KubeCon | CloudNativeCon

Europe 2022

WELCOME TO VALENCIA

It's all for the users. More durable, secure and pluggable. KubeVirt v0.53

Alice Frosi, Red Hat

Journey to CNCF

KubeVirt graduated to CNCF incubating project!

Compute

- Improved 3D Workstation support

  - [Automatic configuration of mediated devices](#) for vGPUs slicing

- Improvement of NUMA affinity

  - [Add NUMA information to VMs for the assigned devices](#)

    - Provide NUMA information guest OS to find out the affinity of the device

- Definition of real time workloads

  - [Option for defining realtime workloads](#)
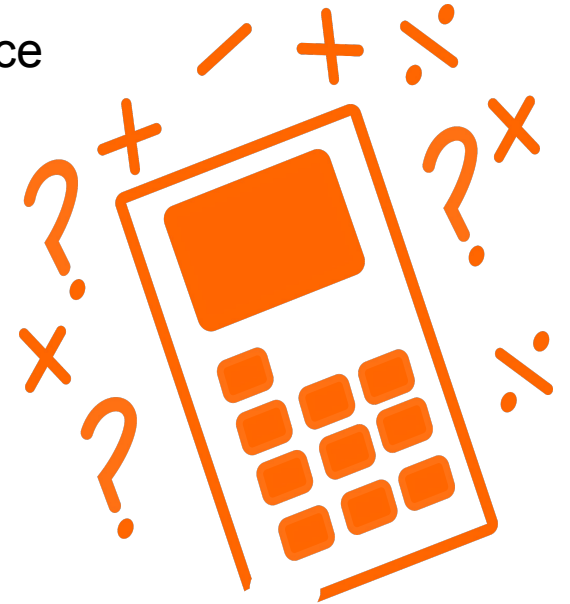
Storage

- Enablement of online snapshots

  - Coordination with the guest agent to guarantee consistent

    snapshots

- Online PVC resize

  - Filesystem resize if the underlying PVC is expanded

- Support for Velero for VM backups

  - Plugin for integrating KubeVirt with Velero

- VM disk manipulation, customization and inspection

  - Guestfs tools container and guestfs command

Network
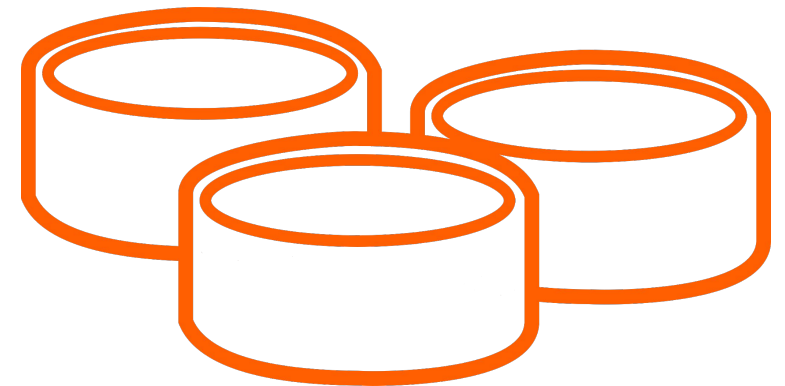
- Live Migration with SR-IOV devices

  - Unplug of the Virtual Function (VF) devices before the migration, perform the migration and then hot-plug of equivalent VF devices on the target

- Integration with KubeVirt VMs and Istio service mesh

  - VMs can now participate in service mesh

- Support single stack IPv6

 - Add masquerade VMs support to single stack IPv6

Security

- Capabilities and privileges reduction

  - [Non-root VMs](#), VM pods have the same standard security profile as containers

- Support for [TPM](#) and vTPM

  - Initial support for TPMs (ephemeral)

- [Initial support](#) for AMD Secure Encrypted Virtualization (SEV)

  - Run KubeVirt VMs with memory encryption using SEV

Operations

- [Alert Runbooks](#)
  - Help understanding and solving KubeVirt alerts related issues
- [VM pools](#)
  - Define and manage groups of VMs
- [KubeVirt Tekton tasks](#)
  - Collection of Tekton task for VM disk customization, VM creation from templates, SSH generation, command execution inside VMs, wait for VM status
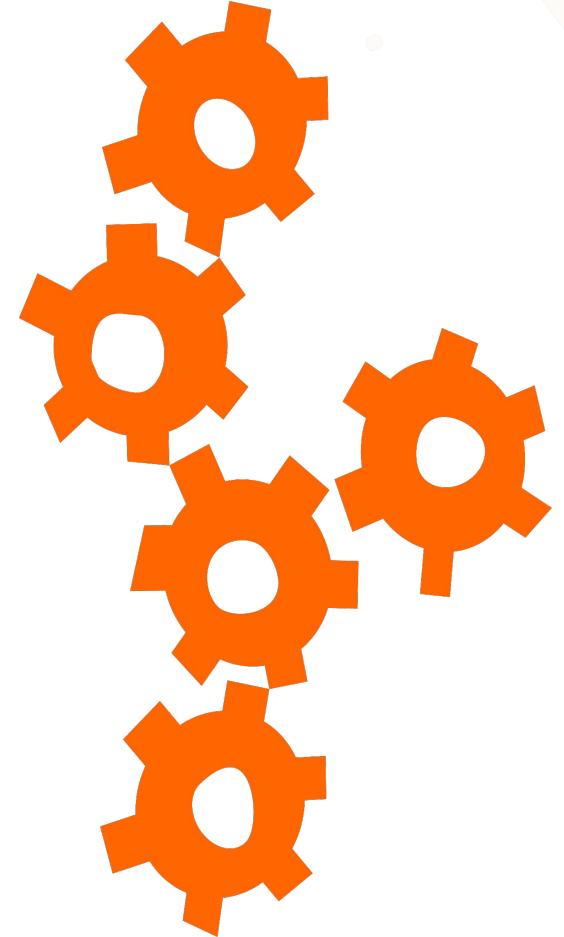
Ecosystem

- [Enablement of KubeVirt on ARM64](#)

- [Cluster API Provider for KubeVirt](#)

  - Use Kubernetes [cluster API](#) for creating clusters using

    KubeVirt

- Integration of KubeVirt healthcheck with [Argo-CD](#)

What next…

- Confidential computing technologies integration

  - Deploy fully attested and confidential VMs

- Flavors API

  - Workload abstractions from the resource definition

- More integration and features for CAPK

  - Gracefully drain capk node's when the mgmt node is being drained

- Support nic hotplug / hot-unplug

  - Adding and removing network interfaces from running VMs

… and much more !!

Where to find us

For got to ask a question or have a feature request?

Just reach us at:

- Slack #virtualization or #kubevirt-dev

- Mailing list

- Community zoom meeting every Wednesday at 2 PM UTC