SVN

Backup Storage

Commit and Build

Unit Tests

Install on „latest“

Selenium Acceptance Tests

Performance Tests

Build Downstream and Test Strategy

Feedback to Developers

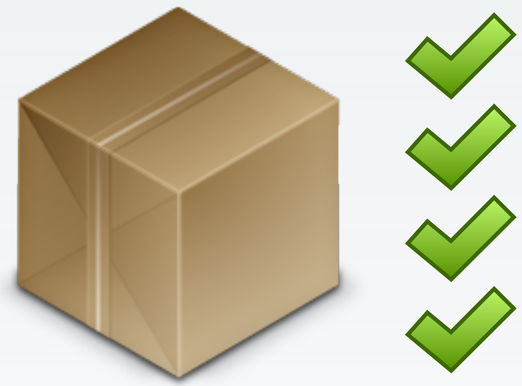
Magento Installation Package

- Filesystem
- Database
- Install Binaries
- settings.php

- htdocs [Magento Source]
- m
- .m
- ch

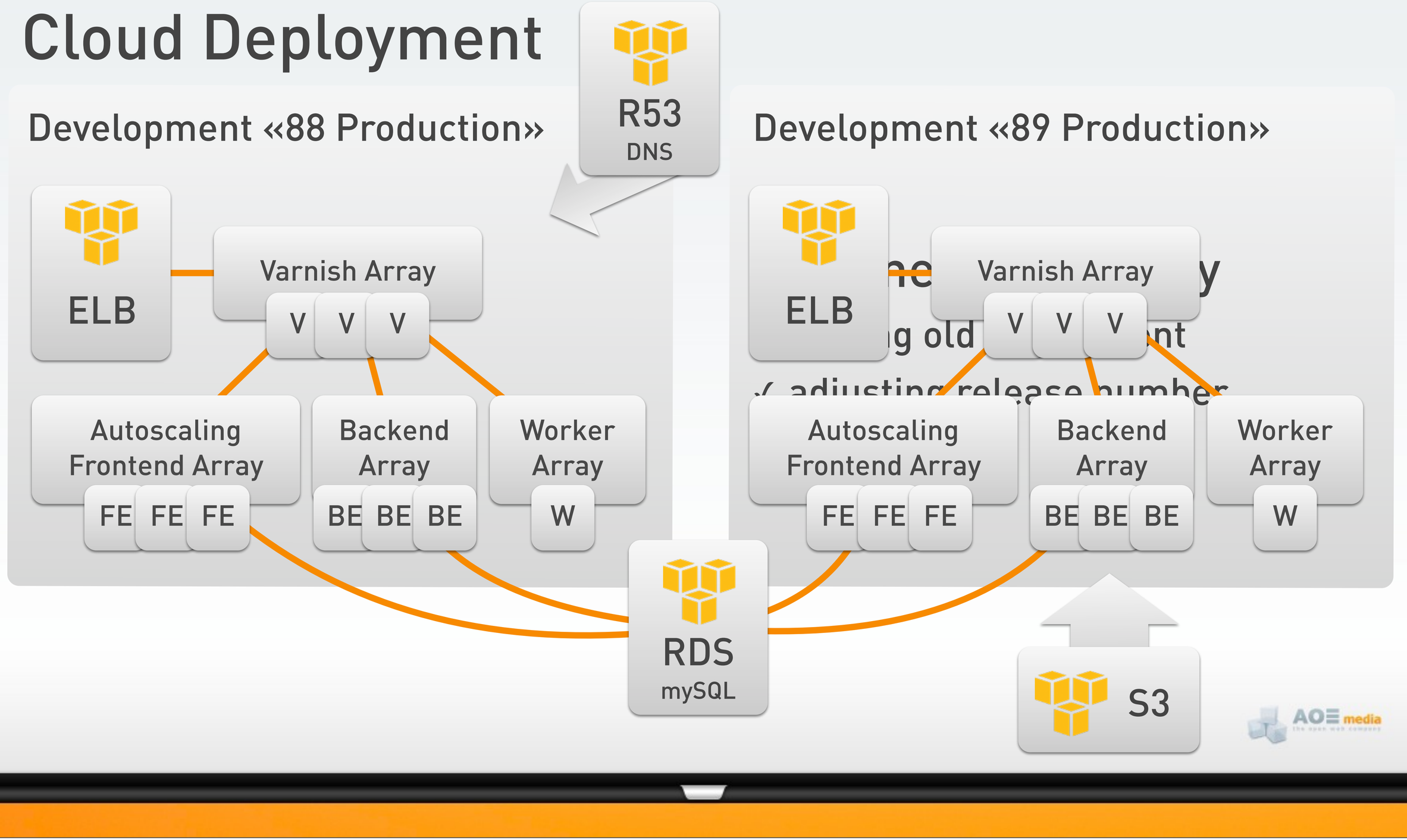
1. set maintenance mode
2. Delta Package prepare
3. apply Database
4. sync files
5. run modman deploy-all
6. adjust Settings
7. Post install:
   fix p. / cache clean / ...

