

# Agile Software Engineering and Pair Programming at Cloud Foundry

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# Agenda

Introduction

Pair programming

Meetings

Challenges

# INTRODUCTION

# Cloud Foundry

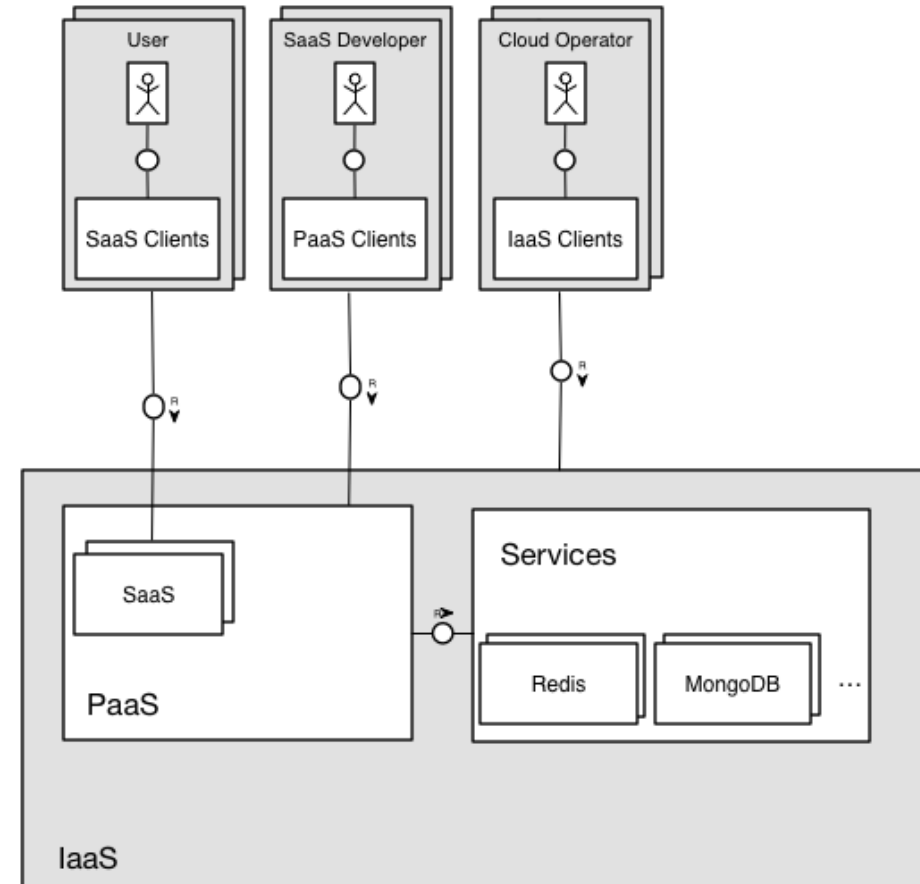
Infrastructure as a Service (IaaS)

Platform as a Service (PaaS)

Software as a Service (SaaS)

