

Red Hat OpenShift Roadmap Q4 CY16 and H1 CY17 Releases

Lutz Lange <llange@redhat.com>
Solution Architect
[@AtomicContainer](#)



OpenShift Roadmap

OpenShift Container Platform 3.2

- Kubernetes 1.2 & Docker 1.9
- Red Hat Mobile Hybrid on OpenShift
- JBoss EAP 7, BPM, SSO on OpenShift
- Updated image versions for Node.js, MongoDB, Ruby, Python, Postgres
- Build automation for binary deploys
- Jenkins CI integration with Builds/S2I
- Scale & usability enhancements

OpenShift Online & Dedicated

- OpenShift Online 3 Developer Preview

OpenShift Container Platform 3.4

- Kubernetes 1.4 & Docker 1.1x
- Usability enhancements & first-time user flows
- Idling based on network metrics
- Build enhancements (performance, integrations)
- Advanced audit logging
- CNI integration for openshift-sdn
- Dynamic Storage provisioning for AWS, GCE, Cinder, GlusterFS. Azure Storage & Storage QoS tiers
- Integration to external logging systems (Splunk)

OpenShift Online & Dedicated

- OpenShift Online General Availability
- OpenShift Dedicated on Google

1H CY2016

Q3 CY2016

OpenShift Container Platform 3.3

- Kubernetes 1.3 & Docker 1.10
- Continuous Deployment Pipelines based on Jenkins Pipelines (Tech Preview)
- Enterprise Registry enhancements
- Web Console navigation & usability
- Add to Project from Docker image or template via Web Console
- A/B deployment routing configuration
- Scale certified to 1,000 Node clusters

OpenShift Online & Dedicated

- OpenShift Online Developer Preview user expansion and updates

Q4 CY2016

OpenShift Container Platform 3.5

- Kubernetes 1.5 & Docker 1.1x
- Kubernetes PetSets for stateful services
- Autoscaling based on custom metrics
- Service Broker/Catalog
- CD Pipeline enhancements
- Kubernetes cluster federation
- Kubernetes Ingress Router integration
- Default networking alternatives (R&D)
- User Namespaces (RHEL 7.3.2)
- Image signing & scanning integrations
- SELinux + OverlayFS support

OpenShift Online & Dedicated

- OpenShift Dedicated on Azure

1H CY2017



OpenShift Container Platform 3.3

OCP 3.3

Targeting the Week of Sept 26

- OpenShift Container Platform 3.3 - Feature Highlights
 - Kubernetes 1.3 & Docker 1.10
 - Enterprise Registry enhancements
 - Web Console navigation & usability
 - Add to Project from Docker image or template via Web Console
 - A/B deployment routing configuration
 - Scale certified to 1,000 Node clusters
 - Continuous Deployment Pipelines based on Jenkins Pipelines (Tech Preview - see next slide)
 - OpenShift Enterprise rebranded to OpenShift Container Platform in both products and documentation!

