# Oracle Linux Virtualization Manager

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# Oracle Is Committed to Open Source

Platinum Member of
The Linux Foundation

Platinum Member of
Cloud Native Computing Foundation

10 Oracle Organizations with
1000+ developers and 300+
repos on GitHub

# Oracle Linux Directions

ORACLE
Linux

## Building open cloud infrastructure for the enterprise

### Cloud

Easy and quick on-boarding to Cloud with the same stack on-premises or in the cloud

### Linux Kernel

Optimization for the most demanding Oracle workloads and Oracle Engineered Systems
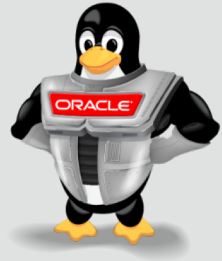
### Containers and Virtualization

Acceleration of your apps deployment and service delivery, simplified and integrated management

### Security

Ksplice zero-downtime security update, compliance and SELinux
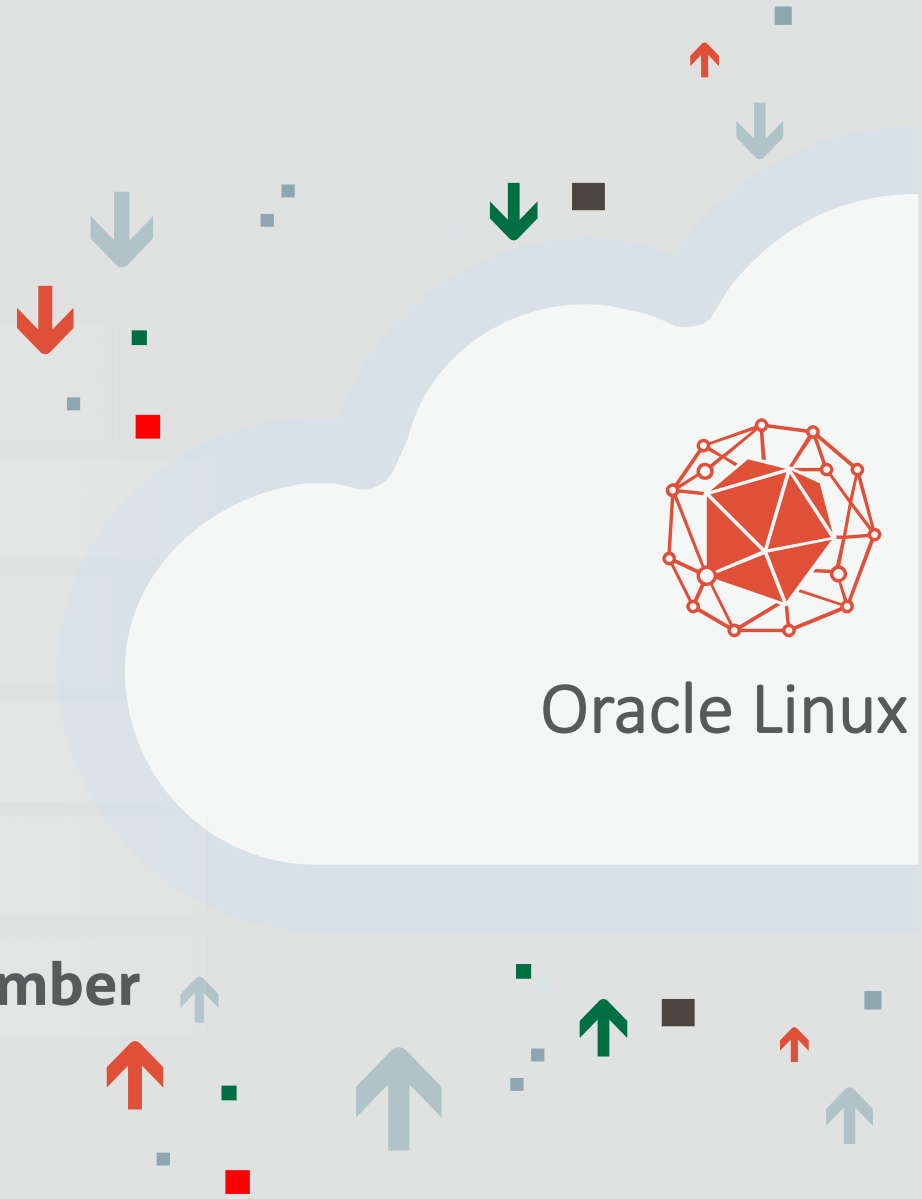
Shipping for more than 12 years

