

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.

HPE GreenLake for Private Cloud Business Edition at Equinix

HPE GreenLake for Private Cloud Business Edition at Equinix is a new route-to-market extension to our standard offering. It provides a deployment option that further simplifies the user experience by leveraging the benefits and value of a colocation environment. It increases the speed and agility of the HPE GreenLake for Private Cloud Business Edition offering while further abstracting the complexity associated with data center deployments.

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. Shift from traditional VM and infrastructure ownership to flexibly consume hybrid cloud VMs with predictable monthly costs.

This simplified private cloud solution empowers customers to transform from IT operator to service provider while focusing on accelerating outcomes and not infrastructure management. 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.
- 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.
- Industry-leading AI Ops for infrastructure that drives autonomous operations and helps ensure your apps are always on and always optimized.

HPE GreenLake for Private Cloud Business Edition allows customers and partners the ability to choose a platform that suits their application and infrastructure requirements. HPE GreenLake for Private Cloud Business Edition supports both HPE Alletra Storage MP and hyperconverged with HPE SimpliVity.

Overview

HPE Private Cloud Business Edition is also available in two consumption models, Pay-upfront and Pay-as-you-go (IaaS).

The management, features and functionalities remain consistent regardless of the selected consumption model.

What's New

- **Alletra MP support with HPE GreenLake for Private Cloud Business Edition**

- HPE GreenLake for Private Cloud Business edition now supports HPE Alletra Storage MP for Block with the HPE Alletra dHCI platform.
- This now allows customers to run their mission critical workloads with a 100-percent data availability guarantee as well as predictive performance even if multiple nodes in a cluster are lost.

- **HPE GreenLake for Private Cloud Business Edition at Equinix**

- Delivers end-to-end simplified quoting, ordering, and billing of optimized configurations that will be deployed and operationalized within highly reliable, sustainable, and secure Equinix colocation facilities.
- Eases deployment complexities, power management, cooling considerations, floor & rack space management, and upgrade concerns associated with the creation of a private cloud.
- Supplies pre-configured Smart Templates for quoting and ordering simplicity.
- Provides monthly billing aligned to the combined value of the HPE GreenLake for Private Cloud Business Edition solution and the Equinix ecosystem.

- **HPE GreenLake for Private Cloud Business Edition - IaaS Smart templates**

- Availability of pre-configured Smart Templates with HPE ProLiant Gen 11 Servers
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Overview

Category	Description
Platform	<ul style="list-style-type: none">• Server support: HPE ProLiant Gen11, Gen10 Plus servers• AMD-based HPE ProLiant DL325, HPE ProLiant DL365, HPE ProLiant DL385• Intel-based HPE ProLiant DL360, HPE ProLiant DL380• Storage support: HPE Alletra Storage MP
Manageability	<ul style="list-style-type: none">• Cloud-based setup and lifecycle management (single-click upgrades)• Configurations checker• Private & public cloud VM management and provisioning
Analytics & Monitoring	<ul style="list-style-type: none">• Cluster and VM capacity and performance, storage health status information
Support	<ul style="list-style-type: none">• One call support experience with HPE Services

Notes:

- Greenfield (new) and brownfield (existing) HPE ProLiant servers are supported with HPE GreenLake for Private Cloud Business Edition.
- Greenfield (new) HPE Alletra Storage MP arrays are supported with HPE GreenLake for Private Cloud Business Edition. Adding brownfield (existing) arrays to HPE GreenLake for Private Cloud Business Edition is not currently supported.
- iSCSI support only. FC and NVMeOF are not currently supported with HPE GreenLake for Private Cloud Business Edition-managed storage workloads.

Key Features and Benefits

HPE GreenLake for Private Cloud Business Edition is a cloud 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:

- Self-service cloud setup and blueprints to accelerate agility and speed up 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.
- Seamless Data Mobility - VM mobility between clusters or datastores for disaster recovery.
- AWS and Azure Cloud VM provisioning with choice of required AMLs and Instance types.

Additional features associated with HPE GreenLake for Private Cloud Business Edition colocation at Equinix include:

- A modern, private cloud experience with visibility and integration across the hybrid cloud without egress fees.
- State-of-the-art hosting facilities and services that are optimized for sustainability, security, and resiliency.
- Pre-deployed infrastructure in dedicated Equinix cages, coupled with leading connectivity and networking services.
- A single, pre-defined HPE GreenLake agreement with consolidated cloud and digital infrastructure services using integrated HPE Units of Measure.
- Unified billing for the entire HPE GreenLake for Private Cloud Business Edition Equinix solution.

