Application Lifecycle Management

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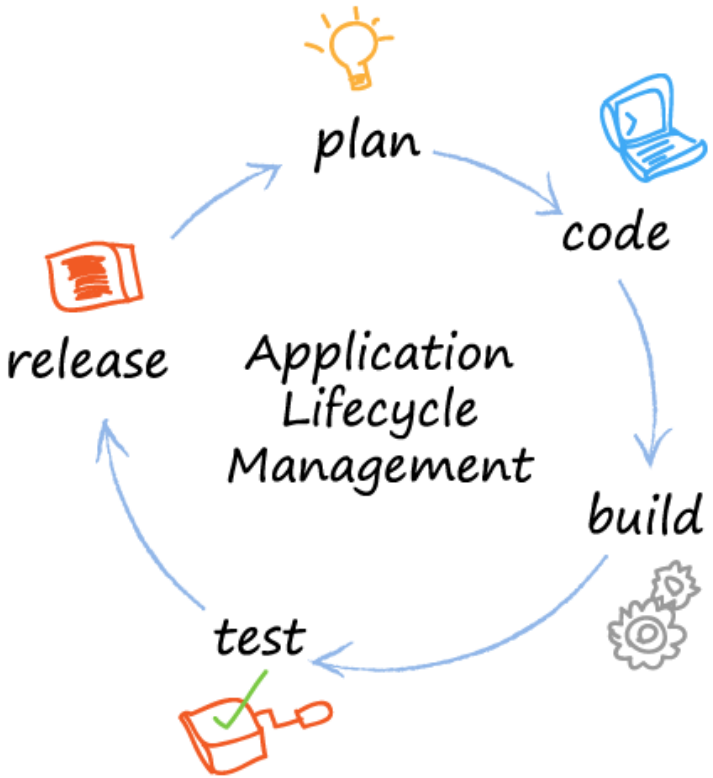
Agenda

- Definition
- The Cybage ALM vision
- Benefits of ALM
- ALM : Technology streams
- Services ALM and DevOps
- ALM tools integration
- Continuous Integration and Delivery
- DevOps ecosystem
- ALM at Cybage

Definition

Application Lifecycle Management (ALM) is a continuous process of managing the life of an application through governance, development, and maintenance.



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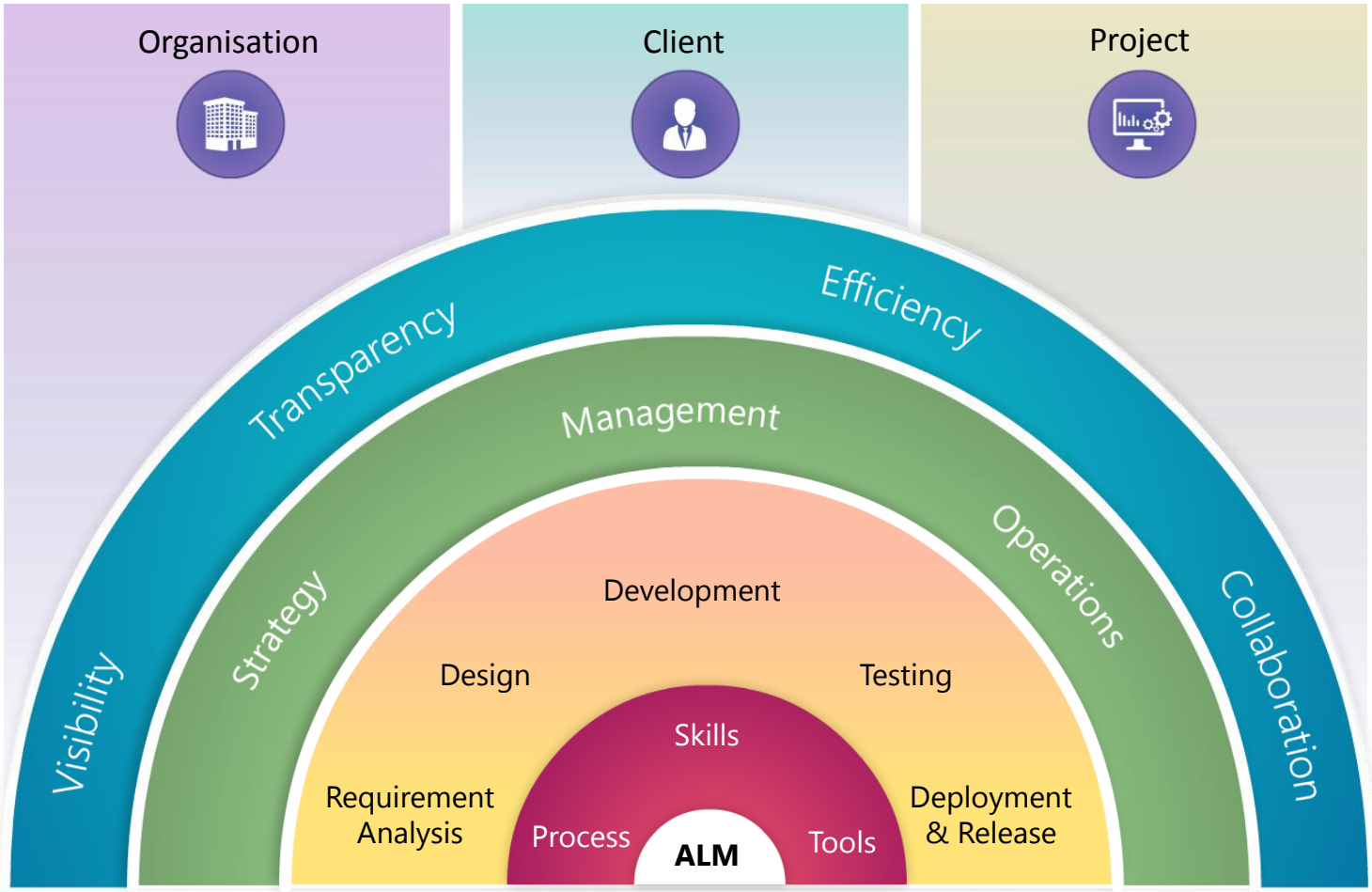
Cybage ALM Vision

