



Red Hat Day Events

January 30, Vancouver

OpenShift
The Platform for Big Ideas



Red Hat



Software Success is Business Success





Brian Gracely

Sr. Director Product Strategy
Red Hat OpenShift

Software is the interface to customers,
markets and decision-making.

Either your business will be good at
software, or your business will eventually
fail.

Big ideas drive Business Innovation

Cloud
DevOps Digital Containers
transformation
Artificial intelligence
Internet of things
Open source communities
Open organization
Kubernetes

Business innovation is all around us.

Every organization in every geography and in every industry can innovate and create more customer value and differentiation with open source technologies and an open culture.

8x

Digitally advanced enterprises
are 8x more likely to grow share
and exceed their objectives.

Source: [Research from Red Hat and Bain Capital](#)

“““

We provide a 5-hour head start in treating sepsis. And in the hands of clinicians, 5 hours saves lives.

Dr. Edmund Jackson
VP & Chief Data
Scientist
HCA Healthcare

HCA Healthcare
Using data insights to save lives



Hello.

1-866-790-4651

UPS
Analytics-driven logistics



“““

We can localize clusters in different markets if we need to and therefore serve our customers on a worldwide scale.

Dr. Alexander Lenk
Lead Architect Connected Vehicle, Digital Backend, Big Data, Blockchain
BMW Group

BMW
Connected Drive



EMIRATES NBD

Chat Banking

Banking is just a WhatsApp away

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Subscribe through SMS

SMS WhatsApp to 4456 with your registered mobile number



Subscribe through Mobile/ Online Banking

Log into your Mobile or Online Banking and click on the **Subscribe now** button



Chat securely

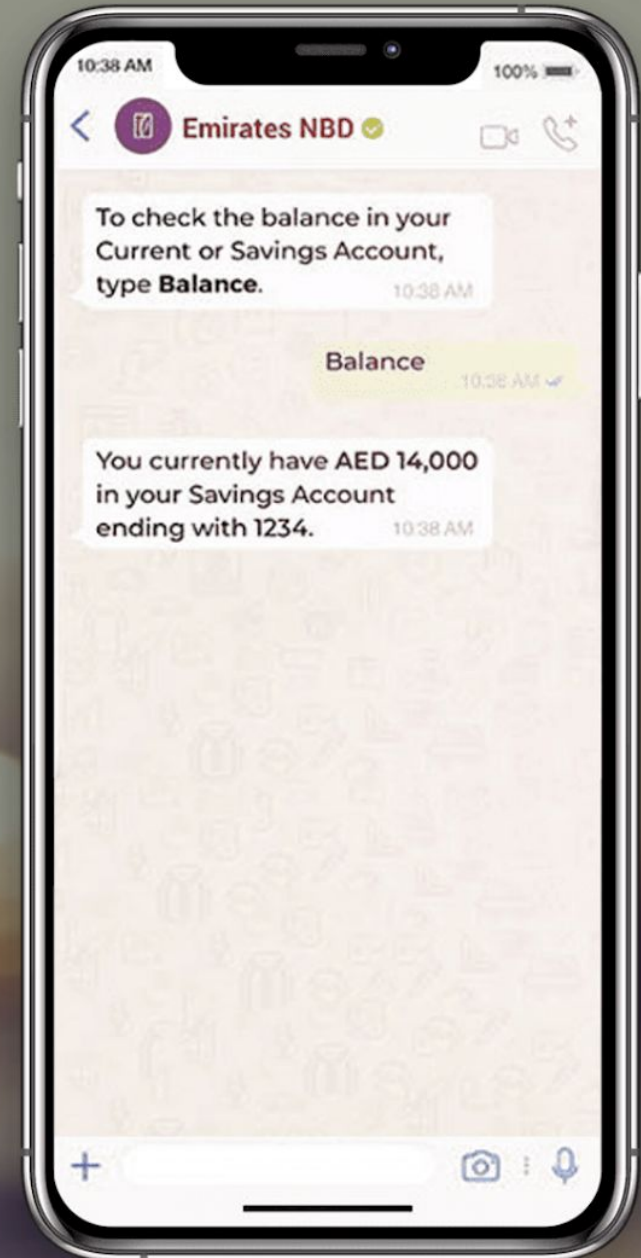
You will never be asked to share your personal information, only the last 4 digits of your Card or Account number may be required



Check for the green badge

Check for the green badge next to Emirates NBD's name and start chatting

[Click here](#) for Digital Banking Services Terms and Conditions





VOLKSWAGEN

Autonomous Vehicle Testing

“““

We got the idea to have all these tests we do with hardware on virtual test environments, and that's why we've come to OpenShift and containers.

—
Michael Denecke
Head of Test Technology
Volkswagen AG

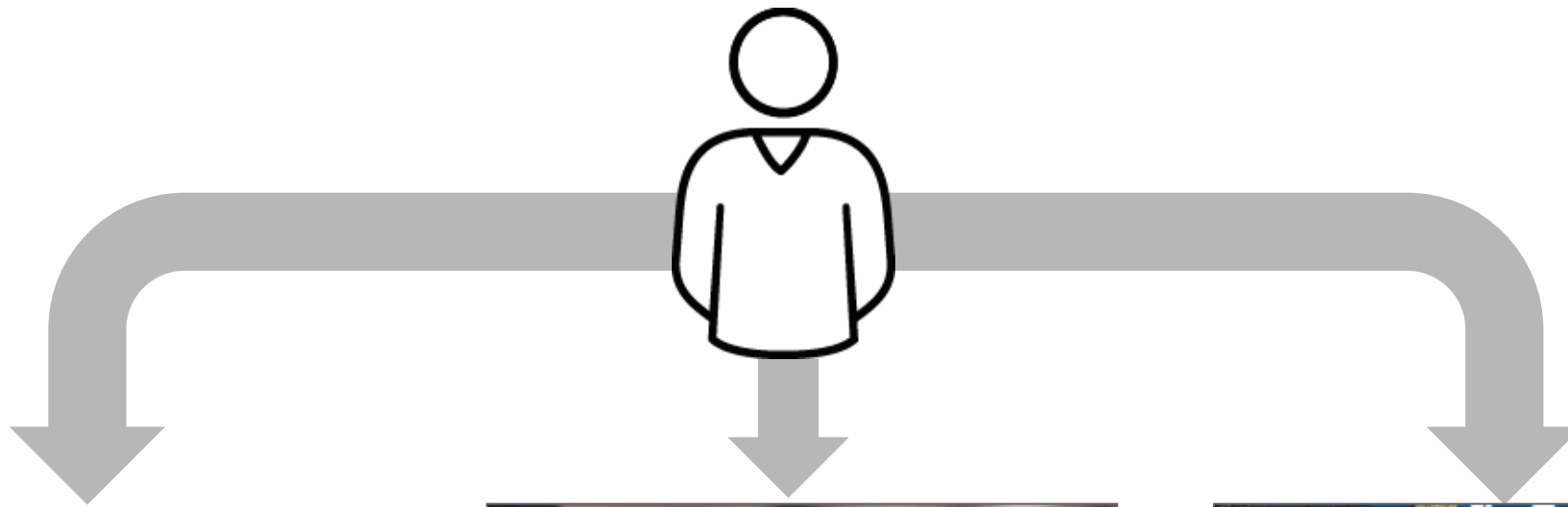
“”

The moment we have an idea, we can start building the product. This agility is something we have never experienced before.

