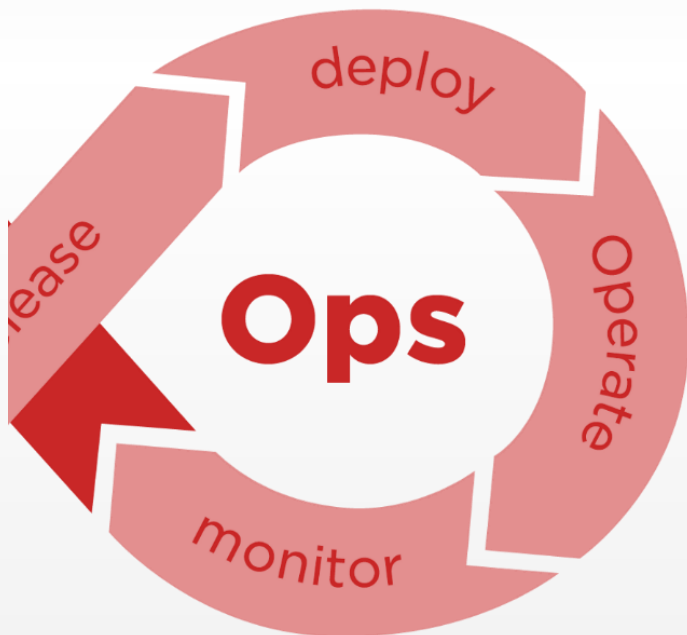


OPS CHALLENGES

IN THE BANK DevOps



**THE FUTURE
IS YOU**  **KB**

1

INTRODUCTION



WHO AM I

David TAUBR

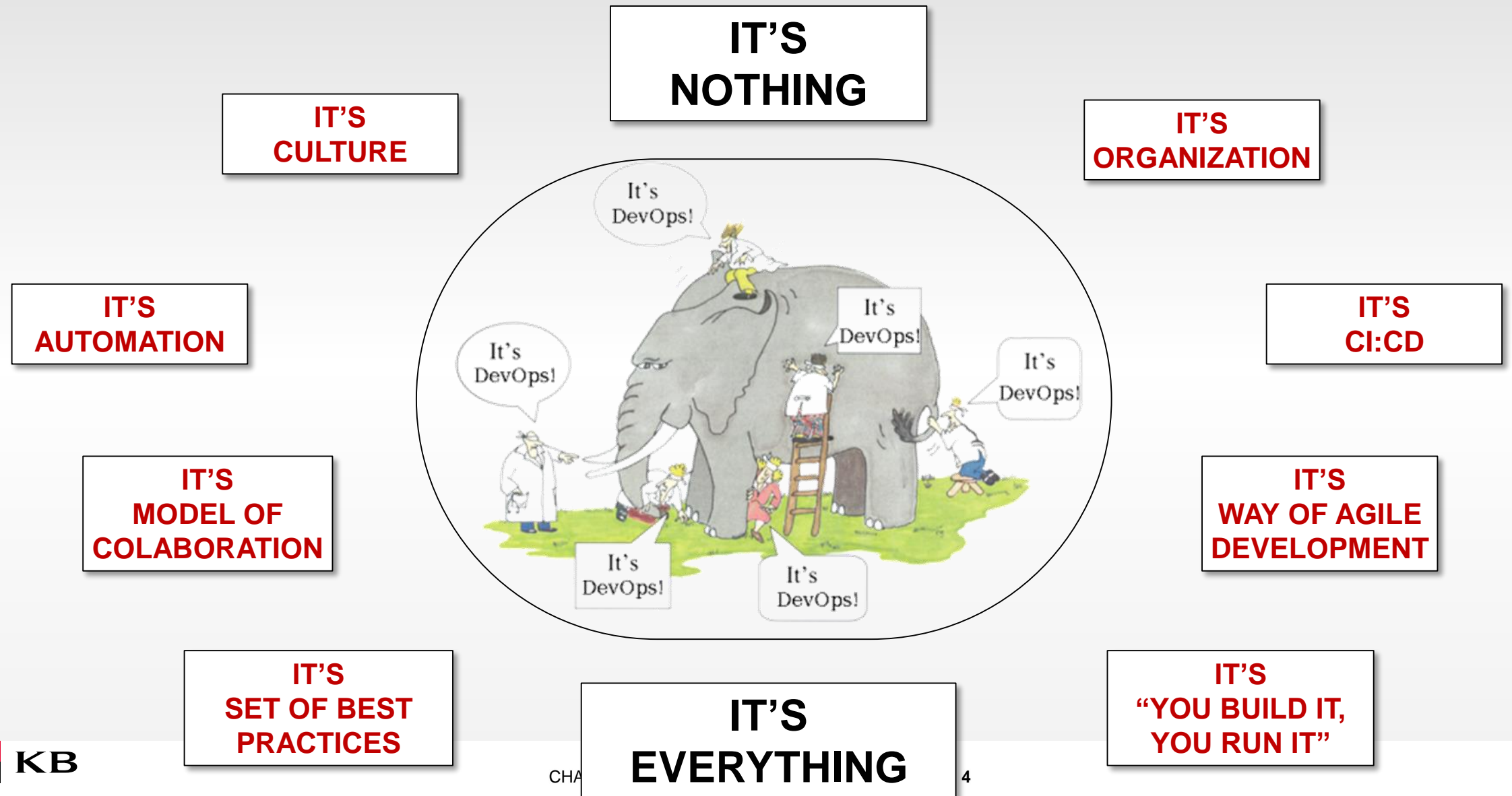
- 8 years SW development
- 5 years IT architecture
- 10 years IT manager in I&O

In KB

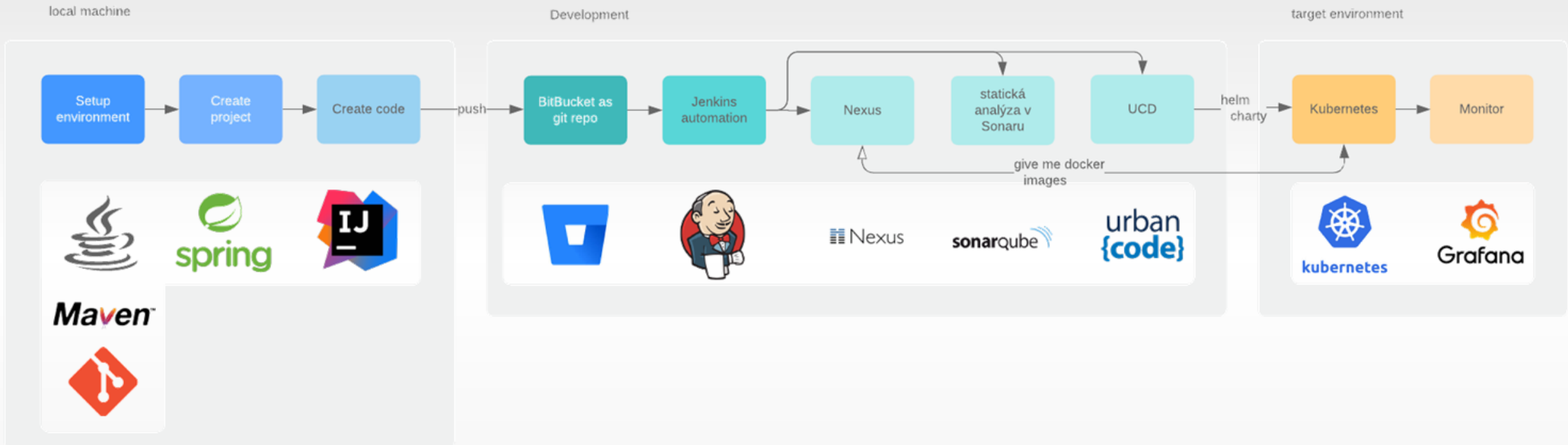
- Since 2004
- Current position: Head of Infrastructure & Operation CoE
- KB success stories:
 - Introducing working concept of cost allocation for shared infra to business units (“kasicky”)
 - KB as IT synergies leader in SG group
 - IT Consulting Competency Center (IT3C) providing IT consulting & implementation services to 63 SG subsidiaries in 40 countries world wide



