

10 Ways to Save Money and Improve SQL Server High Availability Protection



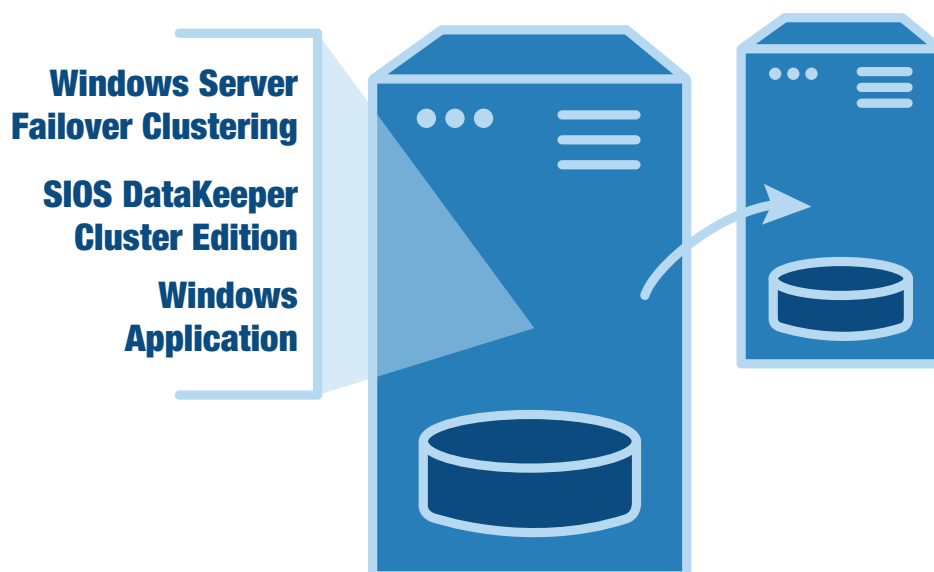
What are Your Choices?



To provide high availability protection for SQL Server, you can use AlwaysOn Availability Groups or AlwaysOn Failover Clustering with SIOS DataKeeper™ Cluster Edition. Let's take a look at how they compare.

AlwaysOn Availability Groups is a high availability feature included with SQL Server 2012 Enterprise Edition. It is positioned as an evolution of SQL Server Database Mirroring and an alternative to AlwaysOn Failover Clustering.

AlwaysOn Failover Clustering is included in SQL Server Enterprise and Standard Edition. You can use it with SIOS DataKeeper Cluster Edition software to deliver high availability and more robust data protection features for a fraction of the cost of SQL Server Enterprise Edition with AlwaysOn Availability Groups.

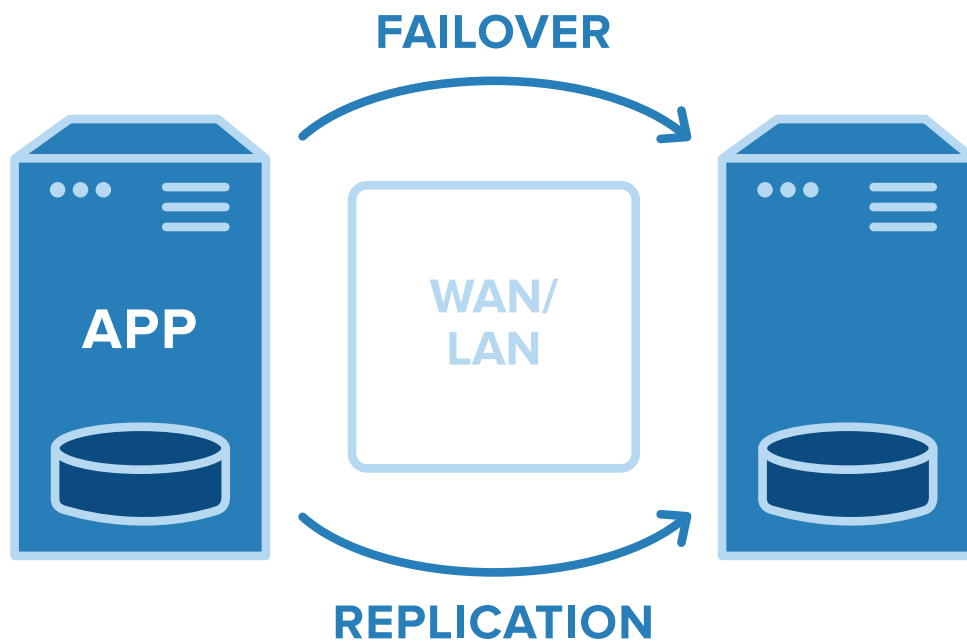


What is a SANless Cluster?



