

The Container Disruption

Containers are changing the nature of DevOps and transforming infrastructure. They make tooling and environments consistent by providing common building blocks reusable in any development stage. For tools, containers provide a disposable, reusable unit that modularizes the delivery pipeline. For environments, they extend the write once-deploy anywhere abstraction to infrastructure.

Code and image lifecycle with containers.

Containers defined by recipes allow developers to edit, version and commit changes in the same way they do code leading to a similar (and sometimes dependent) image lifecycle.



Continuous Delivery

Continuous delivery and DevOps with containers.

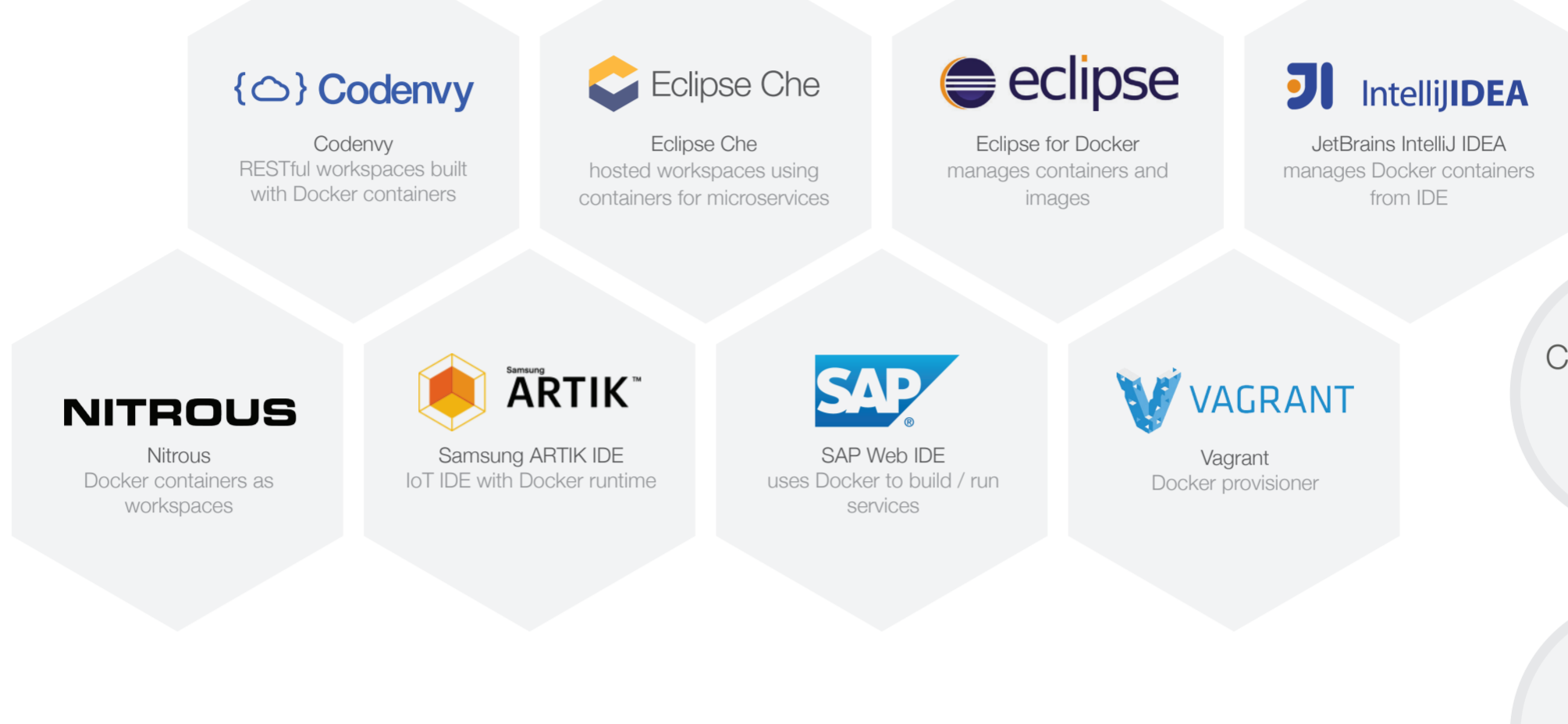
Containers are simplifying the continuous delivery pipeline.