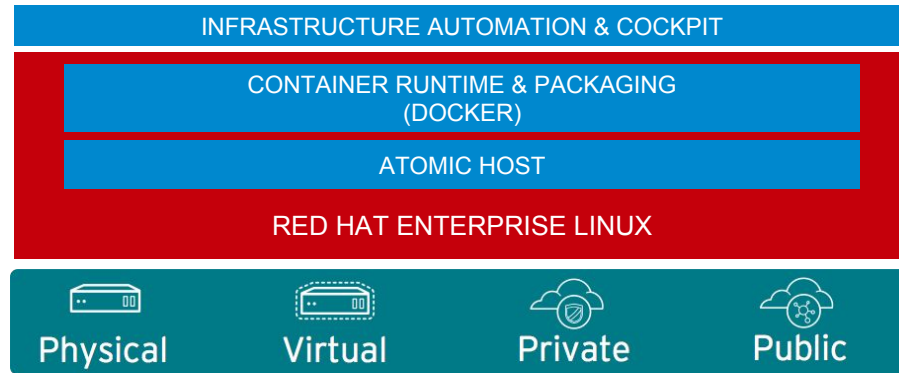
OCP 3.3

Targeting the Week of Sept 26

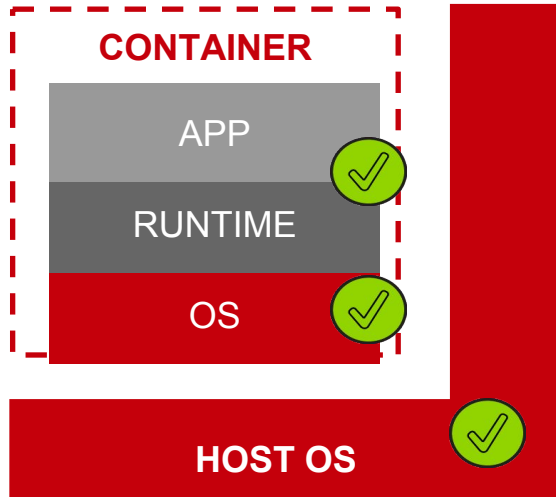
- Features Dropped from OCP 3.3 Release or Moved to Tech Preview
 - Dynamic Provisioning for Storage Persistent Volumes
 - Continuous Deployment Pipelines (Tech Preview)
 - Install automation of Logging/EFK stack (coming in 3.3.1)
 - Extended Builds (Tech Preview)
 - Storage QoS Classes (Storage Labels made it)
 - Idling/Unidling Auto-trigger based on HTTP (Idling/Unidling made it)
 - Service Linking (moved to oc env)
 - PetSet (stayed in alpha)
 - Rolling updates of etcd

Containers

RHEL - Trusted Container OS



Container Runtime - Standards & Security

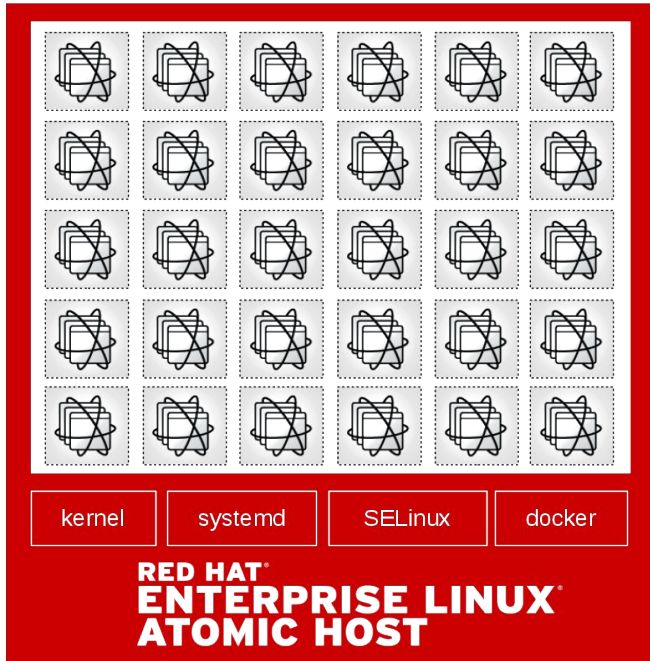


- Docker release updates & maintenance
- Standardization through OCI
- Multi-process containers with systemd

New in RHEL 7.3:

- Image scanning with Atomic Scan + OpenScap.
- Container image signing
- System Containers

