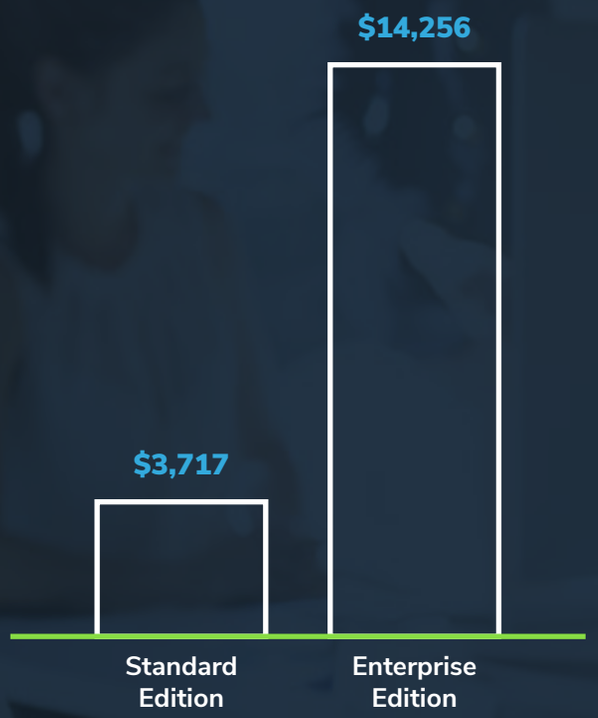
zadara

How to Establish High Availability with SQL Server Standard Edition

aws



Microsoft SQL Server Enterprise edition is **383%** more expensive than the Standard edition[1]

Challenges of modernizing with SQL Server at scale

Licensing can be complex and costly to manage

Establishing high availability (HA) is imperative to a well architected SQL Server environment and modernizing your business-critical applications. While Microsoft SQL Server Enterprise Edition provides a mechanism for doing so, it is too expensive for those who only need its HA features.

Moreover, achieving HA SQL Server requires you to provision multiple Amazon Elastic Block Store (Amazon EBS) volumes in each and every availability zone (AZ) used.

1 Based upon Microsoft List Pricing

Why run SQL Server on AWS?

AWS runs nearly 2x more Windows Server instances than the next largest cloud provider[2]

Greater reliability

The AWS Region/AZ model has been recognized by industry analysts as the recommended approach for running applications that require high availability.

Faster performance

Recent benchmarks show AWS enables organizations to run Windows on AWS with 2x greater price performance than the next largest cloud provider.

More security capabilities

AWS offers more security, compliance, and governance capabilities than the next largest cloud provider, including support for PCI-DSS, HIPAA, and GDPR.

Lower costs

Flexible pricing models, including pay-as-you-go, help customers lower their overall costs of running Windows, including up to 90% on Windows compute costs.

2 IDC: Windows Server Market Update

Why choose Zadara to run SQL workloads on AWS?

Zadara provides an enterprise-grade data storage service that enables you to establish HA with SQL Server Standard

Whether you are on-premises, or already on the cloud, Zadara hardware and software are optimized to work in tandem to ensure you will not sacrifice reliability or performance. In fact, you are likely going to see a significant increase in performance.

With dedicated resources and full-enterprise functionality available directly within your AWS environment, Zadara empowers you to continue running your HA SQL Server "business as usual," in a fully managed cloud model.

