

What's New in Red Hat OpenShift Container Platform 3.4

Torben Jäger <torben@redhat.com>
Red Hat Solution Architect



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 (Jan)

- Kubernetes 1.4 & Docker 1.12
- Kubernetes Deployments
- Job Sched API
- Pod Disruption Budget
- Storage size quota and scopes
- Eviction on File System Usage
- Usability enhancements & first-time user flows
- Build enhancements (performance, integrations)
- CNI integration for openshift-sdn
- Dynamic Storage provisioning for AWS, GCE, Cinder, GlusterFS. Azure Storage & Storage QoS tiers
- Integration to external logging systems (Splunk)
- Registry enhancements

OpenShift Online & Dedicated

- OpenShift Dedicated on Google (Dec 8)
- OpenShift Online Dev Preview Expansion

1H CY2016

Q3 CY2016

Q4 CY2016

1H CY2017

OpenShift Container Platform 3.3 (Sep)

- 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

OpenShift Container Platform 3.5

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

OpenShift Online & Dedicated

- OpenShift Dedicated on Azure

OpenShift Container Platform 3.4

- Kubernetes 1.4 & Docker 1.12
- Kubernetes Deployments
- Job Sched API
- Pod Disruption Budget
- Storage Size and Quota Scopes
- Eviction on File System Usage
- Usability enhancements & first-time user flows
- Build enhancements (performance, integrations)
- CNI integration for openshift-sdn
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OpenShift Container Platform 3.5 Roadmap Themes

- Kubernetes 1.5 & Docker 1.1x
- Kubernetes PetSets for stateful services R&D
- Autoscaling based on custom metrics R&D
- Service Broker/Catalog R&D
- CD Pipeline enhancements
- Ubernetes aka cluster federation R&D
- Kubernetes Ingress Router integration
- Default networking alternatives (R&D)
- User Namespaces (RHEL 7.3.2) R&D
- Image signing & scanning integrations R&D
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OCP 3.4 - Primary Launch Themes

- Taking container storage to the next level
 - OpenShift allows you to run both stateful and stateless application services, to better support both traditional and cloud native applications
 - OCP 3.4 now allows you to dynamically provision storage for multiple storage types and provision different tiers of storage for developers using QoS labels
- Enhanced container platform multi-tenancy
 - OpenShift provides a unique multi-tenant platform that enables different dev teams, apps and lifecycle environments to run isolated on a shared cluster using Projects (namespaces)
 - OCP 3.4 enhances this capability by allowing users to search for projects, get project details, manage project membership, and more via an enhanced Web Console
- New Cloud Provider Reference Architecture Implementation Guides
 - OCP 3.4 introduces a series of new Reference Architectures for running OpenShift on OpenStack, VMware, AWS, Google Cloud Engine, and Microsoft Azure (Dec 16).
 - Abstracts your applications from the underlying infrastructure - spanning public clouds, private clouds, virtualization and bare metal platforms

Selected New Features of OCP 3.4

Storage

Feature(s): PV/PVC driven [Storage dynamic provisioning](#) with StorageClasses and manual [set volume with claim-class](#).

Description: Provision storage dynamically when the tenant requests it. Be able to allow the tenant to hit different classes of storage as they request it dynamically.

How it Works: The supported provisioners can be [found here](#).

- [Ceph](#)
- [GlusterFS](#)
- [Google PD](#)
- [AWS EBS](#)
- [Cinder](#)

(Note Azure Block is supported for manual PV/PVC)

#redhat #rhsummit

During the installation of the platform you can specify a cloud-provider. Follow the [instructions here](#).

Once those are registered, the platform admin creates StorageClass.

```
name: slow
provisioner: kubernetes.io/aws-ebs
provisionerParameters:
  type: st1
  zone: us-east-1d
```

Now the tenant will create a PVC with an annotation to use that storage class.

```
"annotations": {
  "volume.beta.kubernetes.io/storage-class": "slow"
```

AWS

type: io1, gp2, sc1, st1. See AWS docs for details. Default: gp2.

zone: AWS zone. If not specified, a random zone from those where Kubernetes cluster has a node is chosen.

ioPerGB: only for io1 volumes. I/O operations per second per GiB. AWS volume plugin multiplies this with size of requested volume to compute IOPS of the volume and caps it at 20 000 IOPS (maximum supported by AWS, see AWS docs).

encrypted: denotes whether the EBS volume should be encrypted or not. Valid values are true or false.

kmsKeyId: optional. The full Amazon Resource Name of the key to use when encrypting the volume. If none is supplied but encrypted is true, a key is generated by AWS. See AWS docs for valid ARN value.

GlusterFS

endpoint: glusterfs-cluster is the endpoint/service name which includes GlusterFS trusted pool IP addresses and this parameter is mandatory.

resturl: Gluster REST service url which provision gluster volumes on demand. The format should be IPaddress:Port and this is a mandatory parameter for GlusterFS dynamic provisioner.

restauthenabled: Gluster REST service authentication boolean is required if the authentication is enabled on the REST server. If this value is 'true', 'restuser' and 'restuserkey' have to be filled.

restuser: Gluster REST service user who has access to create volumes in the Gluster Trusted Pool.

restuserkey: Gluster REST service user's password which will be used for authentication to the REST server.

