CoreOS v2 Update Operator (rpm-ostree version)

CoreOS Update Operator is a version of the Container Linux Update Operator adapted for rpm-ostree.

It synchronizes host updates, integrating with Kubernetes, helping to ensure seamless upgrades of the base operating system in a cluster.

There are two parts, an `update-agent` which runs as a DaemonSet on each node, and an `update-operator` runs as a Deployment, watching changes to node annotations and reboots the nodes as needed. It coordinates the reboots of multiple nodes in the cluster, ensuring that not too many are rebooting at once.

Currently, `update-operator` only reboots one node at a time.

This operator fulfills the same purpose as locksmith. And for people familiar with `yum` based systems, one could think of `rpm-ostree` as on the same level as `yum`, the `update-agent` as similar to `yum-cron` . The operator equivalent might be implemented via configuration management or scripting.

The advantage of this operator over both is its integration with Kubernetes.

More detailed design

Original proposal

The CoreOS v2 `update-agent` more directly tells rpm-ostree to upgrade, rather than relying on a timer in `rpm-ostree` itself. Then, if an update is available `rpm-ostree` will expose a "cached update" property via DBus. The agent will then indicate via node annotations that it needs a reboot.

The operator watches all node annotations, and takes care of choosing which node to drain and reboot.

Requirements

- A Kubernetes cluster (>= 1.6) running on a system using `rpm-ostree` such as today's Fedora Atomic

Usage

Create the `update-operator` deployment and `update-agent` daemonset.

```
kubectl apply -f examples/deploy -R
```

Test

To test that it is working, you could use `rpm-ostree deploy` to reset hosts to previous versions, then enable the operator.