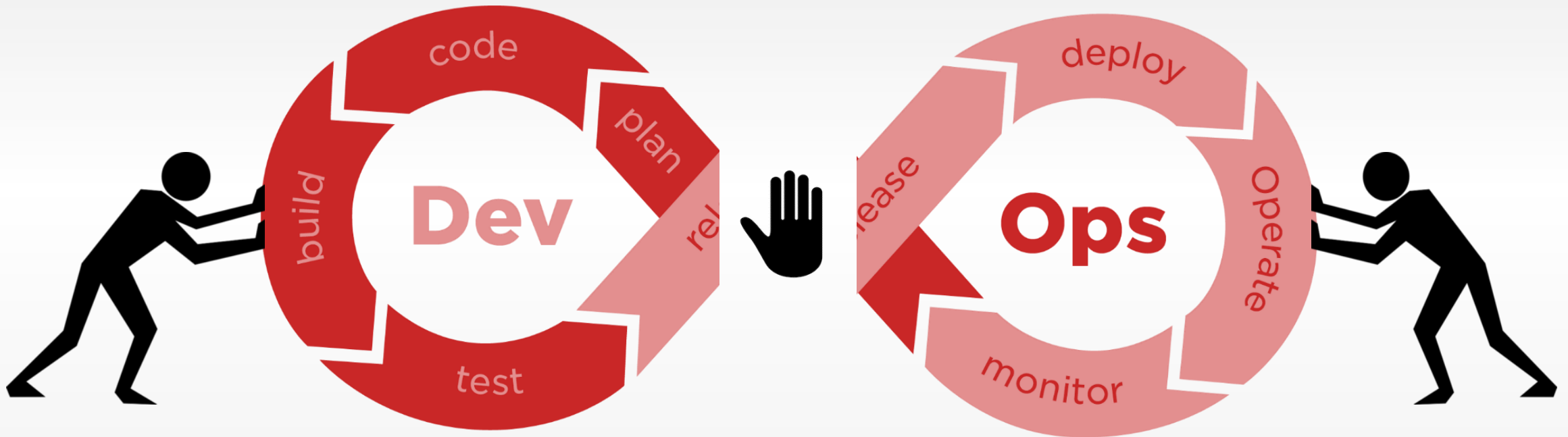
NOT TODAY'S TOPIC – WHAT IS DEVOPS



NOT TODAY'S TOPIC – TOOLS FOR DEVOPS



CHALLENGES IN THE BANK DevOps

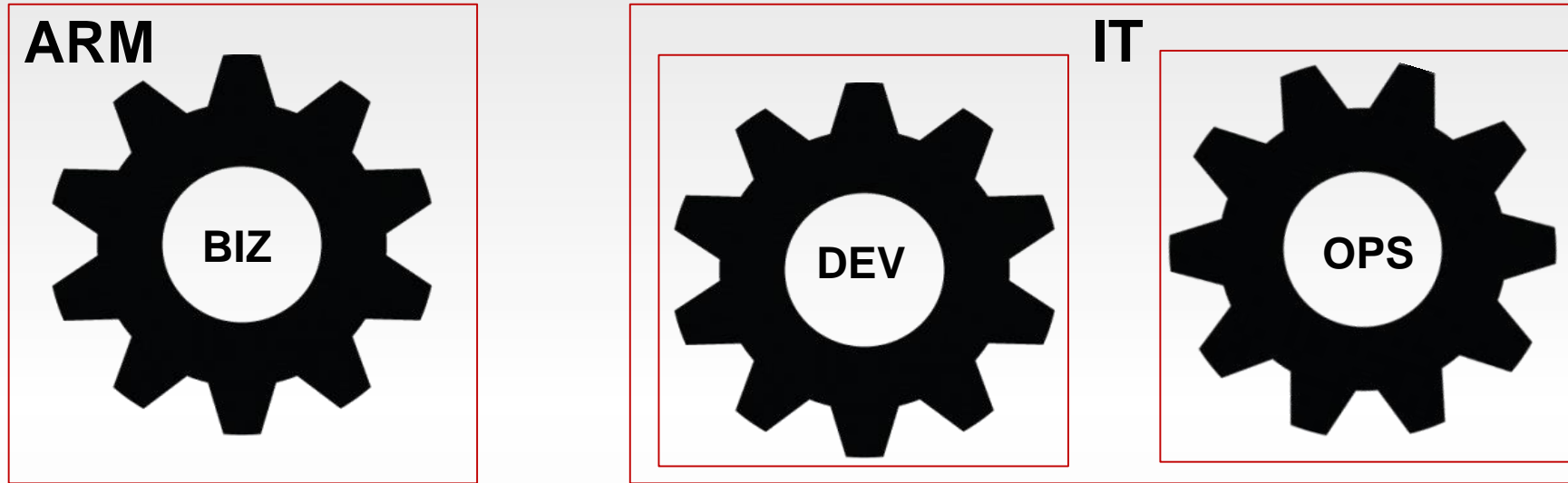


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KB EVOLUTION



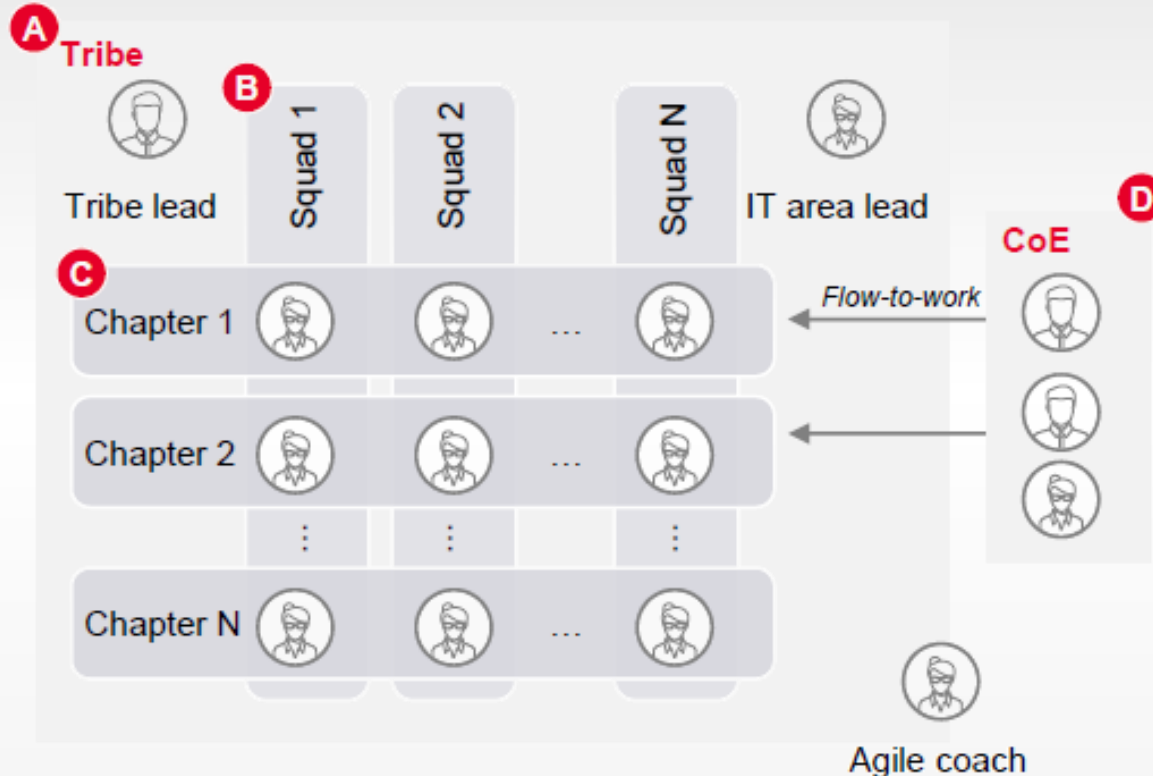
HISTORY



PROBLEM

"IT DOES NOT UNDERSTAND BUSINESS AND BUSINESS DOES NOT UNDERSTAND IT"

KB CHANGE – SPOTIFY'S AGILE@SCALE ORGANIZATION



Key entities overview

A Tribe

- Collection of squads organized around the same purpose, delivering on a certain mission in an autonomous and self-steering way
- Typically includes between 50 - 150 squad members
- Tribes can be categorized into Customer journey, Channel or Enabling Tribes
- Example: Business financing, Physical distribution channels, Platform services

B Squad

- An autonomous cross-functional team able to define work and make business decisions and execute on its mission as a part of the Tribe, with end-to-end responsibility
- Can be organized as a feature or enabling squad, depending on the purpose
- Typically includes 5 - 9 squad members
- Has E2E-responsibility for a certain purpose
- Example: Profi products, Trade finance

C Chapter

- Group of functional specialists responsible for building expertise and maintaining standardization
- Each tribe member is also assigned to a Chapter, delivering and fostering delivery, personal and professional development
- Typically includes 5 - 10 people
- Example: Customer journey specialists, Development engineers

D Centers of Expertise (CoEs)

- Concentrated teams supporting Agile organization with specific expertise that cannot be efficiently distributed across the organization
- Experts are staffed to squads triggered by Tribe's needs, through flow-to-work mechanism
- Example: Agile CoE, Architecture CoE

AFTER KB CHANGE – I&O EXCLUDED FROM AGILE PERIMETER

TRIBES

GIVE US RIGHTS OR
HANDS

CAN'T GUARANTEE
DEADLINES WHEN NON-
PROD IS NOT RUNNING

THE WHOLE BANK
CHANGED BUT I&O DID
NOT

DURING PATCH
CAMPAIGN WHOLE TRIBE
CAN TAKE VACATION

CAN'T DELIVER BEING
BLOCKED BY I&O

SCREAM MOST, GO FIRST

NO PLANNING AFTER KB
CHANGE

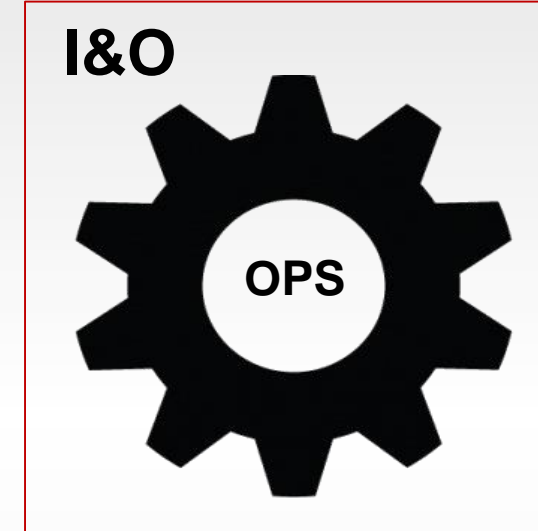
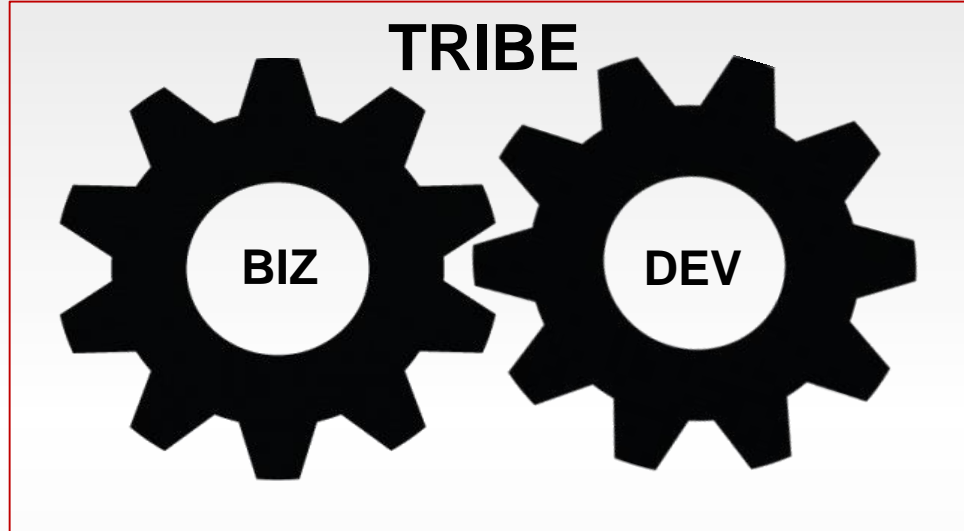
YOU WANT TO BE ADMIN
BUT YOU DO NOT WANT
TO PATCH

