# Silk for Oracle

## The Silk Road from On-Prem to Azure

Solution Brief

**Oracle has been a leader in the database world for decades, being widely used by enterprise customers around the globe. With the recent growth and acceleration of cloud computing, enterprises are now facing the challenge of moving their Oracle workloads from on-prem to the public cloud.**

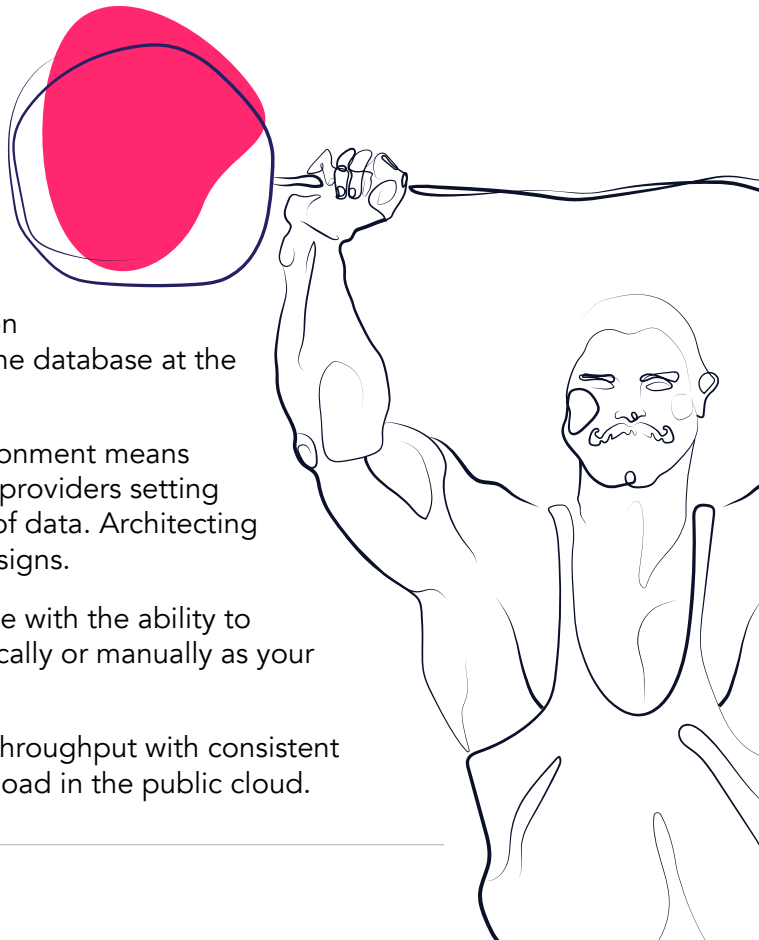
As Oracle workloads are usually mission-critical for most enterprises, database migration becomes a challenging part of cloud adoption, frequently holding back migration projects for enterprises. Oracle databases are often the cornerstone of complex application deployments, containing specific business logic; any change requires significant planning and testing. A wholesale migration to the cloud is therefore a considerable undertaking.

This solution brief will examine the different challenges of migrating Oracle workloads (including Exadata) to the public cloud and how the Silk Platform can make the journey from on-prem to Azure "silky smooth".

The Silk Platform is a smart, resilient yet invisible layer that will enable your Oracle workloads to succeed in the public cloud by delivering high-performance, cost-efficiency, and enterprise-class resiliency.

### Performance For Data Intensive Workloads

The first challenge for running Oracle databases in the cloud is data performance. To maintain a good user experience and ensure that queries or batch jobs execute quickly, it is essential that data can be read and written at high speed. Transactional workloads typically require low latency (the ability to read/write small amounts of data as fast as possible, while data warehousing workloads rely on high throughput (pumping large volumes of data through the database at the highest possible bandwidth.