Powers Oracle Cloud & Engineered Systems

Tens of thousands of enterprises supported

Over 10 million Docker hub downloads

Linux Foundation Platinum board member

Cloud Native Computing Foundation Platinum member

Oracle Linux

# Truly Open Operating System

ORACLE
Linux

- Free to use, free to distribute and free to update
- ISOs are publicly available, free errata
- Kernel source code is published in a public GIT repository with all
- Truly open business practices
  - Customers choose which systems to cover by support subscriptions
  - No complicated migration from free to paid
  - No restrictive contracts or agreements

# Oracle is a Complete Full-Service Linux Vendor

**Product Development and Bug Fixes**
Engineering and Product Management

**Enterprise – Level 24x7 Support**
Support and Consulting
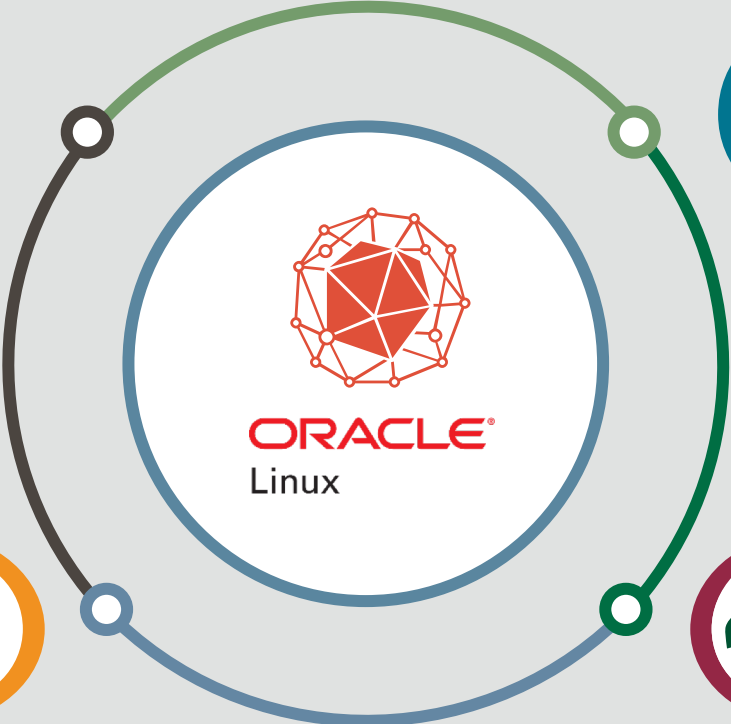
**Customer Certifications**
Training & Knowledgebase Development

**ISV / IHV Support**
Partner Services and Certifications

ORACLE®
Linux

# Ksplice Live Patching

- Rapidly patch zero-day vulnerabilities with no downtime
  - Kernels (Oracle and non-Oracle kernels)
  - Hypervisors (KVM, Xen and QEMU)
  - Critical user space packages (glibc and openssl)
- Keep critical systems patched with no downtime
- Apply updates without rebooting
- Configured by default for Oracle Linux instances in Oracle Cloud
- Proven: 1 million+ patches delivered

# Ksplice Known Exploit Detection
Released in April 2019

- As CVEs are patched, Ksplice adds 'tripwires' to code that fire when erroneous conditions trigger

- Reports attempted exploitations of a known attack vector

- Enables system admins to monitor systems for suspicious activity
  - ➤ Default is to log exploit attempt to syslog; email alerts can also be set
  - ➤ You can take specific action for specific tripwires (report, ignore)

# KVM Hypervisor Enhanced with Oracle Linux

## Oracle's Standard Server Virtualization Technology

- KVM hypervisor performance and security enhancements in Oracle Linux 7 with Unbreakable Enterprise Kernel (UEK) Release 5

- Zero down time security patching for hypervisor, kernel, and user space packages

- VirtIO drivers 1.1.3 delivered to support Microsoft Windows guests
  - Working on VirtIO Drivers 2.0 to bring the existing drivers up to date with upstream in terms of bug fixes and enhancements

