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HACKING THE CLOUD WITH HPE CLOUD VOLUMES

Insight Guide

How to make the public cloud ready for your enterprise app

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HOW TO MAKE THE PUBLIC CLOUD READY FOR YOUR ENTERPRISE APP

Enterprise IT teams are more cloud aware than ever. In fact, according to recent research from the Taneja Group, 96% of all enterprises have at least some of their data sitting in the public cloud*[1]. Not only that, on average they are using two cloud vendors. It's evidence that businesses are seeing value in the cloud and are increasingly operating a hybrid or even multi-cloud stack, combining on-premises infrastructures and various public cloud services. However, despite adoption rates appearing high there are significant barriers that stand in the way of true enterprise adoption of public cloud.

96% of enterprises have at least some data in the public cloud*[1]

Public cloud, storage and enterprise apps

Durability

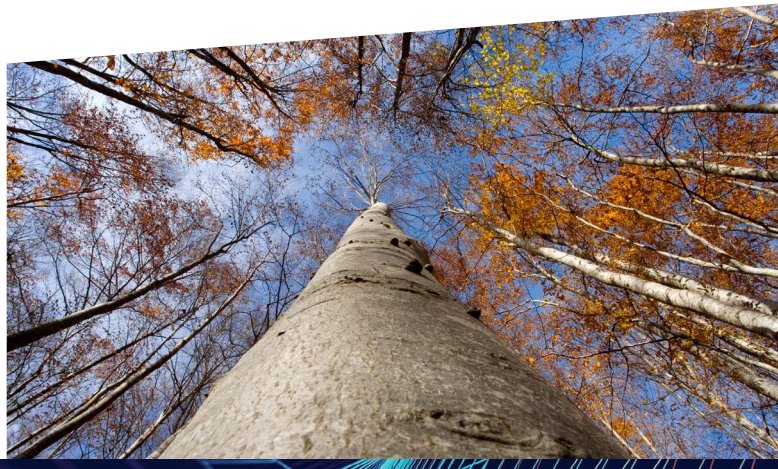
Most enterprise applications are not cloud-native – that is, they are not built for a cloud-first world because their architectures are dependent on block storage. In the public cloud, object storage prevails, which is perfect for cloud-native apps but not for most enterprise apps. To remedy this, cloud vendors have created cloud block storage, which goes some way to mitigate the challenges but compromises on durability, typically only offering around three nines availability, some way off the no-nonsense levels required for most critical apps.

Performance

Where apps need high, or even guaranteed levels of IO throughput to achieve necessary performance, public cloud vendors are not able to offer the reassurance of consistent performance. Naturally, unpredictability poses risk for the most important apps. Consequently, over-spending on performance is a top budgetary issue for most cloud consumers, as delivering the right performance at the right time to an app is challenging.

Features

The storage features that enterprise IT teams are accustomed to using, and which enterprise apps rely on, such as instant backups and recovery, encryption at rest, data replication, or copy data management with clones are at worst not available, at best very expensive to access as part of a cloud service.



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As a result, enterprise apps by and large remain on-premises where businesses feel they can take control over the availability and performance levels needed. Those that are moved, inevitably maroon data, and suffer performance challenges because they are subjugated to a storage sub-system not fit-for-purpose.

Unfortunately, it means many enterprise apps are missing out on the elastic capacity and consumption-based economics that make the public cloud so attractive. Until now.

> **Enterprise apps remain on-premises where businesses feel they can retain control. They miss out on many of the benefits of cloud as a result.**