Cloud Foundry

- PaaS
- Application development made easy
- Defines service APIs



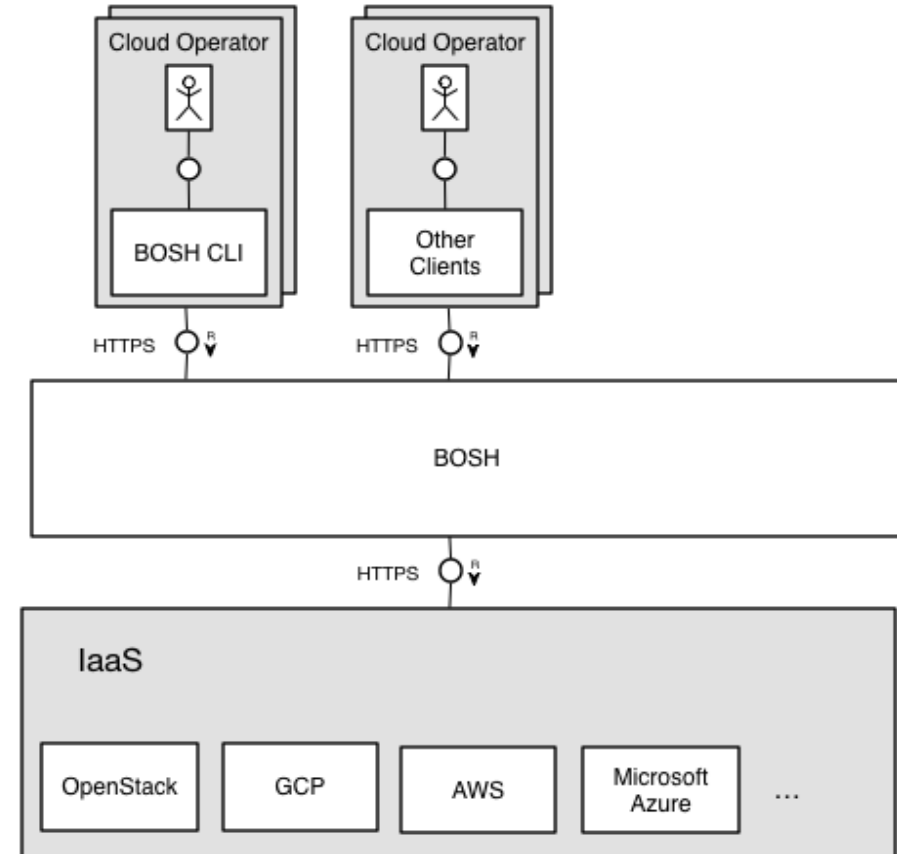
# BOSH

Release engineering

Deployment to supported IaaS

Software lifecycle management

- Monitoring
- Failure recovery



# Cloud Foundry Foundation

Nonprofit organization