LAST MINUTE
DELIVERIES FROM DEV

QUALITY OF CODE WENT
DOWN

I&O

NOW

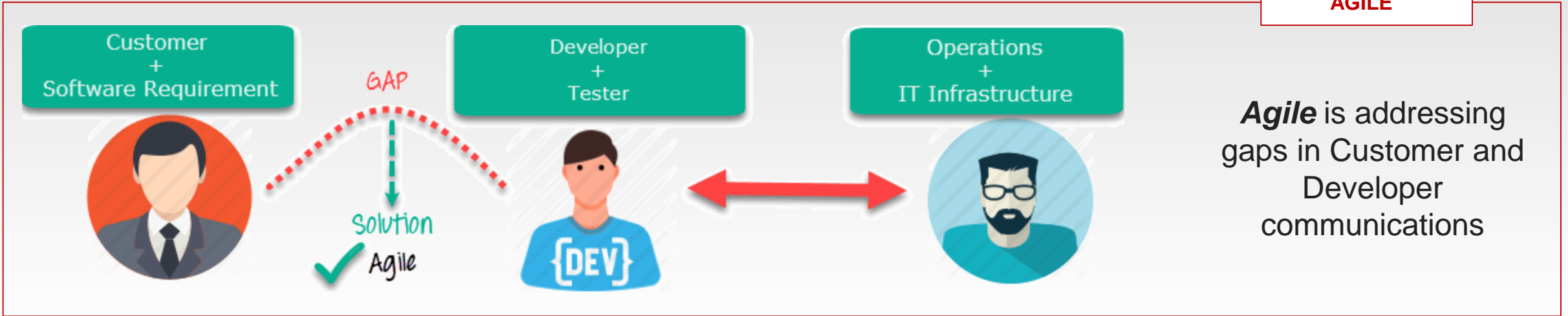


PROBLEM

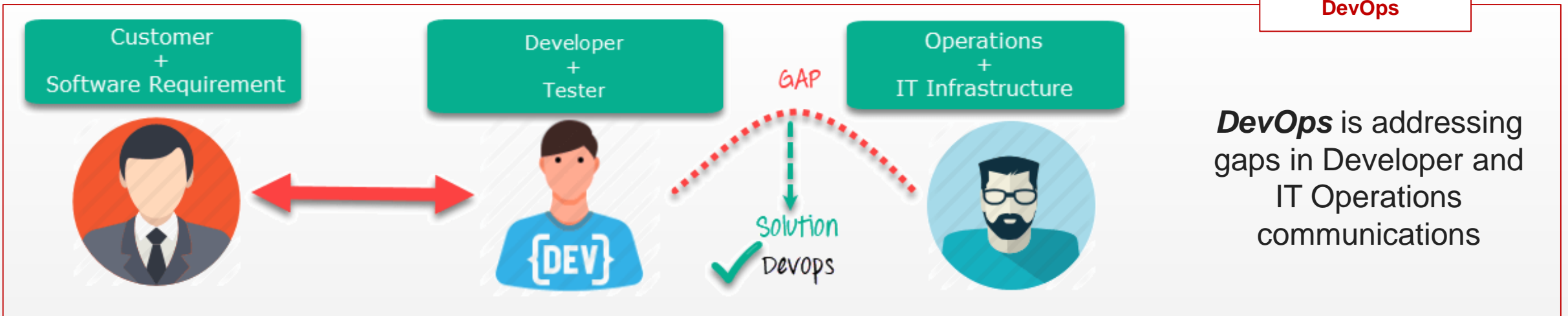
"DEV DOES NOT UNDERSTAND OPS AND OPS DOES NOT UNDERSTAND DEV"

AGILE VS. DEVOPS

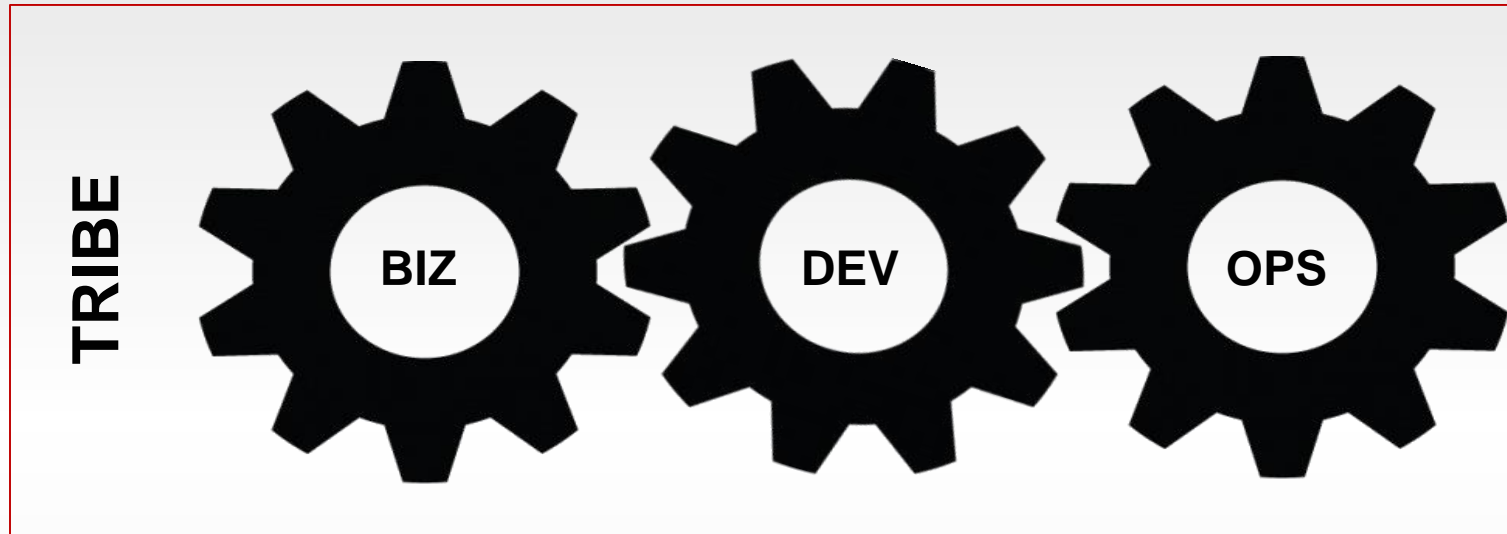
AGILE



DevOps



FUTURE



”YOU BUILD IT, YOU RUN IT”

NO PROBLEM? 😊

EXPECTATIONS

IMPROVE

TIME TO MARKET

DELIVER FOR THE SAME
COST MUCH FASTER

EFFICIENCY

DELIVER FOR THE SAME
COST MUCH MORE

QUALITY

(bugs, security, ...)

DELIVER FOR THE SAME
COST MUCH BETTER

I&O TRANSFORMATION

- End-to-end responsibility for I&O products
- Enabler for tribes
- Cloud service provider culture
- Demonstrable cost efficiency benchmarked with public cloud providers

AGILE
“DevOps”
TRIBE

TRIBE TRANSFORMATION

- End-to-end responsibility for tribe products (you build it, you run it)
- Minimized dependencies on other Tribes/Products/I&O
- Cloud service consumer culture
- Adopted “DevOps” culture