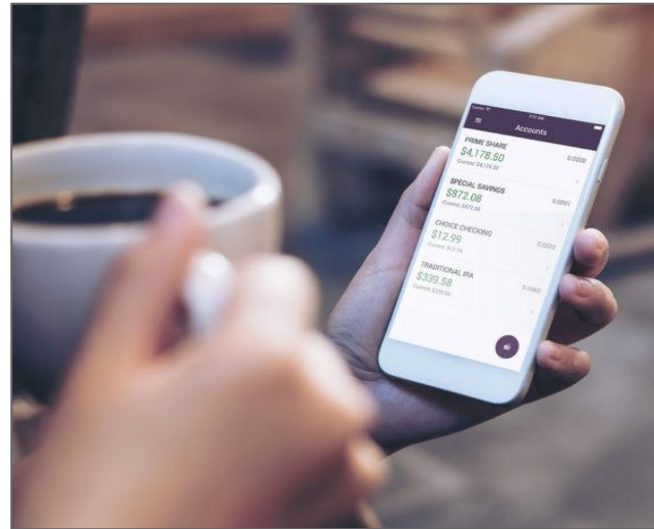
Tobias Mohr
Head of Technology
and Infrastructure
Lufthansa Technik

LUFTHANSA TECHNIK
From Idea to Innovation in Days

Business Interactions are Hybrid



DIRECT / PHYSICAL



DIGITAL ENGAGEMENT



MARKETPLACE | APIs



Making Software Successful

Database

Streaming & Messaging

Application Definition & Image Build

Continuous Integration & Delivery

Platform

Observability and Analysis

App Definition and Development

Database

CNCF Incubating: KV, Vitess

CNCF Graduated: CockroachDB, Couchbase, IBM DB2, InfluxDB, MariaDB, MEMSQL, MySQL Server, PostgreSQL, MySQL, Neo4j, Oracle Database, Redis, SEATA, TiDB, Vertica, Yugabyte

Streaming & Messaging

CNCF Incubating: NATS, Spark, Flink, Siddhi, STRIMZI, Talend

Application Definition & Image Build

CNCF Incubating: HELM, Apache Brooklyn, Draft, Jenkins, Kubernetes, Helm, Docker, OpenShift, Packer, ServiceMesh

Continuous Integration & Delivery

CNCF Graduated: CircleCI, Jenkins, GitLab, Travis CI, Weave Flux

Platform

Certified Kubernetes - Distribution: Cisco, Docker, Huawei, Kubernetes, Rancher, SUSE, VMware

Observability and Analysis

Monitoring: Prometheus, Grafana, InfluxDB, Nagios, Zabbix

Logging: fluentd, ELK Stack, Graylog, Splunk

Tracing: Jaeger, Zipkin, OpenTracing

Chaos Engineering: Gremlin, Chaos Monkey

Orchestration & Management

Scheduling & Orchestration: Kubernetes

Coordination & Service Discovery: CoreDNS, etcd, Consul, Nacos, Netflix OSS

Remote Procedure Call: gRPC

Service Proxy: Envoy, NGINX, Traefik

API Gateway: Kong, Apigee, Tyk

Service Mesh: Linkerd, Istio

Runtime

Cloud-Native Storage: Rook, MinIO, Ceph, GlusterFS, HEDVIG, iSCSI, NFS, Quobyte

Container Runtime: Docker, cri-o, rkt, Kata Containers, gVisor, Kata, Unik

Cloud-Native Network: Cilium, Flannel, NSX, Open vSwitch, Calico

Provisioning

Automation & Configuration: Ansible, Puppet, Chef, Terraform, SaltStack

Container Registry: Harbor, Quay

Security & Compliance: Falco, Aqua, Clair, OpenSCAP

Key Management: HashiCorp Vault, AWS Key Management Service

Certified Kubernetes - Hosted: Alibaba Cloud, Amazon EKS, Google Kubernetes Engine, IBM Cloud, Microsoft Azure AKS, Oracle Cloud, SAP, VMware Tanzu

Certified Kubernetes - Installer: Rancher, OpenShift, SUSE

PaaS/Container Service: Flynn, Heroku, PaaS

Serverless: AWS Lambda, Azure Functions, Google Cloud Functions, IBM Cloud Functions, Oracle Cloud Functions, SAP Business Cloud

Cloud

Public: AWS, Azure, Google Cloud, Huawei Cloud, Oracle Cloud, SAP Business Cloud

Cloud Native Computing Foundation

Cloud Native Landscape

Redpoint Amplify

l.cncf.io

Special

Kubernetes Certified Service Provider: Accenture, Acomsoft, Deloitte, Doit, Elastic, ELASTIX, F5, Huawei, IBM, Innovent, JBoss, KubeSphere, Mirantis, Red Hat, SAP, VMware

Kubernetes Training Partner: Acomsoft, Doit, Elastic, ELASTIX, F5, Huawei, IBM, Innovent, JBoss, KubeSphere, Mirantis, Red Hat, SAP, VMware

App Definition and Development

Database

Streaming & Messaging

Application Definition & Image Build

Continuous Integration & Delivery

Platform

Observability and Analysis

Monitoring

Logging

Orchestration & Management

Scheduling & Orchestration

Coordination & Service Discovery

Remote Procedure Call

Service Proxy

API Gateway

Service Mesh

Runtime

Automation & Configuration

Container Registry

Security & Compliance

Key Management

PaaS/Container Service

Provisioning

Public

Kubernetes Certified Service Provider

Kubernetes Training Partner

Cloud

Public

Kubernetes Certified Service Provider

Kubernetes Training Partner

l.cncf.io

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path

CLOUD NATIVE COMPUTING FOUNDATION

CLOUD NATIVE Landscape

Redpoint Amplify

Special

Kubernetes Certified Service Provider

Kubernetes Training Partner

Is Innovation too Complicated?

How to manage apps in Kubernetes

"A fun and creative guide for beginners"