Angrybirds Deployment Pipeline



Install on Deployment System → Copy to S3 → Cloud Deployment Staging → Integration Tests AOE + Rovio → Cloud deployment production

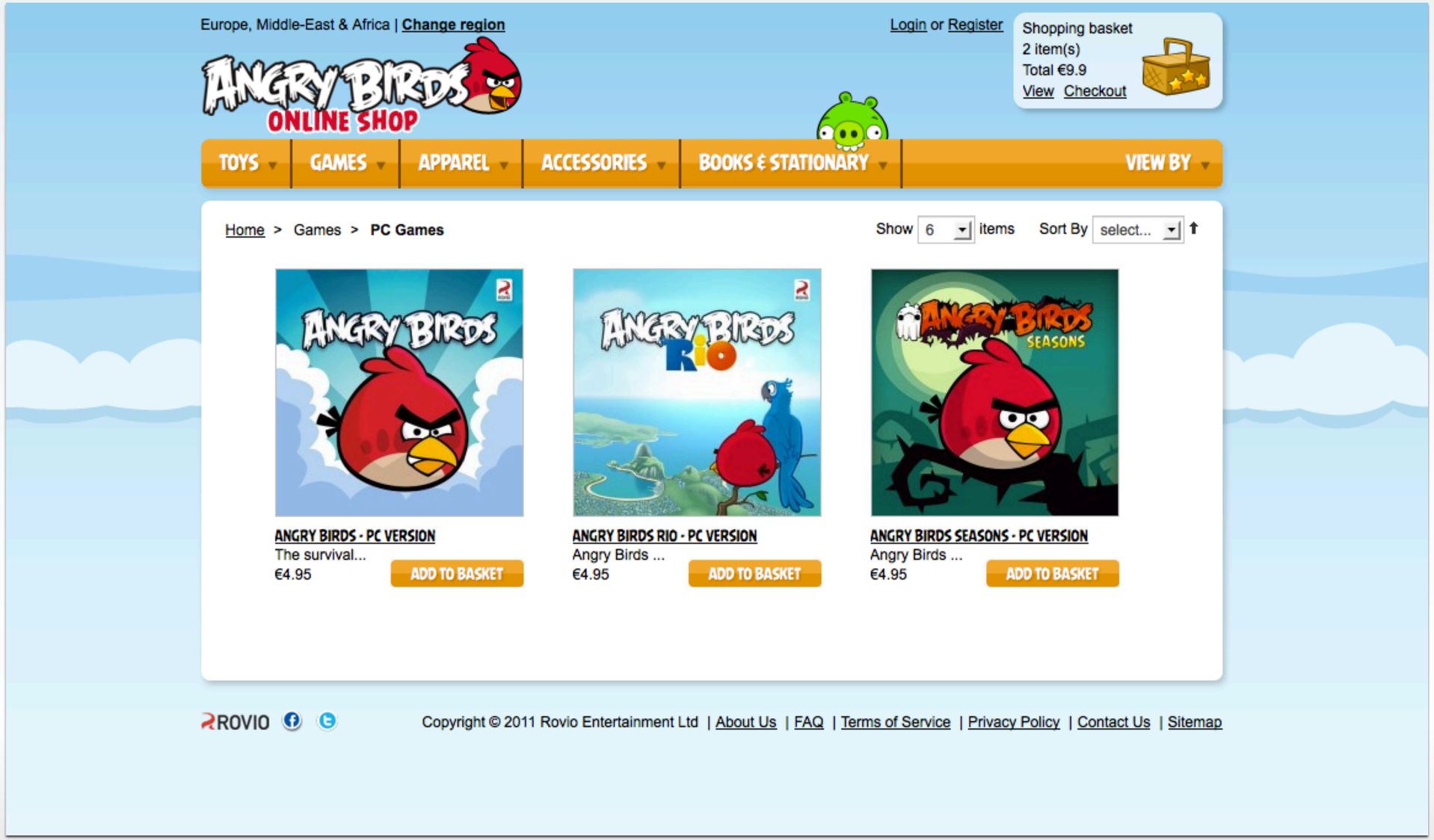
Cloud Deployment