BY

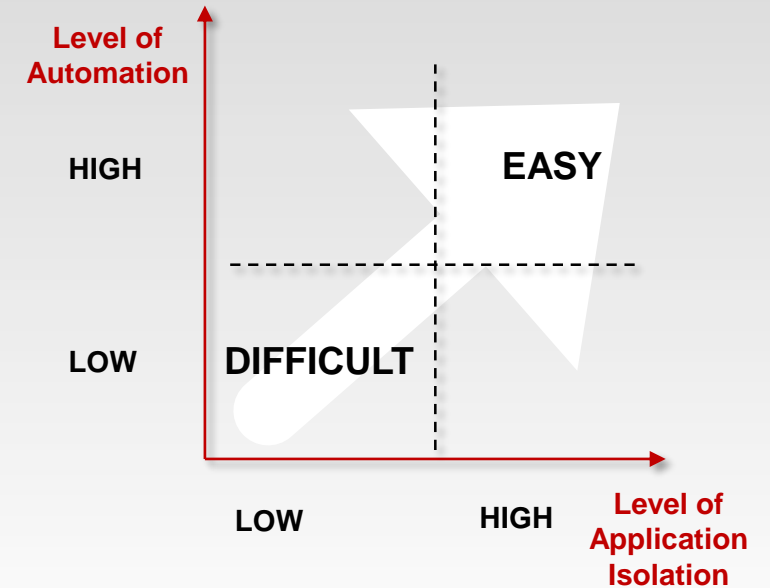
3

CHALLENGES

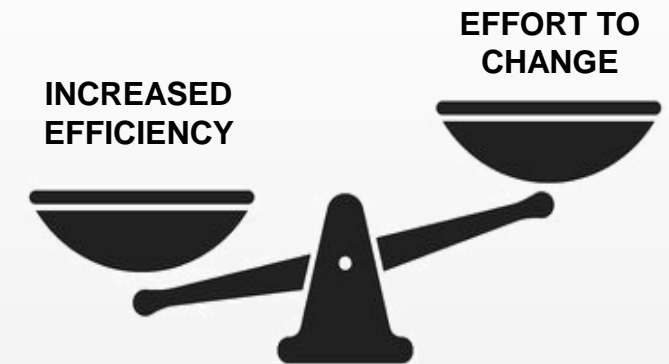


BANK IS A BANK

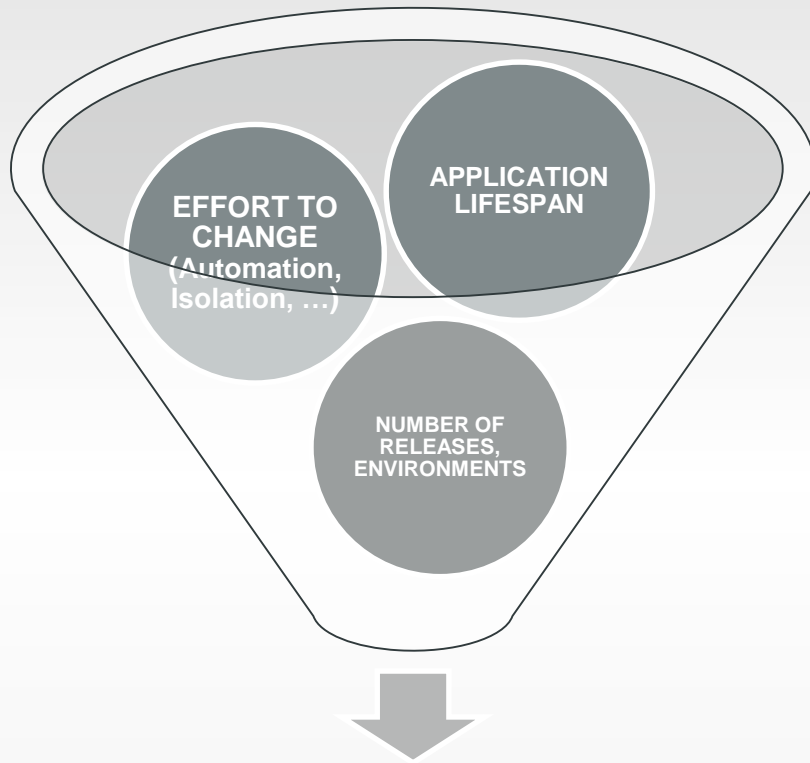
- Bank IS stability directly contributes to customer NPS score
- Concept of DevOps is new in local banks and there is no practical experience with DevOps in banks on local market today
- Regulation must be respected = DevOps is not about giving admin rights to developers
- We are not starting on a green field, with varying products no single approach will be possible
- Application architecture (number of vital dependencies on other information systems) determines the complexity of applying DevOps principles
- Level of automation determines the complexity of applying DevOps principles



VALUE > COST + RISKS

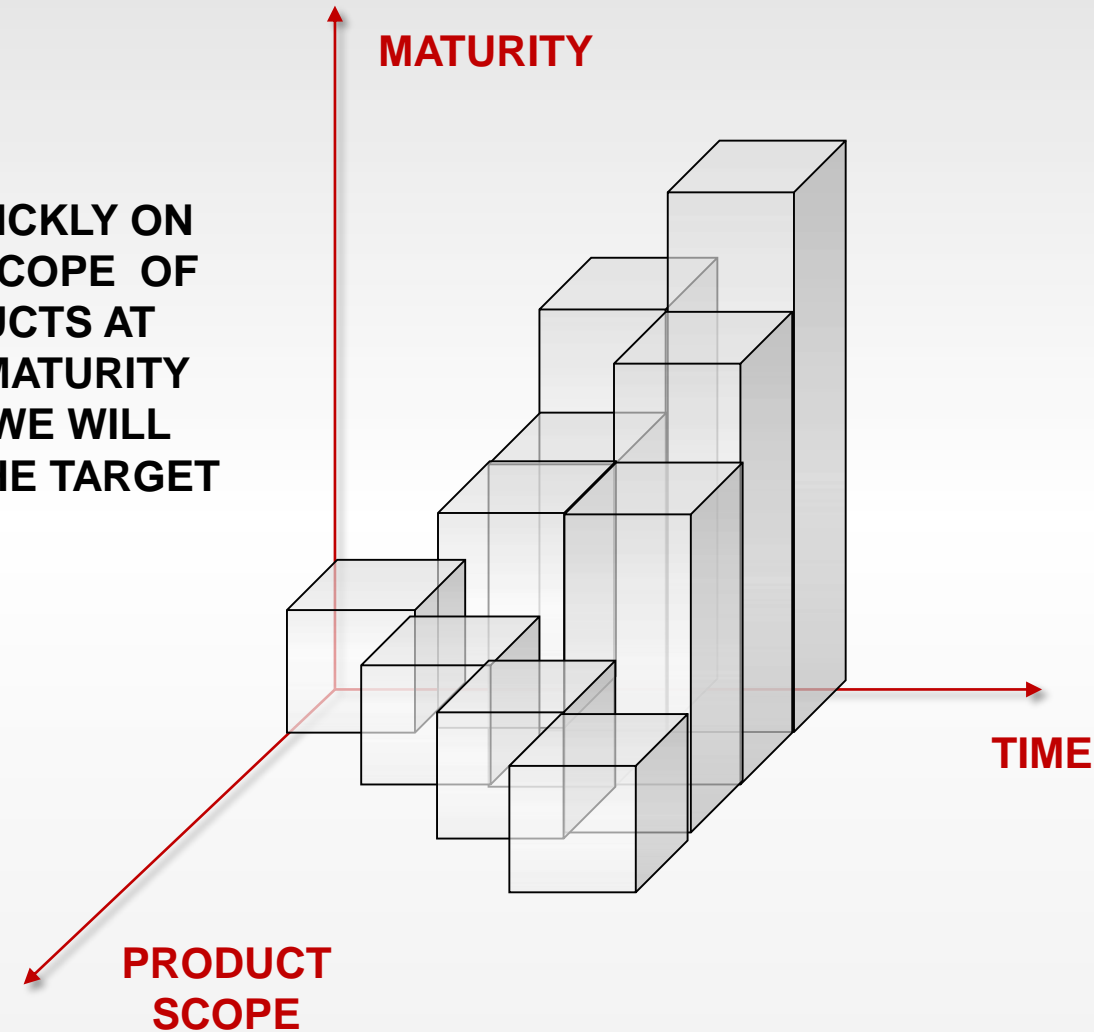


DEVOPS SCOPE & ROADMAP



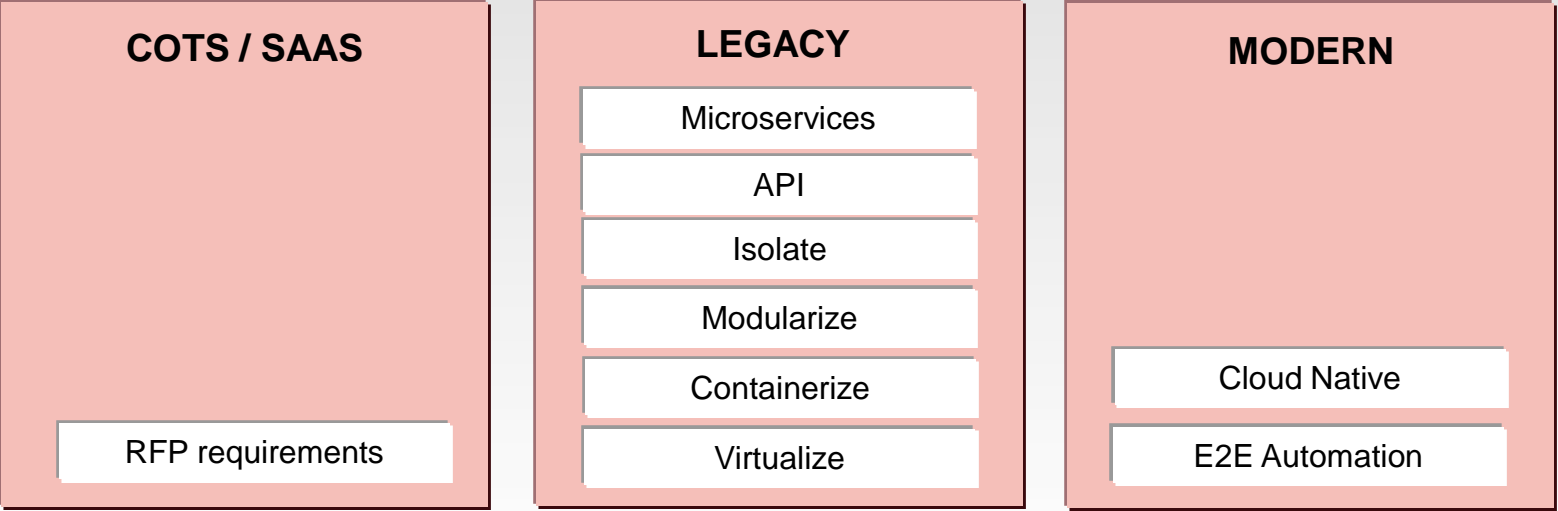
THERE IS LIKELY DIFFERENT ROADMAP FOR EACH PRODUCT, SOME PRODUCTS MAY STAY OUT OF SCOPE FOREVER

