RED HAT ATOMIC PLATFORM

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RED HAT®
ATOMIC PLATFORM

An integrated infrastructure platform to run, orchestrate, monitor and scale containers

Open source project to orchestrates containers on multiple hosts

redhat.

KEY ATOMIC PLATFORM ADVANTAGES

Networking
Scalable, multi-host container networking powered by Open vSwitch

Security
Enterprise-grade Security through SELinux

Storage
Drivers for NFS, iSCSI, Fiber Channel, AWS, GCE, OpenStack Cinder, Gluster, Ceph

Authentication and Authorization
RBAC with LDAP and OAuth Integration

Registry
Integrated storage and management for sharing container images

redhat.

KUBERNETES

- Open source project conceived by Google
- Google and Red Hat are the top contributors
- Fast paced and highly collaborative ~150-200 commits/week
- Provides
    - Container orchestration on multiple hosts
    - Container grouping
    - Self-healing
    - Service discovery

- Relies on other projects to provide
    - Networking
    - Security
    - Authentication and authorization
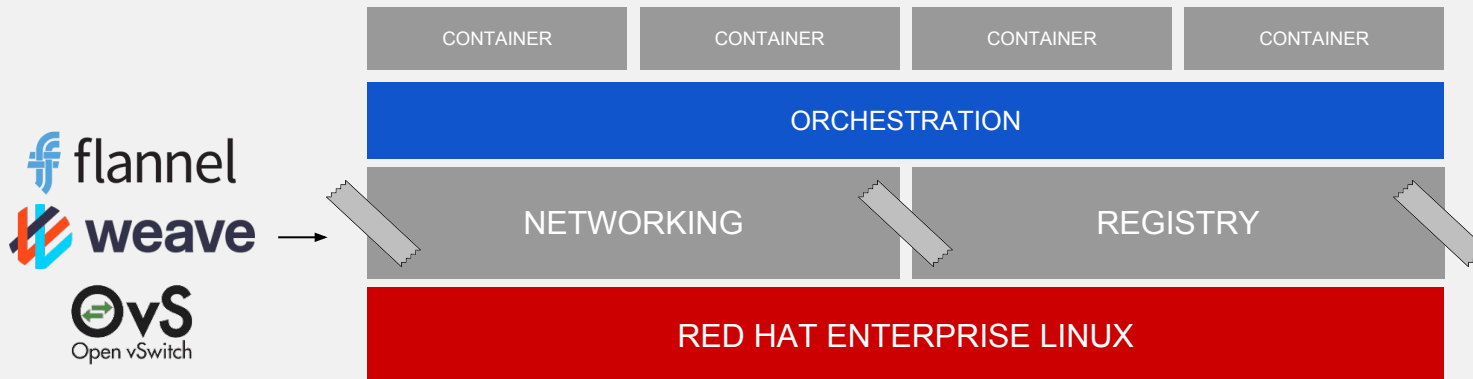   - Storage
    - Monitoring
    - Registry

INSERT DESIGNATOR, IF NEEDED

redhat.

RUNNING CONTAINER WITH KUBERNETES
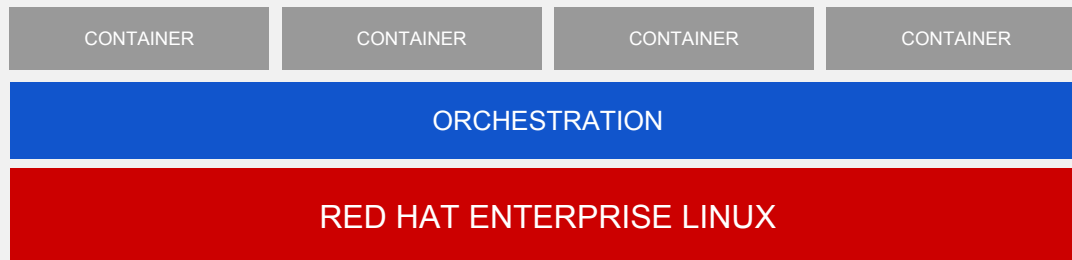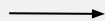
RUNNING CONTAINER WITH KUBERNETES