- ALM objectives
- Governing
- During phases
- By strategising
- Beneficial to stakeholders



Benefits of ALM

Efficiency

- Quality
- Productivity
- Speed

Transparency

- Team maturity
- Auditability
- Dashboard and reports

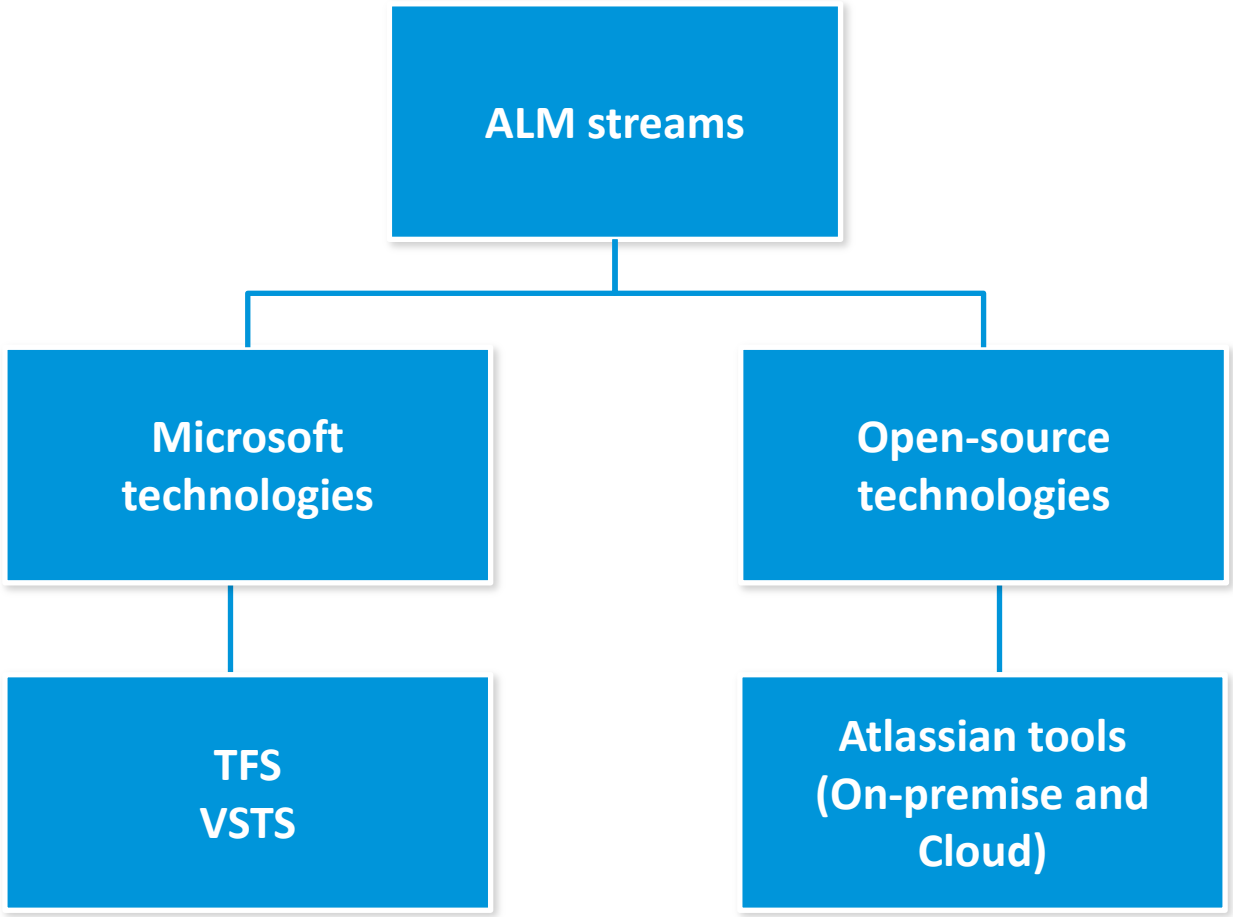
Collaboration

- Effective communication
- Distinct role and responsibility
- Reduced dependency

