Solution Brief

Migrating Your Databases from Oracle Exadata to Microsoft Azure and Achieving High Performance

As organizations continue to move to the cloud, they face questions about efficiently migrating database workloads from Oracle Exadata to the public cloud. Technology leaders evaluating the risks express concerns about the performance, resilience, and expenses associated with the databases which reside on these engineered systems. Achieving success in these cloud migration initiatives and avoiding potential failure is a shared objective among stakeholders. This solution brief discusses how the Silk Data Virtualization Platform improves the performance of Oracle Exadata workloads on Azure and accelerates cloud adoption.

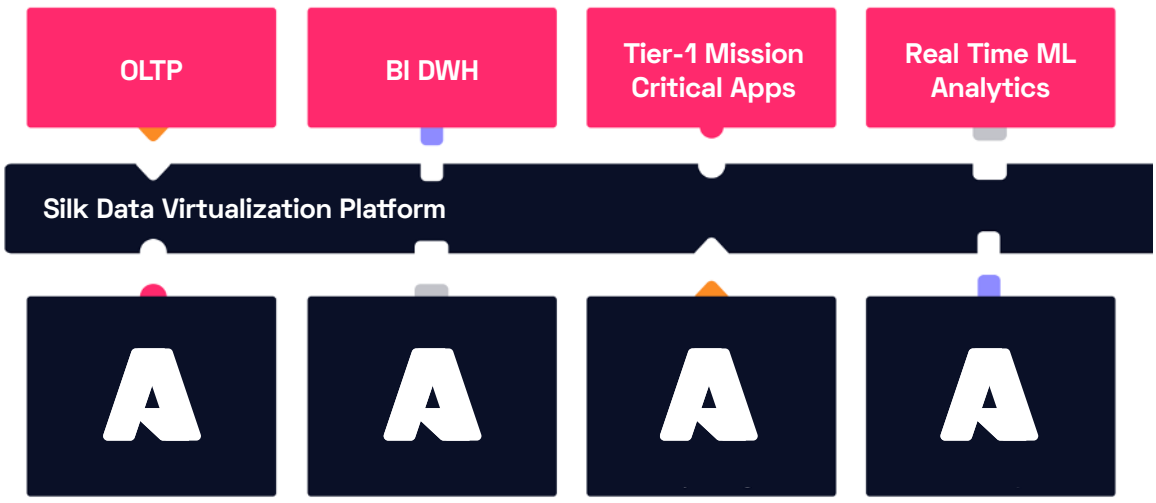
> **I would recommend Silk to other companies because of the manageability and performance it provides. It reduces the costs and resources [being paid for] by your engineering team. Silk is a game changer for Priceline.**
>
> Frank Magaletta,
> Sr. Director of Infrastructure

Ultra-Fast Database Performance

Silk is a powerful data virtualization platform designed to optimize database performance in the cloud by seamlessly integrating with your Oracle databases and cloud infrastructure. By bridging the gap between these systems, Silk enhances database operations significantly, delivering performance that surpasses cloud native solutions up to 10x. This makes Silk the perfect choice for handling the most challenging real-time transactional or analytical workloads running on Exadata and transitioning to the cloud.

Silk does this by:

- Decoupling performance from cloud capacity
- Dynamically scaling out and in for performance elasticity on demand
- Reducing your data footprint with thin provisioning, inline compression, data deduplication, and instantaneous zero-footprint snapshots and instantaneous zero-footprint clones



Rock-Solid Resiliency on the Cloud

Exadata is an engineered system providing a combination of hardware and software optimized for Oracle workloads, allowing them to horizontally scale with Real Application Clusters (RAC), and offering specialized performance for high IO relational database systems. These databases may encounter challenges when migrating to Microsoft Azure, where RAC is no longer an option and single-instance configurations must be used. During the transition from clustered Oracle on Exadata to single-instance Oracle in the cloud, customers should have a goal of re-architecting for the cloud to ensure resilience.

