

Overview

HPE GreenLake for Private Cloud Business Edition

HPE GreenLake for Private Cloud Business Edition provides an agile cloud operational experience and a simple cloud consumption model for private cloud infrastructure. With this offering, customers can build their self-service cloud on demand and deliver Virtual machines (VMs) across hybrid cloud, when they need it and where they need it in data centers, at the edge, and beyond.

At A Glance

HPE GreenLake for Private Cloud Business Edition changes the way customers procure and manage VMs with a cloud operational experience. HPE GreenLake for Private Cloud Business Edition helps eliminate complexity with a unified cloud service for VM to infrastructure management, including public cloud VMs. The solution—delivered through the Data Services Cloud Console—enables global unified management and monitoring of VMs and infrastructure deployed at any location as well as 1-click, multisite upgrades. This enables IT to reduce operating costs while helping optimize resource utilization, move to a generalist model, and shift from managing infrastructure to managing VMs and data, thereby refocusing resources and skills on higher-value strategic initiatives. The VM-based cloud offering brings the agility of cloud operations and the ease of cloud ownership to apps and data everywhere. Build your cloud on demand where you need it, in your data center or at the edge, with a flexible, as-a-service offering. Shift from traditional VM and infrastructure ownership to flexibly consume hybrid cloud VMs with predictable monthly costs. It empowers customers to transform from IT operator to service provider, focusing on accelerating outcomes, not managing infrastructure. With this service, customers can:

- Go faster with self-service agility. Self-Service cloud management and blueprints to accelerate agility and speed deployments.
 - Consume as a service. Get started quickly with instant quoting and ordering by simply choosing from four key attributes for desired service-level agreement (SLA), with the added benefit of predictable monthly payments.
 - One-stop management for VMs across hybrid cloud, on demand.
 - Harness Hybrid cloud data protection and VM Mobility.
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What's New

- Get moving quickly and easily with instant SLA-driven quoting and rapid ordering. Choose from key service parameters for your desired SLA.
 - Provides cloud-managed infrastructure, which means you have everything you need at your fingertips to globally deploy, manage, upgrade, and optimize your entire fleet of VMs and infrastructure—wherever it is in the world—from any location and on any device. The cloud-native control plane scales autonomously with infrastructure, so managing hundreds of systems across geographies is as simple as managing one.
 - Say goodbye to endless firefighting thanks to industry-leading AI Ops for infrastructure that drives autonomous operations and helps ensure your apps are always on and always fast.
 - Native Hybrid Cloud data protection and VM mobility.
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Key Features and Benefits

HPE GreenLake for Private Cloud Business Edition is a cloud data service—offered on the HPE GreenLake edge-to-cloud platform—that simplifies Private Cloud setup and management with the speed and agility of a cloud operational experience. It provides cloud-like self-service ordering, provisioning, and management that abstracts and automates underlying infrastructure complexity, shifting operations to be app, not infrastructure, centric. Instantly provision and protect your VMs with the required policies.

Overview

The core feature set includes:

- Instant, attribute-based quoting, and rapid ordering based on VM resources.
- Self-service cloud setup and blueprints to accelerate agility and speed deployments.
- Global dash boarding (VM and Clusters information, capacity details/trends, performance details/trends, alerts, protection levels)
- Full Stack lifecycle management (automated catalogue-based updates of the various hardware, software, and firmware components)
- Simple VM provisioning wizard for both on-prem and public cloud instances.
- Provision VMFS or vVol VMs with images and protection policies associated at the time of creation.
- Simplified Provisioning policies to apply Data services and Protection policies. the service goes beyond resiliency with extra VM-centric data protection, rapid restore,
- Seamless Data Mobility - VM mobility between clusters or datastores for disaster recovery
- AWS Cloud VM provisioning with choice of required AMIs and Instance types.

All HPE GreenLake services are subject to the terms and conditions of HPE GreenLake data sheet. You can find the most current version [here](#)



Service and Support

Get the most from your HPE products with the expertise you need at every step of your IT journey. **HPE Services** help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally.

Your HPE Data Ops Manager subscription will give you access to the following enterprise-level support:

- 24x7 telephone and email support for all entitled HPE HCI Manager available through Data Services Cloud Console
 - Direct connection to support
 - Guidance and troubleshooting of any configuration and interoperability within your cloud and/or on-premises environment
 - Services-term period is same term as the one for your storage device support term period.
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Configuration Information

Step 1 – Select workload type

- **All Flash** suited for business-critical applications that require:
 - 99.9999% availability
 - Wide range for performance expectations from 2GB<X>10GB/sec
 - Advanced site replication desired, with some tolerance for failover time
 - Medium-sized or virtual environments
- **Hybrid Flash** suited for applications that require
 - 99.9999% availability
 - Wide range of performance expectations from 0.3GB<X>2GB/sec
 - Mix of primary workloads and secondary backup and disaster recovery
 - Small or Medium-sized environments

Notes: When ordering for delivery to multiple locations, a separate purchase order is required for each location.

