Hewlett Packard Enterprise

The Essentials: HPE VM Essentials Software (VME)

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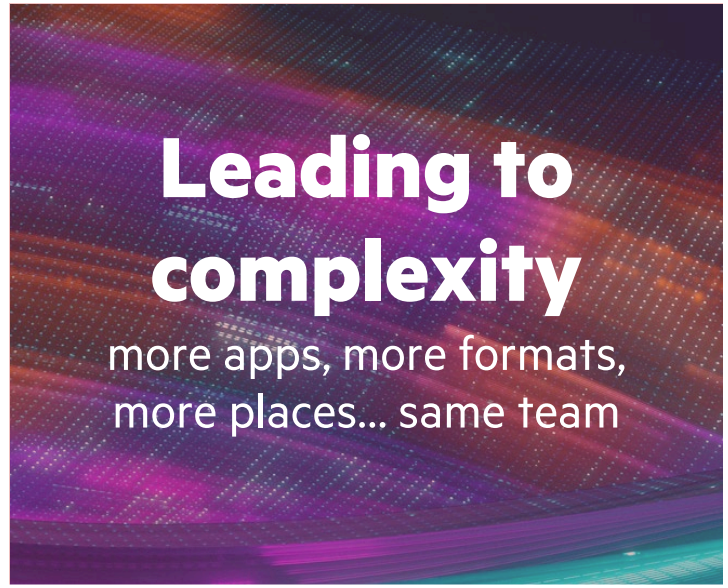
HPE VM Essentials Software Introduction

Today's Realities Are Paralyzing Virtually Every Enterprise



"I'm evaluating options, but it will take 2 years to deal with VMware while I also adjust our container strategy, figure out AI, and re-evaluate public cloud, Oh yeah... and I'm not getting any new people to help."

Licensing Changes Have Caused Significant Disruption For Customers

- **Bundles only:** VCF, VVF, vSphere Standard
- **No more perpetual licenses**
- **No more ELAs**
- **Lower discounting**
- **Extra charges** (e.g., vSAN)

Effective price increase of

2-4x

for most customers*

Note: *Some customers experience effective price increases of 15x or more

Announcing

HPE VM Essentials Software

- Reduce costs with HPE VM Essentials integrated hypervisor
- Simplify management across VMware and HPE clusters
- Future-proof IT with flexible consumption & upgrade paths
- Lower risk with enterprise-grade support & ecosystem

VME FAQ

VME FAQ

- **Is HPE building a new hypervisor?**
  - No – we have created a virtualisation solution, leveraging technology from our recent Morpheus acquisition which contains a:
    - Proven KVM hypervisor
    - Highly available cluster architecture
    - On-premise management plane (KVM & VMW)
  - Solution currently available as stand-alone software
- **What is supported on the stand-alone version?**
  - VM Essentials software
  - HPE ProLiant Gen10+ and Gen11 and Gen12
  - Alletra 5K, 6K or HPE Alletra Storage MP B10000 for external storage
  - HPE Simplivity (Q3 FY25)

- **Trial licenses**
  - 60-day, 6-socket limited EVAL version of Morpheus VM Essentials is available. No direct support.
  - Request your download at: https://www.hpe.com/us/en/hpe-vm-essentials/get-started.html
- **Customer Licenses**
  - Customers can download their software from the *HPE My Software Center* and install on their infrastructure

- **Selling Motion: Channel-Only for HPE Morpheus VM Essentials**

  The term "Channel-Only" refers to a sales model in which all transactions for HPE VM Essentials Software will be conducted **exclusively** through an authorized HPE Partner.

Resource FAQ: https://hpe.seismic.com/Link/Content/DCF43CD6GXRJ2GMMd4R2dH3X33fG

Quick Solution FAQ

- **Can customers migrate existing workloads to HPE Morpheus VM Essentials?**

  Yes - VM Essentials has the ability to convert individual VMs from a VMware format to a native KVM format. For larger scale migrations, an offering from Zerto is being developed, along with professional services to help customers move workloads onto VM Essentials. The conversion tool is offline and will require some downtime to reformat the VMs.

- **Can customers run VMware and HPE Morpheus VM Essentials together?**

  VM Essentials and VMWare will have to run on their own dedicated servers but can leverage the same HPE Alletra Storage MP B10000 storage array and be managed through the same on-premises VM Essentials manager console. Standalone version of VM Essentials and VMWare vSphere can also be managed through the same on-premises console.

- **What key features and functionalities will HPE Morpheus VM Essentials support at launch?**

  At launch, VM Essentials Software will have a rich feature set, comparable to that of **VMware vSphere Standard edition, but with additional functionality normally only found in higher VMware subscription levels**.

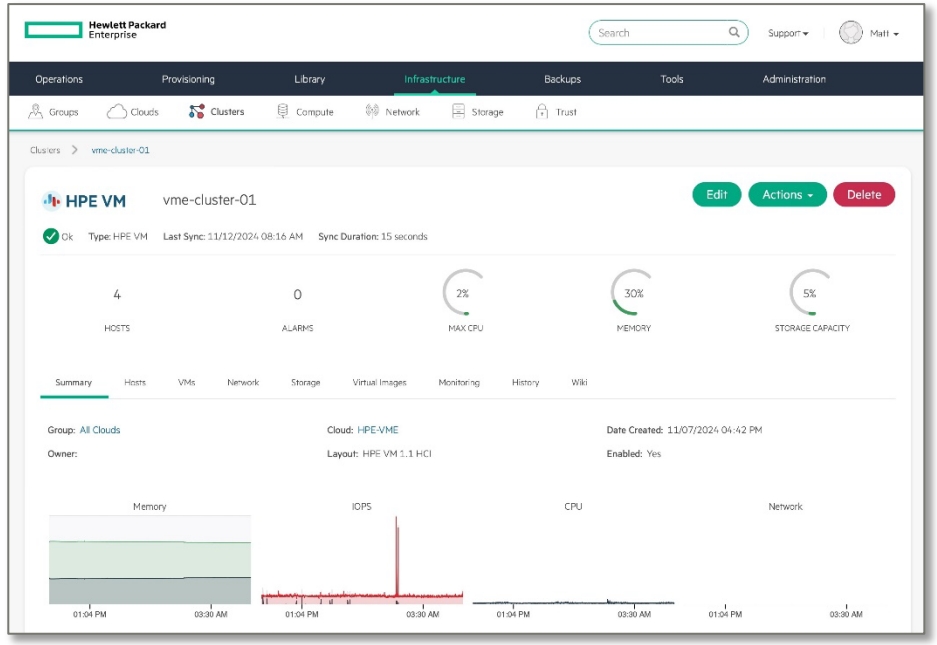
The standalone version of VM Essentials, will require customers to download the software from **HPE My Software Center** and install on their infrastructure.

NEW: HPE VM Essentials Software To Unify VMware & HPE VME Hypervisor

- **Reduce costs with HPE VM Essentials integrated hypervisor**
  Featuring core capabilities to diversity VM estates including storage optionality (local, NFS, iSCSI, Fibre Channel), distributed workload placement, VM HA and live migration, data protection via snapshots and native backup, and DR with Zerto*

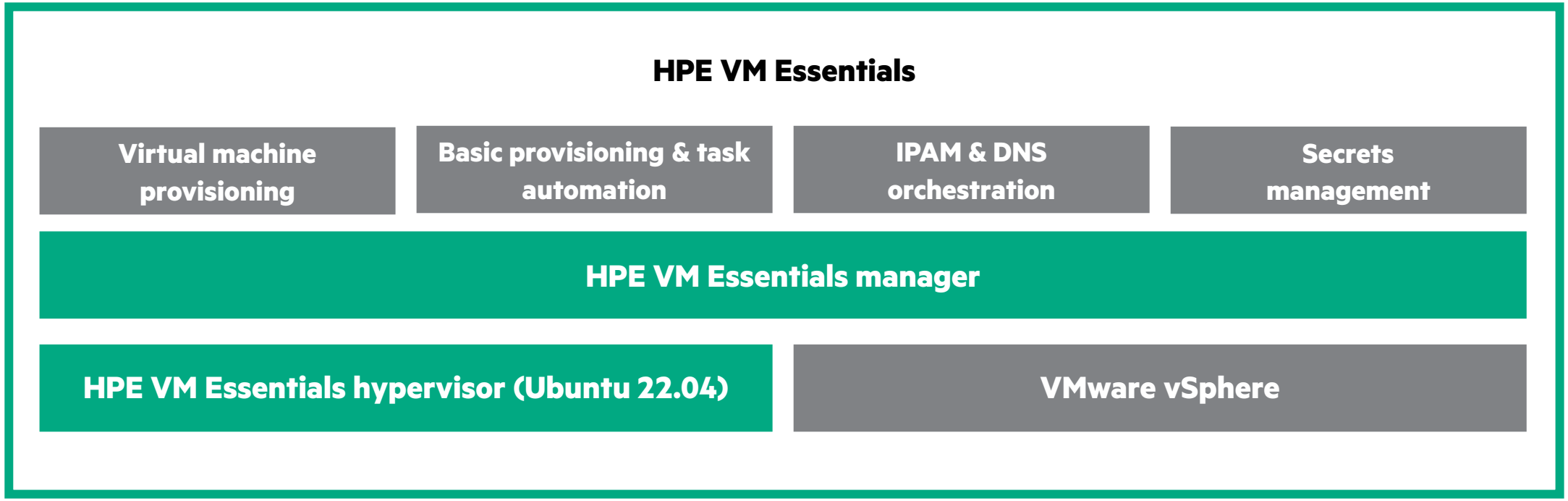
- **Simplify management across VMware and HPE**
  Connect existing VMWare® clusters for management and VM-vending into ESXi and HPE VME hypervisor from one interface. Also includes IPAM and DNS integration, automation execution, secrets management, and VMWare to KVM image conversion

- **Lower risk with enterprise-grade support & ecosystem**
  Building on a proven KVM core, HPE VM Essentials includes HPE's enterprise-class global support. HPE is working with its ecosystem of ISVs to expand HPE VME hypervisor certification and support for Data Protection, VDI, ERP, etc.

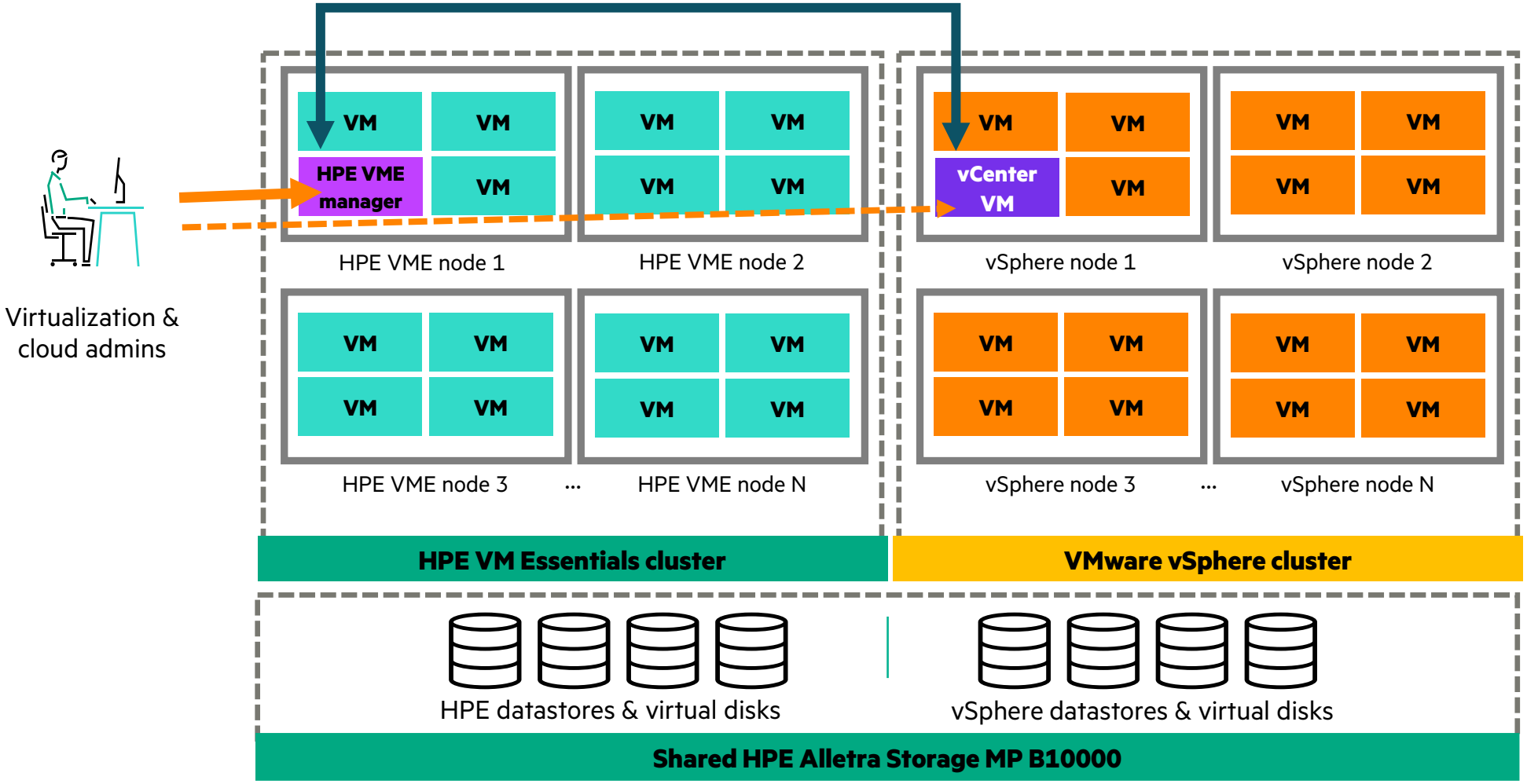


* Zerto integration with HPE VM Essentials on roadmap for 1H 2025

Solution Overview



HPE VM Essentials



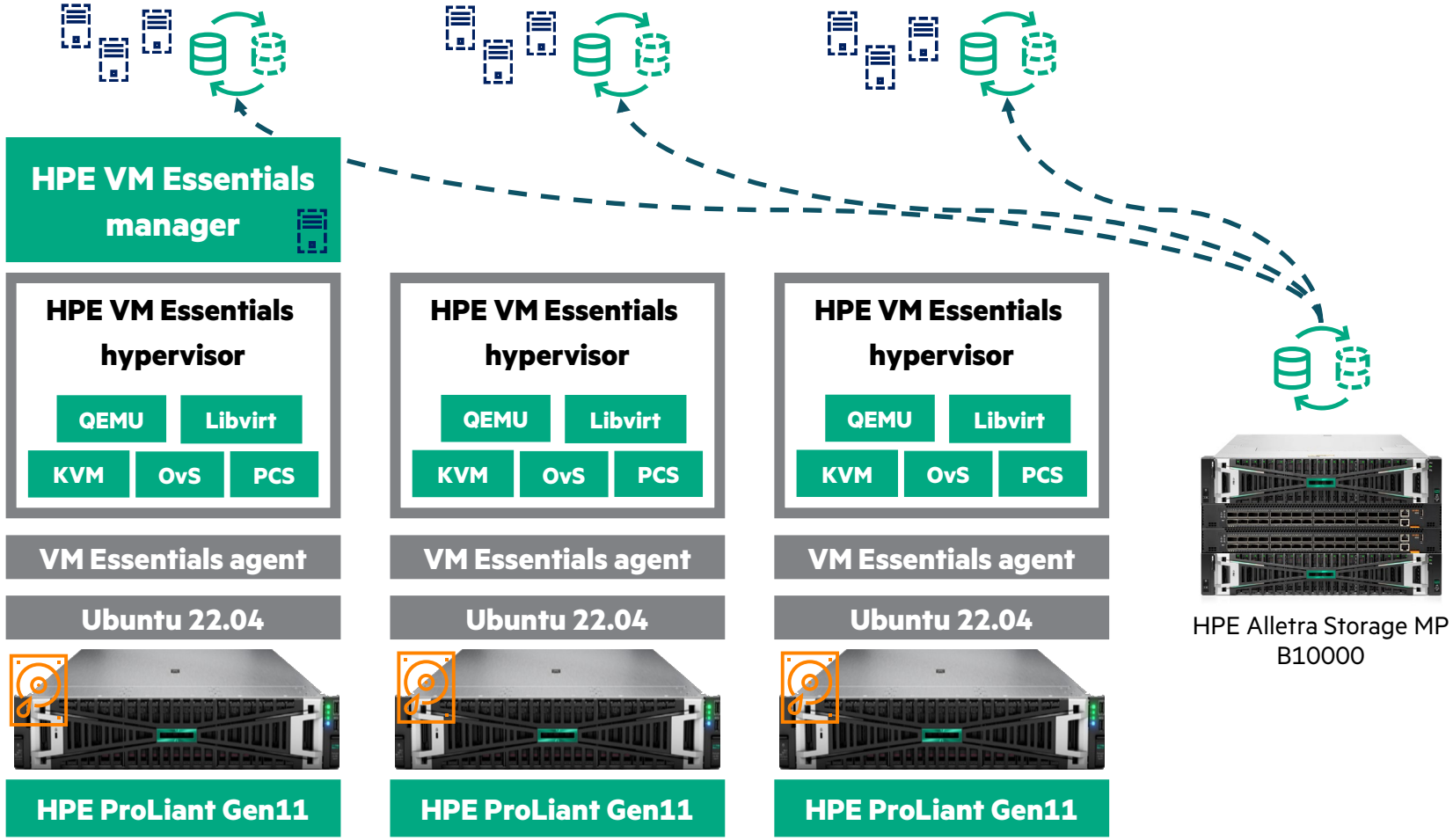
HPE VME Licensing: Socket-based, not Cores

