The Platform Mullet

Functions at the front
Containers at the back

Paul Czarkowski
@pczarkowski

All Day DevOps
October 17, 2018

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Solutions Review

Agenda

- WTF is a platform anyway ?
- I knew it, I’m surrounded by aaS’s
- CaaS, PaaS or FaaS nobody clouds for free.
- Transform your digits

Pivotal


WTF is a platform anyway?
Pivotal

What is a platform ?

A **computing platform** or **digital platform**[1] is the environment in which a piece of software is executed. It may be the hardware or the operating system (OS), even a web browser and associated application programming interfaces, or other underlying software, as long as the program code is executed with it. Computing platforms have different abstraction levels, including a computer architecture, an OS, or runtime libraries.[2] A computing platform is the stage on which computer programs can run.

A platform can be seen both as a constraint on the software development process, in that different platforms provide different functionality and restrictions; and as an assistance to the development process, in that they provide low-level functionality ready-made. For example, an OS may be a platform that abstracts the underlying differences in hardware and provides a generic command for saving files or accessing the network.

https://en.wikipedia.org/wiki/Computing_platform

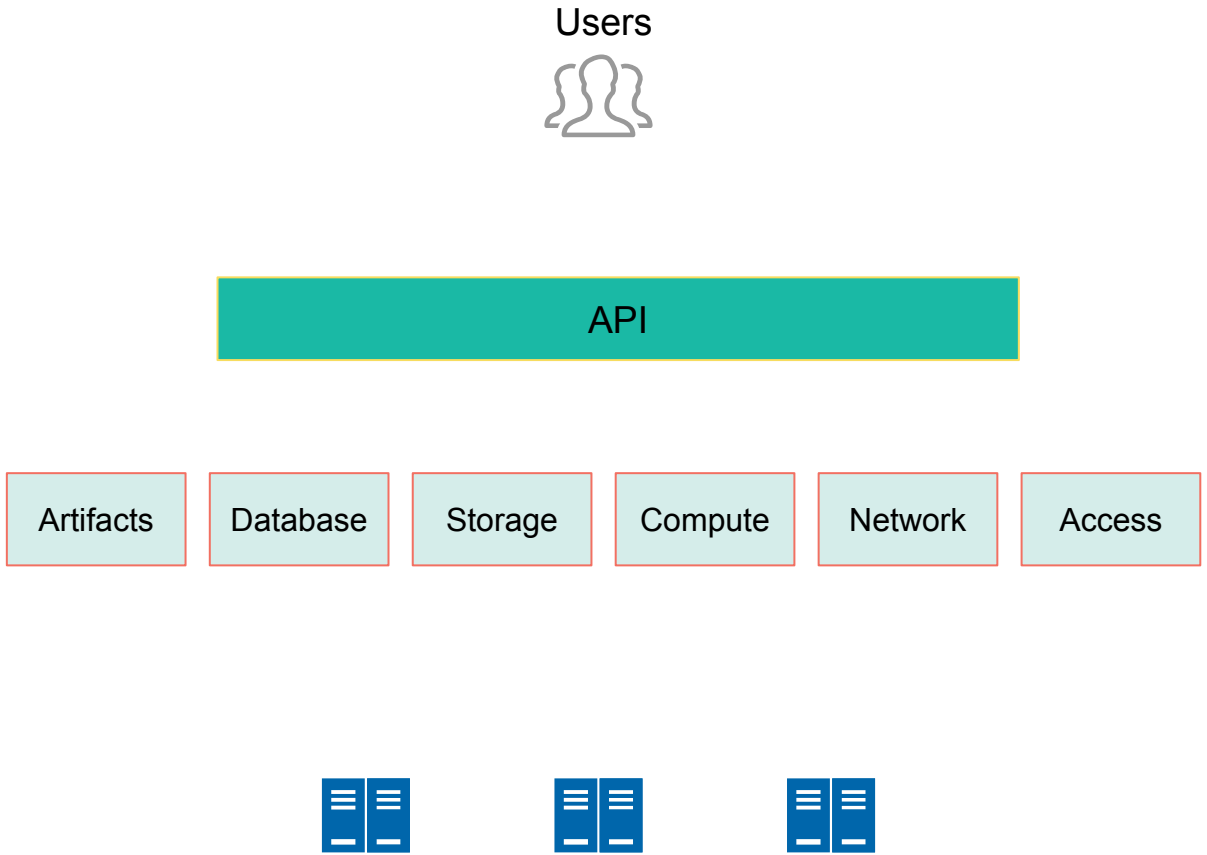
Software runs on a platform

Platforms abstract complexity

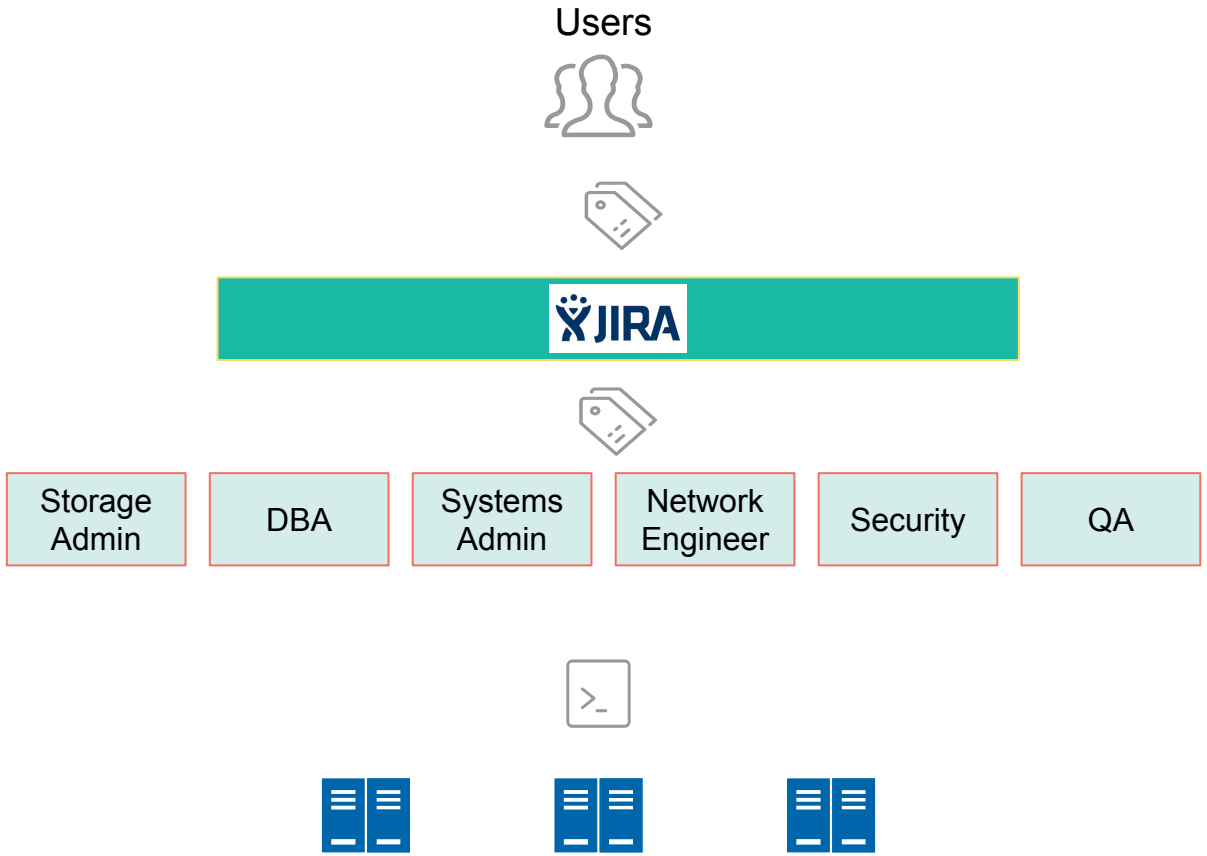
Different platforms abstract differently


A modern software
platform provides
API driven compute
resources.

Generic Platform

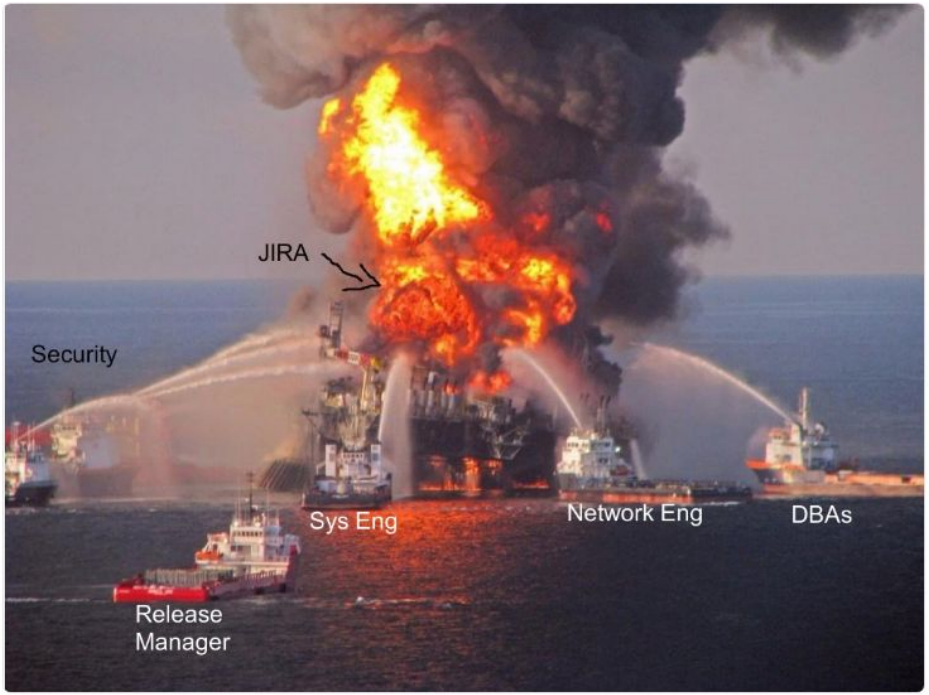


Enterprise IT



Czarcloudski
@pczarkowski

Enterprise DevOps



11:16 AM - 11 Jun 2018

1,217 Retweets **2,307** Likes

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What Abstraction is the Right One for You ?

More Control
More Toil

Less Control
Less Toil

Traditional Ticket Based Human Toil

PXE boot ?

Hardware Platform

Meat Cloud !

