HPE GREENLAKE
for Private Cloud Business Edition

Version 1

Service Description

HPE GreenLake for Private Cloud Business Edition provides a self-managed private cloud solution with a unified interface to simplify VM to infrastructure management and allows you to build your self-service cloud on demand where you need it with predictable monthly billing.

HPE GreenLake for Private Cloud Business Edition provides a way to consume private cloud resources (CPU, Memory and storage capacity) via a specified subscription term. The subscription includes the hardware (Proliant Servers and Alletra Arrays, optional rack and switches), software (Alletra OS, Private Cloud Business Edition Management Console), and support. The service provides specified availability, performance and capacity service levels as set out in this document.

At A Glance

HPE GreenLake for Private Cloud Business Edition is a unified cloud service for VM to infrastructure management, including public cloud VMs. The solution is delivered through the Data Services Cloud Console and enables global unified management and monitoring of VMs and infrastructure deployed at any location as well as 1-click, multisite upgrades. With this service, customers can:

- Self-Service cloud management and blueprints to accelerate agility and speed deployments.

- Consume as a service and choose from three key attributes for desired service-level agreements (SLA), pay monthly.

- One-stop management for VMs across hybrid cloud, on demand.

- Harness Hybrid cloud data protection and VM mobility.

What's New

- Cloud-managed infrastructure, managed by you, 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 with the ability to manage hundreds of systems across geographies.

- AI Ops for infrastructure that drives autonomous operations.

- Native Hybrid Cloud data protection and VM mobility.

Key Features

HPE GreenLake for Private Cloud Business Edition is a cloud data service—offered on the HPE GreenLake edge-to-cloud platform—for Private Cloud setup and management and a cloud operational experience. It provides cloud-like self-service ordering, provisioning, and management that abstracts and automates underlying infrastructure, shifting operations to be app centric. With the service you can instantly provision and protect your VMs with the required policies.

The core feature set includes:

- Self-service cloud setup and blueprints
- 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)
- 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
- 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
- Deployment services for the initial setup of the hardware

The Service does not include:

- Customers are responsible for procuring any 3rd party software licenses required for the Service e.g., VMware vSphere licenses, as the Service does not include any 3rd party software licenses.

Customer's racks and switches:

- If a Customer decides to use the Service with its own racks and switches then the Customer is responsible to meet the requirements listed in the **network configuration** and **deployment** guide.

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

Service Levels Definitions

The HPE GreenLake for Private Cloud Business Edition subscription is comprised of multiple service levels, including those that require specific agreements and include certain penalties.

Service Level Activation

The service level "activation" provides a service level objective of 14-business days from the time that HPE receives the subscription order to the time that a device is activated so that a Customer can begin to present infrastructure components. This service level objective is for US and select European markets subject to Customer site readiness, material availability, and other factors.

Service Level Availability

The service level "availability" provides a service level agreement of:

- 99.9999% data availability for All Flash backed by Business-Critical Storage (hardware-level SLA, applications not in scope)
- 99.9999% data availability for Hybrid backed by General-Purpose Storage (hardware-level SLA, applications not in scope)

If the Customer reports experiencing less than guaranteed data availability because of an unplanned, qualified outage, HPE will work to resolve the issue and provide remediation in the form of cash repayments for service or credits applicable towards a future invoice in HPE's sole discretion. The responsibilities, conditions, and exclusions that are required to deliver the service level availabilities associated with the HPE GreenLake for Private Cloud Business Edition subscription are covered in the sections below.

Service Level Performance

The service level "performance" provides a service level objective of:

Availability	Performance Tier*	IOPs – Max Read	IOPs – Max Mixed	GB/s – Max Read	GB/s Max Write

Hybrid	Performance	Up to 120,000	Up to 120,000	Up to 5.0 GB/s & 2.0 GB/s	
	Balanced	Up to 65,000	Up to 60,000	Up to 1.9 GB/s & 1.0 GB/s	
	Value	Up to 20,000	Up to 15,000	Up to 1.0 GB/s & 0.3 GB/s	
All Flash	Performance	440,000	200,000	9	3
	Balanced	200,000	100,000	8	2
	Value	150,000	75,000	4	1

*Performance service level objectives are based on the following workloads and are available at all respective capacity reservation tiers.

IOPs – Max Read	IOPs – Max Mixed	GB/s – Max Read	GB/s Max Write
100% Read; 8K Block Size	50/50; 8K Block Size	100% read; 256K Block Size	100% write; 256K Block Size

Actual workload performance may vary based on different workload characteristics and can be reviewed in HPE Infosight on HPE GreenLake Cloud Platform (GLCP).

Shared Responsibility Model

HPE GreenLake for Private Cloud Business Edition subscription includes the Proliant Servers and Alletra Arrays, optional rack and switches, software (Alletra OS, Private Cloud Business Edition Management Console), and support (HPE Tech Care Essential) for delivering 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 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 HPE 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

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

Service Level Agreement for Data Availability

Definitions

The service level "availability" provides a service level agreement of:

- 99.9999% data availability for All Flash backed by Business-Critical Storage

- 99.9999% data availability for Hybrid backed by General-Purpose Storage

For the purposes of the service level agreement, HPE defines a qualifying outage as when an application cannot access any single virtual volume (VV), or all of that application's data on a storage device. This could be due to failure of the storage device itself or due to wrong action of the HPE authorized support services on the storage device.