HOW QUICKLY ON WHICH SCOPE OF PRODUCTS AT WHICH MATURITY LEVEL WE WILL REACH THE TARGET

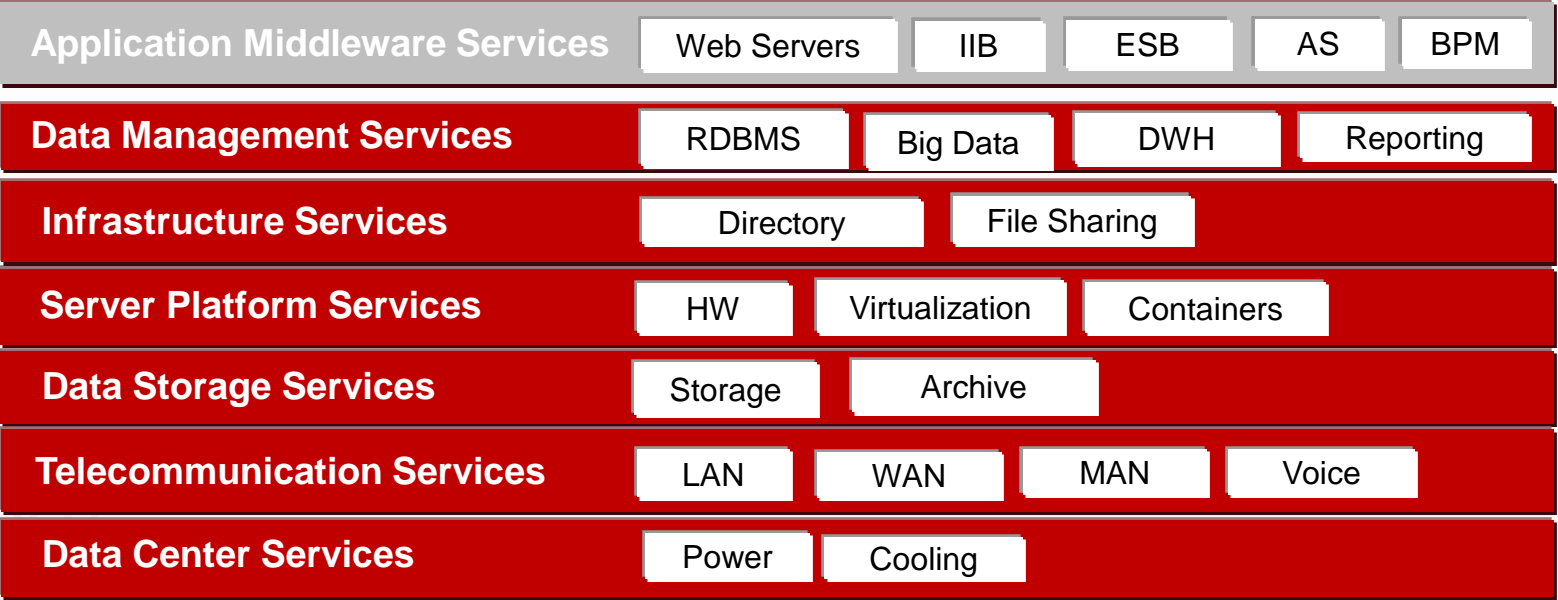


APPLICATION PORTFOLIO MODERNIZATION

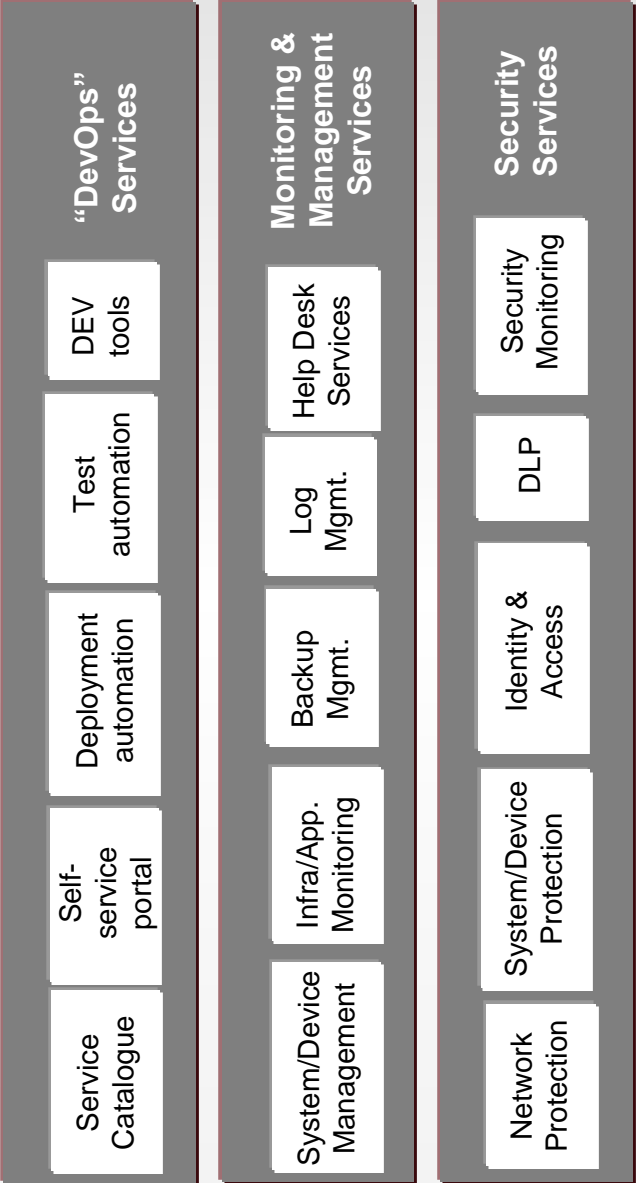
BUILD / BUY



RUN



MANAGE



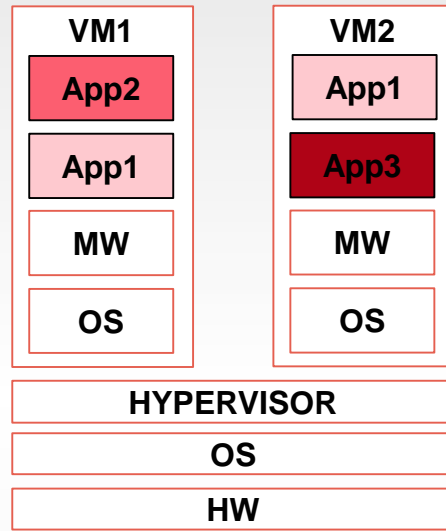
FINDING THE RIGHT RESPONSIBILITY SPLIT

PRODUCTS	Group	Technologies
I&O Products (System layer)	Telco	Telco
	HW	HW: UNIX, LINUX, Win
	Storage	Storage & Back-up
	OS	Linux, Unix, Win
	MF	MF support
	DB	DB admin, management
TBD	Middleware	Web & app servers ESB, IIB, BPM
Tribe Products (App layer)	DB data	App schemas + data
	Application	App + integration

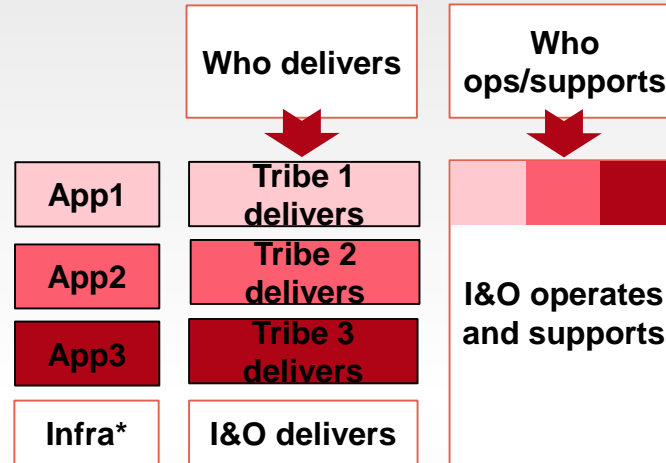
Group	Activity	Environment line			
		DEV	INTEGRATION	ACCEPTANCE	PROD
Build	Build system layer (infra) and configure	ITOps	ITOps	ITOps	ITOps
	Plan infra capacity	Squad	Squad	Squad	Squad/ITOps
	Build app + integration and configure	Squad	Squad	Squad	Squad
Manage data	Manage data	Squad	Squad	Squad	-
Support & resolve	Monitor system layer	ITOps	ITOps	ITOps	ITOps
	Monitor app layer	Squad	Squad	Squad	Squad
	Incident management coordination	Squad	Squad	Testing	Squad/ITOps
	Incident management resolution	Squad	Squad	Squad/ITOps	Squad/ITOps
Change	Setup governance + rules	Squad	Squad	Testing	ITOps
	Manage configuration – system layer	ITOps	ITOps	ITOps	ITOps
	Manage configuration – app layer	Squad	Squad	Squad	Squad
	Deploy new app version	Squad	Squad	Squad	Squad

SHARED PLATFORMS HINDER DEVOPS

SHARED PLATFORM DEPLOYMENT

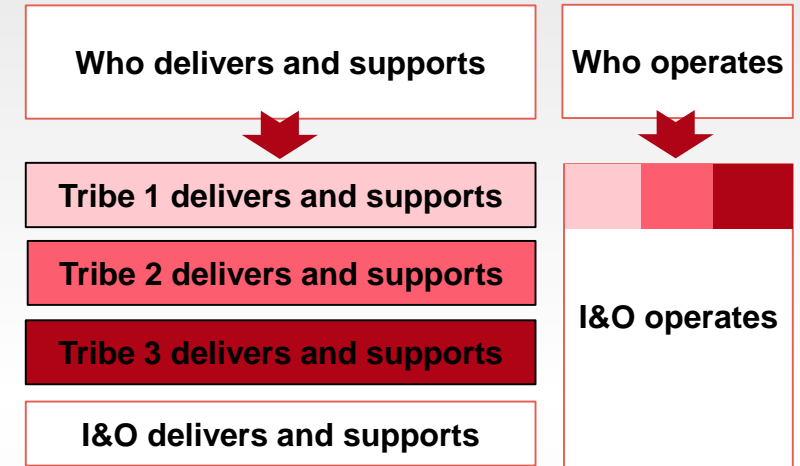


NOW



- all underlying infrastructure (HW, OS, ESX, virtual OS, MW,...)

