



KubeCon



CloudNativeCon

North America 2018

KubeVirt Deep Dive BoF



Agenda



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- Introductions
- Architecture
- Use Cases
- Q & A

KubeWhat?



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KubeVirt (<http://kubevirt.io>) is a virtual machine management add-on for Kubernetes. KubeVirt enables Kubernetes as a common platform for virtual machines and containers.



KubeVirt - Current Capabilities



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Compute

- Create/Start/Stop/Reset virtual machine
- VNC and serial console access
- Liveness and readiness probes
- Guest agent status
- Prometheus metrics
- Custom hooks
- VM (anti)affinity

Performance

- CPU pinning
- Huge Pages
- IO threads
- Multi-queue
- Pinned IO

Networking

- Pod and L2 networking (via Multus or Genie)
- SR-IOV interface support
- Custom DHCP options
- PXE boot
- Configure MAC address

Storage

- Block PVs
- DataVolume
- ContainerDisk
- Host-assisted cloning
- Import and upload flows

KubeVirt - Architecture

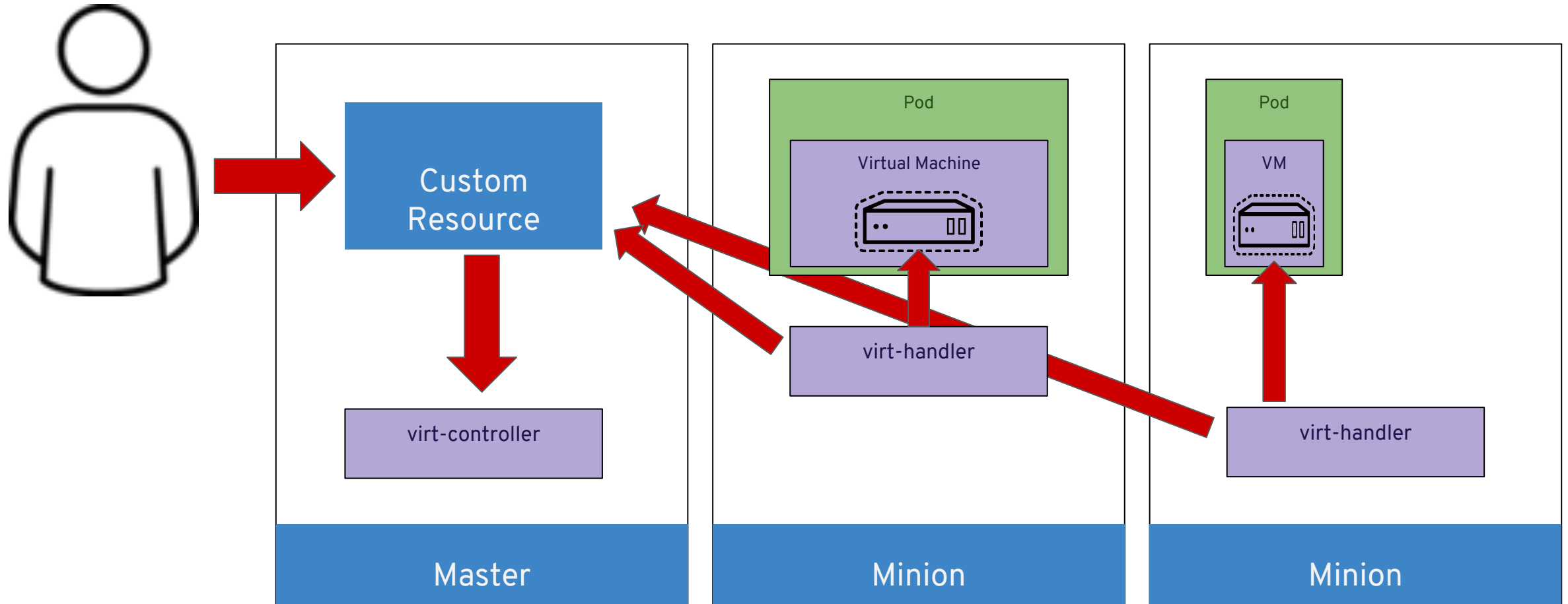


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CDI - Architecture

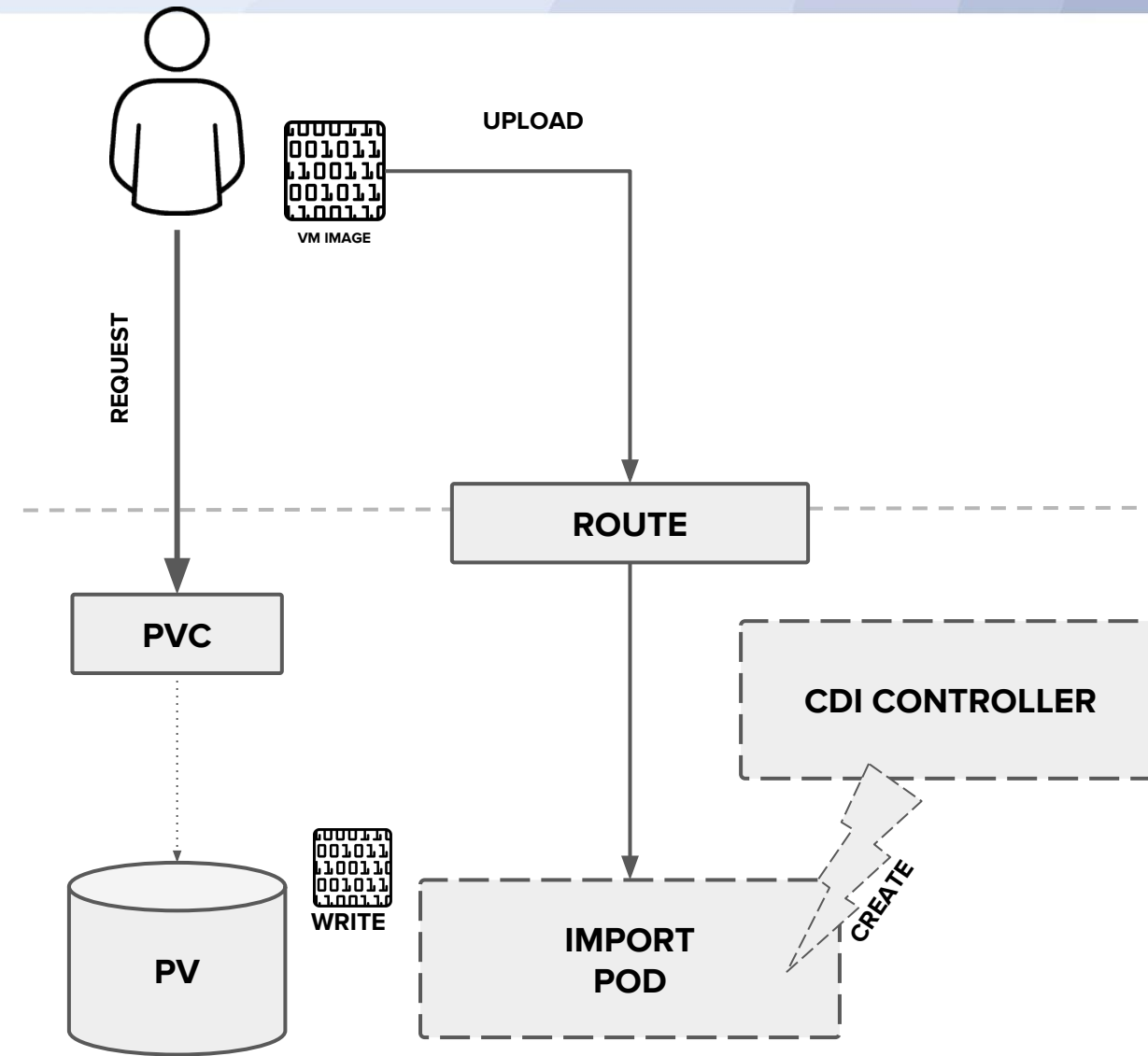
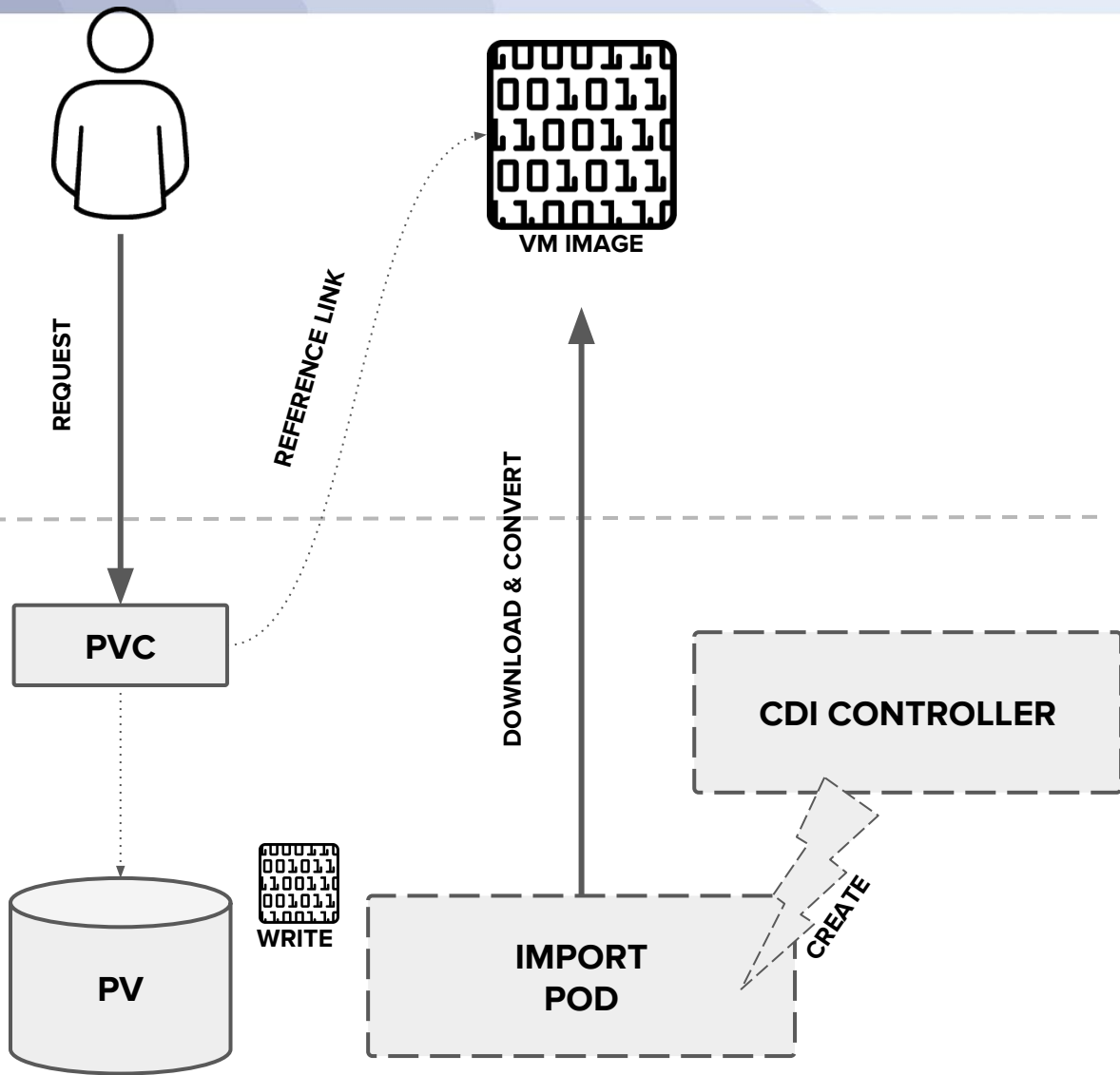


