

Cloud Coalescence: The Collision of Virtualization and Containers

Brian Proffitt
Community Liaison
bkp@redhat.com
[@TheTechScribe](https://twitter.com/TheTechScribe)

It's an OS-centric World

No. of Mr. Universe Titles: 65

No. of Miss Universe Titles: 62



Rest of Universe: 0

Hardware to Virtualization

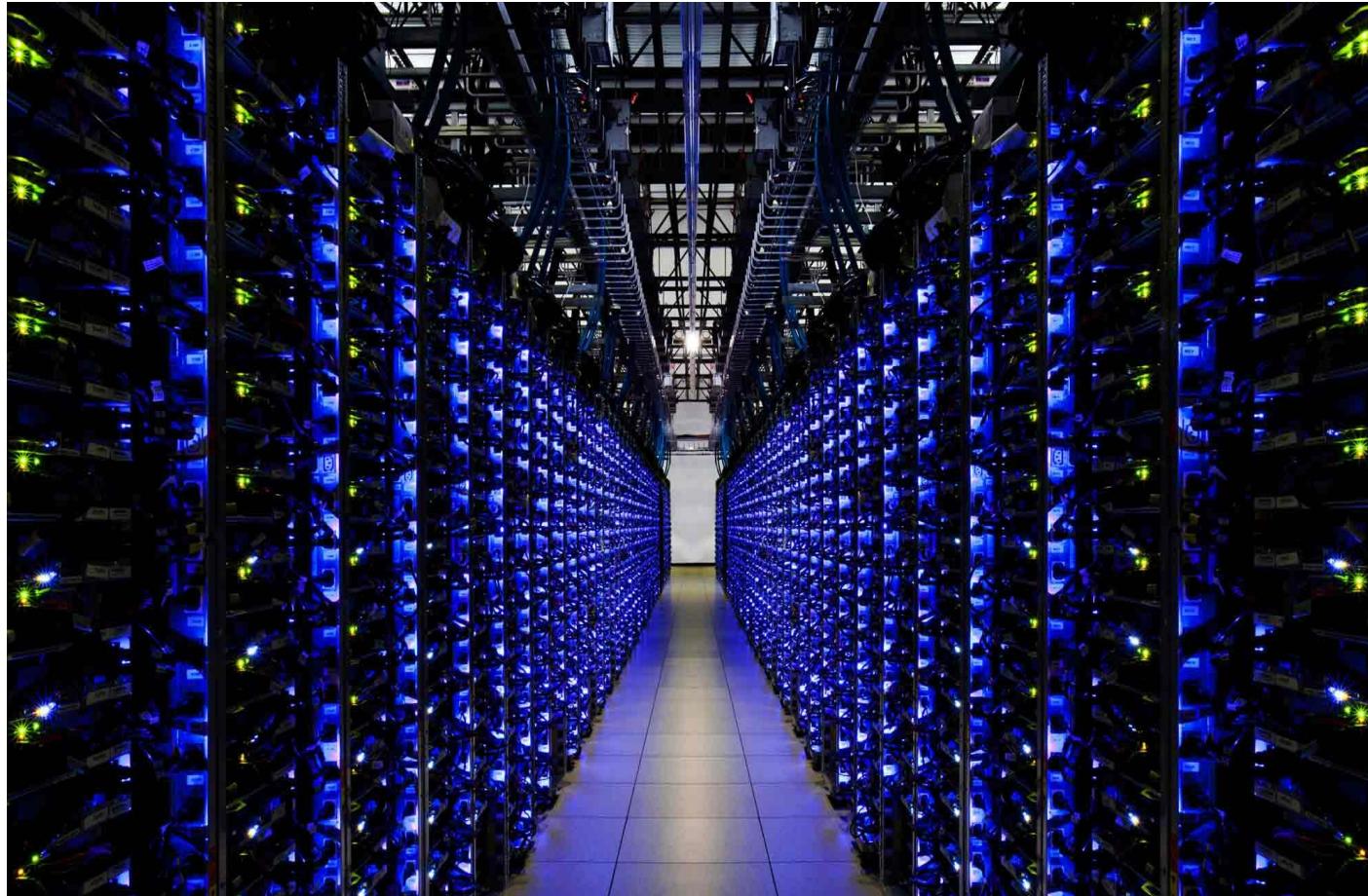


Virtualization, Cloud Are First Steps...

