Cloud Native Development and DevOps

Microsoft

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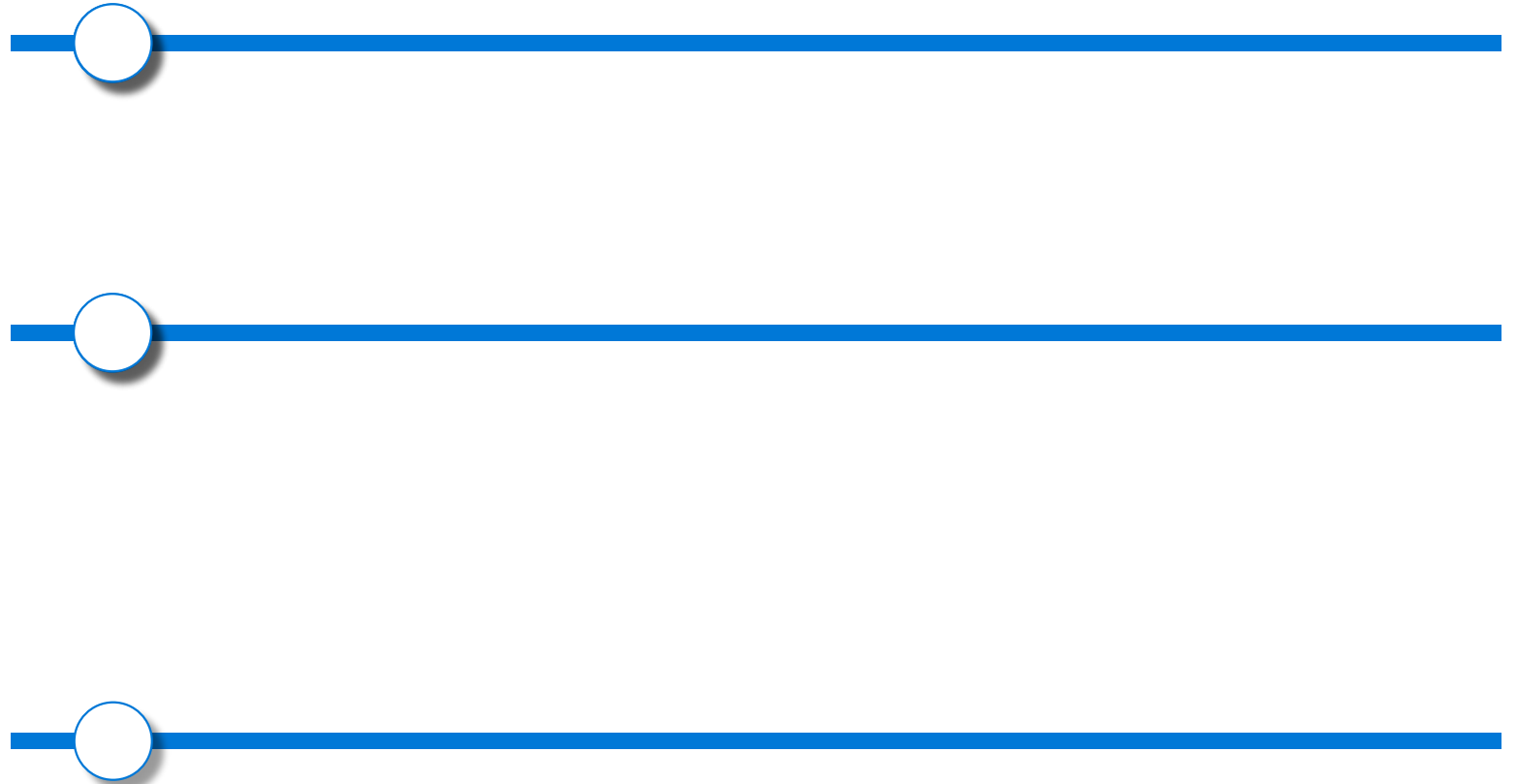Giancarlo Sudano