Visibility

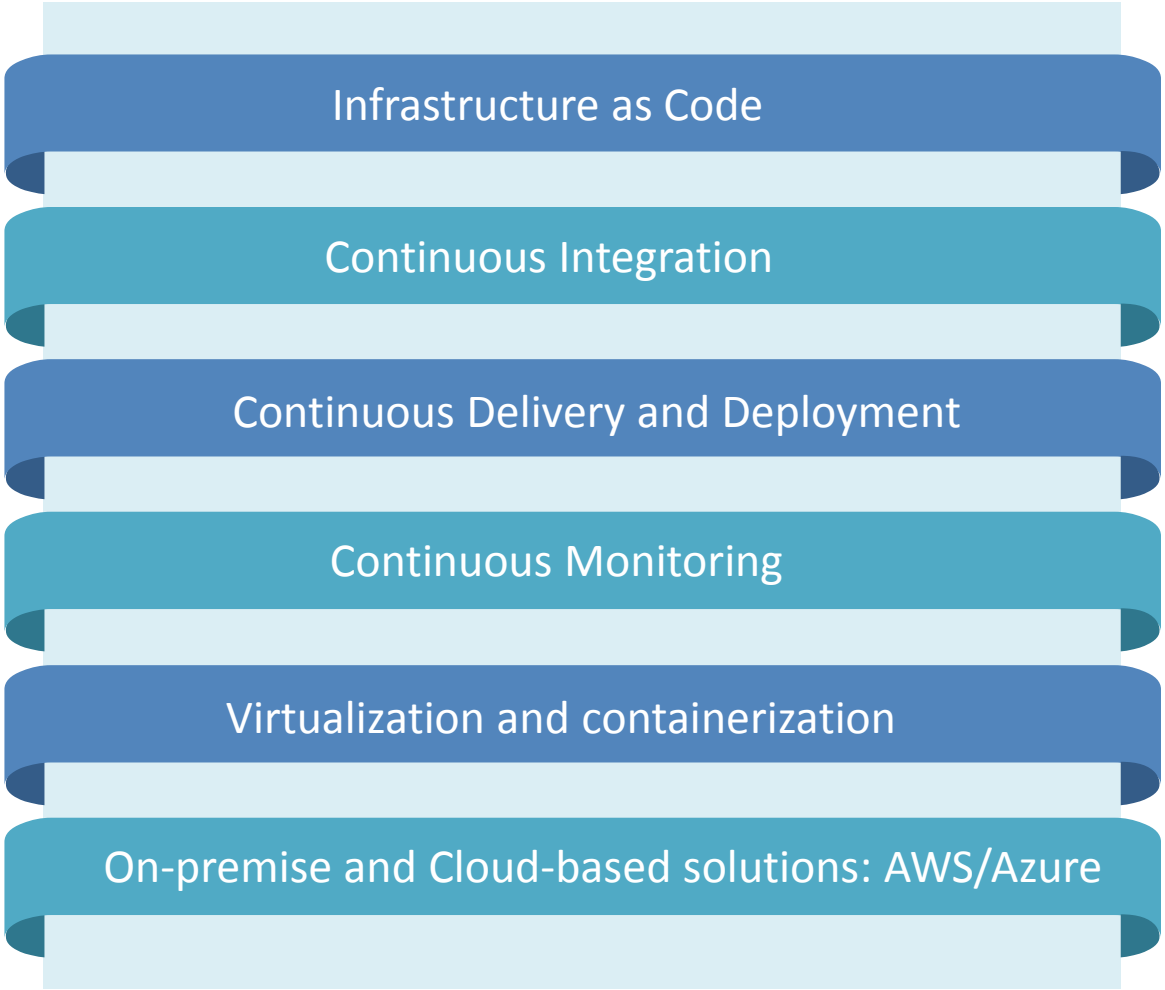
- Traceability
- Predictability
- Analytics

ALM: Technology streams



Our services (ALM)

Our services (DevOps)



