



Shifting Left with DevOps

2019

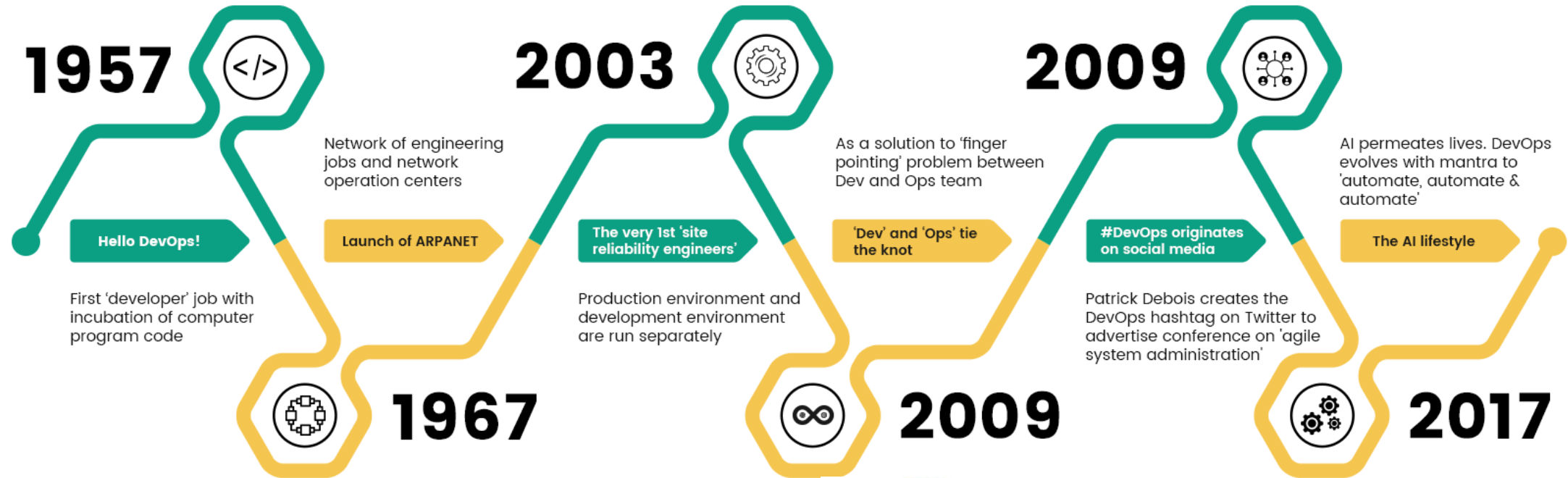
Agenda



- History
- The challenge we have
- End Game
- DevOps Transformation – Focus Areas
 - People: Can people change?
 - Process: Who needs a process
 - Process: Continuous Release Process
 - Process: Automated Pipelines
 - Technology: What's in a pipeline
 - Security
 - Technology: BizDevOps Tools
- Nedbank Examples
 - Multi-stack Deployments
 - XL Release
- Our journey so far
- What's next



