

HPE Storage substantiation

HPE GreenLake for Block Storage	Substantiation
The industry's first storage as a service that offers self-service and 100% availability guarantee built-in for mission critical environments	Based on analysis of known industry block storage-as-a-service offerings available as of March 11, 2022 that are offered self-service.
HPE GreenLake for Block Storage with HPE Alletra Storage MP	Substantiation
The industry's first disaggregated, scale-out block storage with a 100% data availability guaranteed	Based on analysis of known industry block storage-as-a-service offerings available as of March 28, 2023 that are offered self-service.
66% better price performance	Based on HPE net pricing and internal performance testing; compared to HPE 3PAR 8200 Storage
2.3x faster performance	Based on HPE internal testing; compared to HPE Primera 630A Storage
100% Data Availability Guarantee	"Uptime guarantees that deliver," April 2023
HPE Timeless Program	Substantiation
Customers can expect an average of 30% savings in total cost of storage ownership (TCO) by avoiding one forklift upgrade.	Based on average HPE net pricing across multiple solution configurations, April 2024
HPE StoreMore Guarantee	Substantiation
4:1 Data Compaction Guarantee	Based on HPE historical install base data
Primary claims for HPE Alletra and Data Services Cloud Console	Substantiation
99% operational time savings	Comparison of infrastructure lifecycle management of HPE Alletra versus ESG Market Research, April 2021
100% Availability Guarantee for HPE Alletra 9000	"Uptime guarantees that deliver," April 2023
99.9999% Availability Guarantee for HPE Alletra 6000	"Uptime guarantees that deliver," April 2023
40% IT resource savings	A commissioned study conducted by Forrester Consulting, The Total Economic Impact of HPE GreenLake , June 2020
HPE Alletra 9000 delivers best-in-class performance density with over 2 million IOPS in just 4U	Based on HPE internal testing of 8 KiB random reads TPVV RAID 6
HPE Alletra 9000 is certified for an industry best 96 SAP HANA® nodes in just 4U	Based on HPE internal analysis of publicly available data on the scalability of competitive mainstream arrays, June 2021
HPE Alletra 6000 delivers up to 3x faster performance than previous HPE Nimble Storage All Flash Arrays	Based on HPE internal testing, June 2021

Supporting claims for HPE Alletra and Data Services Cloud Console

Substantiation

93% of IT decision-makers seeing storage and data management complexity impeding digital transformation

ESG Data Management Survey, April 2021, commissioned by HPE

82% of IT decision-makers seeing storage management at scale as a key challenge

ESG Data Management Survey, April 2021, commissioned by HPE

88% of IT decision-makers looking to bring cloud-native apps on-premises

ESG Data Management Survey, April 2021, commissioned by HPE

Primary claim for HPE Primera

Substantiation

HPE delivers the world's most intelligent storage for mission-critical apps

Note this claim is subjective. The following is the evidence and/or reasoning that supports our view, as well as the internal research that shows certain customer outcomes that demonstrate how our storage products are most intelligent for mission-critical apps.

Supporting claims for HPE Primera

Substantiation

Up to 93% reduction in time spent to deploy, manage, and scale storage

Based on HPE internal testing of HPE 3PAR versus HPE Primera.

100% availability guaranteed

HPE Brochure: [HPE 100% Availability Guarantee](#), August 2021.

Up to 1.5M IOPS

Based on HPE internal testing.

Up to 44 GB/s

Based on HPE internal testing.

Up to 115% faster performance

Based on HPE internal testing in an Oracle® environment at baseline of HPE 3PAR versus HPE Primera.

Up to 233% change in throughput

Based on HPE internal testing of HPE 3PAR versus HPE Primera.

Primary claim for HPE 3PAR and HPE Nimble Storage

Substantiation

HPE delivers the world's most intelligent storage

Note this claim is subjective. The following is the evidence and/or reasoning that supports our view, as well as the internal research that shows certain customer outcomes that demonstrate how our storage products are most intelligent. [Brochure: HPE InfoSight—Artificial intelligence for autonomous infrastructure](#), September 2021.