HPE Tech Care Essentials included with license

Architecture

Theory Of Operation - Logical Architecture

- Manager deployment:
  - HPE VM Essentials manager runs on a single node
- **Local storage deployment:**
  - OS, VM Essentials agent, and VME hypervisor elements operate from local storage
- **VM hosting:**
  - VMs can be hosted on:
    - Local datastores
    - Shared datastores
- **Storage types:**
  - **Local storage:**
    - Local disk directory pool
  - **Converged storage:**
    - Uses CEPH
  - **Shared storage:**
    - Supported via NFS, iSCSI, or FC
  - **Enhanced storage integration:**
    - Optimized with HPE Alletra Storage MP B10000



Requirements

Pre-Requisites

Prior to installing HPE VM Essentials:

- Install Ubuntu 22.04 on each host of the cluster
- Patch the Ubuntu OS
- Required: install the hardware enablement version of the kernel

Configure host networking

- Set static management IP:
  - Recommended: configure more than one interface in bonded network interface, e.g. `bond0`
- DNS, NTP, proxy

Configure any storage networking

Configure HPE VM Essentials management VM hostname in DNS

Minimum node count:

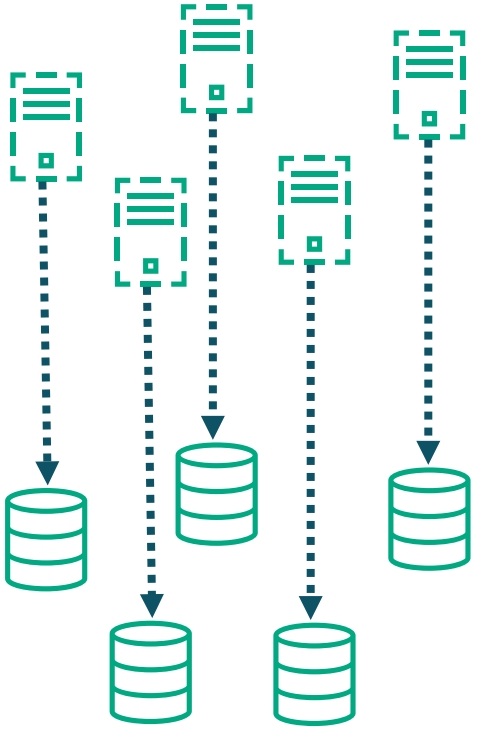
- Local storage or NFS: 1 node
- CEPH, iSCSI, FC: 3 nodes

HPE Alletra Storage MP B10000 Integration

- HPE VM Essentials supports native integration with HPE Alletra Storage MP B10000
- Storage interaction enabled by storage plugin
  - VM granular storage management
  - Each VM is mapped to its own dedicate volume
  - Enables VM-native granular volume snapshots and storage management
  - VM granular replication

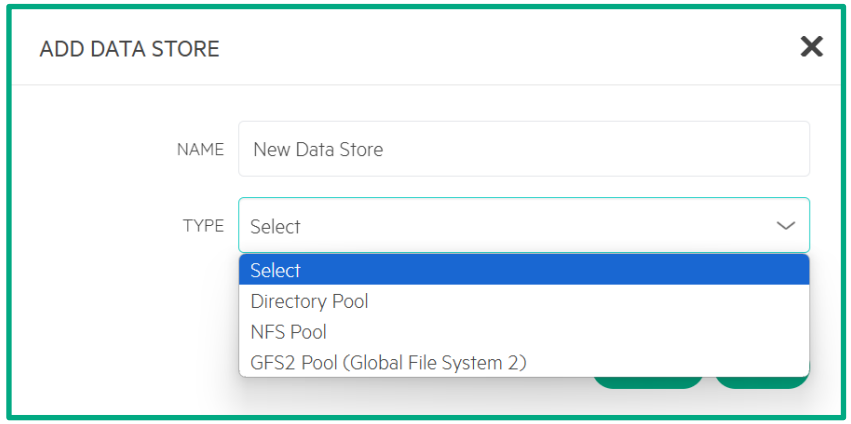
HPE ProLiant Gen 11

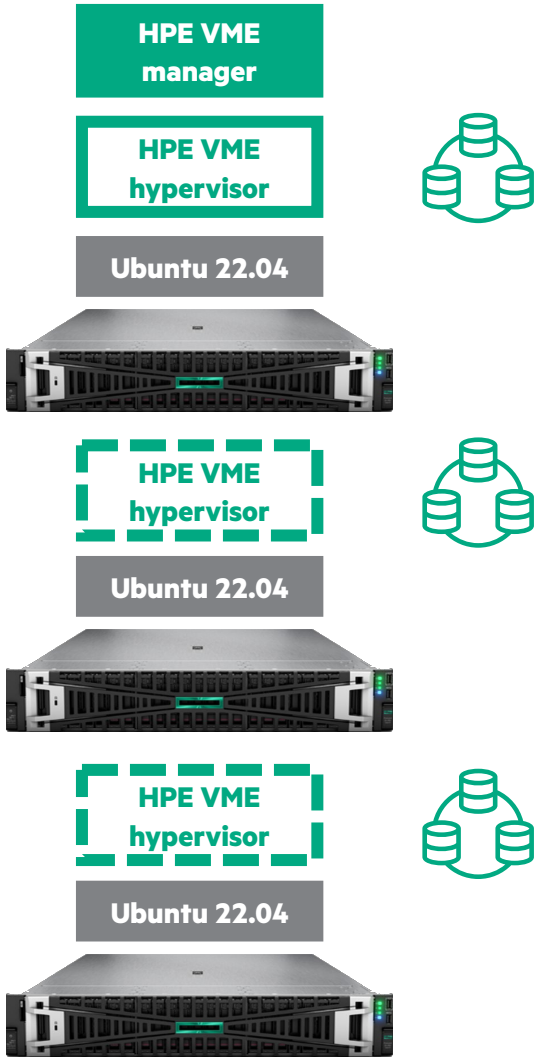
HPE Alletra Storage MP B10000



Storage Overview

- Datastores are storage for virtual machines and optionally also virtual images (ISOs, QCOW2[1], VMDK[2], etc.)
- There are **3 type of datastores** supported for hosting VMs and images:
  1. **DIRECTORY POOL:**
     - Comprised of local storage on each server
     - The same directory path must exist on each node
  2. **NFS:**
     - All nodes must have access to the share
  3. **GFS2:**
     - iSCSI and FC supported
     - Clustered file system orchestrated by the *pacemaker* cluster service
     - Presented volumes must show with the same name on each host





[1]QCOW2 is a disk image file format used by QEMU virtualisation software. "QEMU Copy-on-Write version2"

[2]VMDK is a Virtual Machine Disk

HPE VM Essentials – Networking Overview

1. Management network

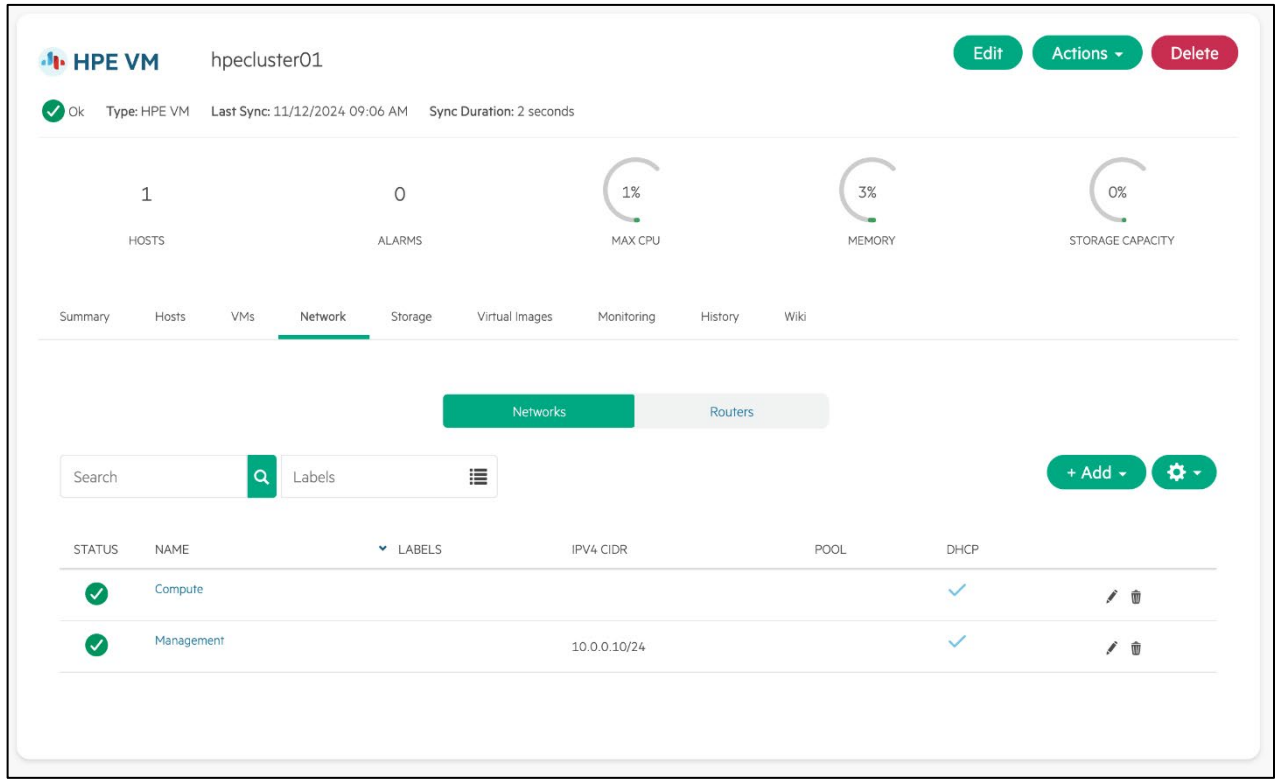
- The network used for managing the HPE VME hypervisor hosts

2. Compute network

- The network used for VM traffic

3. Storage network

- The network used to interact with external storage, such as NFS, iSCSI, FC



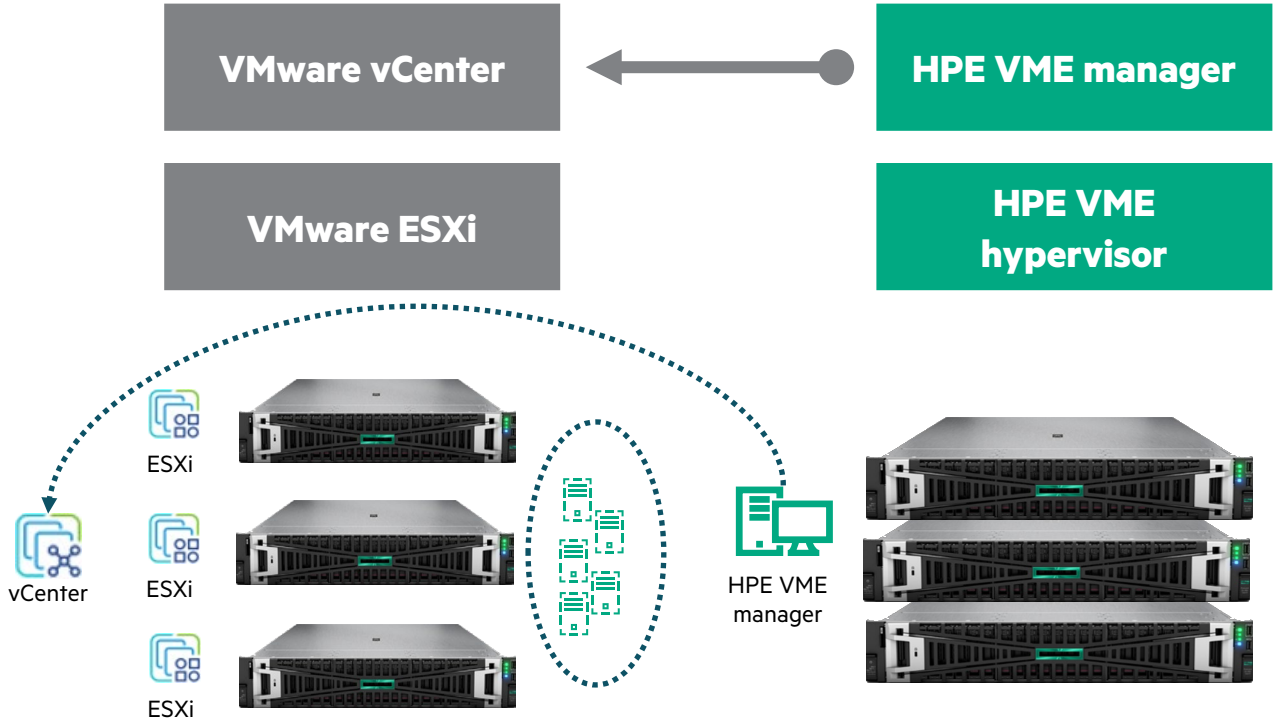
Note:

- Best practice is to have Compute and Management networks separate
- It is possible to deploy a cluster without a dedicated Compute network, running VM traffic over the Management network

VMware Integration Overview

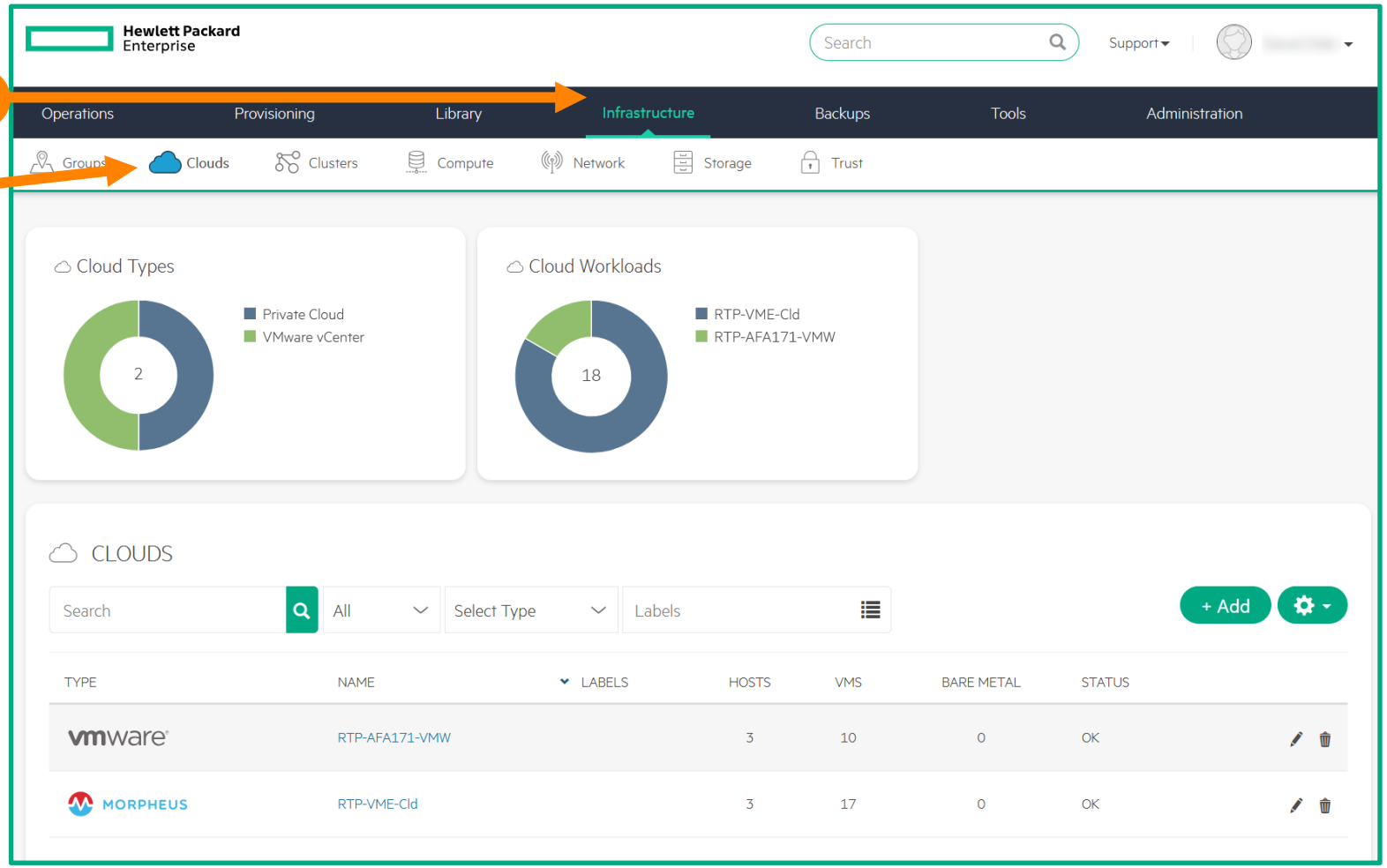
Enables management of existing vSphere® clusters or datacenters through the VME UI