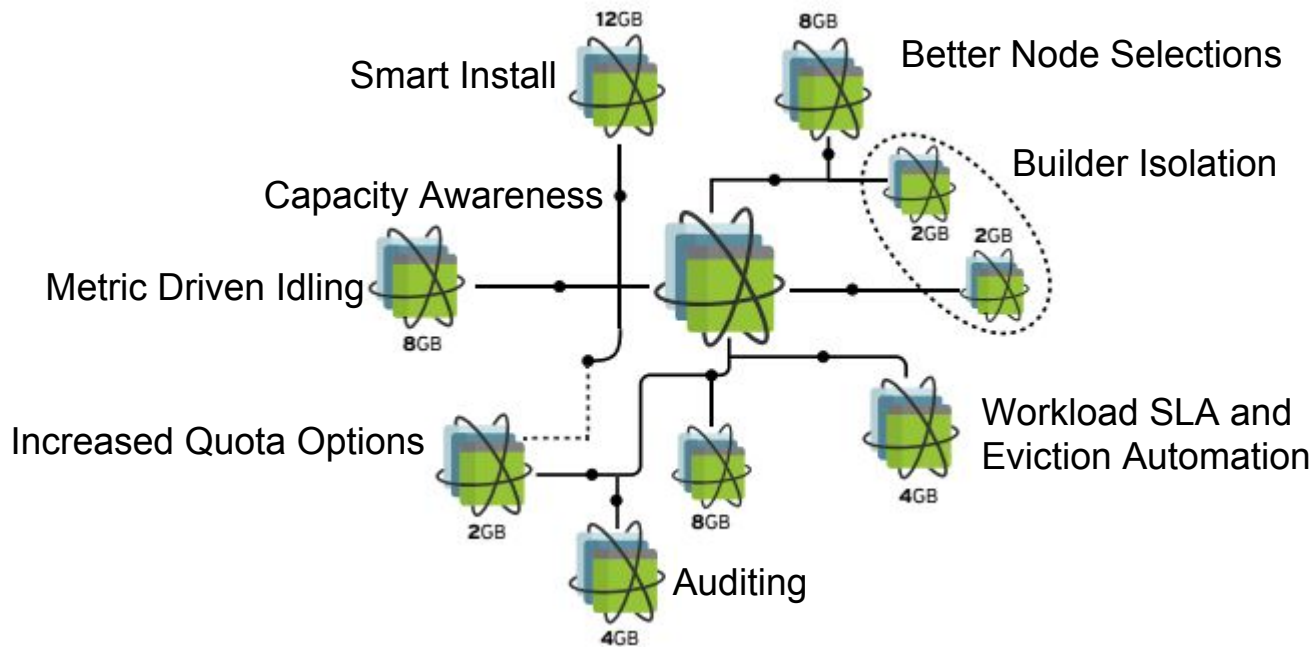
Container Host - Lightweight & Container-Optimized



- RHEL Atomic Host - optimized for containers, minimal footprint & streamlined updates.
- Enhanced management with Cockpit for RHEL & RHEL Atomic Host
 - Docker storage
- SELinux support with OverlayFS (7.3.2)
- Package layering (Tech Preview)
- Containerized install of Kubernetes
- RHEL base image size optimization

Platform Intelligence

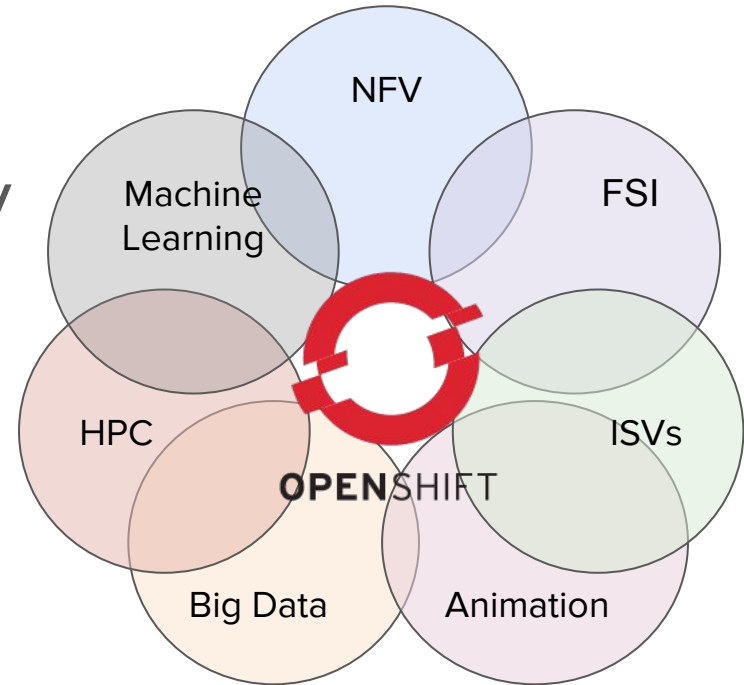
- Solving longer uptime issues
- Cluster Self Management



