

## **slide 6: Pike Release themes**

Major Focus:

I would like to summarize the main areas we are handling for Pike Release.

One of our major concerns is Scalability: Kuryr team adds support for pools of neutron resources to reduce the interaction with neutron and minimize the number of API calls during Pod deployment time.

Another major focus is on Modularity. We have pluggable and extendable framework based on Stevedore drivers and Handlers, and use oslo versioned objects and Openstack-VIF library format as data contract between the kuryr-k8s controller and kuryr-cni. We started discussion how to simplify the current framework with Templates (or we may call them Profiles) that aggregate drivers and handlers.

Interoperability and feature parity with K8s and Docker Swarm is very important. We are planning to add support for Load Balancer service types for k8s, and support v2 plugin of the docker libnetwork,

Although not the main focus for Pike but also important is (Minor focus) is to Improve the Resiliency: mitigate the corner cases mostly due to the number of integrated components (neutron).

Where it comes to Manageability, kuryr provides Drivers to choose from at setup time to provide and use projects/subnets/SGs/...

For Security: TLS support was added to libnetwork integration,

Client and Server side SSL support was added to kubernetes integration

On the User Experience front:

For libnetwork we improved the API calls response time and provide faster access to Containers especially due to the use of the neutron tags on kuryr owned resources, which allows to optimise the way to retrieve the ports upon docker api calls.

## **slide 7: Queens Release themes**

For Queens Release we have very ambitious plans.

Our main focus will stay on Scalability. With k8s We will try to improve the time to create the services, possibly using the resource pooling infrastructure that is developed for Pods scalability.

For Interoperability: We plan to integrate Octavia instead of HA Proxy to provide K8s services, to add support for Ingress and Network policy. For kubernetes fuxi bare metal support for cinder and manila is planned.

For kuryr-kubernetes integration Resiliency: we plan on adding High availability (Active-passive) to Kuryr Controller.

As for Manageability: we plan on adding cli tool to allow cluster administrators to setup and tune cluster settings, such as which tenants to support, what security groups to assign to each Tenant, change defaults and much more.

UX: We hope to have cli first version during the Queens release

(Minor focus)

We will be taking care of additional means to provide more secure solutions. We plan to use Keystone trusts to delegate user's' credentials to the kuryr controller service.

We plan to reuse kuryr-kubernetes infrastructure for kuryr-fuxi integration.

#### **slide 8: Features and enhancements for Queens:**

Currently kuryr-kubernetes uses HAProxy as its default LBaaSv2 service provider. We plan to switch it to Octavia support for K8s

Another major functionality support is for Network policy and Ingress.

for kuryr-fuxi, support for Cinder and Manila volumes for BM k8s clusters is planned.

#### **slide 9: R-release themes**

For some features we see that they may slip the Queen's timeframe, but we already started some discussions on them.

Major Focus:

Adding support for number of kuryr-controllers so the tasks can be distributed between multiple controllers. This should make the solution more Scalable.

Interoperability: We follow the discussions of k8s networking special interest group regarding multiple networks support. The need for multiple networks, multiple interfaces was also raised number of times during kuryr team discussions, and we plan to address this too. There is already ongoing PoC of supporting SR-IOV interfaces with kuryr-k8s.

Add support for Active-Active High availability of kuryr-k8s controller.

To improve User Experience, the team will focus on easier deployment by integrating with existing deployment tools, such as (kubeadm) and using existing deployment patterns such as daemon-set.

Minor Focus

Manageability: We also plan to start adding more visibility into what is going on, by adding reports of controller (events processed, utilization, pool state).

Security: Getting operators requirements and try to provide the support, alignment with the k8s-auth.

Modularity: Make sure that out of tree solutions are supported, allow to consume the profiles and external handlers and drivers