- **Integration functionality:**
  - Existing VM discovery and management
  - New VM provisioning and management
- **Cloud sync:**
  - The VMware integration performs a synchronization to collect information about the following resources every 5 minutes:
    - Networks
    - Datastores
    - VM Templates
    - Virtual Machines
    - Resource Pools
    - Folders



VMware Integration

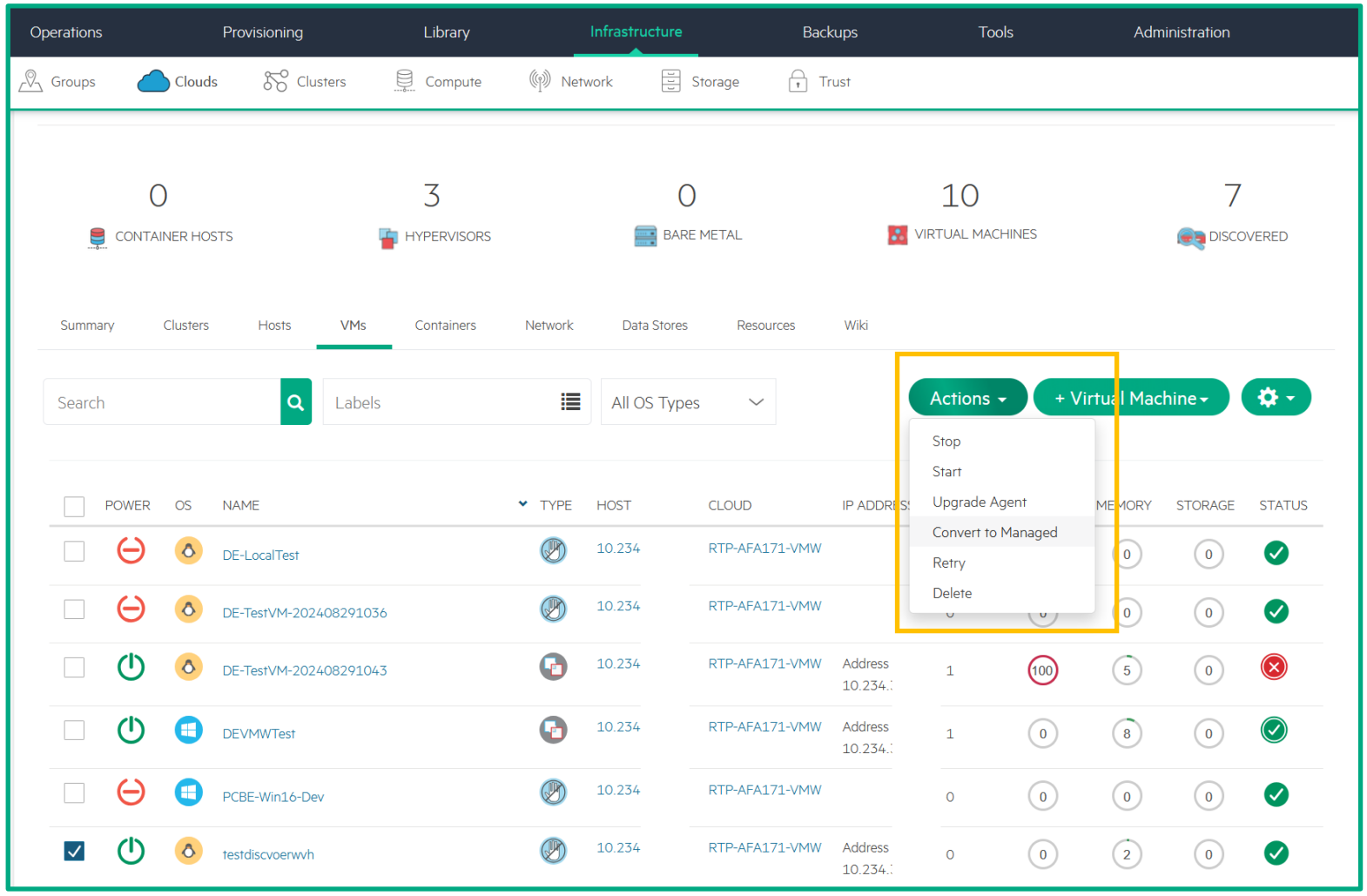
- The vSphere environment will show as a new cloud in ***Infrastructure -> Clouds***
- Once added, access to vSphere networks and datastores can be modified



Cloud = Collection of Hardware Virtual Machine (HVM) Clusters or an integration of VMW vCenter appliance

VMware Integration

- If the option to ***inventory existing virtual machines*** was selected, the VMs in the selected vSphere resources will show as **Discovered**
- To manage a discovered VM through the VME manager UI, select the VM or VMs and select ***Convert to Managed*** from **Actions**



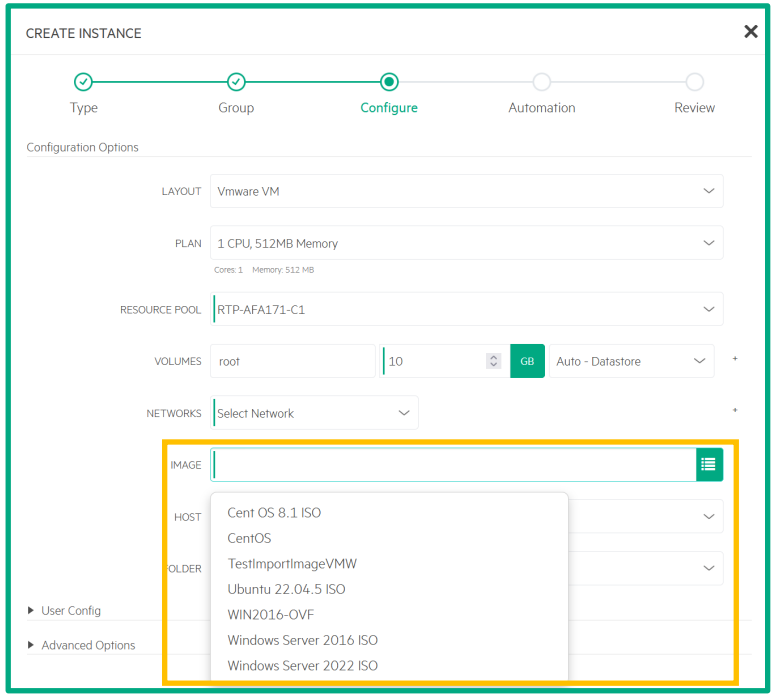
VMware Integration – VM Provisioning

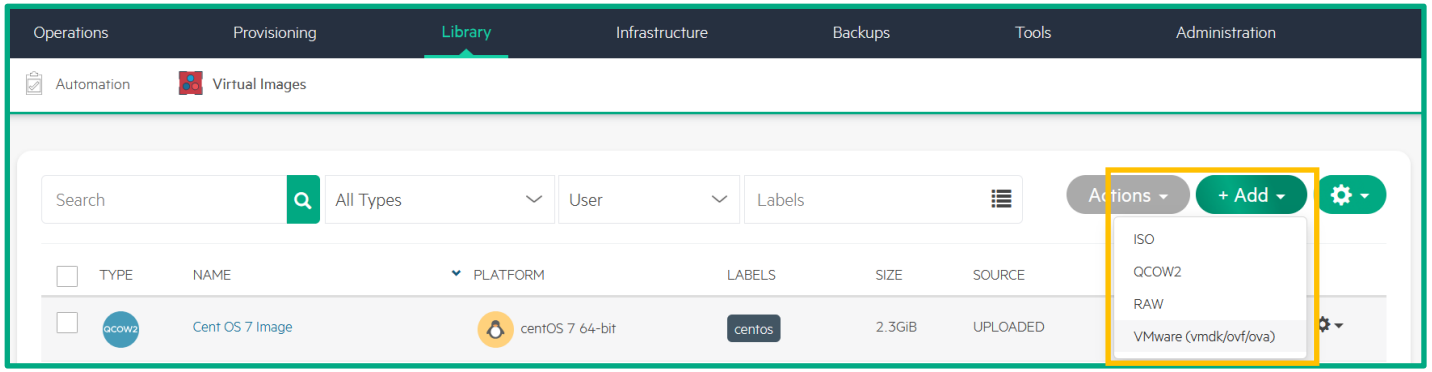
VMware VMs can be deployed from:

1. vSphere Content Libraries
2. VM Essentials **Virtual Images** library

VMware-compatible image types:

1. ISO – for installing VM OS upon VM deployment
2. VMDK – standard VMware virtual disk format
3. OVA / OVF – open standard format for VMs

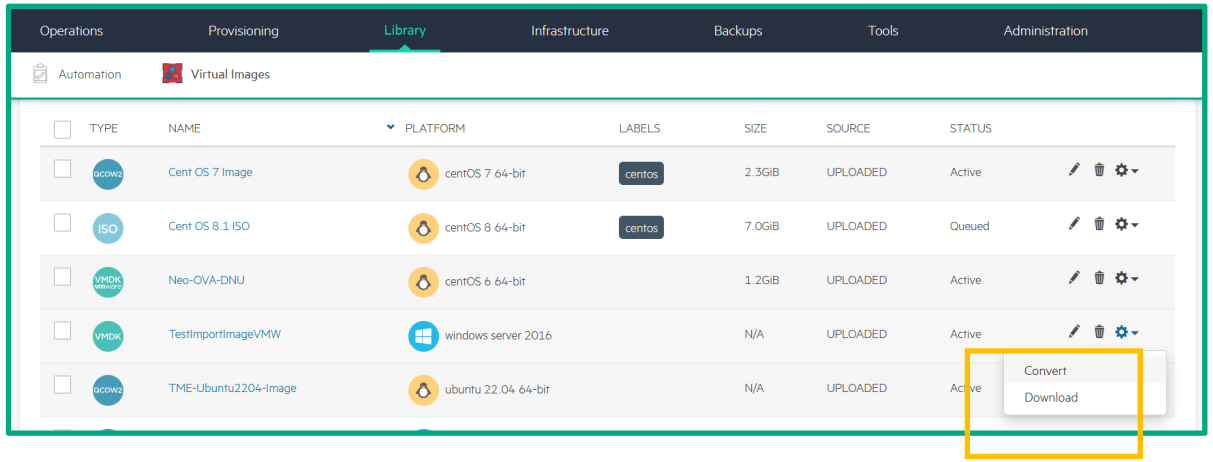


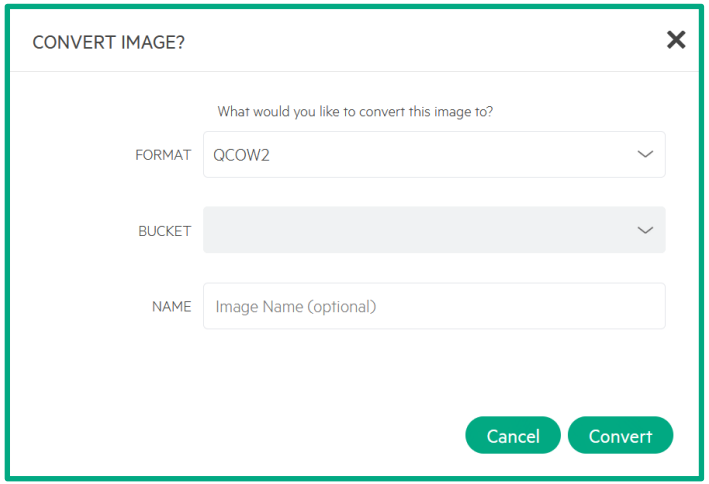


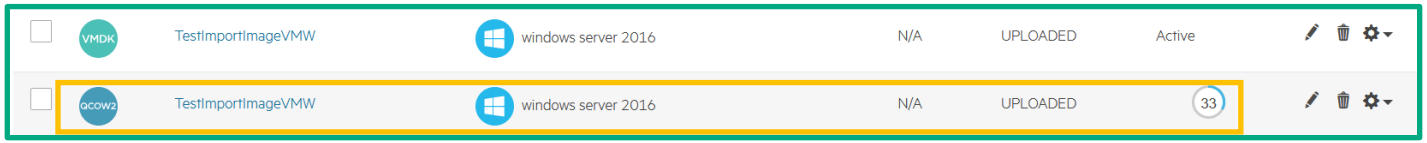
VMware to VM Essentials Image Conversion

- Built into VME is the capability to convert VMware virtual machine images that are in the VME `Virtual Image` library to QCOW2 images
- This allows conversion of VMware assets into VME-compatible assets

- NOTE: when deploying Windows VMs, ensure that the **virtio drivers** option is selected, to ensure proper function of VM disks and networking







Guest OS Support

- **KVM does not support all guest OS's outside of Linux, while VMware does**

  KVM supports hardware-assisted virtualization for a wide variety of guest operating systems including

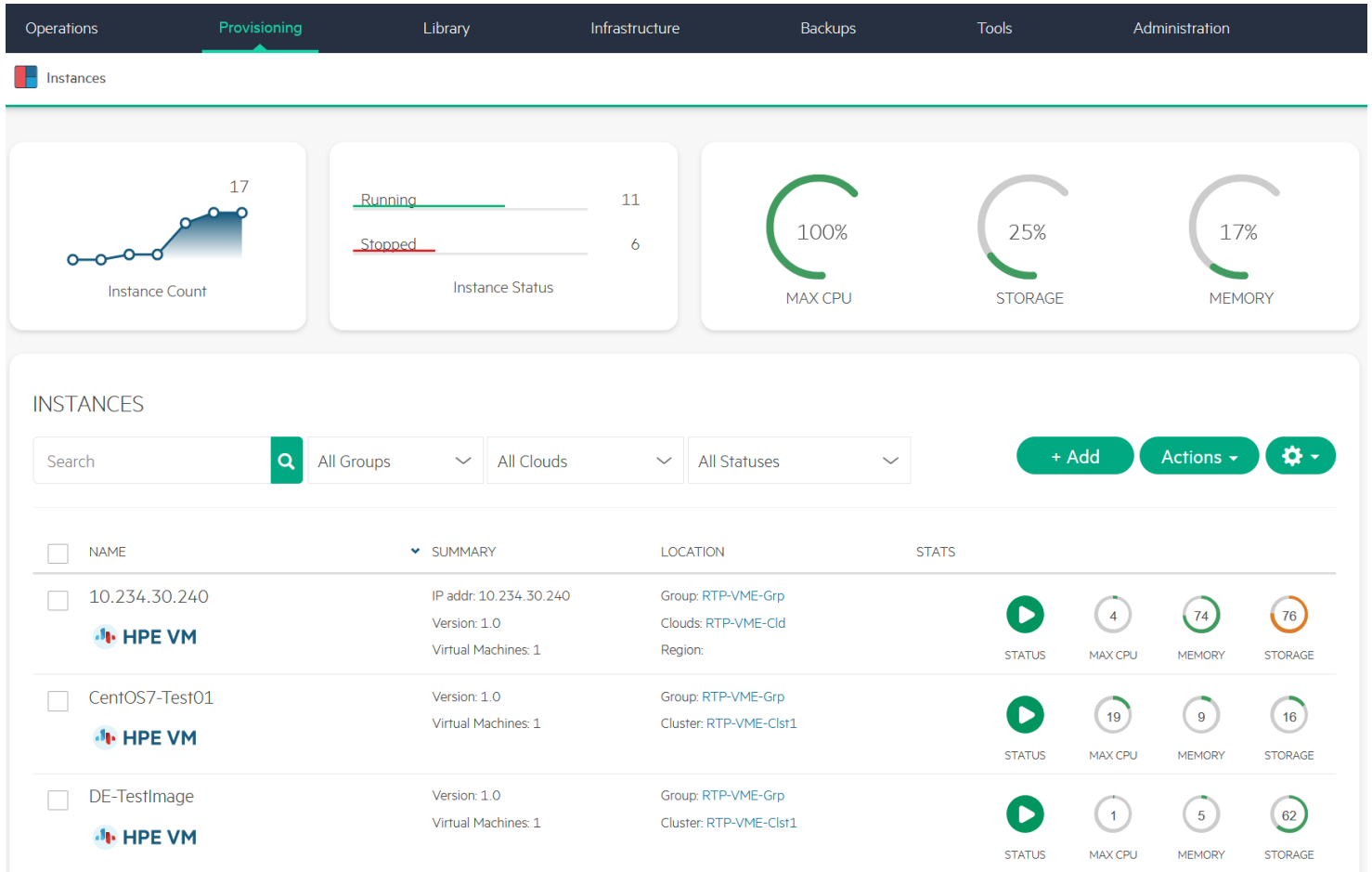
  - BSD,
  - Solaris,
  - Windows,
  - Haiku,
  - ReactOS,
  - Plan 9,
  - AROS,
  - macOS,
  - and even other Linux systems.
  - HPE Morpheus VM Essentials plans to support most of the guest operating systems.