oVirt

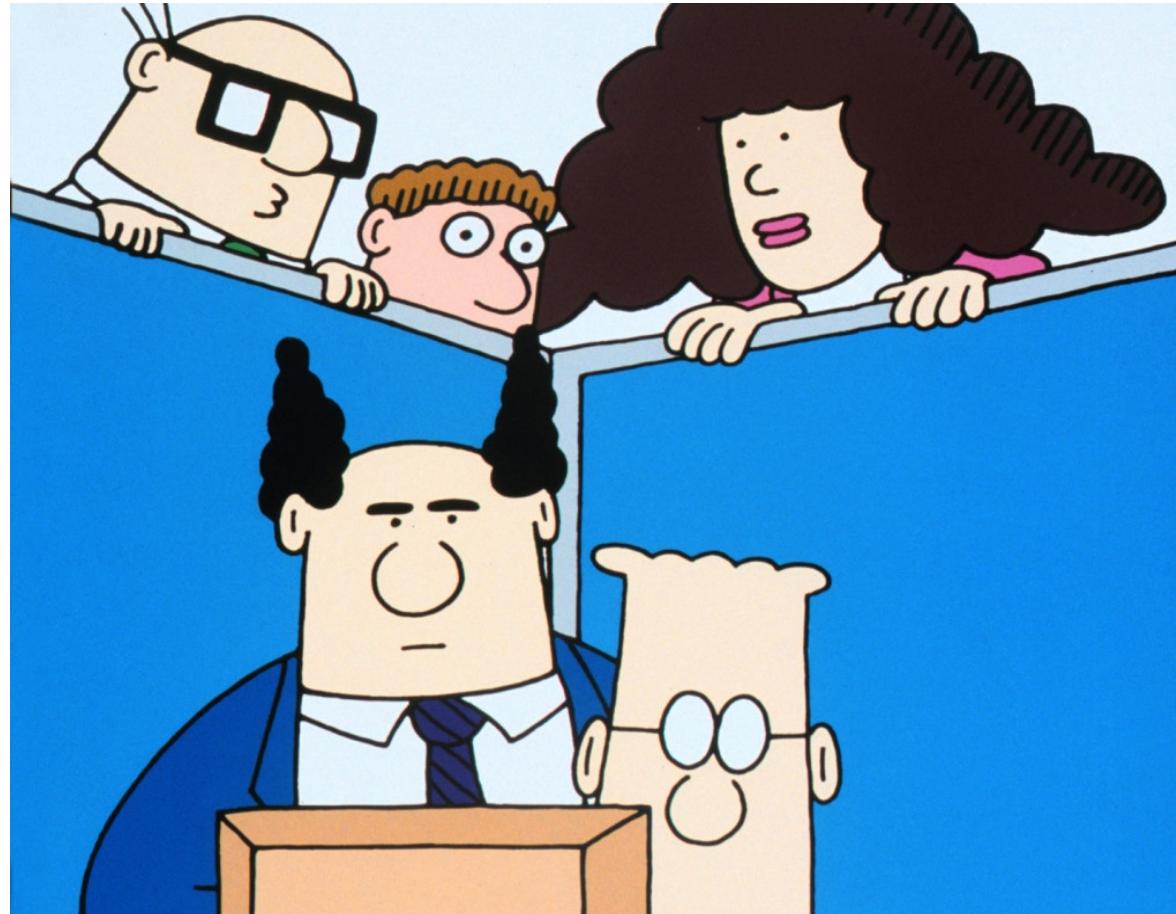


...Turning Physical Machines Into Virtual oVirt



Even Virtual Machines Need Managed

oVirt



Whether It's Tools Like oVirt...