Microsoft

Microsoft

DevOps

What is Time To Lead?
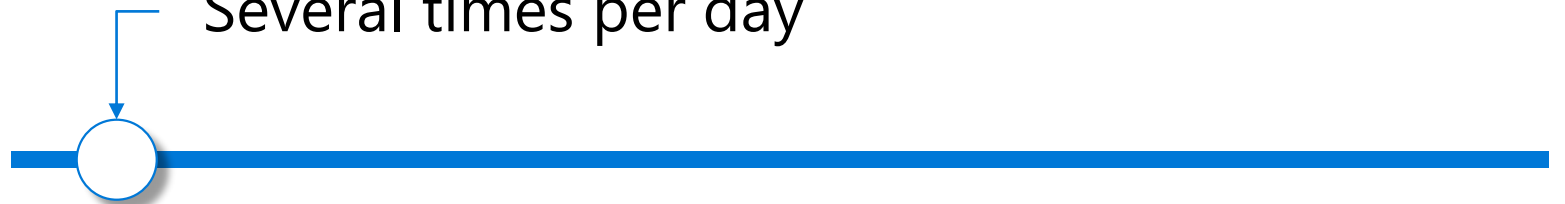
What is Time To Lead?

What is Time To Lead?

Every 6 to 24 months

Every 3 weeks

Several times per day

What is DevOps?

People. Process. Products.

"

DevOps is a set of **practices** to decrease **time to lead** and keep/improve **quality**.

"