- Strong user community and Large partner ecosystem

# KVM Helps Customers' Cloud Journey

## Customers looking for an Enterprise Management Solution

- ➢ Multi KVM hypervisor management
- ➢ Storage Management
- ➢ Network Management
- ➢ Cloud Ready
- ➢ Full Support

# oVirt Project

- oVirt open-source distributed virtualization solution
- Provides large scale, centralized management for server virtualization
- Based on leading performance, scalability and security infrastructure technologies
- Focus on KVM for best integration/performance
- Focus on ease of use/deployment
- Full featured software targeted to support enterprise infrastructures
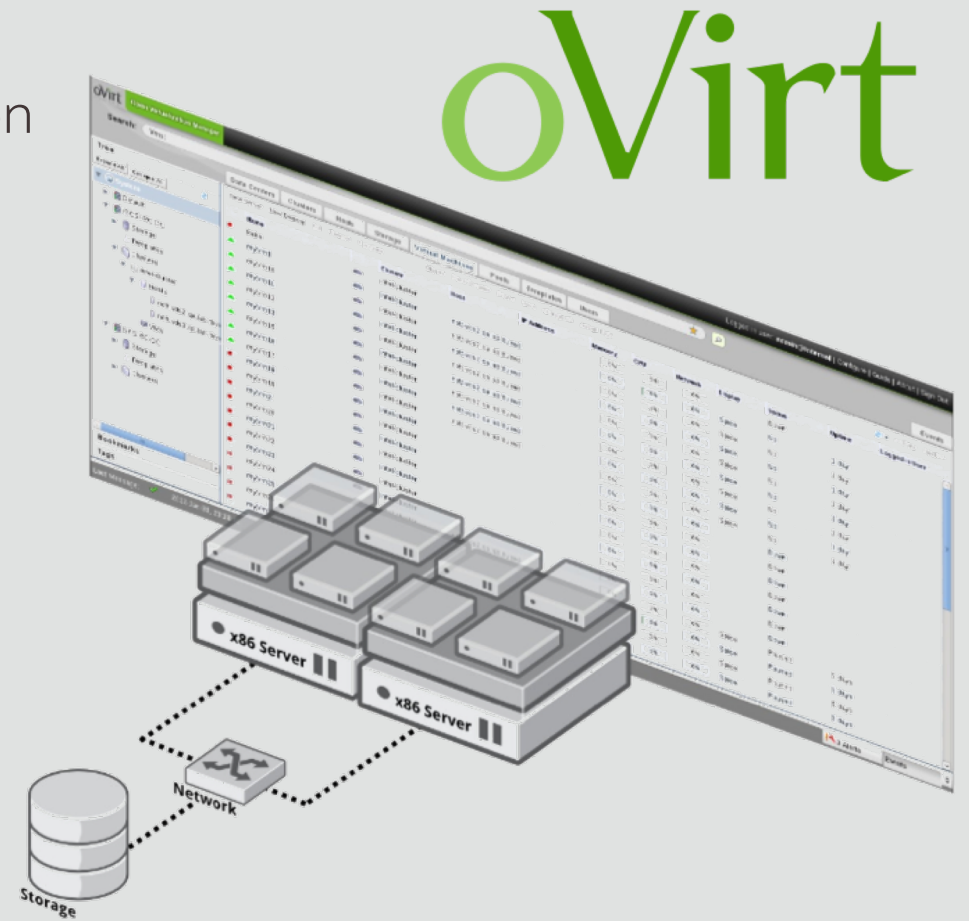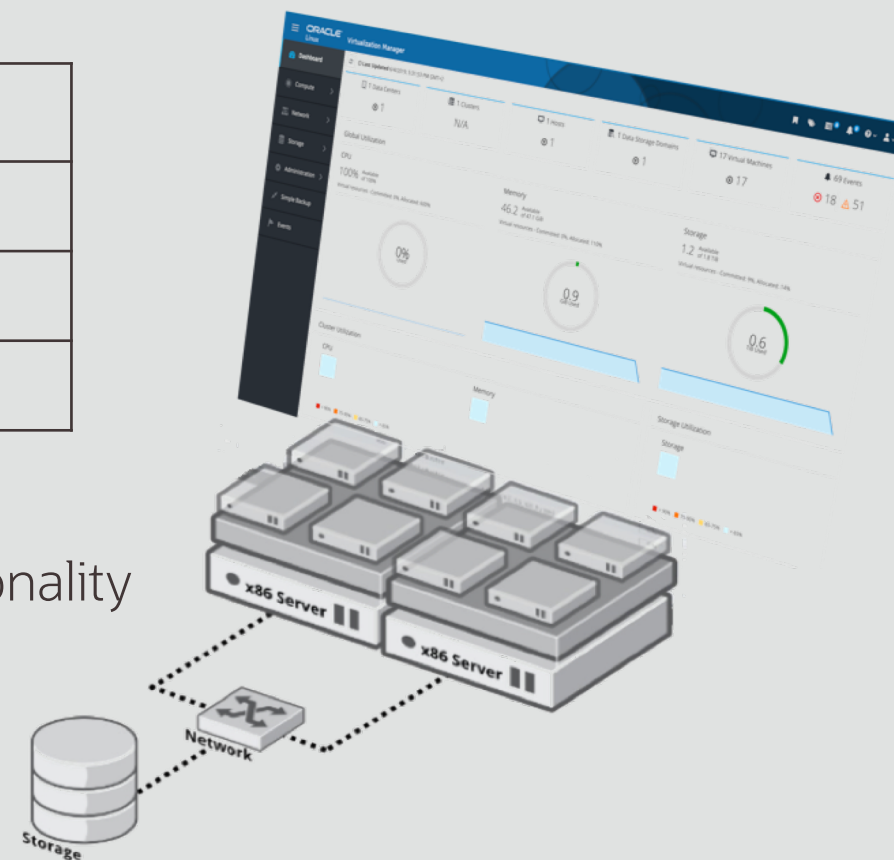
# Oracle Linux Virtualization Manager 4.2.8