The screenshot shows the oVirt Open Virtualization Manager web interface. The top navigation bar includes links for Data Centers, Clusters, Hosts, Networks, Storage, Disks, Virtual Machines, Pools, Templates, Quota, and vNIC Profiles. A search bar at the top left contains the query "Cluster: datacenter.name = local_datacenter". The main content area displays a table of clusters. The first cluster listed is "local_cluster" under the "local_datacenter" data center, with a compatibility version of 3.3 and a comment indicating "Intel Westmere Family". Below the table, a detailed view of the "local_cluster" is shown across five tabs: General, Logical Networks, Hosts, Virtual Machines, and Permissions. The General tab displays various configuration settings, such as Name (local_cluster), Cluster CPU Type (Intel Westmere Fam), and Emulated Machine (pc-1.0). The right side of the interface features a sidebar for System management, including sections for Data Centers, Clusters, Hosts, Networks, Storage, and more.

| Name | Data Center | Compatibility Version | Description | Cluster CPU Type | Comment |
|---------------|------------------|-----------------------|-------------|-----------------------|---------|
| local_cluster | local_datacenter | 3.3 | | Intel Westmere Family | |

| General | | Logical Networks | | Hosts | | Virtual Machines | | Permissions | |
|------------------------|------------------|-----------------------------|--------------------|-----------------------|-----|------------------|--|-------------|--|
| Name: | local_cluster | Cluster CPU Type: | Intel Westmere Fam | Total No. Of Volumes: | N/A | | | | |
| Description: | | Use Threads as CPU: | No | No. Of Volumes Up: | N/A | | | | |
| Data Center: | local_datacenter | Max Memory Over Commitment: | 200% | No. Of Volumes Down: | N/A | | | | |
| Compatibility Version: | 3.3 | Resilience Policy: | Yes | | | | | | |
| Cluster Node Type: | Virt | Emulated Machine: | pc-1.0 | | | | | | |

Or RDO...

The screenshot shows the OpenStack Compute (nova) dashboard under the 'Compute' project. The main area displays a 'Limit Summary' with five circular progress bars:

- Instances:** Used 1 of 10
- VCPUs:** Used 1 of 20
- RAM:** Used 512.0MB of 50.0GB
- Floating IPs:** Used 1 of 50
- Security Groups:** Used 1 of 10

Below this is a 'Volume Storage' section showing 0 used bytes of 1000.0GB. The 'Usage Summary' section includes a form to select a time period for usage queries, with fields for 'From' (2014-06-01), 'To' (2014-06-23), and a 'Submit' button. A note states: 'The date should be in YYYY-mm-dd format.' Below this, a message indicates: 'Active Instances: 1 Active RAM: 512MB This Period's VCPU-Hours: 19.46 This Period's GB Hours: 19.46'. The 'Usage' table lists one instance:

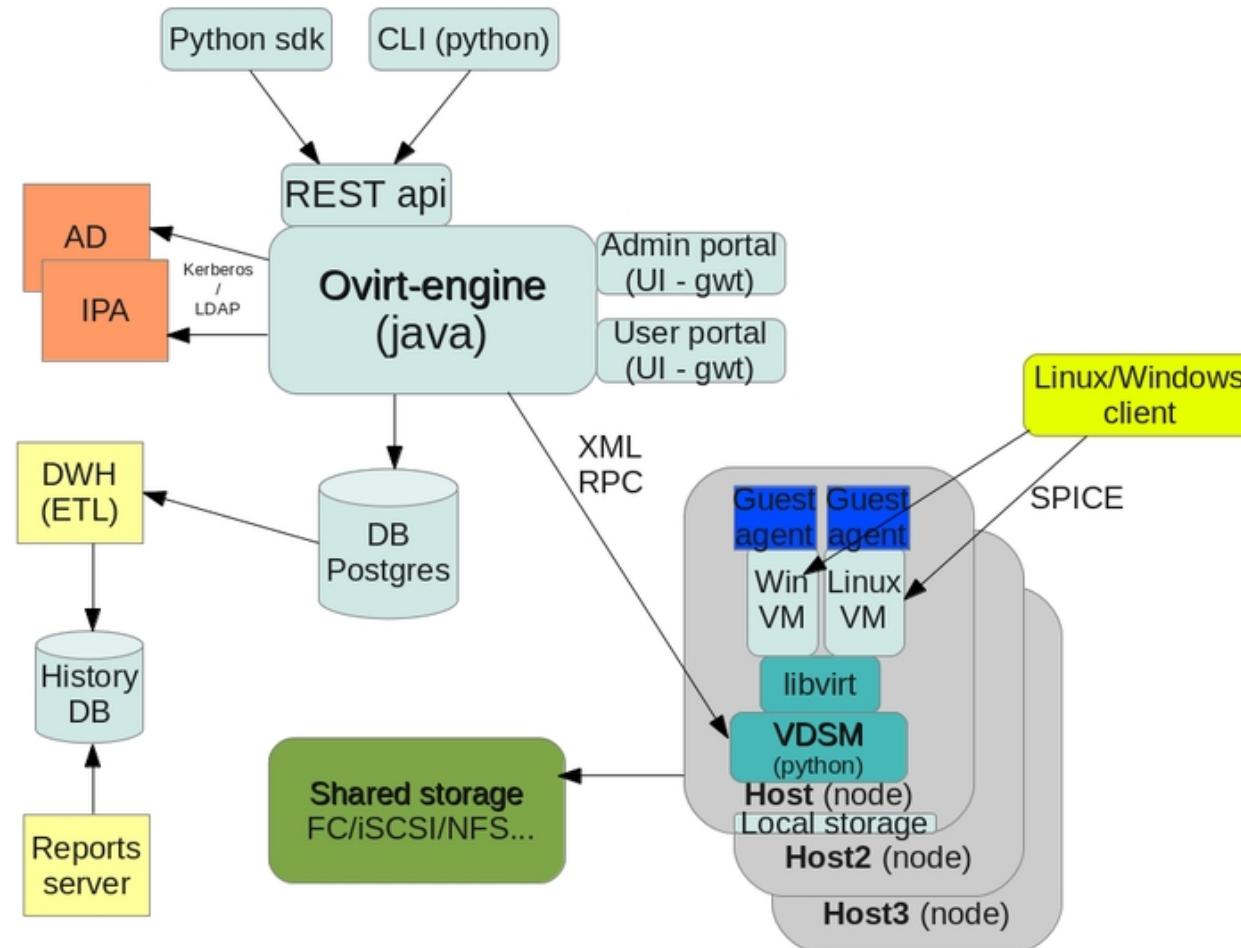
| Instance Name | VCPUs | Disk | RAM | Uptime |
|---------------|-------|------|-------|-----------------|
| test1 | 1 | 1 | 512MB | 6 days, 2 hours |

[Download CSV Summary](#)