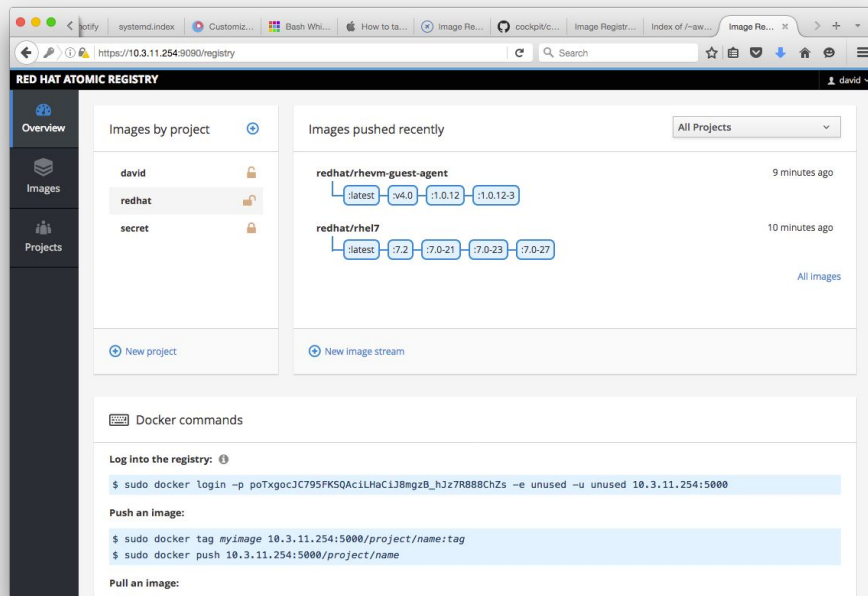


Registry

Feature(s): [Standalone Registry Container Image](#)

Description: Provides a RHEL-based container image for the Registry Console.

How it Works: Can be installed to run on-premise or in the cloud, deployed as either an all-in-one cluster (running the master, node, etcd and registry components) or in a Highly Available 3-node configuration. The UI is based on the Cockpit project, with full API and CLI access.

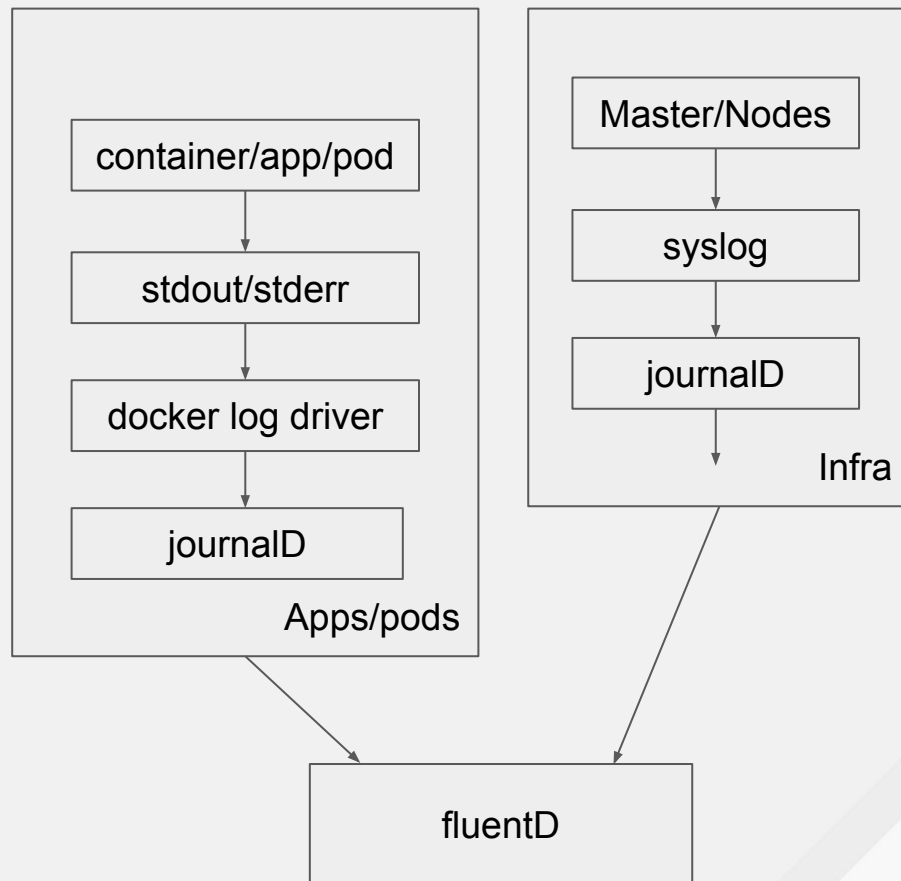


Logging

Feature(s): Improve logging performance

Log Driver: Update docker log driver to use journald to bypass docker log daemon, enable, node log rotation, and limit log size and rate