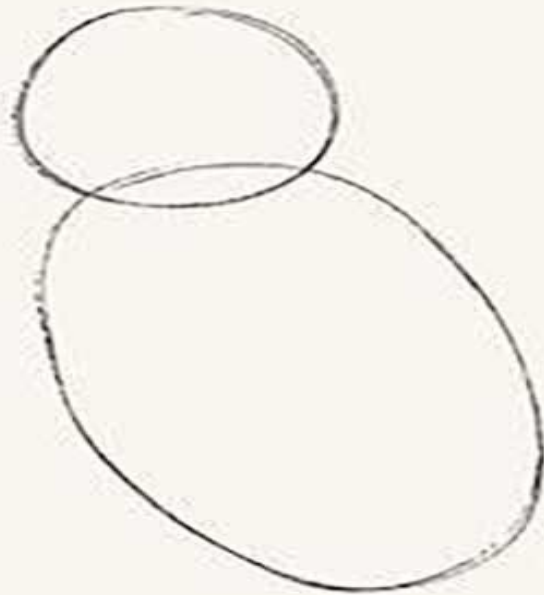


Fig 1. Stateless 'hello world' app

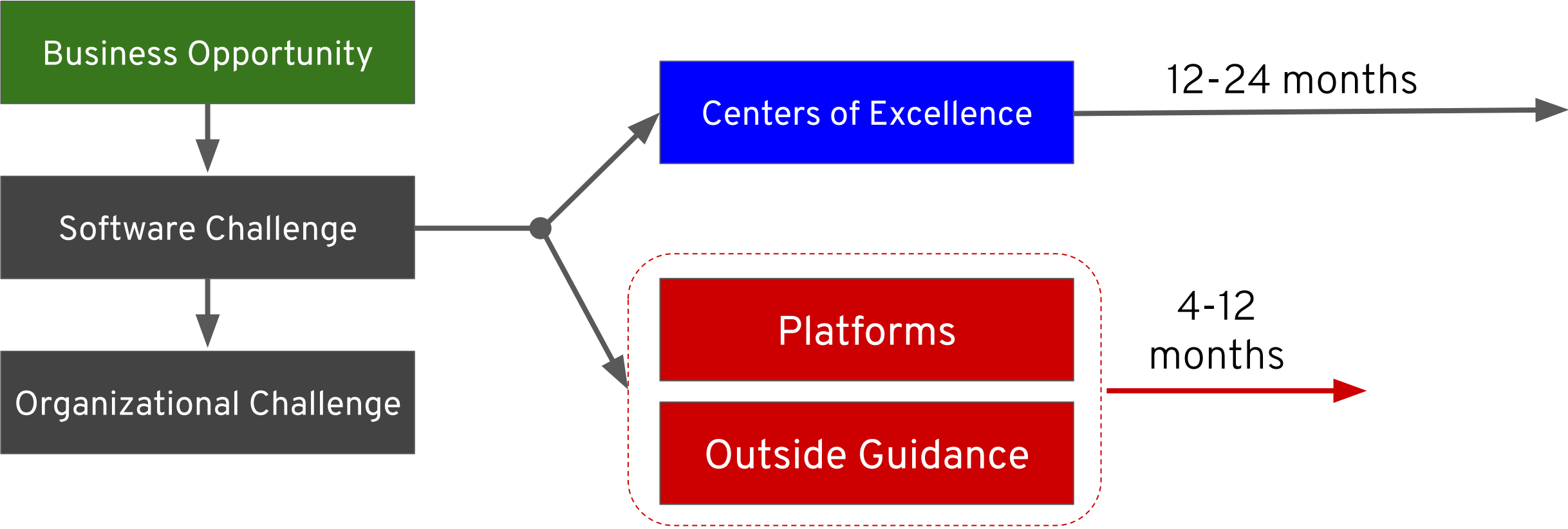


Fig 2. Build the rest of the application

Getting to Figure 2 can be difficult



Companies take Multiple Paths



Red Hat OpenShift business value



531%
5-year ROI

66%

Faster development
life cycle

36%

More applications
per year

8 MONTHS

Payback
period

US\$1.29M

Average annual
benefits per
100 developers

The Business Value of Red Hat OpenShift, IDC #US41845816, October 2017,
<https://www.redhat.com/en/resources/The-Business-Value-of-Red-Hat-OpenShift>.



10x

Increased application development throughput from 20 to 200 changes a day

OpenShift on public & private cloud



Months → Days

Improved time to market by accelerating development time

OpenShift on public cloud



50%

Reduction in development time for new services and APIs. Launched a new cloud platform in 10 days

OpenShift on multiple public cloud, & private cloud

Source:

Cathay Pacific: Red Hat press release, [Cathay Pacific Takes Customer Experiences to New Heights with Red Hat's Hybrid Cloud Technologies](#), May 2018.

Hilton: Red Hat case study, [Hilton enhances digital guest experience with Red Hat container and automation technology](#), October 2018.

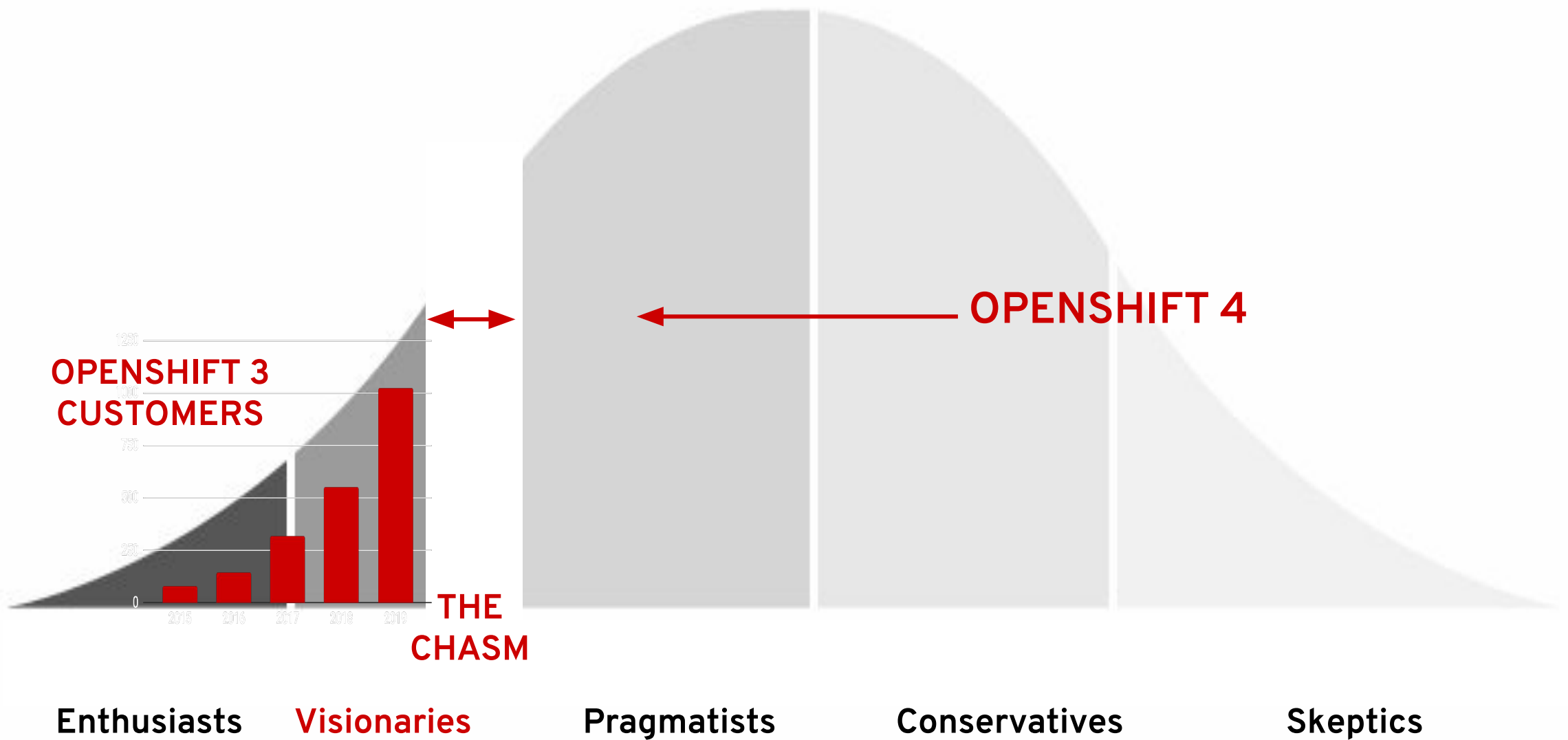
Schiphol: Red Hat case study, [Amsterdam Airport Schiphol builds agile cloud with Red Hat](#), August 2017.