History



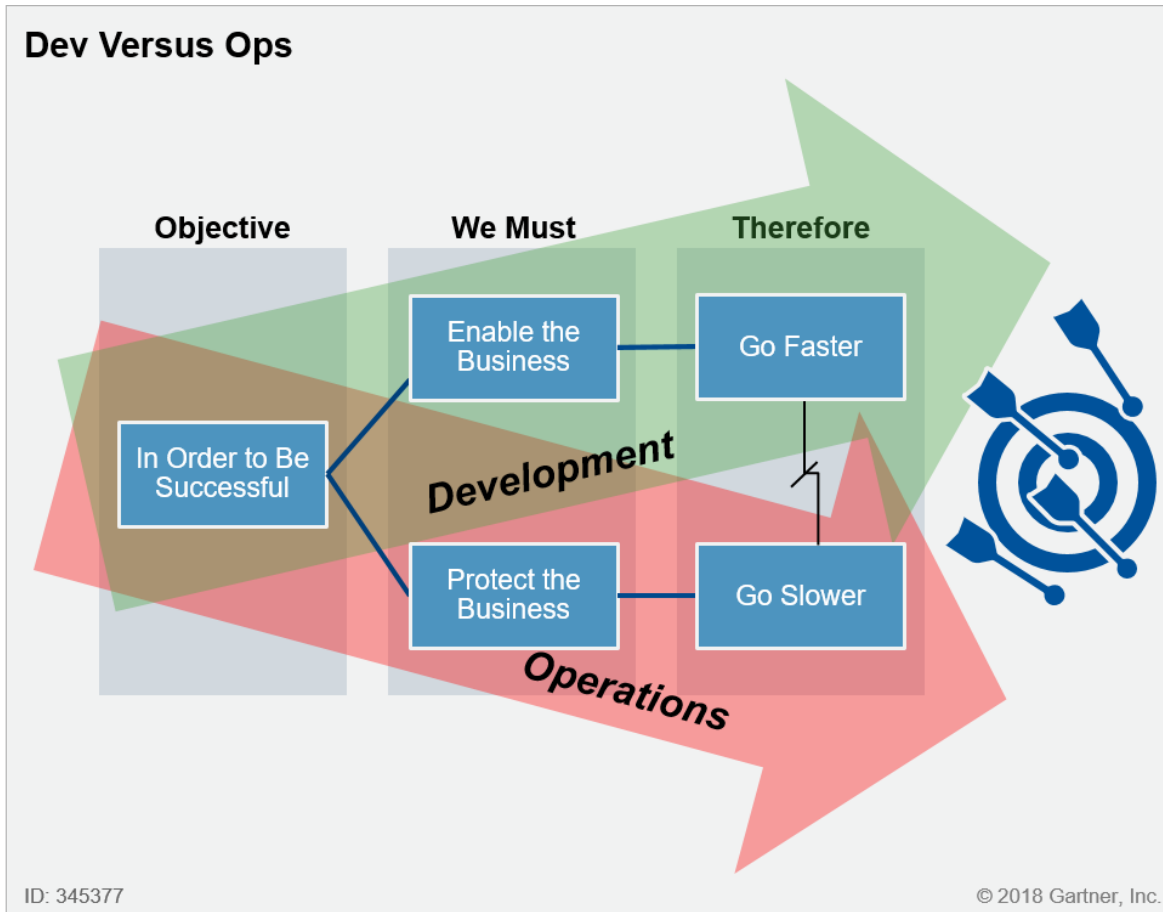
“Automating the automation”



I hope this
deployment is
successful....



The challenge we have



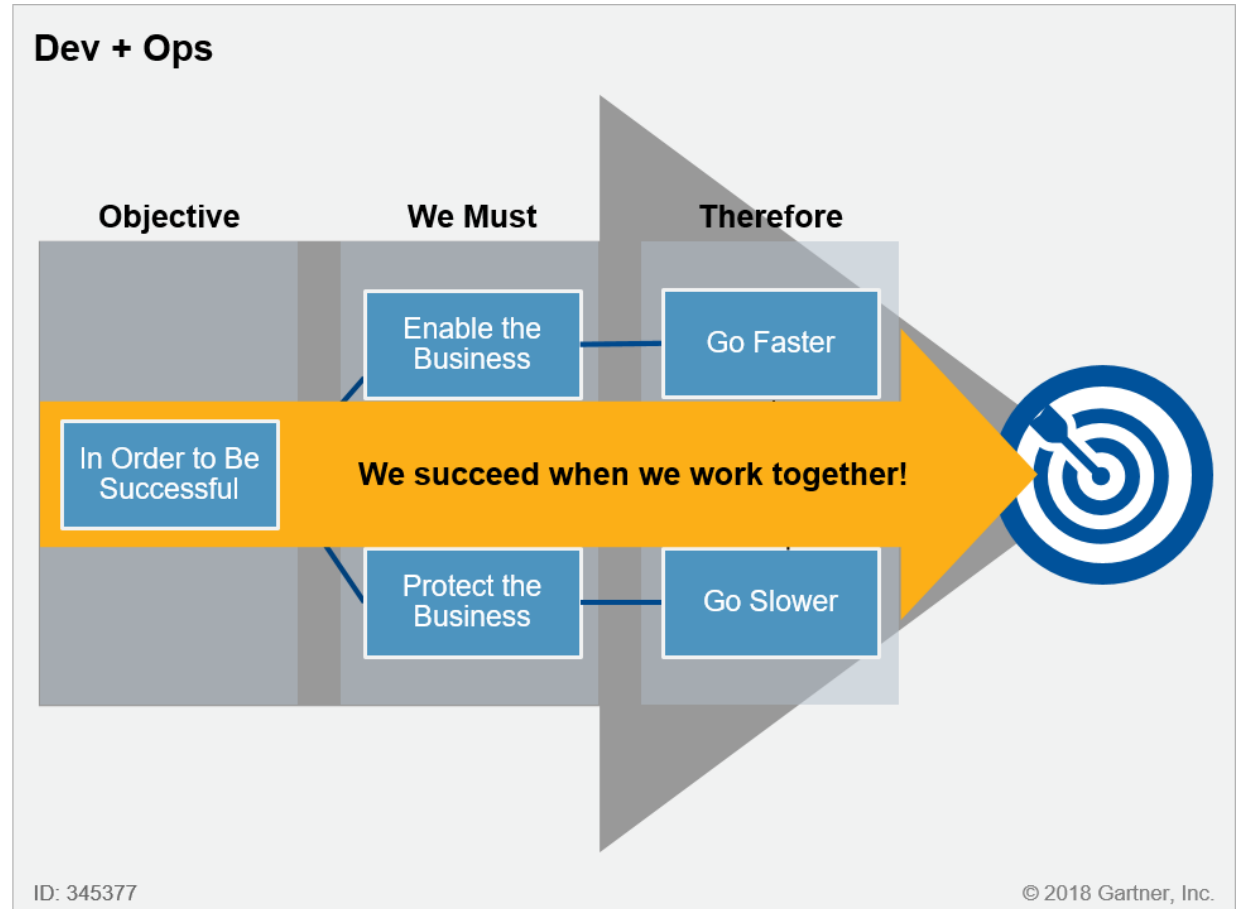
- Security isn't "Left"
- Disparate ways of deploying software
- No release co-ordination
- Silos – lack of collaboration
- Conflict of interest
- Immature engineering practices
- Quality issues
- Instability of environments
- **Chaos**