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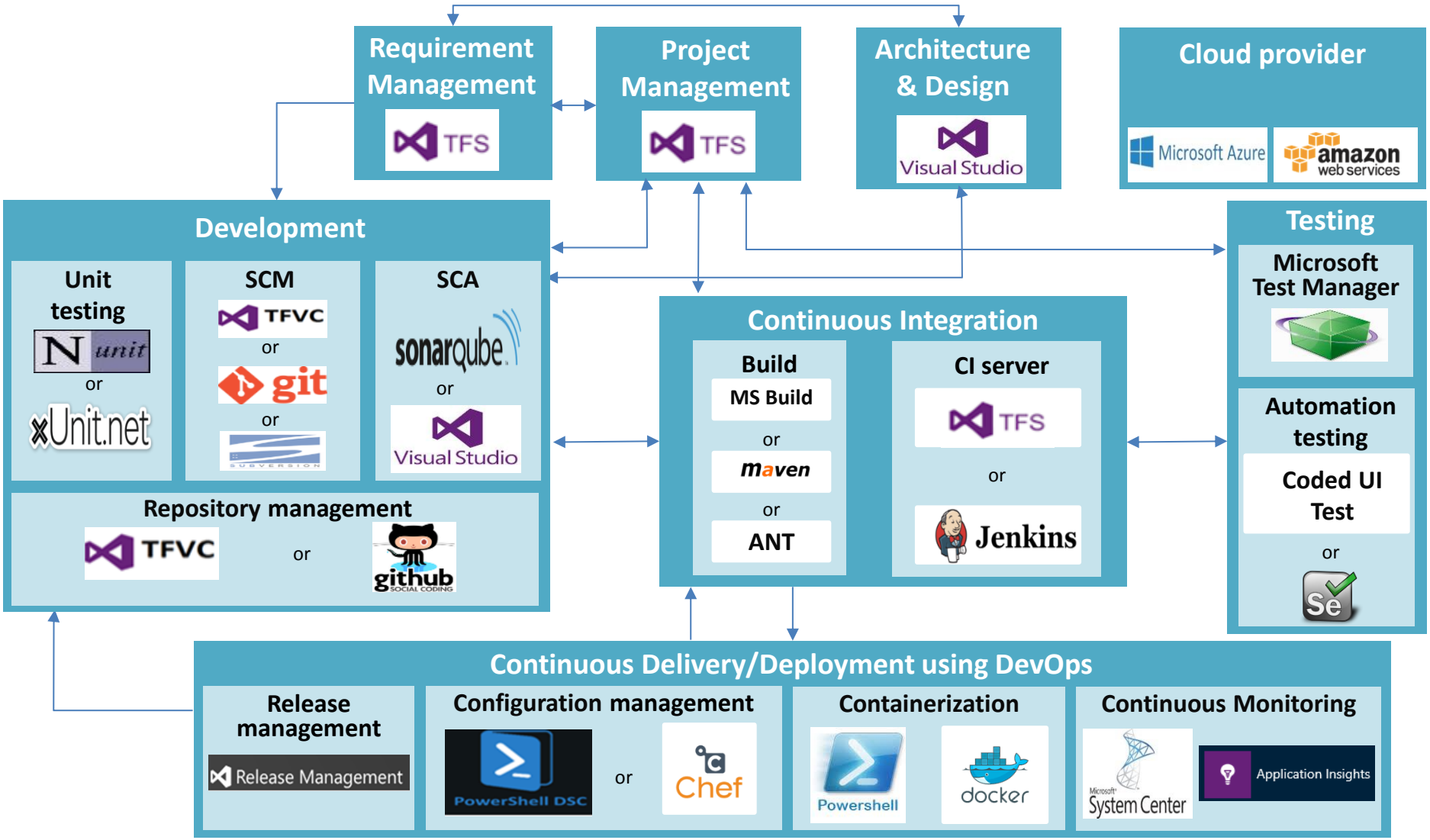
ALM Tools Integration (Microsoft)



