

DevOps & the Evolution of the Runtastic Backend

Red Hat Forum Österreich 2018



Vision

Through sport, we have the power to change lives



CARDIO



STRENGTH



USER & COMMUNITY



NUTRITION



DAILY HABITS



RUNTASTIC BY THE NUMBERS

We are

4

Founders

We are

8

Years Old

We were profitable
after just

20

Months

We are

235

Employees

We come from

38+

Countries

We have

3

Offices in Linz, Vienna
And Salzburg

Our products are
available in

15

Languages

We are

1

Team with
a single vision



EACH DAY WE HAVE

150,000

NEW DOWNLOADS



WE HAVE MORE THAN

120

MILLION

REGISTERED USERS



WE BOAST OVER

230

MILLION

TOTAL APP DOWNLOADS



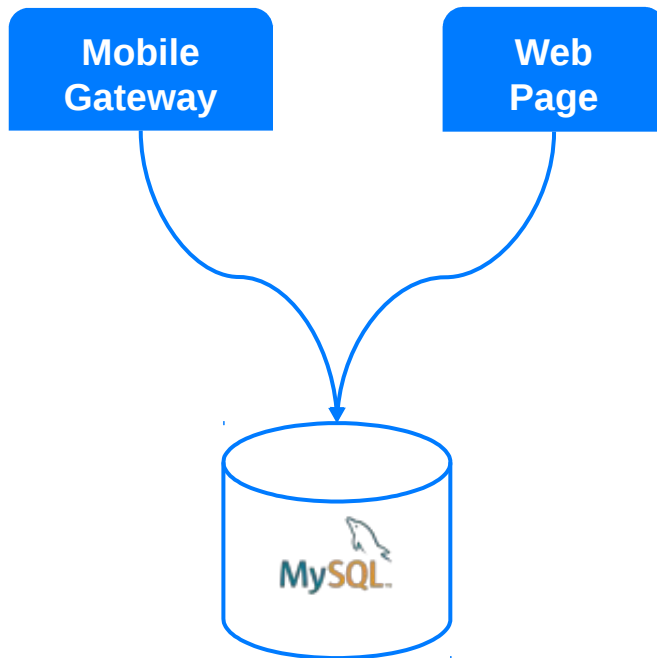
WE HAVE MORE THAN

3,472,75

7

FANS AND FOLLOWERS

2010



Environment



Hosting

- 4 Servers
 - Ali, Senna, Lauda, Agassi
- Desktop hardware
 - 4GB RAM, 2 CPUs
 - dolby surround sound
- Cheap and uncomplicated
- Helped us to grow in the early days
- Mixed responsibilities
- Manual setup of machines