DevOps Pipeline

Continuous Development

Author code and check-in

Developer Workspace



Check out and build code

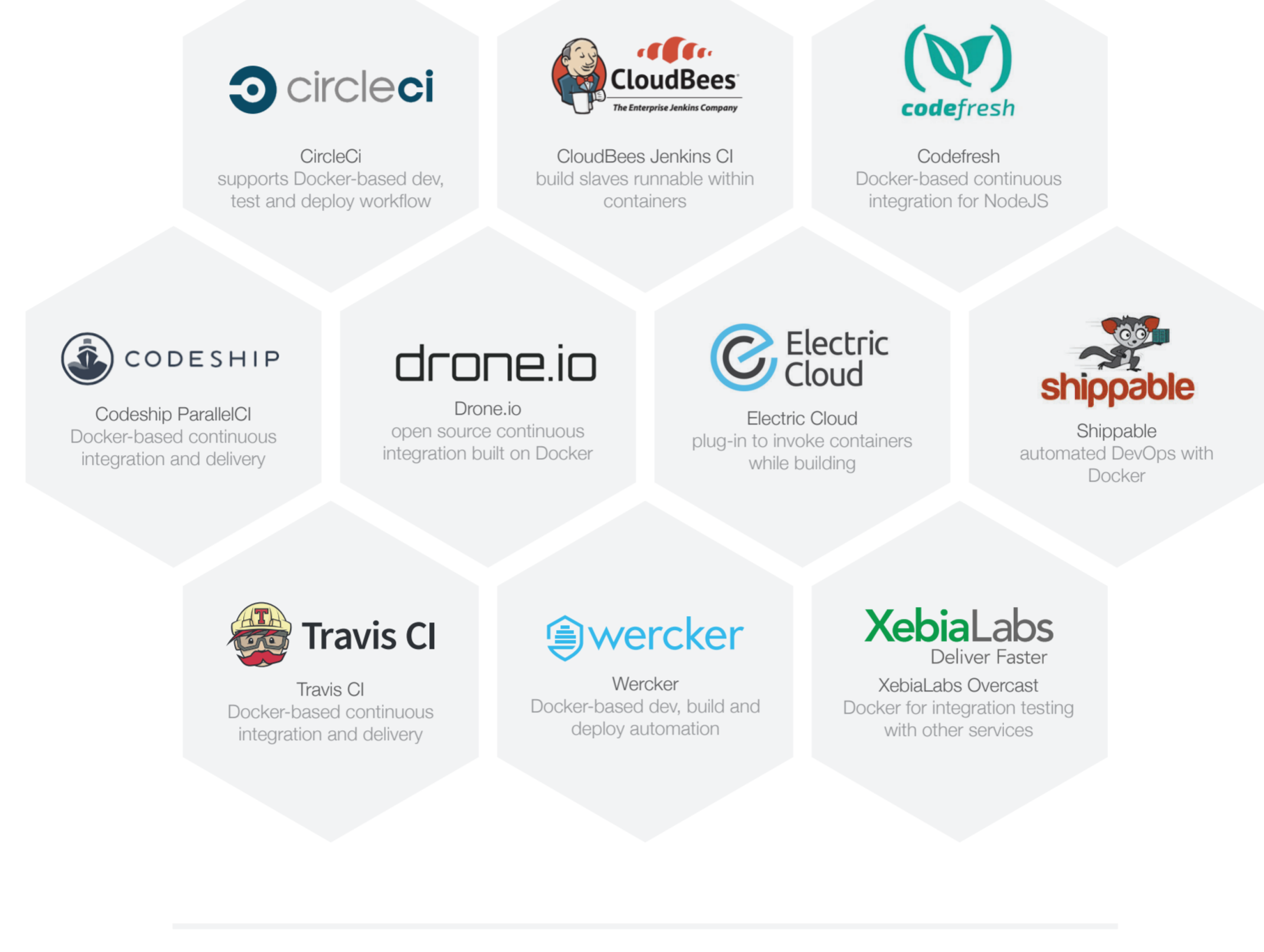
Unit test

Source Code Management



Continuous Integration

Continuous Integration



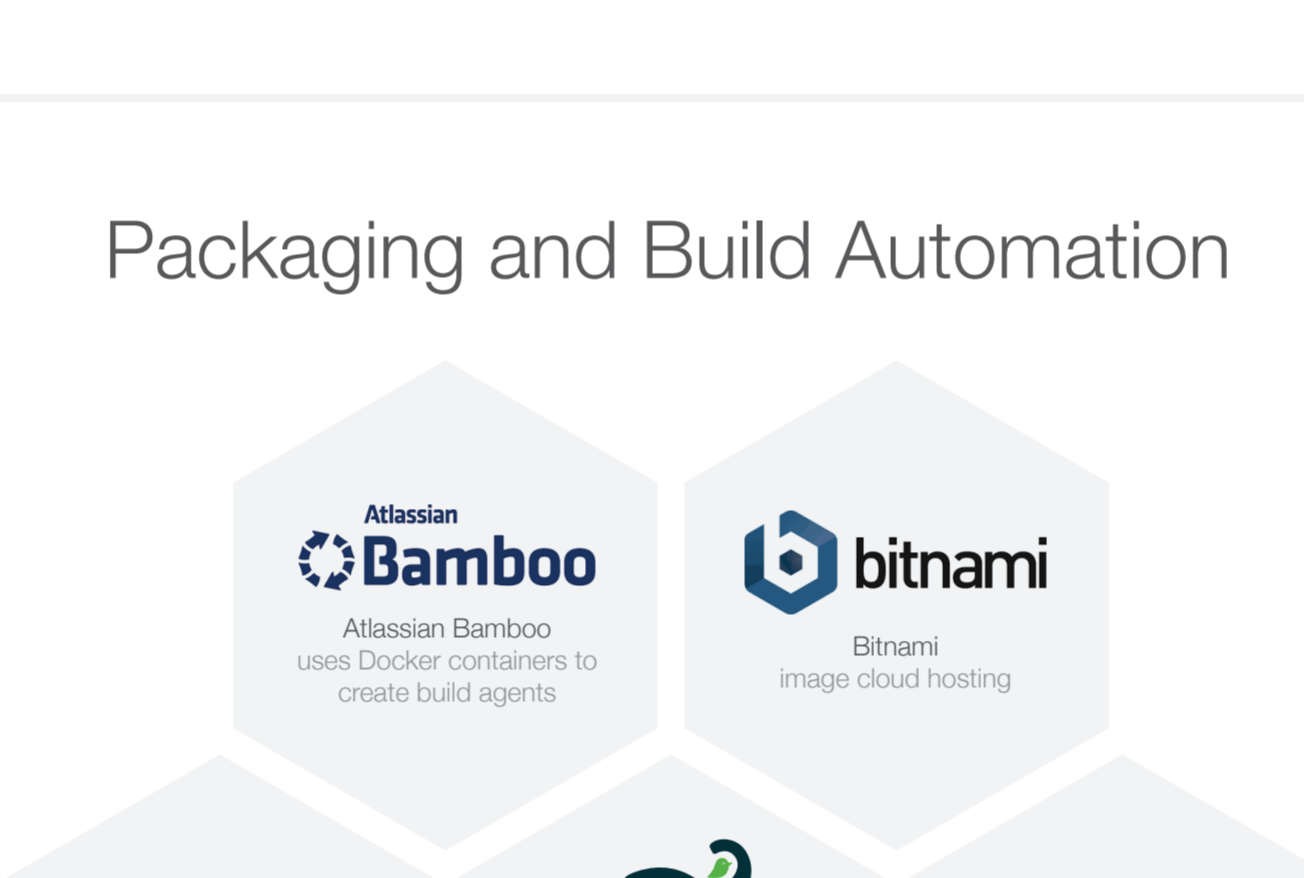
Quality control

Code Quality Analysis



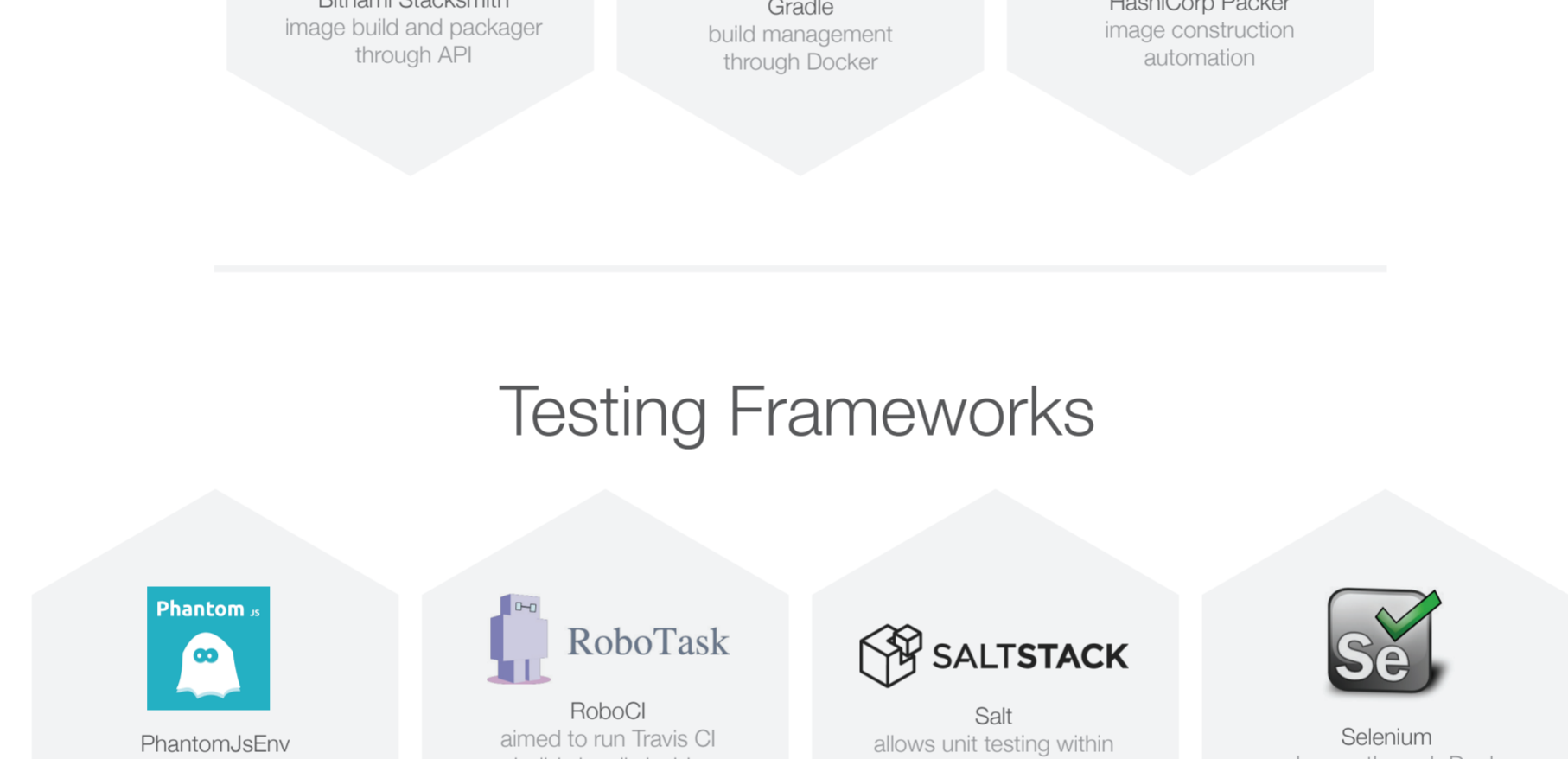
Package and archiving

Packaging and Build Automation



Integration testing

Testing Frameworks



Deploy to test environment

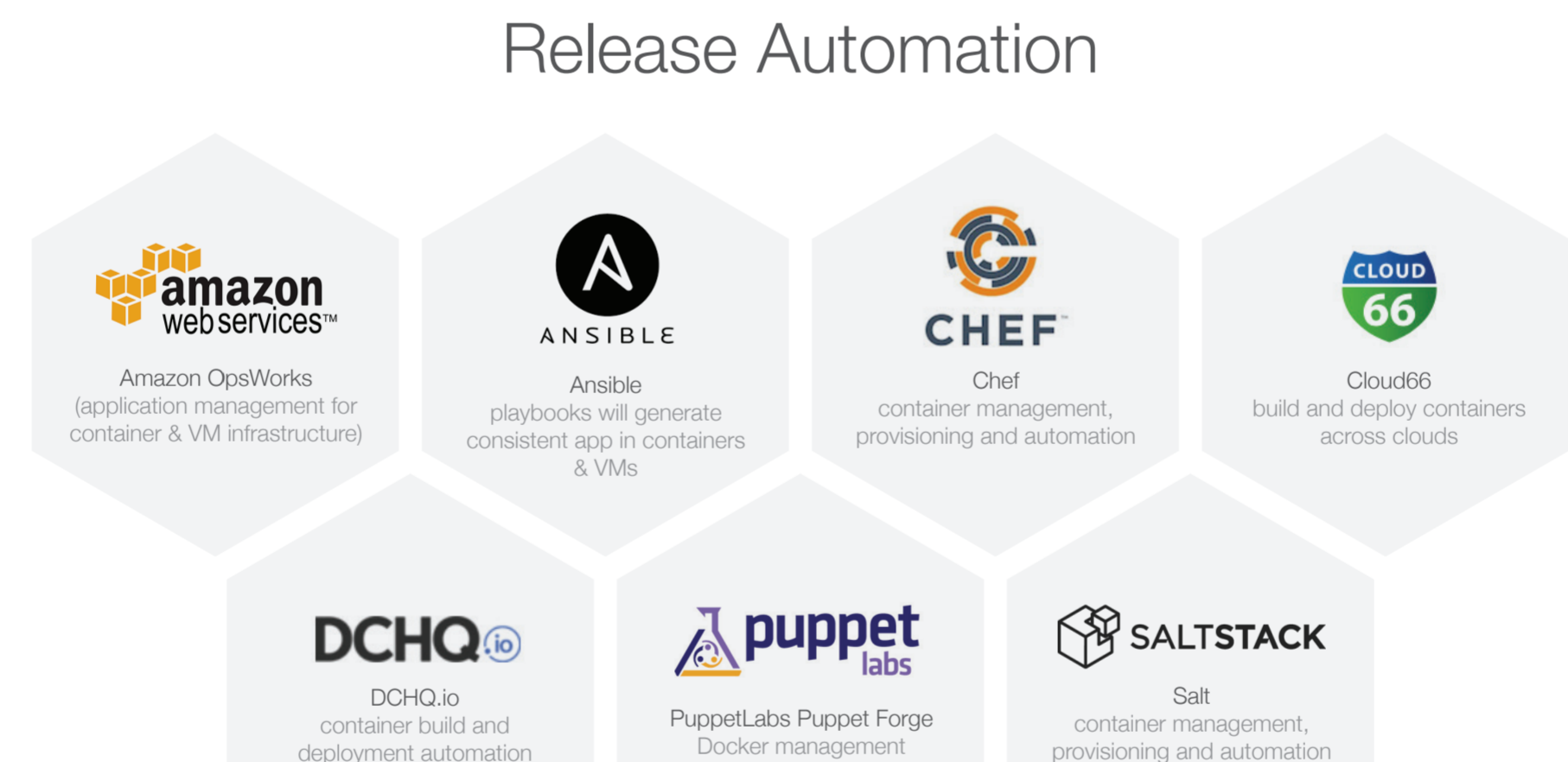
Continuous Deployment

Artifact and Image Registry



Deploy to pre-production

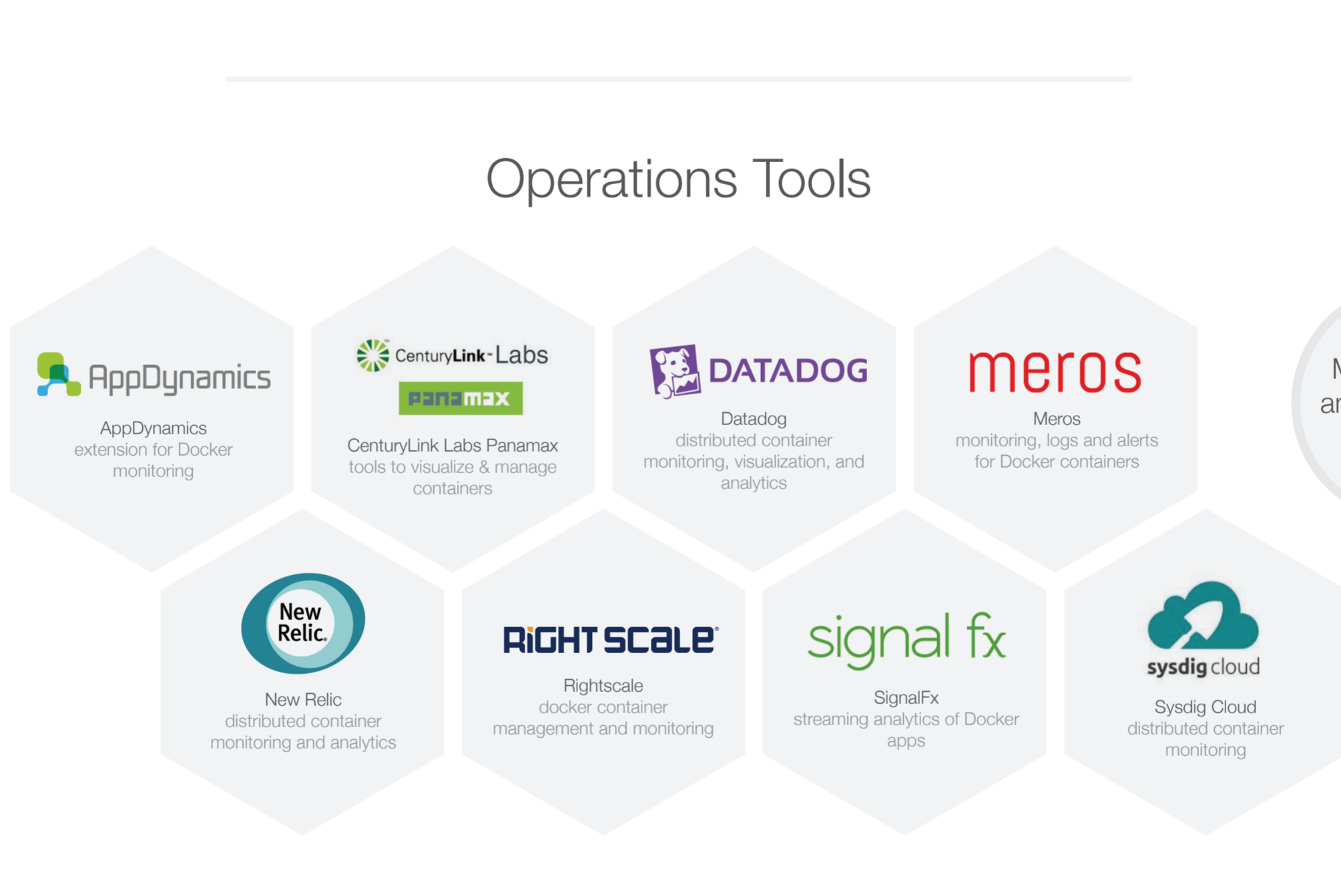
Release Automation



Acceptance testing

Deploy to production

Operations Tools



