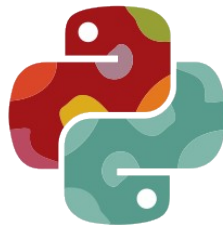




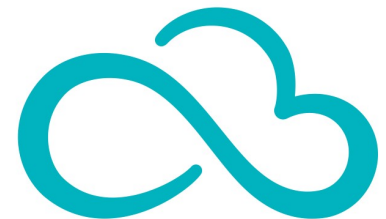
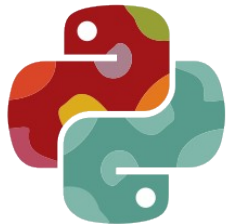
Preparing Apps for Dynamic Scaling

Roy Simkes, Head of Business Development



Outline

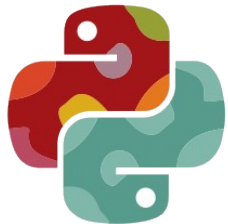
- Why make this talk?
- What is Dynamic Scaling?
- Is your app ready?
- Questions



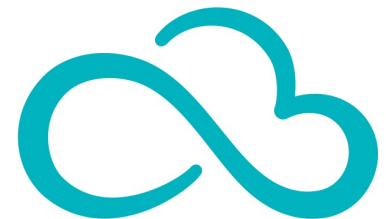


Why?

How do we scale our applications now?



Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Why?

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

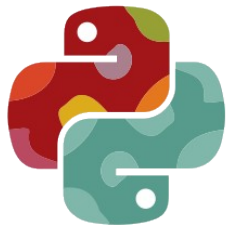


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao

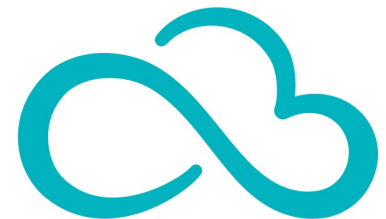


Why?

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

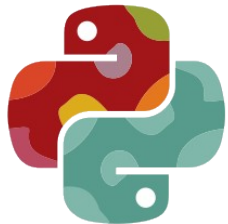


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Why?

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



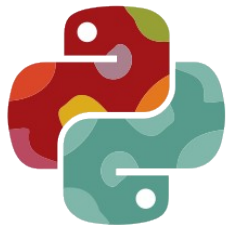
Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



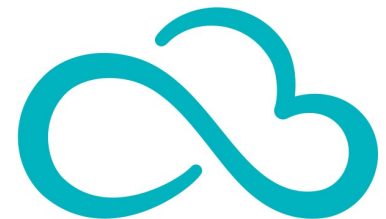
Why?