SIOS DataKeeper Cluster Edition is a software ingredient that enhances your Windows Server Failover Clustering environment. It provides real time, block level replication to synchronize local

attached storage, enabling you to create a #SANLess cluster and to eliminate the cost, complexity, and single point of failure risk of SAN storage.



10 Ways to Save...



... and Provide More Comprehensive Availability Protection in SQL Server Environments



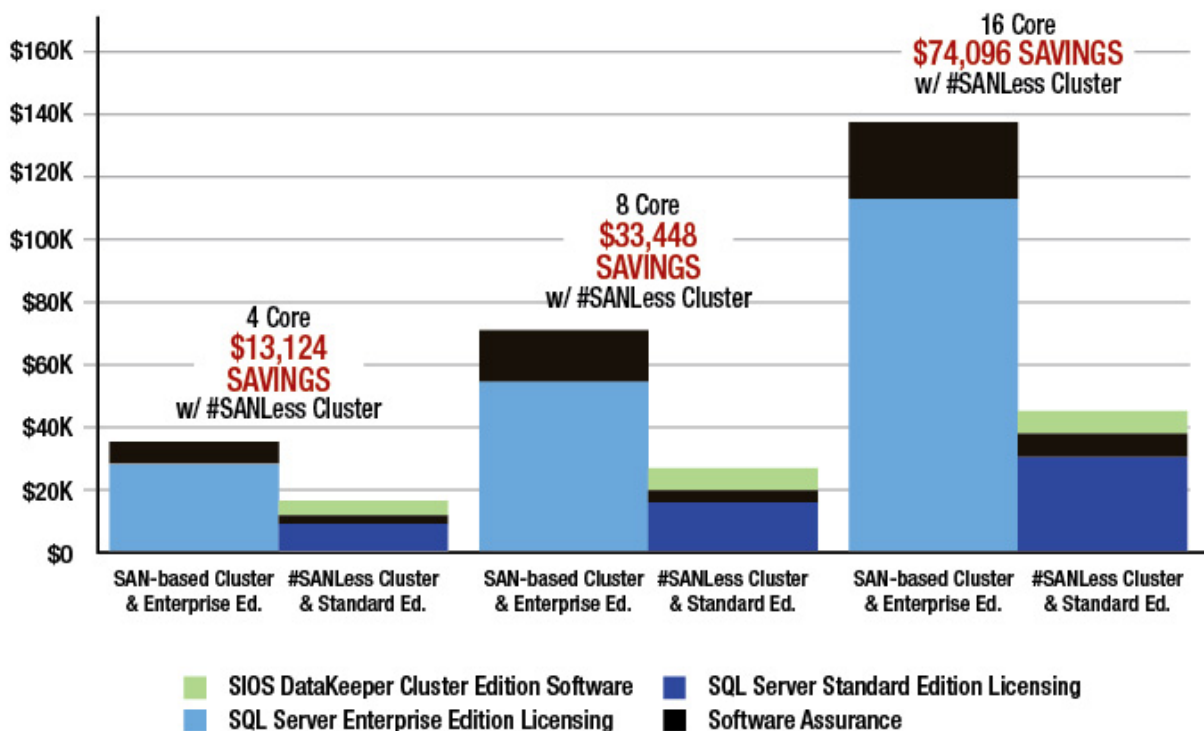
Spend a lot less on licensing.

1

AlwaysOn Availability Groups requires SQL Server 2012 Enterprise Edition.