Management and monitoring

Container Infrastructure

Containers force a rethink of the entire stack, moving towards modular, orchestrated, microservices platforms.

Minimal OS	Container Runtimes	Container Security	Container Storage	Container Networking	Service Discovery	Orchestration Scheduling Cluster Mgmt
Alpine Linux lightweight security system container optimized	lbtvirt LXC linux container engine	CoreOS clair networked security for docker containers	Brightbox high performance and flexible cloud servers and storage	CoreOS Rannol operational orchestration communication	AlfEB SmartStack service discovery in the cloud	Apache Mesos distributed systems and container kernel
Alpine Linux Docker Image minimal Docker OS image	runC lightweight container runtime	Docker Security Scanning security profile of Docker images	Ceph distributed block storage for Docker	Portino builds container-level VPC networks	Apache Zookeeper centralized container configuration	CoreOS Tectonic Kubernetes cluster for Docker
CoreOS minimal OS for hosting web-enabled apps	Ubuntu LXD linux container hypervisor	Twistlock Runtime multi-tenant management of containerized apps	ClusterHQ Flocker high performance data volume manager	Weave creates a network of Docker containers	CoreOS etcd service discovery using consensus algorithm	Docker Compose define and running multi-container applications
RancherLabs RancherOS Linux distribution that runs OS as Docker containers			Portworx PVX scale out block storage for Docker		HashiCorp Consul state and configure distributed services	Docker Machine automated Docker provisioning
Red Hat Atomic lightweight atomic platform for running containers					Mesos-DNS DNS-based service discovery	Docker Swarm distributed systems for Docker
Ubuntu Snappy Core frictionless updates from within containers					Netflix Eureka REST-based service discovery	Google Kubernetes orchestration of serverless groups of containers
VMware AppCatalyst desktop federation, optimized for containers						
VMware Photon lightweight Linux distro for containers						
Platforms						
Amazon EC2 Container Service Docker extension from AWS	Apcera build and pack/distribute platform for container