Intellectual property

Cloud Foundry adoption

- Conferences
- Trainings
- Certification

Contributors

Cloud standards

# Cloud Foundry Dojo

Remote pairing interview

Six weeks pairing

- Dedicated team
- With committers

Committer

One year commitment

# BOSH Team

1 PO + 8 Developers

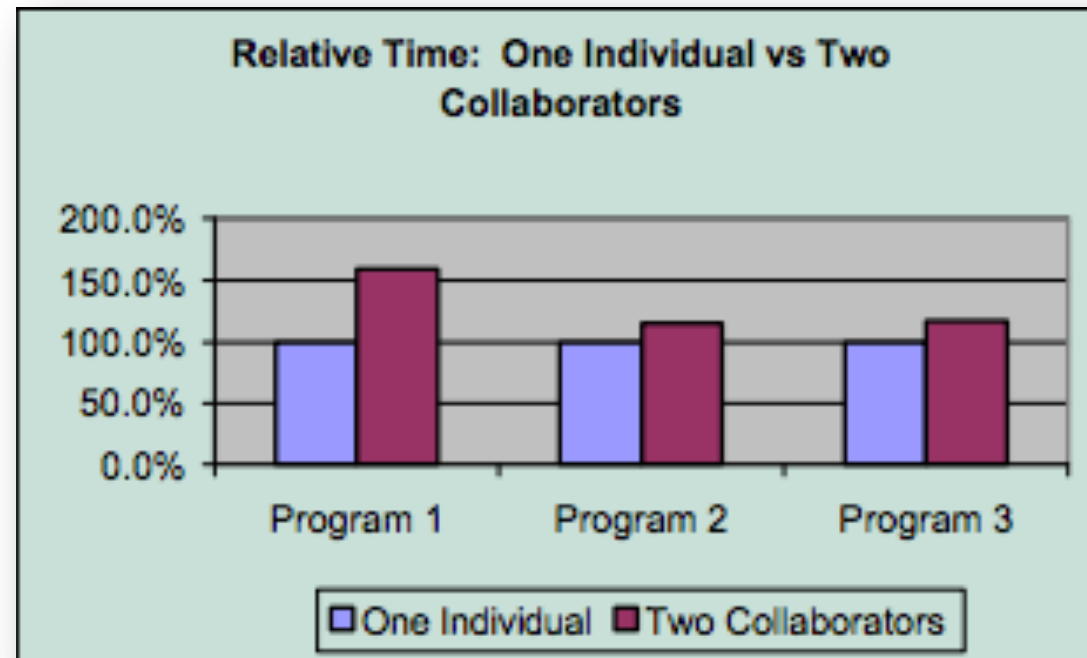
DevOps

- BOSH committer
- SAP internal development
- BOSH as a service for SAP



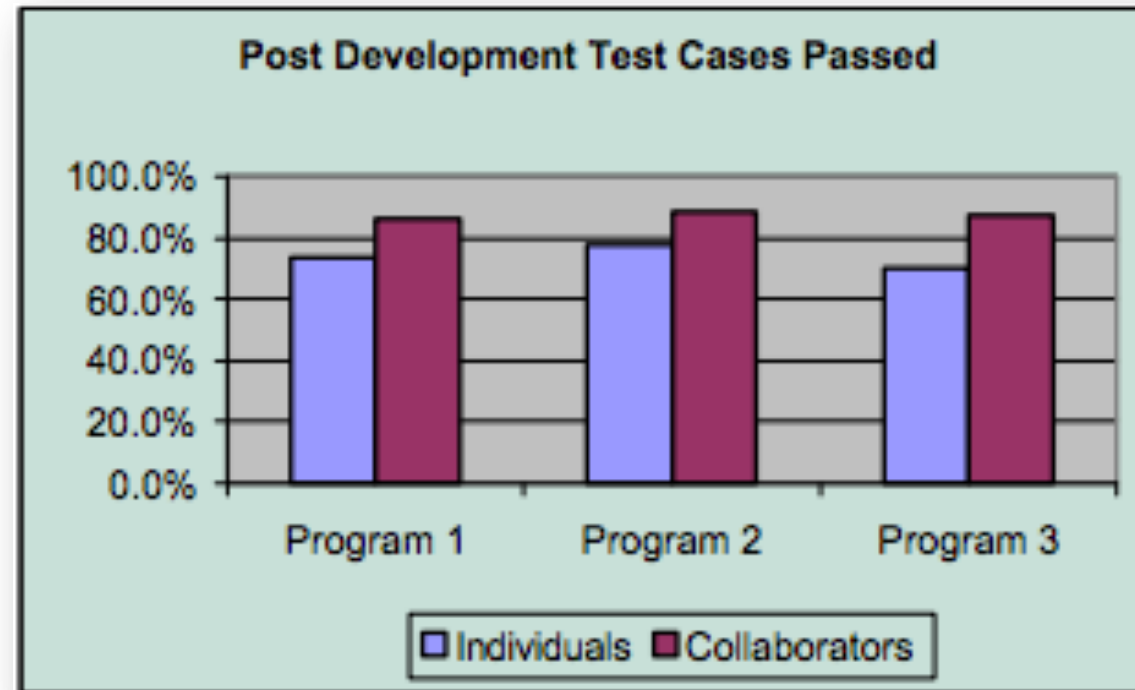
# WHY PAIR PROGRAMMING

# Productivity



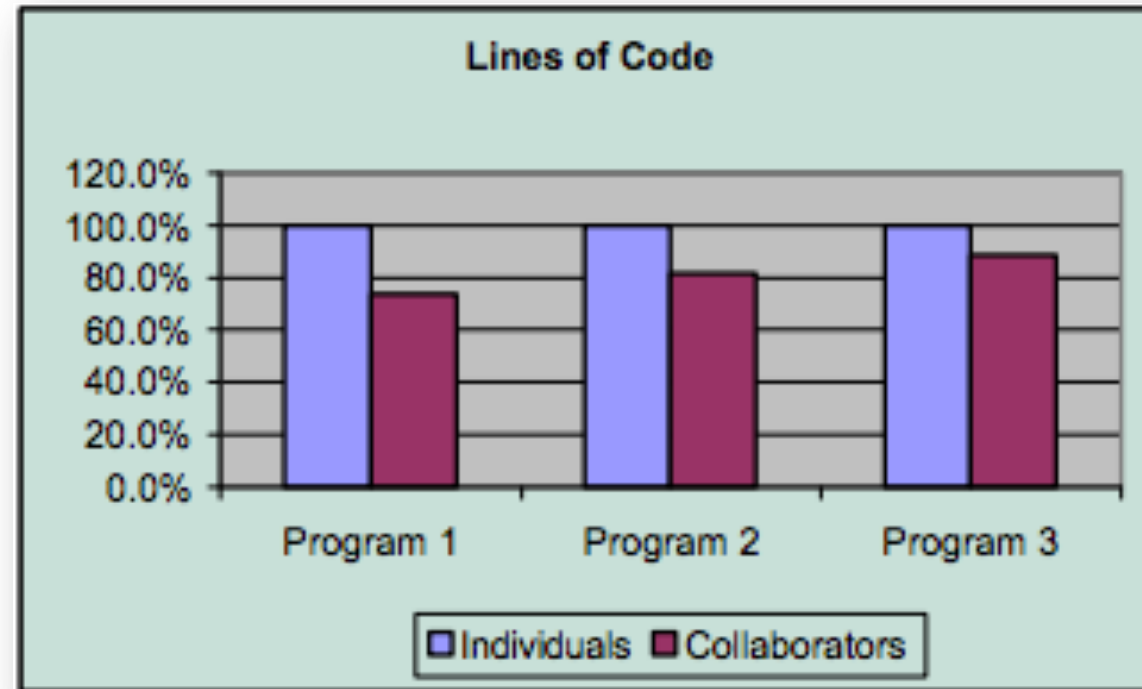
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# Quality