Primary claim for HPE Alletra dHCI and HPE SimpliVity

Substantiation

HPE Alletra dHCI is the industry's only disaggregated HCI powered by artificial intelligence

Note this claim is subjective. The following is the evidence and/or reasoning that supports our view, as well as the internal research and external opinion that demonstrate the point of view. [HPE Solution Brief](#), August 2022.

HPE Alletra dHCI is made to do more than other traditional HCI and delivers a better HCI experience without any of the tradeoffs providing 10x faster application performance, 4x more reliability for business-critical applications, and 5x more efficient for better economics

Based on HPE internal testing and comparing Dell EMC VxRail versus HPE Alletra dHCI with 100 TB effective capacity, ability to withstand a minimum of two drive failures, and triple mirroring.

HPE Alletra dHCI works for any virtual machine

HPE Alletra dHCI does not have technical restrictions on the virtual machine it can support. [HPE Nimble Storage QuickSpecs](#), [HPE Alletra dHCI QuickSpecs](#).

Apps and data can move freely across all clouds

HPE Cloud Volumes enables bidirectional data mobility between HPE Alletra dHCI and the public cloud. HPE does not charge any egress fees when restoring data from HPE Cloud Volumes on-premises. HPE Cloud Volumes customers can also leverage Amazon Web Services, Google Cloud Platform™, and Microsoft Azure simultaneously without any lock-in.

HPE SimpliVity delivers 99.999% data availability

Based on measured uptime of HPE SimpliVity installed base over the past four quarters starting in February 2023 for software-optimized models. Assumes customer follows HPE best practices with a minimum of a two-node high availability cluster pair of HPE SimpliVity hosts and using an active version of HPE OmniStack software and an active version of the support pack firmware bundle.



Supporting claims for HPE InfoSight (for HPE Alletra, HPE 3PAR, HPE Nimble Storage, and HPE SimpliVity)

Substantiation

Most advanced AI for infrastructure	Brochure: HPE InfoSight—Artificial intelligence for autonomous infrastructure , September 2021.
1250 trillion data points collected by HPE InfoSight	Based on the number of data points collected and processed since 2011 from HPE Nimble Storage and HPE 3PAR Storage arrays.
Savings of over 1.5 million hours of lost productivity due to downtime	Based on the volume of critical issues proactively resolved for customers. Analyst White Paper by ESG: HPE Alletra 6000 QuickSpecs , May 2019.
86% issues automatically opened and resolved	HPE Business White Paper: Redefining the standard for system availability , August 2021.
99.9999% guaranteed availability	Brochure: HPE Get 6-Nines Guarantee , September 2021.
54% of problems resolved are outside of storage	Based on an internal study of HPE Nimble Storage installed base , August 2021.
No Level 1 or 2 support; Level 3 response in < 1 minute on average	Analyst White Paper by ESG: HPE Alletra 6000 QuickSpecs , May 2019.
<ul style="list-style-type: none"> • Pinpoint issues between storage and VMs and underutilized virtual resources without effort. • Take the guesswork out of managing data infrastructure with AI-driven recommendations that improves performance, drives higher availability, and optimizes resource utilization and planning. 	Analyst White Paper by ESG: HPE Alletra 6000 QuickSpecs , May 2019.