For the purposes of this service level agreement, the **outage duration** is defined as the amount of time that elapses between the Customer reporting or confirming the outage (if identified by HPE) and the Customer confirming data availability after HPE returns the service to the Customer following technical resolution of the root cause for the outage, excluding any delays caused by the Customer or forces beyond the reasonable control of HPE. This includes delays in remote access.

Data Availability Service Level Agreement Conditions

Customer Responsibilities:

- Connectivity to Data Services Cloud Console and to HPE InfoSight; outages that happen while the device is not connected and sending data back to HPE will not qualify for this service level agreement.
- Applying all HPE critical and recommended software updates (patches) within 10 days and HPE Alletra OS releases within 30 days of notification.
- Remediating any technical issues related to HPE GreenLake for Private Cloud Business Edition on premises equipment or other customer equipment that HPE has proactively raised within 30 days.

In the event of an unplanned qualifying outage:

- If not proactively identified by HPE, the Customer must open a support case with HPE within 7 days.

- Customer should provide timely access necessary for HPE to resolve any issues, including remote access.

- If HPE determines, in its sole discretion, that the outage was due to the fault of HPE or the HPE GreenLake for Private Cloud Business Edition service, outside of stated stipulations, HPE will issue cash repayment or credit for up to 100% of the Reserved Capacity for the month during which the outage was experienced.

- The cash repayment or credit amount is determined by HPE, and may vary based on the service level availability (All Flash or Hybrid), cumulative outage duration as measured during a 30-day customer billing period, and the Reserved Capacity during the billing period that downtime occurred.

- HPE reserves the right to restrict the number of credits that are issued for a single subscription both per annum and over the lifetime of the service agreement.

- HPE reviews all reported outages for eligibility automatically and on a periodic basis. However, all Customers have 30 days from outage resolution to request review of the outage eligibility for remediation under the service level agreement.

- If HPE is not able to determine root cause of an outage due to missing information (log entries) or failure to recover equipment, parts, components, or other devices that are required to establish root cause, the associated unplanned outage may not qualify for remediation under this service level agreement.

Data Availability Service Level Agreement Exclusions

The following are not qualifying outages:

- An outage that occurs as the result of the device recovering from a failure caused by an outside event (for example, a power failure, a network failure, or any other external event that affects the array).

- Planned or unplanned Customer- user-caused outage (including but not limited to planned maintenance or customer shutting down the array for any reason).

- An outage that occurs due to a Customer not properly following self-maintenance or self-service and procedures.

- An environmental outage (for example, power outages, power fluctuations, network outages, natural disasters such as hurricane, earthquake, and more), or an outage that results from problems outside the array.

- Outages on preproduction systems or systems which have not been fully deployed into production.

- An outage resulting from:

- Any non HPE branded hardware, software, or services interaction with the HPE GreenLake for Private Cloud Business Edition devices or software

- Misconfigured hardware or software not provided by HPE, such as customer network, servers, failover software, and more.

- A defect determined to be contained in any non HPE hardware or software connected to and using the array.

- Installation, configuration, operation, or use of HPE GreenLake for Private Cloud for Business Edition devices or software with any unsupported host configuration. Host configurations are supported if they are published in SPOCK or if private support has been granted to a specific Customer.

- Modification, alteration, or repair of on premises HPE equipment or software by anyone other than HPE or its authorized representatives.

- Any known defect, where a fix has been released and recommended by HPE, but not deployed within the timeframe identified by HPE.

- Misconfigured or misbehaving hardware or software external to the storage.

- A workload imparted on the array that exceeds the limitation the array was designed and configured to serve. This includes overloading any single component of the array due to an improper load balancing not in compliance with HPE best practices.

- A recurring outage of the same root cause, defined as any outage that has the same root cause as a previously identified qualified outage, when it occurs less than 30 days following that prior outage.

Data Availability Service Level Agreement Remuneration

Unless stated otherwise, credits or cash vouchers are redeemable immediately and within 60 days following issuance.

Credits or amount of cash vouchers are calculated based on cumulative downtime attributable to qualified, unplanned outages as described in this document, as calculated during a single 30-day billing period, and according to the following schedule, which is based on the Reserved Capacity for the billing period during which the downtime occurred:

Availability	Uptime Commitment	Cumulative Downtime*	% Invoice
All Flash and Hybrid	99.9999%	3- 43 mins	50%
		>43 mins	100%

*During a single 30-day billing period.

Unless otherwise specified, credits are not redeemable for purchases or extension of array support or services, outside of the HPE

GreenLake for Private Cloud Business Edition subscription.

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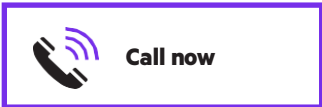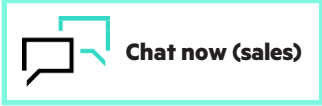
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