ENDGAME

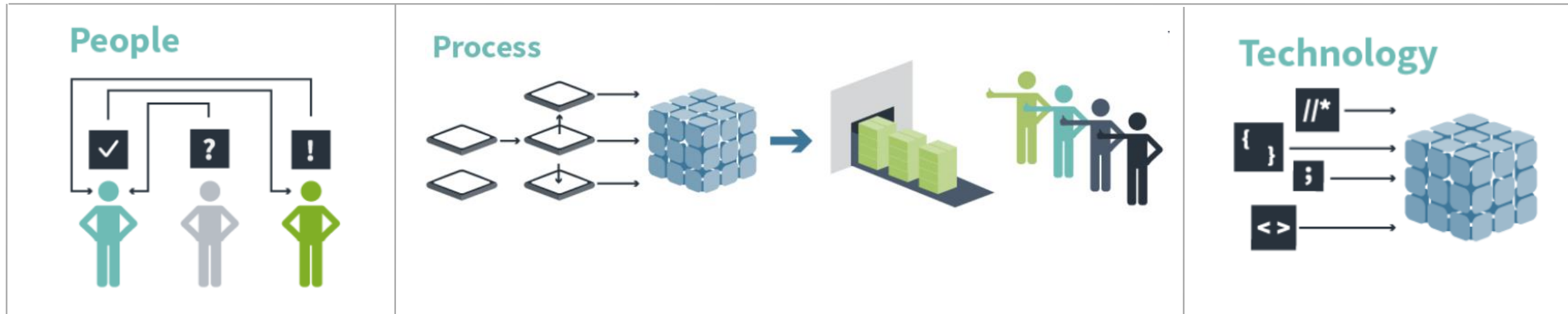
End Game

- Frequent and quality deployments
- Faster time to market – Delight our customers
- Improved release co-ordination
- Mature Engineering practices
- Collaboration between teams
- Creating cross functional teams
- Removing constraints and opening up bottlenecks
- Creating feedback loops
- Improving flow of code
- Accelerated app testing
- 2020 strategy: Digital first, first in digital





DevOps Transformation – Focus Areas



Culture & Sharing | Automation & Tooling | Measurement & Monitoring

People: Can people change?



- “Culture eats strategy for breakfast”
- Nedbanker x.0 – constantly evolving
- “Yes, we can”



Cul·ture noun \ 'kəl-cher \

The beliefs, customs, arts, etc., of a particular society, group, place or time

A particular society that has its own beliefs, ways of life, are etc.