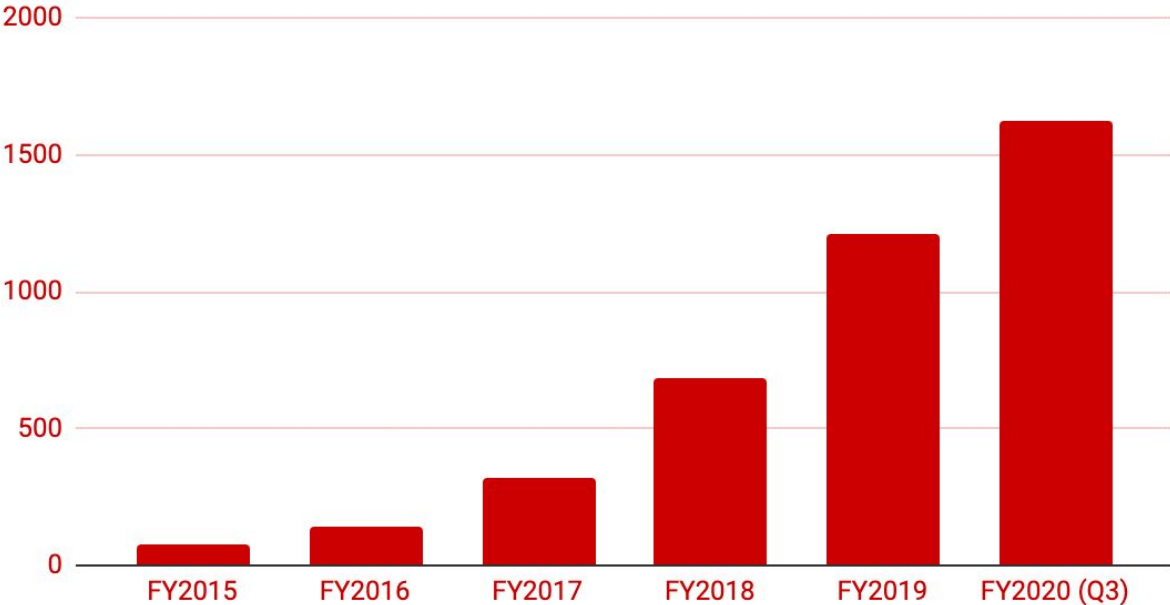
Choosing the Right Application Platform

OPENSIFT 4 - Crossing the Chasm

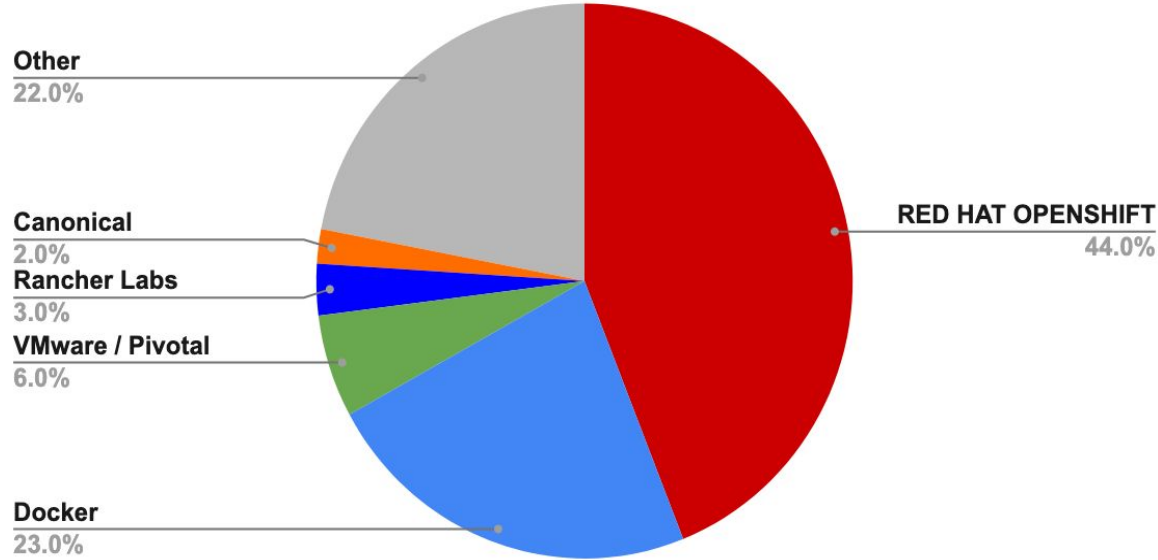


OpenShift leads the Kubernetes Application Platform Market

Red Hat OpenShift Customers



Container Market Share (%)