- Based on oVirt 4.2.8

- Integrated, tested and supported by Oracle

- Available on ULN and Oracle Yum:

  - http://yum.oracle.com/repo/OracleLinux/OL7/ovirt42/x86_64/index.html

  - http://yum.oracle.com/repo/OracleLinux/OL7/ovirt42/extras/x86_64/index.html

- Full Documentation Library

  - Release Note

  - Installation Guide

  - Getting Started Guide

# Oracle Linux Virtualization Manager 4.2.8

- Key Oracle VM 3.4 features carry forward

| VM Management | VM HA, Policies |
| --- | --- |
| Live Migration | RestAPI |
| Storage, Networking | Virtual Appliances |
| Status, Alerts | Maintenance |

- New feature support in the 4.2.8 GA release:
  - ➢ Snapshots for improved Backup and Restore functionality
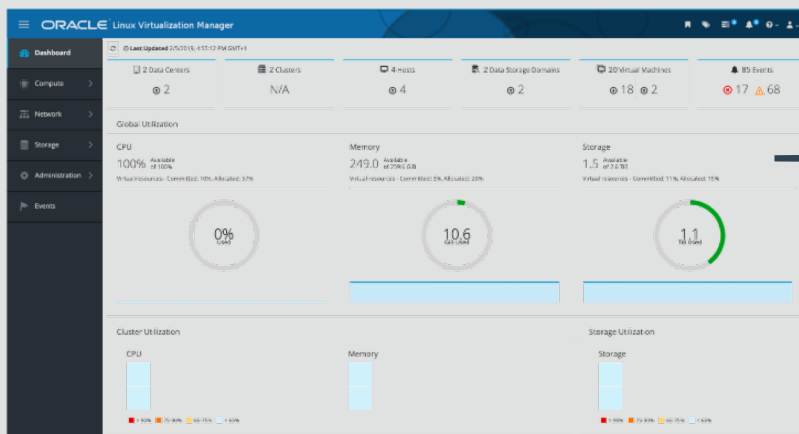  - ➢ Role Based Access
- Contribute upstream to further enhance oVirt

# Oracle Linux Virtualization Manager

Solution Overview

**Oracle Linux Virtualization Manager**

Oracle Linux KVM Server - 7.6

Oracle Linux KVM Server - 7.6

Oracle Linux KVM Server – 7.7

**Guest OS Support**
- Oracle Linux 5/6/7
- RHEL 5/6/7
- CentOS 5/6/7
- Windows Desktop 7, 8, 10
- Windows Server 2008, 2012, 2016, 2019