AOE media
the open web company

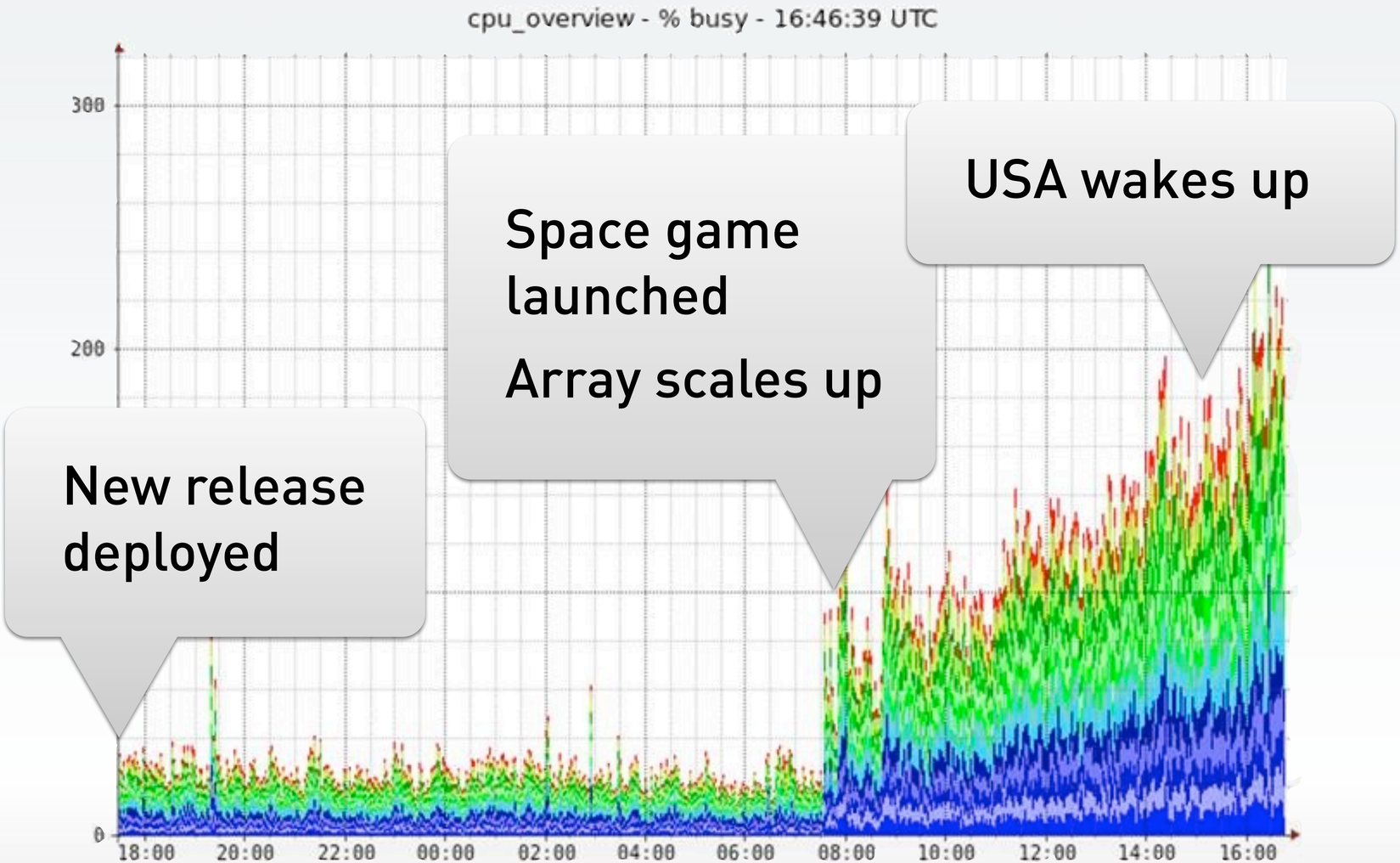
The real life

Day 1 - Release 1



Day 2 - Release 2 - „get ready for Space“

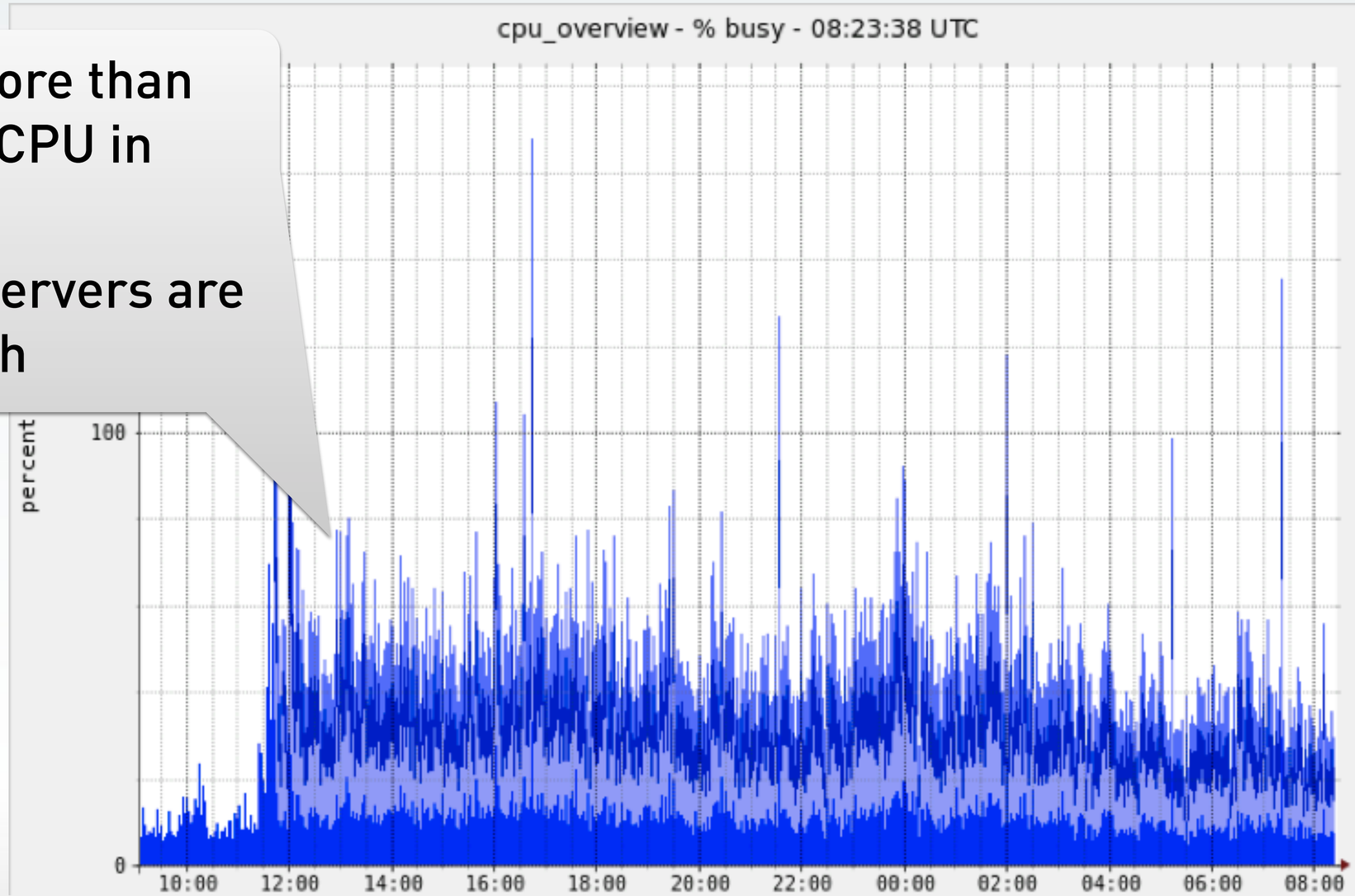
Day 3 - „People want it so badly“