* IHS Container Market Share

Market Expectations for Application Platforms

CLOUD EXPECTATIONS

BROAD APPLICATION SUPPORT

CONTINUOUS SECURITY

ON-DEMAND | AS-A-SERVICE
MARKETPLACES

STANDARDS | INTEROPERABILITY |
PORTABILITY | AVOID LOCK-IN

LIMITED OPERATIONS or
MANAGED SERVICES



Reimaging OpenShift - OpenShift 4

Drive the
Operator
Ecosystem

Integrate
Application
Services

Improve
Developer Services

Improve
Platform
Automation

Enable Telemetry

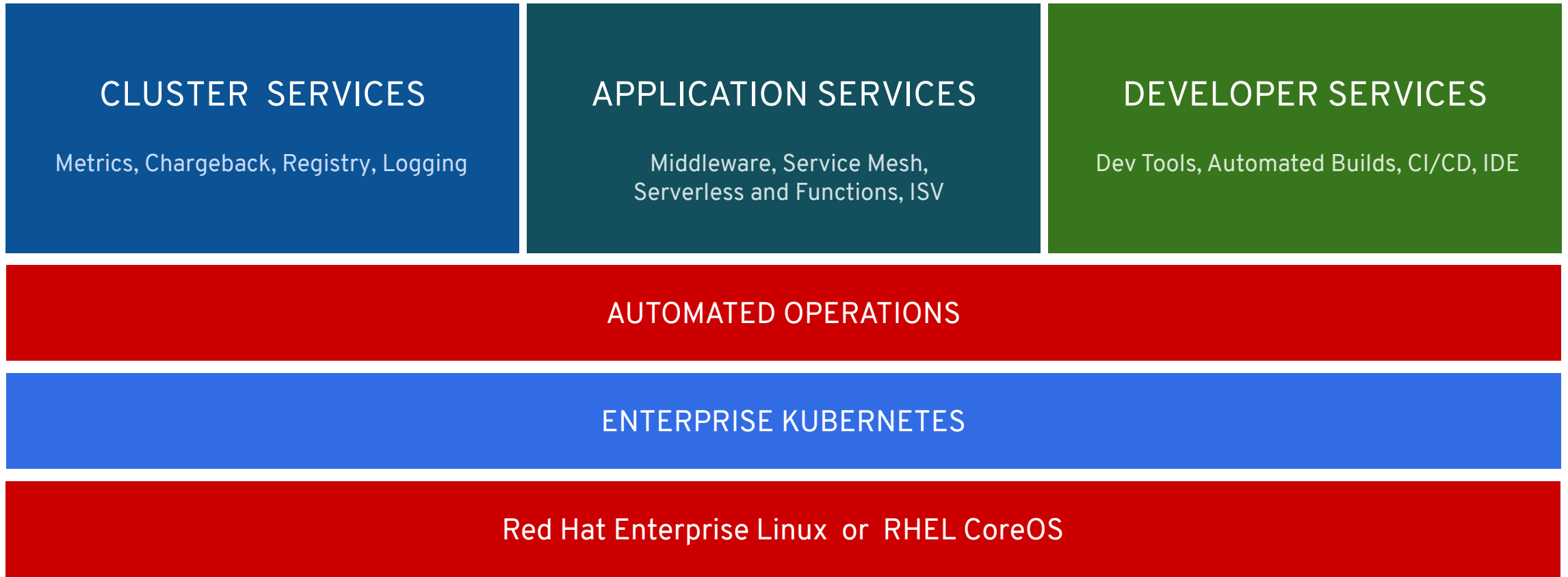
Multi-Cloud
Management

Simplify
Installations and
Upgrades

Provide Ops
Greater
Visibility

Simplify
Node Management

Red Hat OpenShift 4 Platform



Best IT Ops Experience

CaaS ↔ PaaS ↔ FaaS

Best Developer Experience

Application
Concerns



Routing & transformation
Technology Adapters
Error Handling
Development Patterns

Declarative programming
Event orchestration
Activation & scale-to-zero
Service Binding

Continuous Integration
GitOps
Continuous Delivery

Traffic Routing
Network Resilience
Security

Provisioning
Scheduling & Deployment
Scaling & Service Discovery
Monitoring and Recovery

Infrastructure
Concerns

Application Concerns



Infrastructure Concerns

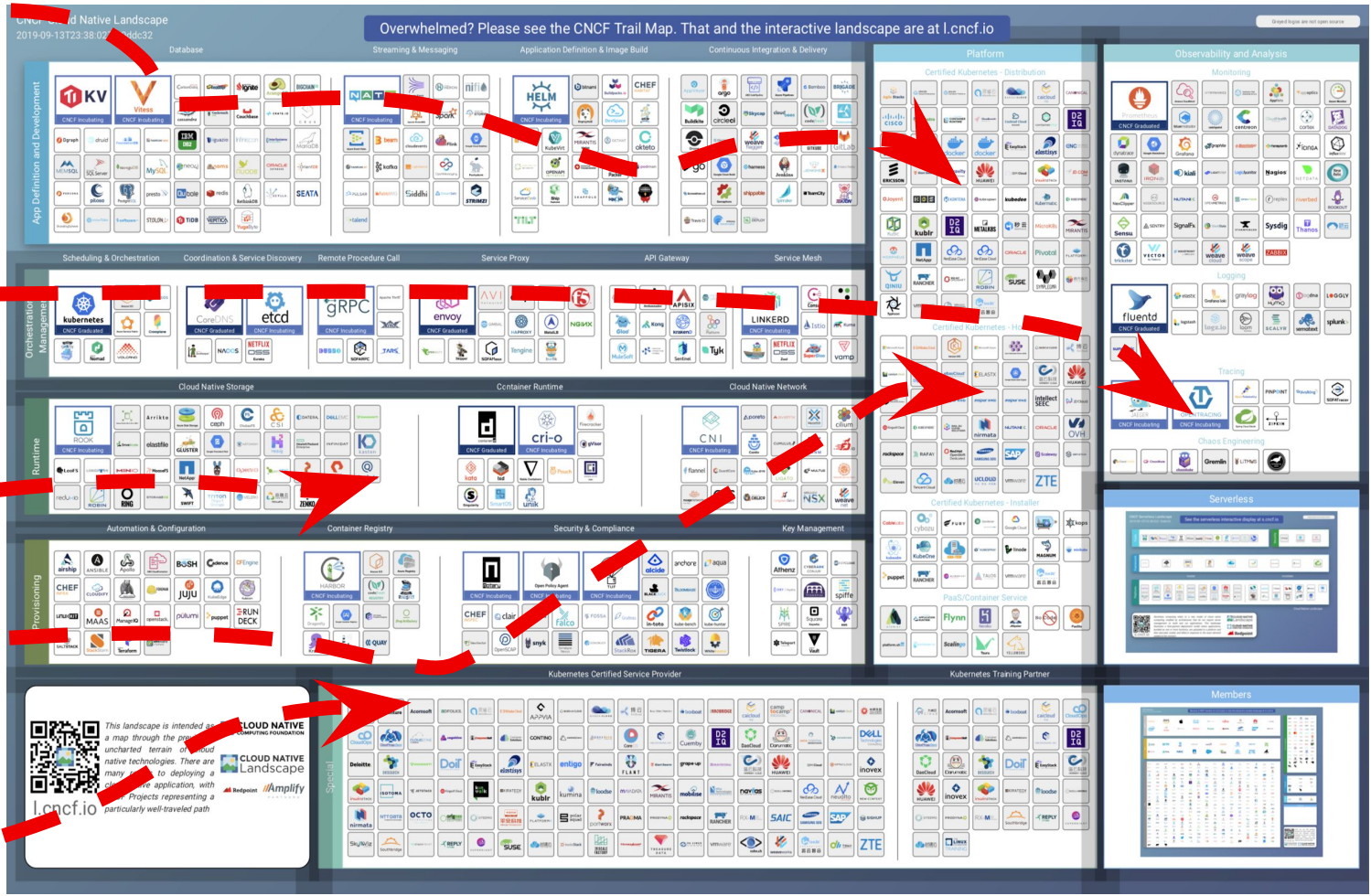
Routing & transformation
Technology Adapters
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Declarative programming
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Activation & scale-to-zero
Service Binding