Build App Artifact

Config Management

Infrastructure As Code

IaaS API

Infrastructure Platform

Infrastructure As A Service (IaaS)

Build App Container(s)

Deployment Manifest

K8s API

Container Platform

Container As A Service (CaaS)

App → to the Platform

CF API

Application Platform

Platform As A Service (PaaS)

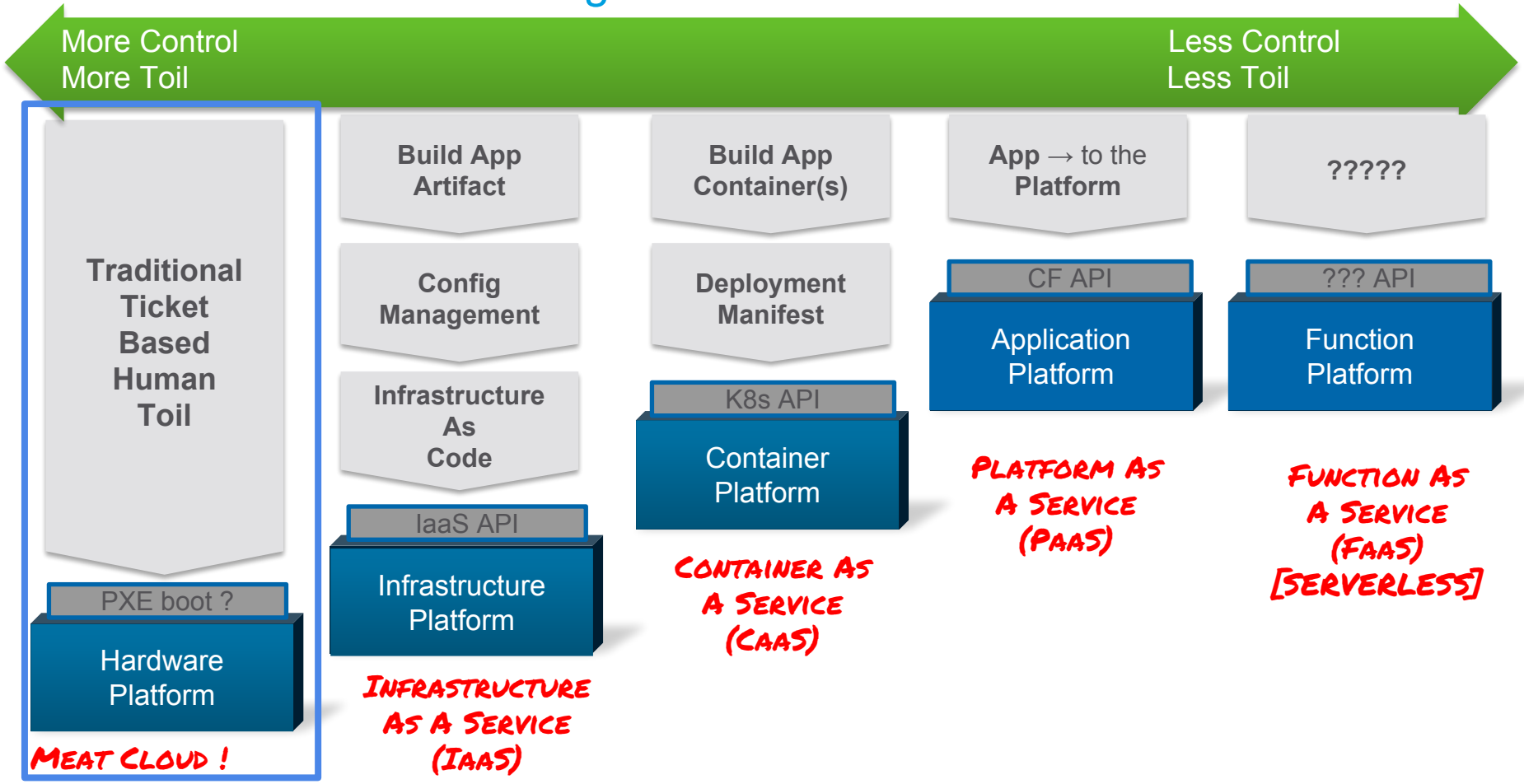
?????

??? API

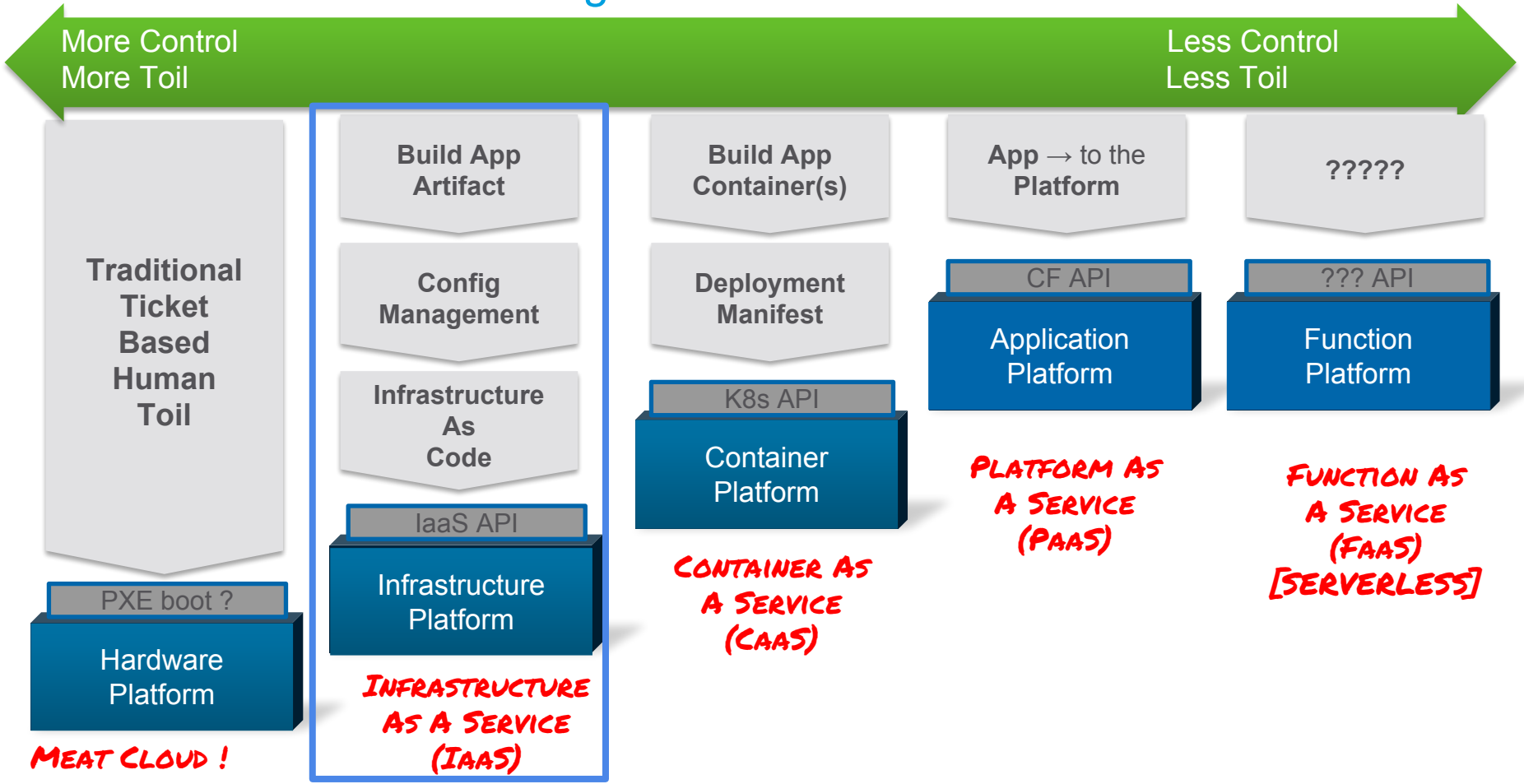
Function Platform

Function As A Service (FaaS) [Serverless]

What Abstraction is the Right One for You ?



What Abstraction is the Right One for You ?



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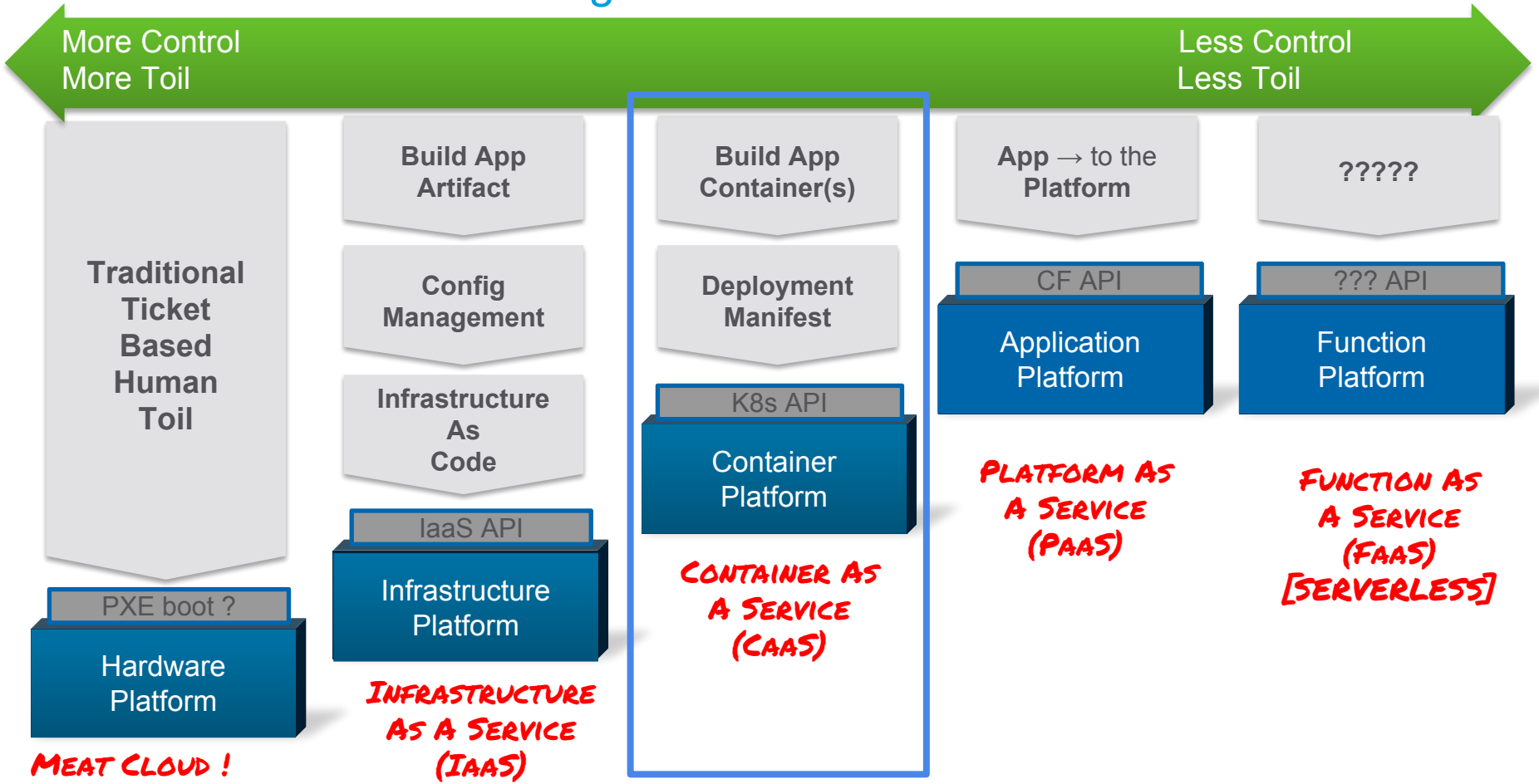