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

<https://www.youtube.com/watch?v=IXuFrtmOYKg>

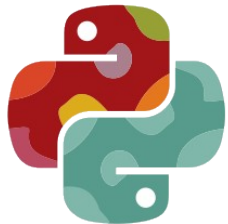


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao

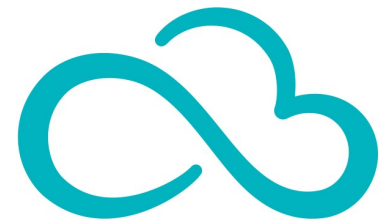


What is Dynamic Scaling

An automated and optimized way for scaling servers,
vertically

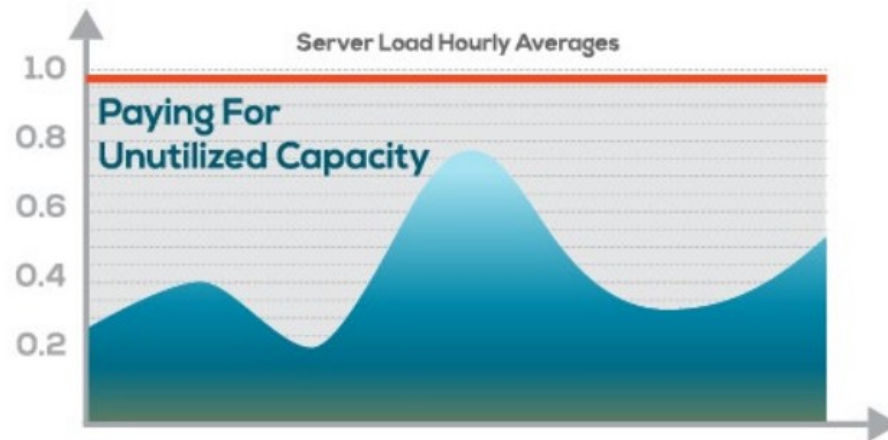


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao

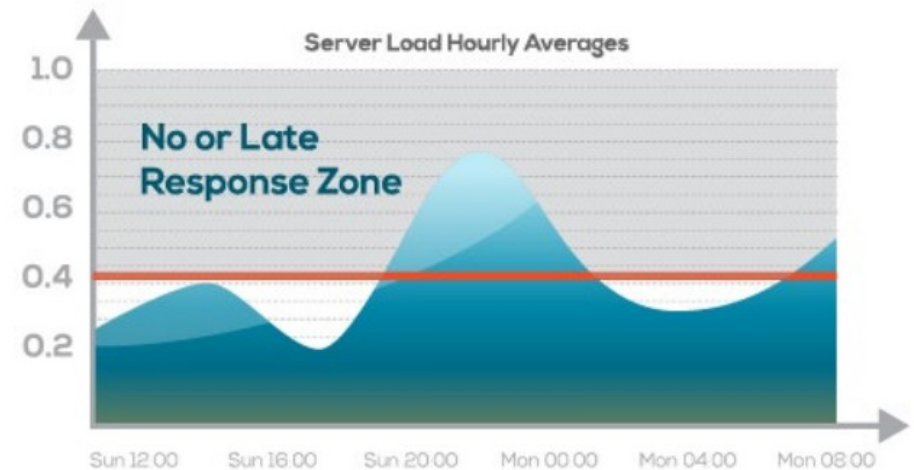


What is Dynamic Scaling

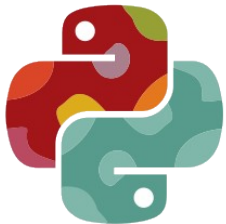
You build your infrastructure based on



Maximum Capacity

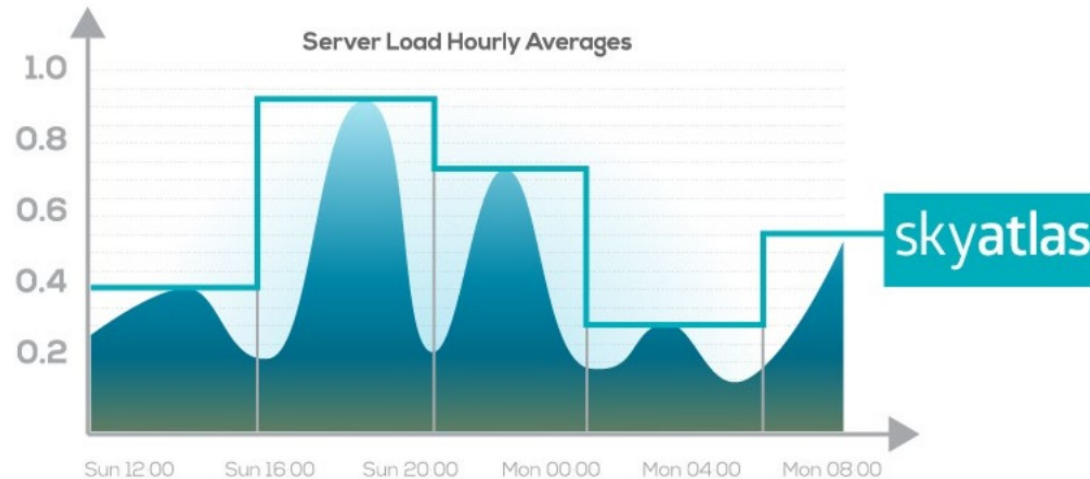


Optimum Capacity

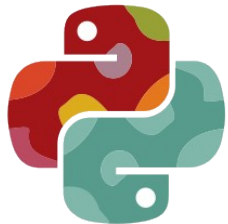


What is Dynamic Scaling

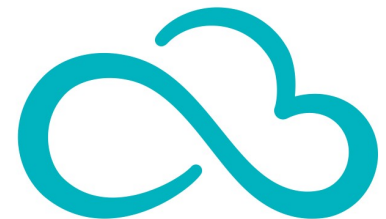
Wouldn't been nice if you could plan it based on actual load?



Dynamic Capacity



Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



What is Dynamic Scaling

Scale UP

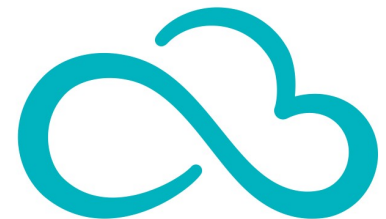
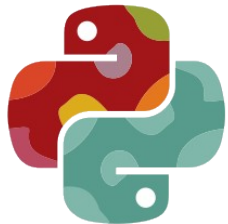


Scale OUT



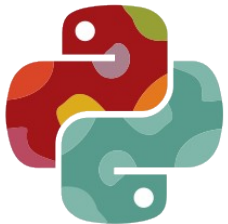
instead of