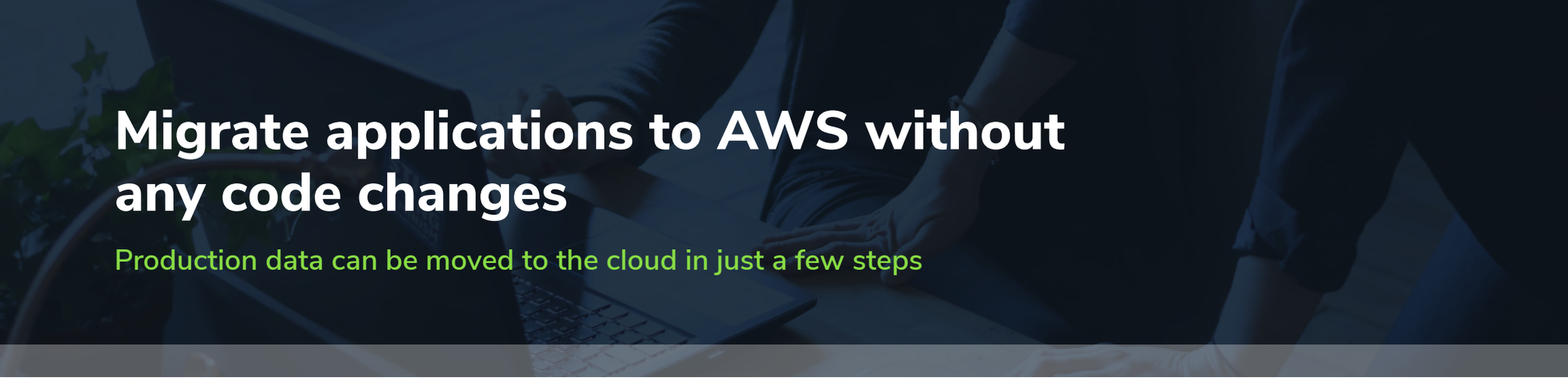
- Migrate applications to AWS without any code changes
- Maintain high availability at a fraction of the cost
- Run Windows clusters in the way you know and trust

Key enterprise NAS and SAN features

- All flash, flash-cached hard disk, and hard disk only storage arrays
- NAS (NFS, CIFS/AD) and iSCSI block interfaces
- Multi-level redundancy (nodes, network, controllers, data paths, etc.) Every virtual storage array (VPSA) has dedicated resources

Key enterprise storage capabilities

- VSS snapshots for application consistent copies
- Zero copy instant clones
- Snapshot-based replication and migration
- Thin provisioning
- Deduplication and compression
- AES-256 bit encryption at-rest and in-flight
- User-managed encryption keys
- Native backup to Amazon S3



Migrate applications to AWS without any code changes

Production data can be moved to the cloud in just a few steps

Note: *Zadara has several methods of migrating data into the cloud. The following is based on one such method, Zadara Remote Clone,[3] and is provided for purposes of illustration. Work with Zadara storage experts to develop a migration plan that meets your specific requirements.*

1. Install Zadara on-premises

Deploy Zadara on-premises, provision storage and use database tools to move databases onto high performance Zadara storage.

2. Establish destination SQL Server environment

Configure Zadara VPSA, either VMware Cloud on AWS or AWS EC2, Windows Server, Windows Server Failover Cluster, and SQL Server in the selected AWS region, per your requirements.[4]

3. Create Remote Clones

Establish Remote Clones from the local VPSA SQL Server volumes to the destination VPSA and enable background synchronization.