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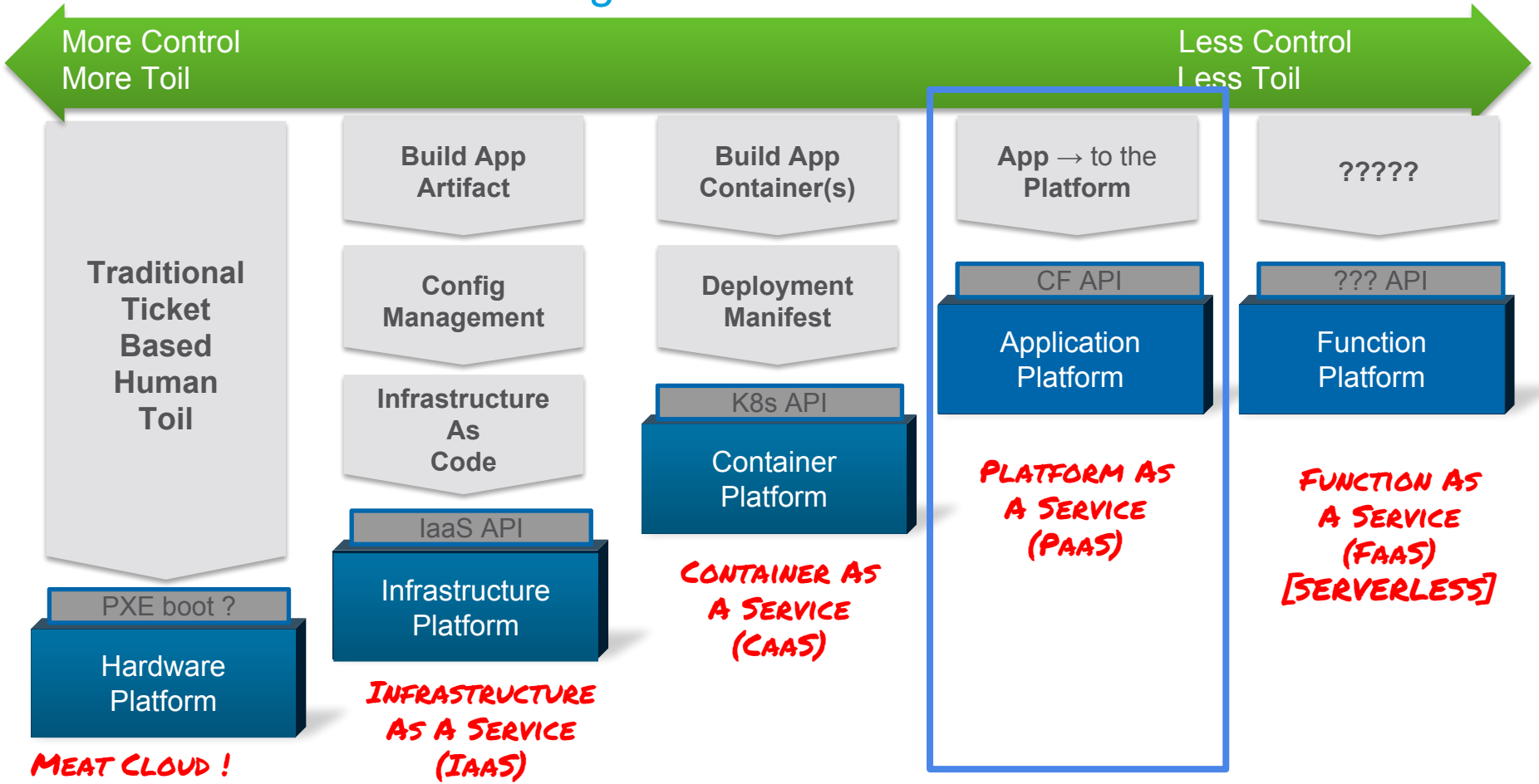

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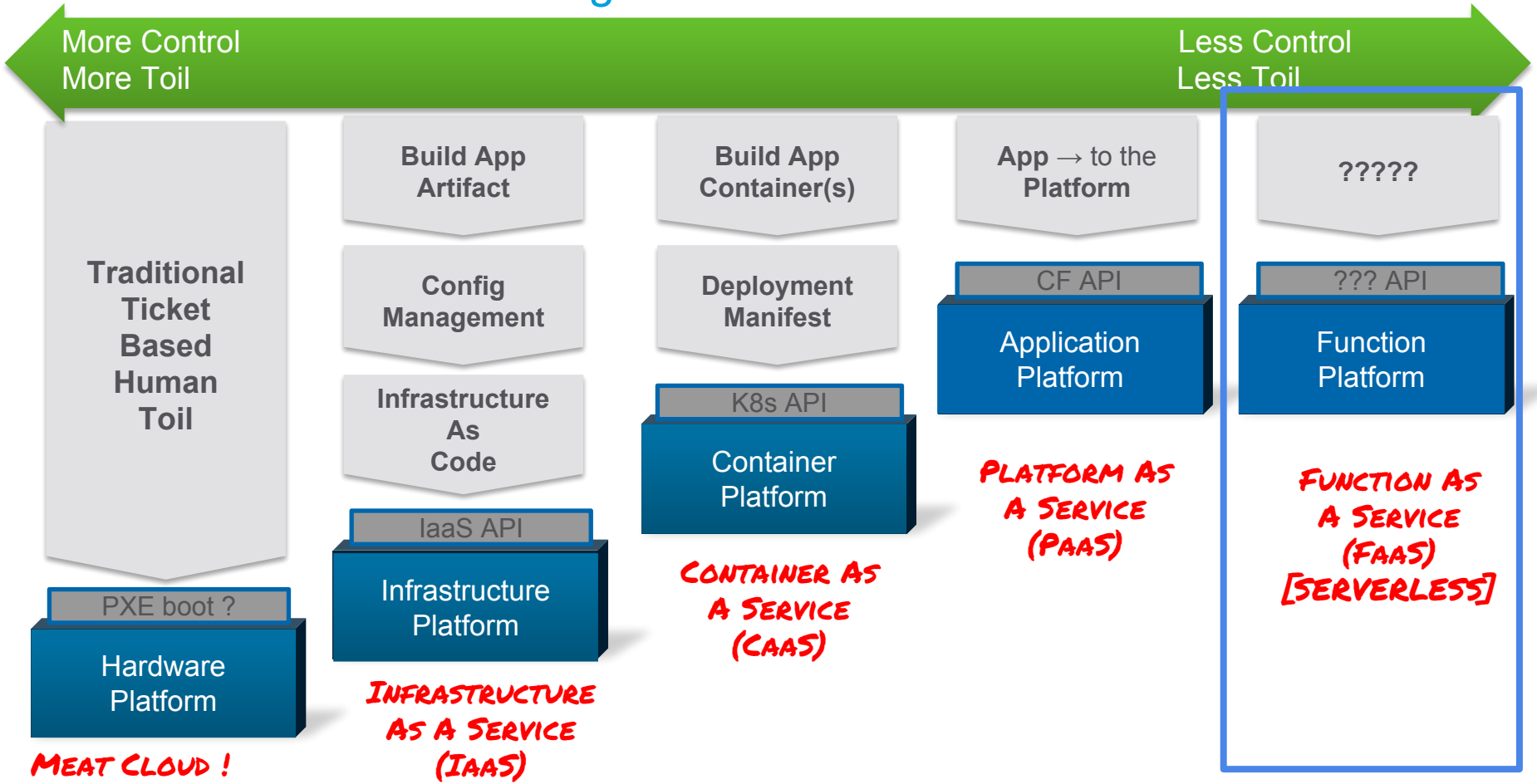

Onsi Fakhouri

@onsijoe

cf push haiku

here is my source code
run it on the cloud for me
i do not care how

2:18 PM - 12 May 2015

https://twitter.com/onsijoe/status/598235841635360768

Czarkernetes
@pczarkowski

kubectl apply haiku^H^H^H^H^H^H Sonnet

Here is my source code
I built it into a container just now,
Please run it for me
This YAML will tell you how.

12:47 PM - 16 Feb 2018

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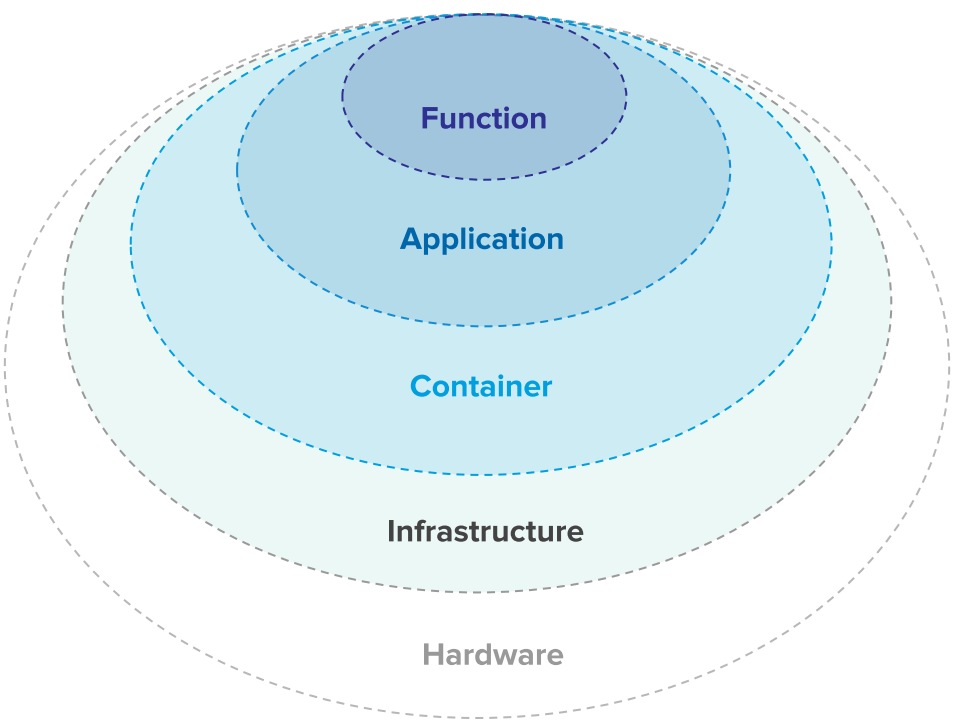
Serverless Haiku

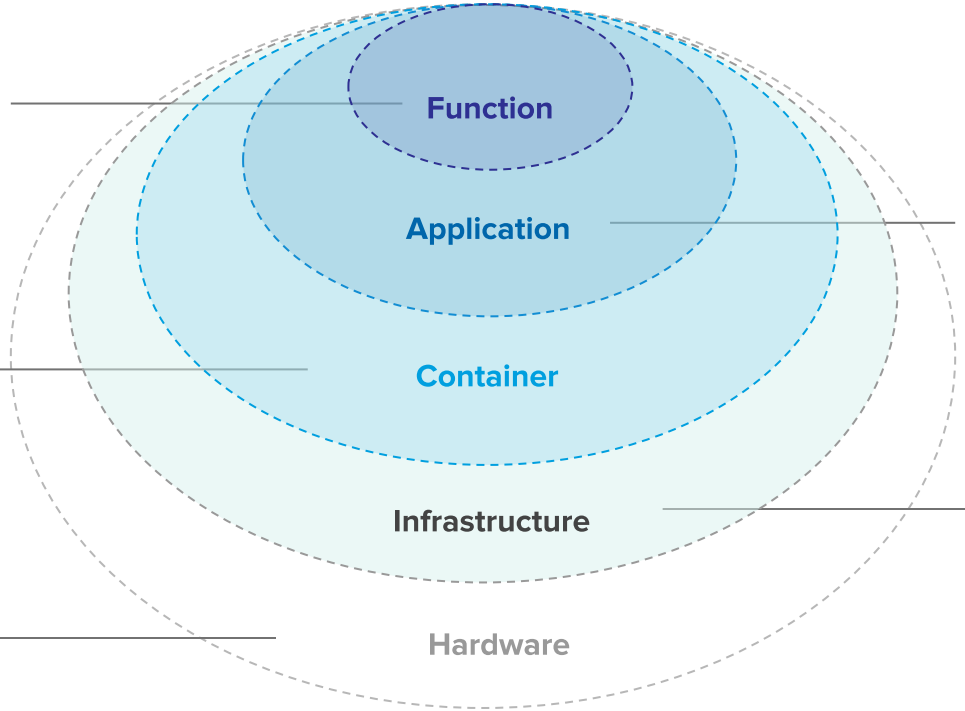
“Here is a Function
Run it every time you
receive an event.”