A way of thinking, behaving, or working that exists in a place or organization (such as a business)

Process: Who needs a process

- You! You need a process
- Value stream mapping
- Gaps and inefficiencies
- How Nedbank is implementing DevOps - Internal processes
- Focus area: Delighting our customers





Process: Continuous Release Process



Source



Model



Promote



Deploy



Target

From existing build/
continuous integration

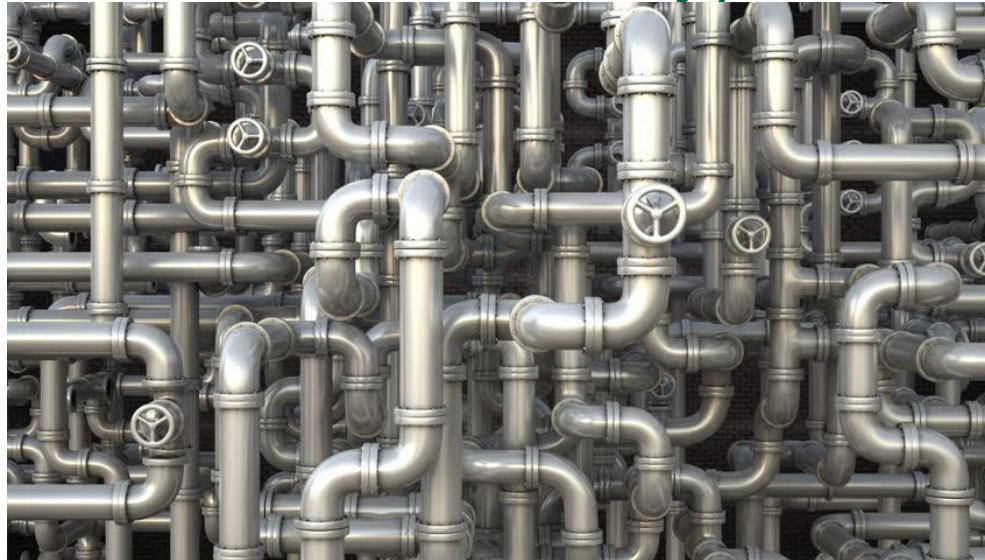
To a continuous delivery/ release
automation system

Onto on-premises, hosted
or cloud infrastructure



Process: Automated Pipelines

- A deployment pipeline is an automated manifestation of your process for getting software from version control into the hands of your users. Every change to your software goes through a complex process involving multiple deployment. The models this incarnation in a integration and management tool see and control the progress of each change as it moves from version control through various sets of tests and deployments to release to users.*



Technology: What's in a pipeline



Predictability | Repeatability | Efficiency | Consistency | Quality | Velocity

Security

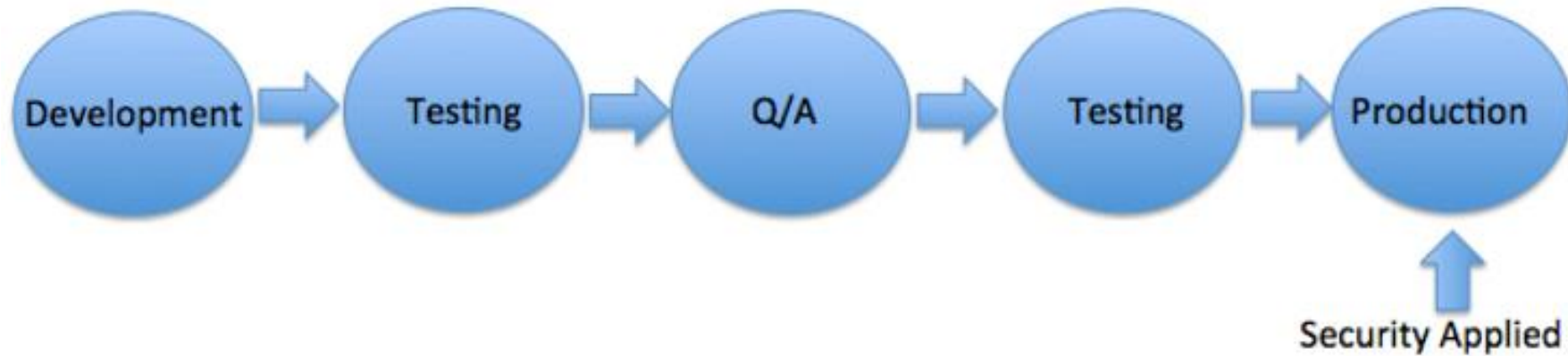
- *“The days of stand-alone security teams isolated from the real process of development are coming to an end. Paraphrasing Caroline Wong, “Security needs to be invited to the party, not perceived as a goon standing at the front door denying admission”. With DevSecOps, security is now part of the team.”* -Epic failures in DevSecOps