workloads	CenturyLink Cloud cloud management service with container support	ContainerX.io Container-as-a-Service platform	Diamanti cloudy Docker containers across clouds	EngineYard Dais application lifecycle for Docker	Joyent Triton infrastructure as a service for containers
Giant Swarm distributed container infrastructure	Gigaspaces Cloudify cloud orchestration with Docker plugins	Google Compute Engine PaaS with container managed service	HP Helion ActiveState PaaS with container capabilities	IBM Bluemix PaaS/DaaS based on OpenStack and Docker	Jelastic multi-tenant orchestration platform	Magnetic.io VAMP microservices platform based on Docker
Mesosphere DC/OS distributed container with Docker	Microsoft Azure PaaS with container-managed services	Nirmata container deployment and orchestration platform	OpenStack Magnum multi-tenant container-as-a-Service Docker ready images	OpenStack Nova builds containers on a massive scale	PrasSTA REST-based service discovery	RancherLabs Rancher infrastructure as a service for Docker
Red Hat OpenShift hybrid PaaS based on Docker	Shipbox tools to deploy Kubernetes and Docker	Spotify Helios Docker orchestration platform	Supergiant Container-as-a-Service based on Kubernetes			

“Container technology is changing the developer landscape for the better, shifting the very nature in how software is authored and delivered by making environments and tooling consistent.”

Alex Williams, Founder & Editor-in-Chief

THE NEW STACK