“FIRST PHASE OF DevOps”



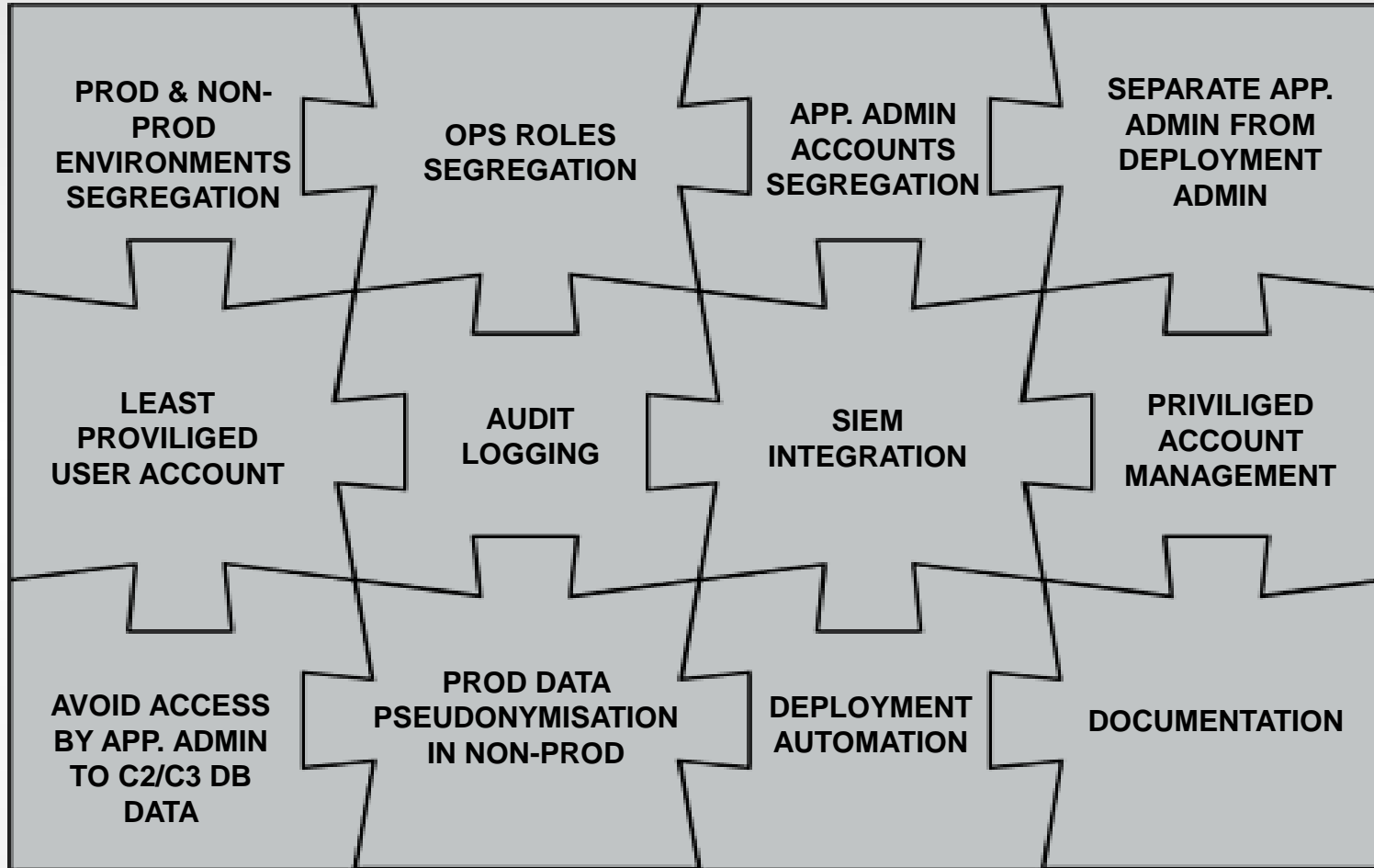
CURRENT

- Tribes delivers its applications including integrations
- I&O is responsible for whole runtime and provides application support w/o deep knowledge of applications
- There is shared infrastructure for which I&O is responsible
- There are insufficient tools to separate applications

INTERMEDIATE STEP

- Intermediate step between current situation and pure DevOps – no need for technological changes
- Tribes are responsible and support its own applications – “first phase of DevOps”.
- I&O assures good condition of shared resources & provides support for shared infrastructure

SEGREGATION OF DUTIES



Set of security principles to be applied for DevOps

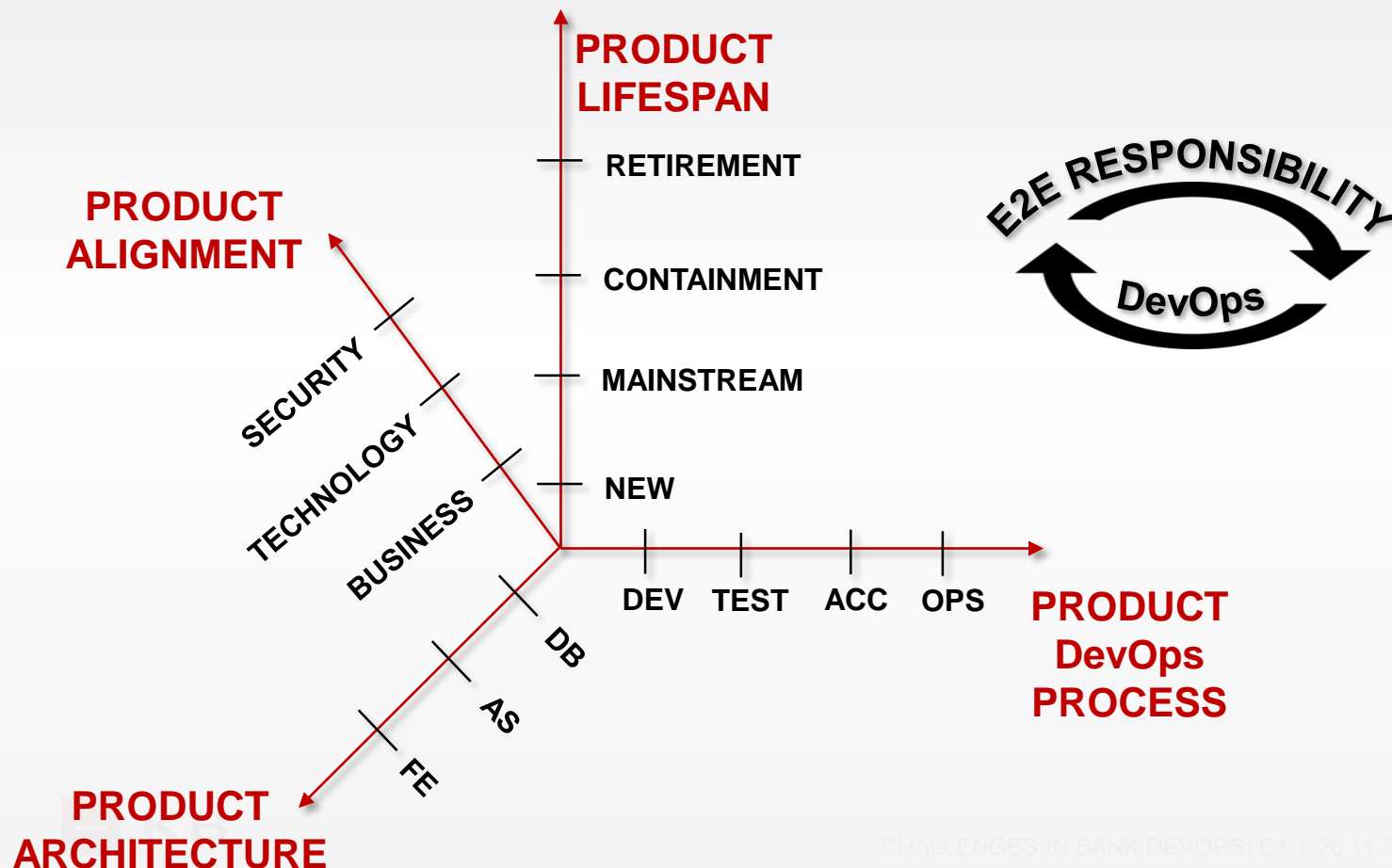
Not easy to be fully achieved for all technologies



Improved security through DevOps effort

WHAT TO DISTRIBUTE, WHAT TO KEEP CENTRALIZED

**TARGET =
TRIBE E2E RESPONSIBLE**



**SOME ACTIVITIES MAY NOT BE
GOOD IDEA TO FULLY
DISTRIBUTE**

- IT Governance & processes
- IT HelpDesk
- 24x7 Control Tower
- Centralized Incident Management
- Audit findings management
- Asset/license Management
- CMDB
- Certificates management
- Technology standards
- IT Continuity Management
- ...