Higher flexibility and less enforcement of standards



Lower development complexity and higher operational efficiency

Platform Projects / Products



Lambda
GFS
CFFR / Kubo / KNative
Kubeless

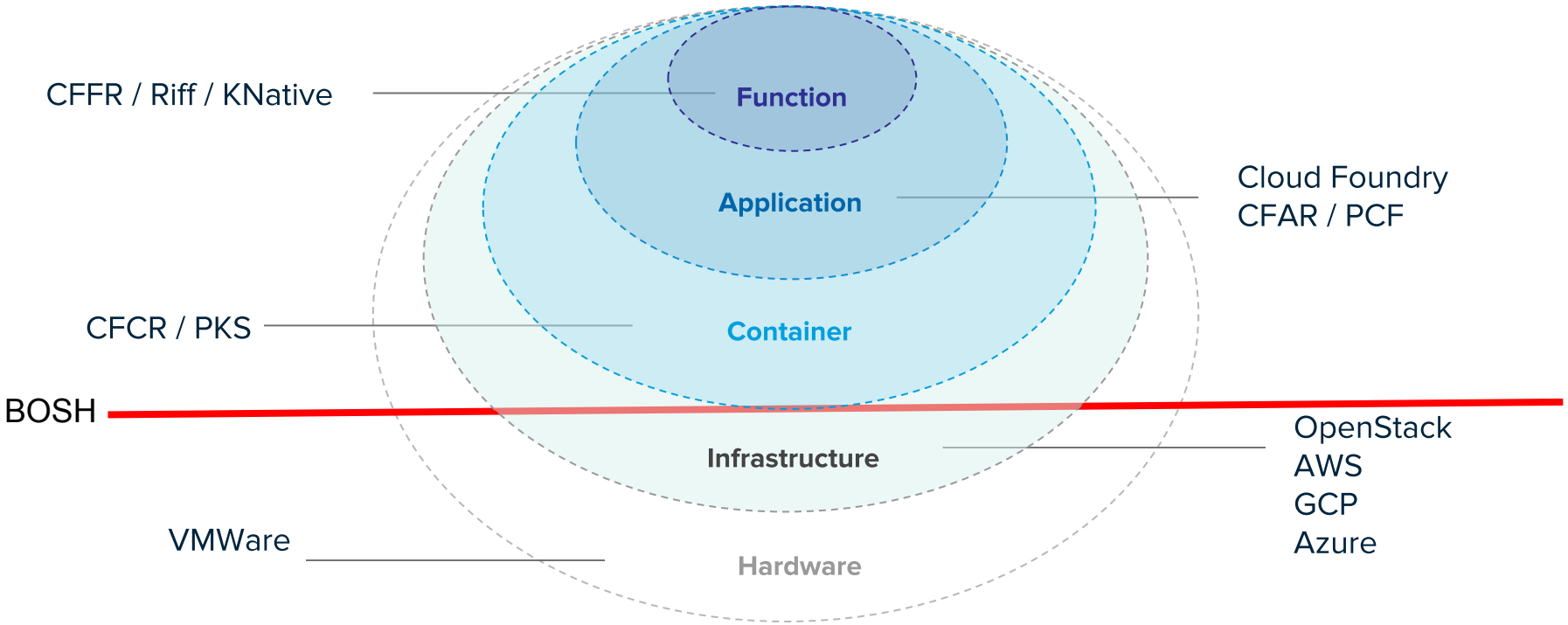
Cloud Foundry
CFAR / PCF
Heroku
GAE

Mesos
Kubernetes
CFCR / PKS
GKE/AKS/EKS

OpenStack
AWS
GCP
Azure

VMWare
Meat Cloud
Digital Rebar
Packet

Platform Projects / Products



Any App Every Cloud One Platform

PCF 2.0 — for everything that matters

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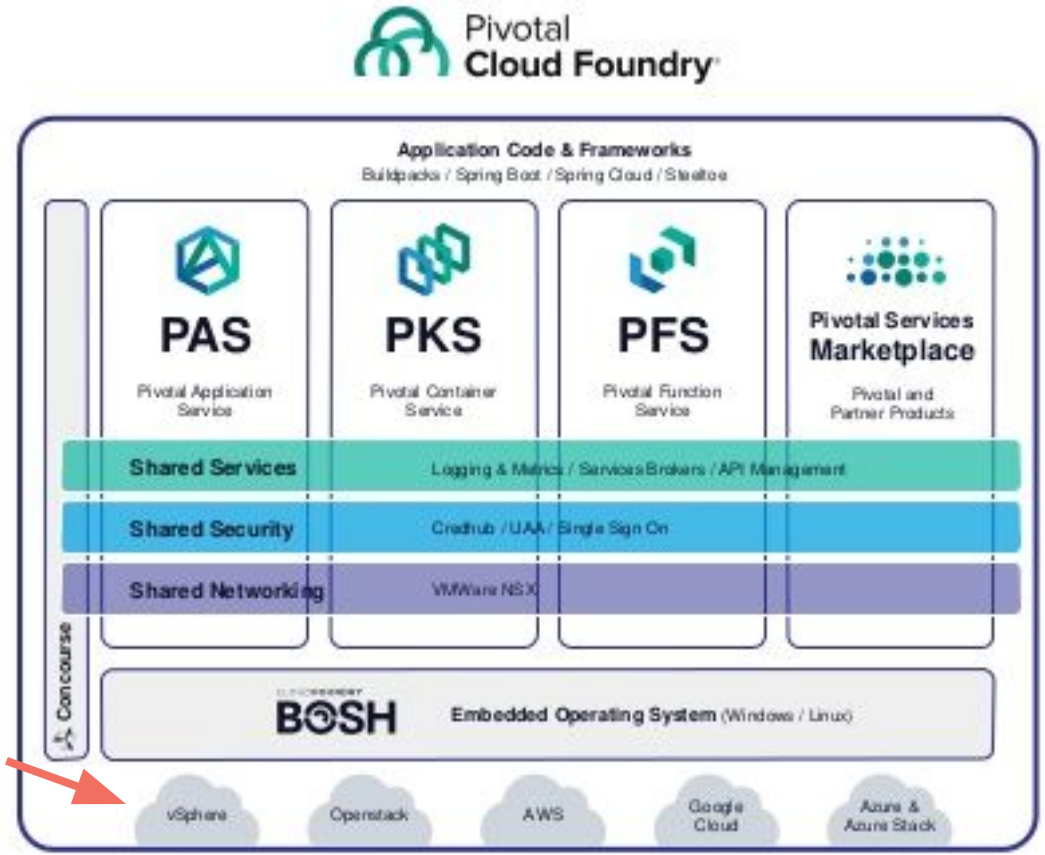
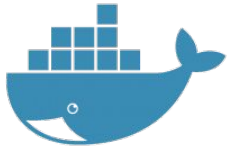
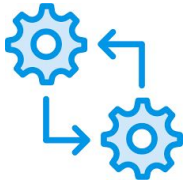