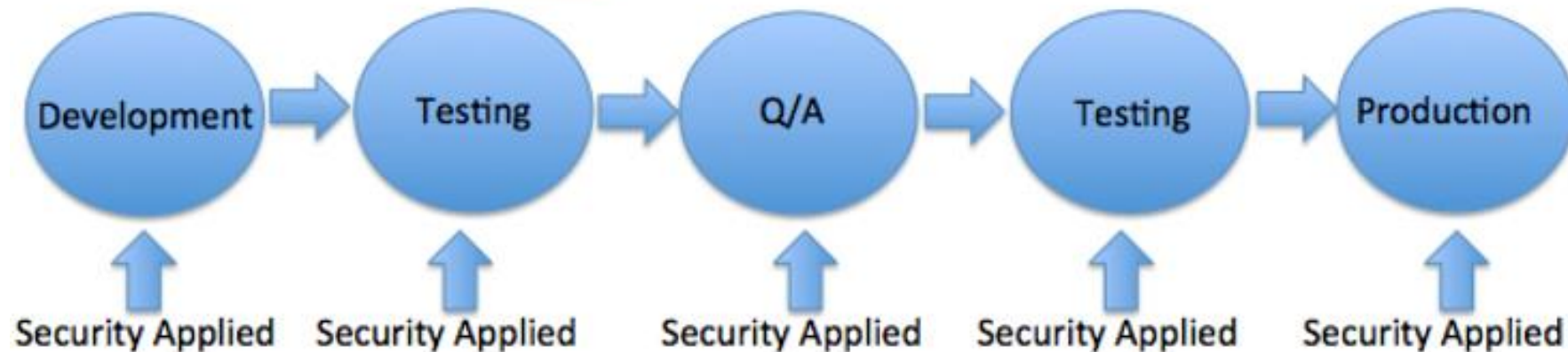


Applying Security to DevOps

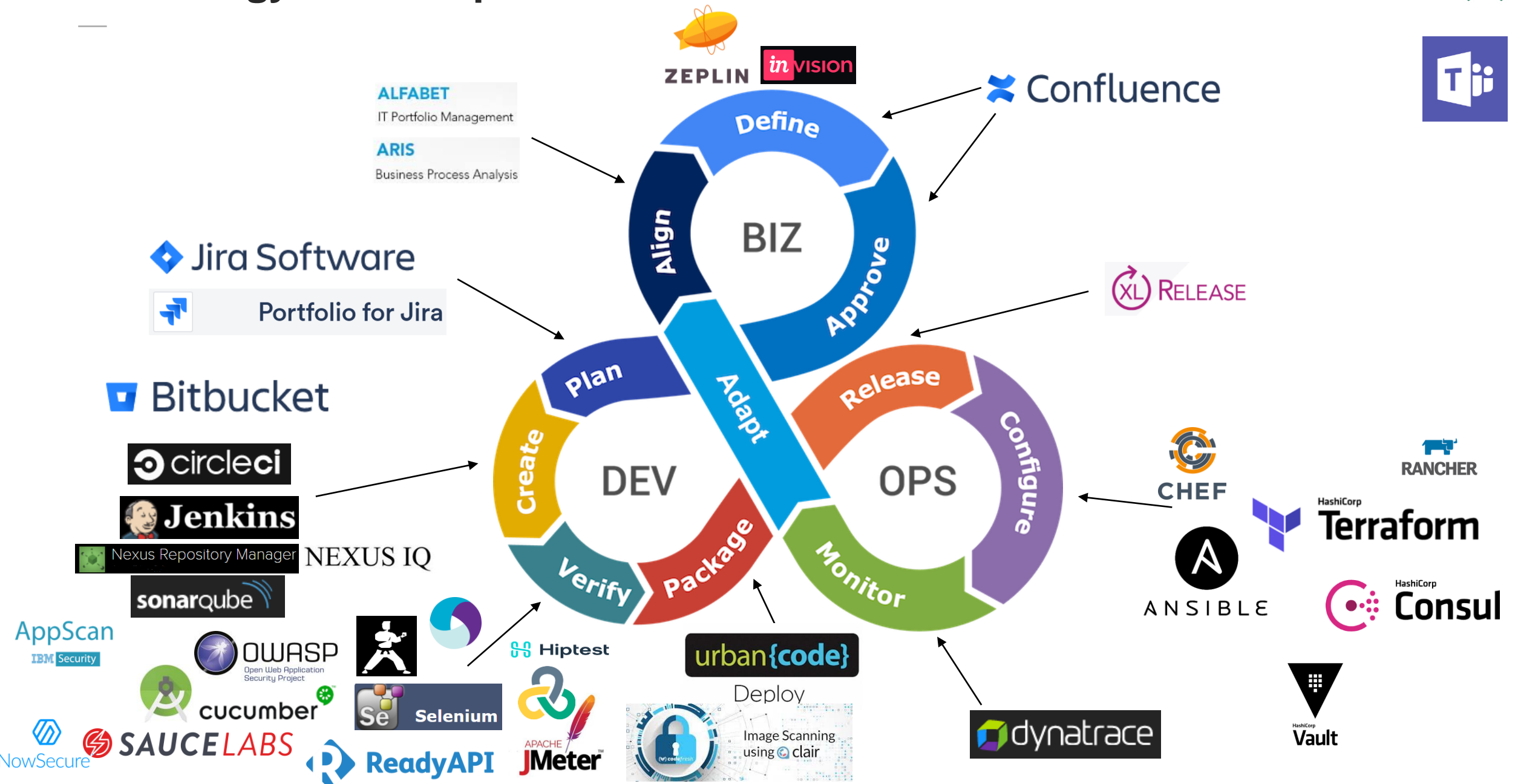
Traditional Application Development Process



