Cloud Security

Motion10

Henrik Smit | Ruud Couwenberg

June 2021

Azure & Integratie Congres 2021

With you today

Henrik Smit

Cyber Security Professional

KPMG Cyber

Mob +31 6 1255 6514
smit.henrik@kpmg.nl

Ruud Couwenberg

Cloud Security Specialist

KPMG Cyber

Mob +31 6 3403 2492
couwenberg.ruud@kpmg.nl

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Solo or Team effort?

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Real world examples

In the Netherlands

Employees selling data of people that were tested on COVID

Fraudulent Brabantia invoice

€ 750.000,- transferred, despite numerous spelling errors in the mail

2 months ago

Cheese supply issues in a Dutch supermarket due to ransomware

3 weeks ago

Names & Addresses of nearly **1.000.000** senders/receivers of packages over a 3 year period.

This was as a result of a cyberattack on its electronic data interchange (EDI) solution supplier.

The focus is always on data, but data-driven activities are not only interesting to organisations, data is also extremely interesting to people with a malicious intent.

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Document Classification: KPMG Confidential

Cloud Game

Rules

Broad questions on Cloud Computing

Answer by typing in chat, either:

A or B

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Question

How many Americans, according to 2012 research, believed that stormy weather would interfere with their cloud computing:

< 50% **> 50%**

A

51%

B

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Question

What % of all IT budgets is allocated to cloud computing?

32% **54%**

A

32%

B

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Question

What % of workloads are currently running on a hosted cloud service?

<50% **>50%**

A

60%

B

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Question

In your organisation, are business users allowed to manage, or own, their own solutions outside of the IT department?

A

Yes,
Business-Led IT is allowed

No,
IT remains the gatekeeper

B

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

And the winner is…

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

The Cloud-first Agenda

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

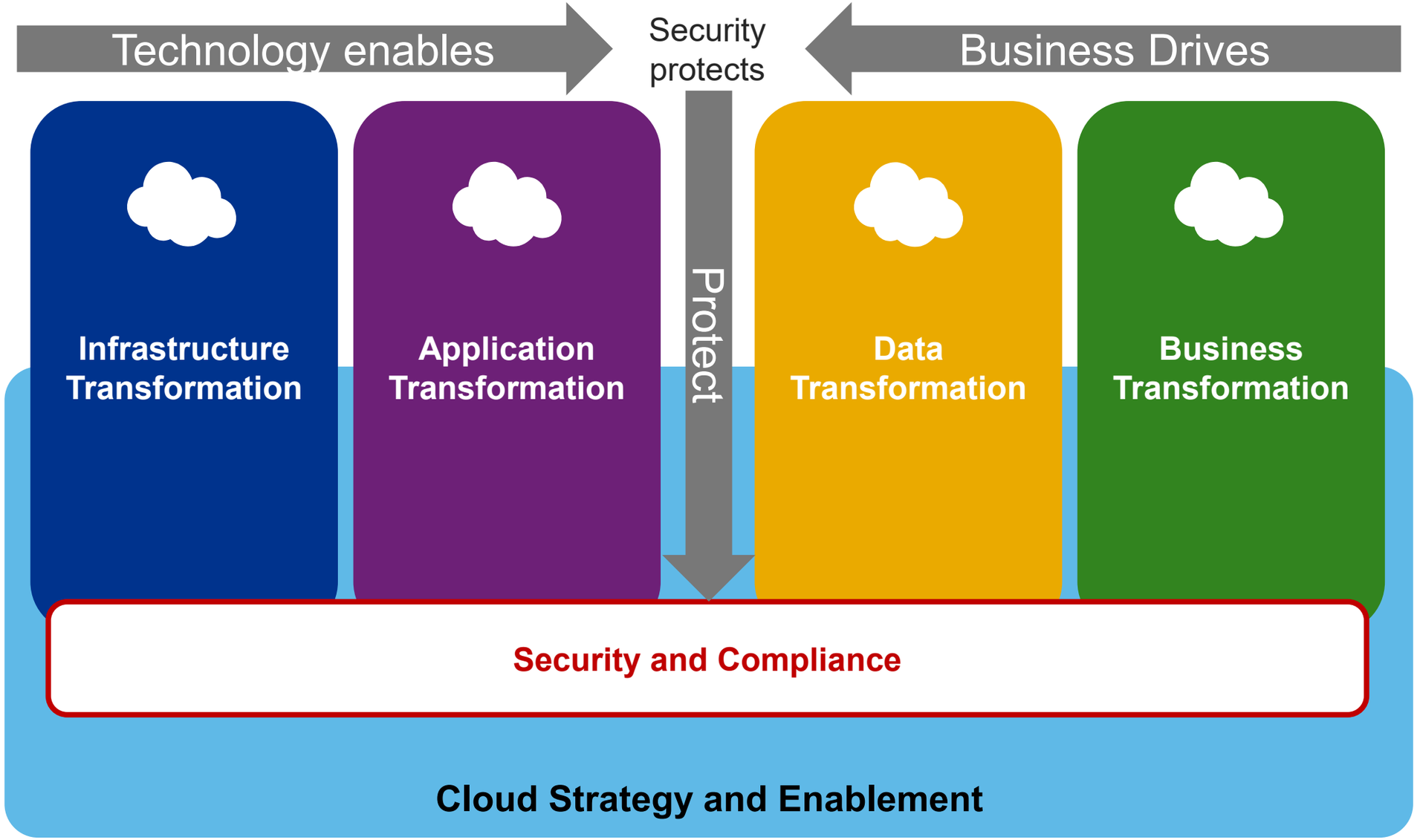
Why Cloud first?