ORACLE Linux

# Oracle Linux Virtualization Manager Setup

Quick Setup

*Simple Yum install process:*

1.  Install Oracle Linux 7 Update 6 on the host machine.

2.  *# yum install https://yum.oracle.com/repo/OracleLinux/OL7/ovirt42/x86_64/ovirt-release42.rpm*

3.  *# yum install ovirt-engine*

4.  Run the engine-setup command to configure Oracle Linux Virtualization Manager

5.  Answer the 15 questions (manager DNS name, Admin password, Data Warehouse location, etc) – or simply select all of the defaults

➢Up and running in 10 minutes

# Oracle Linux Virtualization Manager 4.2.8
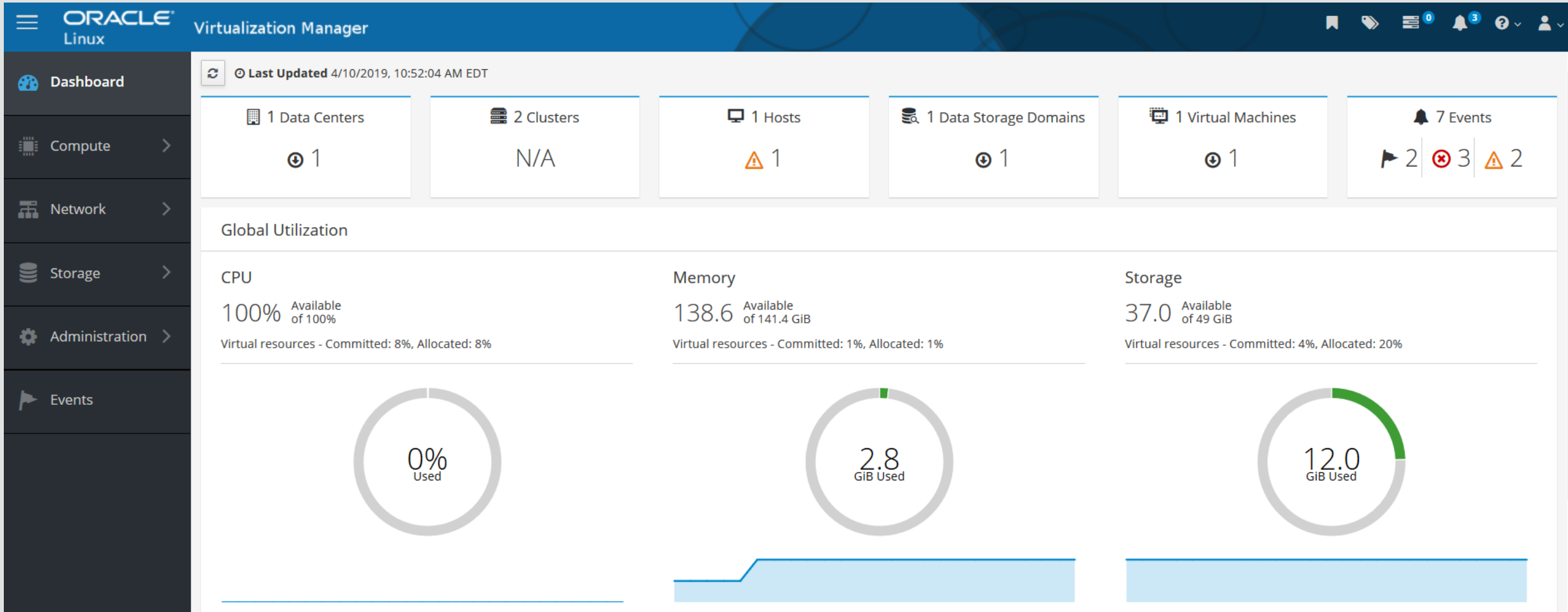
# OLVM Technology Preview Features

Full support to be added in later phases

- Self Hosted Engine (HA)
- Gluster Storage
- Foreman and Spacewalk integration
- Virt-v2v
- Software Defined Networking
- Datawarehouse migration to remote server
- moVirt
- oVirt Node
- SR-IOV

# Oracle Linux KVM Ecosystem

- x86 server certification:

  – Covered by the existing Oracle Linux HCL
    https://linux.oracle.com/hardware-certifications

- Storage Certification:

  – HCL storage certifications will not be required.  Similar to Oracle Linux, there is no need to test storage solutions with Oracle Linux KVM

- ISV certifications

  – Oracle Linux KVM certifications

  – OLVM/oVirt certifications

# OLVM – REST API

- Execute all tasks in the Admin Portal and even more
- HTTP Actions
    - GET
    - PUT
    - POST
    - DELETE
- Automate provisioning/Administration through scripting or Integrations
- No differences between oVirt and OLVM

ORACLE
Linux

# OLVM – Enterprise Manager integration
## EM 13.4 adds support for OLVM

# Oracle VM vs Oracle Linux Virtualization

| Feature | Oracle VM | Oracle Linux Virtualization |
|---|---|---|
| Hypervisor | Xen | KVM |
| Manager | Oracle | Open Source |
| Parallel job operation | No | Yes |
| Multiple user control | No | Yes |
| Snapshot | No | Yes |
| Advanced features (SR-IOV, moVirt, etc) | No | Yes |
| HA and LM without Manager | Yes | No (Self Hosted Engine) |
| Solaris Guest support | Yes | No |
| Full CLI | Yes | No |
| Automated Manager DB backups | Yes | No (scripting solutions) |

# Value of Oracle Linux Virtualization

- Oracle software certifications
- Oracle Ksplice support
  - Zero down time security patching for hypervisor, kernel, and user space packages
- Oracle Enterprise Manager integration – single pane of glass management
  - Oracle Linux
  - Oracle Virtualization
  - Oracle Products (Database, Middleware and Applications)
- Rapid application deployment with Templates and Virtual Appliances

# Oracle Linux Virtualization Manager

Next Oracle targets

- oVirt releases and community expansion

- Applications and Virtual Appliances

- Ecosystem

- Migrations…………

ORACLE
Linux

# Oracle Linux Images for Oracle Cloud Infrastructure

## Same OS on Cloud and On-Premise

August 2019 Updated Images

Oracle Linux 7.7

    Kernel version: kernel-uek-4.14.35-1902.4.8.el7uek.x86_6

    Fix for CVE-2019-1125: https://linux.oracle.com/errata/ELSA-2019-4733.html from Oracle Linux 7.6 2019.08.02
    image

Oracle Linux 7.7 GPU

    Kernel version: kernel-uek-4.14.35-1902.4.8.el7uek.x86_64

    Fix for CVE-2019-1125 (Oracle Linux 7.6 2019.08.02 image)

    CUDA version: 10-1-10.1.168-1

    cuDNN version: 7.3.1

Oracle Linux 6.10

    Kernel version: kernel-uek-4.1.12-124.30.1.el6uek.x86_64

    Fix for CVE-2019-1125 (Oracle Linux 7.6 2019.08.02 image)

# Oracle Linux KVM in Oracle Cloud Infrastructure
## Oracle's Standard Server Virtualization Technology

Oracle Linux KVM image can be deployed faster directly from Oracle Cloud Infrastructure (OCI) console

➤ Launch latest KVM image from OCI image catalog

# OLVM to OCI

On-Premise

Cloud



*Application*

*Appliation*

OL KVM and OLVM

Oracle Cloud Infrastructure

- Same hypervisor on-premise and in Cloud
- Migration tools:
  - Documented APIs
  - Oracle utilities
  - Partner utilities

# Oracle Linux and Virtualization for Open Cloud Infrastructure

Thousands of customers running Oracle Linux and Virtualization today

### Best Subscription Value
- World-class software
- Designed for the enterprise
- No additional, expensive add-ons
- World-class support, consulting & training

### Strategic Differentiation
- Zero-downtime kernel updates with Ksplice
- Diagnostics and tracing with DTrace
- Integration with latest Cloud technologies: Docker, Kubernetes, KVM, Xen, …

### Truly Open
- Always free to use, distribute and update
- Source code published and ISOs publicly available
- All errata is publicly available

### The Only Linux and Virtualization Distros Recommended for Oracle Products
- Oracle Development's standard
- Comprehensive testing across the stack
- Pre-configured Linux containers and VM templates for rapid deployment of products

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