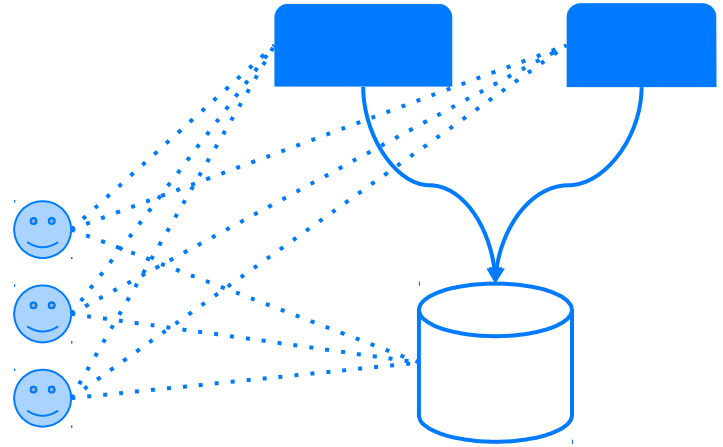


Source: <https://www.youtube.com/watch?v=PLvQepYDei4>

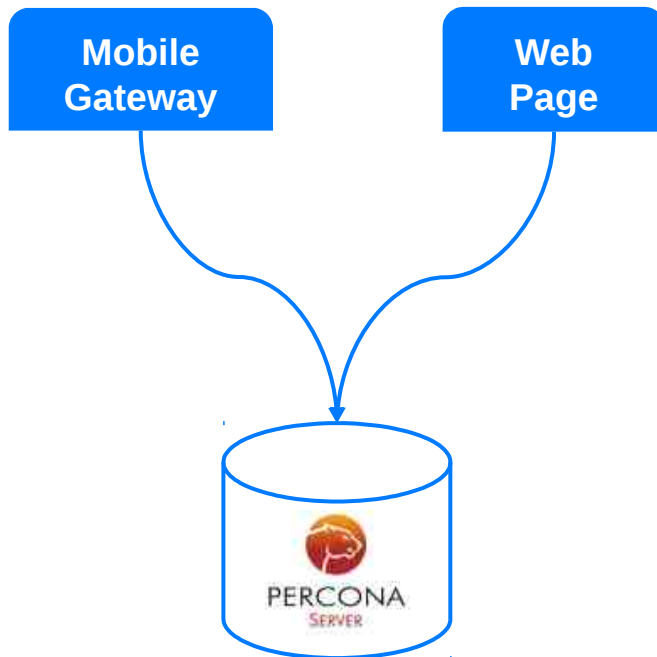
Team

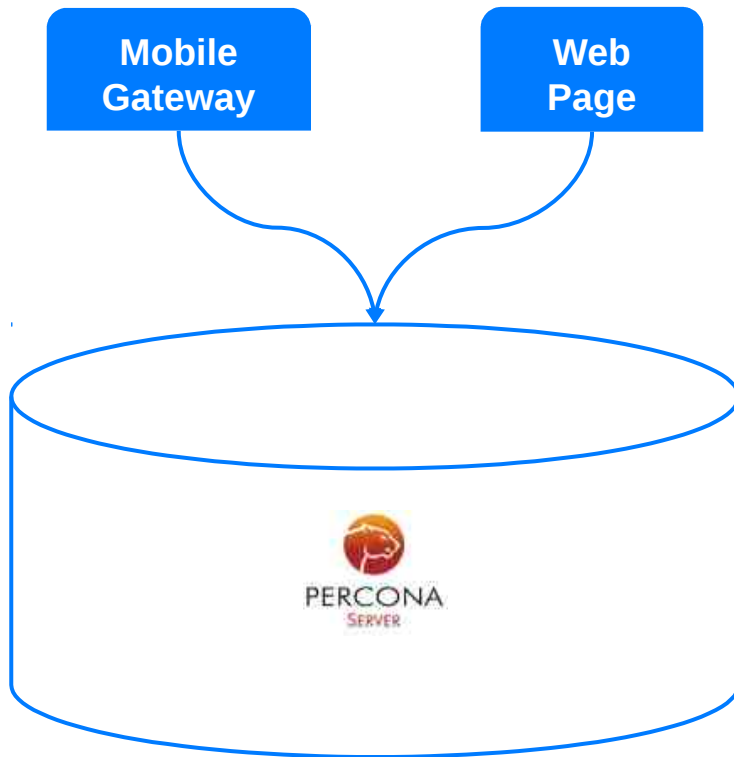
Startup mode

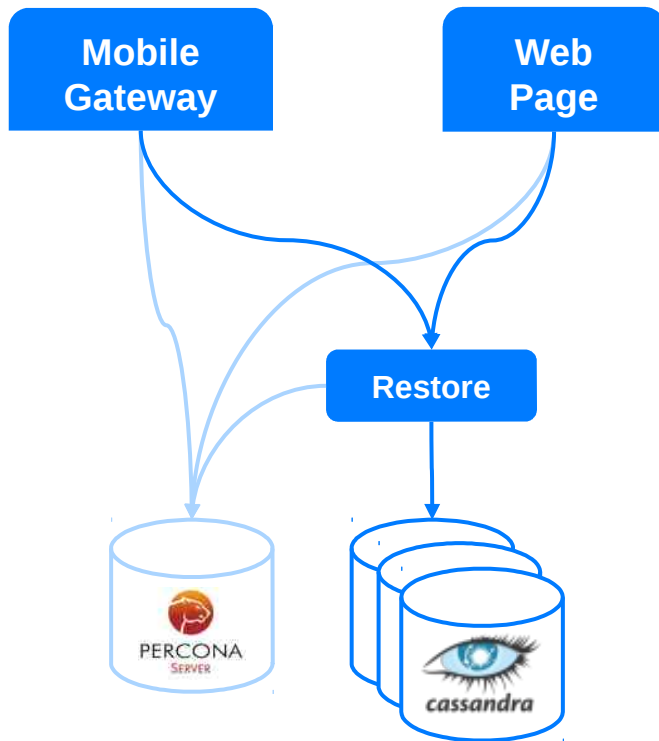
- 2-3 people for backend and operations
- Sitting next to each other
- Scripted deployments done by developer
- Everybody was doing everything