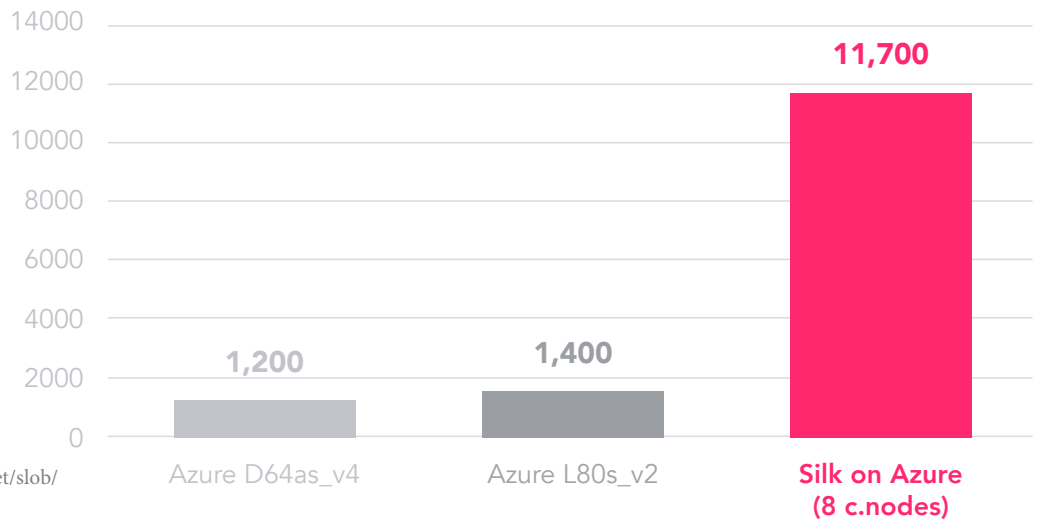


The nature of the public cloud as a shared, virtualized environment means that data performance can be unpredictable, with all cloud providers setting "throttles" to place upper limits on the speed and volume of data. Architecting around these limits can result in expensive and complex designs.

Silk offers the same -- or better than -- on-prem performance with the ability to dynamically scale your performance up and down automatically or manually as your workload changes.

With proven performance of more than 1M IOPS, 20 GB/s throughput with consistent sub-millisecond latency, you can easily run any Oracle workload in the public cloud.

*Oracle SLOB* with Silk vs. Azure - BW*




*https://kevinclosson.net/slob/

## Cost-efficiency

Two main factors can inflate your Oracle database cost while migrating your workload to the public cloud: core licensing and data inflation.

### 1. Core Licensing

Oracle's licensing model is famously complex, requiring customers to tread carefully in order to avoid exposure to unexpected costs. Today, in the public cloud, this has reached new levels.

1. **Core Factoring:** The Oracle Processor Core Factor Table is not applicable for Authorized Cloud Environments. This means that the required number of Oracle licenses will almost certainly increase significantly in comparison to the number required when running on-prem
2. **The need to use larger VMs** in the public cloud in order to deliver the performance required by your database will require more core licenses
3. **Cloud vendor limitations** or throttles on capacity and performance will often result in the need for more VMs (and therefore more licenses)

Considering all the above, your inflating Oracle licensing cost may become a considerable barrier to successful cloud migration.

Silk can improve licensing exposure in a number of ways. The architecture of Silk overcomes IaaS performance limitations and throttles, allowing the use of less VMs with less vCPUs. Additionally, Silk is able to offload certain operations to the data layer, alleviating the requirement for more vCPUs on the database server (and the corresponding license requirements).

### 2. Data compression

Enterprises using Oracle Exadata can take advantage of Oracle's Hybrid Columnar Compression (HCC) technology to significantly reduce the footprint of data stored. However, HCC is an Exadata-only solution so customers migrating away from Exadata face the prospect of "Data Inflation" as their database expands to its non-HCC-compressed size.

Since Exadata is only supported in the Oracle Cloud, Exadata customers wishing to migrate to Microsoft Azure have no choice but to abandon HCC. The result is a larger database footprint and therefore a larger cloud bill. One alternative is to use Oracle's Advanced Compression Option instead, but this incurs further license costs. Even worse, the additional database server CPU power required to perform these compression operations results in customers deploying larger VMs, with more vCPUs, requiring more database licenses.