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GitOps
Continuous Delivery

Traffic Routing
Network Resilience
Security

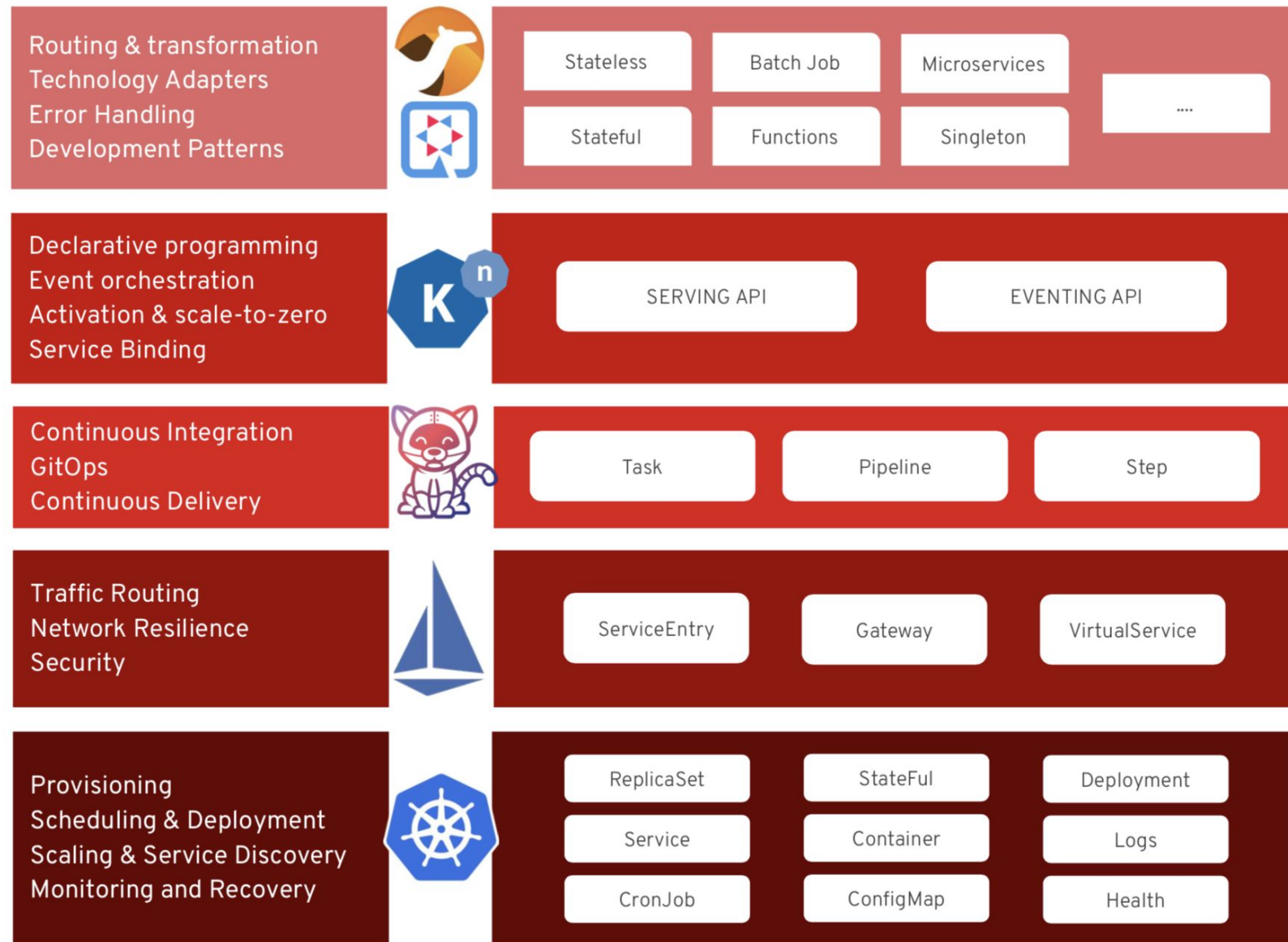
Provisioning
Scheduling & Deployment
Scaling & Service Discovery
Monitoring and Recovery



Application
Concerns



Infrastructure
Concerns



High-level
primitives



Low-level
primitives

Red Hat OpenShift - Hybrid Multi-Cloud platform

 **Red Hat**
Ansible Automation

 **Red Hat**
CloudForms

 **Red Hat**
Satellite

 **Red Hat**
Insights





The Red Hat OpenShift logo and name. The logo is a white circular icon with a red 'R' shape inside. To its right, the text 'Red Hat' is in a bold white font, and 'OpenShift' is in a larger, white font below it. The entire section has a solid red background.



Openshift Operators enable ISV Innovation

operatorhub.io

TYPES OF OPERATORS

- Community
- ISV Partners
- Red Hat Products

The image displays two screenshots related to OpenShift Operators. The top screenshot is the OperatorHub.io website, which features a search bar, a 'Contribute' button, and a list of operators categorized by function (e.g., Coordination & Service Discovery, Databases, Key Management) and provider (e.g., Amadeus, Amazon, CNCF/Upstream). The bottom screenshot is the Red Hat OpenShift Operator Hub interface, showing a sidebar with navigation options like Home, Projects, Status, Search, Events, Catalog, and Operator Hub. The main content area displays a list of operators, including 'amq-streams', 'automationbroker', 'cluster-logging', 'couchbase-enterprise', 'descheduler', and 'dynatrace-monitoring', each with a brief description and an 'Installed' status indicator.

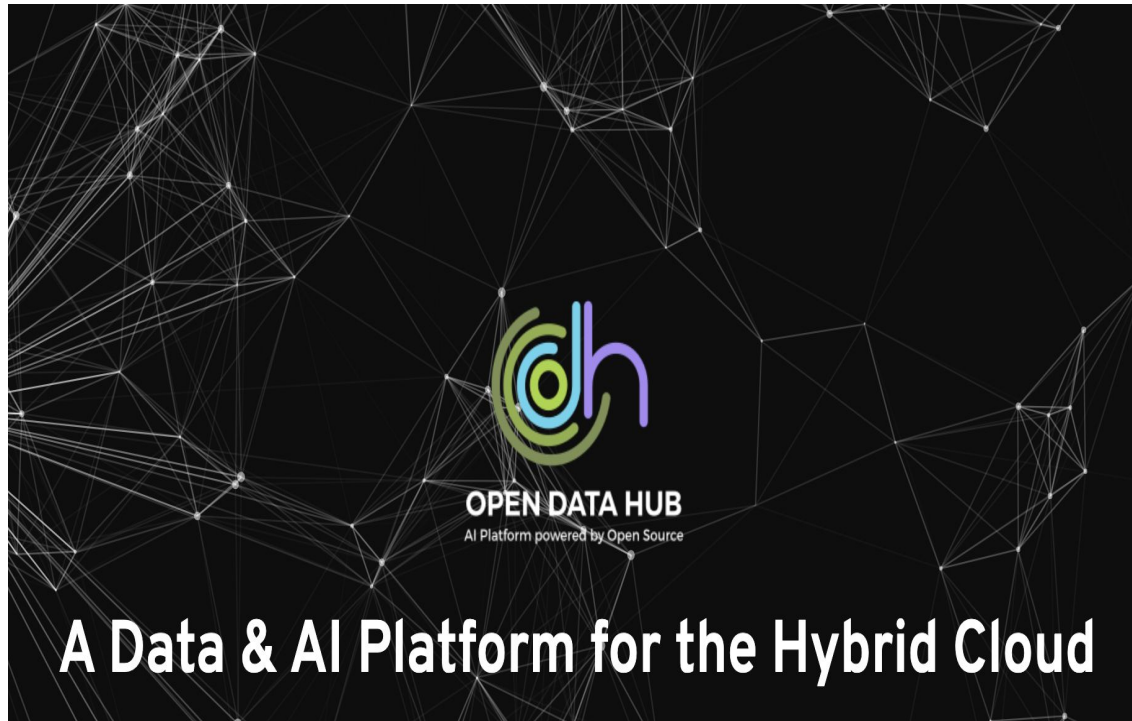
AI Ecosystem focusing on OpenShift integrations