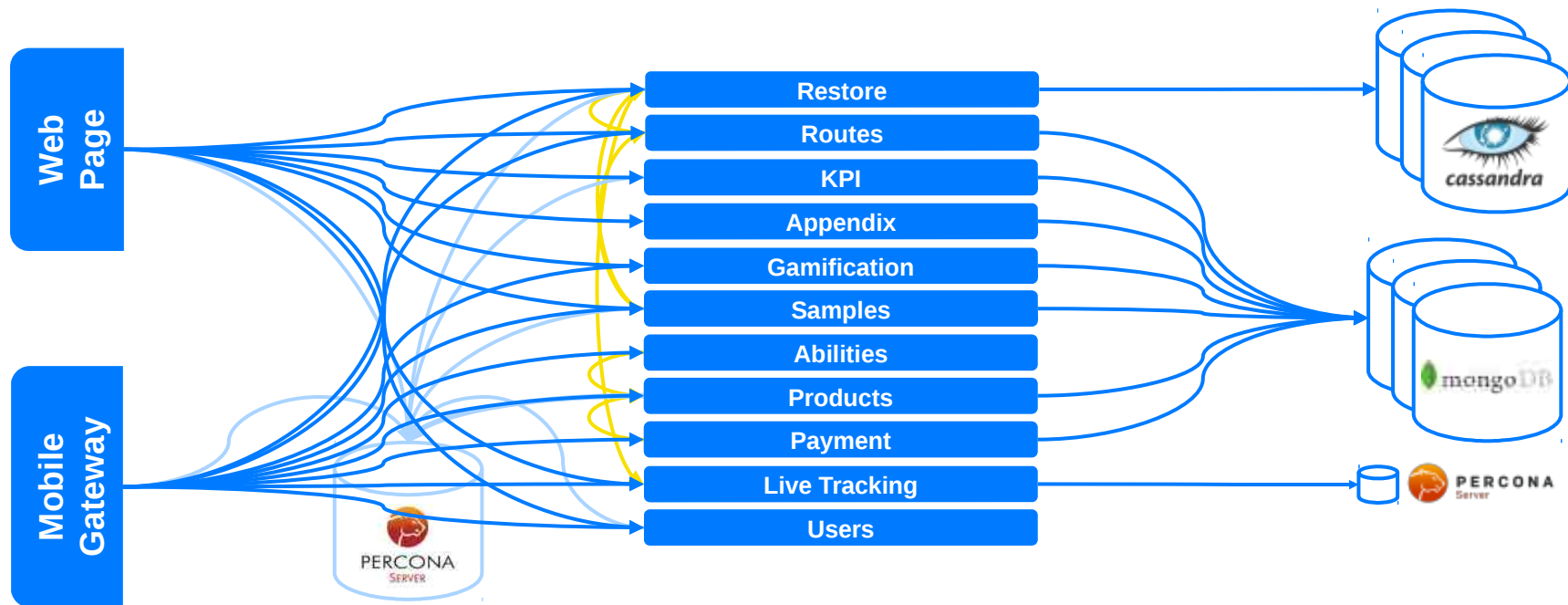
2010







2011 - 2014



Environment



Hosting

- Switch from Hetzner to T-Systems
 - Not stable enough
 - Couldn't offer the hardware we needed
 - Cassandra cluster migration (6 months)
- Own hardware
 - Virtualization OpenNebula
 - Dedicated machines for DBs
 - 2 Cells in Data Center



