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Insurance Solutions House AG

Building Products with DevOps Philosophy

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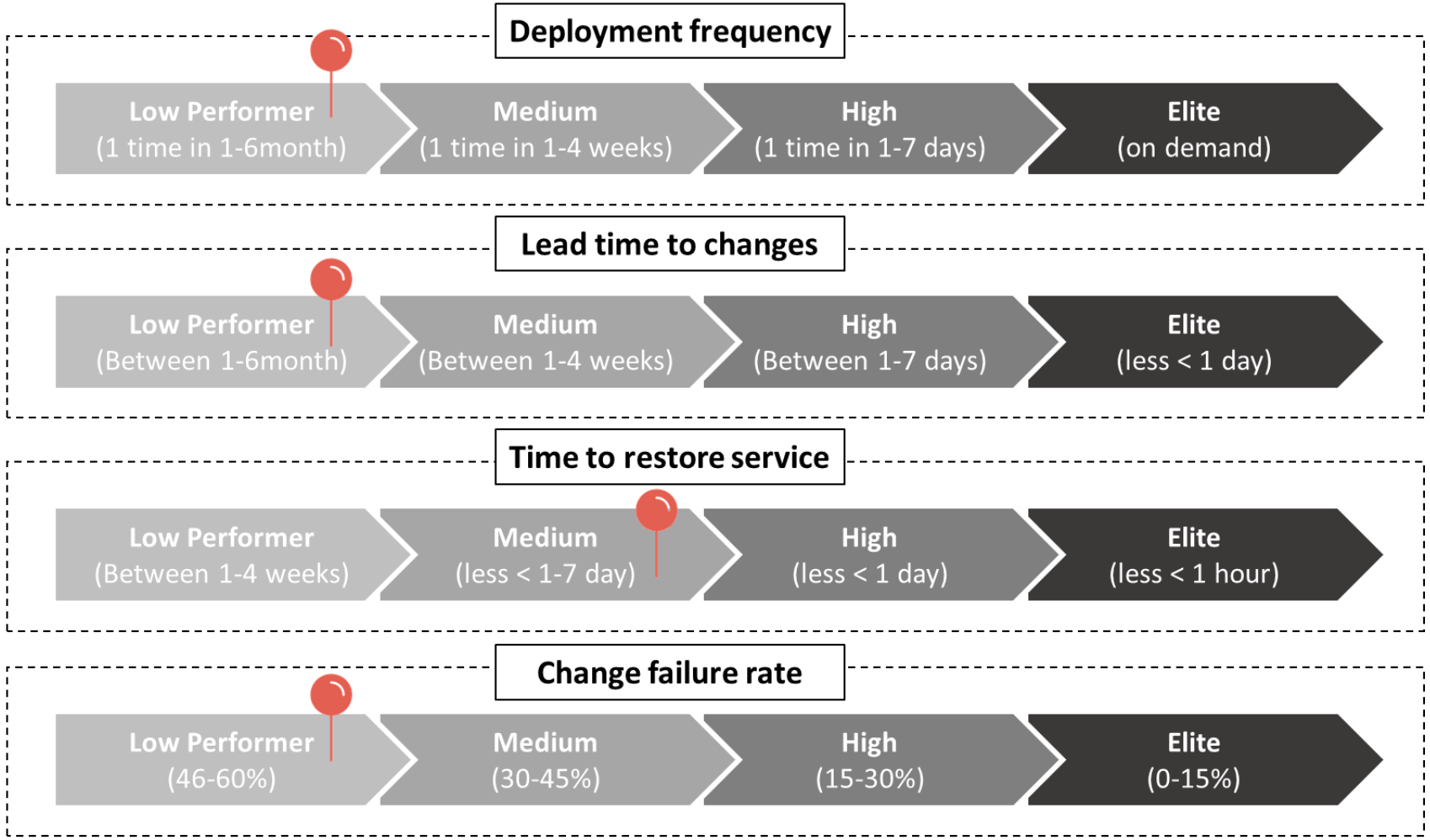
Agenda

1. Benchmarking of our Software Lifecycle Management
2. What is DevOps?
3. Our next release: Mobile application for car insurance
4. Traditional Approach vs. DevOps Approach
5. Summary