Mobility

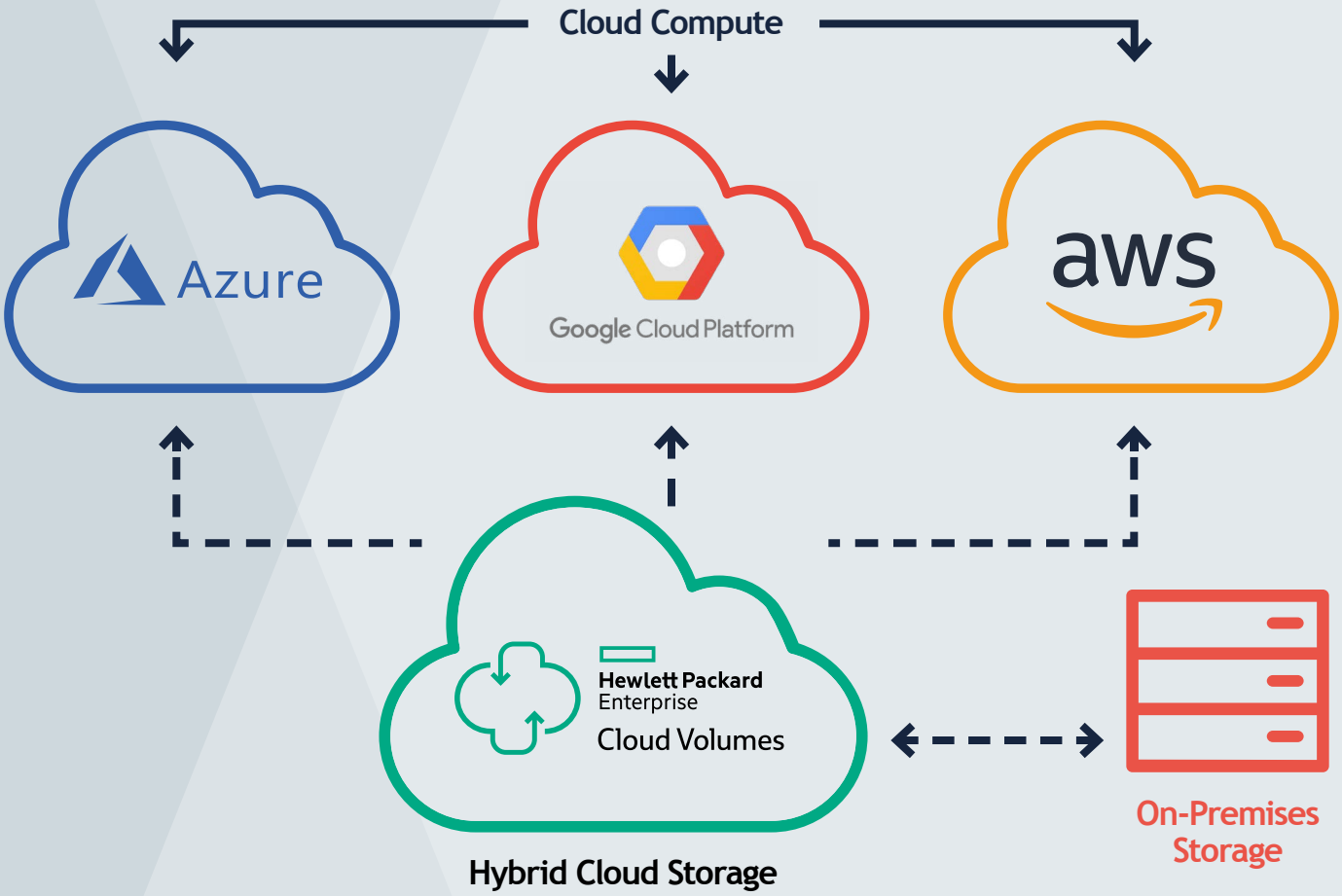
As datasets in the cloud grow larger and larger, they become harder and harder to move - due to data egress charges from public cloud vendors. So, data often stays put. Other things, like applications and processing power are attracted to where the data resides. Over time it becomes more difficult, costly and risky to move data that has taken root in the cloud - a true data gravity challenge.

Cost

Enterprise-class data storage is commonly the costliest but most important component of a cloud service, especially when data needs to be replicated. Similarly, for businesses wanting to harness the cloud without performance degradation, no other choice remains than to undergo the expensive process of refactoring apps as cloud-native to see them successfully deployed in the cloud.

Industrialising the public cloud

HPE Cloud Volumes changes everything. A Storage as a Service solution for Amazon Web Services (AWS), Azure and Google Cloud Platform; Cloud Volumes is the first in a new series of HPE Cloud data services, offering unseen capacity, performance and protection benefits for public cloud data.



Cloud Volumes abstracts enterprise datasets away from the lock-in of public cloud vendors and places it in a separate, storage-optimised cloud service. The solution is powered from data centres proximate to all three public cloud vendors to ensure first-class performance. Removing the responsibility for data services from the cloud vendor in this way provides new levels of freedom to use any cloud you choose.

The SaaS infrastructure is built on HPE's Nimble Storage enterprise flash technology and harnesses InfoSight Artificial Intelligence (AI) and predictive analytics to deliver insights into your data. Through all-flash performance and drawing on a 10-year heritage monitoring tens of thousands of infrastructures across the world, HPE is creating an extraordinary experience in the public cloud.

For the first time, Cloud Volumes enables enterprise apps to run just like they do on-premises, but with all the elasticity of the cloud.