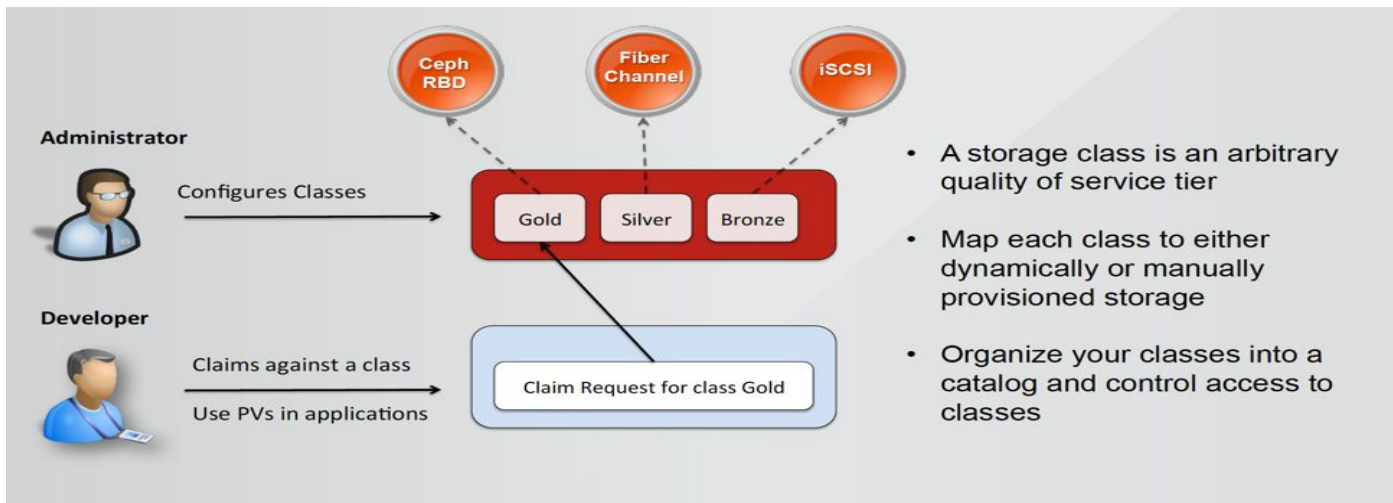
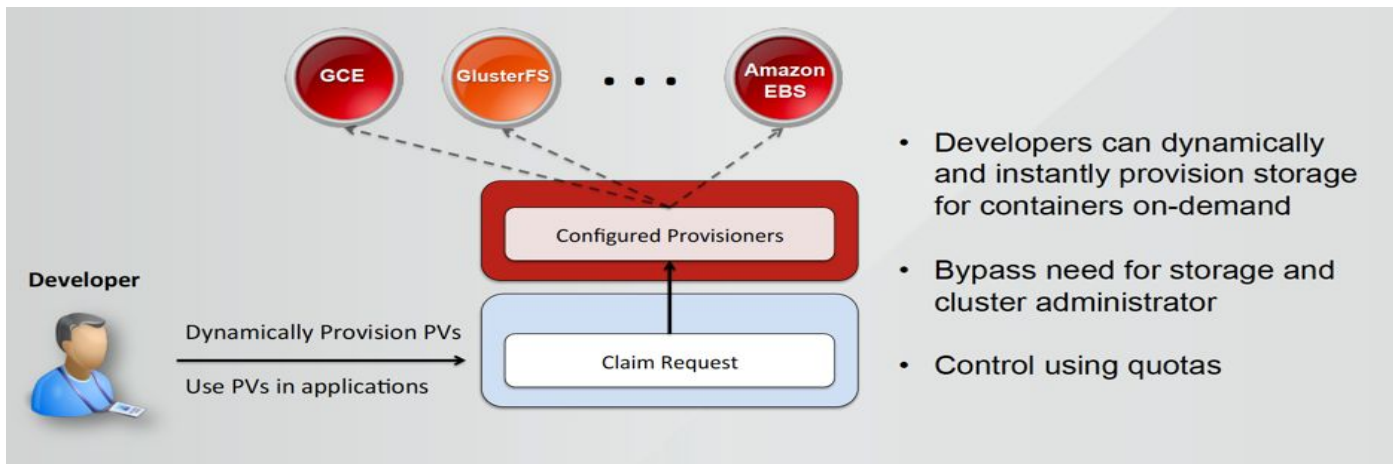
High Performance Pod Spec R&D project