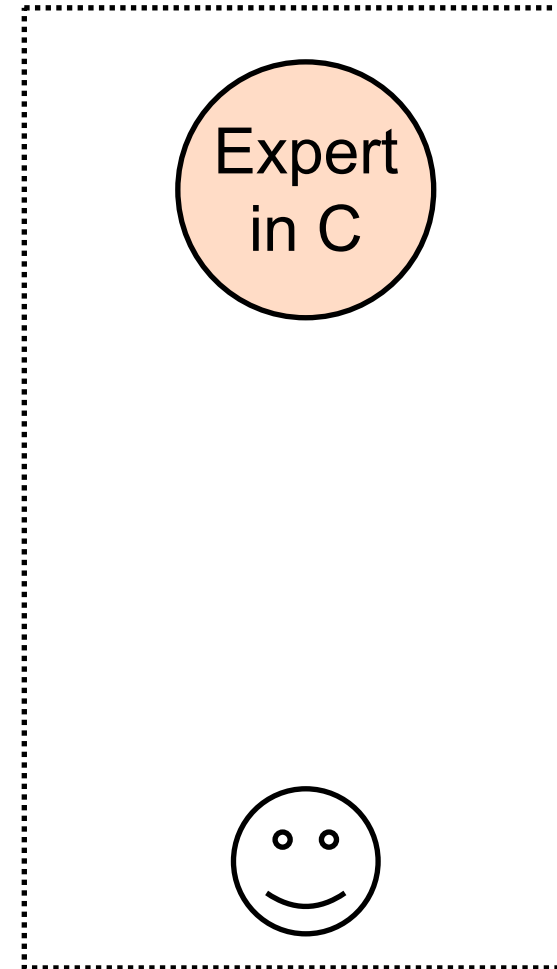
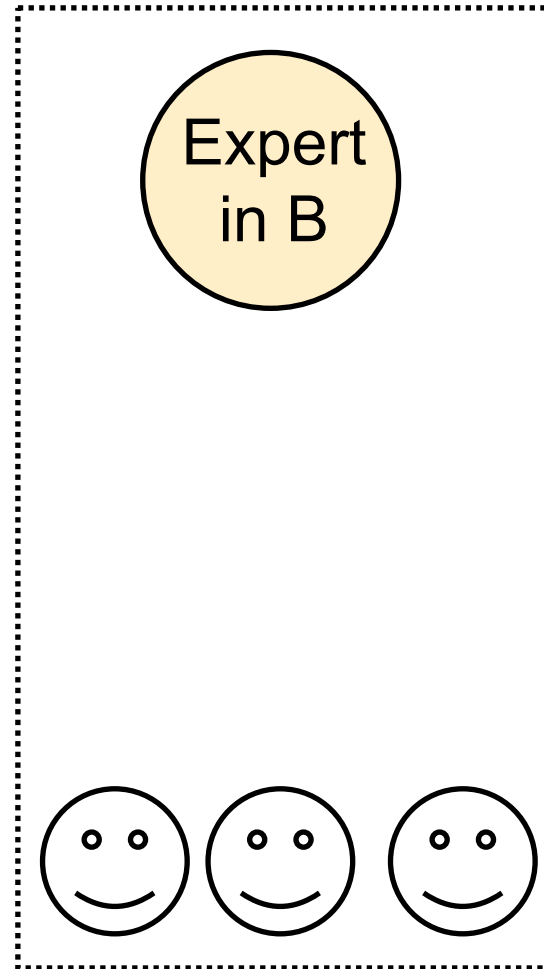
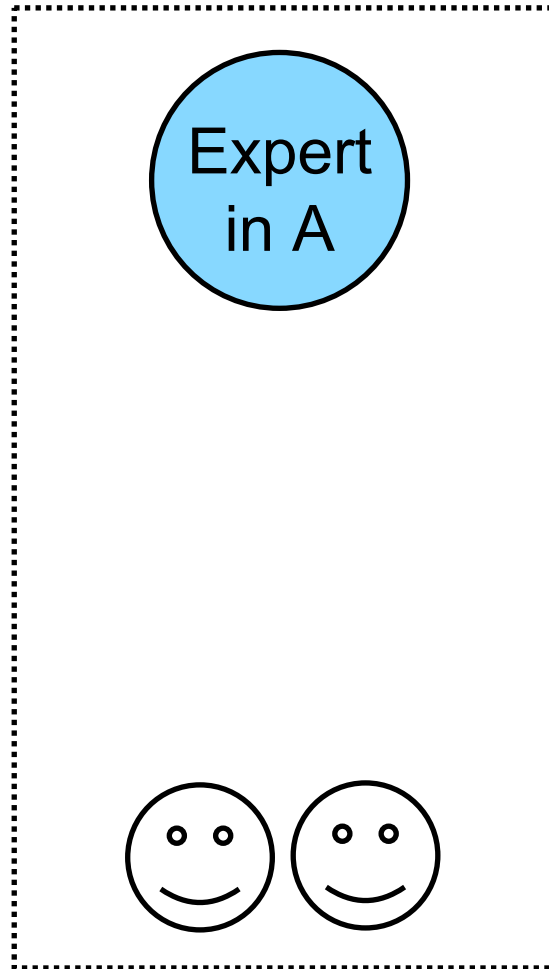