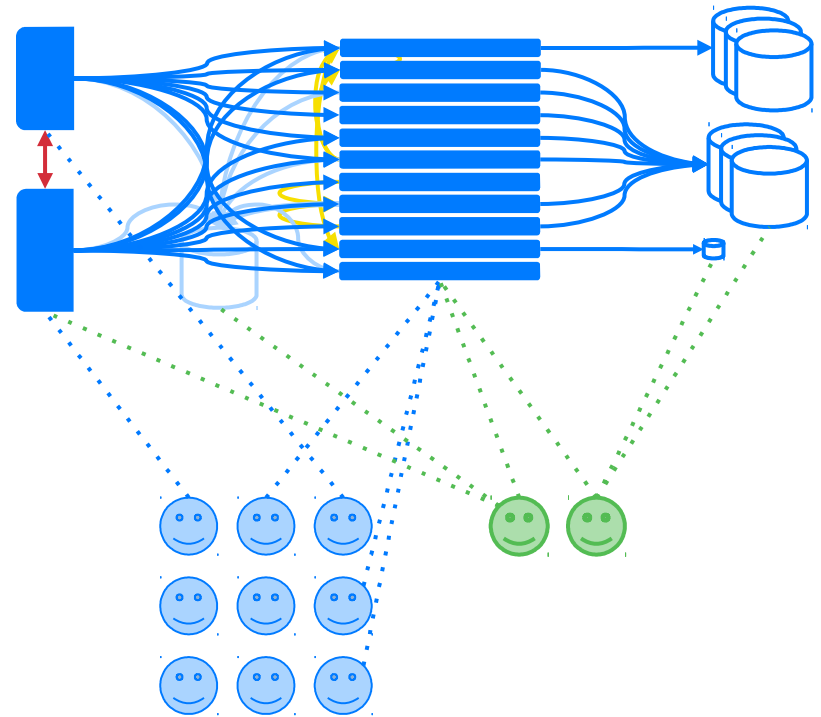
Team

Backend Department

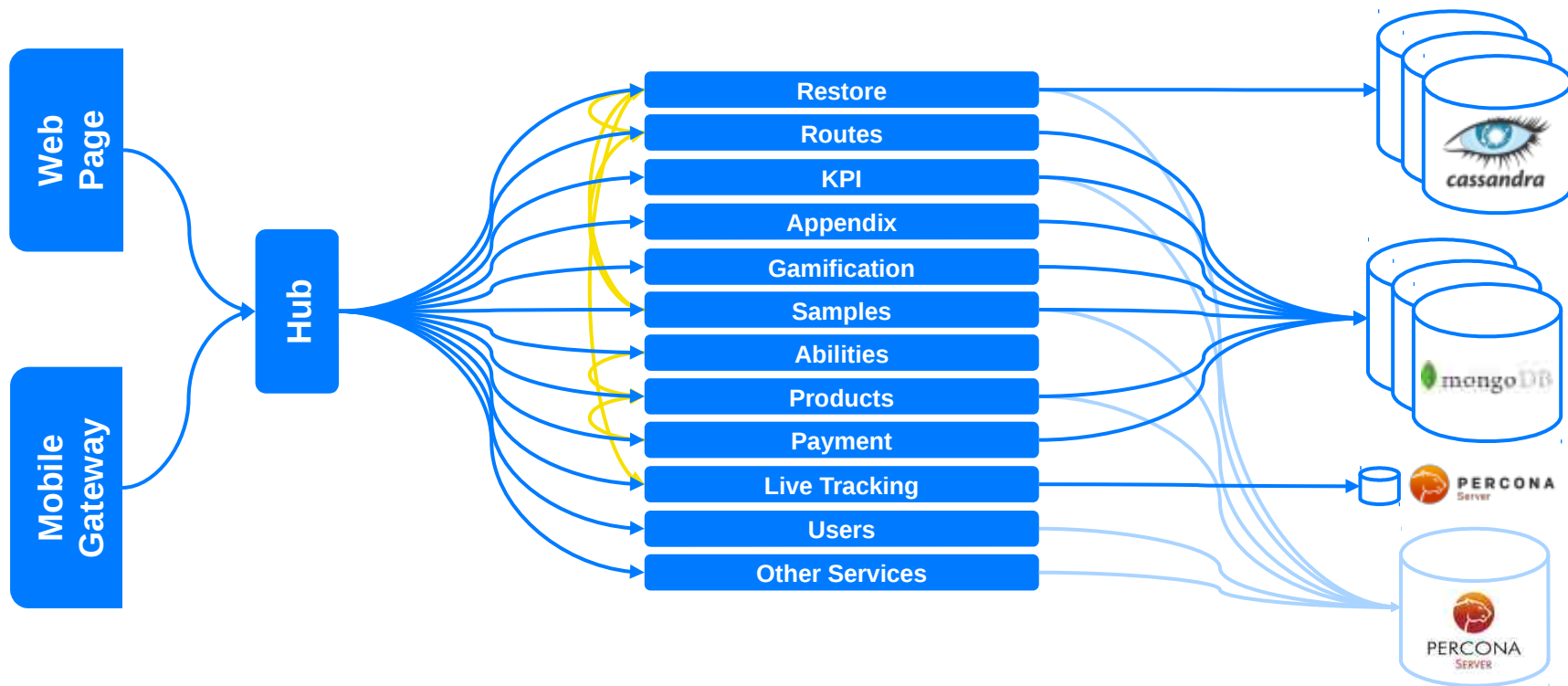
- Dedicated Backend Team (9 People)
- Focus on development
- Close collaboration with operations team
 - Thought alike
 - Mutual understanding
- Scripted deployments done by developers