OpenShift becomes the **single platform** to run any application:

- Old or new
- Monolithic or Microservice
- Enhanced orchestration in Kubernetes for new workloads



Dynamic Storage with Class ACLs



Enterprise Registry Enhancements

The image displays two side-by-side screenshots of the Red Hat Atomic Registry web interface. The left screenshot shows the 'Project: PHPsqr' page with a red diagonal banner reading 'integrated'. The right screenshot shows the 'Project: redhat' page with a red diagonal banner reading 'stand-alone'. Both screenshots show a sidebar with navigation options like Overview, Images, and Projects. The main content area displays image details, including a terminal command to pull an image and a table of labels.

integrated

stand-alone

Project: PHPsqr

Image Streams » sqrt » :latest

sqrt:latest

To pull this image, run the following command:

```
$ sudo docker pull registry/sqrt:latest
```

Details Config Layers

Author	Unknown
Built	a month ago
Digest	sha256:ec05f6ef...
Identifier	
Labels	Architecture=x86_64 Authoritative_Reg... BZComponent=rh-ph... Build_Host=rcm-im... Name=rhscsl/php-56... Release=14.6 Vendor=Red Hat, I... Version=5.6 architecture=x86_64 build-date=2016-0...

Project: redhat

Overview

Images

Projects

Project: redhat

:7.0-23

:7.0-27

redhat/rhev-guest-agent

:latest

Vinzenz Feenstra <evilissimo@redhat.com>

Image Container Metadata

```
# /bin/sh -c /bin/bash /usr/local/bin/start-co...
```

Run as	Default	Envir...
Directory	/	cont...
Architecture	amd64	PATH
Ports	None	

:v4.0

Vinzenz Feenstra <evilissimo@redhat.com>

sha256:a905be7d6b986cb72581530d0f109

:1.0.12

Vinzenz Feenstra <evilissimo@redhat.com>

sha256:1e09f71529c442d9e06decedd0477

:1.0.12-3

Vinzenz Feenstra <evilissimo@redhat.com>

sha256:03334de4f93080f73c162b6f45395

- Manage image content with new integrated registry capabilities
- Visualization of image metadata and image layer details
- Standalone registry install option

Networking Focus

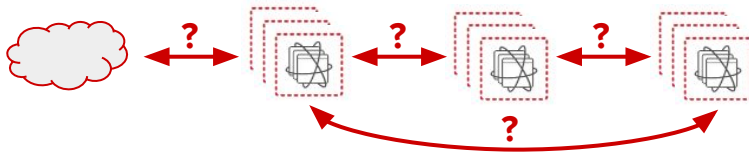
- Continued vendor integrations



- Container Network Interface (CNI)