Pick the Right Runtime for Each Workload



Containers



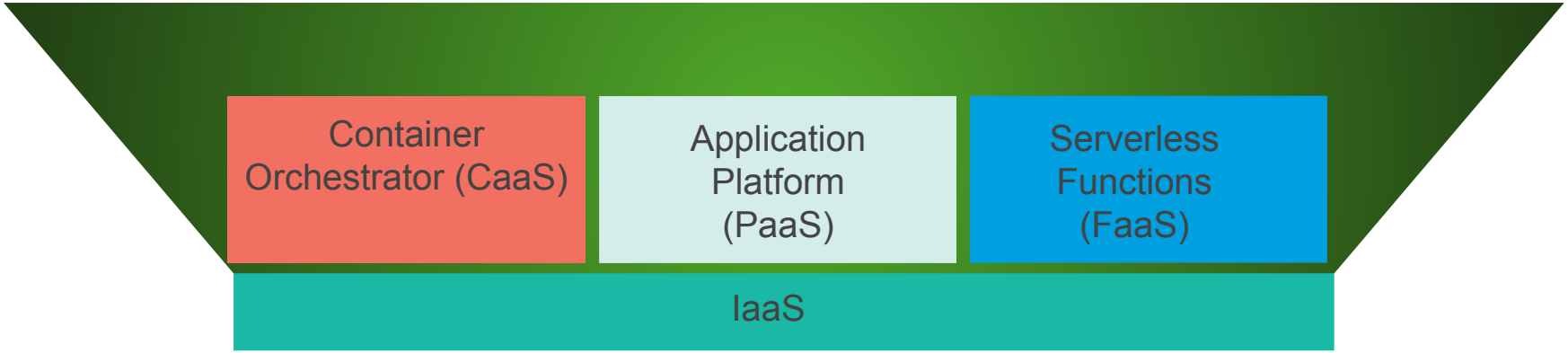
Batches

Event-Driven Functions

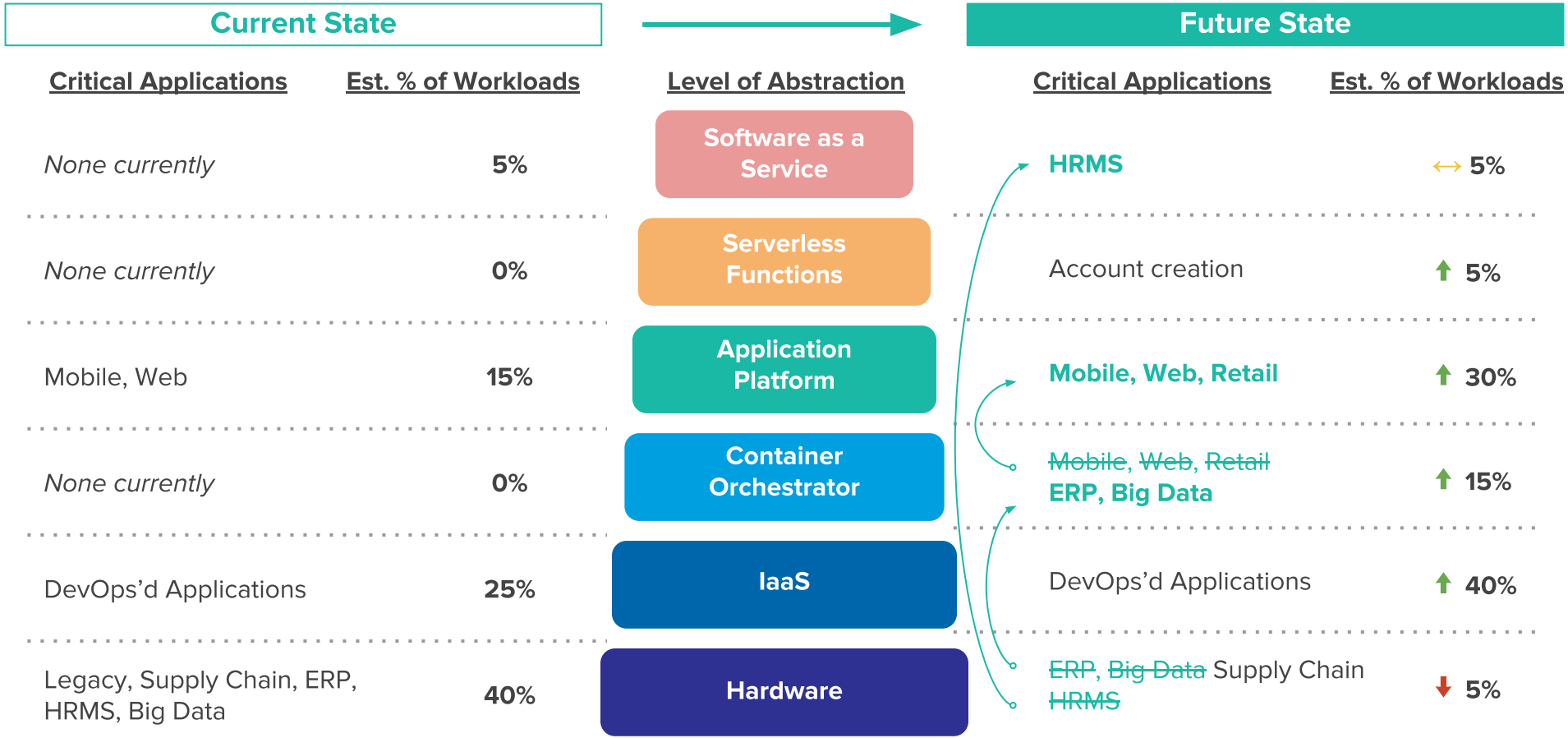
Microservices

Data Services

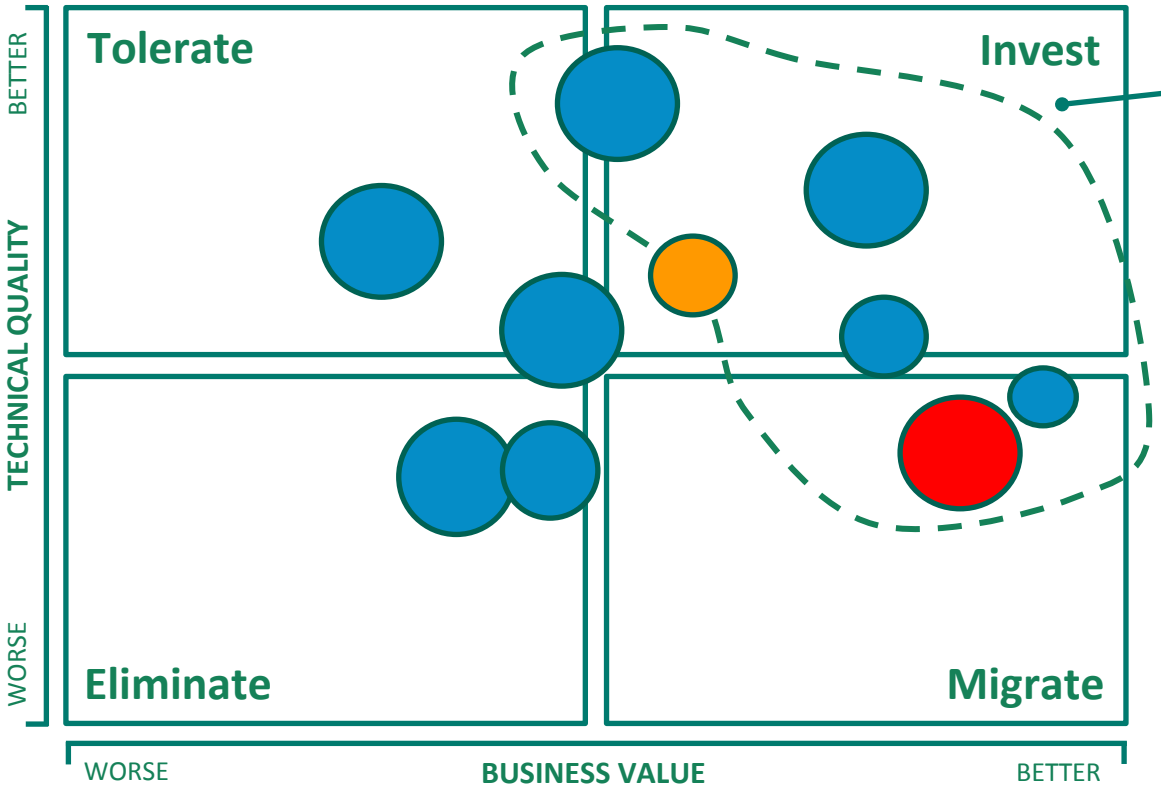
Monolithic Applications



Current State vs. Future State: Workloads



TIME Methodology



Identify top 10s list

TECHNICAL QUALITY - Technical Debt Level
BUSINESS VALUE - Revenue / Cost Impact

* Gartner's TIME methodology for Application Portfolio Rationalization

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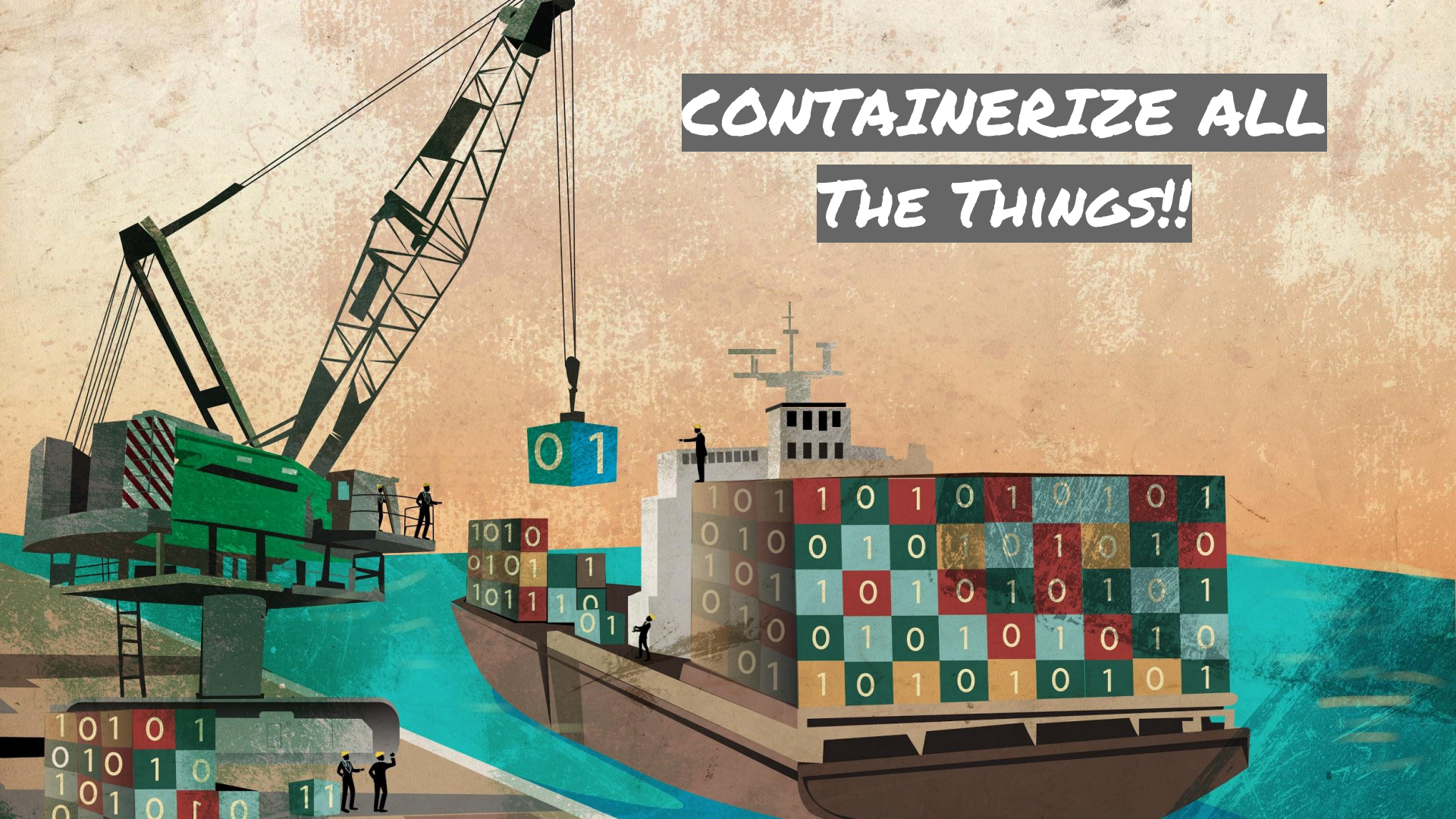

CONTAINERIZE ALL
THE THINGS!!

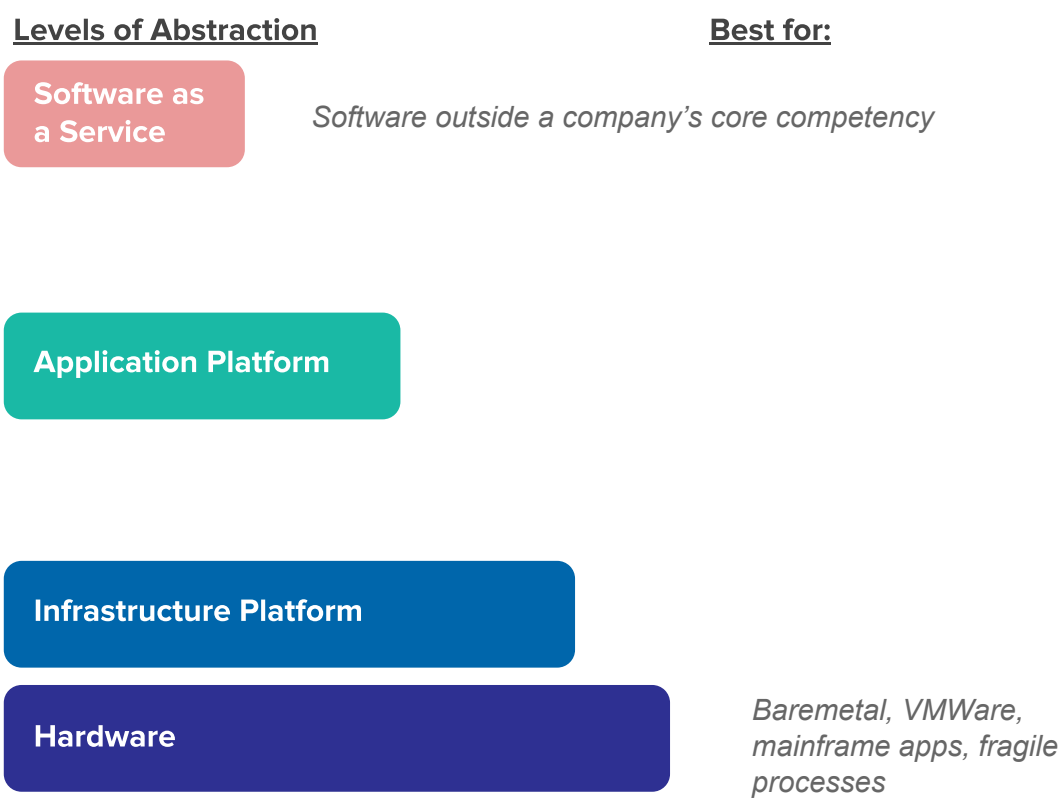
Where to start ?

Levels of Abstraction	Best for:
Hardware	*Baremetal, VMWare, mainframe apps, fragile processes*

Where to start ?

Levels of Abstraction	Best for:
Software as a Service	*Software outside a company's core competency*
Hardware	*Baremetal, VMWare, mainframe apps, fragile processes*

Where to start ?