Operations Department

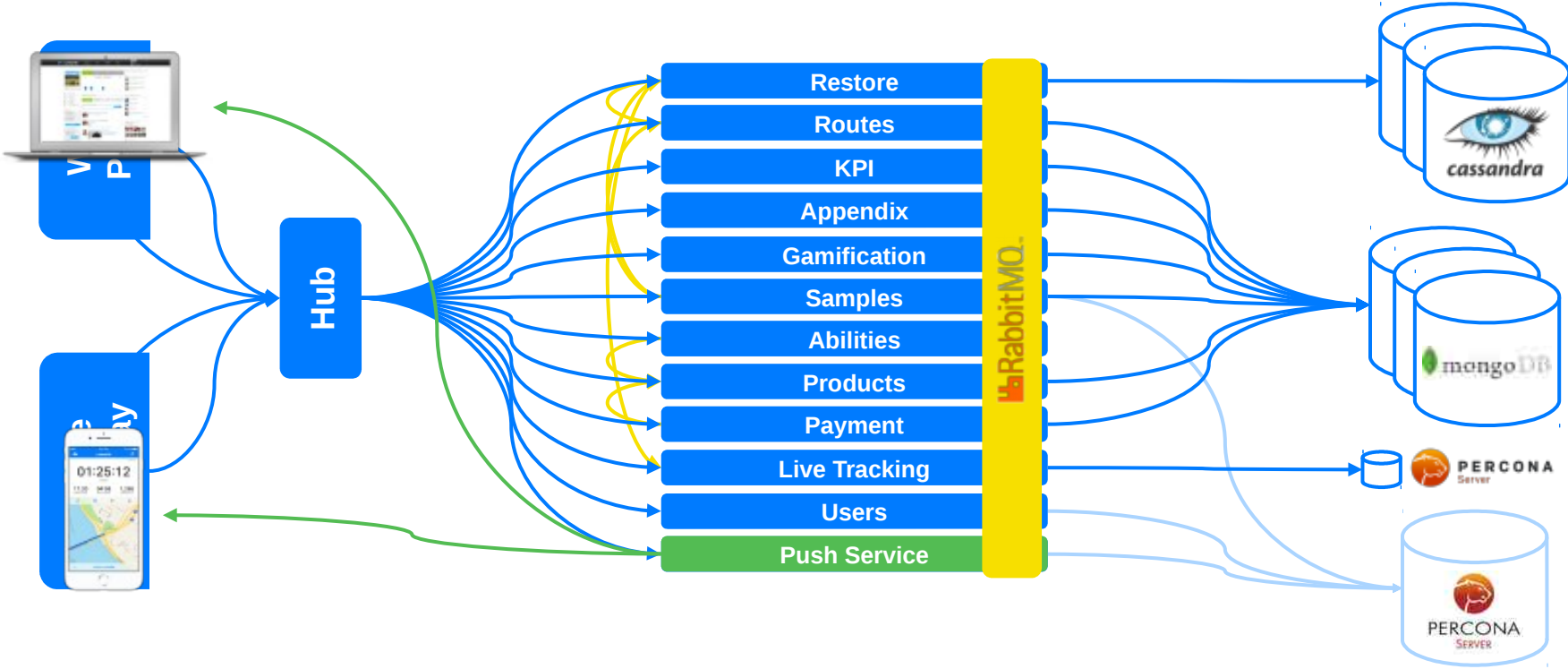
- Dedicated Infrastructure Team (2 People)
- Taking care of infrastructure
- Close collaboration with backend team



2015 - 2016



2015 - 2017



Environment

LINZ AG

Hosting

- Switch from T-Systems to Linz AG
 - Not enough space
 - 2 Cell strategy doesn't fit quorum technologies (MongoDB, Cassandra)
 - Network bottleneck
- Room to grow
- More standardized setup
- More automation
 - Software defined network (Cisco ACI)
 - Software defined storage (Ceph)

Team

- Agile Transition (Backend and Client)
- Dedicated Infrastructure Team (6 People)
- Spread across offices
- Scripted deployments done by developers