Note: Solution offering for on-premise & on-cloud

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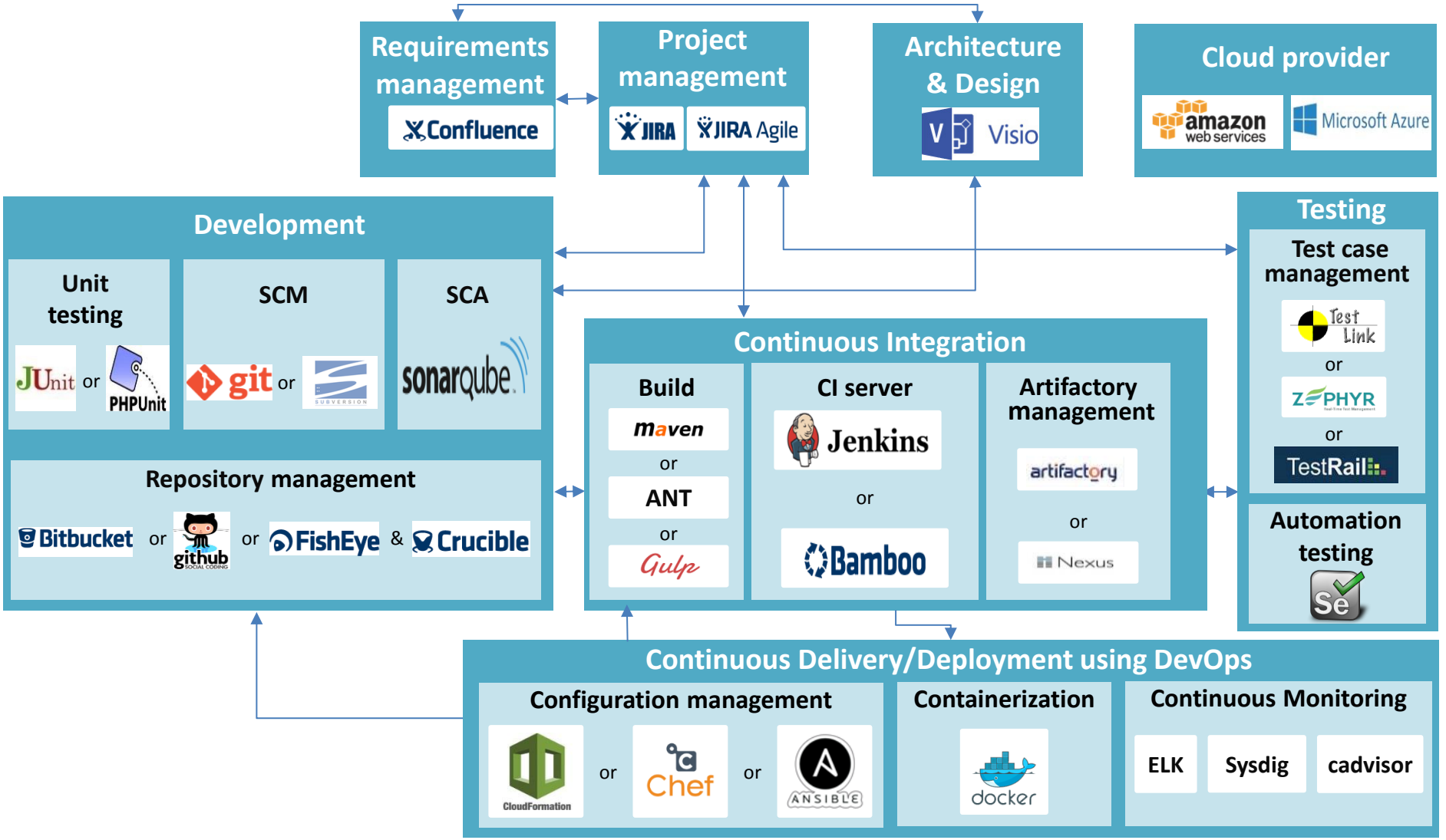
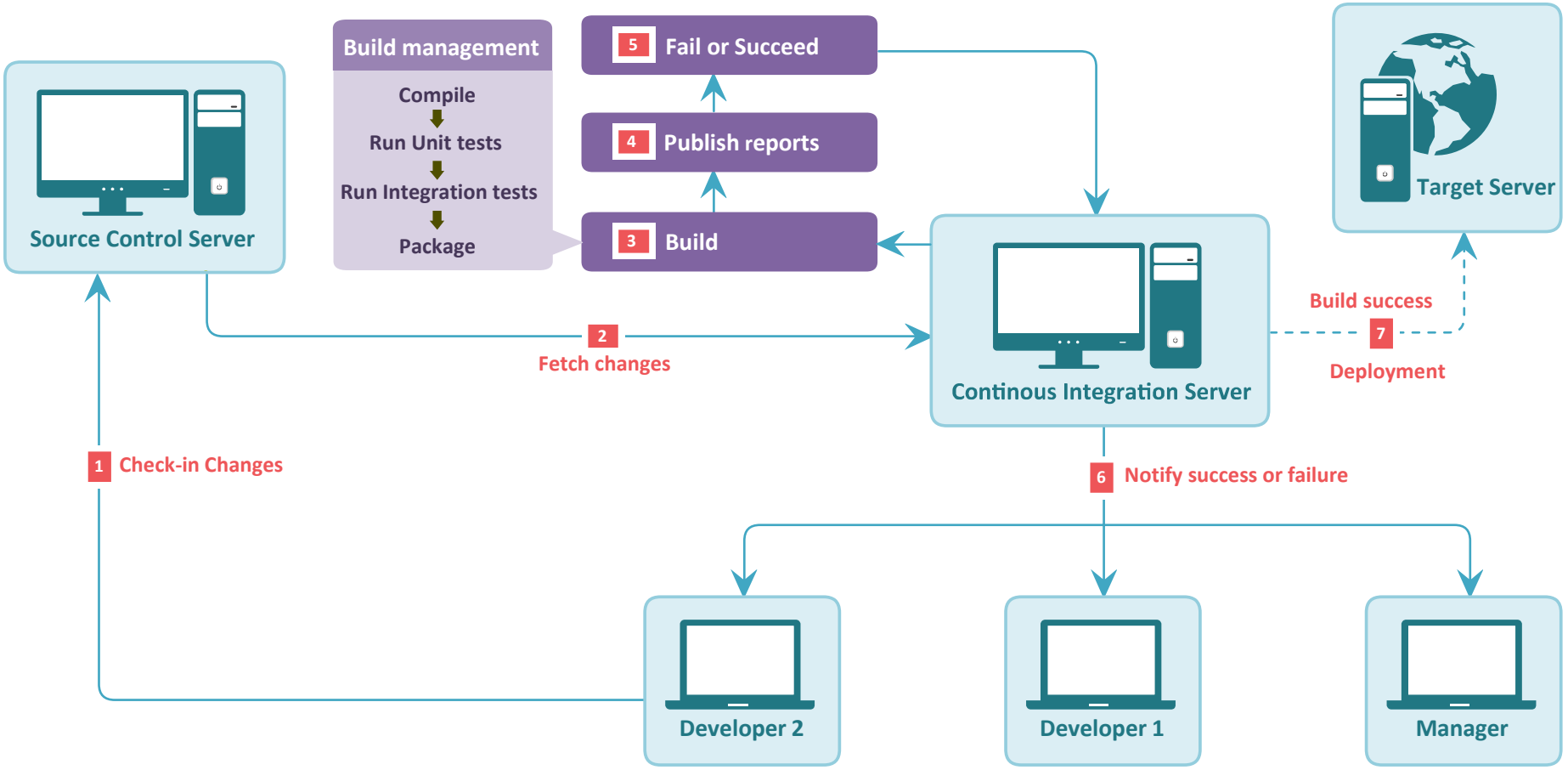
ALM Tools Integration (Open source)