- Network Policy



- Allow for “human readable” naming

app-example.rhcloud.com **vs** 172.30.26.207

- Neutron connectivity via Kuryr

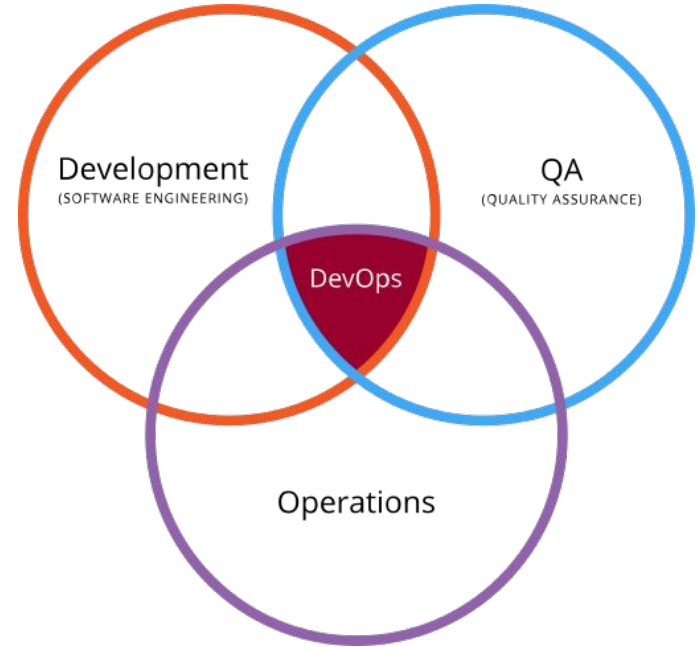
- More planned:

- Ingress router
- Mgmt/Cluster traffic segregation
- Multicast
- Tenant-driver project isolation
- Upstream QoS

CloudForms 4.2 Dev Cycle

ManagedIQ Deliverable First

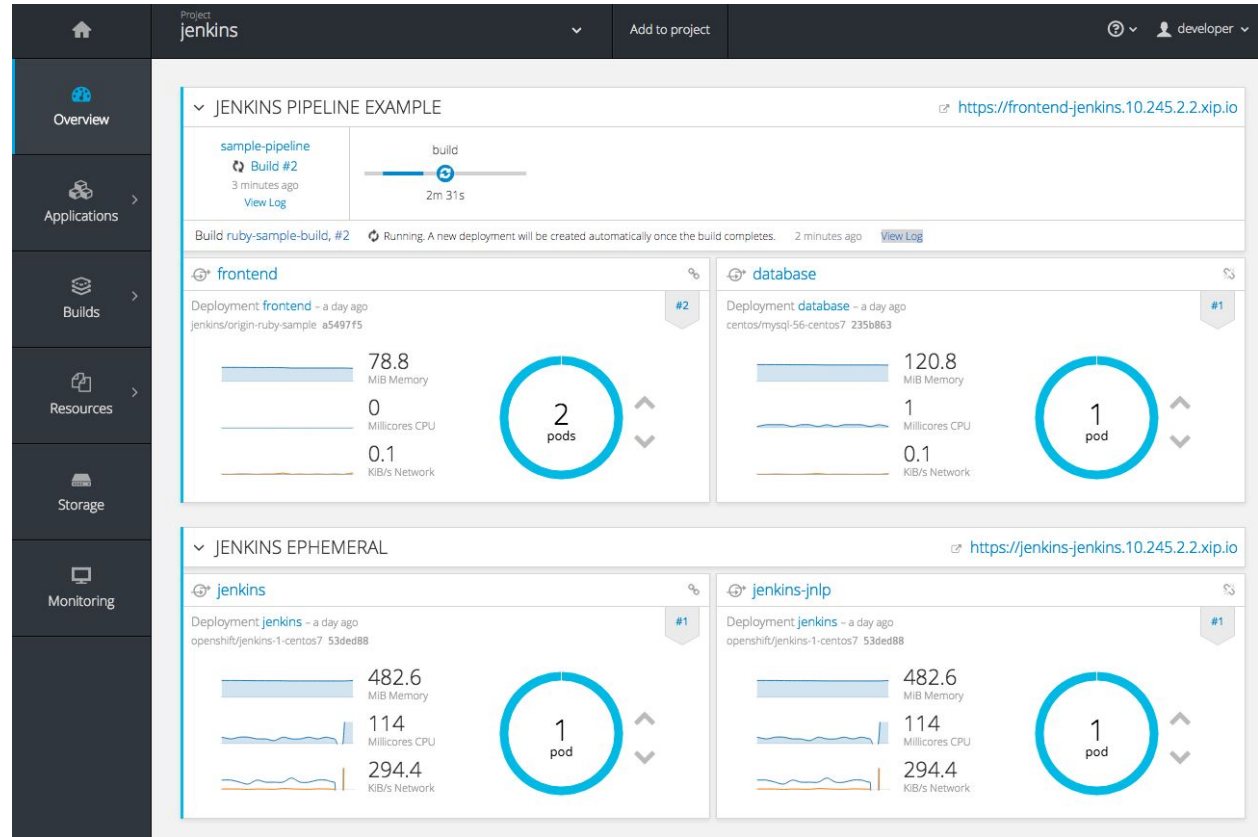
- Focused as something that runs on OpenShift to help out Operations
 - Focused 100% OpenShift Operations
- Event Driven Remediation Platform
 - Standard Operating Procedures
- Inventory Views for Dedicated customers and Admins
- Strong usage of Hawkular Live Metric Project
- Updates to Chargeback