- Build & Test
- Deploy
- Operate
- Develop
- Continuous Delivery
- Monitor & Learn
- Plan & Track
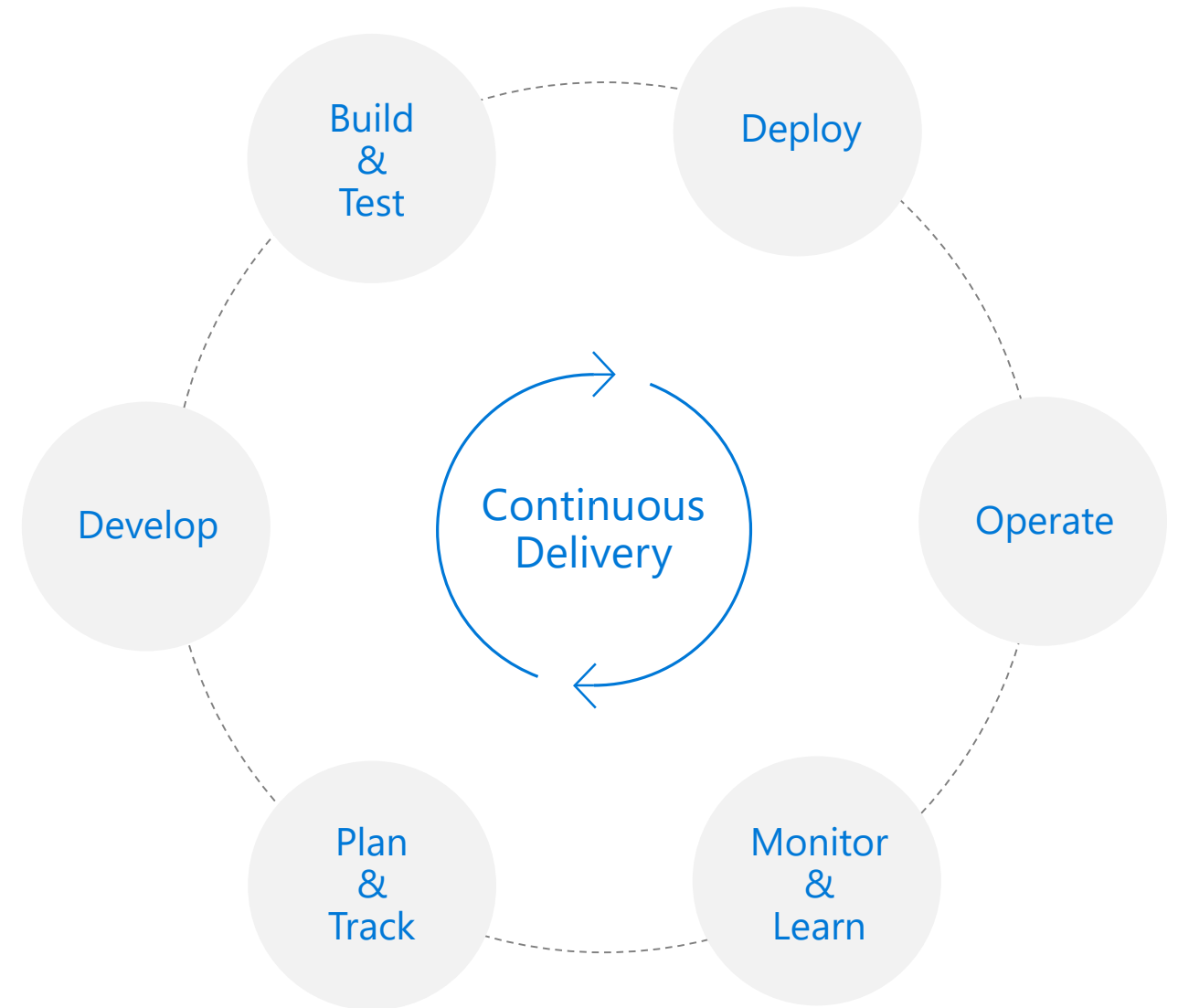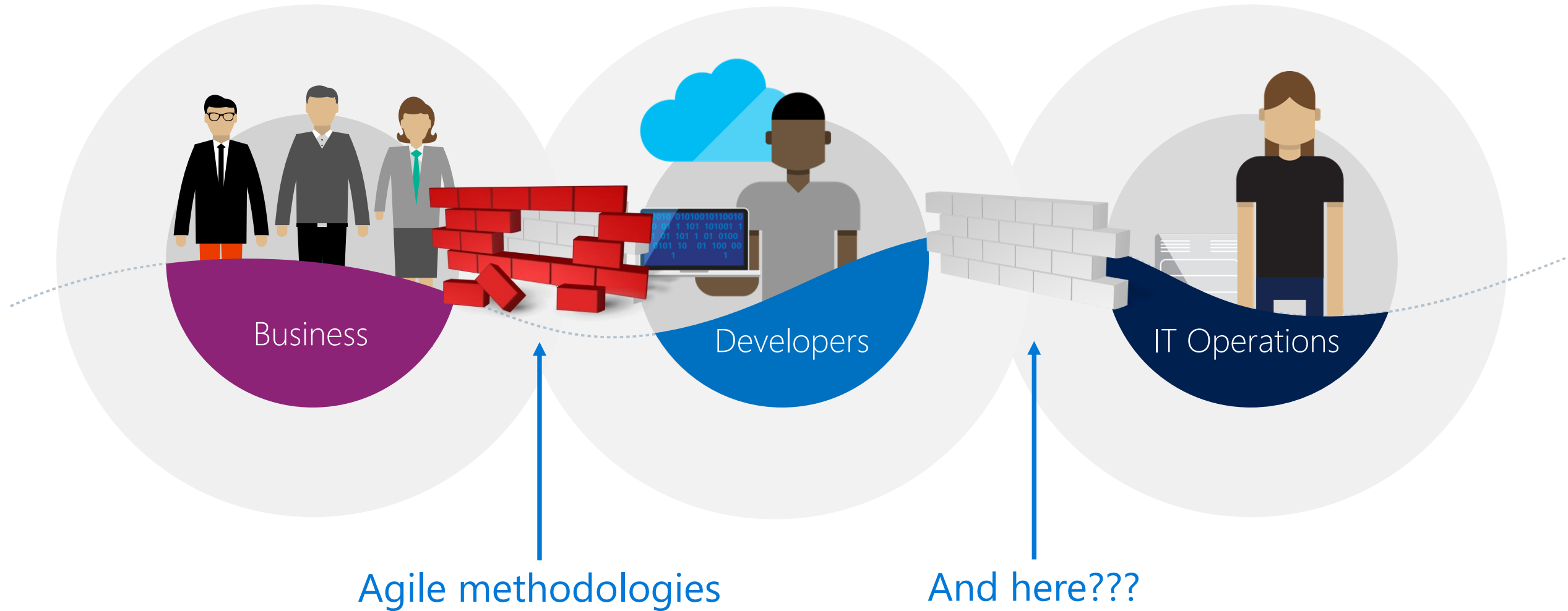
High Performance DevOps Companies Achieve...