https://www.youtube.com/watch?v=TH5_-BxA68o

Virtual Machine Management

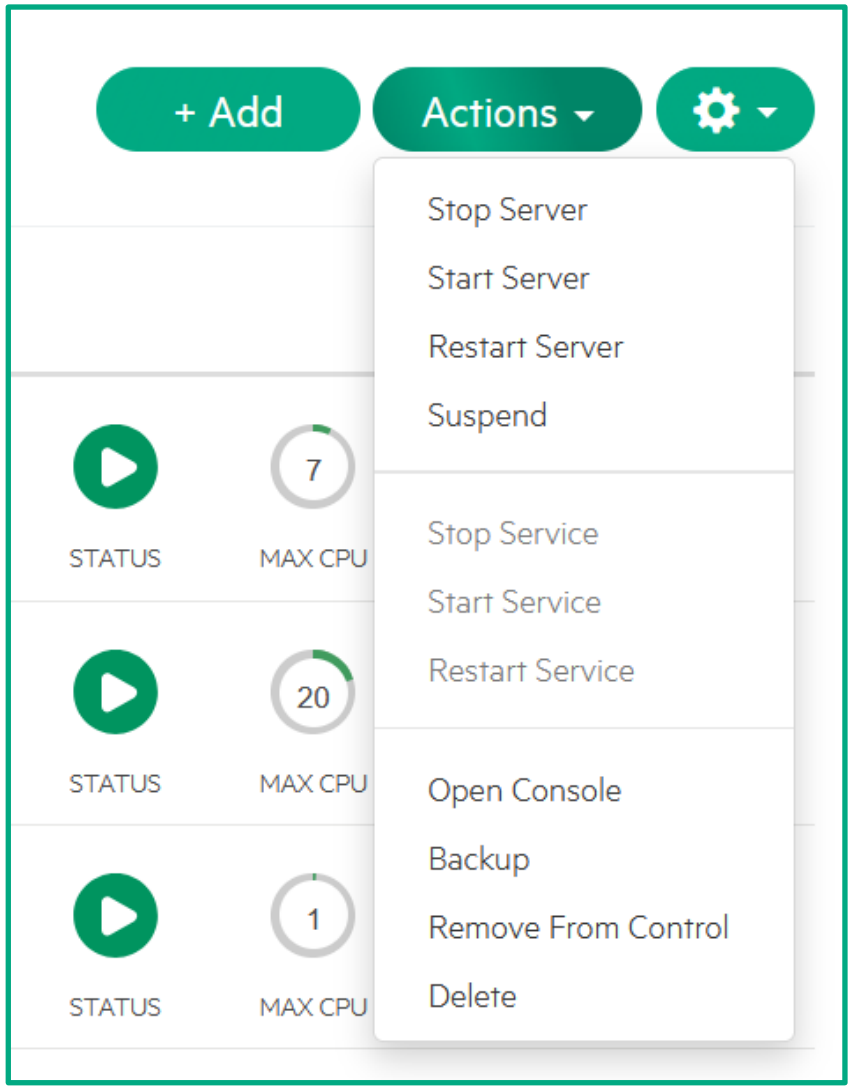
Virtual Machine Management

- Primary dashboard for VM management is `Provisioning -> Instances`
- An instance is not a VM, but contains one or more VMs that would correlate to a single horizontally scalable entity
- The VMs within an instance will be deployed from the same image
- Actions can be performed at the instance or individual VM level



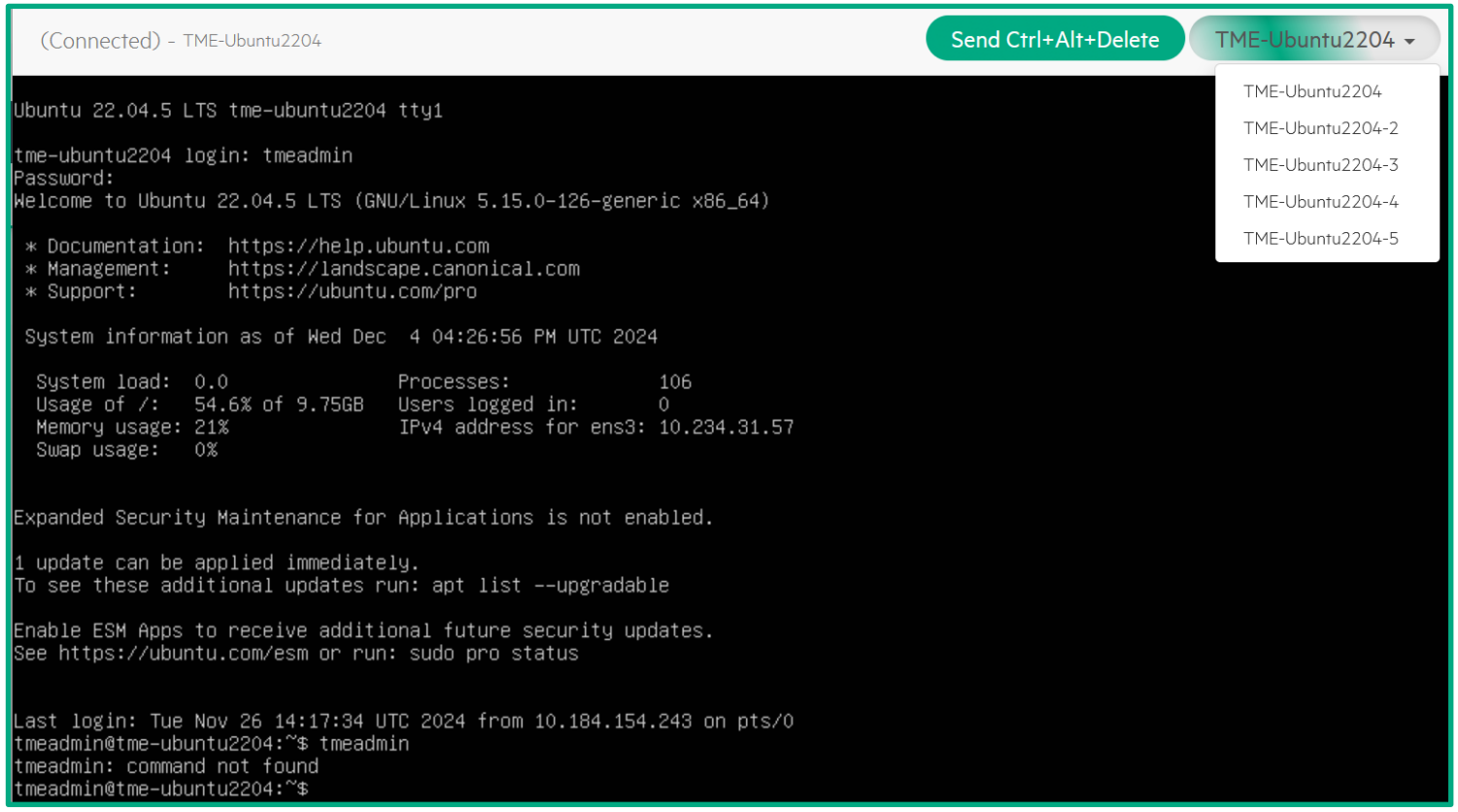
Instance Main Page Actions

- From the main `Provisioning -> Instance` page, actions can be performed against one or more instances
- Actions performed against the instance are performed on any virtual machines associated with the instance:
  - Power operations
  - Open console
  - Backup initiation
  - Deletion
- `Open Console` performed at the `Instance` level will open a console to the first VM by default



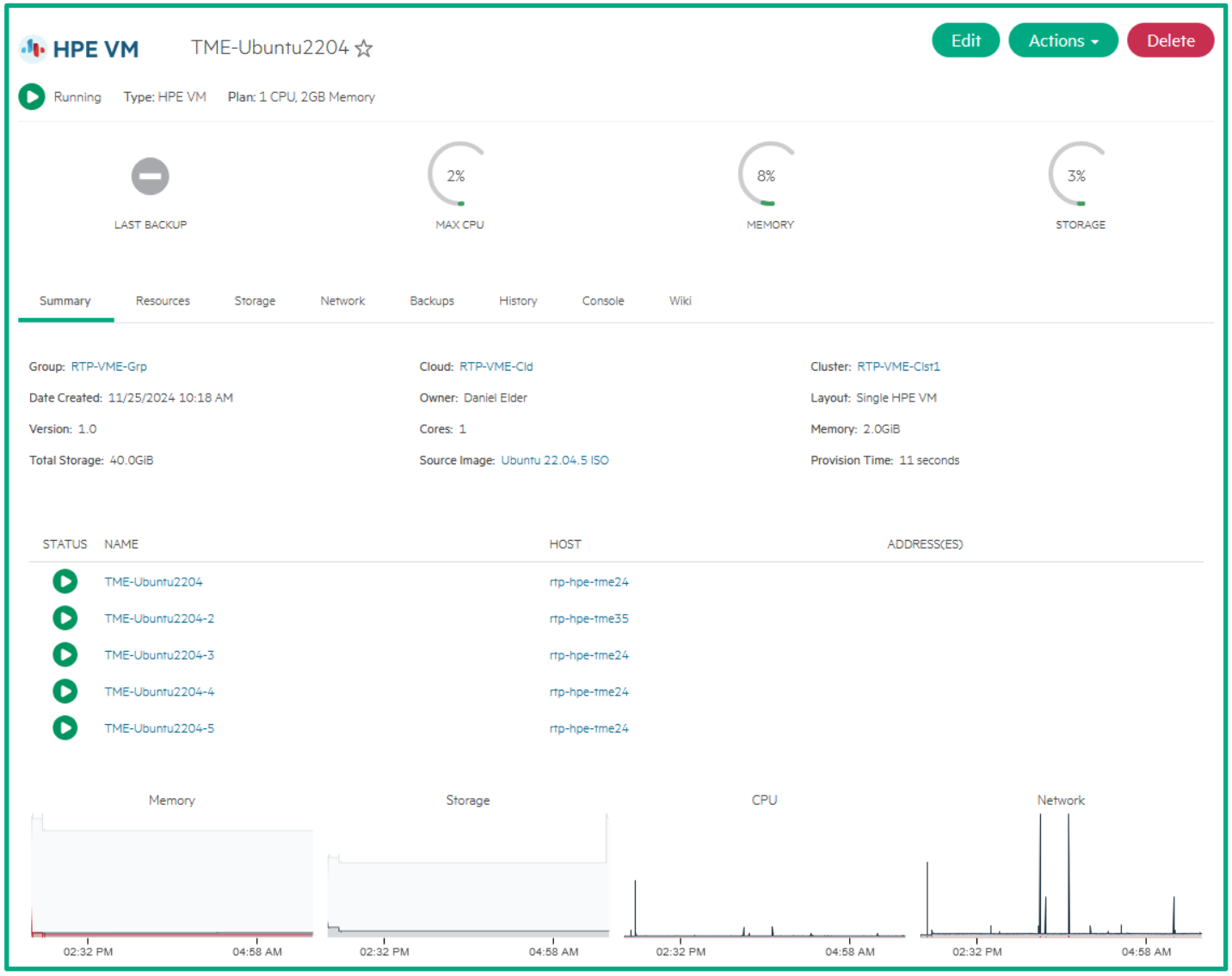
Instance-level Console Behavior

- If the console is opened at the instance level, by default, the first VM listed is connected
- The specific VM can be selected in the upper right drop down
- VMs can also be accessed via typical SSH / RDP methods



Instance Internal Dashboard

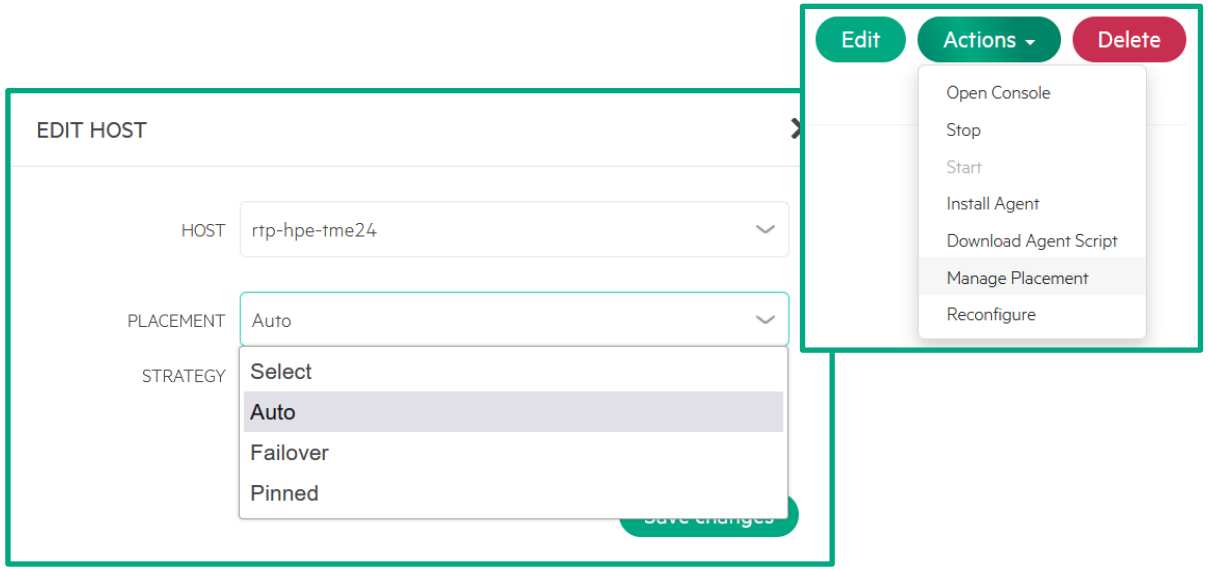
- Displays configuration and usage information of the instance:
  - CPU, memory, and storage utilization
  - Backup status
  - Summary
  - Resources – VMs running in instance
  - Storage – VM disks
  - Network – VM network interfaces
  - Backups – VM backups and snapshots
  - History – actions performed on the instance or VMs
  - Console
  - Wiki