User Experience

3.3 updates:

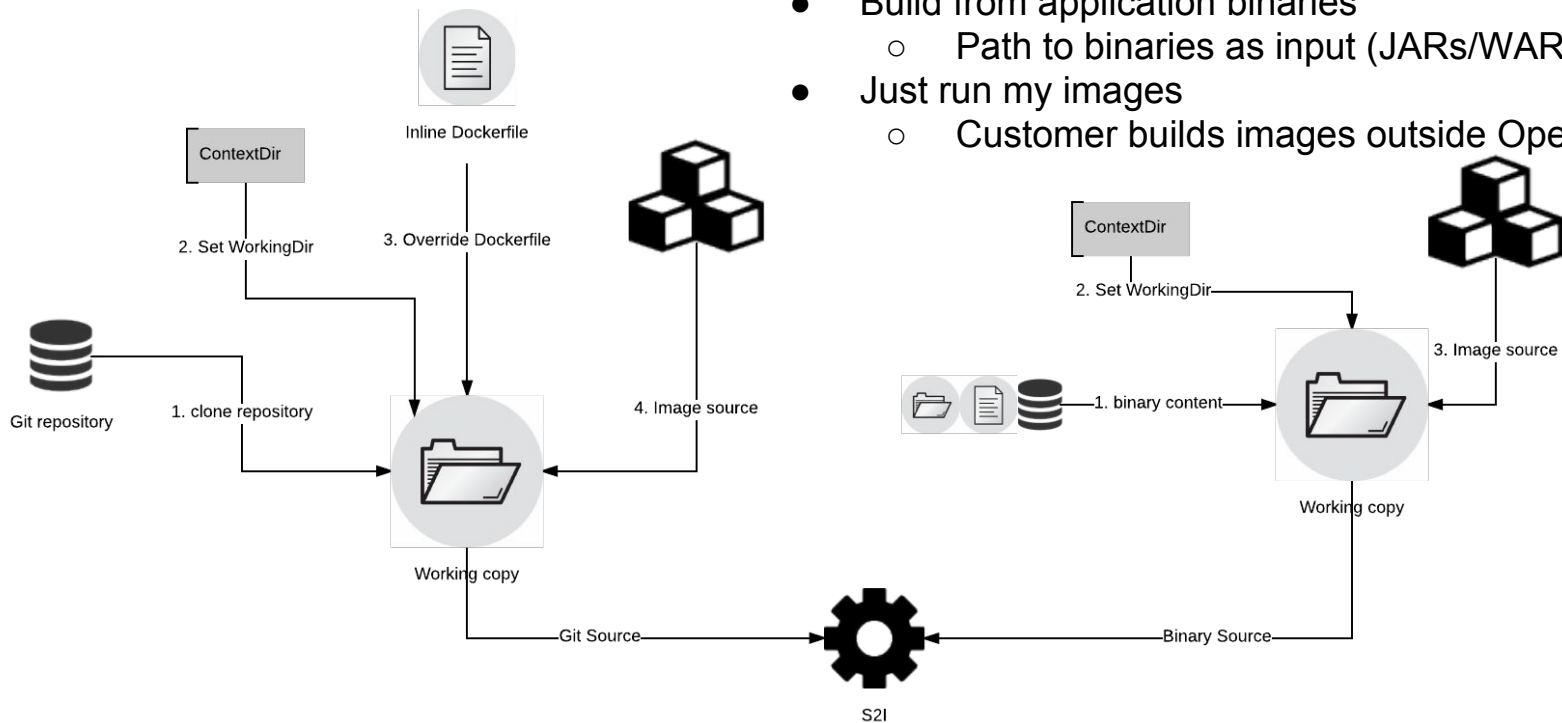
- Navigation menu structure
- Pipelines
- Metrics
- Add to Project capabilities