46x Deployment Frequency

2,555x Faster Lead Time For Changes

Faster Time to Market

Increased Revenue

DevOps

7x Lower Change Failure Rate

2,604x Faster Mean Time to Recover
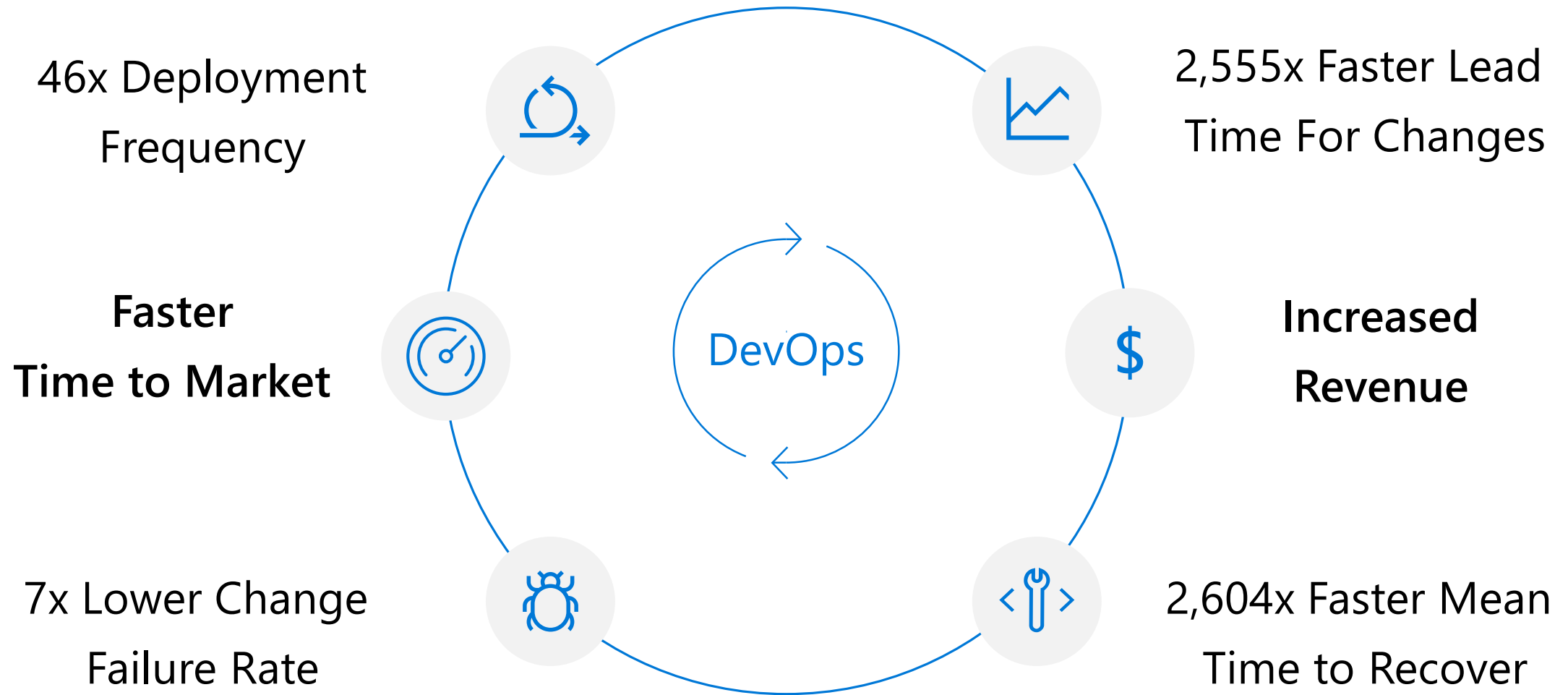
What | practices | do I need to support DevOps?