**FINDING THE RIGHT BALANCE BETWEEN
WHAT SQUADS CAN DO ALONE AND WHAT
THEY NEED TO COMPLY WITH**

OPS HANDOVER IN OPPOSITE DIRECTION

OVER THE YEARS, WE MASTERED HOW TO HAND OVER
OPERATION FROM DEV TEAMS TO OPS

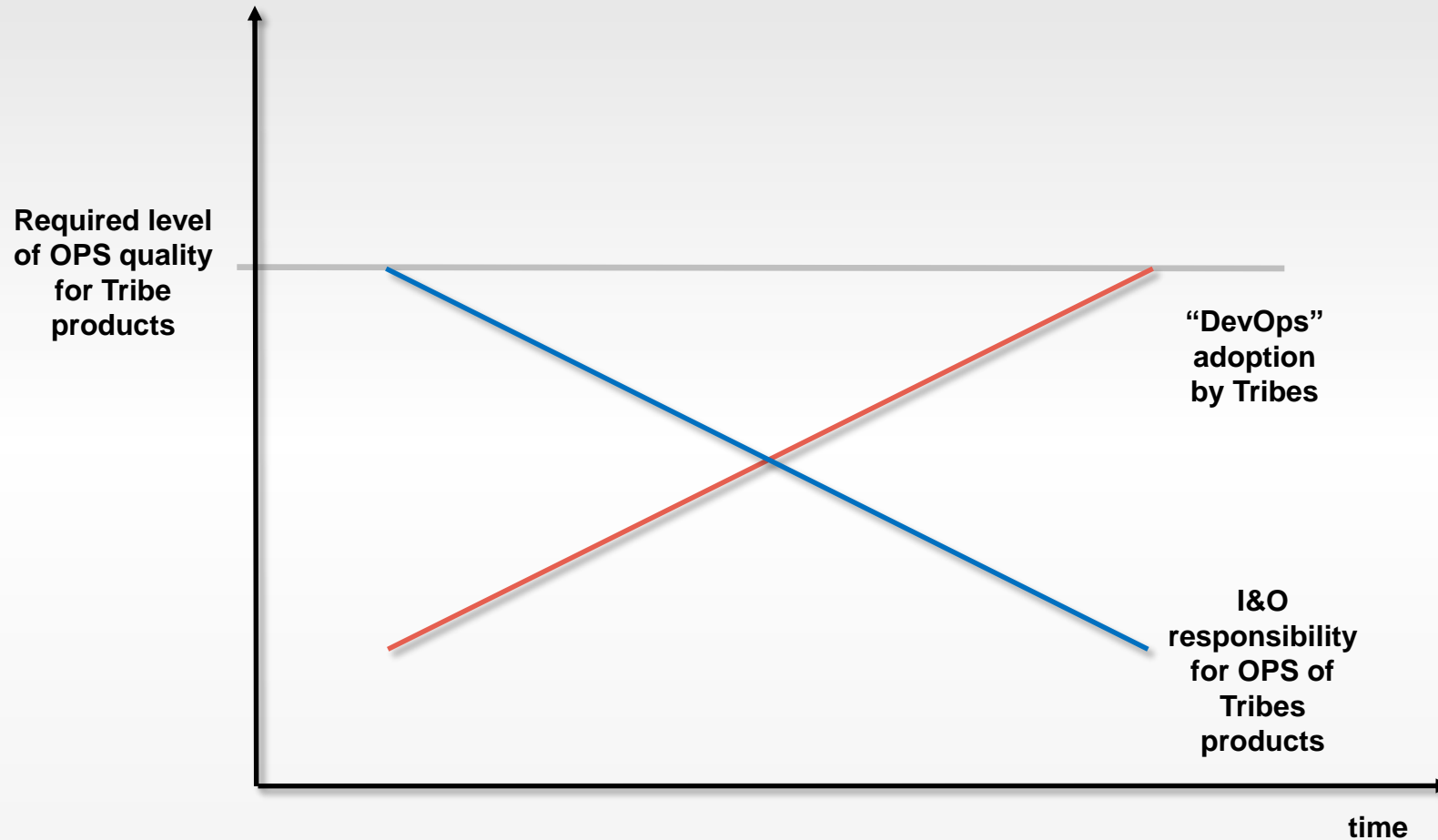


NOW WE HAVE TO LEARN HOW TO TRANSFER THE OPS
RESPONSIBILITY TO DEVOPS TEAMS



Prerequisites	Who will deliver	Up to date info	Automation (Target)
Split on compomnents / services	Squad	Confluence	CMDB
Communication channels / interfaces	Squad	Confluence	
Roles / operational model per components	Squad	JIRA / SM	JIRA / SM
Processes IM, Deploy, ...	Squad	JIRA / SM	JIRA / SM
Outages communication	Squad	?	?
SoD / Access rights	Squad	Document	-
Maintenance window	Squad	Document	-
SLA/OLA	Squad + Architect	Excel	-
Application model	Squad	APIM	-
Monitoring	Squad	Grafana	Monitoring
Logging	Squad	Kibana	Logman
I&O services	I&O	?	-
Dependencies (Squads / services)	Squad	JIRA	JIRA
Deploy approval (CAB substitution)	Squad	JIRA	JIRA

TRIBES LACKING OPS EXPERIENCE



DevOps doesn't mean PUNK DEV in PROD

- Should tribes be autonomous and end-to-end responsible, they need to get the PROD stability culture in their DNA
- The responsibility handover needs to be synchronized with maturity growth on tribe side. Before this, processes like CAB still need to exist

I&O can hardly support only PROD if it doesn't learn the product in NON-PROD

LEVEL OF AUTONOMY

APPLICATIONS

		Application dependency			
		None	On others	Others on application	Shared platform
Squad alone can	Plan	✓	Cooperate	Cooperate	Cooperate
	Code	✓	✓	✓	✓
	Build	✓	✓	✓	✓
	Test	✓	✓	Cooperate	Cooperate
	Release	✓	Cooperate	✓	Cooperate
	Deploy	✓	✓	Tribe Approve	CAB Approve
	Operate	✓	✓	✓	I&O
	Monitor	✓	✓	✓	✓

Only independent Squads will gain full autonomy for their DevOps

Key determinant is direction and level of dependency

INFRA



HOW TO ORGANIZE FOR DEVOPS (OPS PART)



CONSTRAINTS

- I&O resources consolidated based on technologies
- Shared resources require resource allocation, long term resource planning and therefore are not able to be enough flexible for the agile world.
- It is not possible to instantly dismantle the I&O and distribute the existing I&O resources into Tribes

FORESEEN APPROACH

- Start with limited number of dedicated resources on NON PROD environment
- Assuming more responsibility by Tribes should free up some resources in I&O
- Gradual responsibility transfer from I&O to Tribes via dedicated support unit

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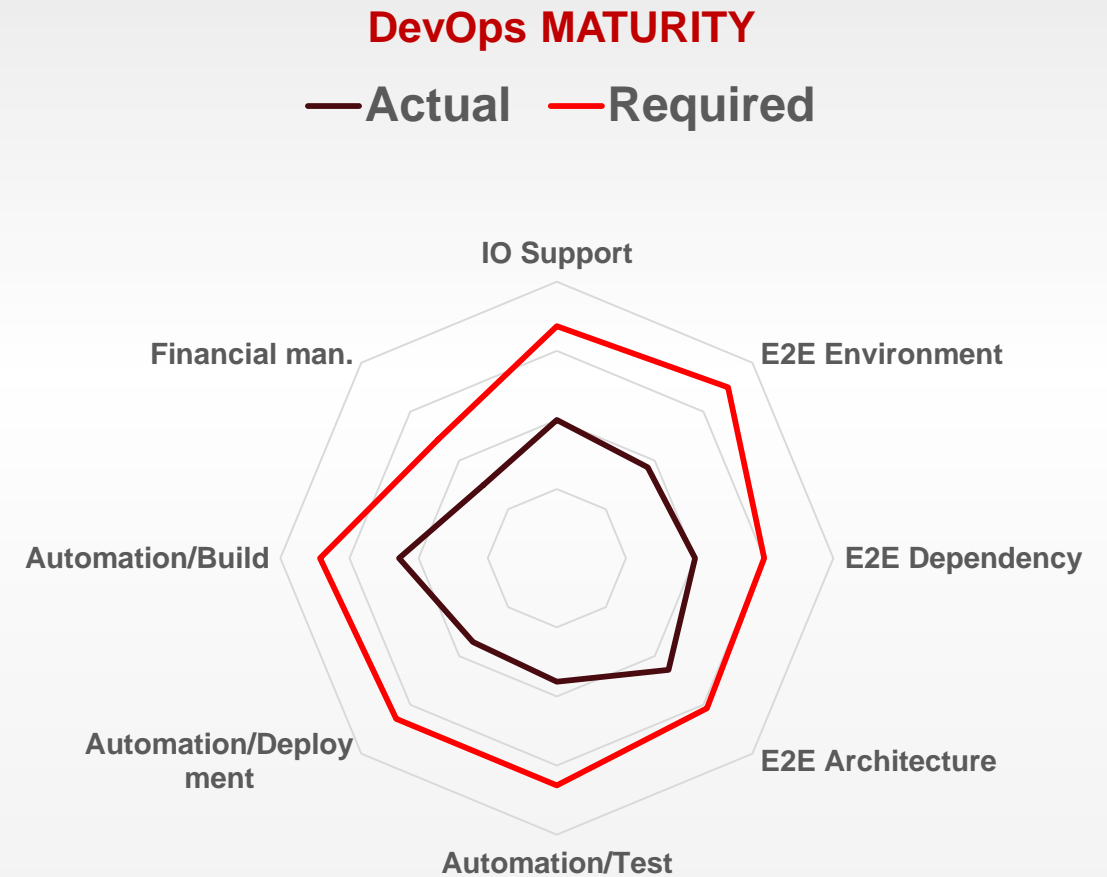
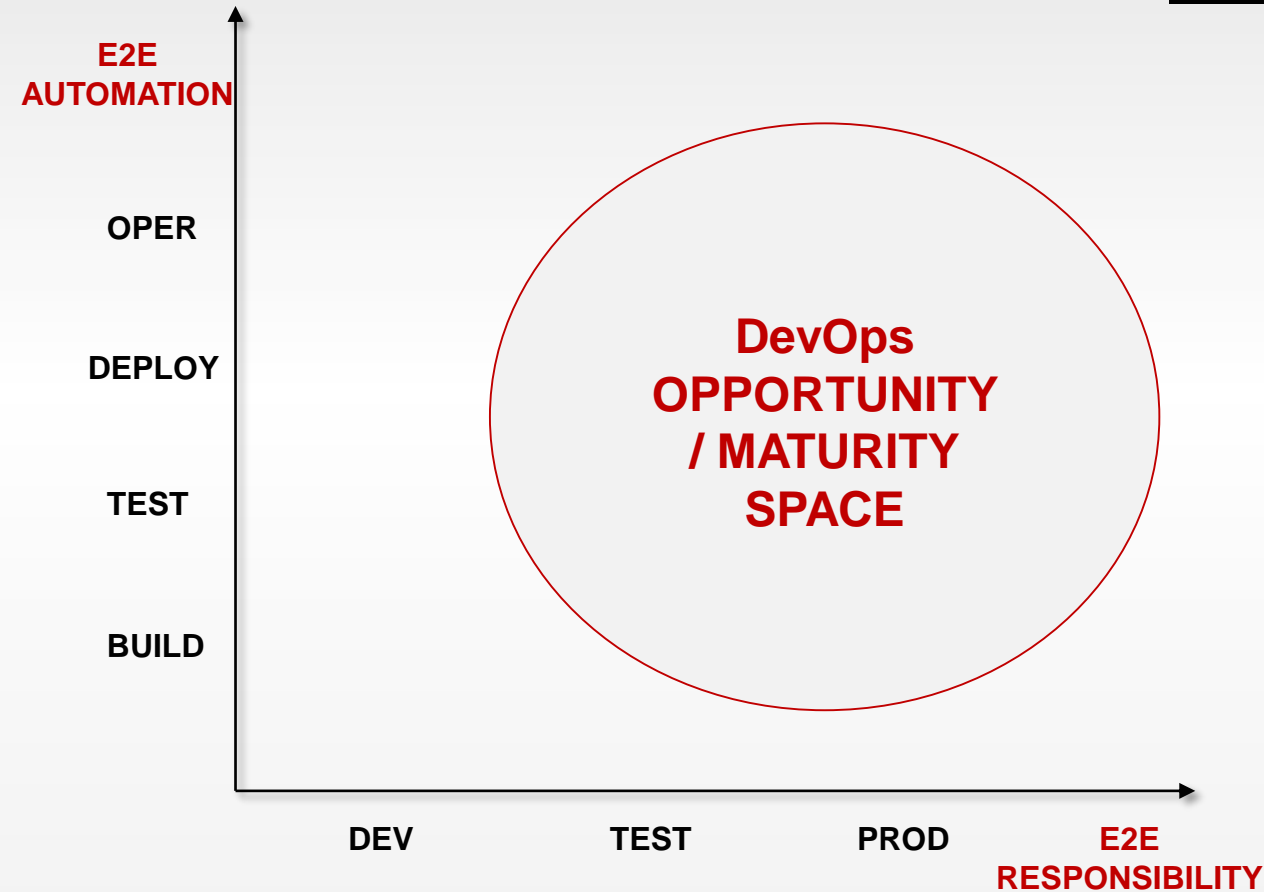
RESUME