Primary claims for HPE GreenLake for File Storage

Substantiation

80x faster than legacy NAS for read operations	Accelerating A.I. Workloads at Lightspeed , Reference Architecture white paper, January 2021 and Meet Your Need for Speed with NFS blog, October 2021, both by VAST Data. The FIO benchmark test showed 174 GB/sec, and a NAS NFS client delivers 2 GB/sec. HPE GreenLake for File Storage is built on VAST Data software and the HPE Alletra Storage MP hardware platform, which has RDMA for fast performance and can scale beyond 200 GB/sec of read performance.
100s of GB/sec of throughput and beyond for read performance	The per enclosure performance has been characterized and certified, and it is part of the configuration and sizing tools for HPE GreenLake for File Storage, which achieves 100s of GB/sec by scaling data and compute enclosures.
Designed for 99.9999% availability	HPE GreenLake for File Storage is built on the HPE Alletra Storage MP hardware platform and is fully redundant with no single point of failure. Hardware expansion and software upgrades do not cause interruption of connectivity to file shares. The six 9s metric for VAST Data software is substantiated by the “Ensuring Storage Reliability at Scale” white paper, February 2022.
Data reduction: Enterprise backup files 20:1; quantitative trading market data 8:1; log stores 4:1; Splunk 3.5:1; AI/ML training data, VFX and animation data, and backup target 3:1; seismic and weather data 2.5:1; life science data and multi-tenant HPC environments 2:1	These ratios are measured results from hundreds of VAST Data customer data sets. The ratios are documented in “The VAST Data Platform” electronic white paper in the “Similarity Reduction in Practice” section, which is current as of May 2024, and on the “Similarity Reduction: Report From the Field” web page under “The Tale of the Tape” . Data reduction is a software feature with no dependencies on HPE Alletra Storage MP hardware.

Supporting claims for HPE GreenLake Day for Storage April 04, 2023

Substantiation

HPE GreenLake can help you radically simplify data management	See substantiation for HPE InfoSight delivers the most advanced AI for infrastructure
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Claim substantiation

TCO savings for HPE virtualization capability for HPE Private Cloud

Claim	Substantiation
25–40% savings on virtualization license costs	Based on analysis comparing primary virtualization license requirements for HPE Alletra dHCI and HPE SimpliVity to traditional HCI competitor products, April 2024
50% reduction in virtualization costs	Based on HPE internal analysis comparing pricing of virtualization market leader offerings to expected HPE virtualization capability pricing, April 2024
50% cost reduction by leveraging HPE CloudPhysics to drive server consolidation	Inspecting HPE CloudPhysics customer data set and right-size the VM environment

Total Savings up to 80% equating to competitive solutions being 5x more expensive

Assess VM utilization through HPE CloudPhysics and consolidate VMs	Up to 50%
HPE CloudPhysics	According to HPE CloudPhysics customer data set of ~8,500; <ul style="list-style-type: none">• 50% own more licenses than they currently use/need• Of those customers, the license over-provisioned rate averages more than 50%• 12% use less than 25% of their licenses• 23% use less than 50% of their licenses• 39% use 75% or less So we can safely say that by inspecting and optimizing the VM environment with CP, this can save up to 50% in license cost.
Reduce on Virtualization costs	Pricing will be at least 50% lower than VMware®
HPE's virtualization capability	Licensing costs will be significantly lower than comparable alternative virtualization software
Adopt optimized HPE GreenLake for Private Cloud solutions to minimize VMware license requirements	25–40% Savings*
HPE GreenLake for Private Cloud Business Edition with HPE Alletra dHCI	Better economics (fewer virtualization licenses) due to disaggregation of compute and storage <ul style="list-style-type: none">• With dHCI all CPU resources are used for running workloads unlike HCI offerings (requires Controller VM)• Dedicated storage eliminates hypervisor license costs for controller VM overhead• 78% more usable compute resources on HPE Alletra dHCI when compared to traditional hyperconverged
HPE GreenLake for Private Cloud Business Edition with HPE SimpliVity	Lower TCO driven by fewer cores requiring fewer licenses to achieve same resiliency <ul style="list-style-type: none">• Achieves FTT=2 with 2 nodes (vs 6 for competition) Additional value add: in-built data protection with Hyper Efficiency (vs competition needing external backup solutions)

* Based on HPE internal testing April 2024

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[HPE.com/storage](https://www.hpe.com/storage)

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