Process

Technology
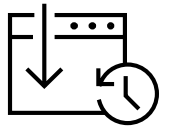
Architecture
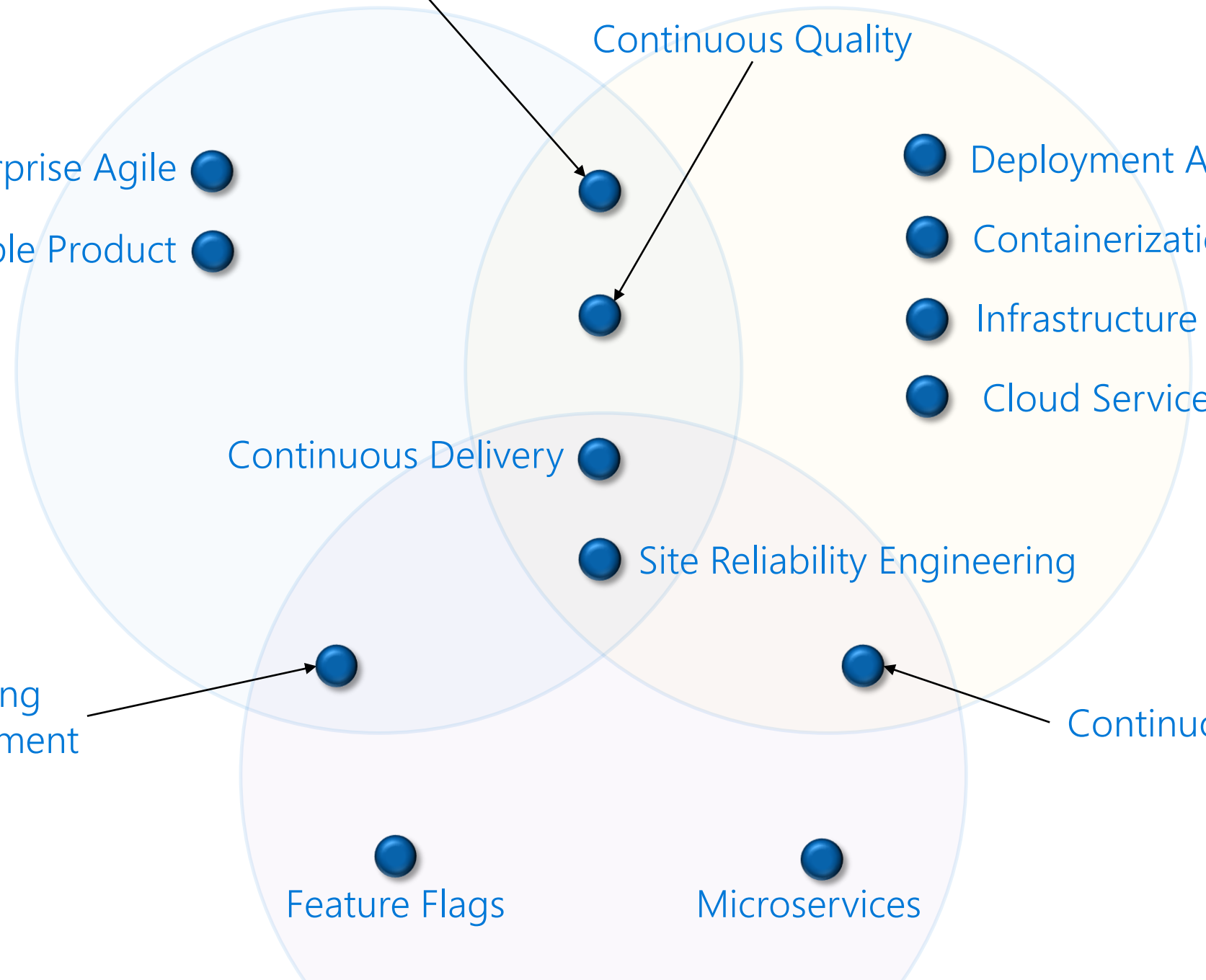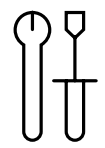
How Microsoft can help