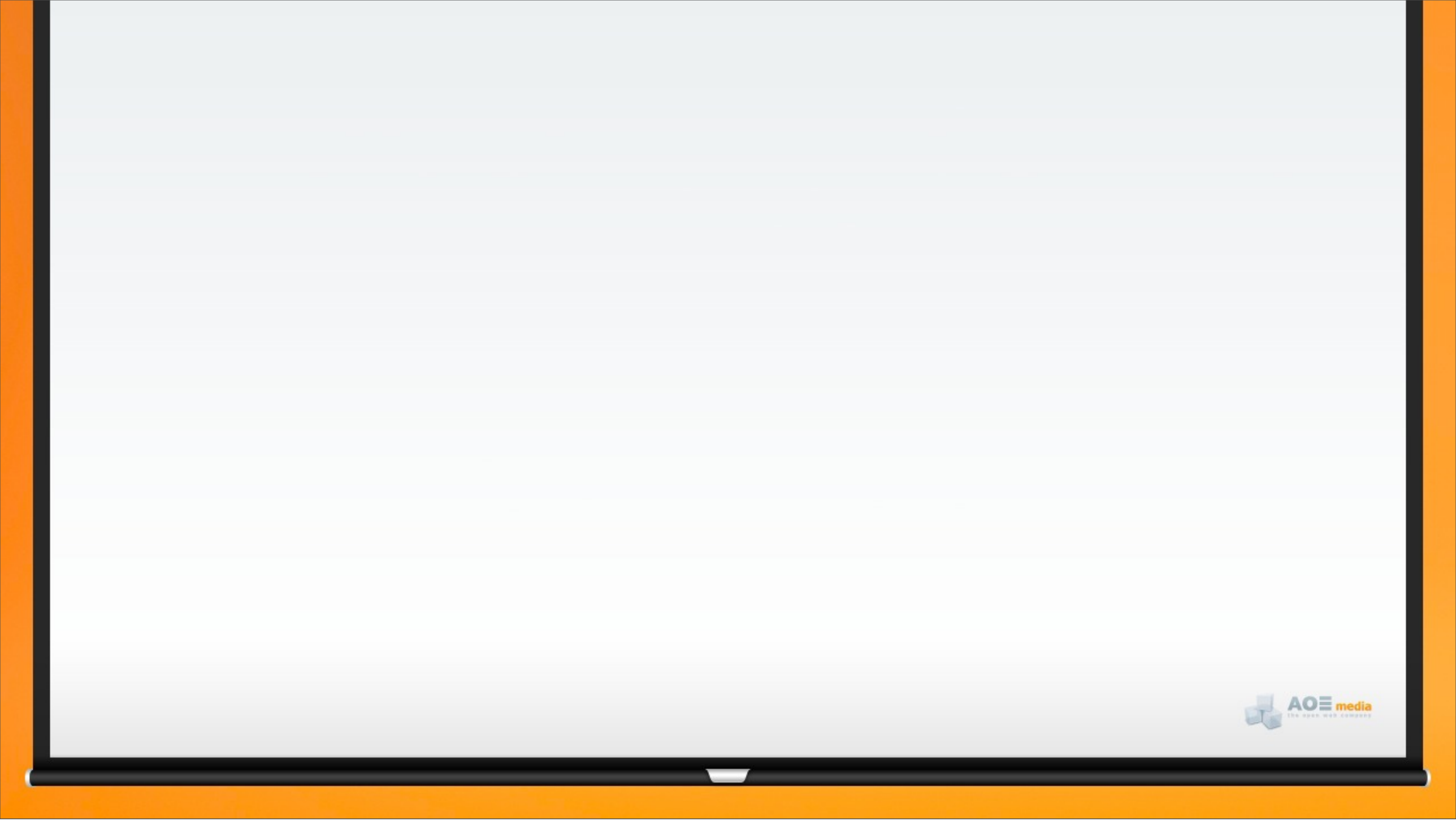


Day 4 - Release 3 „Performance Improvement“

Not more than 100% CPU in total.

2 FE Servers are enough





100
DEVELOPERS
7
COUNTRIES
12
YEARS
2700%
GROWTH
CLIENTS
Panasonic
Parallels
AOK
congstar
cisco
Lufthansa
OS
COMMUNITY

AOE media
the open web company

Thank you

AOE media GmbH
Borsigstr. 3.
65205 Wiesbaden
Germany

Tel.: +49 6122 70707-0
Fax: +49 6122 70707-199
E-Mail: sales@aoemedia.com
Web: http://www.aoemediacom