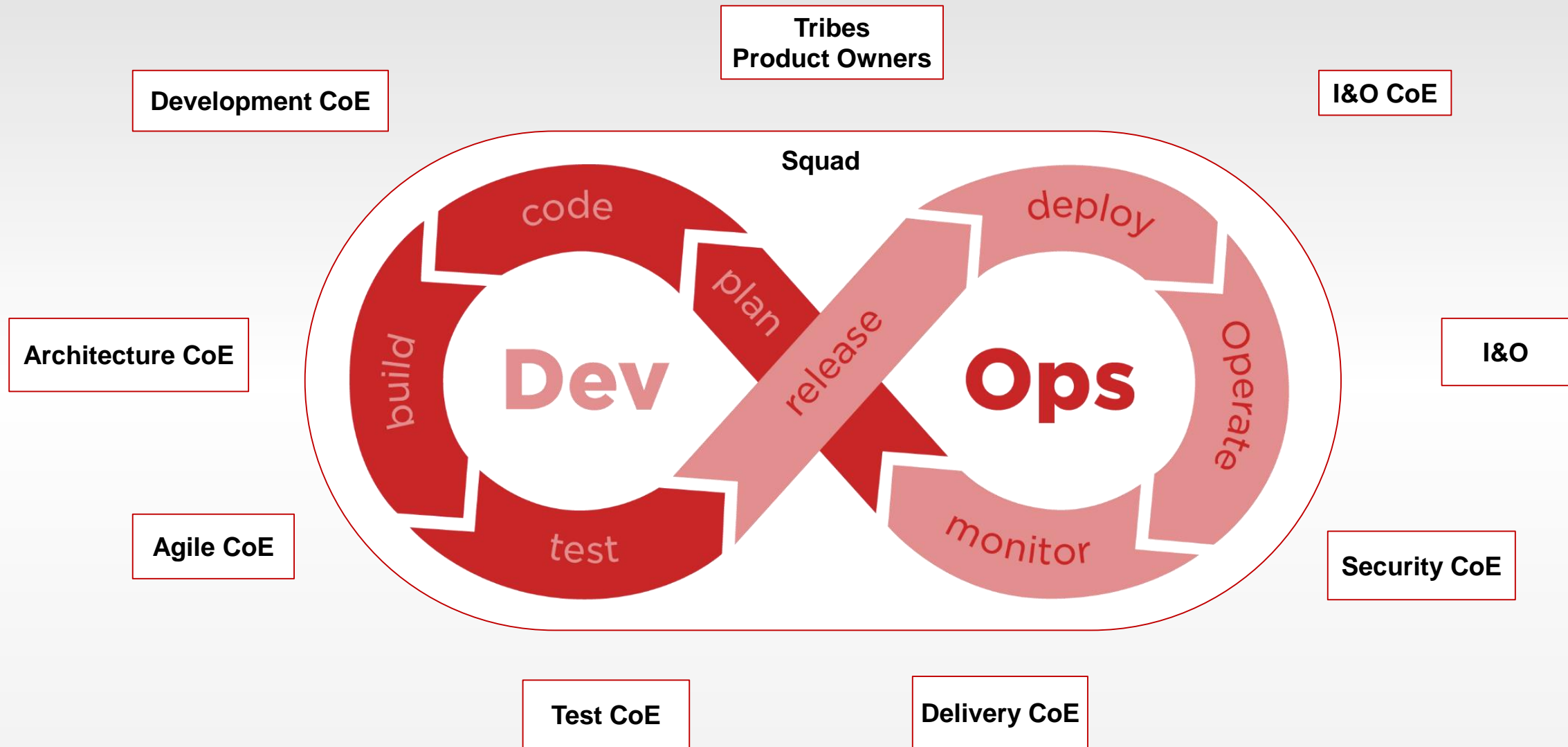
DEVOPS IN A BANK ≠ ONE SIZE FITS ALL

“DevOps is not a Goal, but a never-ending process of continual improvement”

Jez Humble



DEVOPS IN A BANK ≠ ONE TEAM DOES ALL



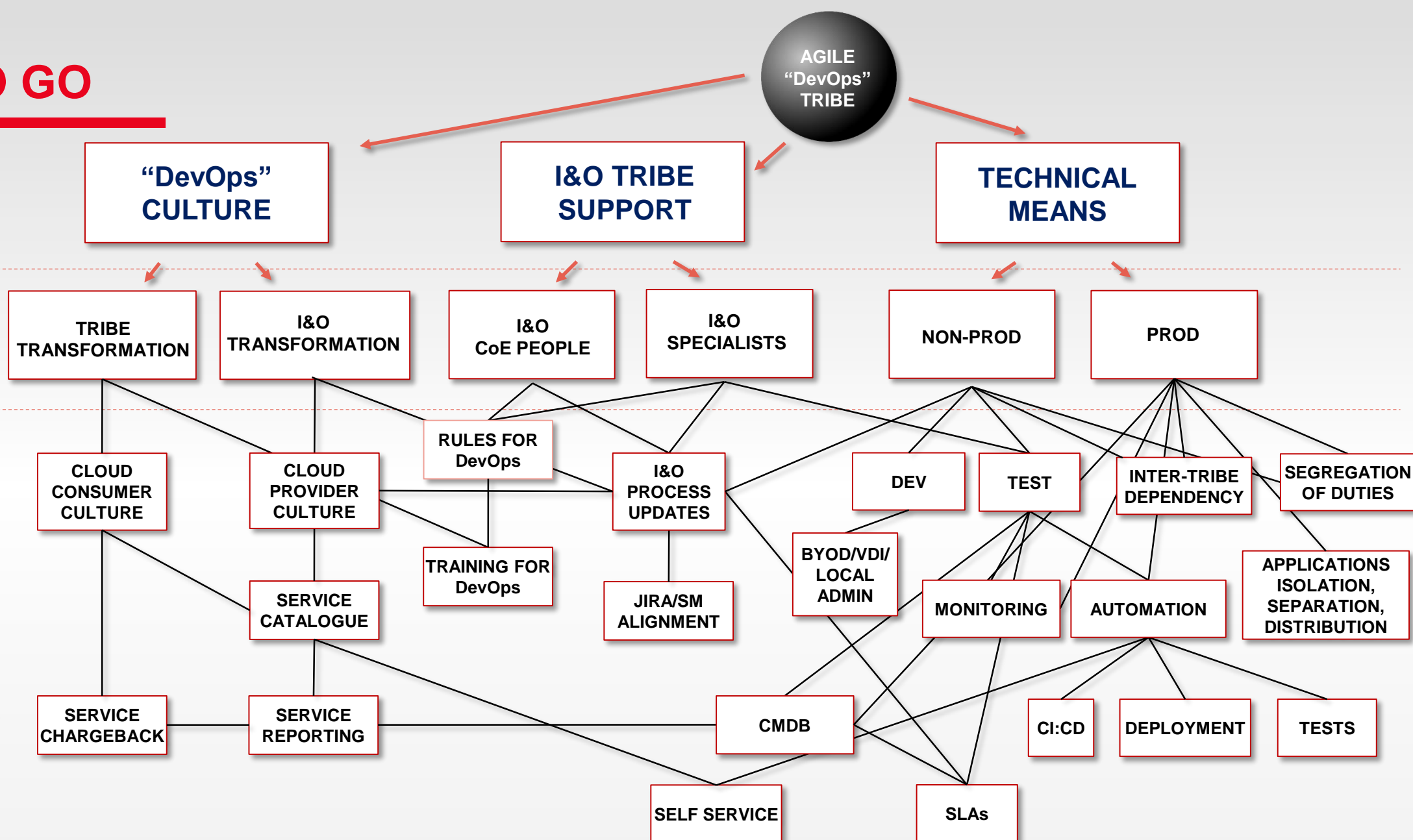
WAY TO GO


AGILE “DevOps” TRIBE NEEDS

CONSISTS OF

“DevOps” ENABLERS

NOT ALL THE
SAME PRIORITIES
& MATURITY



**THE FUTURE
IS YOU**  **KB**