Microsoft Azure is a powerful and flexible foundation for past, present, and future apps – easily build, manage, and deploy any application and any stack on a massive, global network using your favorite tools and frameworks.
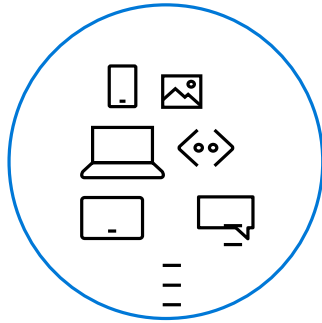
Flexible

Choice of IaaS, PaaS, public cloud or hybrid.

Mirror or modernize app infrastructure with VMs, containers, microservices or serverless.

Supports all stages of the app modernization journey – from lift-and-shift to Cloud-Native.
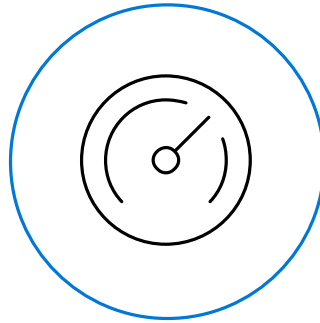
Powerful

Instantly improve the performance, scalability and resiliency of your apps by moving them to the cloud.

Increase business agility with Cloud-Native capabilities and built-in DevOps for continuous innovation.
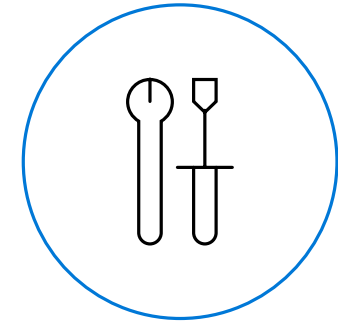
Open

Bring your stack, we bring a cloud that runs any app, on any platform, and any language.

Build applications using the language and tools of your choice - Azure supports what you already use and love so you can get up and running fast – just bring code.

Cloud Native Landspace
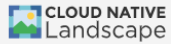
CNCF Cloud Native Interactive Landscape

CNCF's Cloud Native Trail Map (png, pdf) provides a good introduction. The cloud native landscape (png, pdf) and serverless landscape (png, pdf) are dynamically generated below. Please open a pull request to correct any issues. Greyed logos are not open source. Last Updated: 2018-10-31 01:57:15Z

You are viewing 590 cards with a total of 1,251,988 stars, market cap of $6.09T and funding of $17.1B.