Note: Solution offering for on-premise & on-cloud

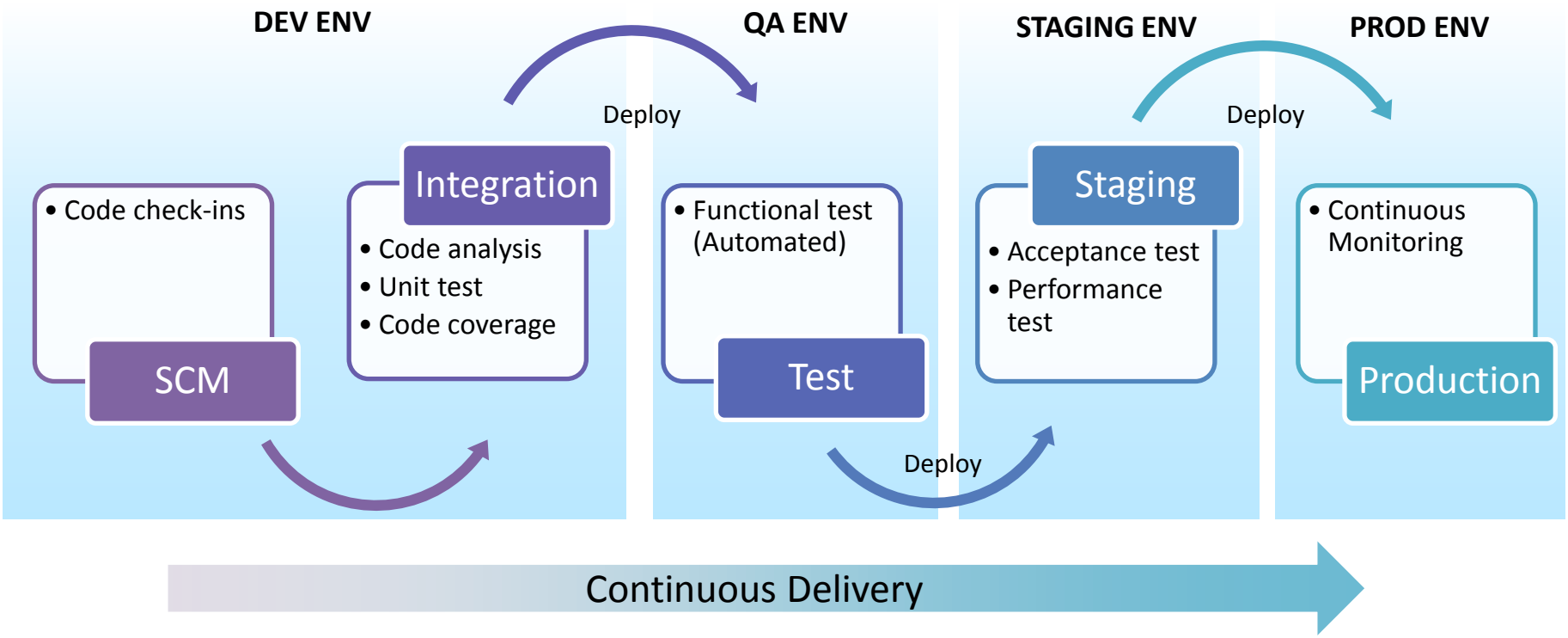
Continuous Integration

Continuous Integration (CI) is the process of building software with every change committed to a project's version control repository.



Continuous Delivery

It is the process of building software that can be released to production at any time. It helps to reduce the cost, time, and risk of delivering incremental changes to users, following set of practices.