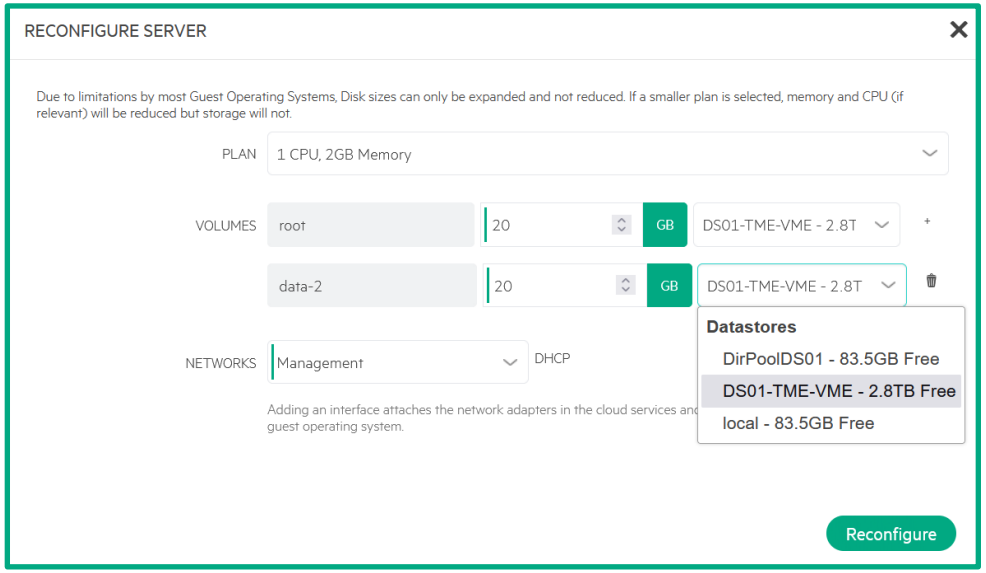


VM Placement And Migration

- When a VM is deployed, a host can be explicitly defined or left to VME manager to determine best placement
- Compute placement can be modified through the `Manage Placement` action
- The host the VM is running on can be changed by selecting a new host in the drop down
- Placement strategy defines how placement is handled:
  - `Auto` – VME will automatically migrate VM based on host workload or host failure
  - `Failover` – VM will remain on selected host until a host failure
  - `Pinned` – VM remains on selected host and will not migrate
- The datastore where the VM resides can be changed through the `Reconfigure` action and can be selected at the individual volume:
  - Changing this will migrate the data from one datastore to another

Note that for proper failover handling and resiliency, the VMs should be on shared storage





https://www.youtube.com/watch?v=JnUdM_-Xxvc

Features Comparison

HPE VM Essentials Solution Features

Multi-hypervisor support

HPE VM Essentials enables simple provisioning and management of HPE VM Essentials and VMware virtual machines

Centralized identity & single sign-on (SSO)

Enables external user authentication using Active Directory (AD) or LDAP. Optional SSO with Okta, OneLogin, Azure AD, or other SAML-enabled providers

IPAM integration

Integrate with external IP address management providers (Infoblox, phpIPAM, BlueCat) to automate the reservation of an IP address for the VM during the provisioning process

DNS integration

Integrate with external DNS providers (Infoblox, Microsoft DNS, BlueCat) to automate the creation of DNS records for a VM during the provisioning process

Provisioning automation

Execute Bash or PowerShell scripts during VM provisioning, to automate system bootstrapping operations

Day 2 automation

HPE VM Essentials supports the execution of Bash and PowerShell scripts on provisioned and discovered VMs

Secrets management

Securely store and retrieve secrets from the native secrets manager for use with the solution's task automation feature

HTML 5 virtual machine console

Access the dashboard of HPE VM Essentials and VMware virtual machines via the HTML 5 console

HPE VM Essentials Hypervisor Features

HPE-validated hardware

The HPE VM Essentials hypervisor will be validated on HPE servers to deliver an optimal experience and provide hardware compatibility assurance

Dynamic workload scheduler

Dynamically schedule the placement of HPE VM Essentials virtual machines within a cluster, based upon optimal workload distribution across the cluster

VM live migration

Migrate a running HPE VM Essentials virtual machine from one host to another within the same cluster with zero downtime

Storage migration

Migrate the virtual disks of a running HPE VM Essentials virtual machine from one storage datastore to another with zero downtime

VM high availability

Automatically restart HPE VM Essentials virtual machines on another host in the same cluster in the event of an unexpected host failure within the cluster

VMware VM conversion

Convert existing VMware virtual machines to the HPE VM Essentials hypervisor using the native conversion feature within the HPE VM Essentials solution

HPE VM Essentials Hypervisor Features

Virtual machine snapshots

Create and revert snapshots for HPE VM Essentials virtual machines

Native data protection

Backup and restore HPE VM Essentials virtual machines using the solution's native data protection feature

External storage support

The HPE VM Essentials hypervisor supports running virtual machines on external storage via iSCSI, NFS, and Fibre Channel

HPE Alletra Storage MP integration

HPE VM Essentials includes an integration with the HPE Alletra Storage MP B10000 storage array, that enables HPE VM Essentials virtual machines to natively reference the Alletra MP storage for their storage (1:1 VM-to-disk mapping)

HPE Alletra Storage MP array-based snapshots

The Alletra MP storage integration provides the ability to create and revert array-based snapshots for HPE VM Essentials virtual machines through the HPE VM Essentials UI

Features Comparison

Feature	vSphere Standard	vSphere Enterprise Plus	vSphere Foundation	HPE VM Essentials
Life Cycle Management	Yes	Yes	Yes	Yes - HPE Private Cloud Business Edition
Content Library	Yes	Yes	Yes	Yes
Distributed Switch	No	Yes	Yes	Yes
Virtual Volume	Yes	Yes	Yes	Yes, w/ HPE Alletra Storage MP B10000
Identity Federation	Yes	Yes	Yes	Yes
TLS 1.2 and 1.3	Yes	Yes	Yes	Yes
TPM 2.0	Yes	Yes	Yes	No
Virtual TPM	Yes	Yes	Yes	No
VM encryption	Yes	Yes	Yes	Yes, w/ HPE Alletra Storage MP B10000
SSO and Identity Broker	No	No	Yes	Yes
Key Provider	Yes	Yes	Yes	No
vSMP	Yes	Yes	Yes	Yes
HA	Yes	Yes	Yes	Yes
FT	Yes	Yes	Yes	No

This is not intended to be an exhaustive feature comparison.
The features discussed are a comparison of equivalent features. The exact implementation of the features can vary between the products.
For most current features, refer to HPE VM Essentials Quickspecs and release notes

Features Comparison

Feature	vSphere Standard	vSphere Enterprise Plus	vSphere Foundation	HPE VM Essentials
Distributed Resource Scheduler	No	Yes	Yes	Yes
Storage DRS	No	Yes	Yes	No
Distributed Power Management	No	Yes	Yes	No
Storage Policy-based Management	Yes	Yes	Yes	No
SR-IOV	No	Yes	Yes	No
vMotion	Yes	Yes	Yes	Yes
Storage vMotion	Yes	Yes	Yes	Yes
vSphere Replication	Yes	Yes	Yes	Yes, w/ HPE Alletra Storage MP B10000
Support for 4K Native Storage	Yes	Yes	Yes	Yes
vCenter HA (auto-restart)	Yes	Yes	Yes	Yes
vCenter Backup and Restore	Yes	Yes	Yes	Yes
IPAM integration	Yes	Yes	Yes	Yes
DNS integration	Yes	Yes	Yes	Yes
MetroCluster	No	Yes	Yes	No

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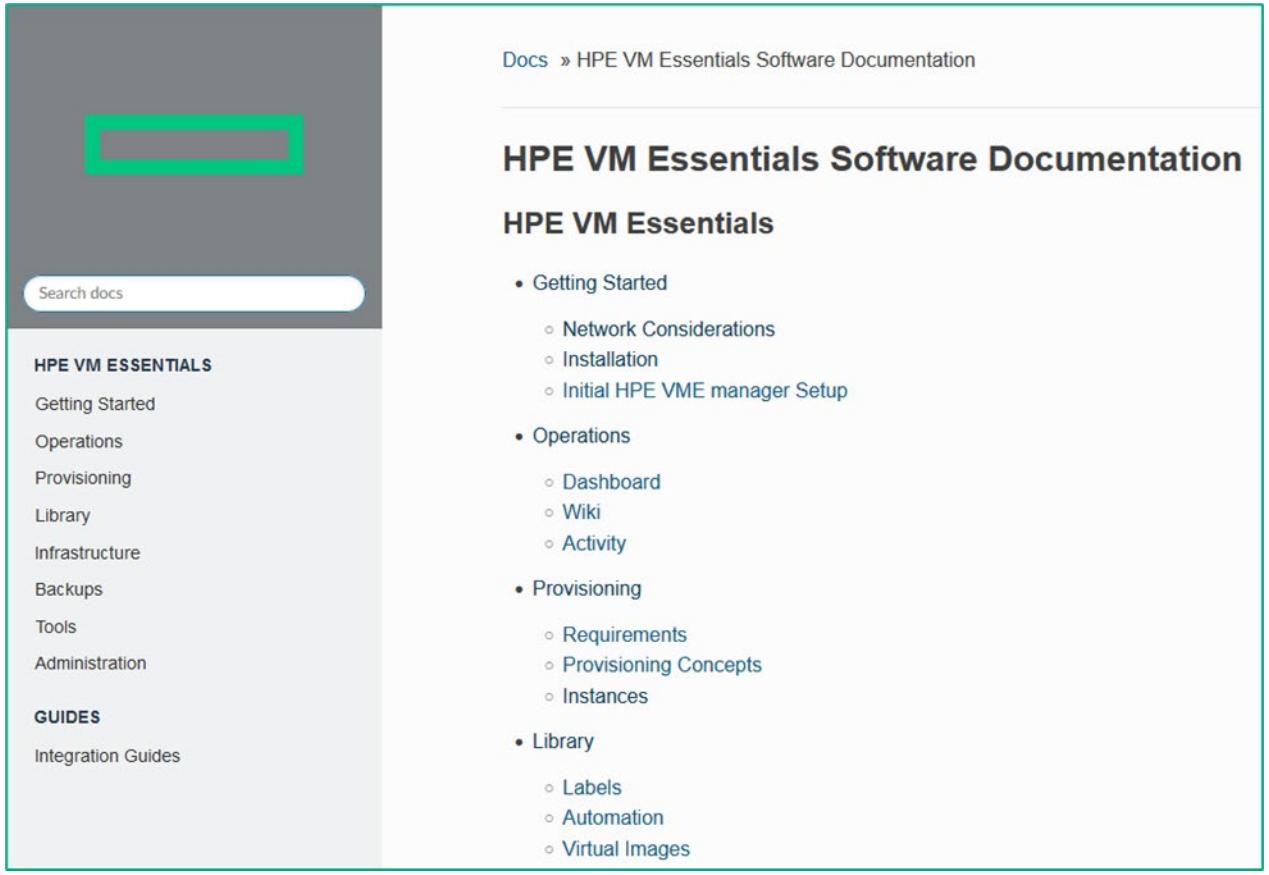
https://www.youtube.com/watch?v=BdeOek_A0kU

Resources

- HPE VM Essentials Software documentation
- FAQ - HPE VM Essentials Software
- Solution brief - HPE VM Essentials Software and hybrid cloud operations powered by Morpheus
- Customer presentation - HPE VM Essentials
- Competitive positioning - HPE VM Essentials competitive battlecard
- Video - HPE VM Essentials product demo
- Video - HPE VM Essentials customer value proposition
- Reference Architecture – VME
- Primary product documentation
- VME Blog
- Quick Specs Guide



Hewlett Packard Enterprise

HPE Compute Ops Management

Transforming compute management across distributed environments

What Challenges Are Keeping You Working Nights And Weekends?

Infrastructure & Security

Downtime due to server issues

59.7%

Inability to remotely access servers

50.4%

Inability to update firmware and security patches quickly

41.2%

Efficiency & Time to Market

Time-consuming and expensive process to get staff to edge locations

57.5%

Server issues delaying development and deployment of new apps

46.5%

Resources & Budget

Limited IT resources (time, money)

58.8%

Difficult to budget for scale and growth

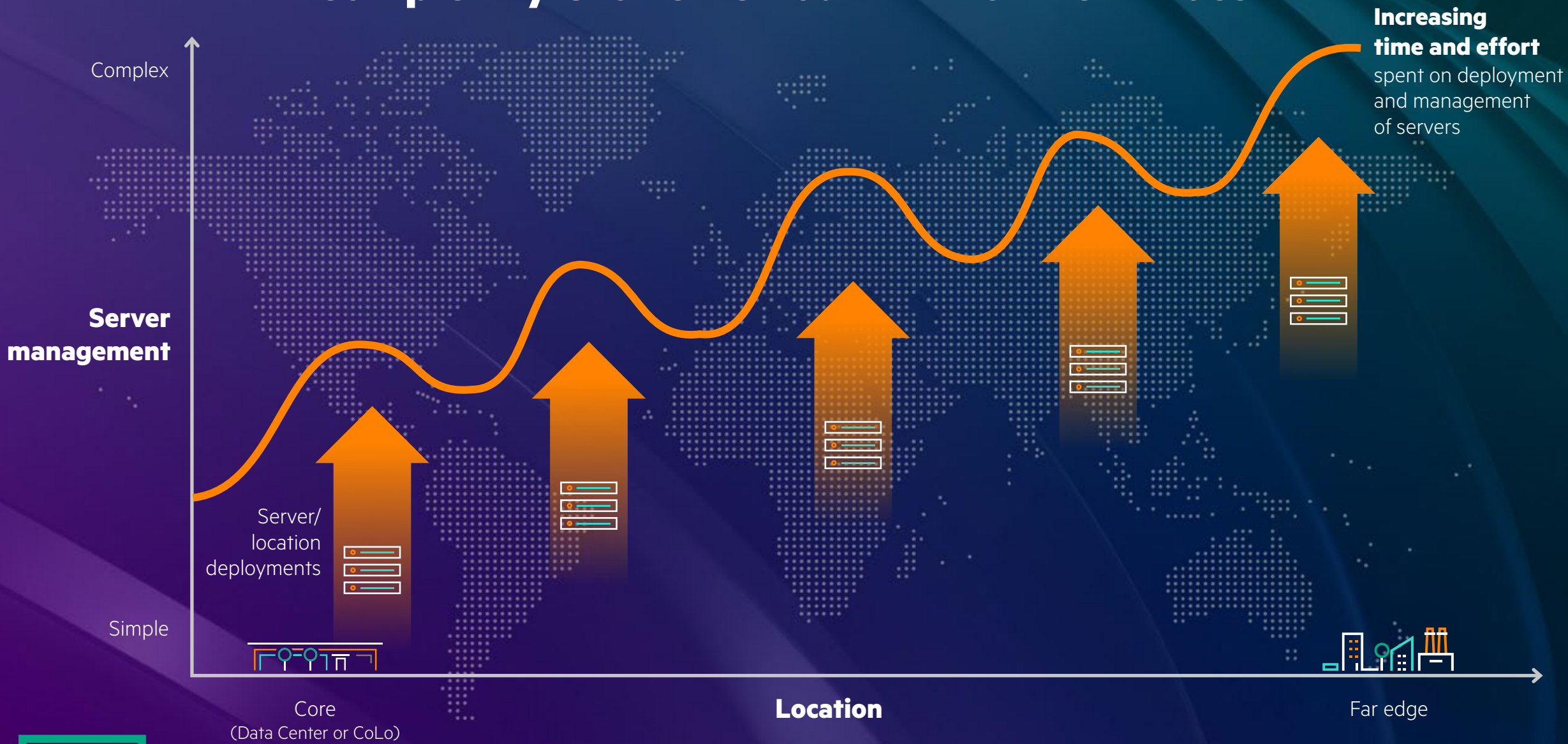
47.8%

Lack of centralized tool for management

32.3%

Source: A commissioned study by Forrester Research on behalf of HPE, April 2024

Complexity Grows As Your Environment Does



Managing Your Compute Environment

No matter where your compute lives…Manage everywhere from anywhere!