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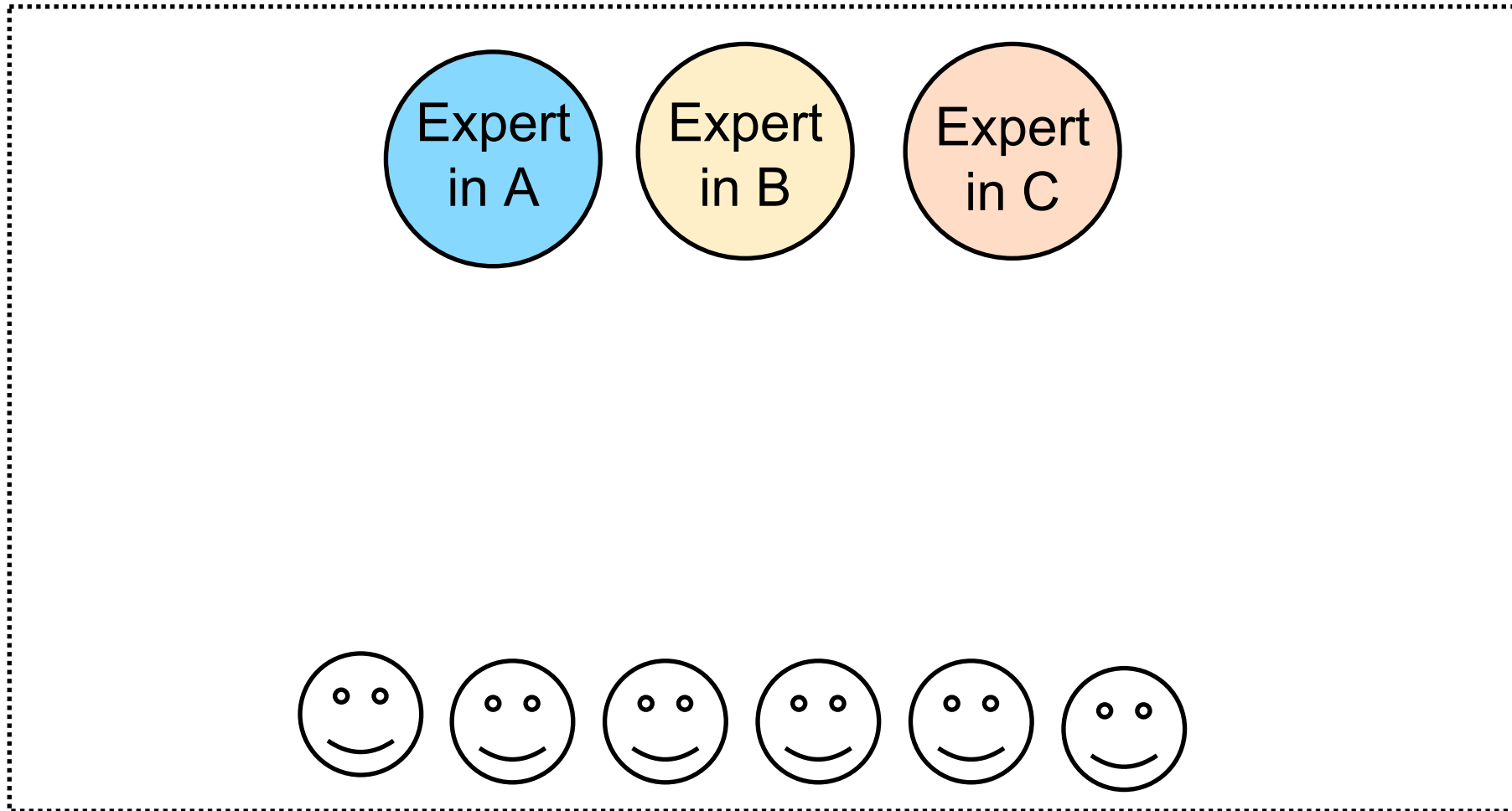