Silk's inline data reduction technology uses resources on the data layer to compress and deduplicate your database without exposure to additional license costs. This takes place without the need for user intervention and has no effect on performance, offering customers a considerably more cost-efficient solution.

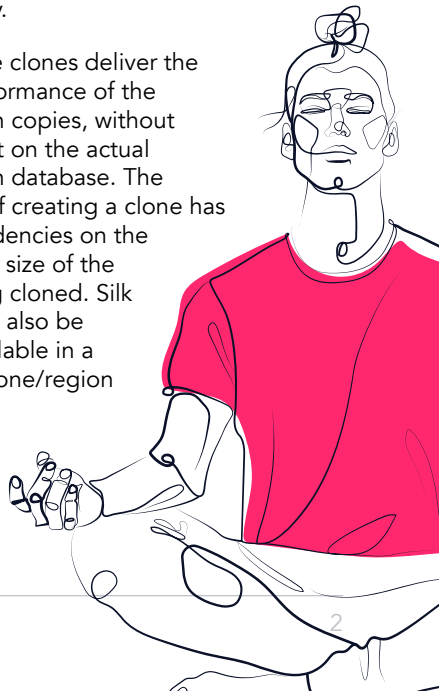
### 3. Zero-footprint clones

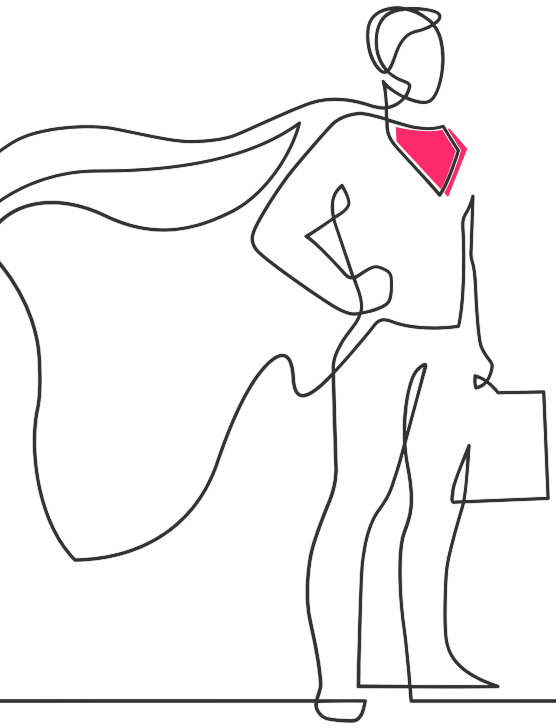
Database clones are a common use-case either as part of the CI/CD process for Dev/Test, for analytics or production.

For example, Oracle customers using Exadata Snap Clones may be surprised to find that in order to create writeable clones in the public cloud, they will be required to create full clones that are wasteful of capacity and time consuming.

Using Silk's patented snapshot architecture, zero-footprint clones are created instantly, with no performance impact, and without taking up any additional capacity. Clones can be mounted for read/write purposes, which serve to create additional working environments, all at a very low cost of capacity.

Read/write clones deliver the same performance of the production copies, without any impact on the actual production database. The duration of creating a clone has no dependencies on the number or size of the data being cloned. Silk clones can also be made available in a different zone/region or cloud.





## Resiliency

Is your Oracle database at the heart of your business? Your data must be protected and fully available under any circumstances. Many on prem Oracle customers, for example, incur considerable license costs to use the Real Application Clusters (RAC) option, which allows highly available solutions to be built across multiple nodes.

In the public cloud, however, Oracle RAC is only supported in Oracle's own cloud, meaning customers who wish to move to Microsoft Azure have to find alternative methods to architect for resilience.

Silk provides any level of resiliency you need with a no-single-point-of-failure architecture and full availability covering zone or region outages. It can even deliver cross-cloud availability. For customers who are used to enterprise class business continuity on prem, Silk is the enabler which brings the public cloud up to the standards required for enterprise computing.

**Start getting better performance and resiliency (at a better price) from your Oracle database in the cloud today!**
**Learn more at www.silk.us.**