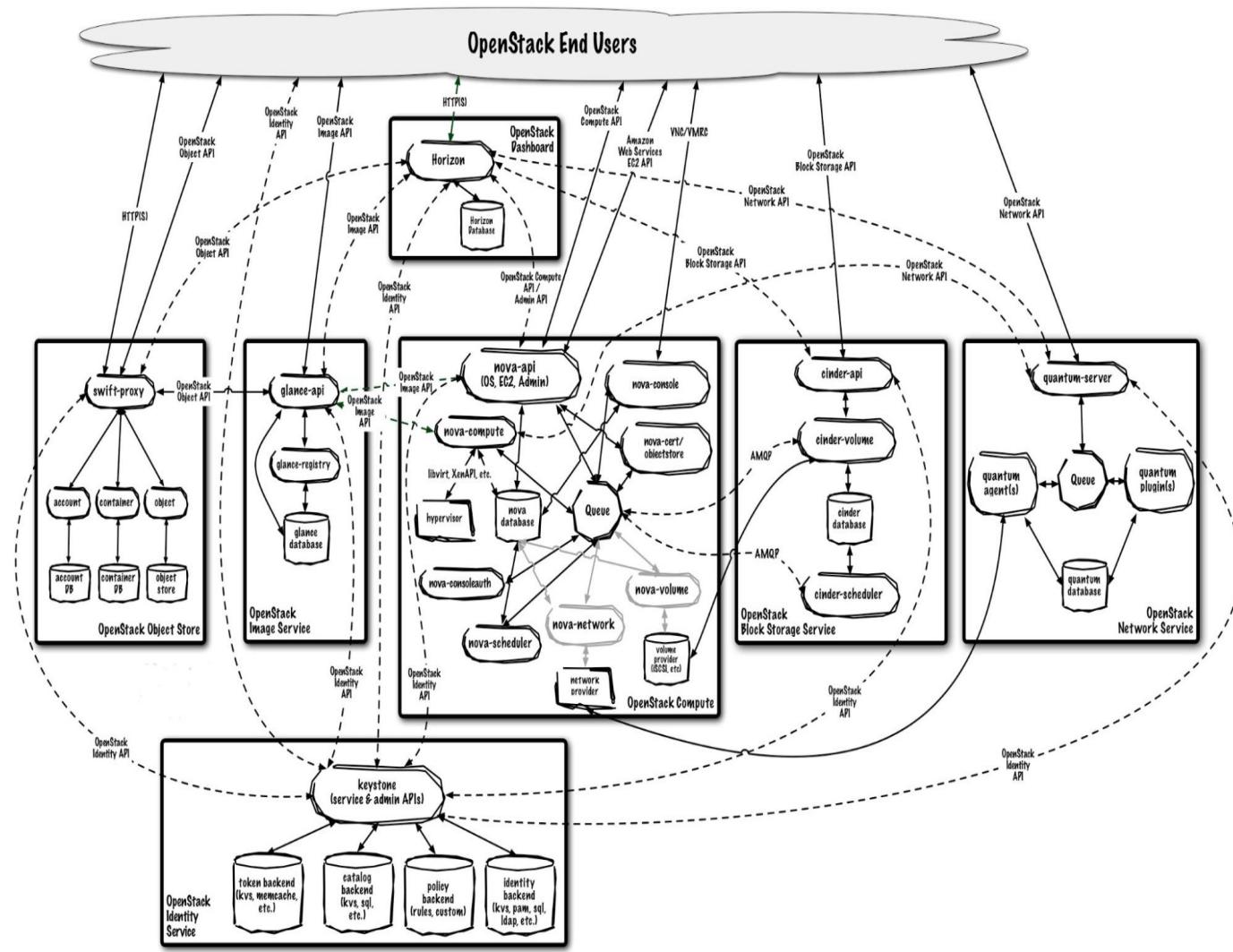
No Matter Where You Go, There You Are oVirt