Agile Setup



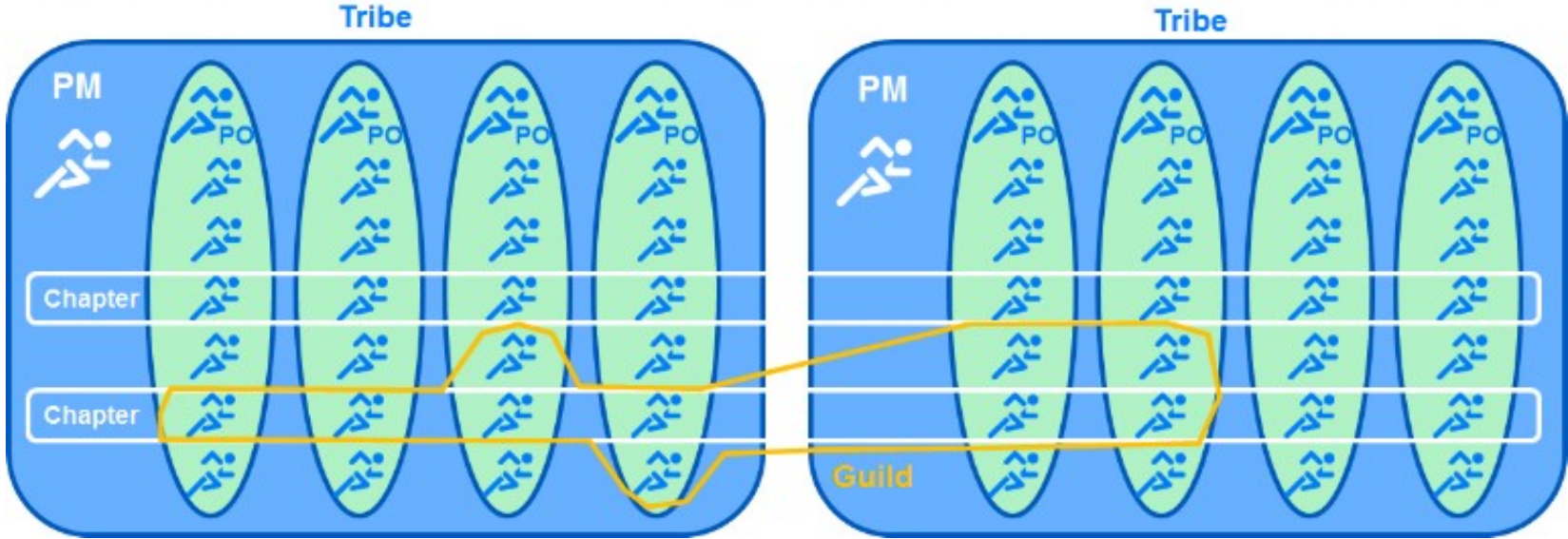
Agile Coach



Roadmap Council



Architects



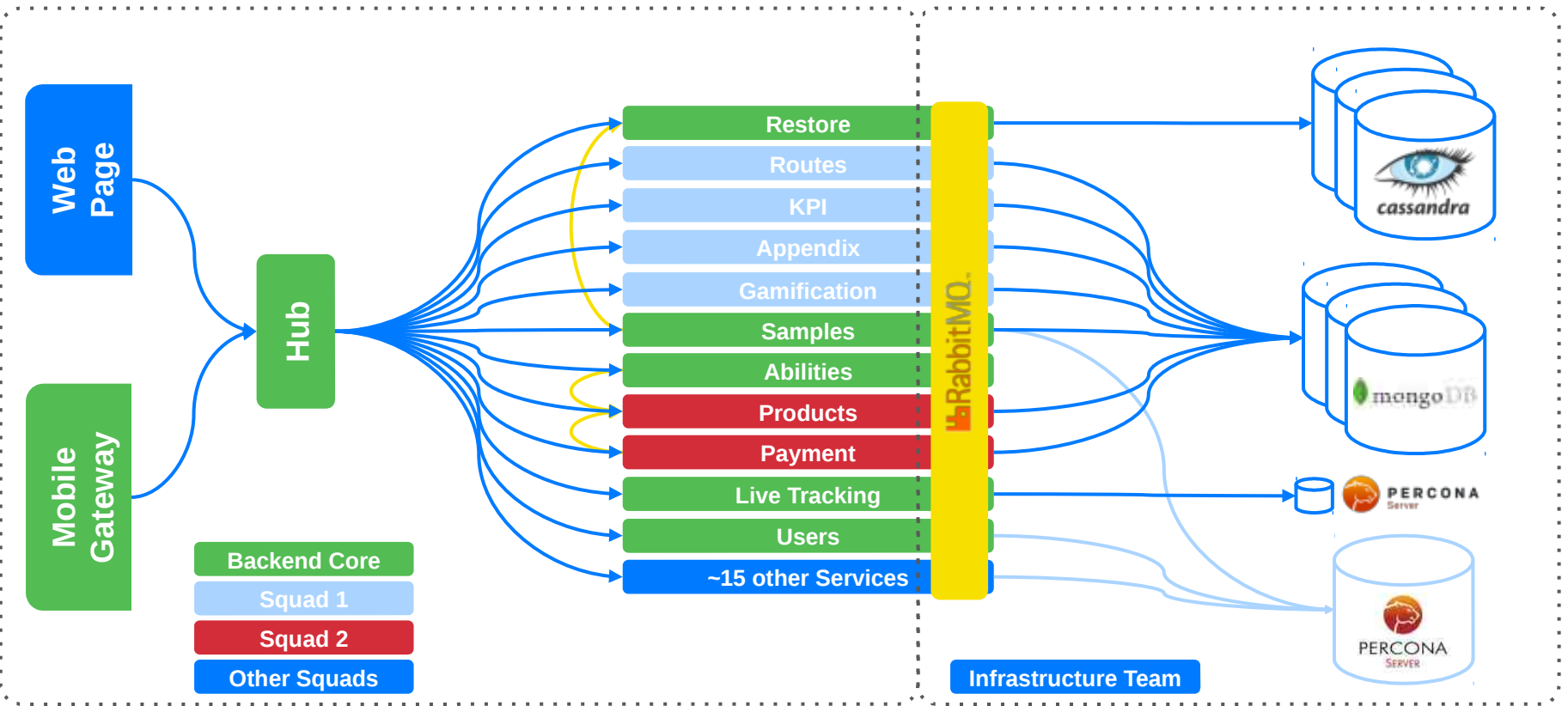
Conway's Law

Organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations.