Creating Docker images?
Add a Docker Registry

CONTAINER	CONTAINER	CONTAINER	CONTAINER

ORCHESTRATION

REGISTRY

RED HAT ENTERPRISE LINUX

redhat.
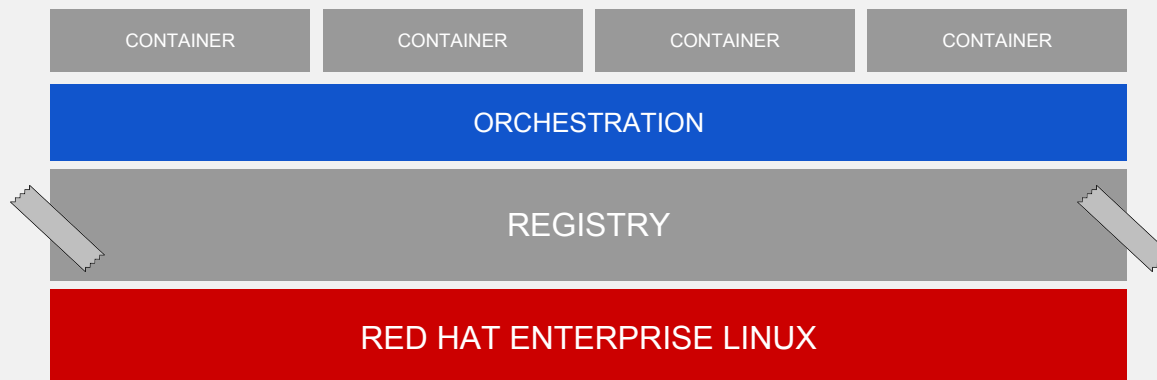
RUNNING CONTAINER WITH KUBERNETES

Running on multiple hosts?
Add networking

| CONTAINER | CONTAINER | CONTAINER | CONTAINER |

ORCHESTRATION

flannel
weave
OvS
Open vSwitch

→

NETWORKING | **REGISTRY**

RED HAT ENTERPRISE LINUX

redhat.