Benchmarking our Software Lifecycle Management

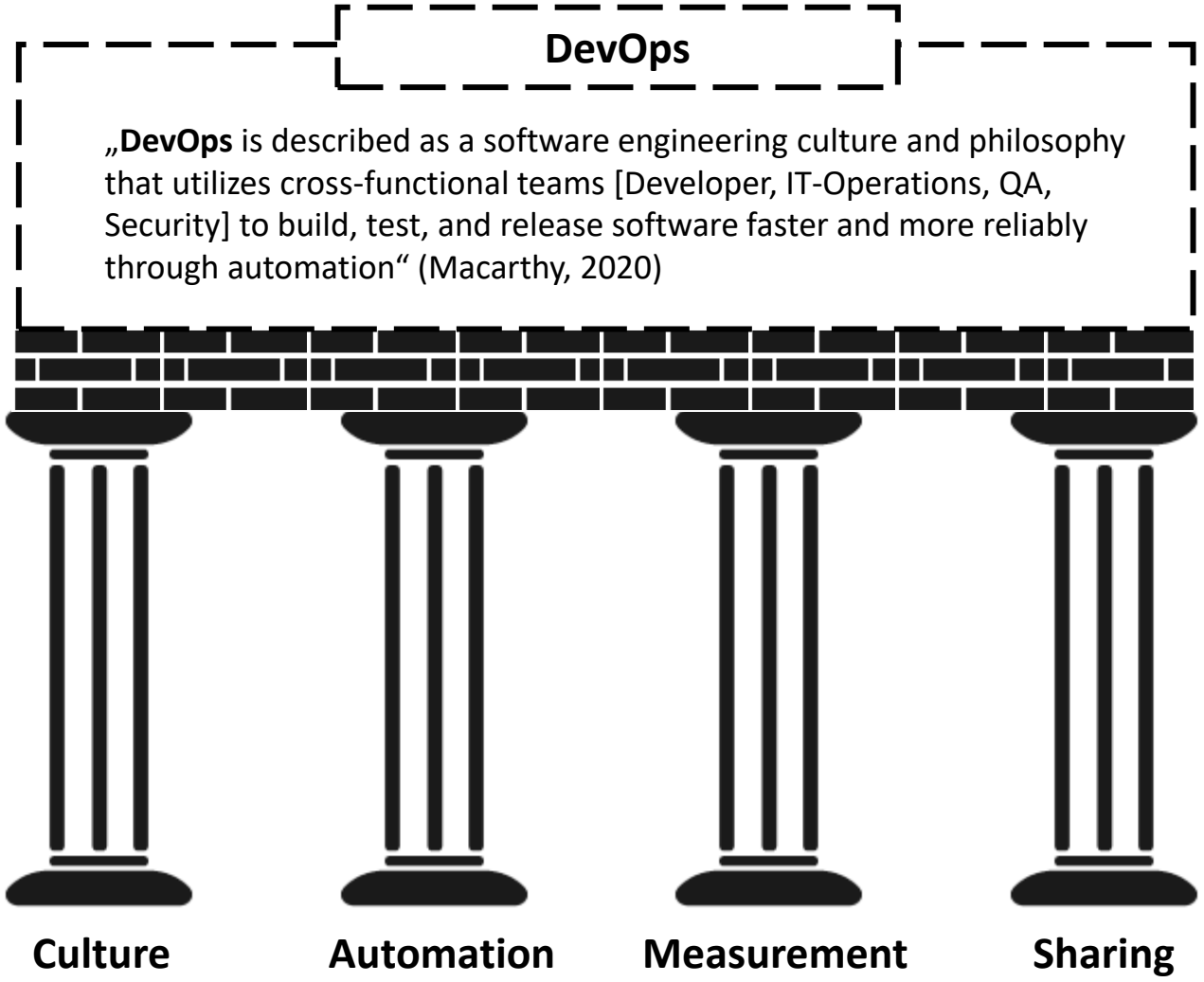
98% of the elite companies incorporate DevOps philosophy!

