



Imperia Online

*Less money for IT Infrastructure
and better performance?*





Who are we?

- Company was established in 2005
- Portfolio of 20+ games for web, mobile & VR
- 45M+ registered players
- Some games translated to 30+ languages
- One of the dozen game studios in *Stillfront Group* since Sep'2018

imperiaonline.bg

stillfront.com





Current infrastructure

- 100+ servers in 5 racks
- 10Gb/s backbone network with redundancy
- 340+ virtual machines
- 30 main web servers
- Our technology stack:

StorPool

OpenNebula

ProxMox

OpenSUSE

CentOS

FreeNAS

PFSense

MariaDB

MongoDB

memcached

redis

Apache2

nginx

PHP

Ansible





... let's look in the past

- For more than 12 years we used to buy brand new servers
- 1U, dual CPU, 4 disks + hardware RAID
- 3 major roles:
 - web server
 - DB server (the largest amount)
 - Auxiliary
- Why we changed this?
 - It became hard to scale
 - DB server down affects too many players
 - Accumulation of too old and too many servers





Current layout

- In Feb'2017 we embraced StorPool+OpenNebula
 - 48 hypervisors
 - 696 CPU cores
 - 5.3TB RAM
- 10.6TB storage volume with 2 StorPool clusters
 - 2x5 StorPool servers
 - Pure enterprise grade SSD
 - Triple replication





How we reduced the costs?

- We bought 80 used Quanta servers (Amazon spec)
 - Dual Intel Xeon CPU E5-2650
 - 128 GB of RAM
 - Dual 10Gb/s NICs
- Let StorPool to deploy SDS solution (*no more 8ox4 HDD/SSD*)
- We bought 20+ used Quanta 10GB/s 48-port L2/L3 switches





What we have achieved?

- **More unified hardware**
- **Better performance**
 - most of our VMs are DB servers - I/O and RAM intensive
 - 10 times faster network + redundancy
- **Superior resilience to hardware failure**
- **Better security and isolation**
- **Better hardware utilization**
- **Live migration**
- **So many new technologies to learn**





Thank you for attention!
...and let's begin to talk