All HPE GreenLake services are subject to the terms and conditions of the [HPE GreenLake data sheet](#)

Service and Support

Support is included as part of the subscription for HPE GreenLake for Private Cloud Business Edition. Included with the support is 24x7 telephone and email support for the arrays and hardware components for the chosen subscription term. More information on the HPE GreenLake Select Solutions can be found **[here](#)**.

Refer to the HPE GreenLake for Private Cloud Business Edition Data sheet

<https://www.hpe.com/psnow/doc/a50009418ENW?ver=2> for the service deliverables and the shared responsibility model as part of the subscription.

Data availability is guaranteed with HPE Alletra and HPE GreenLake for Block Storage

The SLA agreement is outlined in detail here: **<https://www.hpe.com/psnow/doc/a50003574enw>**

Configuration Information

Easy Configuration through Smart Templates for Pay-as-you-go

Fully pre-configured Smart Templates that allow quick and easy quoting exist for:

- HPE GreenLake for Private Cloud Business Edition
- HPE GreenLake for Private Cloud Business Edition for Equinix

Smart Templates for HPE GreenLake for Private Cloud Business Edition are pre-defined systems with storage, compute, and network components tailored for multiple workload types and use cases. Smart Templates are complete systems and do not require additional configuration, but support optional customization of components as desired.

The Smart templates contain the following attributes to choose:

Workload Type - All flash (business-critical applications) or Hybrid Flash (general-purpose applications)

Workload Tier -

- Alletra MP Cost Optimized - Ideal for small/fixed-size general purpose virtualization workloads in ROBO and branch environments.
- Alletra MP Capacity Optimized - Ideal for large, general-purpose workloads such as data lakes, video surveillance & medical image retention
- Alletra MP Performance Optimized - Powerful and compact (optimized for \$/IOPS, IOPS/GB). Ideal for compute-intensive workloads that require highly performant storage such as VDI or transactional databases.
- Alletra MP Scale Optimized - Best-in-class (optimized for performance and scalability). Ideal for enterprise apps or data center consolidation requirements that will grow over time.
- Alletra 5000/Alletra 6000 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
- Alletra 5000/Alletra 6000 Balanced Optimized Tier - Service Offering designed to balance scalable capacity requirements with I/O sensitive, very-low latency workloads at a given availability level.
- Alletra 5000/Alletra 6000 Value Optimized Tier - Service optimized for cost for I/O sensitive, very-low latency workloads at a given availability level.

Configuration Information

Tier requirements	All Flash	Hybrid Flash
Cost Optimized Alletra MP	Up to 175K IOPS (read)	n/a
	Up to 65K IOPS (mixed)	n/a
	Up to 4.3GB/s & 1.4GB/s (read & write)	n/a
Capacity Optimized Alletra MP	Up to 320K IOPS (read)	n/a
	Up to 128K IOPS (mixed)	n/a
	Up to 8.2GB/s & 3.1GB/s (read & write)	n/a
Performance Optimized Alletra MP	Up to 400K IOPS (read)	n/a
	Up to 148K IOPS (mixed)	n/a
	Up to 9.4GB/s & 3.9GB/s (read & write)	n/a
Scale Optimized Alletra MP	Up to 735K IOPS (read)	n/a
	Up to 283K IOPS (mixed)	n/a
	Up to 17.7GB/s & 7.6GB/s (read & write)	n/a
Performance Optimized Alletra 5000/Alletra 6000	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 Alletra 5000/Alletra 6000	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)

Tier requirements	All Flash	Hybrid Flash
Value Optimized Alletra 5000/Alletra 6000	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.
- 8k blocks used for IOPS and 256k block used for bandwidth in GB/s for storage performance

1. Storage Capacity Reservation

Configuration Information

Workload Tier	Storage Array	Usable Capacity
Cost Optimized	Alletra MP	30 TB
	2-node 8-core	
Capacity Optimized	Alletra MP	162 TB
	2-node 16-core	
Scale Optimized	Alletra MP	62 TB
	2-node 32-core	
Performance Optimized	Alletra MP	191 TB
	4-node 32-core (switched)	
Value Optimized (Alletra dHCI - All Flash)	Alletra 6030	67 TB
Balance Optimized (Alletra dHCI - All Flash)	Alletra 6050	135 TB
Performance Optimized (Alletra dHCI - All Flash)	Alletra 6070	272 TB
Value Optimized (Alletra dHCI - Hybrid Flash)	Alletra 5010	67 TB
Balance Optimized (Alletra dHCI - Hybrid Flash)	Alletra 5030	169 TB
Performance Optimized (Alletra dHCI - Hybrid Flash)	Alletra 5050	338 TB

Notes:

- Smart Templates for standard HPE GreenLake for Private Cloud Business Edition allow customization of storage array model, installed capacity, and adapters.
- Smart Templates for HPE GreenLake for Private Cloud Business Edition at Equinix use pre-defined hardware BOMs that are non-customizable.