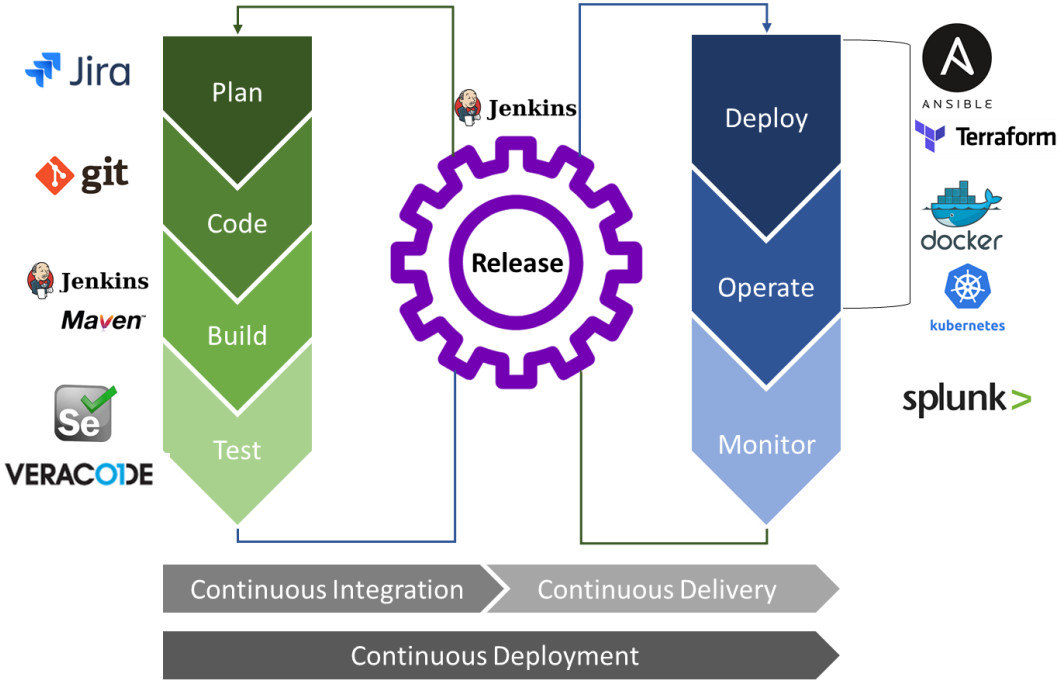


Our position

Portman(2020), Puppet(2015)

What is DevOps?





Macarthy (2020), Halstenberg (2020), Lwakatare (2016), Fernandez (2015) , Hüttermann (2012)

What is DevOps?

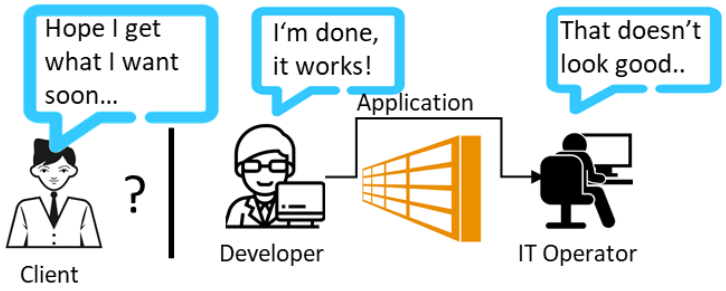
High level comparison: Traditional Software Lifecycle Management vs. DevOps

Traditional Approach

- ➢ Culture of collaboration
- Skill centric silo organization (functional organization)
- Extensive alignment & central planning is needed
- Conflicting objectives (developers: agility & innovation versus IT Operators: stability & optimization) leading in poor collaboration
- Business Stakeholder are poorly included in the software development process

- ➢ Degree of automatization
- Low automation of workflows and processes
- Manual Configuration of production environment
- Mainly manual testing

- ➢ Access to shared information between departments is limited

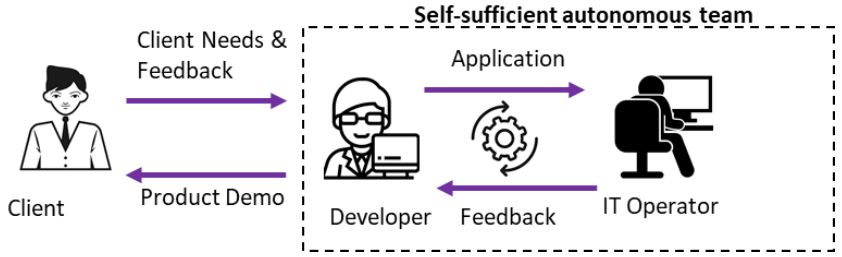


DevOps Approach

- ➢ Culture of collaboration
- Cross functional teams (streamlined organization)
- Releases are teamwork with shared commitment towards product
- DevOps as a culture to bridge different objectives of Devs & Ops
- Business Stakeholder are included in the software development process

- ➢ Degree of automatization
- High automation of workflows and processes
- Infrastructure as code: Automated provisioning, configuring & managing infrastructure
- Fully automated test