opendatahub.io

Data
Acquisition & preparation

ML model
Selection, training, testing

ML model deployment
in app dev process

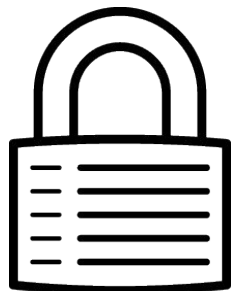


OPEN DATA HUB
AI Platform powered by Open Source

A Data & AI Platform for the Hybrid Cloud



OpenShift - Comprehensive Platform Security



CONTROL

Application Security

Container Content

CI/CD Pipeline

Container Registry

Deployment Policies



DEFEND

Infrastructure

Container Platform

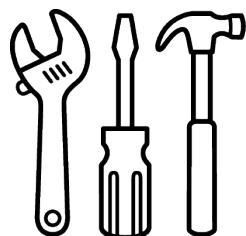
Container Host
Multi-tenancy

Network Isolation

Storage

Audit & Logging

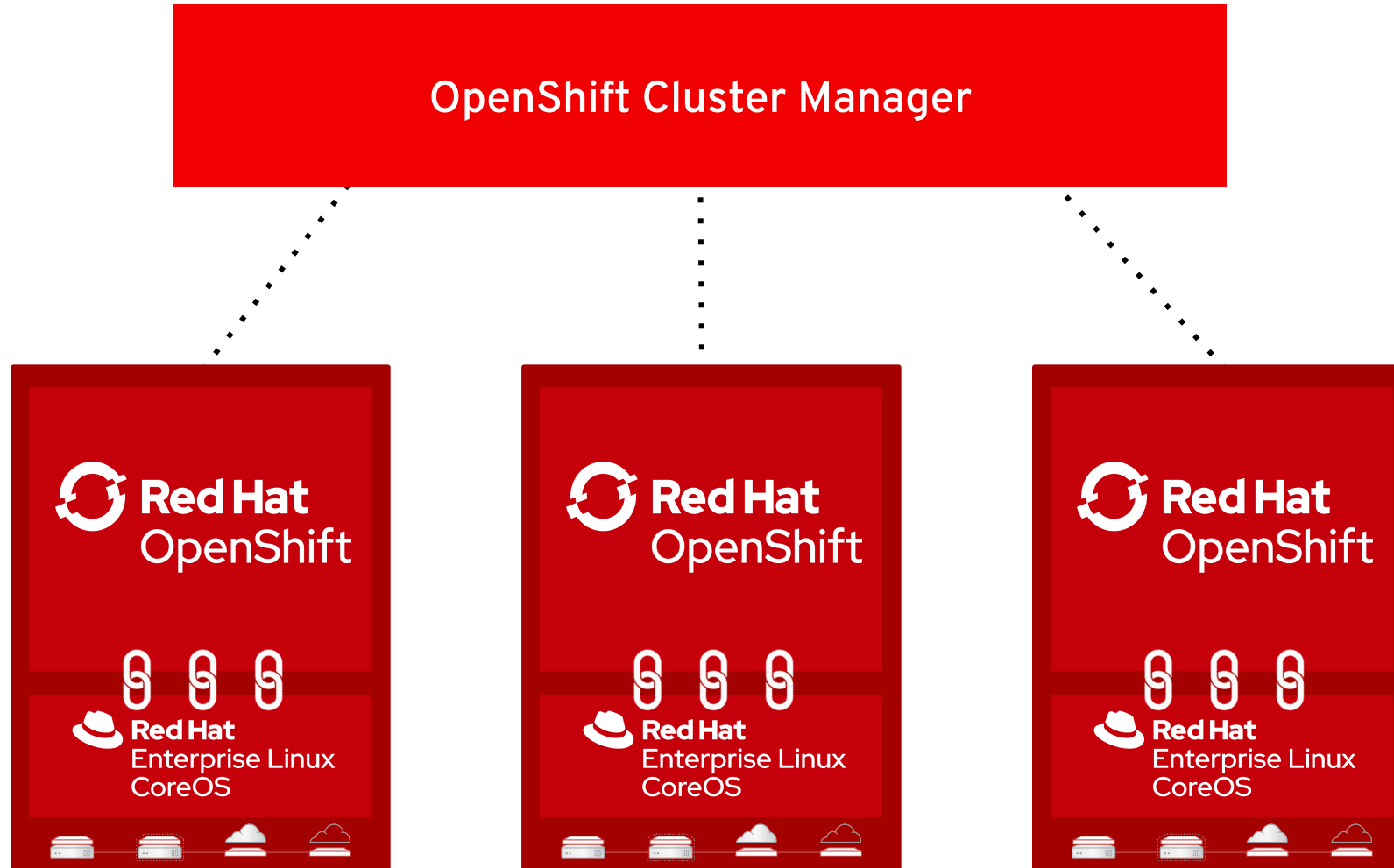
API Management



EXTEND

Security Ecosystem

Hybrid and Multi-Cloud Management



Red Hat Services for OpenShift adoption

RED HAT OPEN INNOVATION LABS



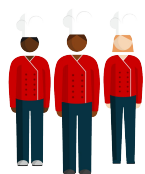
EXPERIMENT

Rapidly build prototypes, do DevOps, and be agile.



CATALYZE INNOVATION

Bring modern application development back to your team.

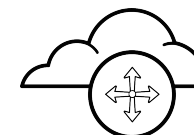


IMMERSE YOUR TEAM

Work side by side with experts in a residency-style engagement.

TO SHOW YOUR TEAMS HOW OPENSIFT AND MODERN DEVELOPMENT PRACTICES CAN DRIVE INNOVATION: START WITH A 4- TO 12-WEEK LABS RESIDENCY