OpenShift Build Enhancements & Integration

Users Have A Choice (we need to expose it better):

- Build from source
 - Git repo as input, optional WebHooks, etc.
- Build from application binaries
 - Path to binaries as input (JARs/WARs)
- Just run my images
 - Customer builds images outside OpenShift



Raise up key metrics

Improve P-Overview

The screenshot shows the OpenShift Enterprise Projects page. At the top, it says "OPENSIFT ENTERPRISE" and "Administrator". Below that is a search bar for "Name" and a filter for "Age". A "New Project" button is in the top right. The main content is a table of projects:

Name	Age	Apps	Errors	Warnings	Description	Created	Actions
☆ Display-Name Name	3	3	1	0	Description of the app maybe up to two lines of text and if there is more then we won't show all of them ...	1 week ago Created	🗑️
☆ Display-Name Name	6	6	2	1	This app rules.	2 weeks ago Created	🗑️
☆ Display-Name Name	1	1	0	0	Description of the app maybe up to two lines of text and if there is more then we won't show all of them ...	3 weeks ago Created	🗑️
☆ Display-Name Name	3	3	1	0	Description of the app maybe up to two lines of text and if there is more then we won't show all of them ...	1 month ago Created	🗑️
☆ Display-Name Name	3	3	1	0	Description of the app maybe up to two lines of text and if there is more then we won't show all of them ...	1 month ago Created	🗑️
☆ Display-Name Name	3	3	1	0	Description of the app maybe up to two lines of text and if there is more then we won't show all of them ...	1 year ago Created	🗑️

At the bottom, there is a command: `oc policy add-role-to-user <role> ajacobs@redhat.com -n <projectname>`

Environments

- Groups stages in a pipeline

Jenkins updates

- Security
- 2.0
- UX

The screenshot shows the OpenShift Origin Pipelines interface. The top navigation bar includes the OpenShift Origin logo, 'Documentation', and 'Administrator' dropdown. The main header shows 'Pipelines' with a search filter and sorting options. The left sidebar contains navigation links for Overview, Browse, Pipelines, Settings, and Add to Project.

The main content area displays a pipeline for 'Application Name 1' with three services: 'Service-name1', 'Service-name2', and 'Service-name3'. Under 'Build-config-name 1', there are three builds (Build #3, Build #2, Build #1) each with a progress bar showing stages: Development, Unit Test, API Test, Staging, Deployment, Smoke Test, Integration Test, Service Test, and Production. A blue box highlights the 'Staging' stage in Build #3, which is currently active. A pink arrow points to the 'Production' stage in the same build.

Build	Development	Unit Test	API Test	Staging	Deployment	Smoke Test	Integration Test	Service Test	Production
Build #3	1d	Not needed	4h	1d	2d	4h	15s	NA	NA
Build #2	2d	4h	4h	1d	Skipped	4h	4h	4h	4h
Build #1	2d	4h	4h	2d	26s...	NA	NA	NA	NA

Summary statistics for Build-config-name 2: 5 Active, 3 Completed, 1 Failed. Latest build started 7 days ago.

Summary statistics for Build-config-name 3: 6 Active, 2 Completed. Latest build started 2 years ago.

Application Name 2: Latest build started 3 days ago.

Questions?

RED HAT SUMMIT OVERVIEW

Lots of OpenShift sessions

- OpenShift sessions overview
 - <https://summit.openshift.com/>
- [Red Hat Summit Presentations - with slides](#)