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# Knowledge Distribution and Code Ownership



# Knowledge Distribution and Code Ownership



# Onboarding of New Colleagues

”I feel productive from the first day”

# Pairing Advantages

Vacation

Test Driven Development

Satisfaction

Increased focus



# How

# Pair Programming

All day long

- Mails
- Daily
- Pairing
- Lunch
- Pairing
- Mails

Skip pairing

Explore new technology

No code review

# Pair Programming Setup

Two monitors and keyboards

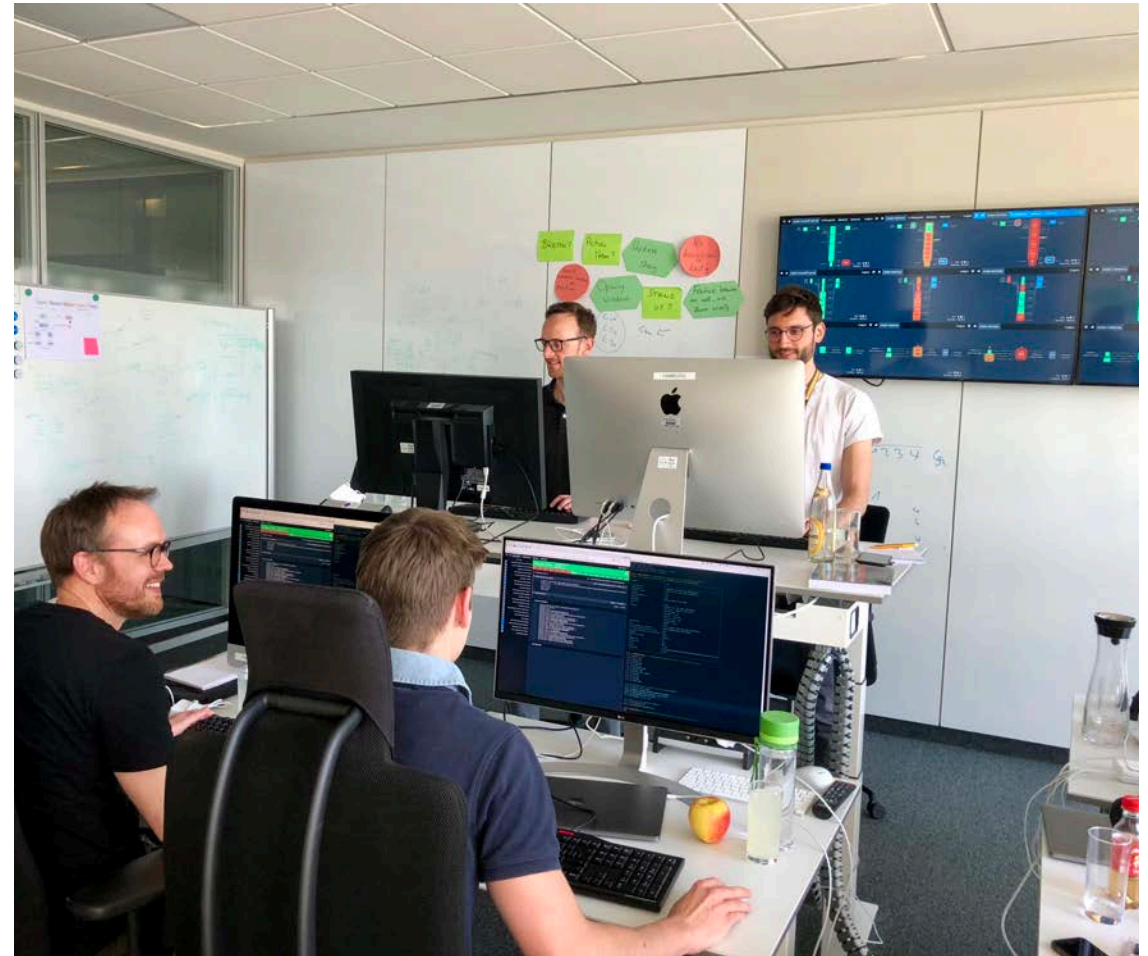
- Mirrored monitors

Non-personalized equipment

- Except keyboard and mouse

Same tools setup on each workstation

No dedicated workstation for a pair



# Remote Pair Programming

## Screen sharing

- MacOS screen sharing, Slack or Zoom

## Console sharing

- tmux

## Discussions over speaker or conference call

## Virtual team board

# Rotation

Every day

Keep story context

Automated

Pair roles assigned

- Interrupt, build, community

# Focus

## Interrupt pair

- Operation
- Continues integration pipelines
- Community questions

## Weekly rotation

# MEETINGS

# Planning

Weekly