VM Management Has Overhead, Too



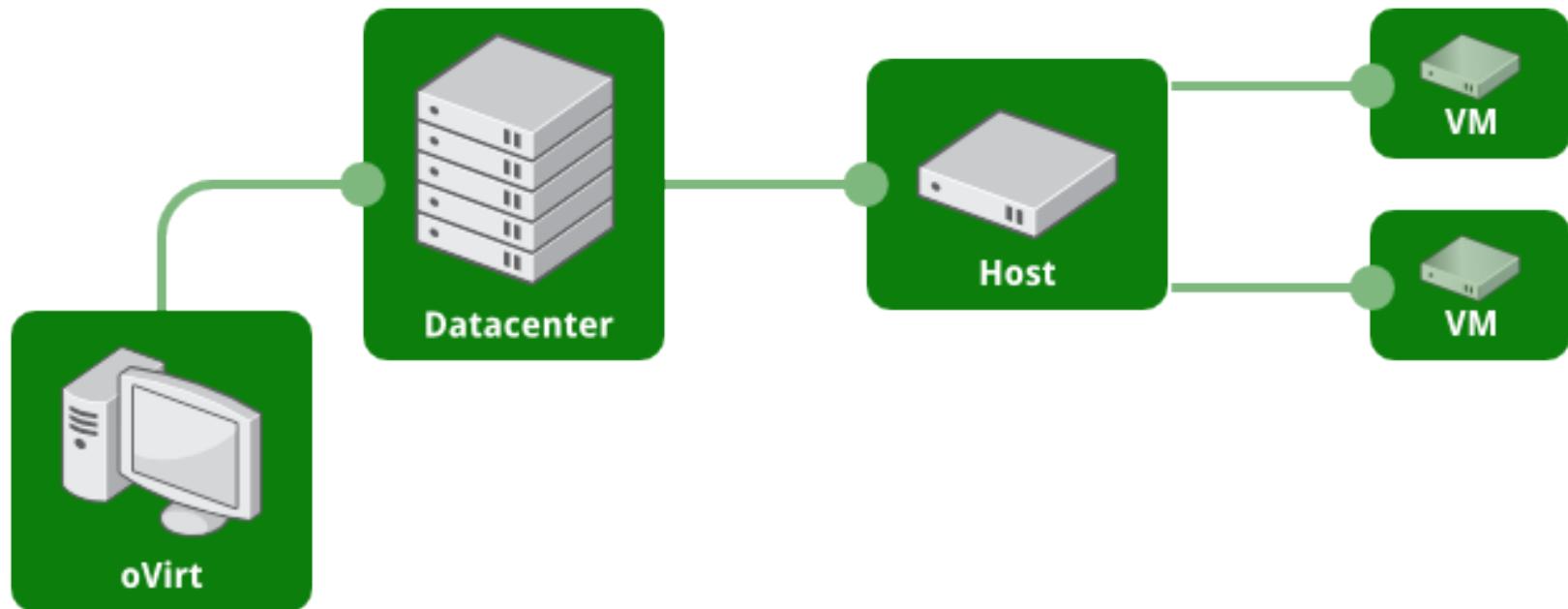
Sometimes a Lot



Whether One Host

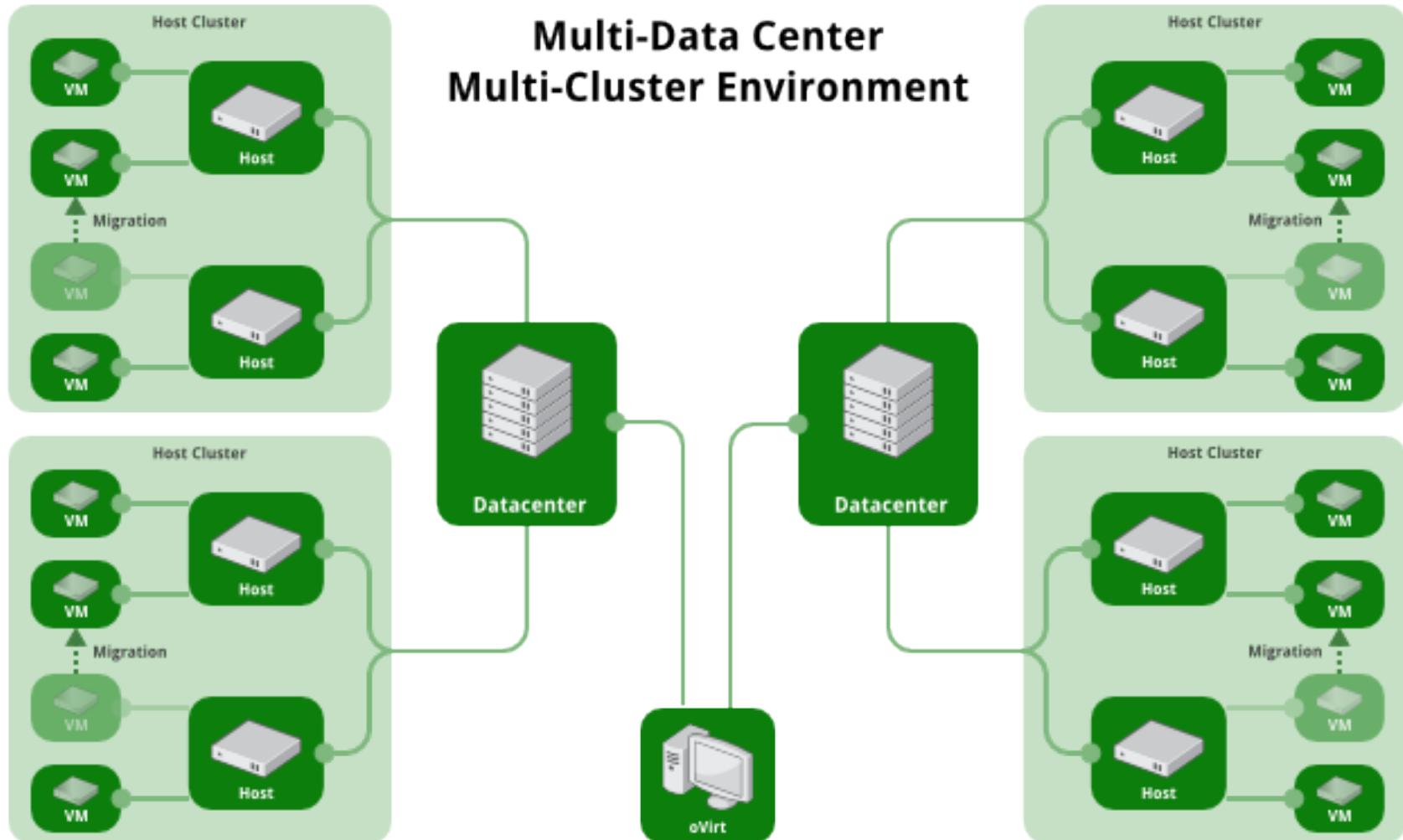
oVirt

Basic One Host Environment