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The value of enterprise-class storage in the cloud

Data mobility eliminates cloud lock-in

It's your data and you should control where it resides. Contained in a separate service, your data can be shared between every cloud you choose or even multiple clouds with zero impact on performance. No more worries about creating islands of data you can't move.

Organisations using Nimble Storage on-premises also have the freedom to move data easily between the public cloud and their own data centre. It means data can be rapidly transported between clouds or back in-house at the click of a button.

Enterprise-grade feature set

Cloud Volumes delivers the richest feature set for cloud hosted data. Enterprise-grade reliability and security with data protection and copy data management is everything your enterprise apps need. For example, instant snapshot backups and clones allow you to make copies faster and protect your data more often.

Committed 6 x 9s availability

Cloud Volumes is built on a proven storage architecture that delivers uncompromising uptime and availability. Millions of times more durable than native cloud block storage delivered as standard by public cloud vendors, Cloud Volumes promises six nines availability for even the most demanding enterprise apps.

Choose your IOPs - on demand

Unlike the public cloud, Cloud Volumes offers the freedom to specify the levels of performance your app demands. Besides TBs of data capacity, Cloud Volumes scales IOPs into the tens of thousands to deliver consistent and reliable performance no matter what. This is enterprise scale not achievable on traditional cloud vendor platforms.

Optimise your cloud resources and cost

InfoSight monitors your data on- and off-cloud so you can be sure resources and data placement is perfectly optimised and every opportunity for saving is uncovered. It takes the guesswork out of planning and troubleshooting by providing true visibility into how your public cloud and on-premises environment is performing, and enabling you to anticipate and prevent issues across the stack no matter where your data exists.

Minimise gravity tax

Breaking the connection between your data and the cloud vendor means the expense tied up in having your app and data existing on the same infrastructure is no longer necessary. Likewise, expensive egress fees charged to pull data back are dramatically reduced, while still ensuring you leverage what may be the best mode of delivery for your app.

No refactoring your apps

Many businesses cannot afford to refactor all apps for native cloud environments, and yet it still makes sense to leverage cloud infrastructure for some critical workloads. Using Cloud Volumes, porting your enterprise apps no longer means refactoring or else settling for sub-standard performance. Cloud Volumes is a low-risk method of ensuring your enterprise app will work in the public cloud as the storage architecture is compatible, performance is tuned, and availability is exceptional. With no need to modify your app, there's also no re-skilling of your people either. It means you can genuinely plan for apps existing where is best regardless of limitations.

USE CASES FOR HPE CLOUD VOLUMES

1. Support enterprise-grade apps
Cloud Volumes provides the performance and durability necessary for workloads like Oracle, SAP and SQL, as well as new apps deployed in Containers with Kubernetes.

2. Share data between clouds
Expose data to multiple clouds rather than keeping it contained within one service alongside the app and compute.

3. Create a DR site or backup copy
Use Cloud Volumes to simply create a DR site or off-site copy data without the overheads of running a second data centre.

4. Run high performance apps
All-flash performance in the cloud gives you the confidence to run demanding apps like analytics.

5. Test and Dev
Cloud burst and make lots of copies of your data available very quickly at a fraction of the cost of traditional cloud.

More security and better compliance

The major public cloud providers represent a big target for cybercriminals. Keeping your data separate from their infrastructures means your data is less exposed to this threat. Similarly, inside Cloud Volumes all data is 256-bit encrypted and rich security controls enable SoC 2 Type 1 certification and HIPAA compliance.

> **Your data no longer needs to be tethered to where the app and compute is. Cloud Volumes severs the connection and delivers enterprise-class durability, performance and features in return.**

You don't have to have HPE tech to benefit

There are advantages for organisations who use Nimble Storage on-premises and create a hybrid infrastructure with Cloud Volumes, in that data can be moved on- and off-cloud at will with minimal effort and cost. However, using Cloud Volumes does not require you to have HPE technology as cloud-native volumes will connect directly with any combination of AWS, Azure and Google Cloud Platform and run exclusively in the cloud.

