CRI-O development

Behind the scenes

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@runc0m
CRI

Container Runtime Interface

- Plug and play
- Protocol buffers
- gRPC
- 1.5+
- Client - Server
Runtime Service

- Pods lifecycle
- Containers lifecycle
- Interactions
Image Service

- Images lifecycle
- FS information

// ImageService defines the public APIs for managing images.

class ImageService {
  // ListImages lists existing images.
  rpc ListImages(ListImagesRequest) returns (ListImagesResponse);
  // ImageStatus returns the status of the image present, returns a response with ImageStatus nil.
  rpc ImageStatus(ImageStatusRequest) returns (ImageStatusResponse);
  // PullImage pulls an image with authentication.
  rpc PullImage(PullImageRequest) returns (PullImageResponse);
  // RemoveImage removes the image.
  // This call is idempotent, and must not return anything if the image is already been removed.
  rpc RemoveImage(RemoveImageRequest) returns (RemoveImageResponse);
  // ImageFSInfo returns information of the file.
  rpc ImageFSInfo(ImageFSInfoRequest) returns (ImageFSInfoResponse);
}

message VersionRequest {
  // Version of the kubelet runtime API.
  string version = 1;
}

message VersionResponse {
  // Version of the kubelet runtime API.
  string version = 1;
  // Name of the container runtime.
}
CRI in action
We don’t break Kubernetes
We never do that
We want to be the default runtime for k8s
CRI driven
R&D driven
Stability
Status

- k8s tests
- k8s test-grid
- OpenShift tests
- critest
- Integration tests
- Performance tests
- On every PR
- Tests?
- Did I say tests?
Being confident about our tools
Being confident about changes in our tools

IT WORKS !
CRI-O versions map to k8s versions
Integration & unit tests
k8s upstream node-e2e tests first
We used to run node-e2e *manually*, for every PR...
critest validation
k8s upstream e2e suite
Kata CI integration
ON
EVERY
PULL REQUEST
OpenShift e2e
Performance runs
This fixes the goroutine leak in cri-o.

Signed-off-by: Mrunal Patel mpatel@redhat.com
e2e first serial, too much time
Our CI now takes more or less 2h to run all the tests

cool right?
Continuous integration/testing/buzzword/whatever
<table>
<thead>
<tr>
<th>Check ID</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ci/kata-jenkins</td>
<td>Jenkins job succeeded.</td>
</tr>
<tr>
<td>ci/openshift-jenkins/critest_fedora</td>
<td>Jenkins job succeeded.</td>
</tr>
<tr>
<td>ci/openshift-jenkins/critest_rhel</td>
<td>Jenkins job succeeded.</td>
</tr>
<tr>
<td>ci/openshift-jenkins/e2e_features_fedora</td>
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</table>

12 checks passed
What do we spot?
Bugs
Regressions
FLAKES
FLAKES

*Likely bugs*

In k8s
In CRI-O
In OpenShift
To become the default we’re showing off that we care about stability and about tracking it
Testing is critical
Automation likewise
Humans are lazy
We’re still not the default runtime in k8s...
Produce artifacts from the CI
So it’s automated
Like RPMs/debs for testing elsewhere
Moar tests
Ubuntu-like systems
Get involved!

Blog: https://medium.com/cri-o

Github: https://github.com/kubernetes-sigs/cri-o

IRC: freenode: #cri-o

Slack: sig-node

Site: https://cri-o.io, https://www.projectatomic.io
Grazie!

You can find me outside at the Pulp booth btw