RED HAT CONTAINER ADOPTION PROGRAM



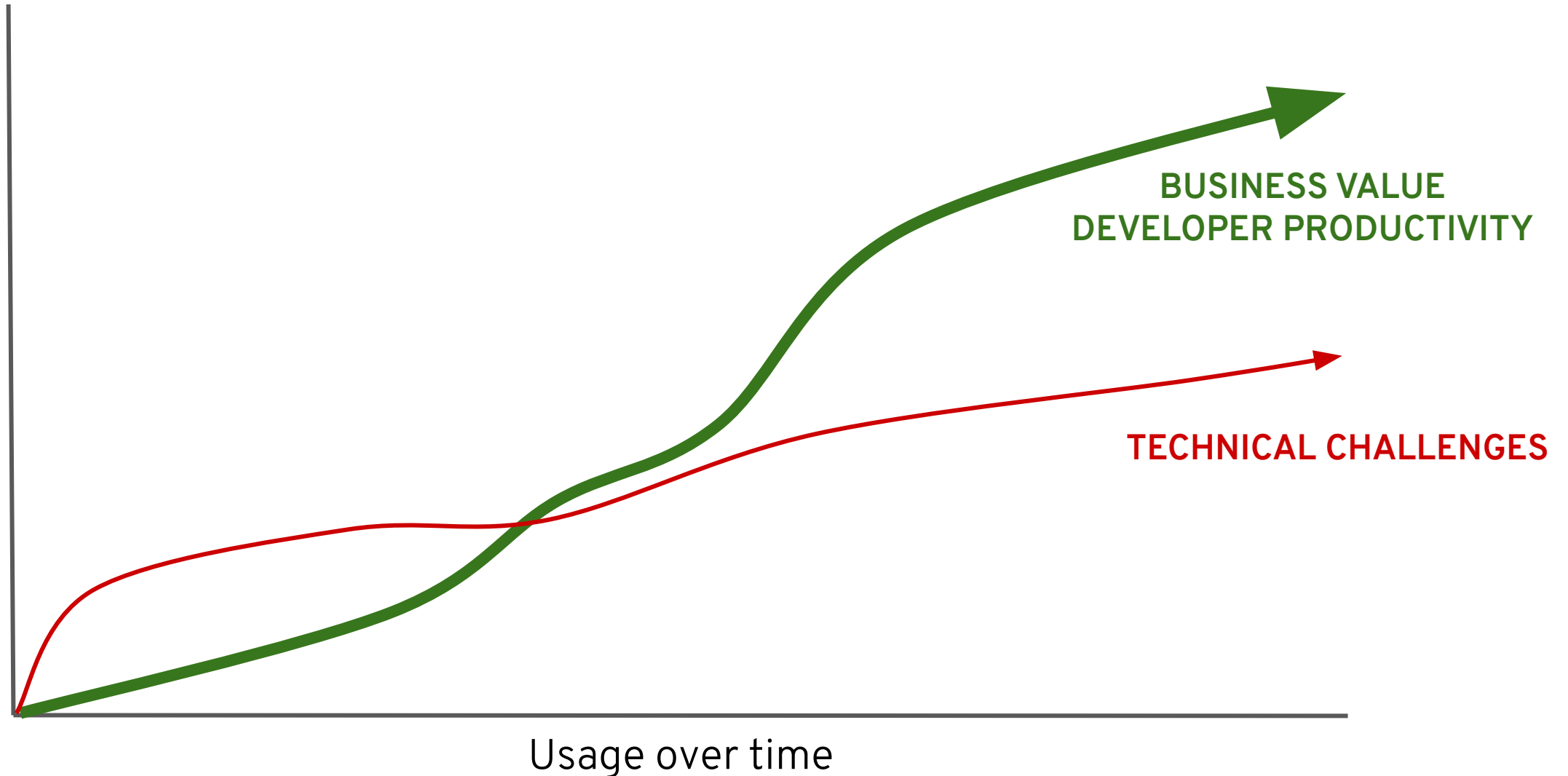
FRAMEWORK FOR SUCCESSFUL CONTAINER ADOPTION AND I.T. TRANSFORMATION:

Mentoring, training, and side-by-side collaboration to:

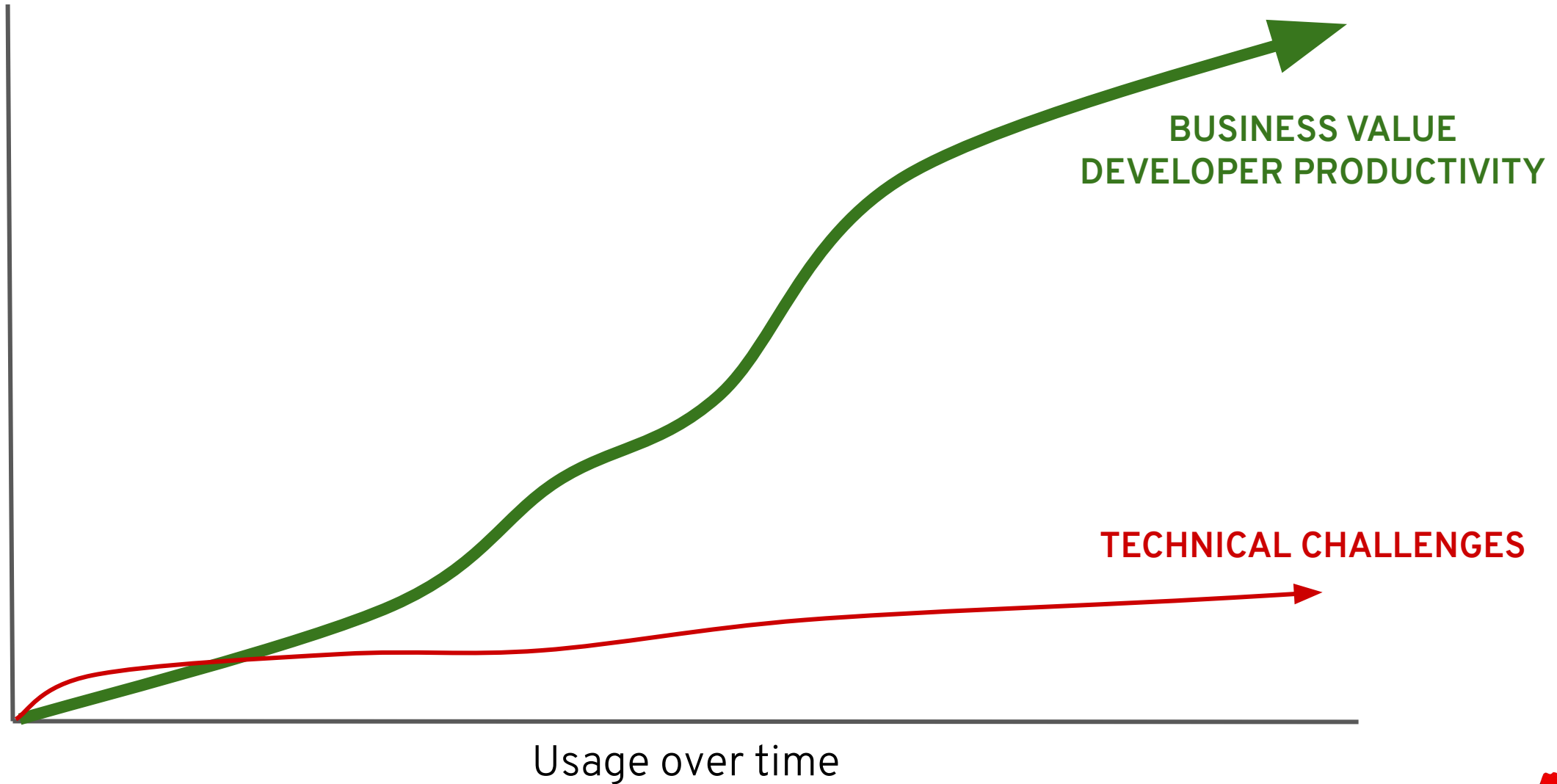
- Create a production platform and team to run it
- Create end-to-end container-driven deployment automation
- Scale application onboarding expertise
- Guide new Kubernetes-native development
- Align business with IT through **included Red Hat Open Innovation Labs**

TO BEGIN A COMPREHENSIVE PROGRAM (INCLUDING OPEN INNOVATION LABS): START WITH THE 12-WEEK RED HAT CONSULTING CONTAINER PLATFORM PILOT

Just Software is not Business Success



Software Success is Business Success





Thank You



[linkedin.com/company/red-hat](https://www.linkedin.com/company/red-hat)



[youtube.com/user/RedHatVideos](https://www.youtube.com/user/RedHatVideos)



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twitter.com/RedHat



Red Hat Day Events

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OpenShift
The Platform for Big Ideas



Red Hat