Step 2 – Select workload tier

- Performance Optimized Tier
Service Tier for I/O intensive, very-low latency workloads, and bandwidth intensive applications at a given availability level. Most common for Oracle, Microsoft SQL Server, and IBM DB2 based applications
- Balanced Optimized Tier
Service Offering designed to balance scalable capacity requirements with I/O sensitive, very-low latency workloads at a given availability level.
- Value Optimized Tier
Service optimized for cost for I/O sensitive, very-low latency workloads at a given availability level.

Tier requirements	All Flash	Hybrid Flash
Performance Optimized	Up to 440K IOPS (read)	Up to 120K IOPS (read)
	Up to 200K IOPS (mixed)	Up to 120K IOPS (mixed)
	Up to 9GB/s & 3GB/s (read & write)	Up to 5.0GB/s & 2.0GB/s (read & write)
Balanced Optimized	Up to 200K IOPS (read)	Up to 65K IOPS (read)
	Up to 100K IOPS (mixed)	Up to 60K IOPS (mixed)
	Up to 2GB/s & 2GB/s (read & write)	Up to 1.9GB/s & 1.0GB/s (read & write)
Value Optimized	Up to 150K IOPS (read)	Up to 20K IOPS (read)
	Up to 75K IOPS (mixed)	Up to 15K IOPS (mixed)
	Up to 4GB/s & 1GB/s (read & write)	Up to 1.0GB/s & 0.3GB/s (read & write)

Notes: The performance service level objective includes standard data operations (i.e. UI, Intelligent Autonomous Storage, garbage collection). Event-based data operations (replication, snapshots, hw upgrade, etc.) are excluded.



Configuration Information

Step 3 – Select storage capacity reservation

Usable Capacity (GB)	All Flash	Hybrid Flash
Performance Optimized	109,000	135,000
	163,000	203,000
	218,000	271,000
	272,000	338,000
Balance Optimized	54,000	68,000
	81,000	101,000
	108,000	135,000
	135,000	169,000
Value Optimized	27,000	27,000
	40,000	40,000
	53,000	54,000
	67,000	67,000

Notes: The CPU and memory reservation options are common across both workload tiers for HPE GreenLake for Private Cloud Business Edition.

Step 4 – Select compute CPU reservation

Compute CPU	Physical CPU cores
Value Optimized (3x DL365 Gen10 Plus)	38
	58
	77
	96
Balanced Optimized (6x DL365 Gen10 Plus)	77
	115
	154
	192
Performance Optimized (12x DL365 Gen10 Plus)	154
	230
	307
	384

Notes:

- Compute CPU resources are measured in physical CPU cores.
- The workload tier selected for storage capacity will determine the available reservation options for compute CPU resources.
- Compute CPU reservation options are common across both workload tiers (All Flash and Hybrid Flash) for HPE GreenLake for Private Cloud Business Edition.
- Compute resources are provided via ProLiant DL365 Gen10 Plus servers using 2x 16c CPUs
- 2x VMware vSphere Enterprise Plus licenses are required per server



Configuration Information

Step 5 – Select compute memory reservation

Compute Memory	Physical memory (GB)
Value Optimized (3x DL365 Gen10 Plus)	614
	922
	1,229
	1,536
Balance Optimized (6x DL365 Gen10 Plus)	1,229
	1,843
	2,458
	3,072
Performance Optimized (12x DL365 Gen10 Plus)	2,458
	3,686
	4,915
	6,144

Notes:

- Compute memory resources are measured in GB of physical memory.
- The workload tier selected for storage capacity will determine the available reservation options for compute memory resources.
- Compute memory reservation options are common across both workload tiers (All Flash and Hybrid Flash) for HPE GreenLake for Private Cloud Business Edition.
- Compute memory resources are provided via ProLiant DL365 Gen10 Plus servers.

Step 6 – Select subscription term length

HPE GreenLake for Private Cloud Business Edition is available in 3-year subscription terms.

Step 7 – Select network configuration

Network Configuration	Detail
Networking equipment included	Two top-of-rack switches are included along with all transceivers and signal cabling required for the full solution.
Networking equipment excluded	Top-of-rack switches, transceivers, and signal cabling are not included in the solution and must be provided separately.

Notes:

- If networking equipment is included, the deployment and startup services included with HPE GreenLake for Private Cloud Business Edition will include the setup and configuration of top-of-rack switches.
- If networking equipment is excluded and provided separately, then certain prerequisites for network setup must be met in advance of the HPE GreenLake for Private Cloud Business Edition deployment service.

