SOLUTION BRIEF

Achieve Zero Downtime for Microsoft SQL Server

Reach simple high-availability with Pure Storage® Purity ActiveCluster™.

Microsoft SQL Server is one of the most widely deployed relational database servers among enterprises. It has a reputation for ease of use, a well-established support community, excellent tooling, and impressive performance.[i] Given the database server's popularity, it's not surprising that many enterprises store mission-critical databases that require high availability (HA) on the SQL Server platform.

The Challenge of Zero Downtime

Achieving business continuity with zero downtime is easier said than done. Disasters can wipe out entire sites, not just individual arrays. For critical databases, you need redundancy stretched across multiple storage racks and sites.

Configuring HA for SQL Server typically requires AlwaysOn Availability Groups or failover cluster instances. Configuring these across multiple sites isn't easy, especially if you are designing for a recovery-point objective (RPO) and recovery time objective (RTO) of zero. Don't forget that with the built-in HA features in SQL Server, only one copy (replica) of a database can ever be read/write (active). The others are read-only (passive).

Pure Storage Purity ActiveCluster

Pure Storage Purity ActiveCluster provides a simple business-continuity solution for SQL Server. ActiveCluster is a fully symmetric, active/active, bidirectional replication feature of Pure Storage FlashArray™. It provides synchronous replication for RPO zero and automatic transparent failover for RTO zero. Unlike the active/passive HA implementations native to SQL Server, ActiveCluster serves input/output (I/O) on the same volume from all sites simultaneously.

Simple and Effective High Availability for SQL Server

Managing an ActiveCluster stretch cluster is as simple as managing a single array. You can perform a snapshot and clone operations from either array. Volumes and snapshots

ActiveCluster

Enables synchronous replication for RPO near zero and automatic transparent failover.

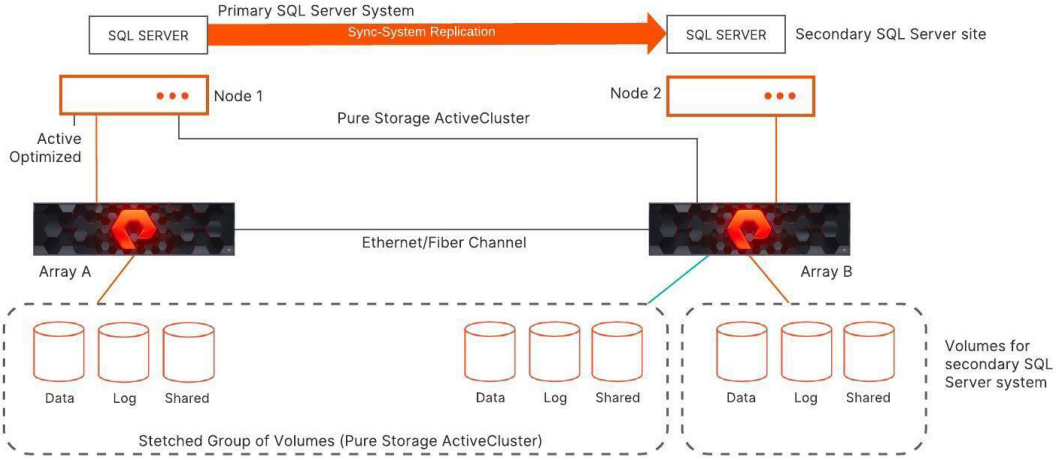
Flexible

Use clustered arrays and hosts in multiple sites within active-active bidirectional synchronous replication between data center configurations.

Simplicity

Managing an ActiveCluster stretch cluster is as simple as a single array and can be deployed with ethernet, or Fibre Channel.

are synchronously maintained on both arrays. Failovers are transparent, and the arrays automatically resynchronize



ActiveCluster offers both uniform and non-uniform configuration options. This lets you design your solution to suit any environment in a uniform configuration. Both SQL Server hosts connect to both local and remote FlashArray storage, and you don't have to worry about the complexity of deploying the underlying failover cluster instance to provide automatic failover. SQL Server instance affinity to a site is also automatically configured. Application latency is automatically optimized with reads served locally. Whether you choose a uniform or non-uniform configuration (in which the SQL Server hosts connect directly only to local FlashArray storage), you don't have to bother with configuring any SQL Server Availability Groups. Data protection is provided at the storage level, not the database level, which simplifies configuration.

Finally, Purity ActiveCluster gives you the same simple and easy storage-management model as the rest of FlashArray. Set up is only four short steps: connect the arrays, create a stretched pod (a type of management object), create a volume, and connect the hosts.

However, all projects, including SQL HA/DR ones, can be complex. Pure's Professional Services offer consulting, workshops, and migration services that can help you plan and execute these projects. Our Professional Services provide proven and cost-effective methods, processes, and tools.

Additional Resources

- See how Pure Professional Services can help you.
- Learn more about Pure's solutions for Microsoft.

[i] DB-Engines. "DB-Engines Ranking – Trend Popularity." April 2019. https://db-engines.com/en/ranking_trend.

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