DevOps Development Process



Technology: BizDevOps Tools



Nedbank Examples





Nedbank Examples: Multi-stack Deployments

XL RELEASE My tasks Design Releases Reports Settings User management Plugins Logged in as nb314318 ?

Nedbank Enterprise Release Management

BizDevOps Demo / Component Release Template TEMPLATE

Show Release flow Flow Table Planner Releasefile New release Add Phase Export

BUILD

Email Notification - QA Phase Started

Product Owner / Technical Lead / Accountable
Person signing-off to proceed to ETE
Kersten, B. (Barry)

Tag and Build

Get Branch Hash

Tag Build
Webhook: Json Webhook

wait for jenkins to notice tag
Nedbank General: Wait

Build via Jenkins
Jenkins: Build

Add task

Add task

DEPLOY

Deploy

Deploy to Server 1
Ucd: Application Process Request

Check Deployment Status
Ucd: Application Process Request Status

Add task

Deploy

Deploy to Server 2
Ucd: Application Process Request

Check Deployment Status
Ucd: Application Process Request Status

Add task

Add task

TEST

Test 1
View 0 tasks

Test 2
View 0 tasks


Add task

REPORT STATISTICS

Ready to Release to Production?

Add task

Improved Deployments from 3-4 weeks to less than a day



Nedbank Examples: Multi-stack Deployments



XL

RELEASE

My tasks

Design

Releases

Reports

Settings

User management

Plugins

Nedbank Enterprise Release Management

BizDevOps Demo / Frontend Release Template (1)

TEMPLATE

ShowRelease flow

Flow

Table

Planner

Releasefile

New release

Add Phase

Export

DEV

Release Component

XL Release: Sub Release

Release Component 1

XL Release: Sub Release

Release Component 2

XL Release: Sub Release

Release Component 3

XL Release: Sub Release

Release Component 4

XL Release: Sub Release

Add task

Pre-Release

Pre-Release Governance Communication

View 2 tasks

Pre-Release Governance

View 3 tasks

Add task

ETE

Release Component

XL Release: Sub Release

Release Component 1

XL Release: Sub Release

Release Component 2

XL Release: Sub Release

Release Component 3

XL Release: Sub Release

Release Component 4

XL Release: Sub Release

Add task

QA

Product Owner / Technical Lead / Accountable

Person signing-off to proceed to ETE

Kersten, B. (Barry)