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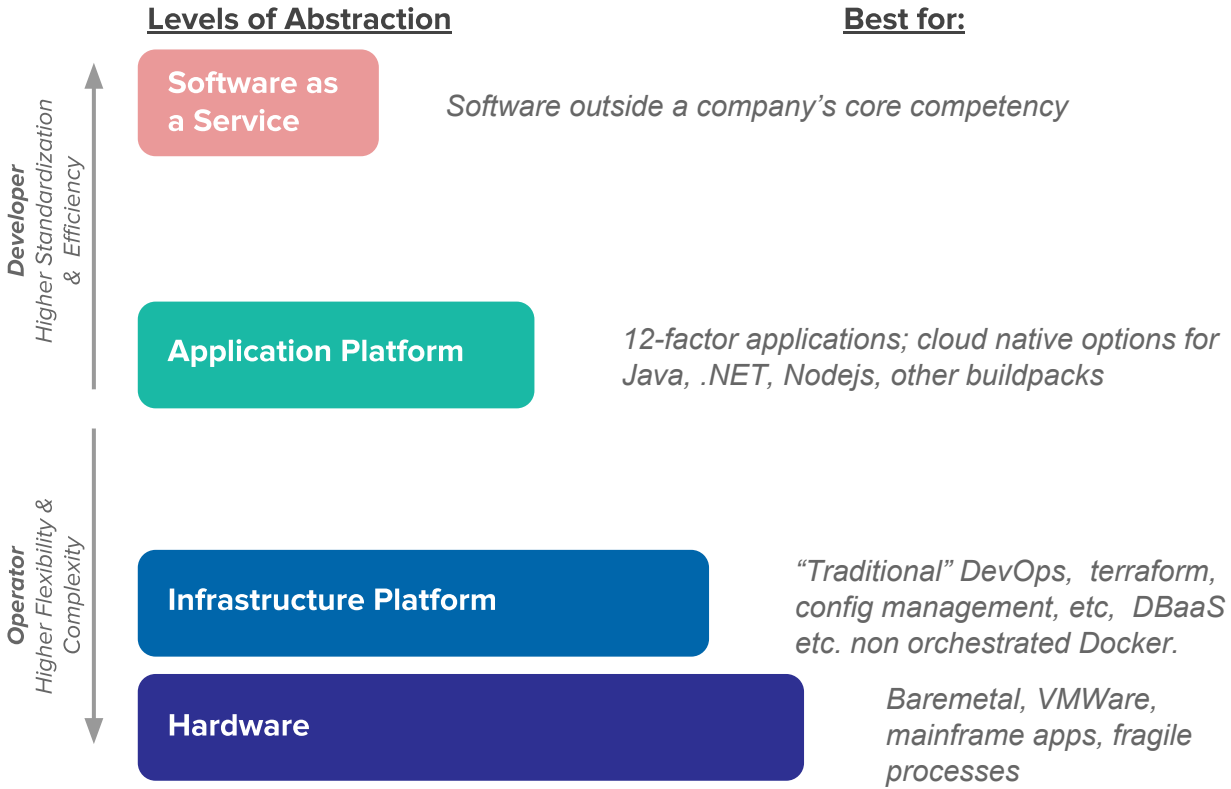

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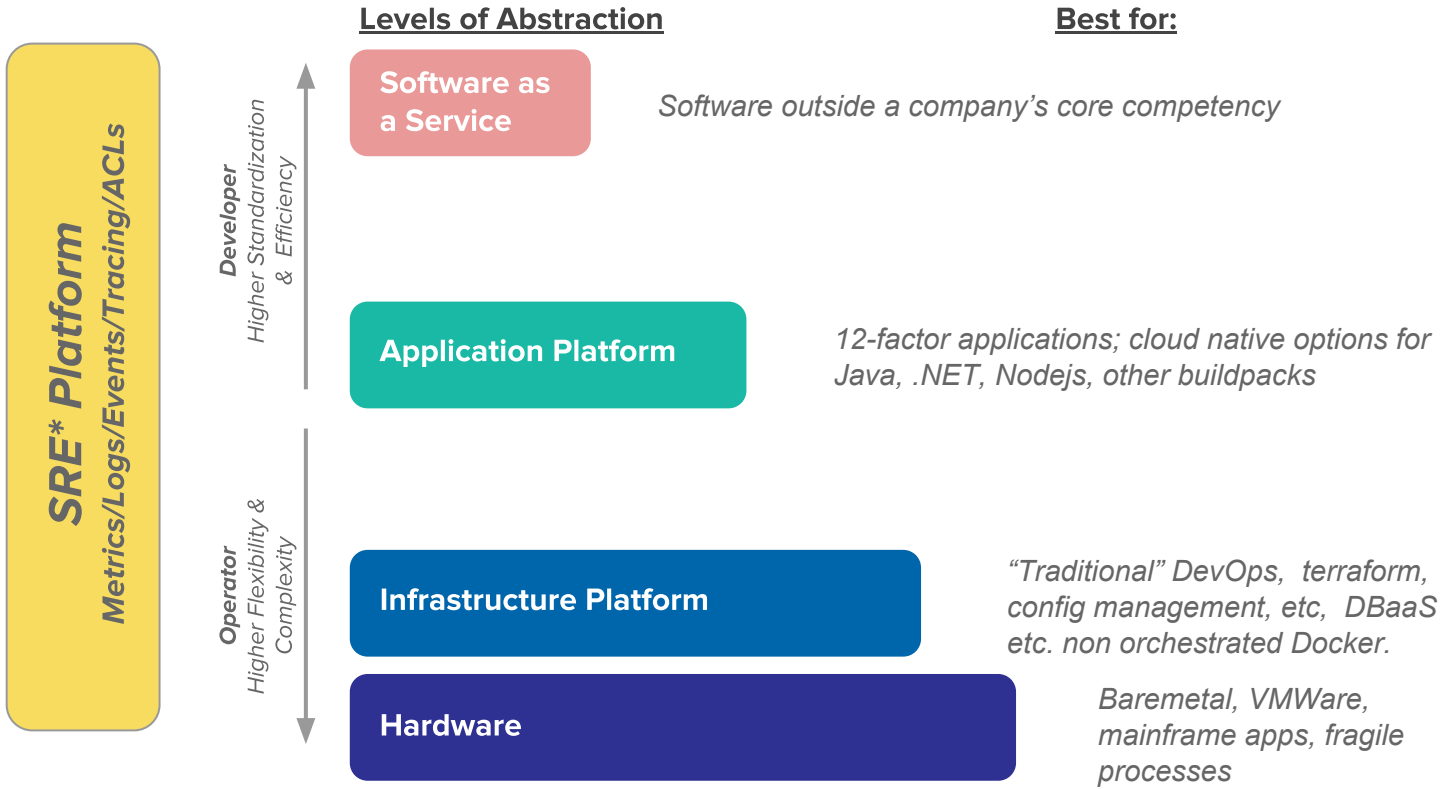

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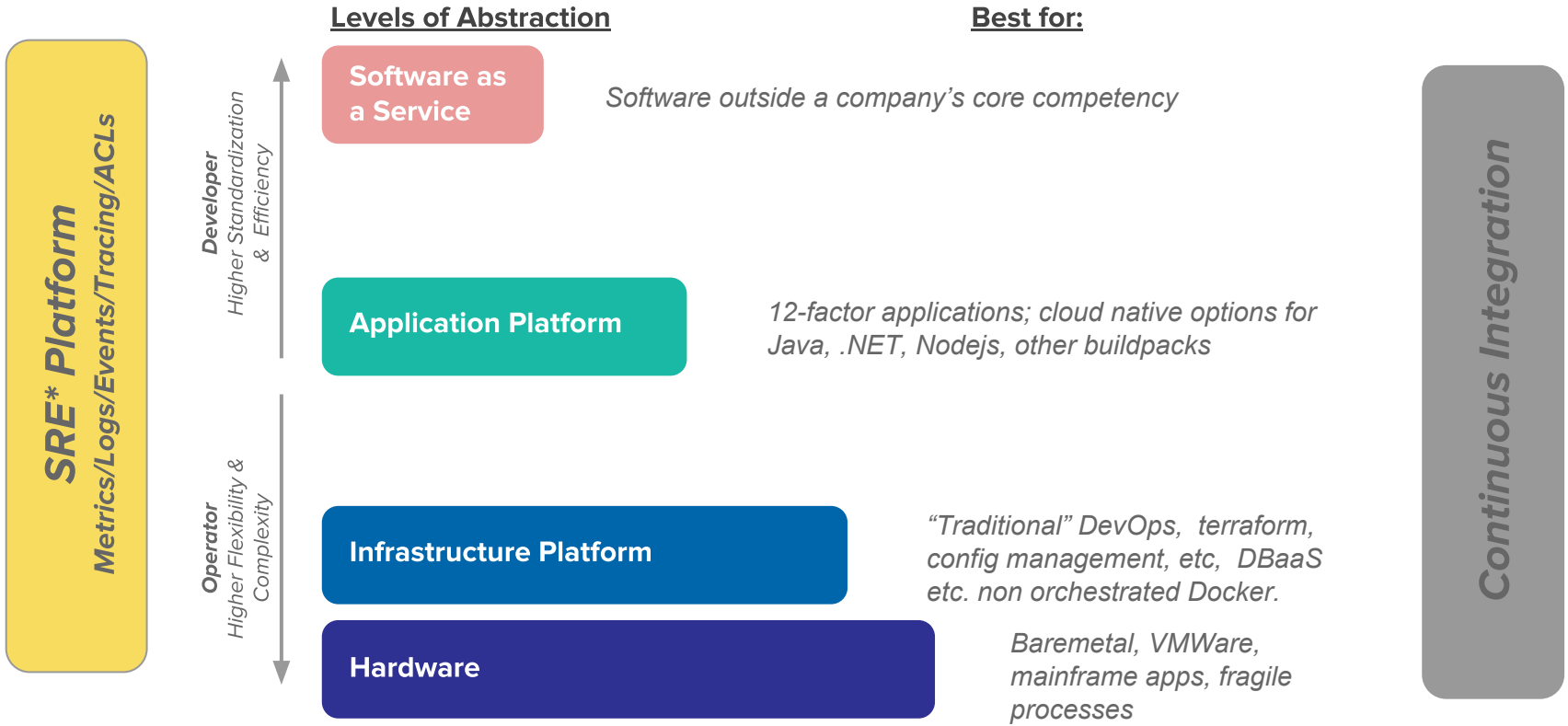