Or Many Datacenters

oVirt



So, Virtualization Has Issues

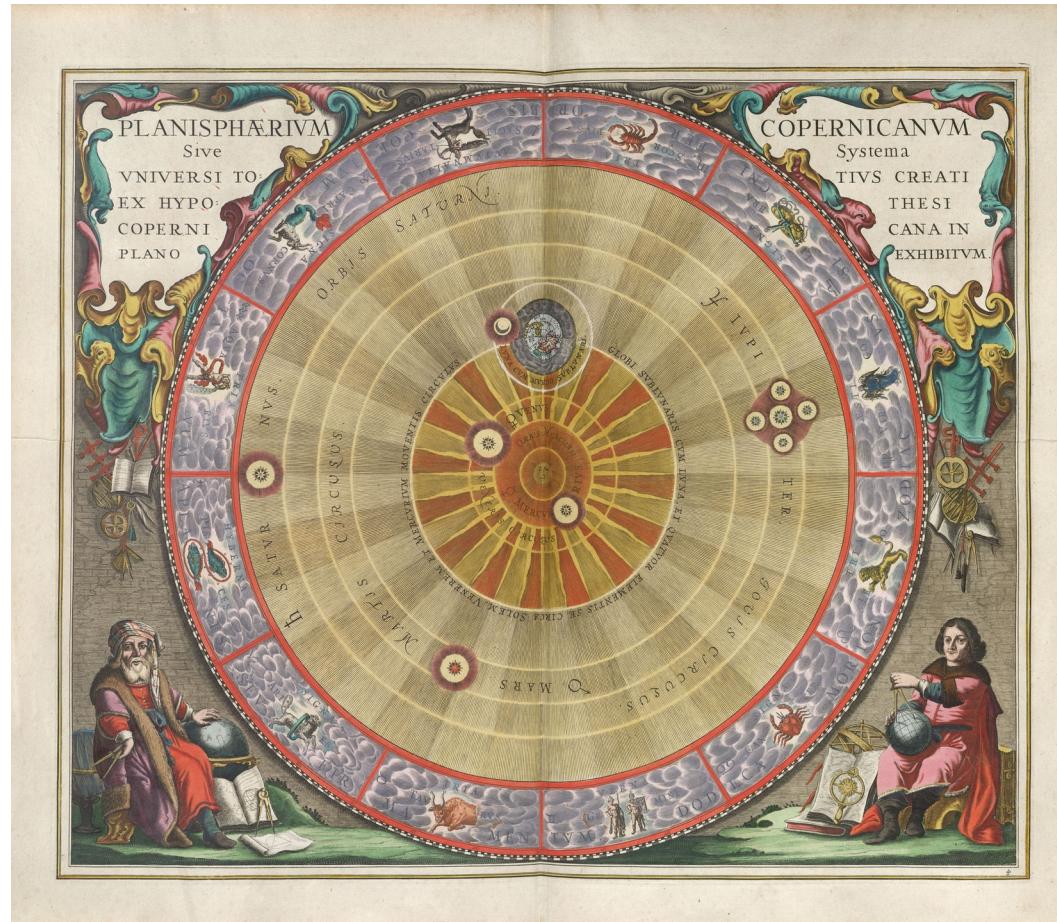
oVirt



Then There Are Containers



Containers Are App-Centric!