Release Component

XL Release: Sub Release

Release Component 1

XL Release: Sub Release

Release Component 2

XL Release: Sub Release

Release Component 3

XL Release: Sub Release

Release Component 4

XL Release: Sub Release

Add task

Pre-Prod

Pre-PROD Governance Communication

View 2 tasks

Pre-PROD Governance

View 4 tasks

Add task

PROD

Tag and Build

View 4 tasks

Deploy

View 2 tasks

ETE Tests

View 0 tasks

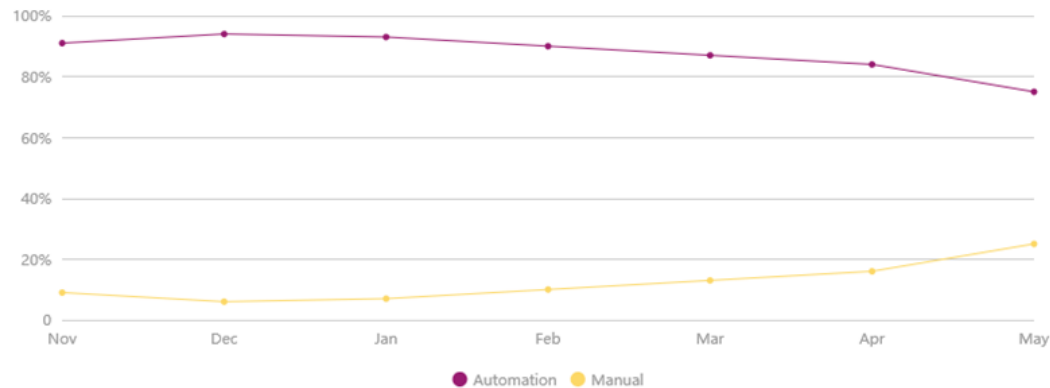
Add task



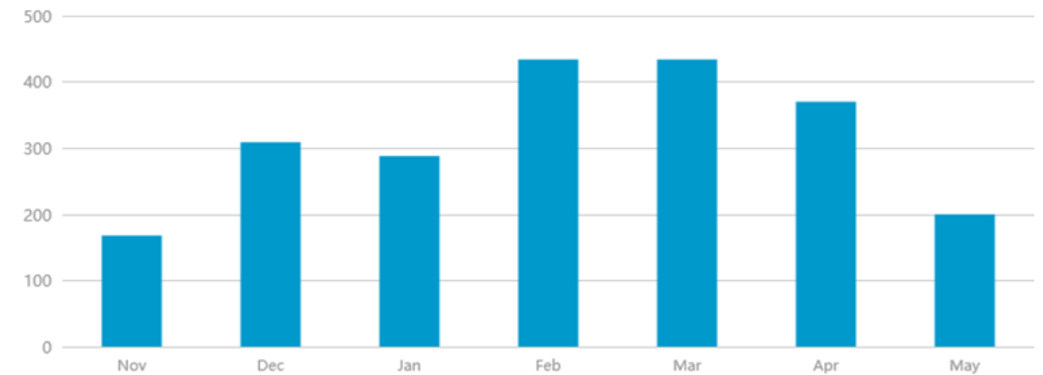
Nedbank Examples: XL Release

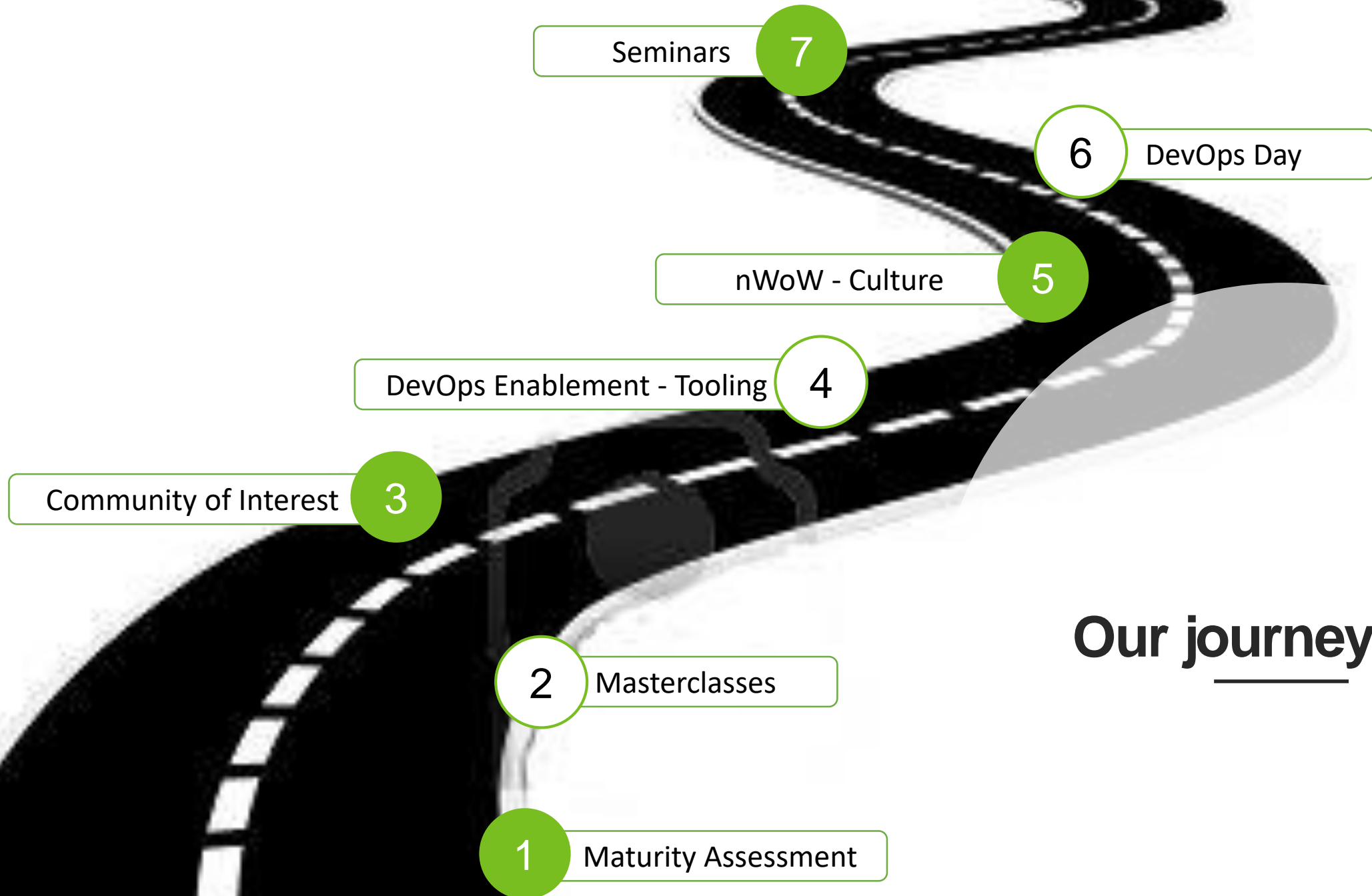
- Completed Releases: 2203
- Avg. Release Duration: 2d 3h 1m
- Task Efficiency: 31692 executed