- ➢ Developers have real time access to troubleshooting information



Halstenberg (2020), Kapadia (2015), Lawakatare (2016), Farcic (2016), Fernandez (2015)

Our next release: Mobile application for car insurance

Staying ahead of our competitors

Market Position

- Europeans leading software developer for car insurance market
- Sales Teams in 16 Countries in EU
- Generates 25% our sales & 30% our earnings

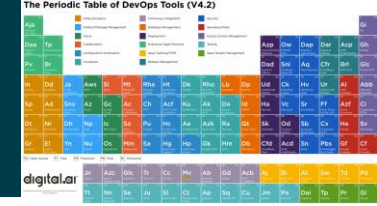
Market Research

- Increasing competition through FinTechs
- Market share decreases 2% (YtD)
- Customer complaints
  - Process for contracting takes to long
  - Too much paper-based steps
  - No smartphone App
  - UI not customer friendly
  - Time to market for new releases takes to long

User Requirements

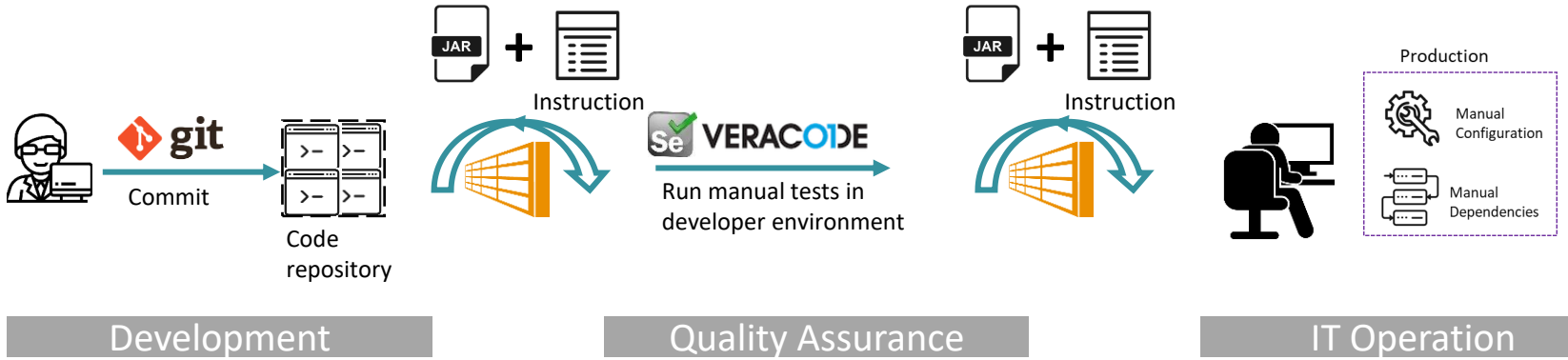
- Mobile Application
- Time to contracting < 30 min.
- Min. 2 small releases each month
- Customer friendly UI
- Go live in 6 month

Traditional vs. DevOps: Build and deliver process



Flow of code: Degree of integration & automation

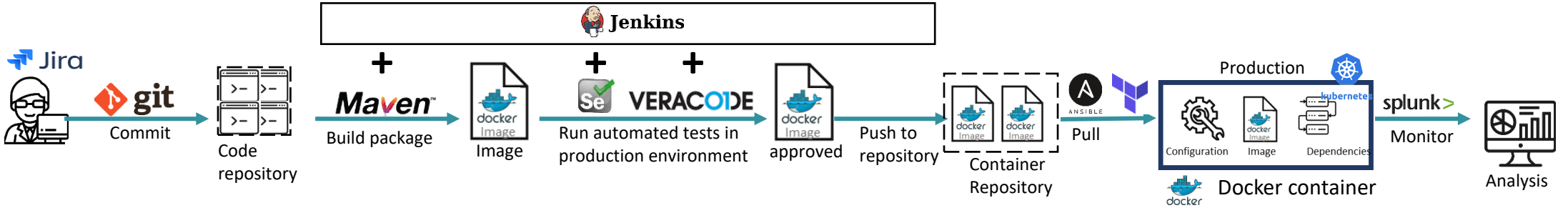
Traditional Approach



Characteristics:

- Discontinuous flow with process interruptions
- Huge amount of work in progress
- Low automation degree
- No feedback loops

DevOps Approach



Plan → Code → Build → Test → Release → Deploy → Operate → Monitor → Plan

CF → Continuous Integration (CI) → Continuous Delivery (CD) → Continuous Feedback (CF)