HPE Compute Ops Management

Cloud-based compute management for the distributed enterprise

Secure

server access, monitoring, and management reduces exposure to security risks and compliance issues

Automate

tasks for efficiency, reduce manual effort in deployment, and achieve seamless, simplified management

Up to **75%**
less time spent managing servers[2]

Up to **4.8 hours**
less downtime per server per year[2]

Up to **$152K**
travel and software costs saved over 3 years[2]

2 A commissioned study conducted by Forrester Research, New Technology: The Projected Total Economic Impact™ of HPE Compute Ops Management, June 2024. Results are for a composite organization.

https://www.youtube.com/watch?v=HNk0oDt2B4A

Secure

Gain an intuitive management experience for your infrastructure without sacrificing data privacy

Secure connectivity, end-to-end

Experience secure authentication from the cloud platform to the individual server level with data encryption

Improved risk management

Visibility of security status and granular control over iLO security settings and configurations empowers you to prioritize risks

Centralized security management

Avoid exposing servers to security vulnerabilities, data breaches, and compliance violations with access consolidation through a secure gateway

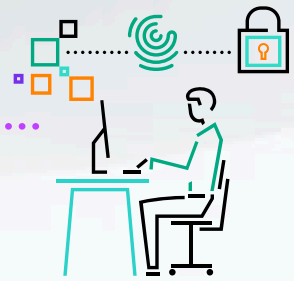
Shared security responsibilities

A shared security model allows customers to ensure security practices of their on-premises devices and connections to HPE GreenLake cloud

Security At Every Level

End-to-end security approach makes a difference

HPE protection layers		Customer benefits
HPE Compute Ops Management	Application	Secure device connections to Compute Ops Management and HPE GreenLake cloud are authenticated every time
	Role/User	Role-based access controls ensure authenticated, governed, and auditable user access at all levels
HPE GreenLake cloud	Platform	Streamlined single URL, SSO and comprehensive subscription management simplify access and administration
	Connectivity	Secure, authenticated and encrypted connection from device to HPE GreenLake cloud and Compute Ops Management give you full control of your environment
Device	Device authentication	HPE devices are secured and authenticated from factory to customer site ensuring end to end protection



Enhance Data Center Security With A Secure Gateway

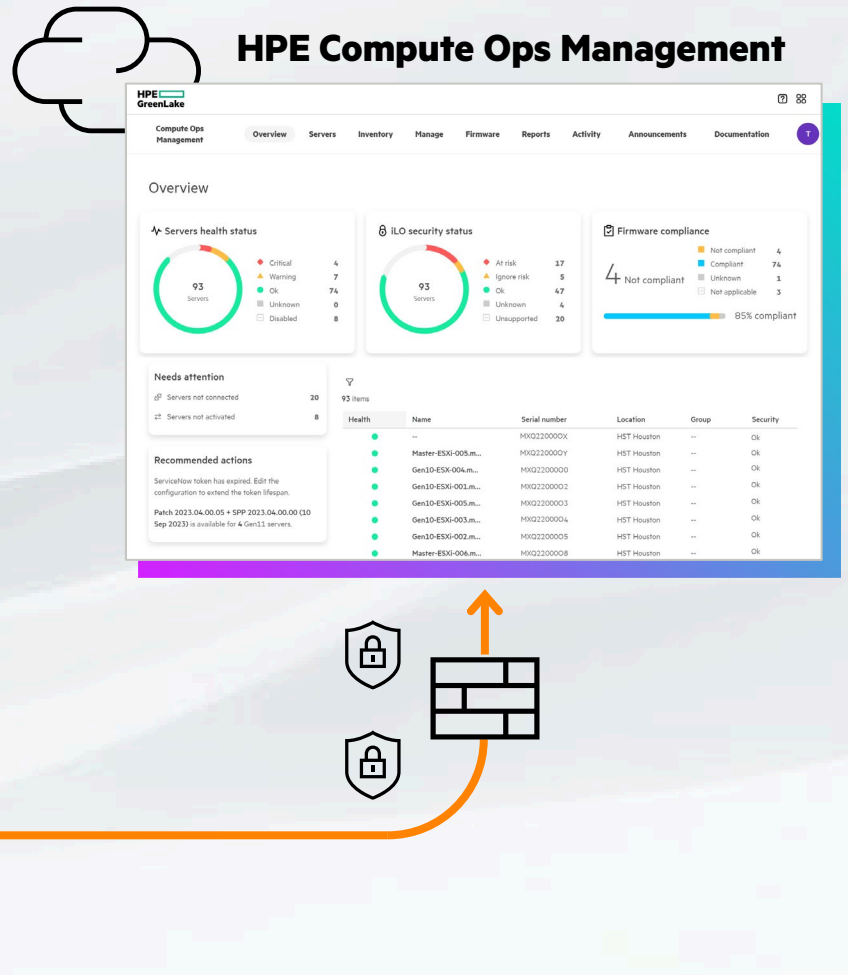
Avoid exposing servers to security vulnerabilities, data breaches, and compliance violations

Centralize security management by routing all iLO traffic through a secure gateway, simplifying administration

Reduce risk of exposed entry and attack points by external threats to individual servers

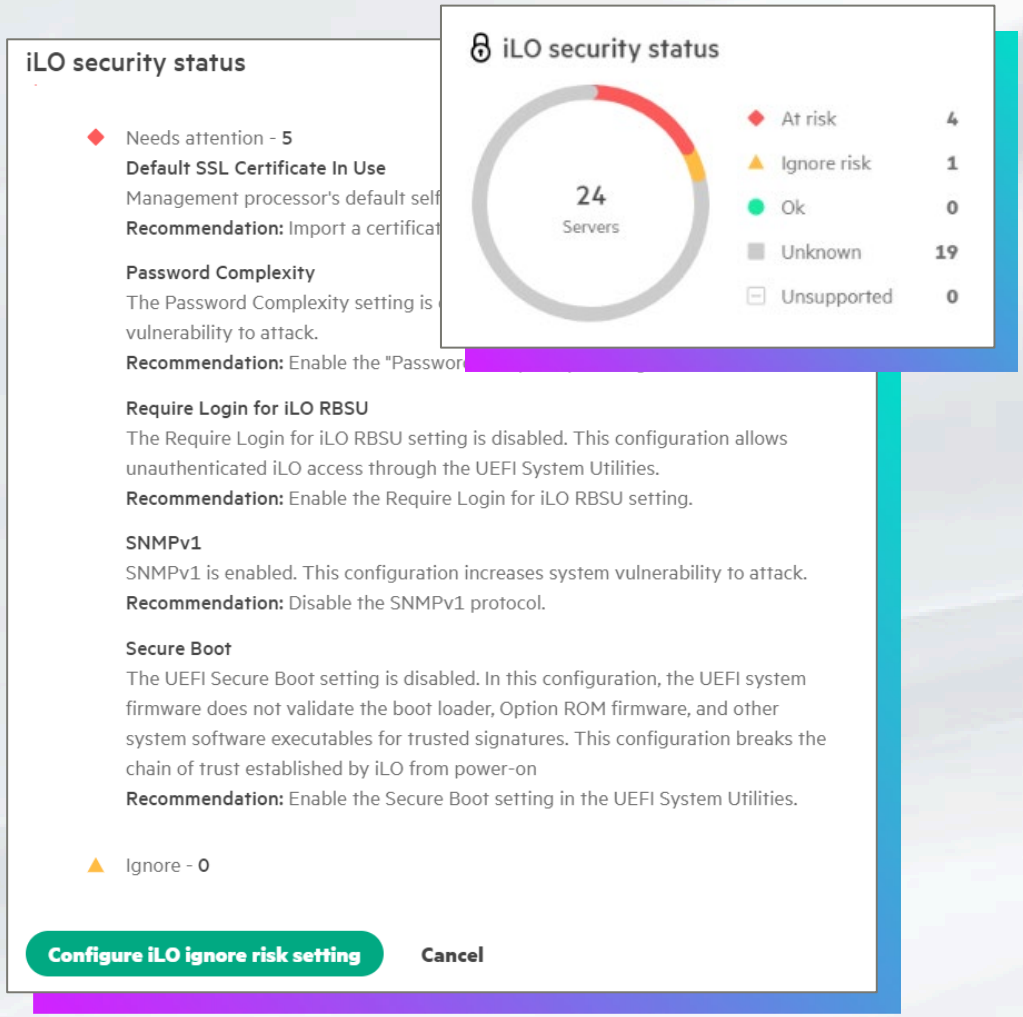
Improve bandwidth efficiency and reduce network strain by streamlining iLO traffic

Reduce update time with firmware caching feature



Improved Risk Management

HPE iLO Security Risk Monitoring



Gain visibility, Save time, Reduce risk

Benefit from configuration consistency and granular control over HPE iLO security settings

Fully manage HPE iLO security dashboard settings from within Compute Ops Management

- No need to log in to each server
- Provide consistent configurations across servers
- Configure groups of servers in minutes
- Quickly address critical settings such as Secure Boot or Firmware Integrity
- Easily evaluate servers that do not comply with best practices
- Ignore dashboard settings as determined to allow for company policies that differ across devices/locations

Security Certifications & Best Practices

HPE Compute Ops Management

SOC2 Type 1 certified

Support for servers running in FIPS mode

Supports mTLS 1.2 & 1.3 secure connection

Adheres to the Secure Software Development Framework (SSDF)

All connections originate from the Server

A quick overview of security certifications and best practices. More information on these can be found in the Compute Ops Management security guide, here: https://www.hpe.com/psnow/doc/a50004539enw

HPE Proliant Is Secure By Design—Throughout The Lifecycle

1

Design and build

Security is ingrained—
from the factory to your facility
with built-in server security

2

Secure operations

Securely manage your fleet of
servers using MFA, SSO, encryption,
RBAC, auditing and privacy controls

3

End of life

Retire legacy servers with simple,
safeguard removal of passwords,
configuration settings, and data

Automate

Reduce manual efforts and gain support efficiencies

Keep systems consistent

Maintain governance with policy driven automaton controls and compliance tracking

Update servers faster and easier

Intelligent delta-based downloads for server and iLO firmware updates save time and effort

Manage and maintain at scale

REST APIs update servers with bulk scripted actions and set policy-based firmware compliance baselines

Speed time to resolution

Receive instant notifications of critical issues, use webhooks to create event triggers, and automate support case creation for hardware failures

Get Up And Running Quickly

Streamlined server configuration and deployment process in 3 easy steps:

1 Initial server startup

Activation assistance & connection

- To Start: Use token-based on-boarding into Compute Ops Management from iLO UI
- For follow-on systems with same token: Can use an automation script for token to on-board servers at scale

2 Establish policies

Create a server group

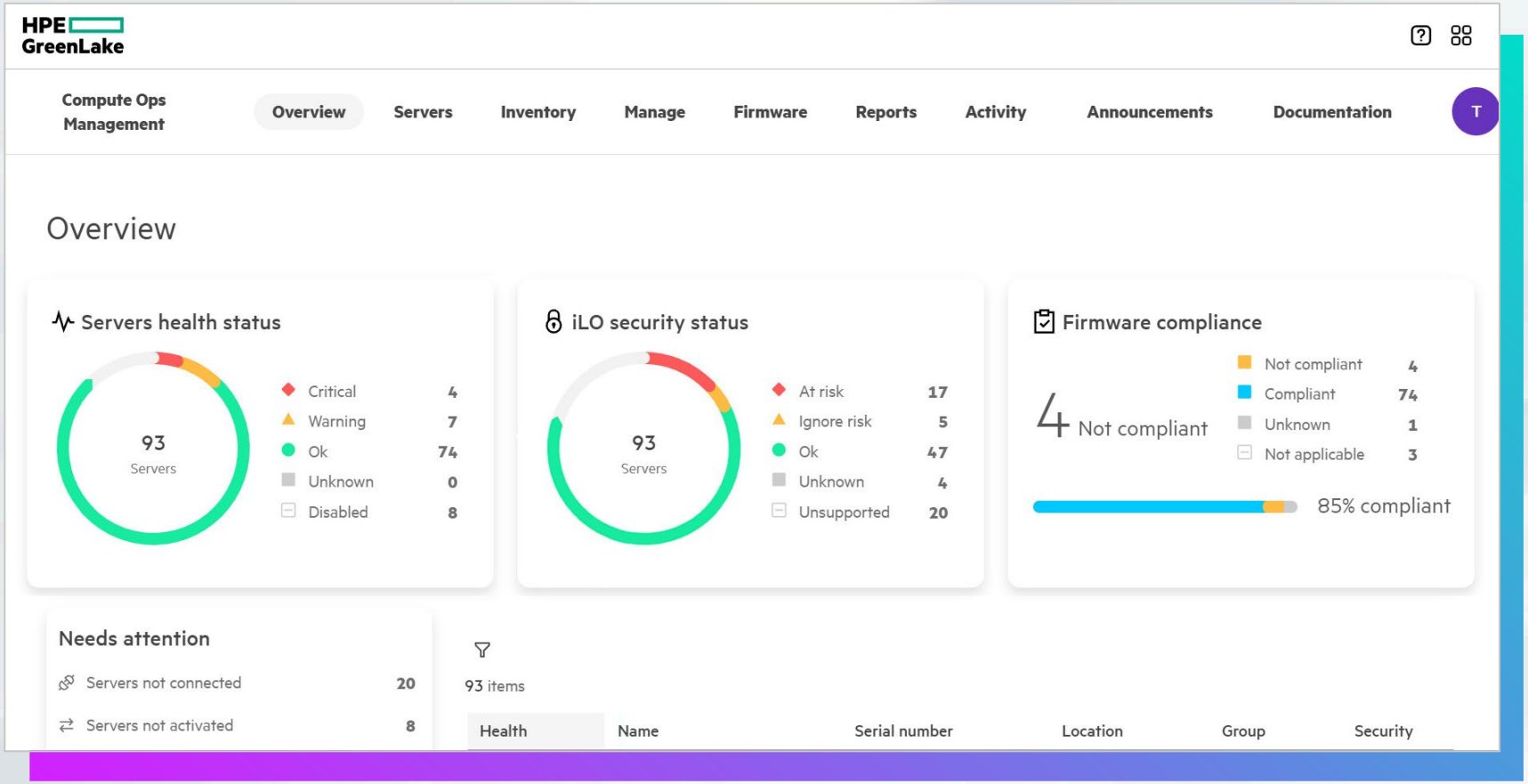
Set configuration policies for:

- Server workload profile
- OS deployment settings
- Firmware baseline
- Internal storage controller
- iLO security

3 Assign servers to group

Servers automatically assume policies and configs of assigned group

Monitor Environment Remotely Through Cloud-based Console



View health levels, security status, and firmware compliance of all servers across edge and data center locations

Key Automations And Integrations

Automations

Email alerts
Set up email notifications for critical hardware alerts

Automatic HPE support case creation
Enables faster resolution of critical issues and reduces the risk of unplanned outages

Tag-based server provisioning
Assign compute device tags to enable group policies for configurations, OS installs, BIOS settings and more

Automatic iLO firmware upgrades
Keep firmware up to date to support new features; without service disruption

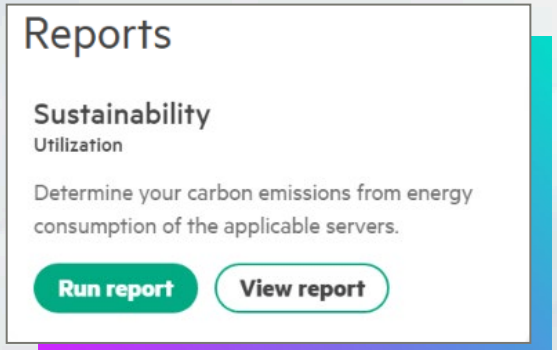
Integrations

ServiceNow integration
Enables automatic creation of a ServiceNow incident ticket when iLO notifies Compute Ops Management that a hardware-related service event occurred

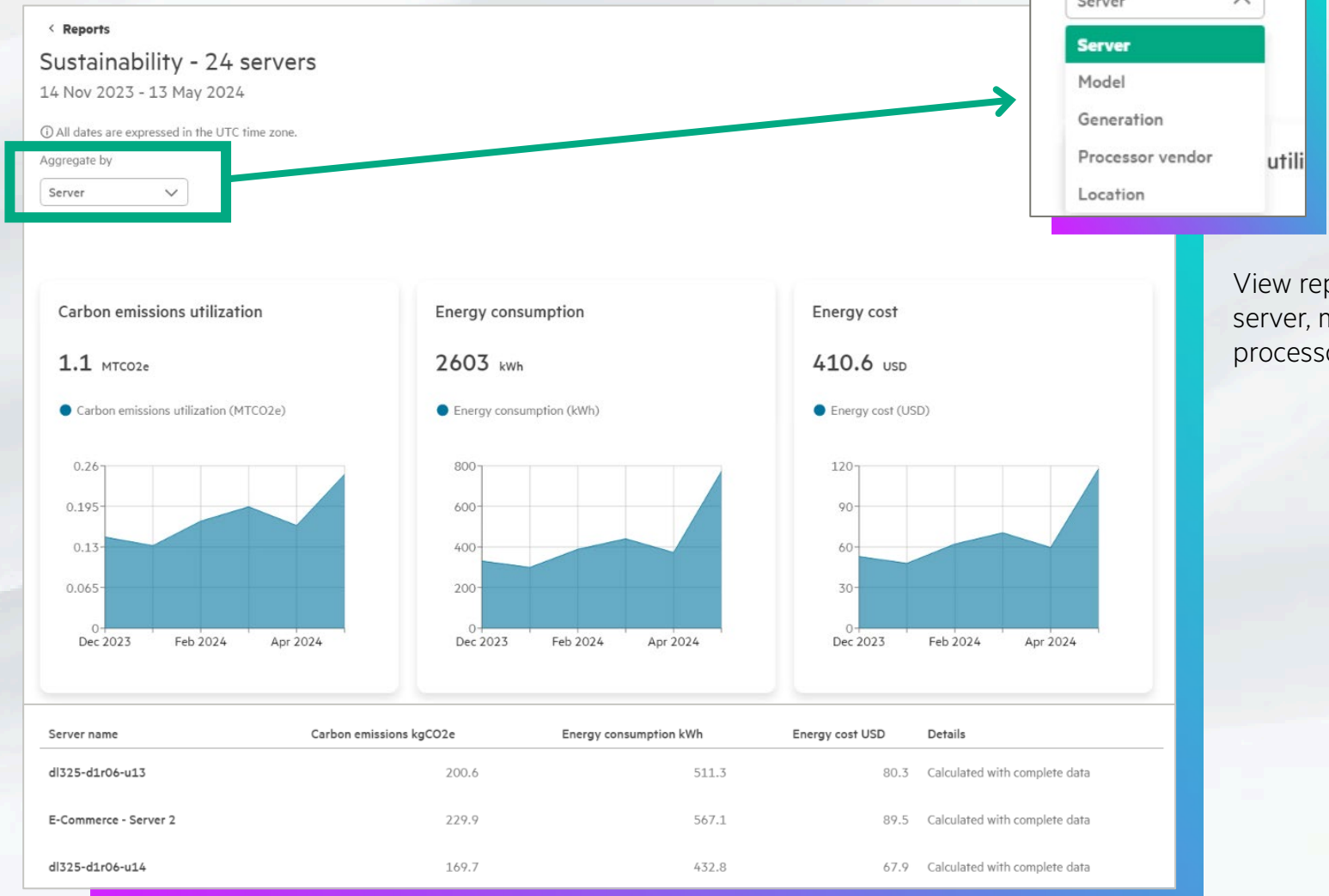
VMware lifecycle management HSM integration
Allows for seamless updating of firmware and drivers on HPE ProLiant servers managed through VMware vCenter