CARD MODE   LANDSCAPE   SERVERLESS

150%

App Definition and Development

Database — Vitess (CNCF Incubating), Ignite, ArangoDB, BIGCHAIN, CarbonData, cassandra, Cockroach Labs, Couchbase, CRATE.IO, druid, FoundationDB, hadapp, hazelcast IMDG, IBM DB2, iguazio, hfinispan, InterSystems, SQL Server, MariaDB, MEMSQL, mongoDB, MySQL, neo4j, noms, ORACLE DATABASE, OrientDB, PERCONA, pilosa, PostgreSQL, presto, Qubole, redis, RethinkDB, SCYLLA, snowflake, software, SirenaSets, STARBURST DATA, STOLON, TiDB, TiKV, VERTICA, YugaByte

Streaming & Messaging — NATS (CNCF Incubating), Amazon Kinesis, Apache HERON, nifi, Apache RocketMQ, Spark, Apache STORM, beam, cloudevents, Flink, Google Cloud Dataflow, kafka, OpenMessaging, Pachyderm, PULSAR, RabbitMQ, StreamSets, talend

Application Definition & Image Build — HELM (CNCF Incubating), apache brooklyn, bitnami, Buildpacks.io, DRAFT, habitat, Kaniko, ksonnet, KubeVirt, minikube, On-Prem オンプレム, OPENAPI INITIATIVE, Packer, ServiceComb, SKAFFOLD, YIPEE.IO, ZUUL

**Continuous Integration & Delivery** — AppVeyor, argo, Bamboo, BRIGADE, Buildkite, circleci, Skycap, cloudbees, codefresh, CODESHIP, Concourse, ContainerOps, DeployHub, Drone, GITKUBE, GitLab, go, Google Cloud Build, Habitus, Jenkins, JenkinsX, Octopus Deploy, Semaphore, shippable, Spinnaker, TeamCity, Travis CI, weave flux, wercker, DEPLOY, ZUUL

Orchestration & Management

Scheduling & Orchestration — kubernetes (CNCF Graduated), Amazon ECS, Azure Service Fabric, SWARM, MESOS, Nomad

Coordination & Service Discovery — CoreDNS (CNCF Incubating), Apache Zookeeper, Consul, etcd, NACOS, NETFLIX EUREKA

Remote Procedure Call — GRPC (CNCF Incubating), Apache Thrift, AVRO, DUBBO

Service Proxy — envoy (CNCF Incubating), AVI Networks, backplane, f5, HAPROXY, Heptio Contour, NGINX, traefik

API Gateway — 3SCALE, Ambassador, Kong, MuleSoft, Sentinel, Tyk

Service Mesh — LINKERD (CNCF Incubating), Istio, NETFLIX ZUUL, vamp

Runtime

Cloud-Native Storage — ROOK (CNCF Incubating), Arrikto, ceph, CSI, DATERA, DELL EMC, DIAMANTI, elastifile, GLUSTER, HATCHWAY, Hewlett Packard Enterprise, kasten, LeoFS, MINIO, MooseFS, NetApp, OpenEBS, OpenIO, OpenSDS, portworx, PURE STORAGE, Quobyte, RED Hat, ROBIN, STORAGEOS, SWIFT, Triton Object Storage

Container Runtime — containerd (CNCF Incubating), rkt (CNCF Incubating), cri-o, Google Cloud gVisor, kata, lxd, Pouch, OPEN VZ, Singularity, SmartOS

Cloud-Native Network — CNI (CNCF Incubating), alcide, Aporeto, aviatrix, bigswitch, cilium, Contiv, CUMULUS, flannel, GuardiCore, LIGATO, midonet, MULTUS, vmware NSX, nuage networks, OCTARINE, Open vSwitch, CALICO, ROMANA, weave net

Platform — Certified Kubernetes

AgileStacks, 灵雀云 alauda.io, AppsCode, CONTAINER RUNTIME, containership, CSTACK, Giant Swarm, HUAWEI, IBM Cloud, Joyent, PHAROS, kubespray, MESOSPHERE, METALK8S, MIRANTIS, ORAG, Pivotal, PLATFORM9, RANCHER, ROBIN, STACKPOINT, Telekube, Typhoon, vmware, Alibaba Cloud, Amazon EKS, Azure Container Service, BoCloud, CISCO, catalyst cloud, Google Kubernetes Engine, HARMONY CLOUD, HASURA, Tencent Cloud, vmware, CableLabs, Gardener, Google Cloud