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KubeVirt - Cisco Use Case



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- Cisco is a major vendor of Hyperconverged Infrastructure:
 - UCS servers with powerful integrated networking
 - Hyperflex distributed storage
 - Cloud-based management via Cisco Intersight
- Cisco and partners ship a variety of virtualized appliances across several areas of business
- We're working on bringing these together in an appliance deployment platform
- Note: this is an engineering project

Cisco Use Case Diagram

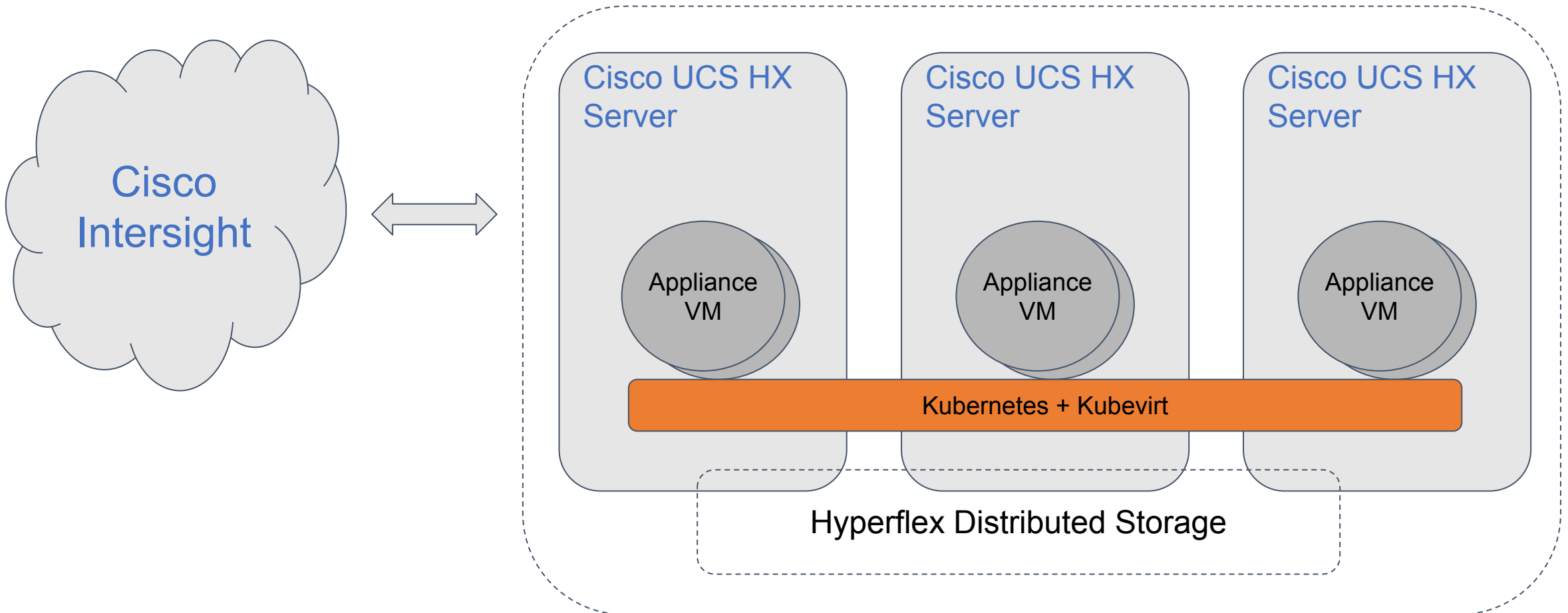


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Cisco Use Case: Most Important Features



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- Highly configurable networking and storage
 - CNI + multiple interfaces
 - CSI
- Image import capabilities
 - CDI
- High availability
 - Fast failure detection
 - Live migration
- VM configurability
 - Fine-grained control over libvirt and even Qemu command line

Get Started



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- Website:
 - <https://kubevirt.io>
 - i. AWS
 - ii. GCP
 - iii. Bare Metal
 - iv. MiniKube
- katacoda demo
 - <https://www.katacoda.com/fabiand/scenarios/kubevirt-demo>
- KubeVirt Demo
 - <https://github.com/kubevirt/demo>

Collaborating



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- Website:
 - <https://kubevirt.io>
- GitHub:
 - <https://github.com/kubevirt/>
- Mailing List:
 - <https://groups.google.com/forum/#!forum/kubevirt-dev>
- IRC:
 - #kubevirt on irc.freenode.net
- Slack (K8S virtualization working group):
 - #virtualization on kubernetes.slack.com

Q & A



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Q & A



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