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DevOps Ecosystem

Computing instances or VMs are provisioned from a centralized console

Provisioning

- Chef

Deployment of Cloud computing services within Enterprise infrastructure

Cloud Provisioning

- Terraform
- Packer
- CloudFormation

Deployment of Cloud computing services within Enterprise infrastructure

Infra-orchestration

- Mesos

To build a Linux distribution that was perfect for running Docker containers

Docker OS

- RancherOS

Creation of a virtual version of a resource

Virtualization

- Virtual Machine
- Vagrant
- Docker
- Rocket

Application performance and infrastructure monitoring with alerts and self-healing

Continuous Monitoring

- ELK
- Sysdig

An Alarm system with auto notification service

Alerts

- PagerDuty
- CloudWatch

Collection of computing services that make up on-demand computing platform

Cloud Providers

- AWS

Features high performance, stability, and low resource consumption

Load Balancer

Information that is infrequently accessed. Also State-full and partitioned across nodes

Data Persistence

Automatic detection of services offered by Service Registry server

Service Discovery

- Consul
- Etcd
- Eureka

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Docker Ecosystem for DevOps

Docke ve buil ywhere.

Allows to install Docker Engine on virtual hosts

Docker Tools

- Machine

Repository for Docker Images, with links to code repositories for building and testing Images

Docker Registry

- Docker Hub
- AWS ECR

Creates a virtual network that connects Docker containers deployed across multiple hosts

Docker Networking

- Weave

Platform for automating deployment, scaling, and operations of app containers across a cluster of nodes

Docker Orchestration Tools

- Swarm
- Mesos
- Kubernetes

Auto discovery of services through DNS or HTTP interface

Service Discovery

- Consul
- etcd
- Eureka

A production-grade container orchestration platform

Scheduler & executor

- Marathon
- Chronos
- Jenkins

Provides resource usage and performance of containers and apps running within containers

Docker Monitoring

- cAdvisor
- Sysdig
- Ruxit

Container as a Service (Rancher or OpenShift)

Docker–CaaS

Facilitates running, stopping, and scheduling of Docker containers in a Cloud provider Infrastructure

Docker on Cloud

All applications and services run as Docker containers

Docker OS

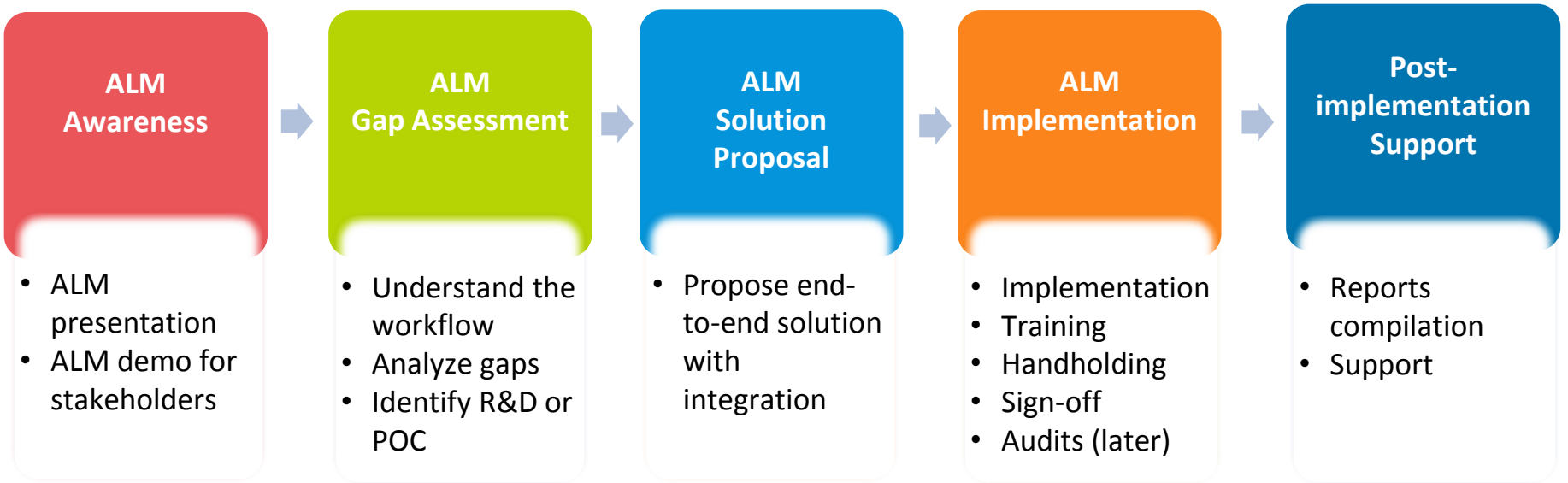
Data volume manager for persistent containers with high availability and fault tolerance