"Show me, prove me"

"Easy, helpful, cool"
"Trust it"

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Cloud enables enterprise transformation objectives



©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Security challenges and Risks

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Main Cloud Security Threats

Insecure interfaces /APIs

50%

Hijacking of accounts, services or traffic

47%

Not enough “sec” in DevOps

64% of respondents **have not implemented** security in DevOps processes.

Misunderstanding the shared responsibility

92% state they do not fully understand the **shared responsibility model** for cloud security.

Responsibility	On-Prem	IaaS	PaaS	SaaS
Data classification & accountability	Cloud Customer	Cloud Customer	Cloud Customer	Cloud Customer
Client & end-point protection	Cloud Customer	Cloud Customer	Cloud Customer	Cloud Customer / Cloud Provider
Identity & access management	Cloud Customer	Cloud Customer	Cloud Customer / Cloud Provider	Cloud Customer / Cloud Provider
Application level controls	Cloud Customer	Cloud Customer	Cloud Customer / Cloud Provider	Cloud Provider
Network controls	Cloud Customer	Cloud Customer / Cloud Provider	Cloud Provider	Cloud Provider
Host infrastructure	Cloud Customer	Cloud Customer / Cloud Provider	Cloud Provider	Cloud Provider
Physical security	Cloud Customer	Cloud Provider	Cloud Provider	Cloud Provider

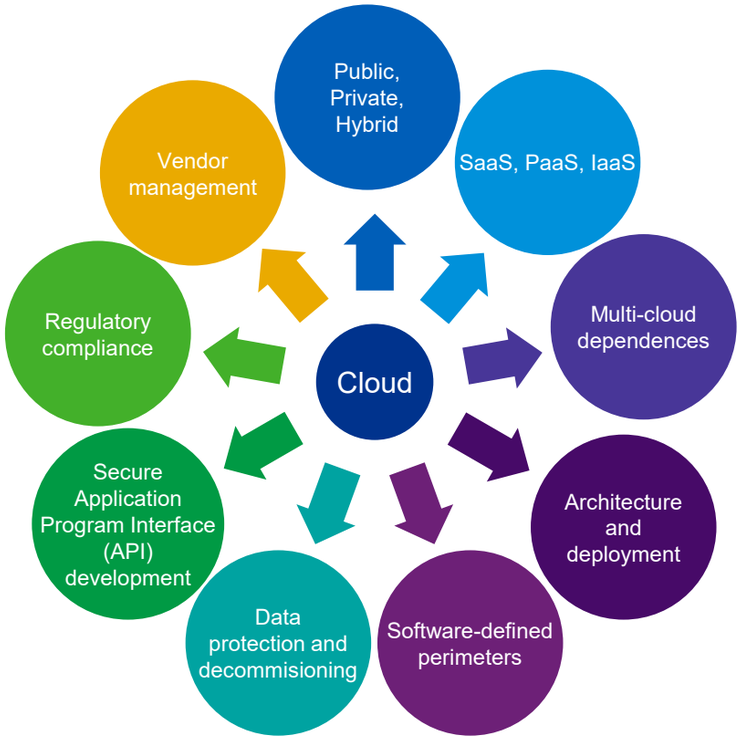
Cloud Customer / Cloud Provider

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Cloud compounds risks

Cloud technologies provide powerful (security) tools, along with (IT) cost benefits. Unfortunately they also increase the list of potential risks and threats to the organization.