A popular alternative to RAC for achieving high availability in the cloud is Oracle Data Guard. By employing synchronous log replication and transparent application failover, Data Guard can be configured to offer a zero Recovery Point Objective (RPO) solution for single-instance Oracle. Furthermore, as Data Guard is included in Oracle's Enterprise Edition license, it can prove to be a more cost-effective choice compared to Oracle RAC, which requires additional, expensive licenses. The Silk Platform, with its scalable performance and symmetric active-active architecture, works in harmony with this Data Guard-based configuration to ensure both extreme performance and resilience for business-critical workloads running in the cloud.

Do You Need RAC in the Cloud?

Oracle's marketing literature describes RAC as a solution for high availability, but once integrated into a public cloud solution, RAC often fails most HA compliance and becomes an instance resiliency solution, providing much less than it once did on-premises. Oracle RAC's value around horizontal scalability is greatly limited by the ability to vertically scale in the public cloud. So how do customers moving to Microsoft Azure, where single-instance is the only supported option for Oracle, give themselves the ability to grow as their performance demands increase?

This is where Silk provides a unique capability. With Silk, data performance can be dynamically and non-disruptively added or removed as and when it is required by your workloads. Running an intensive batch process over the weekend? No problem, just scale up. Need to plan for an upcoming sales season with 10x your usual number of customers? Simple, just add more Silk nodes. Finished with the additional resources and need to return to normal to cut your cloud costs? Silk lets you scale down as well as up. And, unlike with Oracle RAC, the process of adding or removing performance is straightforward, non-disruptive and designed to be possible many times a day. For Oracle RAC or Exadata administrators, who usually must plan months in advance for the process of adding a node, this opens a brave new world of possibilities. And most importantly, scaling Silk up or down has no effect on the number of Oracle database licenses required.

Cost-Efficiency on the Cloud

When decoupling Exadata to single-node solutions without Silk, a higher CPU count will often be required due to slower IO processing, resulting in waits on CPU until freed. This results in customers deploying larger VMs to accomplish the same CPU and IO, which means more expensive Oracle licenses. Silk reduces cloud spend and exposure to additional Oracle licensing, as the number of database CPU cores remains the same while IO throughput is increased vs. other public cloud solutions. CPU ends up freed faster for more processing, even as more data performance is added or removed on the Silk platform. With Silk on Azure, the dependency between CPU count and data performance is unlocked, meaning there's less need to deploy larger VMs for performance. You save cloud costs and pay less for Oracle licensing than you would natively.

How can Silk save you money?

Reduced exposure to licensing costs – Silk reduces the number of VMs and vCPUs needed to hit mission-critical performance levels and offloads operations to the data layer.

Real-time data reduction – Enterprise data services including thin provisioning, inline compression, and data deduplication keep your cloud footprint in check.

Instantaneous zero-footprint clones – Take unlimited snapshots of your database for development and testing without any impact on performance or cloud capacity.

Accelerate Cloud Adoption

Silk accelerates cloud adoption with full data mobility and the ability to lift-and-shift Oracle workloads to the cloud without a refactor. Many Oracle customers debate whether to migrate from Oracle to PostgreSQL because migration is risky and time-consuming. The Silk Platform enables a straightforward lift-and-shift to Oracle running on IaaS, but with the same levels of performance you were used to on prem. You do not need to change the application code or re-engineer the dataset to work with a new database product, so you can quickly take advantage of the benefits of the cloud while having time to consider the next steps of your cloud journey. You may still want to move to an open source database like PostgreSQL, or perhaps you dream of a fully managed PaaS solution. Silk gives you the freedom and flexibility to complete your journey to the cloud as fast as possible, without it having to be the end of the road for your digital transformation aspirations.

So, say goodbye to risk analysis paralysis and get your Oracle workloads on the cloud.

Contact us at www.silk.us for a demo!

About Silk

The Silk Data Virtualization Platform gives demanding workloads up to 10x faster performance in the cloud. Without refactoring, applications can move to the public cloud without compromising on performance or overspending to mitigate risk. Industry leaders in ecommerce, SaaS, FinTech, and healthcare trust Silk with their business-critical workloads to get the ultra-fast speeds their customers demand. Silk is headquartered outside of Boston, MA.

To learn more, visit silk.us.