Preparing Apps for Dynamic Scaling

Roy Simkes, Head of Business Development
Outline

• Why make this talk?
• What is Dynamic Scaling?
• Is your app ready?
• Questions
Why?

How do we scale our applications now?
Why?

Is adding more and more resources to solve this problem really helps?
Why?

Everyone tries to optimize something, why do we not optimize the way we use our server infrastructure?
Why?

We want to create an awareness, that instead of adding more, we have to utilize better!
Why?

To make the world, a “better place”
(We are not so-lo-mo or something)

https://www.youtube.com/watch?v=IXuFrtnOYKg
What is Dynamic Scaling

An automated and optimized way for scaling servers, vertically
What is Dynamic Scaling

You build your infrastructure based on

Maximum Capacity

Optimum Capacity
What is Dynamic Scaling

Wouldn't it been nice if you could plan it based on actual load?

Dynamic Capacity
What is Dynamic Scaling

Scale UP

instead of

Scale OUT

or scale down if you don't need resources
Are you ready?

Is your app ready for such a change?
Are you ready?

You probably are.
Are you ready?

- Apache HTTP, Gunicorn
- Python, PHP, (even Java)
- MySQL, PostgreSQL
- Many apps on top of those (Django, Wordpress, ...)

Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao
Are you ready?

- When booting up are you checking the number of CPUs?
- Do you pin your process to predefined processors?
- Is total memory value a constant for you?
- Are you preallocating memory then do you never increase?
Are you ready?

• Really take advantage of it? Check your tools
  • Database
  • Application server
  • Cache server
  • Async workers
  • More tools, I'm not even aware of...
Questions

Let me answer a few of what you may have in mind
Questions

+ Do I really need it?

- You probably don't need to do anything to use it, so why not use it?
+ How is this different than AWS' Automatic Scaling?

- It's not horizontal scaling so you don't need a LB or to change your application so that you can support distributed systems.
Questions

+ How about Kubernetes?

- We are an IaaS provider, not PaaS so it's not just your applications but your whole VM gets the performance boost
Questions

+ Can I use it with traditional horizontal scaling?

- Yes of course! Dynamic Scaling is not a replacement but a complementary service to horizontal scaling that increases utility rates of your resources.
Thank You!

Roy Simkes
royb@skyatlas.com
www.skyatlas.com

https://xkcd.com/399/