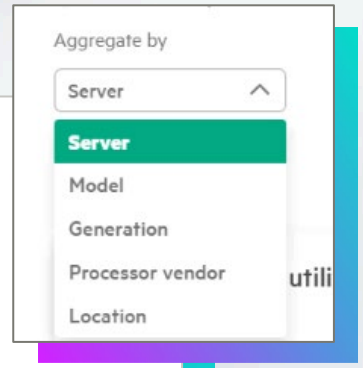
Webhooks integration
Enables automatic event triggering from connected apps that notify other tools and services of the event and initiates pre-defined task operations

Insights Supporting Your Sustainability Initiatives



Run the report for specified timeframes up to 6 months

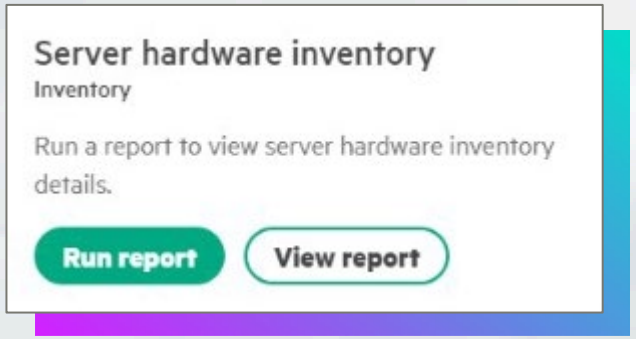




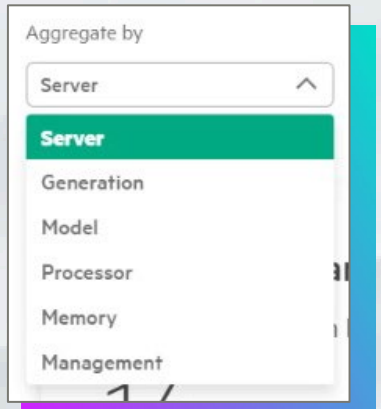
View report by individual server, model, generation, processor vendor or location

View carbon emissions, energy consumption and energy costs for all servers

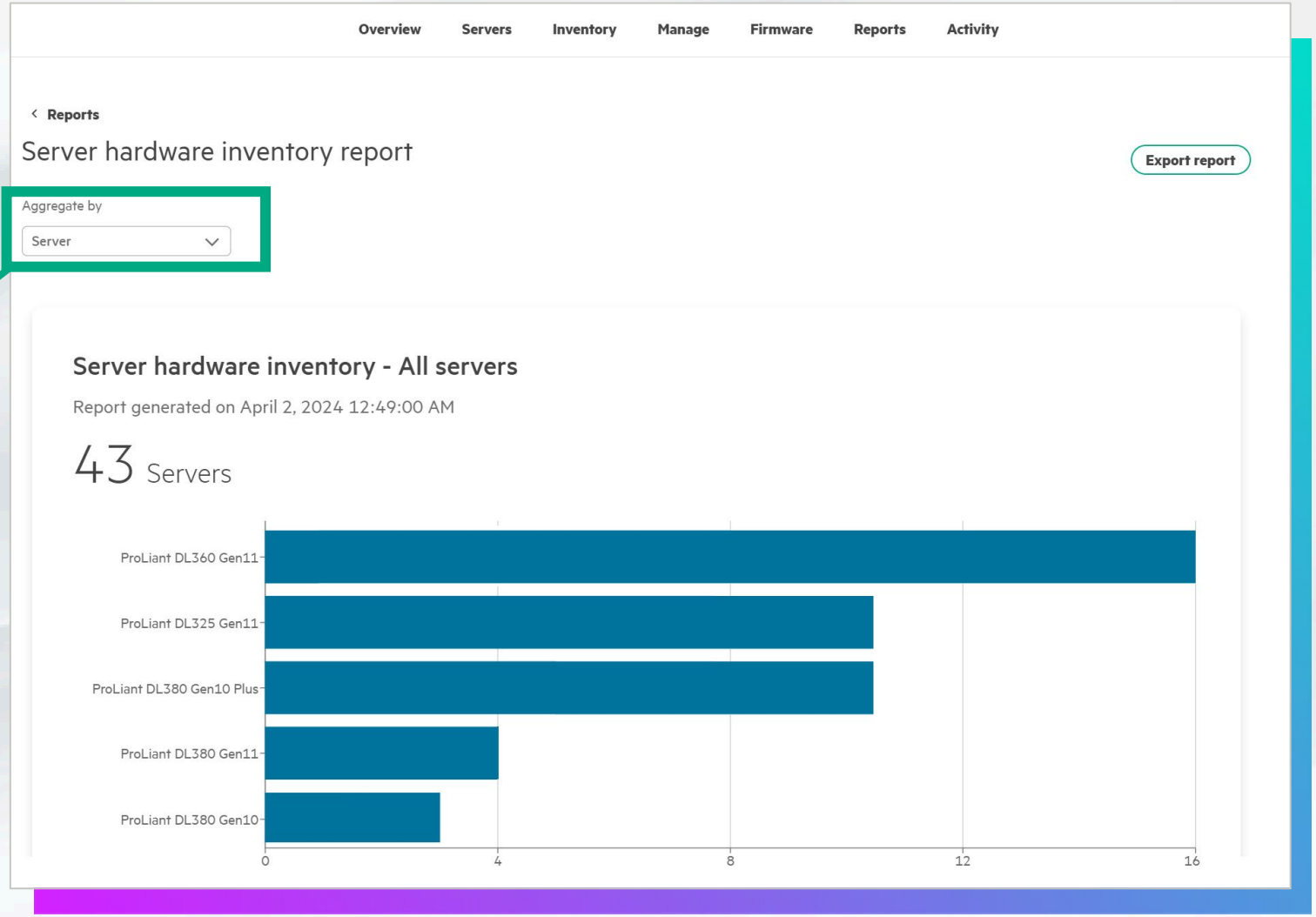
Inventory Reports



Run the report for all servers connected to Compute Ops Management



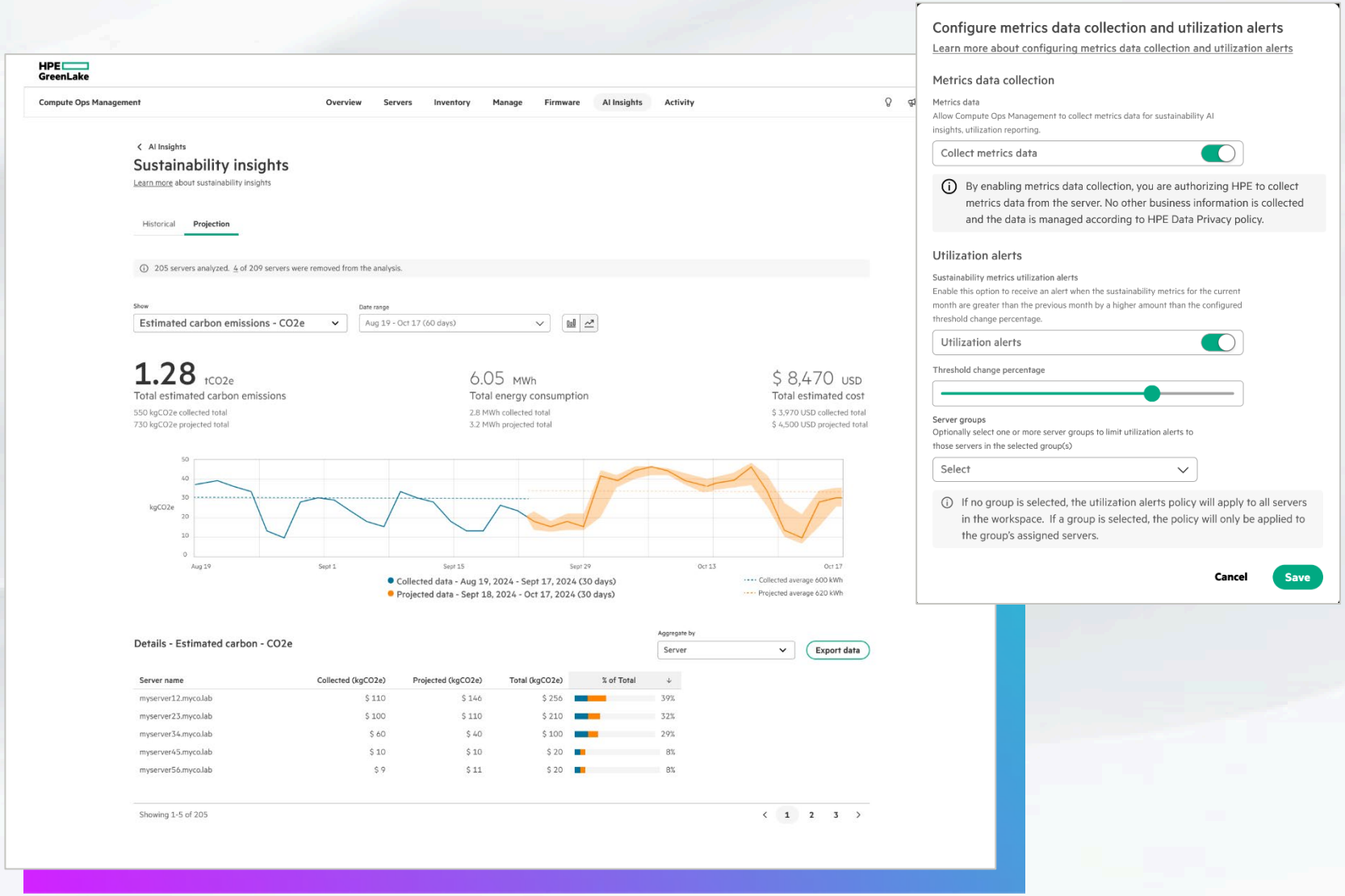
View report by individual server, generation, model, processor vendor, installed memory, or iLO management



Predictive AI Insights To Forecast Future Energy Costs And Carbon Emissions With Confidence.

Leverage predictive AI insights to forecast future energy costs and carbon emissions with confidence.

Use threshold-based alerting to stay informed with timely alerts when critical energy and carbon limits are reached, allowing for decisive actions when it matters most.



Reduce Time Managing Remote Servers Up To 75%[2]

Firmware & OS driver updates, including security patches

Update faster

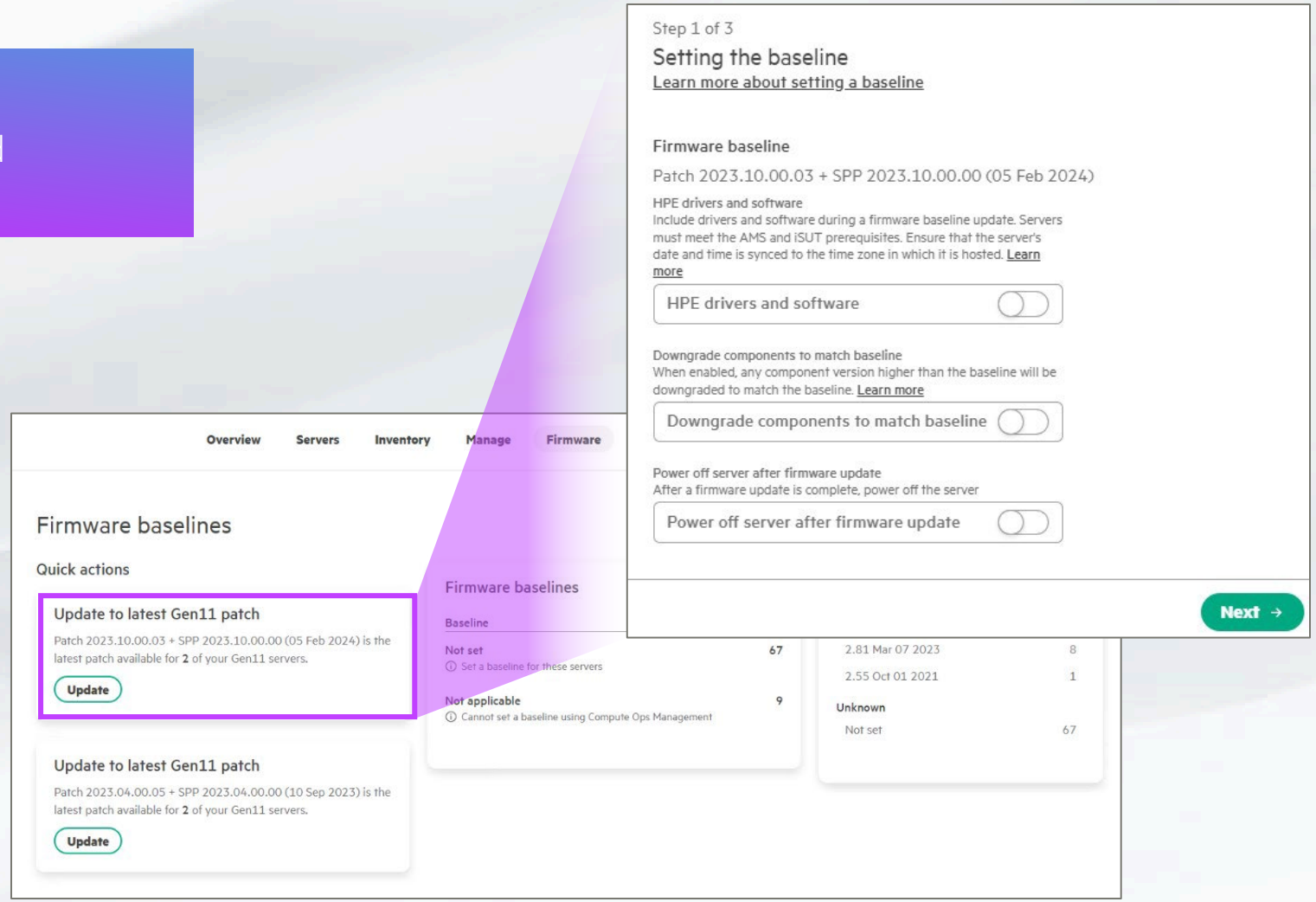
Intelligent delta-based downloads for server and iLO firmware updates save time and effort

Set firmware baselines and compliance

Get notifications and process updates in a few clicks when something needs to be addressed

vCenter integration unifies actions within VMware operations

Improved latency for edge sites reduces communication timeouts



2 A commissioned study conducted by Forrester Research, New Technology: The Projected Total Economic Impact™ of HPE Compute Ops Management, June 2024

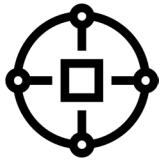
Evolution Of AIOps Within Compute Ops Management