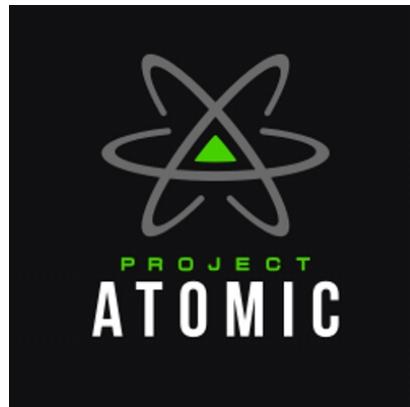


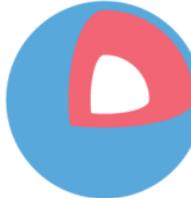
There Are New Tools Every Day

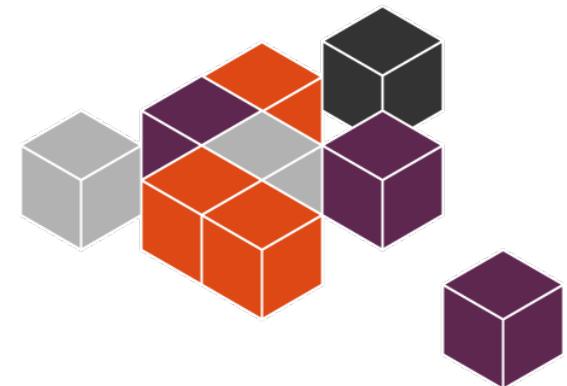
oVirt



 Rocket



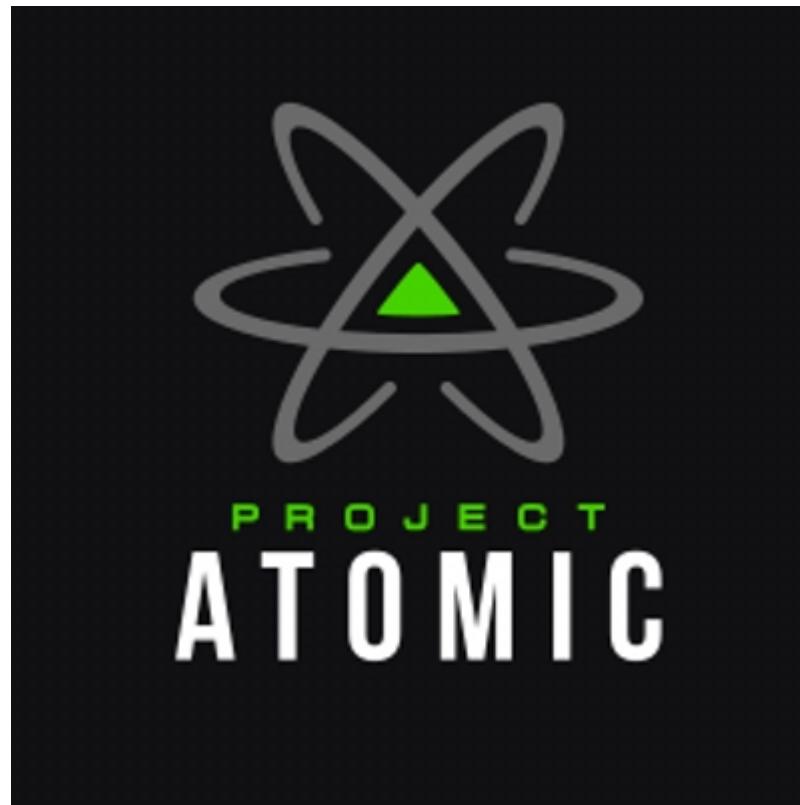
 Core OS



 CLIQR
TECHNOLOGIES

oVirt

Atomic: One Way to Handle Containers



This is Done With Docker...



oVirt

...rpm-ostree...



oVirt

...and Orchestration



So Why Not Containers?



Containers Are Awesome, After All



Except When They Are Not



Docker Mitigates Cons



Security Still An Issue



Operating Systems Are The Foundation



While You *Can* Work With Any Tool



oVirt

Doesn't Mean You Always Should



Thank You!

Brian Proffitt
Community Liaison
bkp@redhat.com
[@TheTechScribe](https://twitter.com/TheTechScribe)