New models, architectures and relationships



New and existing threats

Threat actor	Threat objective
Organized crime	• Financial gain • Corporate espionage
Competitor	• Financial gain • Competitive advantage
Nation state	• Economic advantage • Financial gain • Intelligence
Hacker	• Fame • Notoriety • Embarrassment • Financial gain

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

KPMG Approach

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Document Classification: KPMG Confidential

Cloud Security Journey

Automate

1 Visibility

- ✓ Know the current cloud usage
- ✓ Understand the risks

2 Ground rules

- ✓ Make strategic choices
- ✓ Define policies and procedures

3 Assess

- ✓ Identify the risks
- ✓ Define mitigating measures

4 Establish

- ✓ Integrated security architecture

5 Adopt

- ✓ Assess cloud services efficiëntly
- ✓ Risk-based requirements

KPMG

© 2017 KPMG Advisory N.V., registered with the trade register in the Netherlands under number 33263682, is a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ('KPMG International'), a Swiss entity. All rights reserved.

KPMG Approach

Define cloud security operating model - Governance

Map current responsibilities to key functions of cloud security operations.

Clearly define roles and responsibilities across security, risk, and compliance

Example responsibilities

Cloud security operations	Risk Management	Security Tech	IT	Business	Corporate Vendor Mgt	Legal
Cloud security strategy	R/A	R/A	C	C/I	I	I
Cloud security policy & standards	R/A	R	C/I	I	I	C
Annual cloud vendor risk assessment	R/A	C	C/I	I	C	I
Pre vendor selection risk assessment	R	R	R/A	C/I	R/A	C
Vendor control and compliance testing	R	C	I	I	A	I
Vendor remediation management	R	C	C	I	A	I
Cloud security governance (usage monitoring and reporting)	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress
Cloud – IAM	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined
Cloud – data protection	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined
Cloud – logging monitoring, and response	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined

R Responsible A Accountable C Consult I Inform

Example State Observations

A Cloud security efforts are one-time actions, and usually not centrally governed.

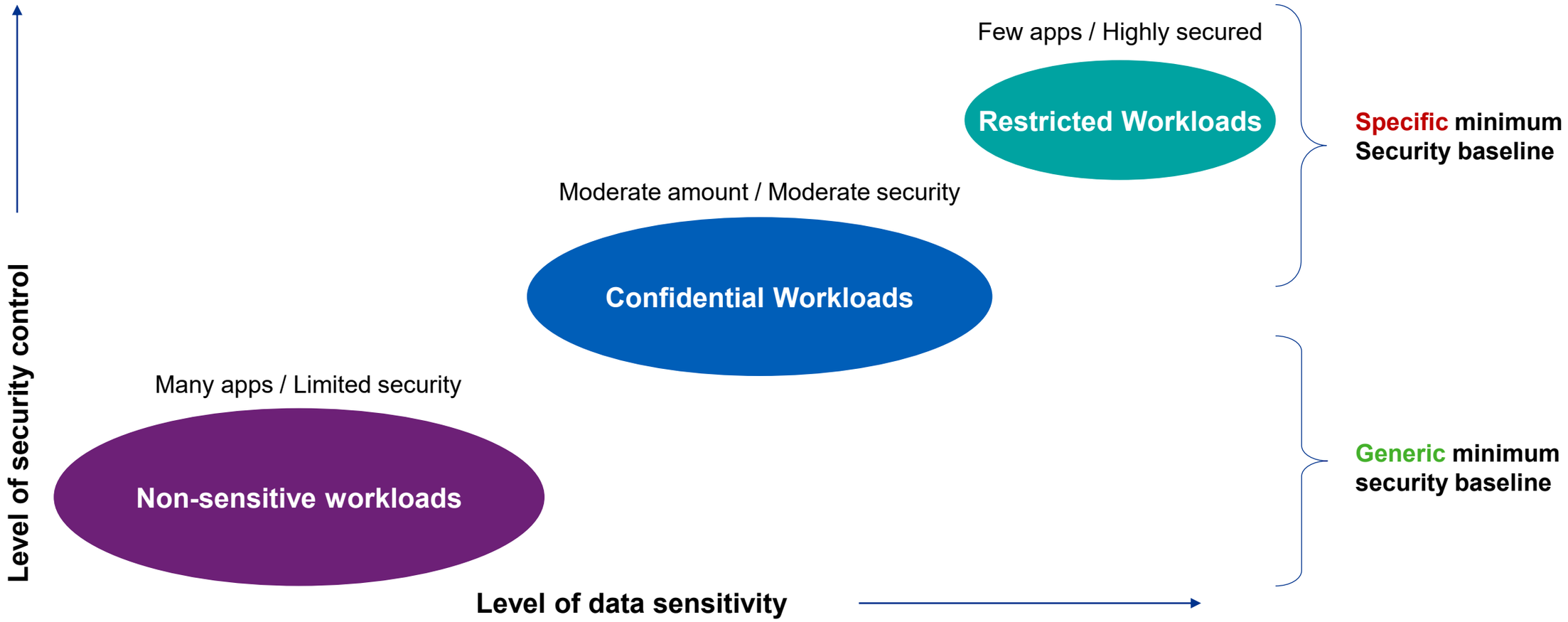
B Limited alignment between the existing teams involved in cloud solutions

C No clear accountability or responsibility for implementation & operations for cloud-based solutions.