M. Conway



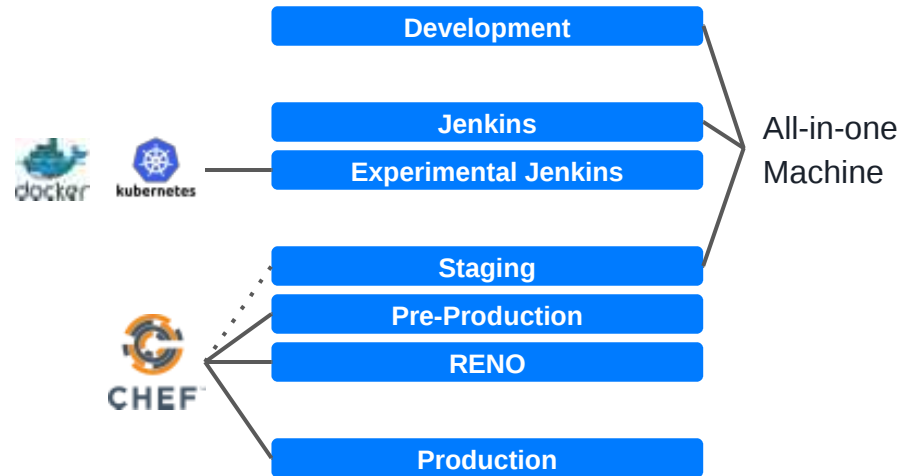
Team assignment



Deployment

Current state

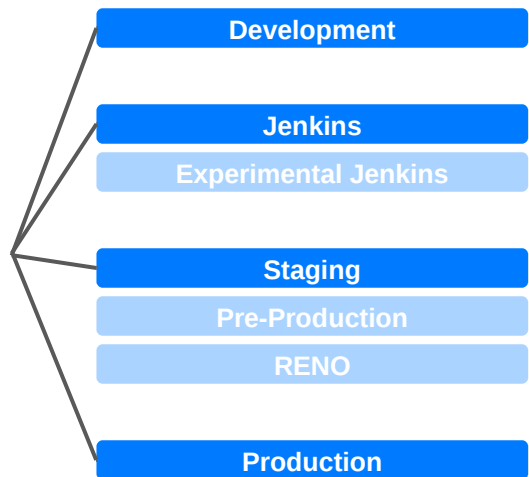
- 7 different setups
- Initial developer machine setup is a pain
- Chef not consistent over environments
- All-in-one machines need to be huge
- Manual deployments
- Single datacenter