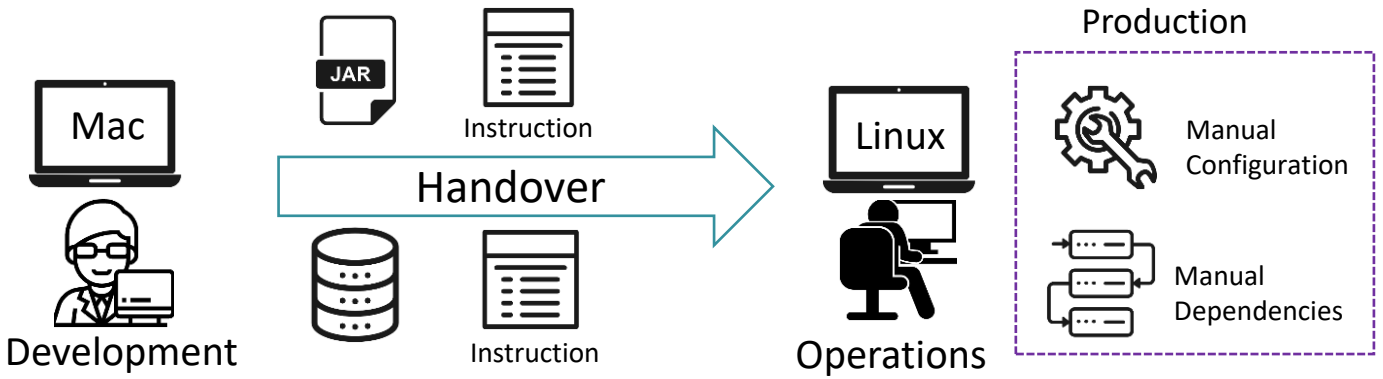
Continuous Deployment (CD)

Halstenberg (2020), Farcic (2016), TheDev(2019), Digital.ai (2020)

Traditional vs. DevOps: Build and deliver process

IT Infrastructure & Deployment process

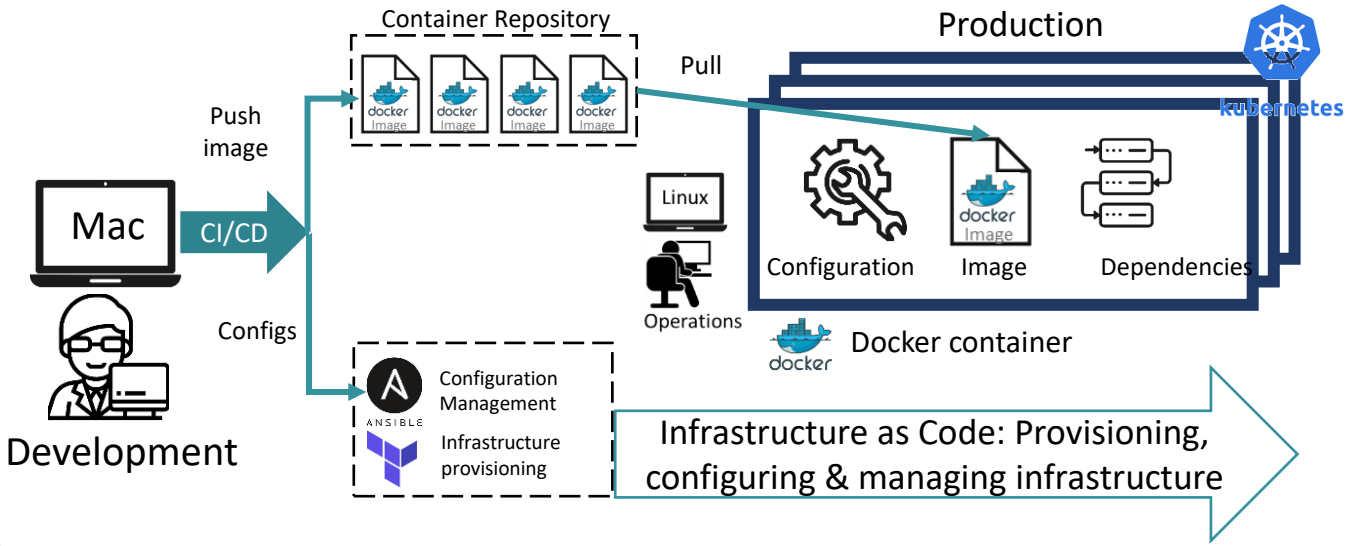
Traditional Approach



Summary:

- Manual provisioning, configuring & managing infrastructure
- Installation complexity of services is high
- Configuration & installation in life production
- Possible conflicts with dependencies are likely
- Instructions can be misunderstood

DevOps Approach



Summary

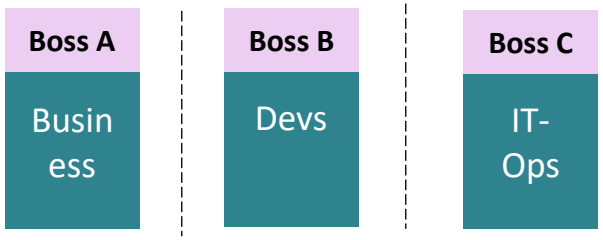
- Container: isolated environment, all necessary dependencies and configurations included, one command to install
- Infrastructure provisioning automated with Terraform
- Configuration management automated with Ansible
- Scalability with Kubernets
- Deployment of image with just one click (cont. delivery)
- Fully automated deployment is possible (cont. deployment)

Janashia(2020A-C), Farcic (2016), Pumperla(2020)

Traditional vs. DevOps: Team composition

Traditional Approach

Organization Structure



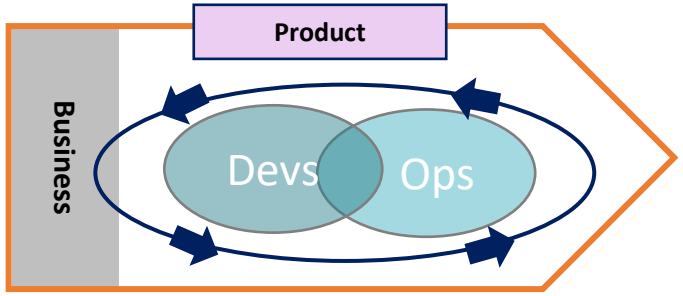
- Skill centric silo organization
- Commitment towards function

Team structure & Culture

- Commitment towards function not product
- Central scheduling
- No end-to-end product vision
- High-qualified engineers (experts in one area)
- Multi management (each silo has a leader)
- "Do not fail" culture
- Huge alignment effort needed
- Dismissive information sharing
- Definition of done: "I did my job"

DevOps Approach

Organization Structure



- Streamlined organization
- Cross functional teams: mixed personal (Devs & Ops)
- Commitment towards product

Team structure & Culture

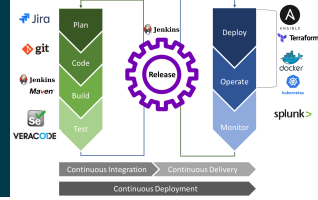
- Small teams working on a micro service (Amazons two pizza rule)
- Product ownership sharing
- End-to-end product vision
- Self-organization & autonomy
- High qualified engineers
- Skills over roles
- Single management (product owner is leader)
- Fail small, early and recover fast to drive innovations
- Strong collaboration
- Definition of done: "Readiness for deployment"

Change management

- Cultural change is severe
- Organizational changes needs strong change leadership
- Learning of new technologies is time consuming

Lwakatare (2016), Macarthy (2020), Halstenberg (2020), Fernandez (2015), Pumperla (2020), Skeleton(2013), Kapadia (2015)

Summary



	Traditional Approach	DevOps
Culture of Collaboration	• Skill centric silo organization • Commitment towards function	• Streamlined organization with cross functional teams • Commitment towards product
Automation	• Low degree of automation	• High degree of automation: CI/CD, Continuous Feedback, Infrastructure as Code, Automated testing
Measurement	• Focus: cost & capacity	• Focus: continuous flow of code, lead time to changes, deployment frequency, time to restore, change failure rate
Sharing	• Dismissive information sharing • Developers have no real time access to troubleshooting information	• Intensive sharing of near-realtime generated actionable information's

Benefits of DevOps

- Strengthen collaboration of Devs & Ops in one cross functional team (incl. security & testing)
- Shared commitment towards product
- Measurable KPIs:
  - Increased deployment frequency
  - Reduction of lead time to changes
  - Reduction of time to restore service
  - Reduction of change failure rate

Drawbacks of DevOps

- Cultural change is severe, need for change management
- Learning of new technologies is time consuming
- Reinvention of processes cost time & resources
- Productivity will decrease in transition phase

My suggestion: Lets go DevOps!

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Q&A

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