or scale down if you don't need
resources



Are you ready?

Is your app ready for such a change?



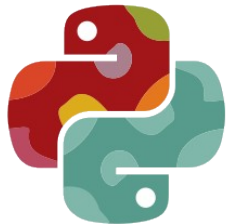
Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



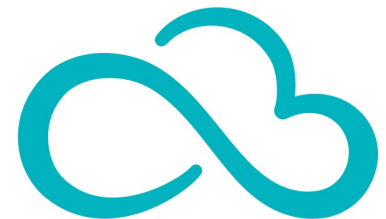


Are you ready?

You probably are.



Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Are you ready?

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

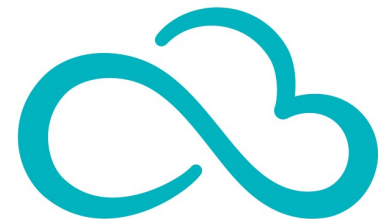
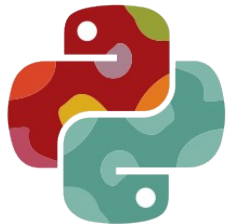


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



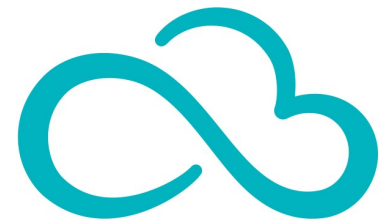
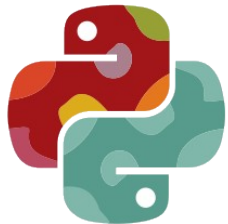
Are you ready?

- 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?



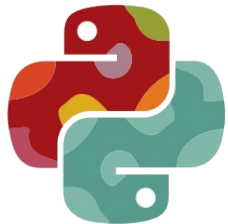
Are you ready?

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

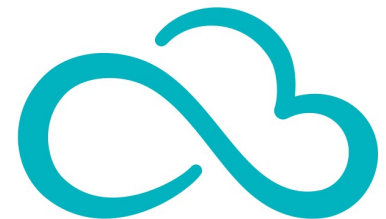


Questions

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



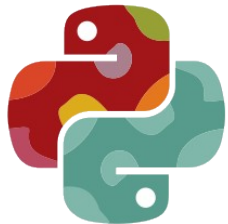
Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Questions

+ Do I really need it?

- You probably don't need to do anything to use it, so why not use it?