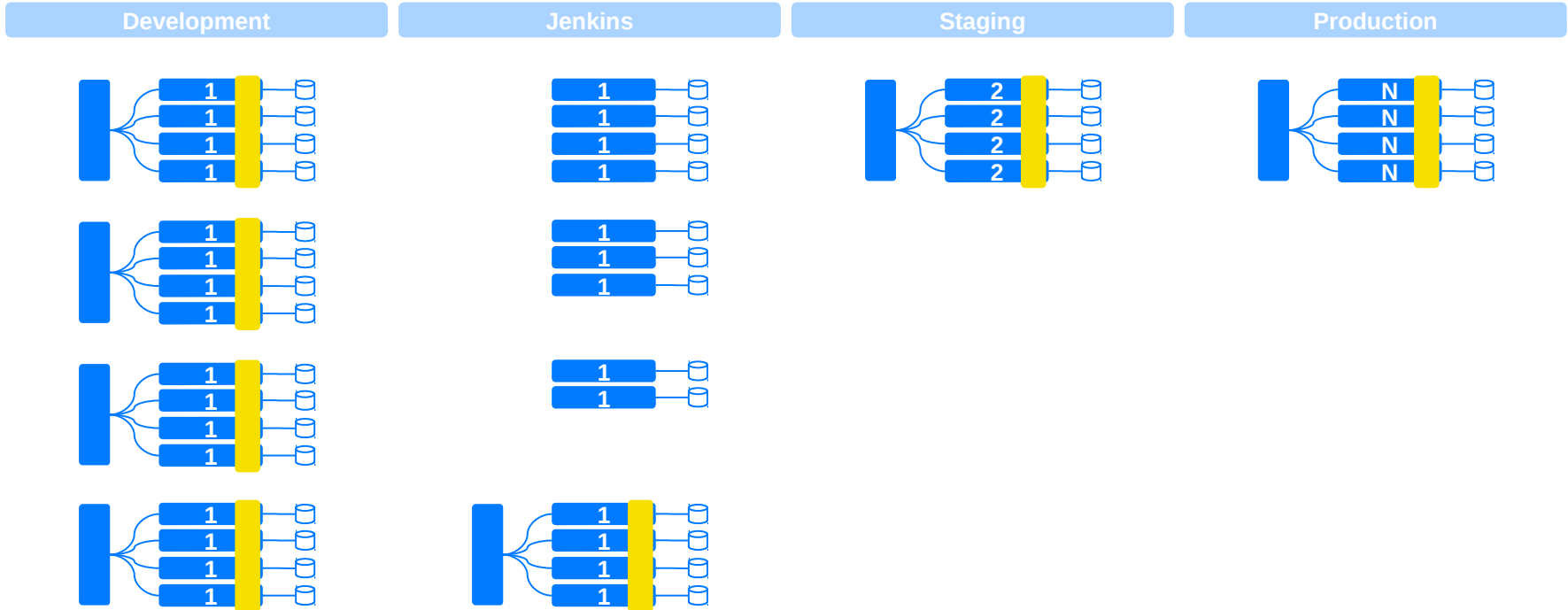
Deployment

Future plans

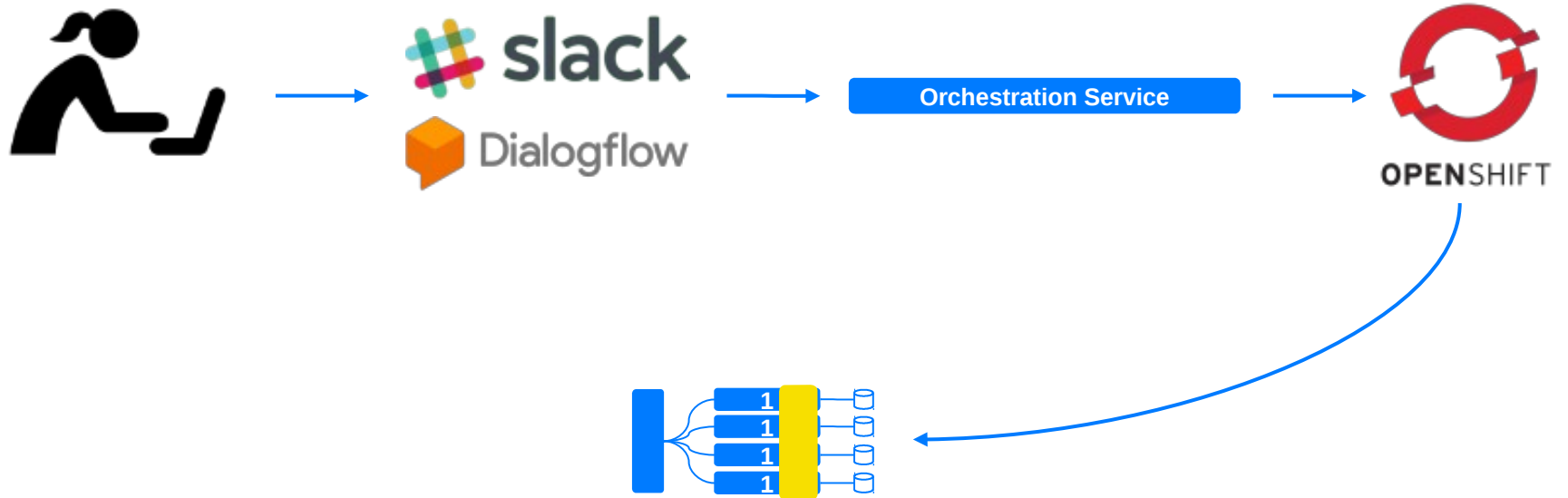
- Provide one way to deploy services in any environment
- More flexibility and responsibilities for squads
- Better fit for Agile process
- Less maintenance overhead
- Proper automation
- CI/CD
- Multi data-center



Deployment



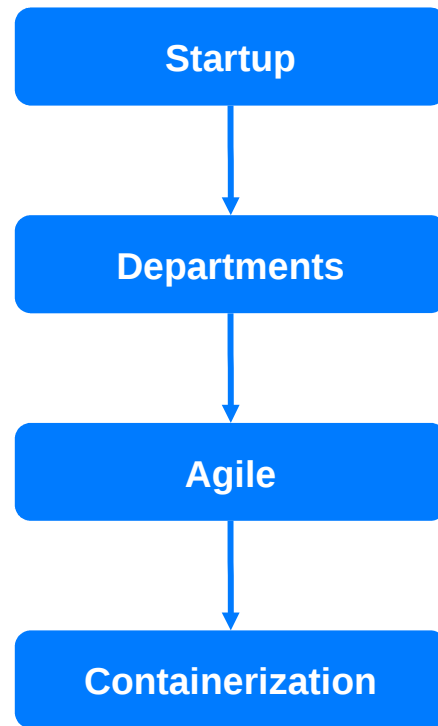
Deployment



Conclusion

Values

- Work well together
- Think alike
- Avoid silos
- Clearly defined and shared responsibilities
- Automation is key to scale
- Measure application performance





@lasssim



@lister



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THANK YOU

techblog.runtastic.com