[SIOS DataKeeper Cluster Edition](#) lets you use AlwaysOn Failover Clustering, which is included in both Standard and Enterprise Editions of SQL Server 2012, 2008 and 2005 for cost-efficient failover and disaster protection solution.

Software Cost Comparison

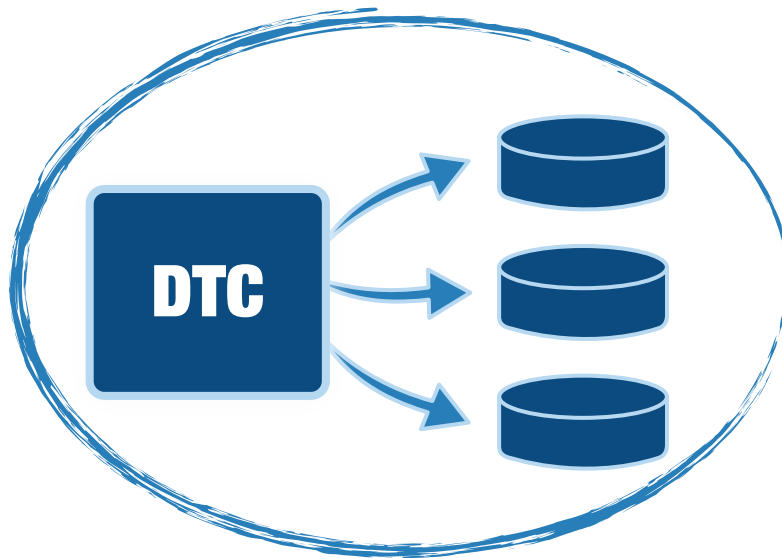


Protect distributed transactions.

2

If your application relies on a distributed transaction coordinator (DTC), you cannot use AlwaysOn Availability Groups because the instance ID of the server changes upon failover and the distributed transaction coordinator is not aware of the new instance ID.

You can use SIOS DataKeeper Cluster Edition with Windows Server Failover Clustering. SIOS DataKeeper protects the entire SQL instance and the SQL instance ID is preserved on failover.



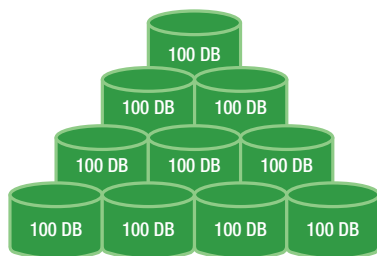
SIOS DataKeeper Cluster Edition

Protect all of your databases.



SQL Server 2012 AlwaysOn Availability Groups only supports up to 10 Availability Groups and 100 databases per Availability Group, (if the hardware will support that many replication pairs).

Windows Server Failover Clustering with SIOS DataKeeper supports an unlimited number of databases.



10 Availability Groups

AlwaysOn
Availability Groups

vs.