Inventory Insights

Equipment | Software | Notifications
EOS/EOD Lifecycle Management + Planning

Intelligent alerting

Threshold monitoring
automated incident creation



Case requests & tracking

Automated case routing
ServiceNow integration

Smarter insights

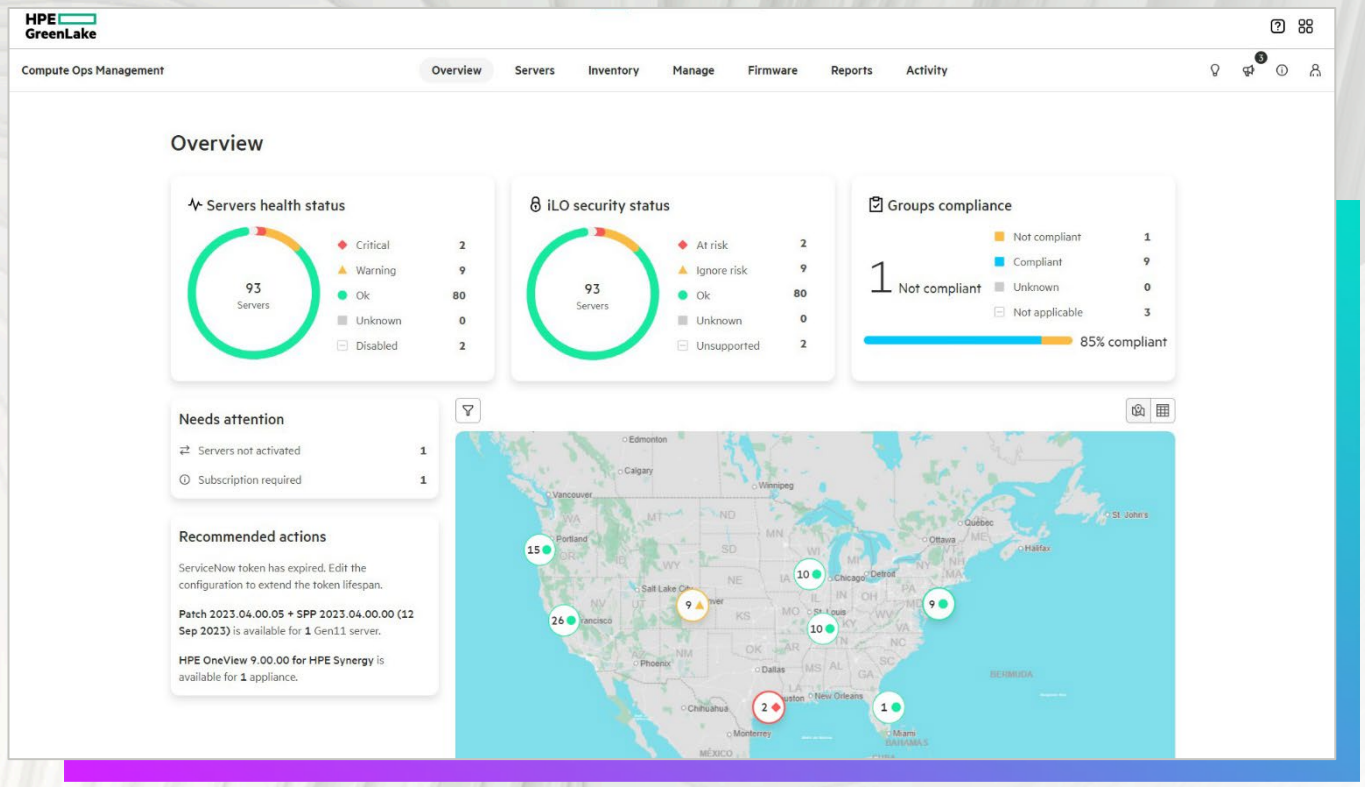
Root Problem Diagnosis | Reporting
On-going Communication | AI/ML Capability

Customers benefit from:

- **Effortless asset management** through automated compute inventory tracking
- **Faster incident detection** and resolution with AI/ML driven correlation and aggregation
- Proactive incident notifications creates **more efficient IT Service Management** (ITSM)
- Reduced help desk calls enhances efficiency and **speeds Mean Time to Resolution** (MTTR)

Benefits Of Modern Management

Compute lifecycle management with cloud agility and simplicity



- Monitor and manage global server environments from a single console with enterprise security and consistent, compliant processes
- Easily onboard and update 1000s of distributed devices
- Organize devices with group tags and labels
- Focus on key tasks with intuitive dashboards

HPE Supported Platforms

By HPE Compute Ops Management

HPE ProLiant Servers	HPE ProLiant Gen10, Gen10 Plus, Gen11 & Gen12 servers
HPE Edgeline Systems	HPE Edgeline e920, e920d, and e920t server blades connected to HPE Edgeline EL8000 Systems
HPE Alletra 4000 Storage Servers	HPE Alletra Storage Server 4110, 4120, and 4140 models
HPE StoreEasy Storage	HPE StoreEasy Storage 1470, 1570, 1670, and 1870 models

Compute Ops Management Enables IT Teams To Spend Less Time...

...managing servers

- **Update 100s of servers** with bulk actions
- **Easily organize devices** with group tags and labels
- **Focus on key tasks** with intuitive dashboards

...dealing with downtime

- **Resolve problems before they occur** with monitoring and self-healing
- **Automate software updates** to simplify operations and improve efficiency

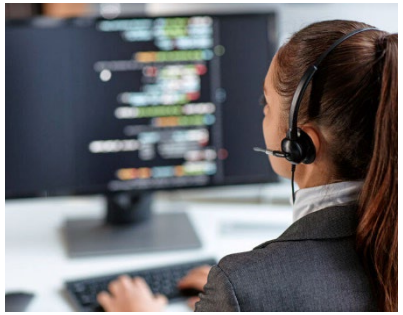
...managing tools

- **Easily integrate best-in-class software** from HPE and partners
- **Scale instantly and massively** across edge to cloud
- **Integrate and automate** easily using Redfish-based APIs

HPE Compute Management Portfolio

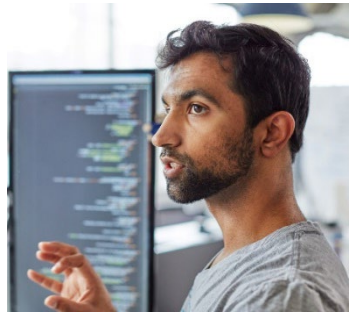
HPE Compute Ops Management

Cloud-based lifecycle management to monitor, manage, and view your distributed environment



HPE OneView

On-premises management to automate IT operations of your dark-site and HPE Synergy environments



HPE Compute Ops Management – OneView Edition

Cloud-based extension to manage and view your OneView environments from Compute Ops Management

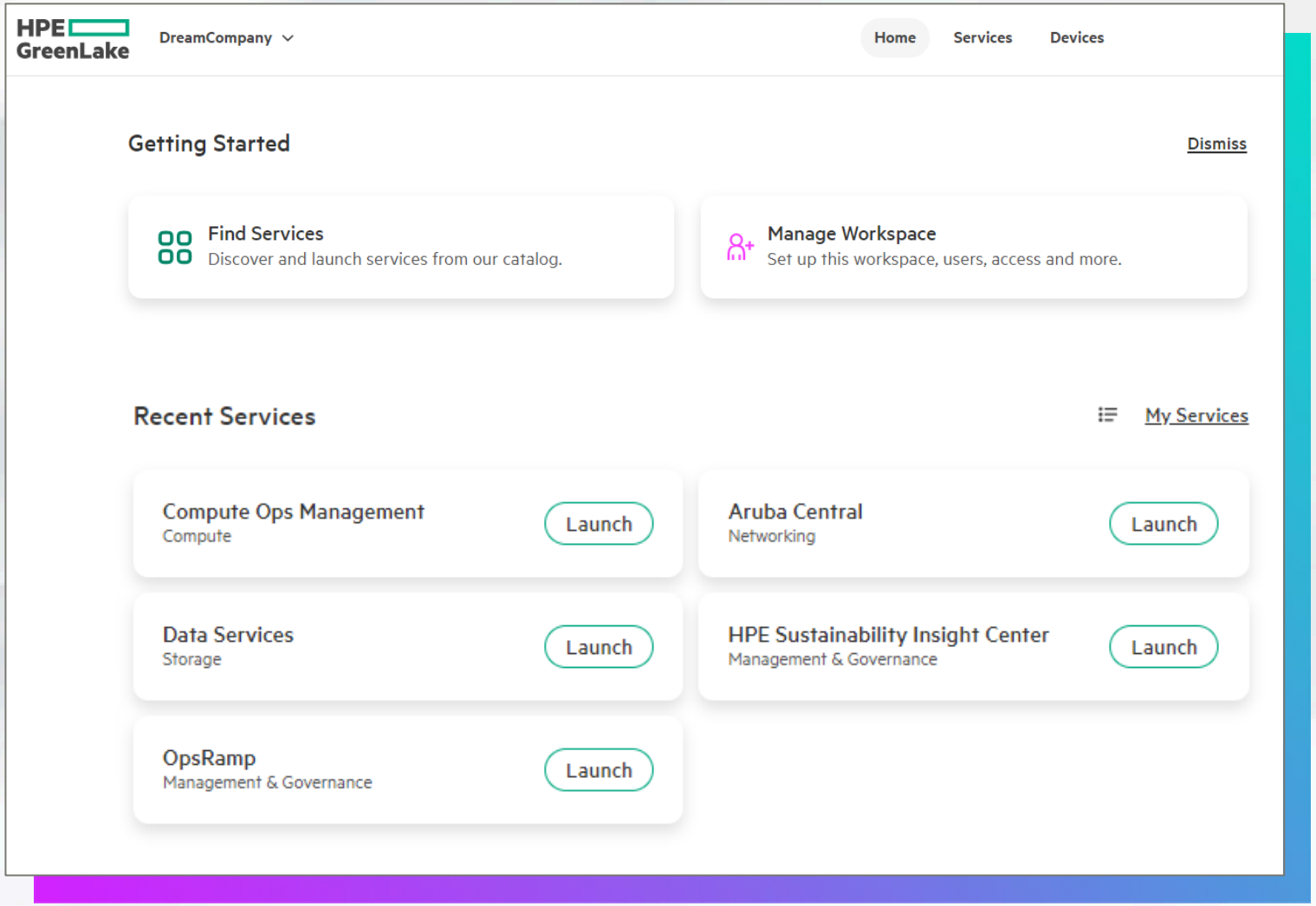
HPE iLO (Integrated Lights-Out)

Embedded management
to support, optimize, and monitor your servers

HPE GreenLake Cloud

Centralized, cloud-based platform for managing your environment

- Single sign-on
- Device inventory
- License management
- User and role permissions



Introducing Support For MSPs & Partners In HPE Compute Ops Management

Boost your bottom line with current resources




Set up
new service offerings

Operate & optimize
customer's environment

Manage
compute lifecycle

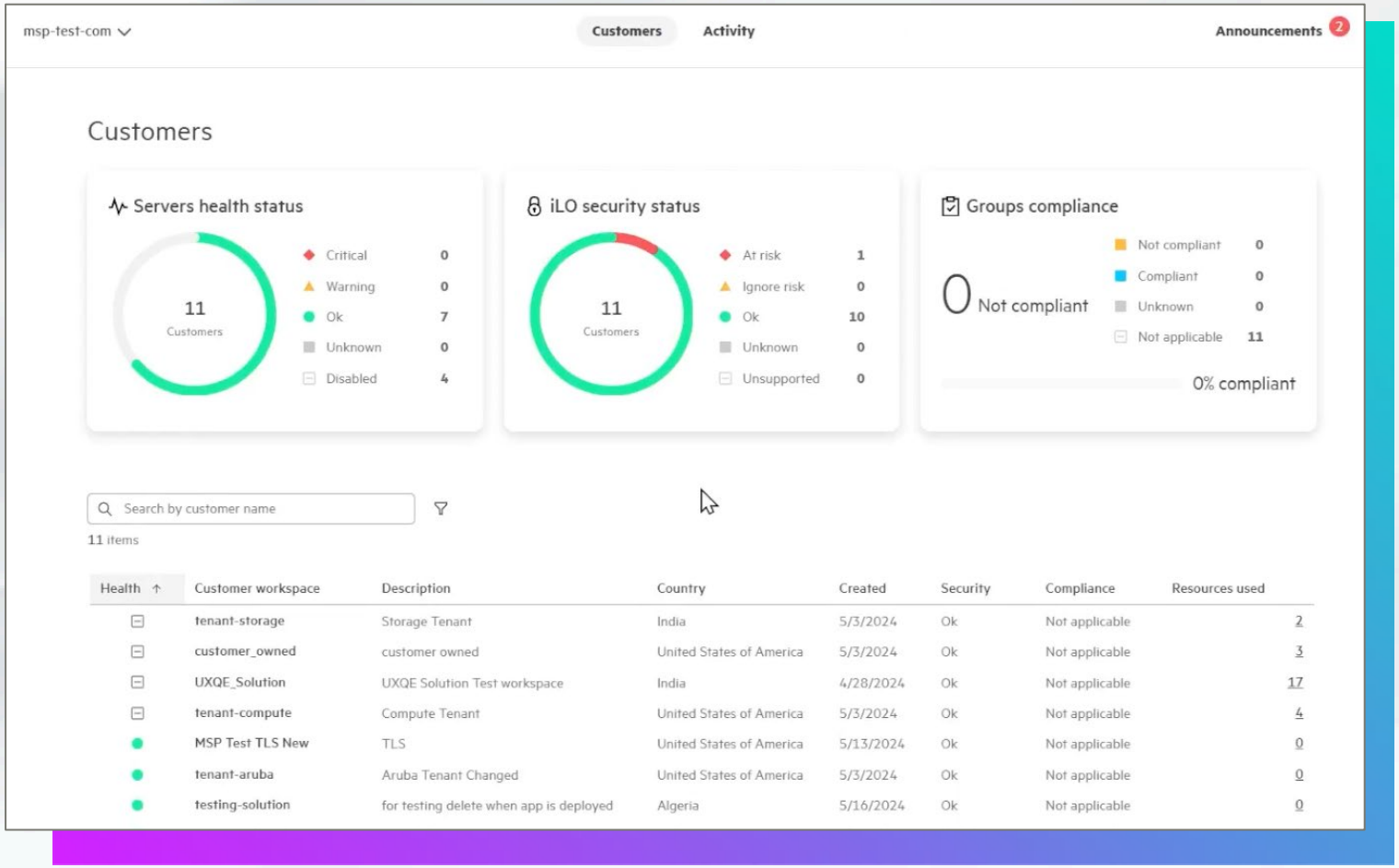
Integrate
with your existing tools

Seamless, Efficient Multi-Tenant Compute Management

Securely monitor and manage your customers' server environments from a secure, cloud-based console

Keep your customers' infrastructure up-to-date with the latest firmware, security patches to help them maintain governance and compliance policies

Proactively monitor health and security status, automate critical hardware support cases as well as report out sustainability metrics

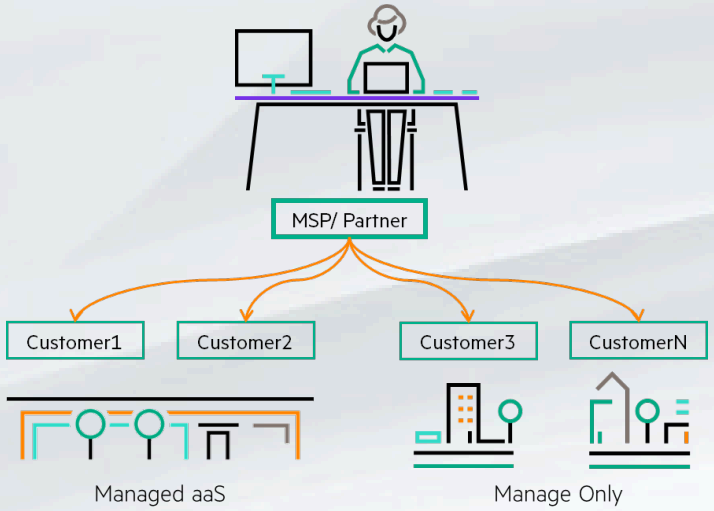


Manage customer workspaces within Compute Ops Management

MSP Business Models

MSPs have **two** business models, based on who owns the devices and subscriptions.

In either, the MSP might **fully manage** an environment or **co-manage** with the customer.



Device and subscription ownership

Management	MSP	Customer
Fully managed	MSP owns MSP manages	Customer owns MSP manages
Co-managed	MSP owns MSP & customer co-manage	Customer owns MSP & customer co-manage
	Managed as a Service	**Manage Only**

Next Steps

See a demo today
Just ask your sales rep to walk you through a **live set up**

Share with colleagues
Explainer video | **Quick demo video** | **Core Compute Ops Management Portfolio Briefcase**

Check out the savings
Forrester TEI study | **ROI calculator**

Try it out
90-day trial license, for up to 10 servers

hpe.com/info/COM

Thank you