RUNNING CONTAINER WITH KUBERNETES

Running stateful applications?
Add storage

CONTAINER	CONTAINER	CONTAINER	CONTAINER

ORCHESTRATION

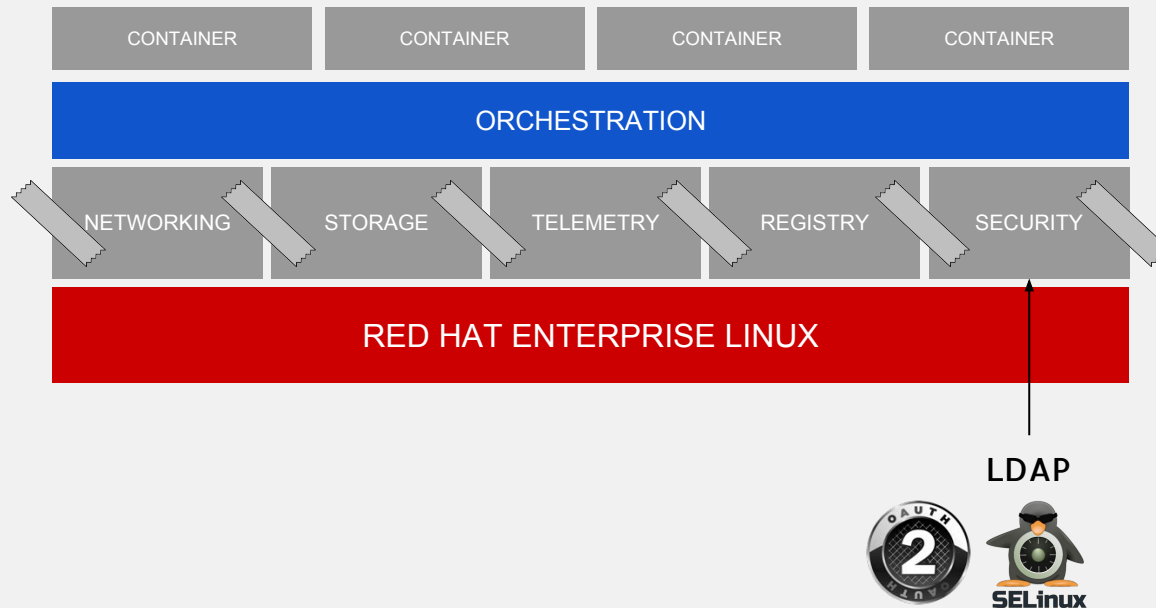| NETWORKING	STORAGE	REGISTRY

RED HAT ENTERPRISE LINUX
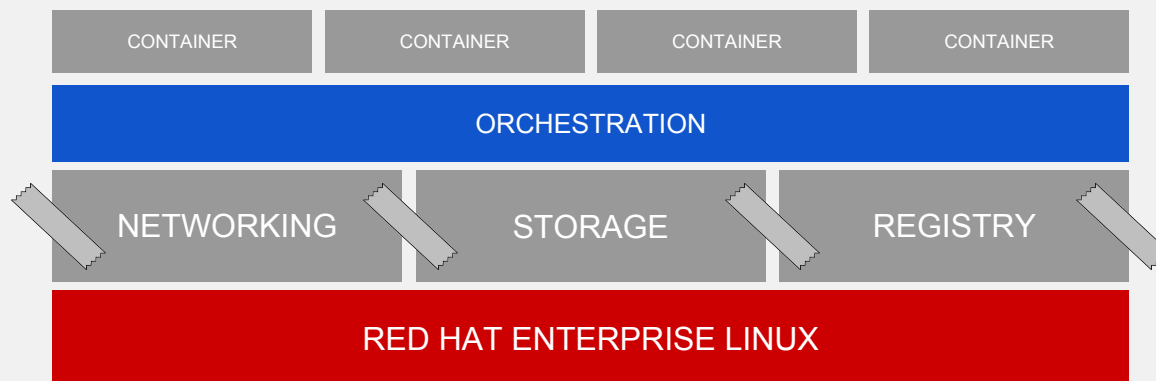
redhat.

RUNNING CONTAINER WITH KUBERNETES

Need monitoring?
Add telemetry
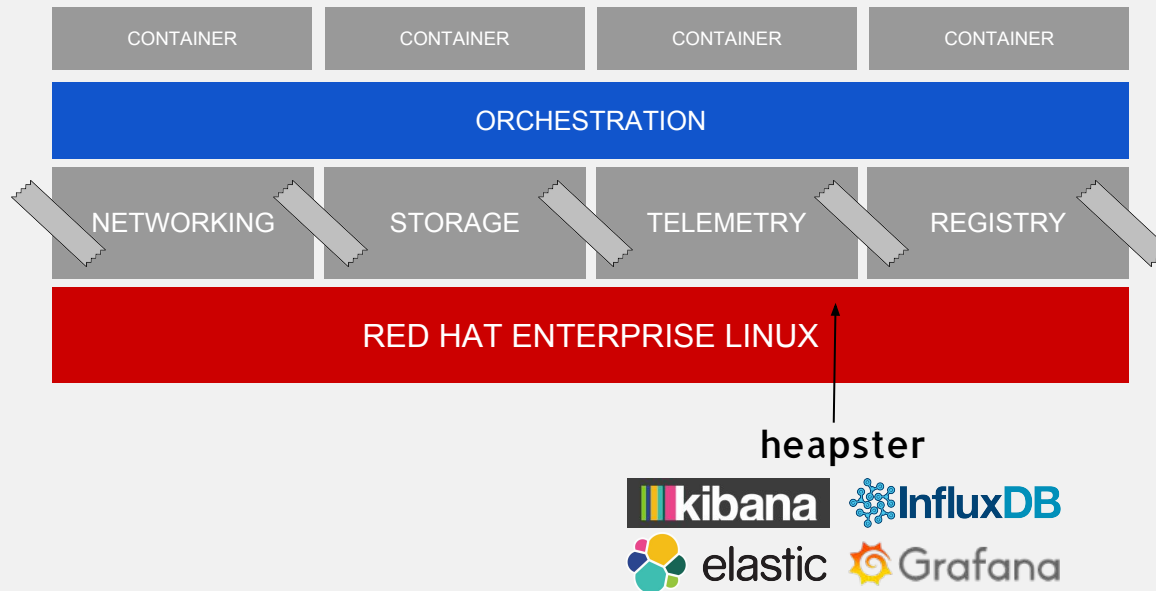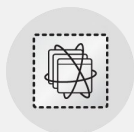
RUNNING CONTAINER WITH KUBERNETES

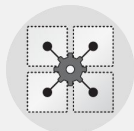Need security?
Build security plugins
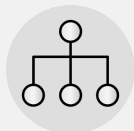
RED HAT ATOMIC PLATFORM

Atomic Host - a container-optimized, minimal footprint OS powered by Red Hat Enterprise Linux