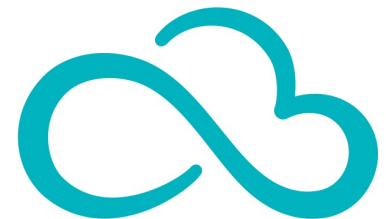
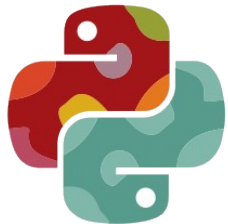


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Questions

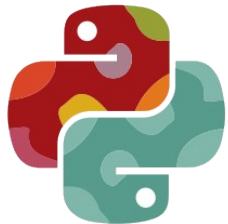
- + How is this different then AWS' Automatic Scaling?
- It's not horizontal scaling so you don't need a LB or to change your application so that you can support distributed systems



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

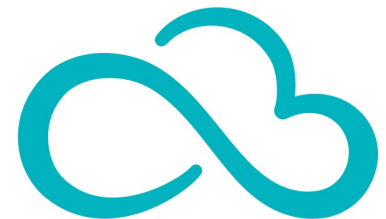
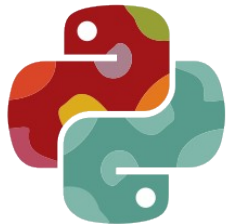


Preparing Apps for Dynamic Scaling
Skyatlas @ EuroPython 2015, Bilbao



Questions

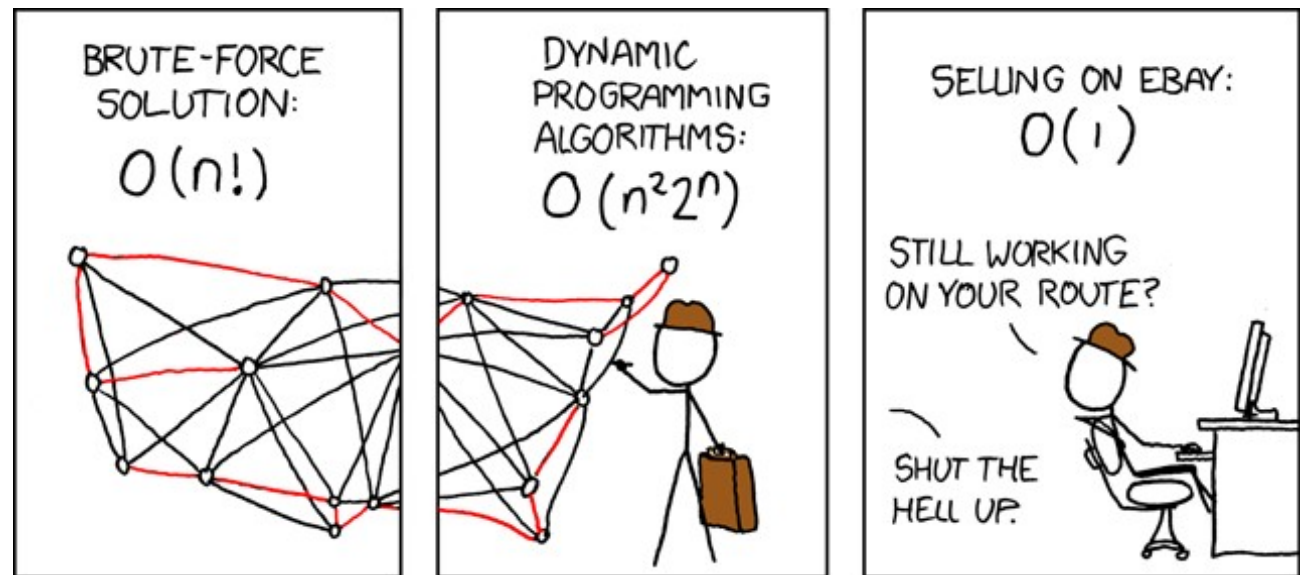
- + Can I use it with traditional horizontal scaling?
- Yes of course! Dynamic Scaling is not a replacement but a complementary service to horizontal scaling that increases utility rates of your resources.





Thank You!

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



<https://xkcd.com/399/>