Docker Stateful

- Flocker
- Convoy

ALM implementation stages

Ownership: The ALM team | **Handing over**



Pattern of success

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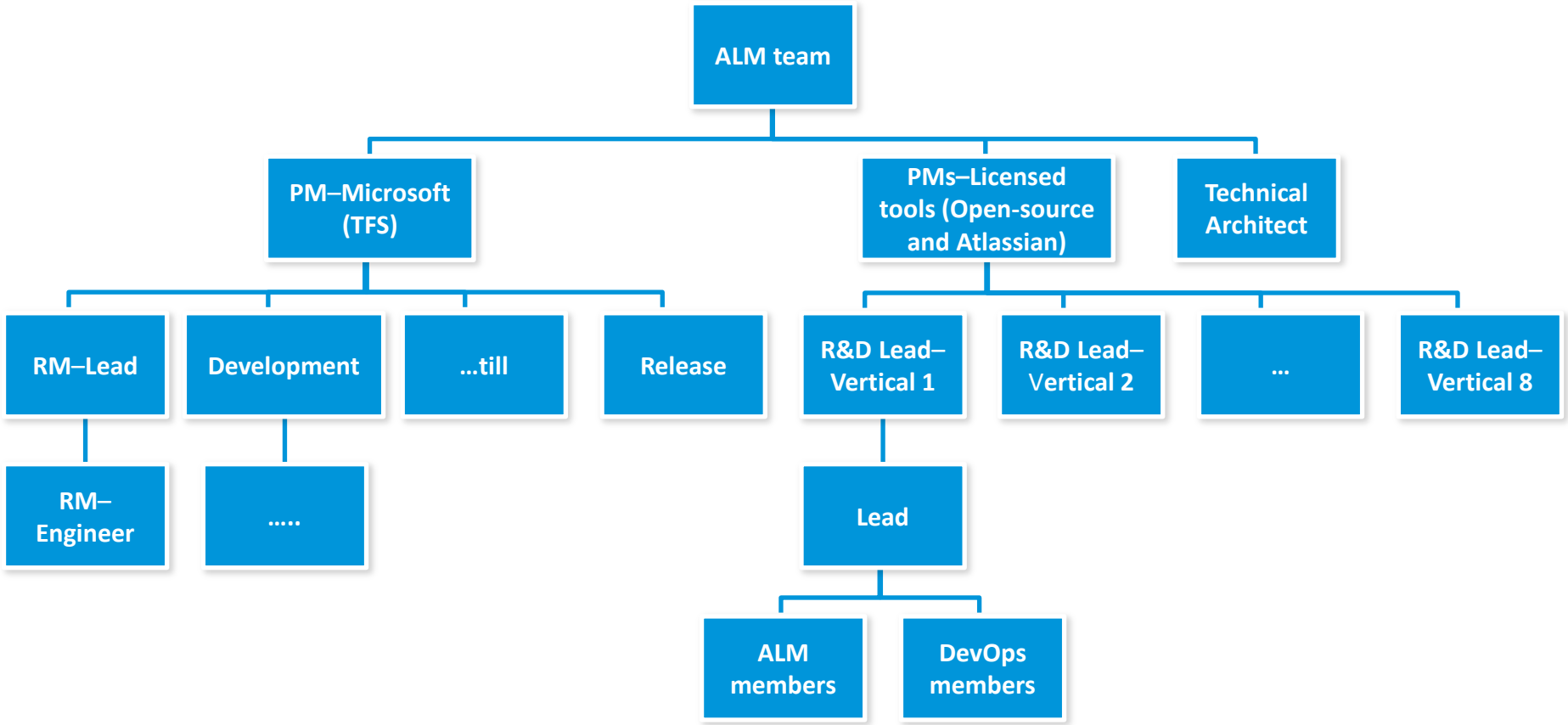
ALM teams



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Resource competency

	Java, Lamp, JS	Java	PHP	JS
General	CROWD (SSO), HipChat (communication)			
Project Management	JIRA, JIRA Agile			
Requirement Analysis	Confluence			
Source Code Management	Git, SVN			
Repository Management and code review	Bitbucket, FishEye-Crucible, GitHub, GitLab			
Build process		Ant, Maven, Gradle	Ant, Phing, Grunt, Gulp	Grunt, Gulp
Unit testing		JUnit, TestNG, Mockito	PHPUnit	Mocha-chai
Code coverage	Emma	Cobertura, Clover, JaCoCo	Clover	Cobertura, Istanbul
Static Code Analysis	SonarQube	PMD, Checkstyle, FindBugs	PHPMD, PHPCPD, PHPCS	JSHint, JSLint

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Resource competency (contd.)

	Java, Lamp, JS	Java	PHP	JS
Test-case management	Zephyr, Zephyr JIRA, TestLink			
CI server	Jenkins, Bamboo			
Binary repository manager	Nexus, Artifactory			
UI testing		Selenium		NightWatch
Stress testing	JMeter, Gatling			
Configuration management	Chef, Puppet, Ansible, SaltStack			
DevOps	AWS CodeCommit, AWS CodeDeploy, AWS CodePipeline, AWS ECS, Codeship with AWS, CloudBees Jenkins Enterprise, Vagrant, DigitalOcean, JIRA-ServiceDesk, GlusterFS, Kafka, HAProxy, Bunyan			
Profiling		JProfiler	Xdebug, Blackfire	
Continuous Monitoring	ELK, Nagios, New Relic			

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Thank you!