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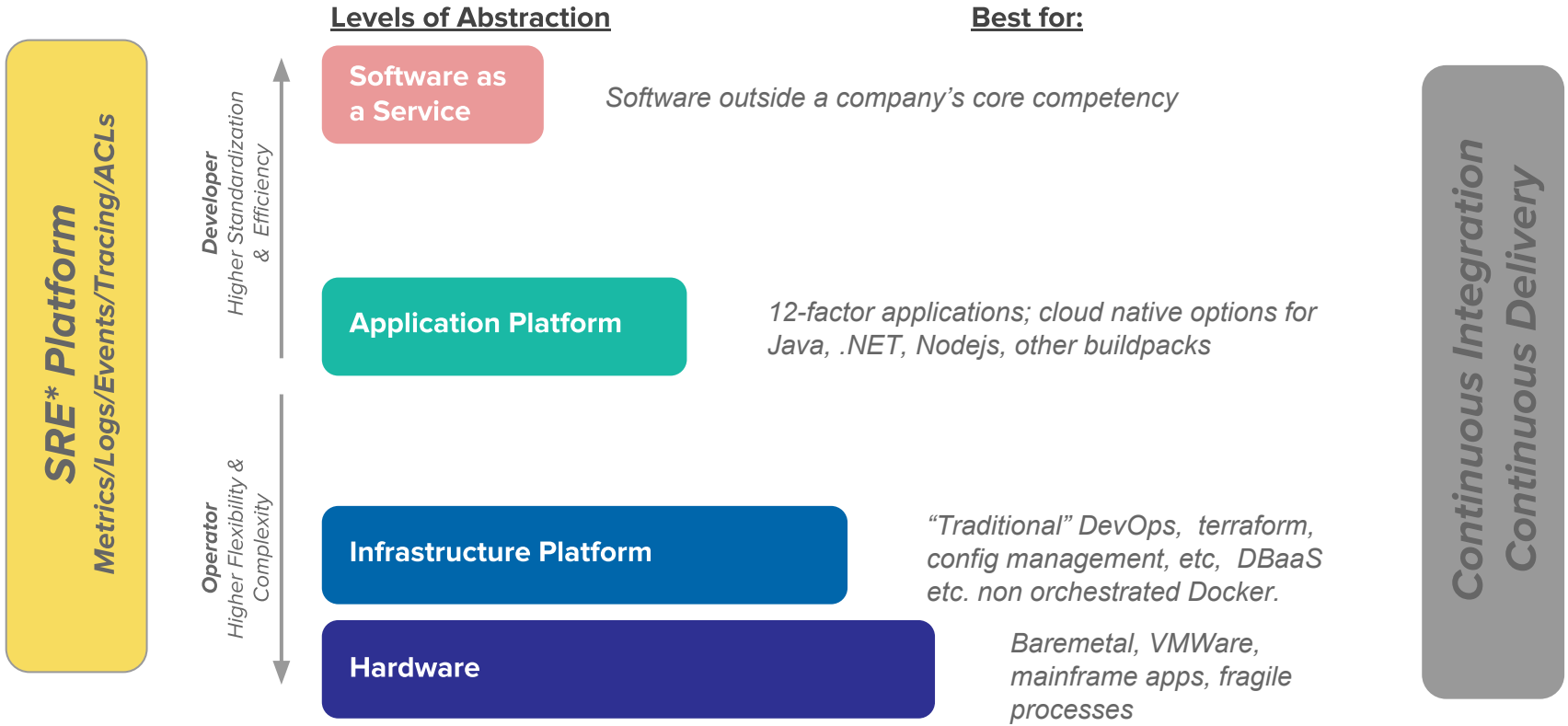
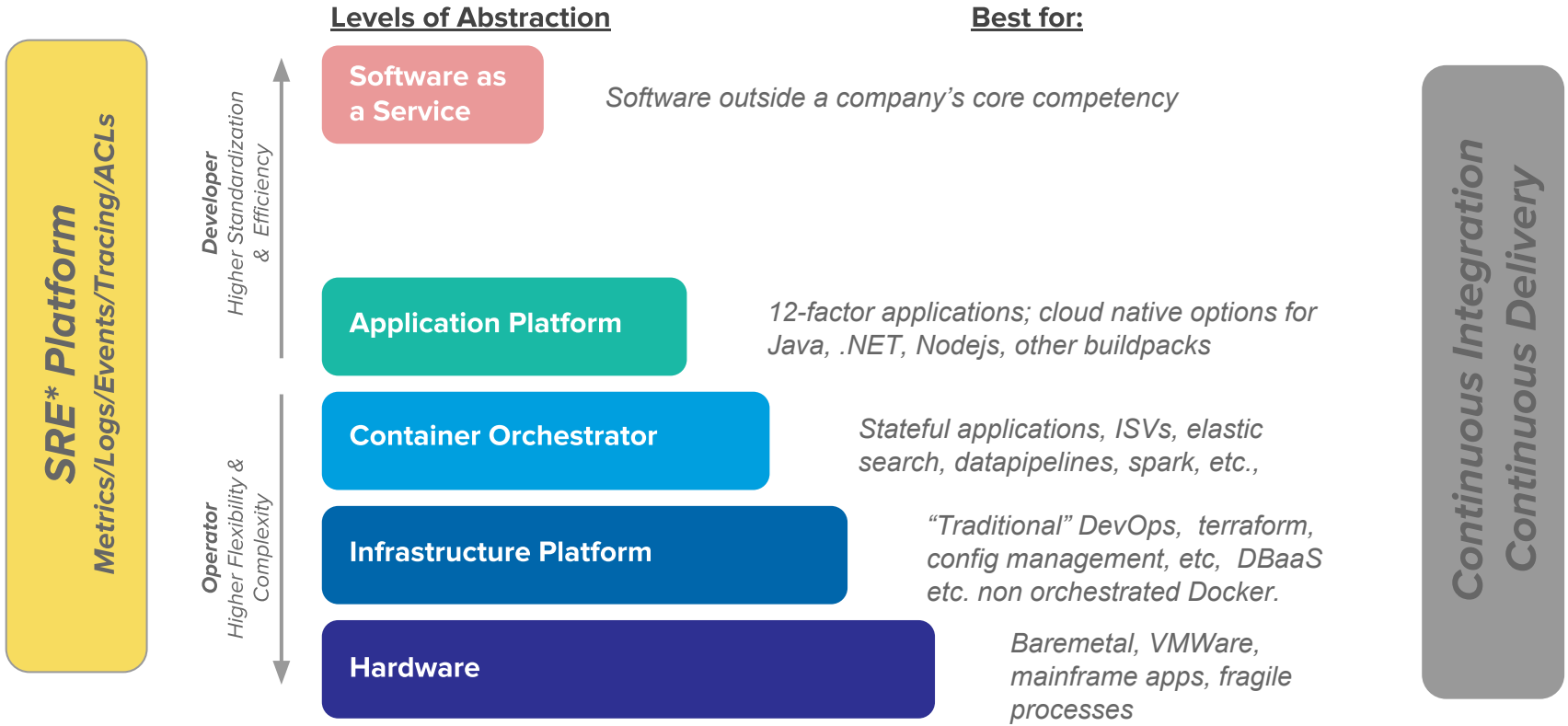
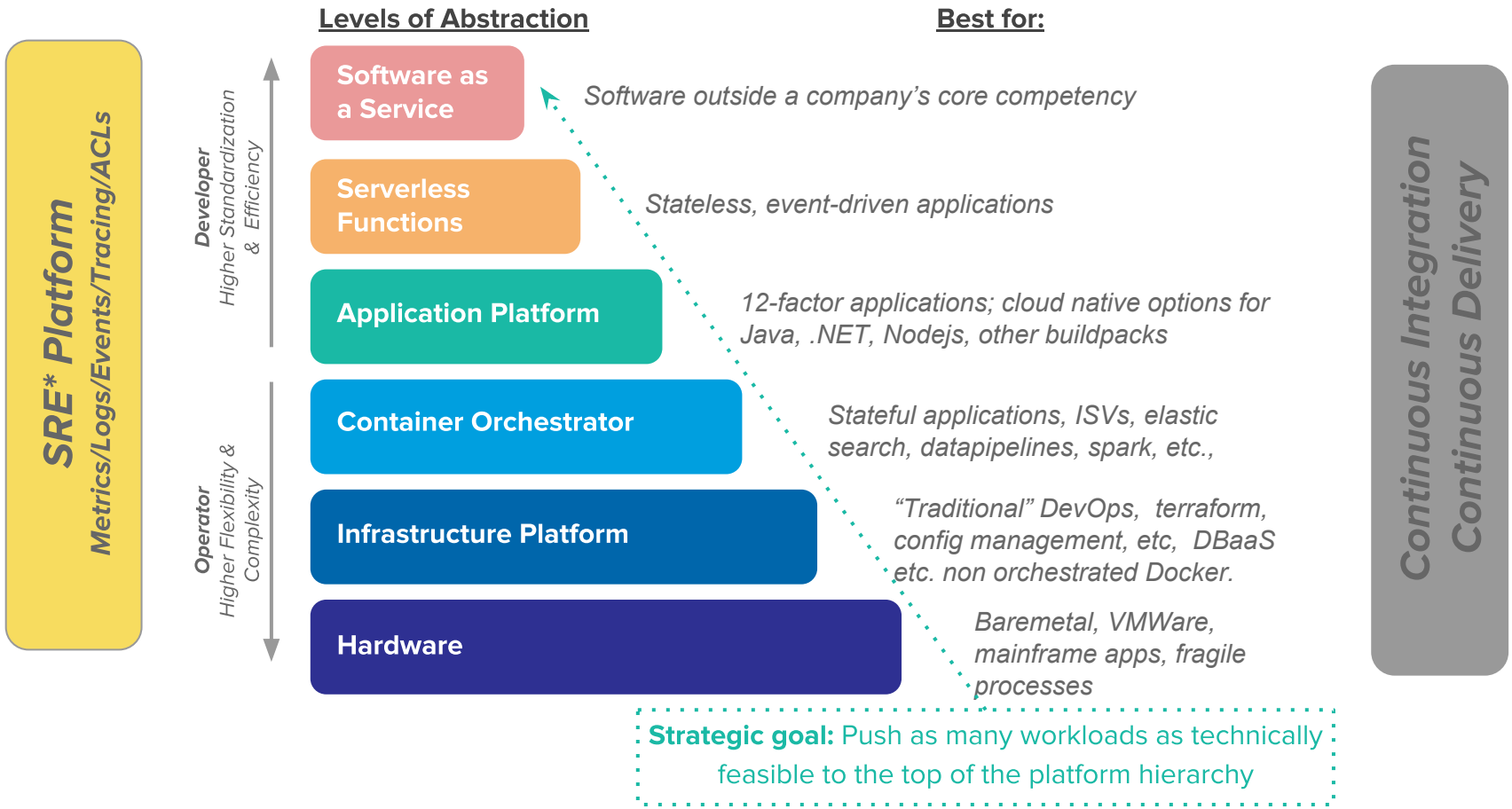


Where to start ?



Selecting the Appropriate Level of Abstraction



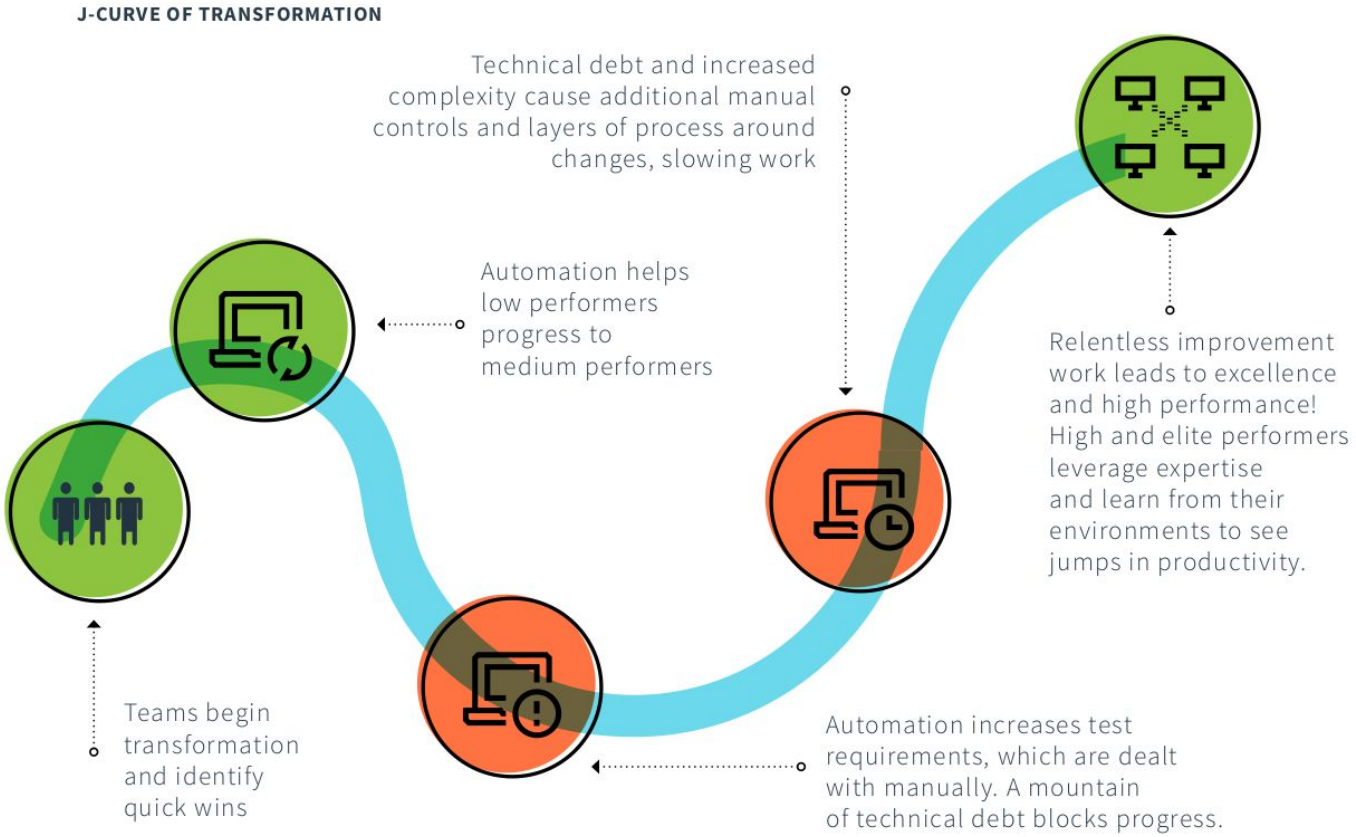

APP
APP
Gitlab
Concourse
HARBOR™
Spinnaker
Pivotal
Container
Service™

Pivotal

“respondents that do most of their work on a PaaS are 1.5 times more likely to be in the elite performance group”

https://cloudplatformonline.com/2018-state-of-devops.html

https://youtu.be/qvdt8uRf8RY



https://cloudplatformonline.com/2018-state-of-devops.html


SPAANS
ECONOMIE
YOUR FUTURE DEPENDS ON WHAT YOU DO today make it COUNT!
GOALS:
log:

We are focused on **Agility, User Experience, Quality and Developer Productivity**

Agility

Business-led Agile enabled flexibility to support changes while ensuring minimal rework & wastage

User Experience

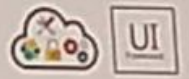
Placing **Usability** at the Core

- Discovery
- Prototype
- User Research
- Synthesis
- Design

Quality Maintainability

Quality, security & controls systematically enforced through automation

Developer Productivity

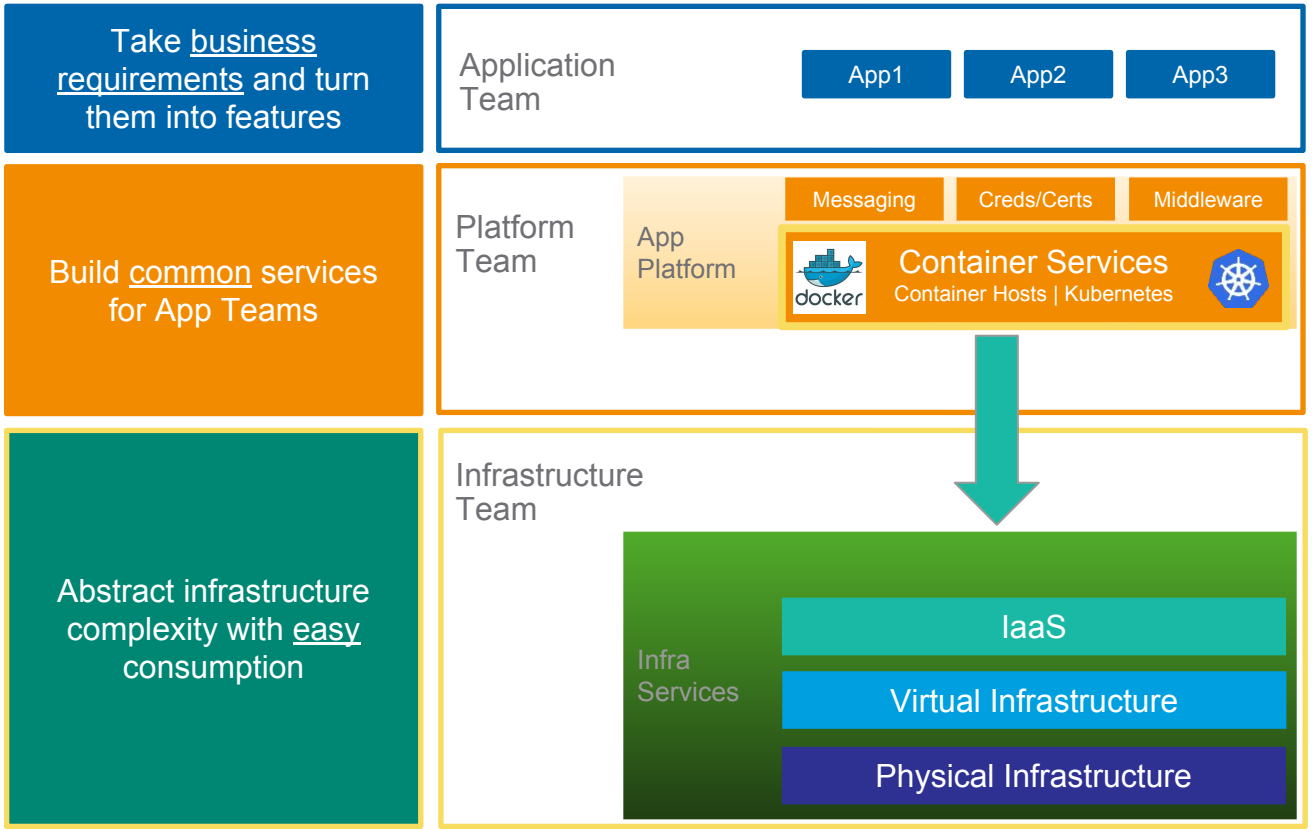


Leverage of **PaaS & Frameworks** enables developers to focus on business features

DBS

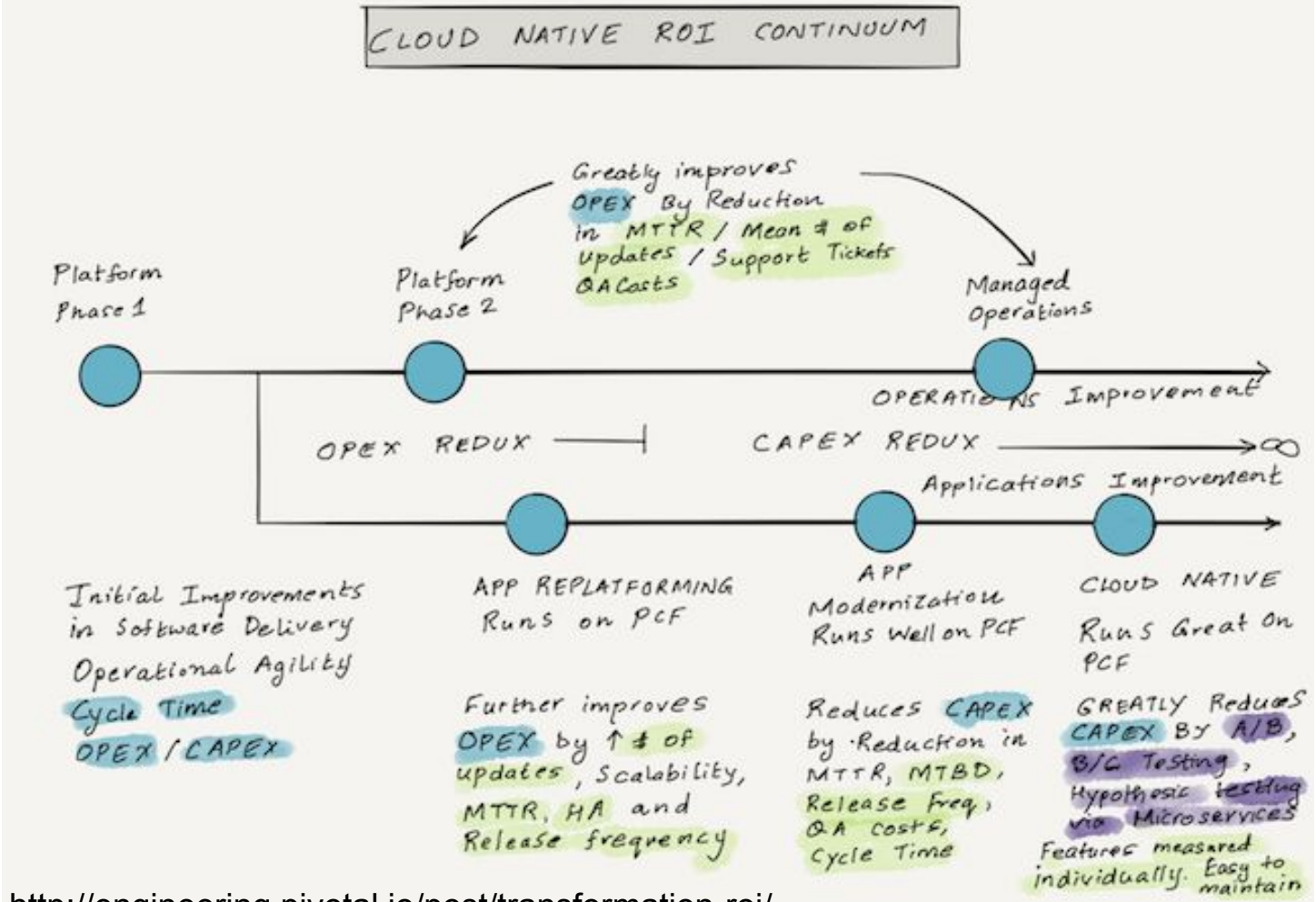
https://youtu.be/McV0Q5GY-fM

Change!!!


Take business requirements and turn them into features
Application Team
App1
App2
App3
Build common services for App Teams
Platform Team
App Platform
Messaging
Creds/Certs
Middleware
docker
Container Services
Container Hosts | Kubernetes
Abstract infrastructure complexity with easy consumption
Infrastructure Team
Infra Services
IaaS
Virtual Infrastructure
Physical Infrastructure

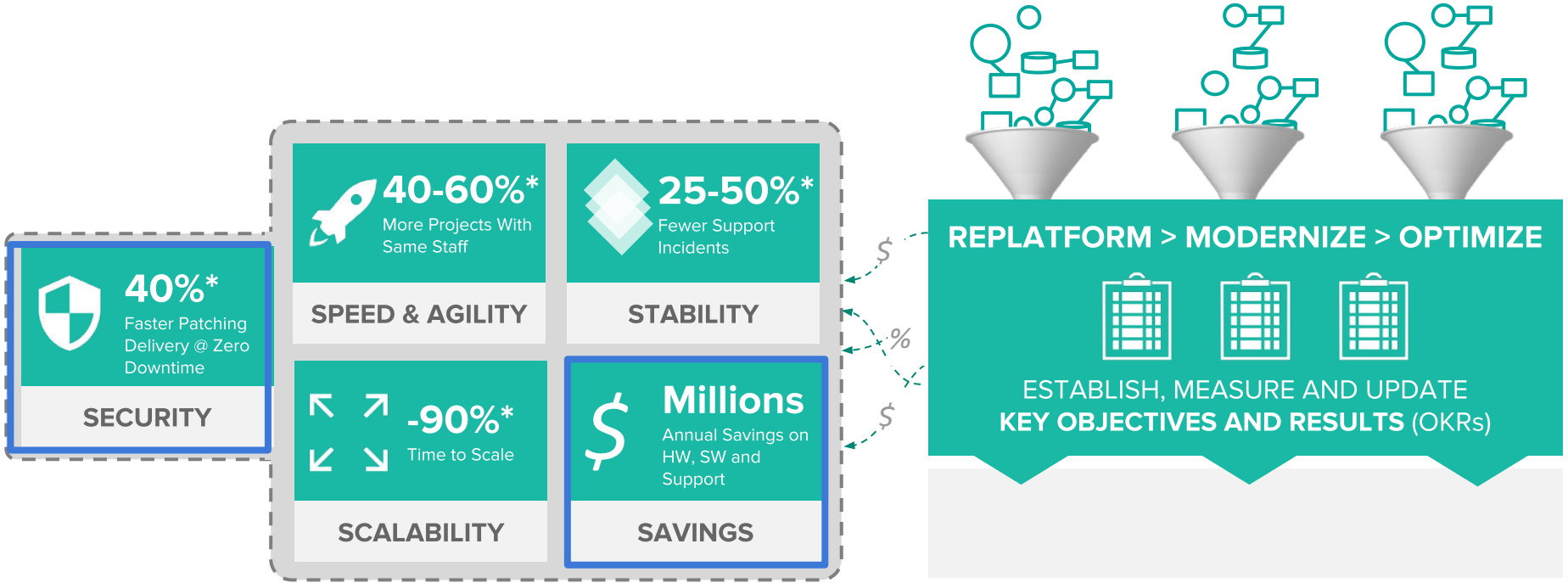
We started our Digital Transformation journey 4 years ago

https://youtu.be/McV0Q5GY-fM



http://engineering.pivotal.io/post/transformation-roi/

How We Think about the Business Case



PLATFORM VALUE STREAM AND METRICS

Transforming How The World Builds Software

Paul Czarkowski - @pczarkowski

Thank You All Day DevOps Supporters


Meet me in the Slack channel for Q&A
bit.ly/addo-slack
#2018addo-cultrans
All Day DevOps
October 17, 2018