Resources and additional links

- The networking requirements, best practices, supported technologies, and supported network topologies for HPE GreenLake for Private Cloud Business Edition
<https://psnow.ext.hpe.com/doc/a00114771enw>
- Validated Configuration Matrix for HPE Alletra dHCI:
- <https://infosight.hpe.com/resources/nimble/validated-configuration-matrix>



Configuration Information

Step 8 – Select rack and power configuration

Rack Configuration	Detail
Rack included	The solution will include a 42U with integrated PDUs for HPE GreenLake for Private Cloud Business Edition. All Flash: 600mm (W), 1040mm (D) Hybrid Flash: 600mm (W), 1200mm (D)
Rack excluded	The solution will be installed into an existing compatible rack.

Environmental Information

Storage (All Flash)

	Rack Units (RU)	Network Connectivity	Power
Value	4	8x 25GbE (SFP28) 8x 1GbE (1000BASE-T)	4x C14
Balanced	4	12x 25GbE (SFP28) 8x 1GbE (1000BASE-T)	4x C14
Performance	4	12x 25GbE (SFP28) 8x 1GbE (1000BASE-T)	4x C14

Notes:

- Network connectivity is per array (includes both storage controllers)
- Power requirements per array (includes all redundant PSUs)

Storage (Hybrid Flash)

	Rack Units (RU)	Network Connectivity	Power
Value	4	4x 25GbE (SFP28) 4x 10GbE (10GBASE-T)	2x C14
Balanced	4	4x 25GbE (SFP28) 4x 10GbE (10GBASE-T)	2x C14
Performance	8	8x 25GbE (SFP28) 4x 10GbE (10GBASE-T)	2x C20 (array) 2x C14 (expansion shelf)

Notes:

- Network connectivity is per array (includes both storage controllers and expansion shelves)
- Power requirements per array (includes all redundant PSUs)

Compute

	Rack Units (RU)	Network Connectivity	Power
ProLiant DL365 Gen10 Plus	1	4x 25GbE (SFP28)	2x C14

Notes:

- Network connectivity is per server (includes both NICs)
- Power requirements per server (includes all redundant PSUs)



Configuration Information

Combined System

Value		All Flash		Hybrid Flash	
		Rack Units (RU)	Power	Rack Units (RU)	Power
	TOR Switch	2	2x C14	2	2x C14
	Compute	3	6x C14	3	6x C14
	Storage	4	4x C14	4	2x C14
	Total	9	12x C14	9	24x C14

Balanced		All Flash		Hybrid Flash	
		Rack Units (RU)	Power	Rack Units (RU)	Power
	TOR Switch	2	2x C14	2	2x C14
	Compute	6	12x C14	6	12x C14
	Storage	4	4x C14	4	2x C14
	Total	12	18x C14	12	16x C14

Performance		All Flash		Hybrid Flash	
		Rack Units (RU)	Power	Rack Units (RU)	Power
	TOR Switch	2	2x C14	2	2x C14
	Compute	12	24x C14	12	24x C14
	Storage	4	4x C14	8	2x C14, 2x C20
	Total	18	30x C14	22	28x C14, 2x C20

Entitlement

Description

HPE GreenLake for Private Cloud Business Edition IaaS

SKU

R9Q18AAE



Configuration Information

Shared Responsibility Model (SRM)

HPE GreenLake for Private Cloud Business Edition subscription includes the necessary hardware, software, and services to deliver the service level specified. The service levels offered are based on a foundational shared responsibility model (SRM) depicted below:

Customer	HPE
Responsible for the connectivity to GreenLake Cloud Platform (GLCP), the administration, and the management of the data/objects	Responsible for the functionality of the infrastructure providing the service
Site Readiness including datacenter facilities and internet connectivity	Installation & activation of device
Maintain connectivity to GreenLake Cloud Platform	Customer Orientation
Volume Creation and administration	Access to software, firmware, and documentation updates
Data resilience and remote replication	Onsite hardware support
Data backup	Proactive support and operational guidance*
Applying recommended software updates & security patches	Test volume Creation
Data Monitoring	Operational Insights and Dashboard*
Initiating the order of additional capacity beyond total available capacity	Proactive capacity planning*
	Proactive incident alerting*
	Communicate security incident & remediation

Notes: *Proactive communication is delivered using HPE Infosight (included as part of subscription)

Pre-requisite for HPE GreenLake for Private Cloud Business Edition

As part of the shared responsibility model, the customer is expected to make appropriate decisions including but not limited to:

- Rack Infrastructure
 - Space
 - Rails
- Power Infrastructure
 - PDU
 - Cables



Summary of Changes

Date	Version History	Action	Description of Change
05-Sep-2023	Version 3	Changed	Overview and Configuration Information sections were updated. Additional Configuration information added – Servers, Ports, VMware licensing
24-Jul-2023	Version 2	Changed	Configuration Information section was updated
05-Jun-2023	Version 1	New	New QuickSpecs



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