EQUINIX | ORACLE Cloud

Joint Solution Brief
Interconnection

Equinix and Oracle deliver powerful interconnection for the digital enterprise

Joint benchmarking test demonstrates performance benefits of up to 28x for enterprise workloads using Oracle Cloud Infrastructure (OCI) FastConnect on Platform Equinix®

Introduction

Customers often ask, "What is the actual performance difference between the public internet and private interconnection for an enterprise workload?"

Now we can answer that question with proven data. We recently evaluated private interconnection using Oracle Cloud Infrastructure (OCI) FastConnect via Equinix Fabric® and compared results to the public internet. Enterprise Strategy Group (ESG) validated the performance benchmarking setup, methodology, test execution and results. With over 380 separate tests conducted across multiple factors, the benchmarking indicated remarkable performance increases of up to 28x.

Operating big data workloads without compromise

To compete in the digital economy, enterprises must deliver high-quality, differentiated customer experiences. This requires moving massive amounts of data in near real time, while maintaining control and security—a tall order indeed. Workloads such as backup and recovery, ETL (Extract, Transform and Load), large-volume data streaming, and data synchronization and replication all require interconnection to move data quickly and securely.

Likewise, advanced technologies such as AI and cloud-based management tools also rely on an agile, digital infrastructure for optimal performance. High-demand workloads must return accurate results in milliseconds. The questions are, how can you protect data and support near real-time replication across regions? How do you avoid sharing sensitive information over the public internet? And how can you meet performance demands for business workloads and manage deployments between public and private infrastructure?

> "Equinix data center interconnection was key for our global design of the new WAN. The pay-per-use, software-defined interconnection of Equinix Fabric reduced our network costs and provided the global, low-latency virtual connections we needed to the public cloud."
>
> Manel Parra
> CTO, CELSA Group

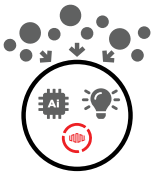
Benchmarking interconnection with Equinix Fabric

FastConnect on Platform Equinix provides a secure, private, high-bandwidth connection that ensures network predictability and shields sensitive information from the public internet. Platform Equinix offers a globally connected private network that delivers cloud-proximate colocation, resulting in significant performance improvement as compared to the public internet. The combination of close physical proximity to the cloud and software-defined interconnection via Equinix Fabric significantly reduces latency.

Our tests bore this out. We based our focus on backup and recovery, a classic enterprise use case when migrating to cloud. Using industry-standard technology, the test emulated various levels of latency and packet loss over 10Gbps FastConnect and 10Gbps public internet to quantify the overall impact on an enterprise workload.

Optimized Networking for Hybrid Data

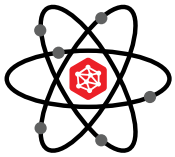
Proximity



28x
performance improvement

Up to 28x Performance Improvement with Cloud Adjacent Data[1]

Reliability



6 hours
shorter recovery window

Use Equinix Fabric's reliable packet delivery to shorten coast-to-coast recovery window by as much as 6 hours[2]

Control

2x
more efficient

Move data up to 2x more efficiently leveraging Jumbo Frames (hybrid cloud networks)

Figure 1 1. Compared to 0.1% packet loss on internet 2. Coast-coast latency is 75ms for Ashburn to San Franciso

The results can be attributed to proximity, reliability and control. Migrating data to a Platform Equinix location adjacent to desired clouds maximizes performance improvement. Equinix Fabric's reliable packet delivery ensures that recovery times are reduced by as much as six hours when the database and the required cloud are on opposite coasts (75 ms latency apart). Finally, Equinix Fabric and FastConnect together provide enhanced control of the network, allowing enterprises to use jumbo frames to deliver six times more data per packet. This increases the speed of data movement by up to two times.

In addition to cloud proximity, packet delivery and jumbo frames compound to produce significantly greater performance when compared to an internet service experiencing 0.1% packet loss, especially at higher latencies.

For example, when restoring the database from a 1TB backup at 100 ms latency, it was observed that over the internet with 0.1% packet loss, it took more than seven hours (443 minutes) to restore. The same database was restored in 16 minutes at Equinix's cloud-proximate data center at sub-2 ms latency and 0% packet loss using FastConnect via Equinix Fabric. That's an overall improvement of 28x, with the restore time shortened by as much as seven hours.

Conclusions

Using the public internet to back up and restore large databases is unpredictable due to the non-deterministic nature of the internet. Using FastConnect yields far better results due to reliable packet delivery, predictable delay and the ability to use jumbo frames.

While Backup/Restore was an example use case, the same network characteristics will also hold true for other workloads like ETL processes. FastConnect simultaneously supports data warehousing and transaction processing, ensuring ETL processes, analytics and peak usage transactions are completed within optimal time frames.

Deliver mission-critical services in a hybrid environment with unmatched performance.

Deploy FastConnect virtually and on demand. Ensure connectivity and proximity to access points for multiple clouds.

Achieve powerful interconnection—table stakes for the digital enterprise.

Transform your business via superior hybrid cloud application performance. Enable enhanced user experience, reduced risk and increased security.

Bring distributed infrastructure together and seamlessly interconnect ecosystem participants worldwide.

Dynamically and securely connect physical and virtual infrastructure, networks, clouds, collaboration service providers, and/or partners, providers and customers on Platform Equinix.

Ready to get started?

To read more about the results, check out the blog.

To see additional documentation, scripts, and results, read the full analyst report.

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