2. Compute Capacity Reservation

Configuration Information

Workload Tier	Server Qty	Server Model
Cost Optimized (Alletra MP)	2	ProLiant DL325 Gen11 AMD EPYC 9124 3.0 GHz 16-core 256 GB DDR5-4800
Capacity Optimized (Alletra MP)	3	ProLiant DL325 Gen11 AMD EPYC 9224 2.5 GHz 24-core 384 GB DDR5-4800
Performance Optimized (Alletra MP)	9	ProLiant DL360 Gen11 2x Intel Xeon-Gold 6430 2.10 GHz 32-core 1024 GB DDR5-4800
Scale Optimized (Alletra MP)	12	ProLiant DL360 Gen11 2x Intel Xeon-Gold 6430 2.10 GHz 32-core 1024 GB DDR5-4800
Value Optimized (Alletra dHCI)	3	ProLiant DL365 Gen10 Plus 2x AMD EPYC 7313 3.0 GHz 16-core 512 GB DDR4-3200
Balance Optimized (Alletra dHCI)	6	ProLiant DL365 Gen10 Plus 2x AMD EPYC 7313 3.0 GHz 16-core 512 GB DDR4-3200
Performance Optimized (Alletra dHCI)	12	ProLiant DL365 Gen10 Plus 2x AMD EPYC 7313 3.0 GHz 16-core 512 GB DDR4-3200

Notes:

- Smart Templates for standard HPE GreenLake for Private Cloud Business Edition allow customization of server model, CPU, memory, and installed options.
- Smart Templates for HPE GreenLake for Private Cloud Business Edition at Equinix use pre-defined hardware BOMs that are non-customizable.
- Licenses for VMware vSphere are not included and must be provided separately. VMware vSphere Foundation and vSphere Standard licenses are supported.
- VMware vSphere Foundation is recommended as VMware Distributed Resource Scheduler (DRS) is required to enable 1-click update functionality. VMware vSphere Standard will require manual migration of VMs from hosts before they are updated.

3. Network Configuration

Configuration Information

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.
- HPE GreenLake for Private Cloud Business Edition at Equinix will automatically include the top-of-rack switches and the associated setup and configuration.

4. 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.

Notes:

- Network connectivity is per array (includes both storage controllers)
- Power requirements per array (includes all redundant PSUs)
- The rack and PDU infrastructure required for HPE GreenLake for Private Cloud Business Edition at Equinix is already deployed.

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>
- [HPE Alletra dHCI Quickspec](#)

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 Volume Creation and administration Data resilience and remote replication Data backup	Customer Orientation Access to software, firmware, and documentation updates Onsite hardware support
Applying recommended software updates & security patches Data Monitoring	Proactive support and operational guidance* Test volume Creation Operational Insights and Dashboard* Proactive capacity planning*
Initiating the order of additional capacity beyond total available capacity	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

Shared Responsibility Model (SRM) when deployed at Equinix

HPE GreenLake for Private Cloud Business Edition at Equinix 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:

Configuration Information

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	Equinix Site Readiness including colocation facilities and internet connectivity within the colocation facilities Installation & activation of device
Internet and firewall attributes for Equinix connectivity	Setup and operationalization of Internet and firewall services into Equinix
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)


Summary of Changes

Date	Version History	Action	Description of Change
18-Nov-2024	Version 8	Changed	Overview, Service and Support and Configuration Information sections were updated. PCBE smart template for Alletra MP added
01-Jul-2024	Version 7	Changed	Overview and Configuration Information sections were updated.
03-Jun-2024	Version 6	Changed	Overview and Configuration Information sections were updated. Gen11 smart template and support for Alletra MP added Addition of Equinix colocation option
08-Jan-2024	Version 5	Changed	Overview, Service and Support and Configuration Information sections were updated. ASQ to IQ changes
13-Nov-2023	Version 4	Changed	HPE Services Rebranding
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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