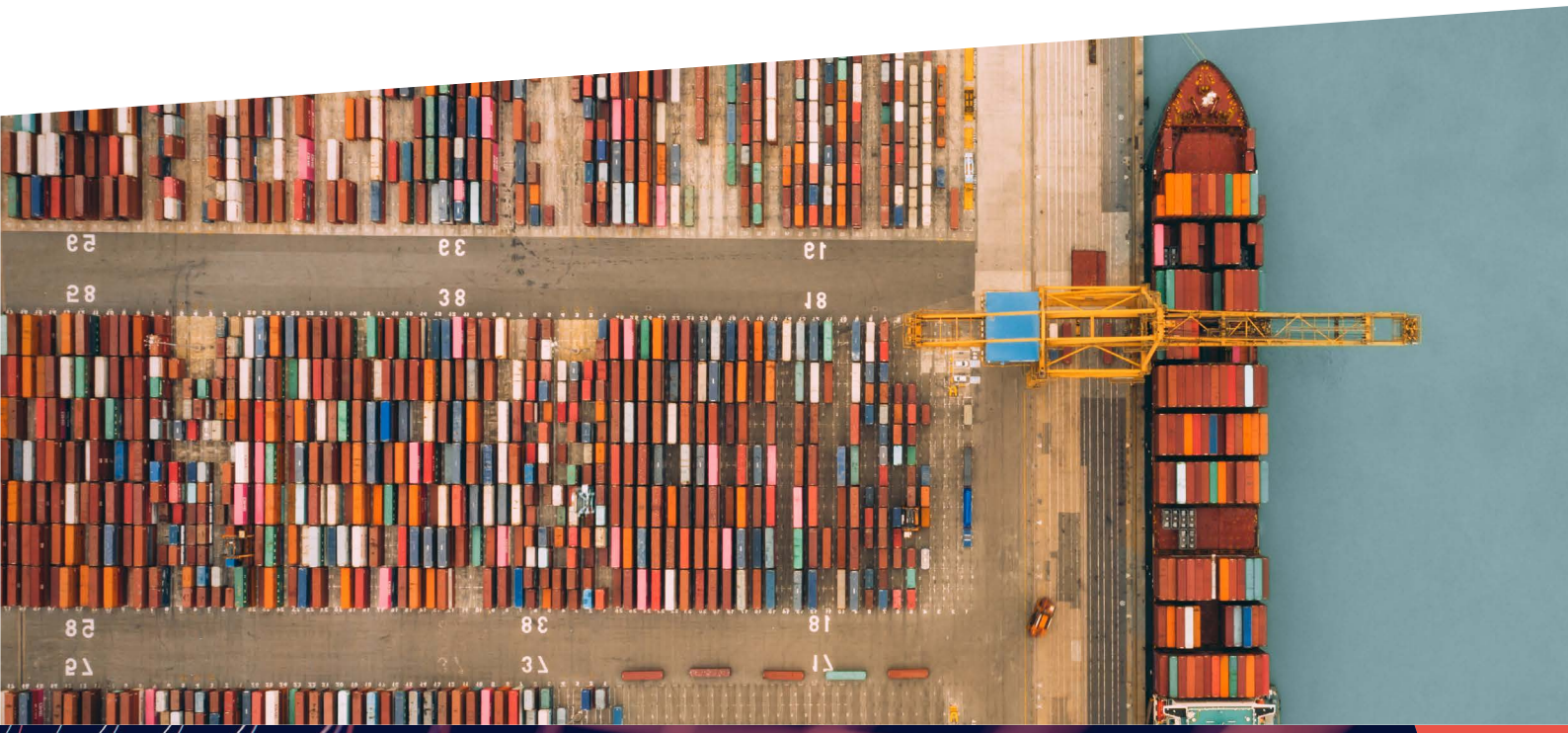
Best value commercials

With Cloud Volumes you only pay for what you use. If you clone your data, you only pay for what you change, not for what's duplicated. This slashes the cost of storage in the cloud, while giving the freedom to better protect data and test more apps.

Cloud Volumes is also easy to pay for. Bought as a pre-paid pay-as-you-go service, it's simply a case of choosing how much capacity (GB) and performance (IOPs) you need, plus how long you want to use it for. Capacity and performance are forecasted based on global intelligence gathered by HPE using InfoSight. While it's not possible to scale-down until your service commitment ends, it is possible to scale-up by as much as you need.

References

*1 Market Perspective: HPE Brings Multi-Cloud Storage to the Enterprise, September 2018. Taneja Group Technology Analysts



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REALISE VALUE FROM THE CLOUD FASTER

Storage is one of the single biggest costs for putting enterprise apps into the cloud and a significant influence on performance. Rightfully, it inspires concerns and has become a major deterrent for moving apps to the cloud.

Cloud Volumes removes this objection, outlining a straightforward path and advocating freedom of choice in cloud provision to more easily get to your desired future state.

As IT buyers look to transition to a hybrid or multi-cloud environment, Cloud Volumes makes a strong case for getting enterprise apps into the cloud and realising value faster.

START YOUR MOVE TO THE CLOUD

To learn more about HPE Cloud Volumes and to see it for yourself, get in touch at **www.servium.com** or by calling **+44 (0)303 334 3000**.

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