©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Realize that one size does not fit all

Cloud security should be risk and value-driven. Not all workloads require the same security.

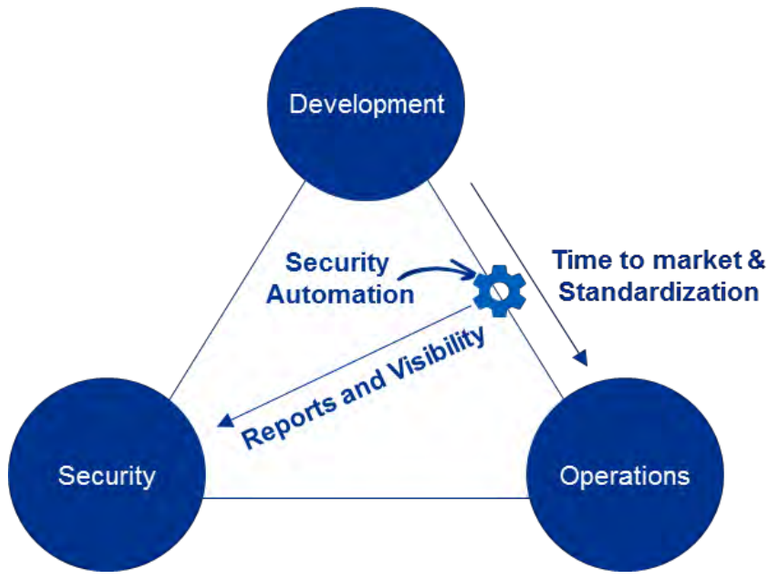


©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

KPMG Approach

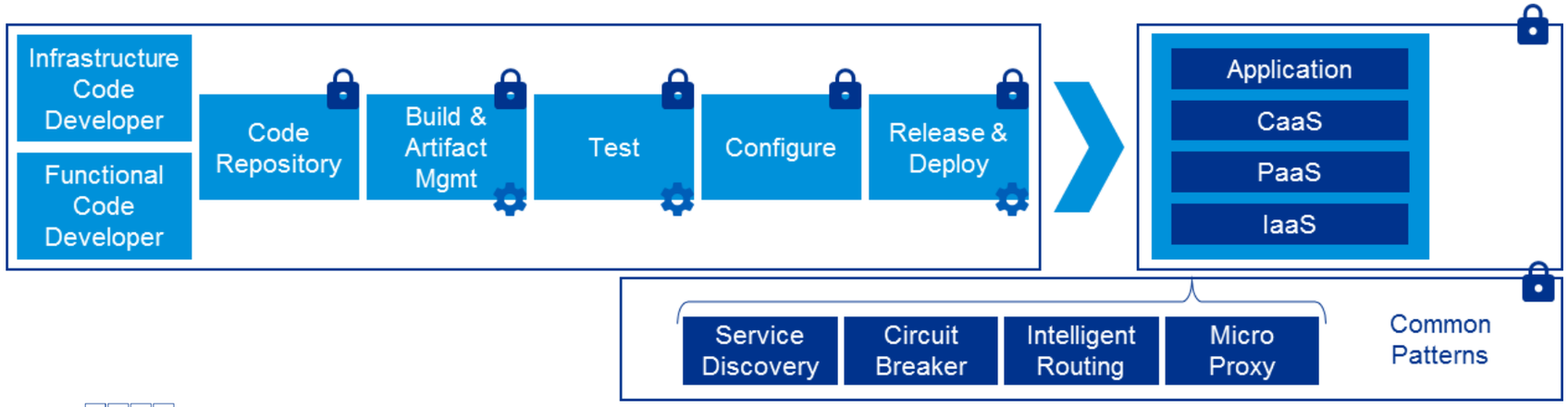
Focus on Automation of security checks

- Security and control through embedded automation to match continuous delivery
- Cloud-native security for code, machines, and people.
- Automation introduced at multiple layers such as Security testing and Code Analysis tools as part of build process



Seamless Security Automation

Secure Continuous Delivery Cycles



©2021 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Thank you!

Questions?

© 2017 KPMG Advisory N.V., registered with the trade register in the Netherlands under number 33263682, is a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ('KPMG International'), a Swiss entity. All rights reserved.