Log Indexes: Default indexes templated added to elasticsearch so that storage and queries are more efficient

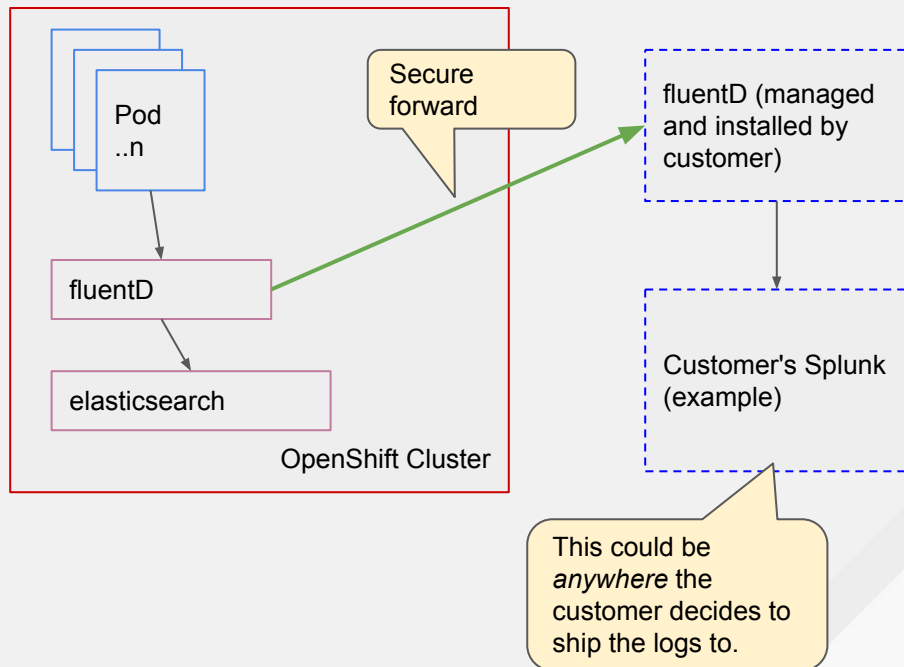


Logging

Feature(s): [External logging integration](#)

Description: Send logs to other aggregators like Splunk, external ELK, etc. instead of OpenShift's internal EFK stack.

How it Works: Uses a FluentD plug-in called 'secure-forward' that allows you to securely ship logs to another fluentD controller, to be installed by the customer. From that point on, customer can decide what to do with the logs.

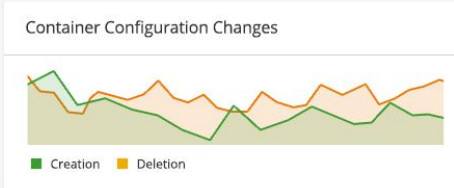
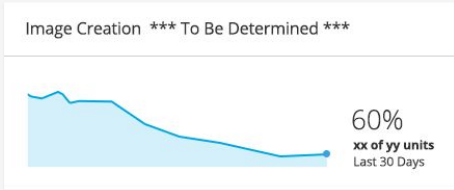
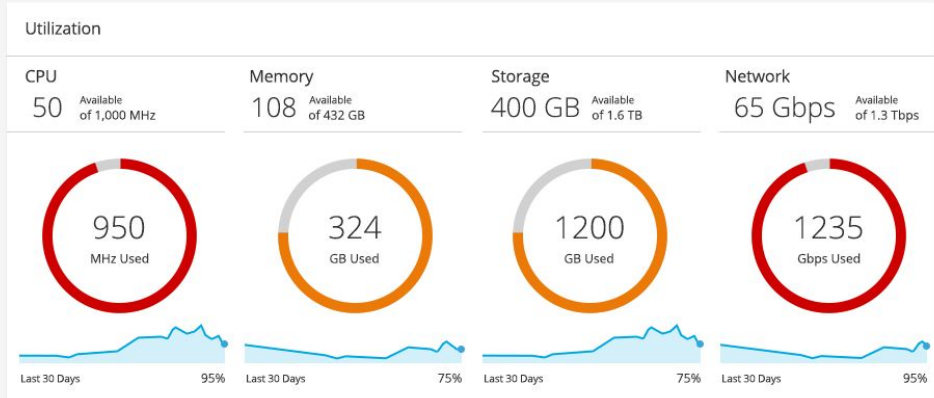


CLOUDFORMS

Cloud Platform Intelligence

- Red Hat CloudForms 4 adds new providers for OpenShift and Containers (Dec 2015)
- Monitor containers running in OpenShift Enterprise
- Docker and Kubernetes aware (containers, pods, services...)
- OpenShift provider adds even more features (projects, users, registries, images)
- Included with OSE subscriptions

<p>3 Providers</p> <p>1 2</p>	<p>52 Nodes</p> <p>3</p>	<p>1200 Pods</p> <p>3</p>	<p>300 Containers</p> <p>2500 Services</p>	<p>4 Registries</p> <p>2500 Images</p>	<p>510 Projects</p> <p>300 Routes</p>
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Questions?