Atomic Runtime and Packaging Format - standardized container packaging format and runtime, powered by Docker (and OCI)
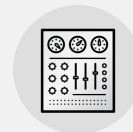
**Atomic Orchestration** - for complex multi-container services, powered by Kubernetes

Atomic Cluster Services - Scheduling for services across a container host cluster, powered by Kubernetes

Atomic Registry - integrated storage and management for sharing container images

Atomic Telemetry - logging and metrics for pods/containers, services and underlying infrastructure to make informed decisions
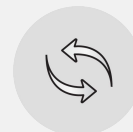
Atomic Automation and host configuration management via Cockpit to dynamically provision and configure container host clusters

Atomic Networking - scalable, multi-host container networking, powered by Open vSwitch, that runs anywhere Red Hat Enterprise Linux runs
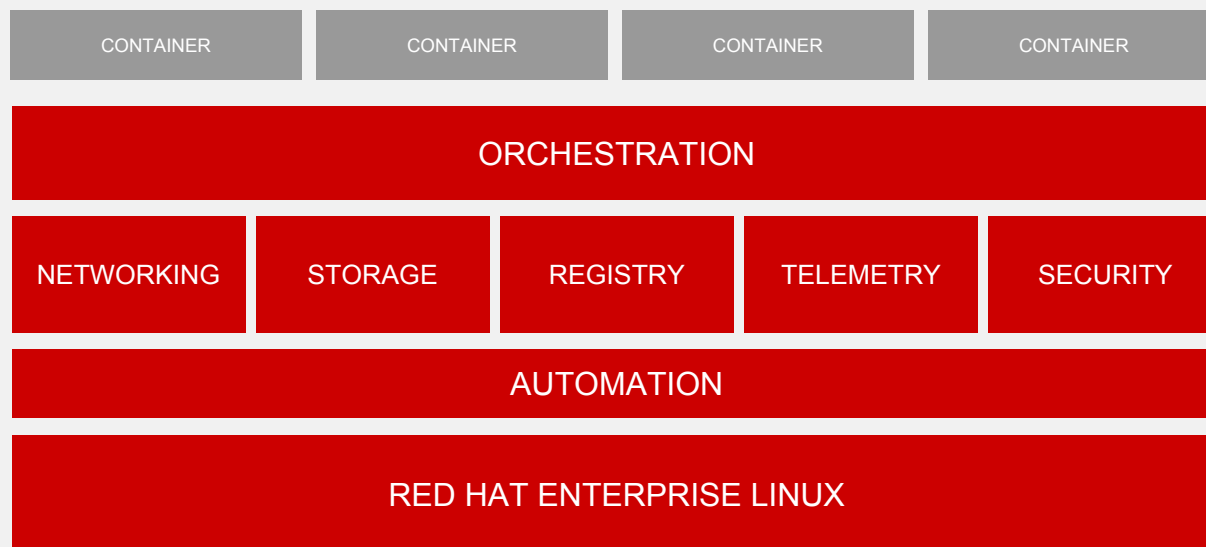
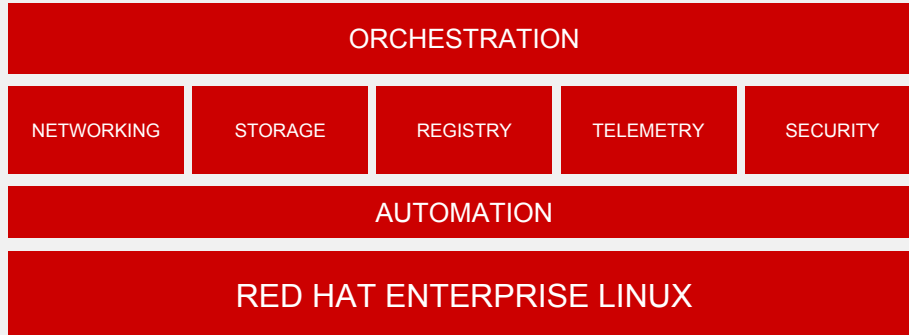**Atomic Storage**, with persistent storage plugins to enable running of stateful services in containers

Atomic Security to prevent tenants from compromising other occupants

redhat.

RUNNING CONTAINER WITH ATOMIC PLATFORM

ATOMIC PLATFORM VS KUBERNETES

ORCHESTRATION				
NETWORKING	STORAGE	REGISTRY	TELEMETRY	SECURITY
AUTOMATION				
RED HAT ENTERPRISE LINUX				

ORCHESTRATION

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kubernetes

redhat.