Release efficiency



Number of releases

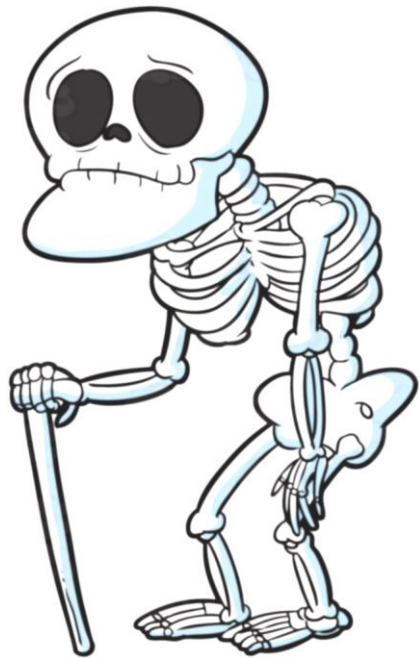




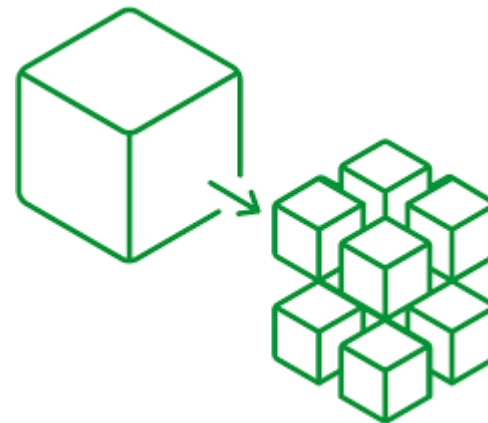
Our journey so far

Where to next?

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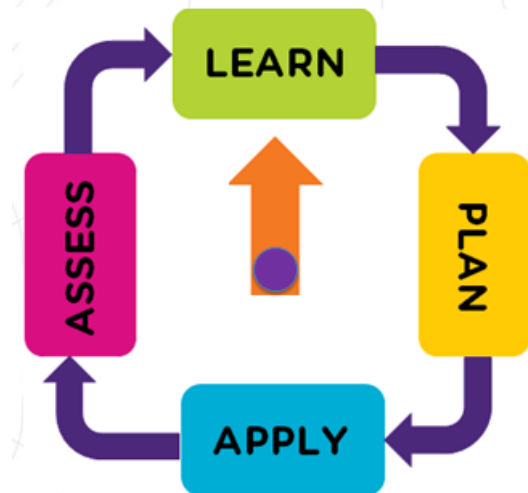


Microservices



Continuous Learning Culture

(Inspect and Adapt)





"That's all Folks!"