Story presentation and discussion

Estimation

No detailed task planning



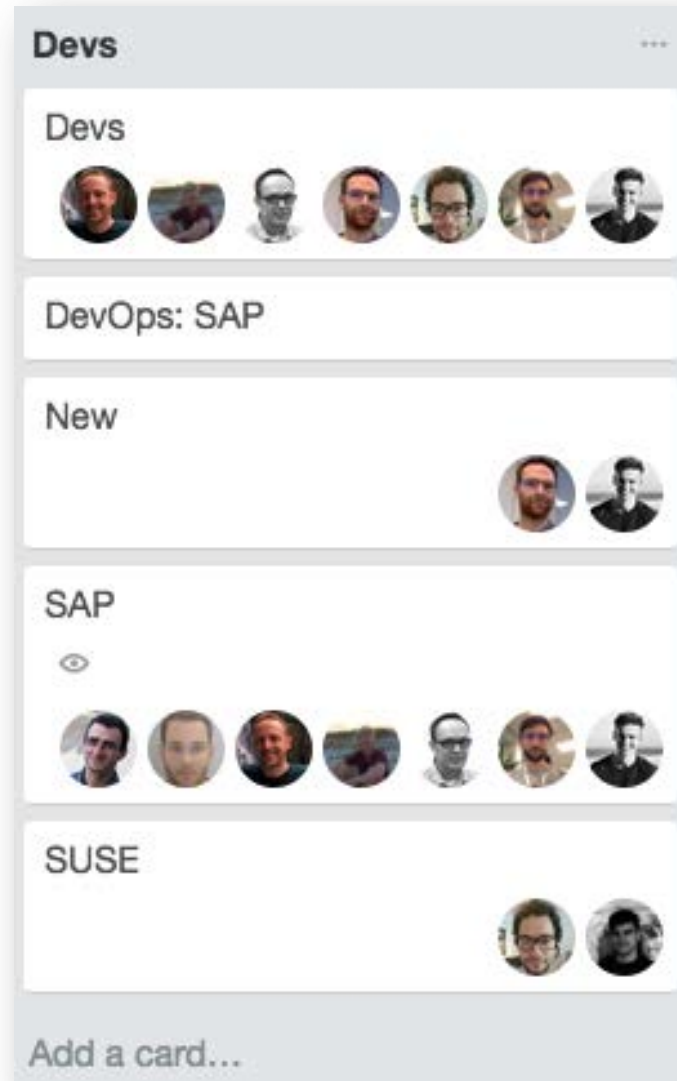
# Daily

Scrum questions

Helps/Interestings

Pairs generation

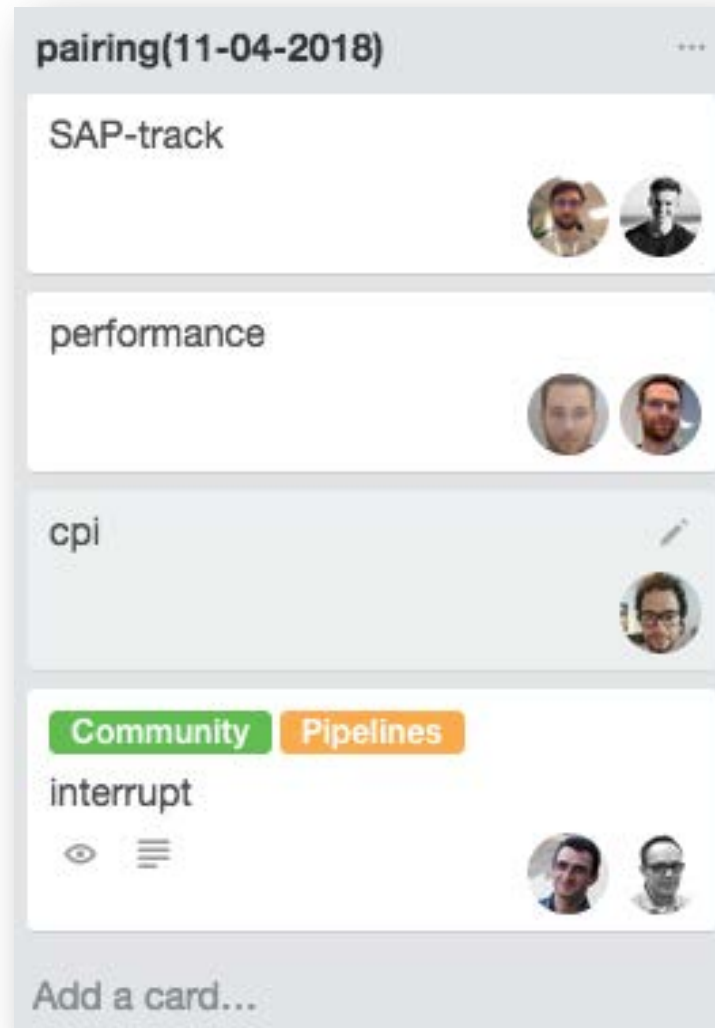
# Pairs Generation



# Pairs Generation

Tracks
SAP-track
performance
cpi
openstack-compatibility-testing
cf-deployment
pipeline
generic-config
onboarding-material
top-of-backlog aka TOB

# Pairs Generation



# Retro

Weekly

Good/Neutral/Bad

Action Items

# No Review

Rotation spreads the knowledge

No need for the Product owner

Product owner takes care of stakeholders

# Challenges

# Challenges

Everyone in team enjoys pairing

Working in pairs is different

Give up on your special role

Give up on your special setup

Plan your time better



# Questions?

# Thank you.

**Beyhan Veli**  
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# Links

## Cloud Foundry Foundation

- <https://www.cloudfoundry.org/>

## Cloud Foundry projects

- <https://github.com/cloudfoundry>

## Pairing study

- <https://collaboration.csc.ncsu.edu/laurie/Papers/XPSardinia.PDF>

## Pair distribution app

- <https://github.com/SAP/pair-distribution-app>