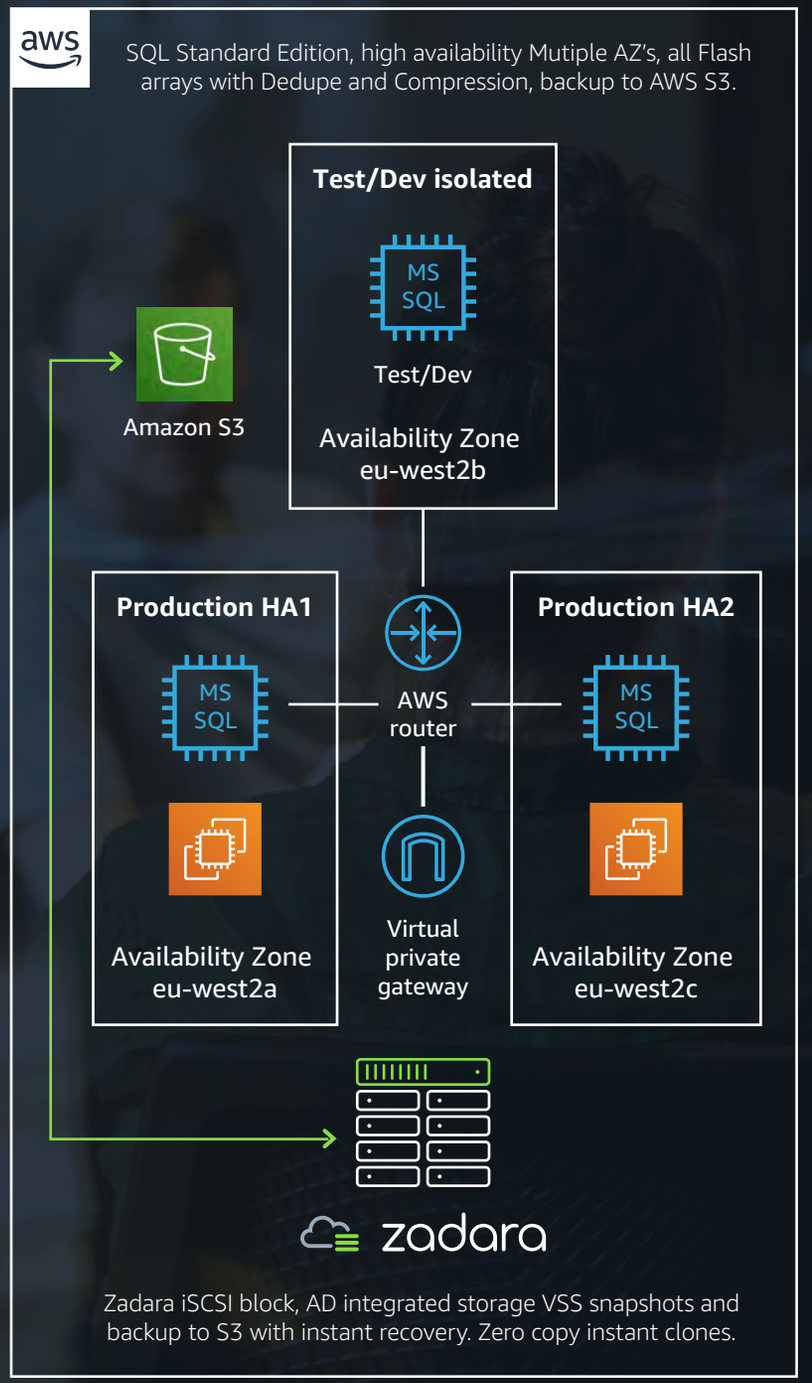
4. Retarget SQL clients to AWS-based SQL Server

All data will be immediately available to the AWS-based SQL Server instance. Performance will initially be reduced, but will increase as frequently accessed data is prioritized while background migration proceeds. When background migration completes, the clones are automatically promoted to primary volumes and the synchronization link is broken.

5. Migration is complete

The on-premises Zadara appliance can be removed, re-purposed, or can be utilized to establish disaster recovery for the new SQL Server environment.

3 Network performance minimums apply. See Zadara Remote Clone documentation for current requirements
4 Visit Zadara.com for solutions documentation for your specific environment



Maintain high availability at a fraction of the cost

Achieve HA SQL Server without the cost or complexity of Microsoft SQL Server Enterprise

Both editions of Microsoft SQL Server require Microsoft Clustering to be installed to provide HA. Utilizing a shared storage infrastructure enables a simplified and complete instance failover, including temporary databases and user setup.

Zadara storage is available across all AWS AZs, allowing you to spin up HA SQL instances without requiring multiple Amazon EBS volumes or Always-On availability groups.

Additionally, pay-as-you-go (PAYG) pricing means you can better align your costs to actual resource consumption. Whether you only need Zadara for an hour, or decades to come, you won't pay for anything you don't need. This presents new opportunities for driving efficiency on the cloud. Zadara allows you to use two AZs for production workloads and Software Assurance, while using data clone capabilities to present dev/test or UAT systems with an instant copy.

Run Windows clusters in the way you know and trust

The role of database administrators does not have to change

With Zadara on AWS, you can operate your SQL Server workloads the same way you do on-premises.

Building upon the AWS multi-zone capability, Zadara provides a unique shared storage model. By dedicating storage controllers and disks to each user, Zadara enables you to operate as if you are working in a single-tenant environment. This empowers you to achieve consistent and predictable high availability and high performance for your SQL Server workloads.

There is no complex setup of Storage Synchronization or mirroring technologies. Simply follow standard best practices for implementing Windows Server Failover Clustering:

1. Install SQL Server Standard Edition
2. Setup or import your database data, or alternatively attach them if already in a SQL database.

Getting started

Start your free trial today!

Additional Resources

To further explore Zadara solutions for AWS, call us at:

- **US:** +1-949-251-0360
- **UK:** +44-1285-610045
- **DE:** +49-89-2620-9974
- **FR:** +33-1-8564-4178
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