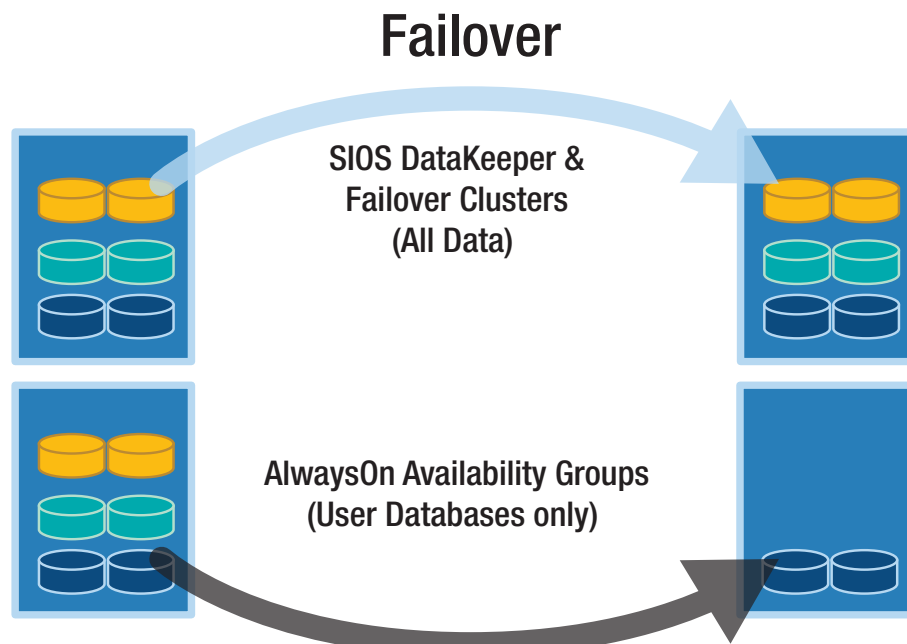
**SIOS DataKeeper
Cluster Edition**

Protect system databases.

4

SQL Server 2012 AlwaysOn Availability Groups only replicates user defined databases – NOT MSDB and Master databases. Agent jobs and SQL Server account information are not automatically synchronized and will not fail over as part of the Availability Group.

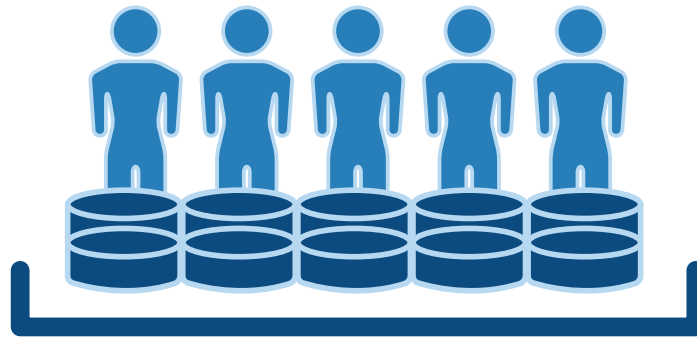
SIOS DataKeeper with Failover Clustering protects the entire SQL Server instance, including all of the system databases, ensuring complete recovery, including SQL Agent jobs and account information.



Automate database administration.

5

SQL Server 2012 AlwaysOn Availability Groups are configured and managed at the database layer, not at the SQL Server instance. Therefore, administrators must reconfigure protection every time a database is added or dropped.



Failover Clustering with SIOS DataKeeper protects the entire SQL Server instance and automatically includes databases as they are added (or dropped), in the protection scheme, saving time and reducing the risk of human error.

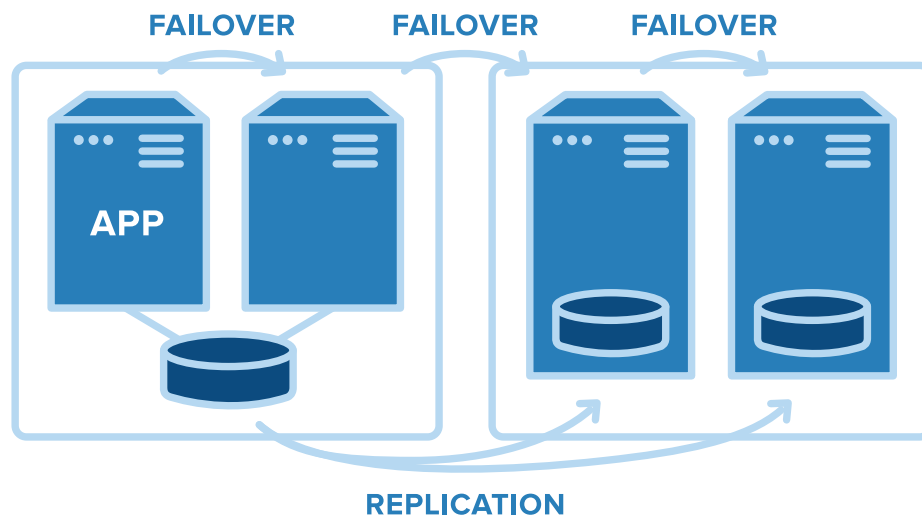


Support failover with more than two nodes.

6

AlwaysOn Availability Groups does not support more than two nodes in a failover configuration limiting your configuration flexibility.

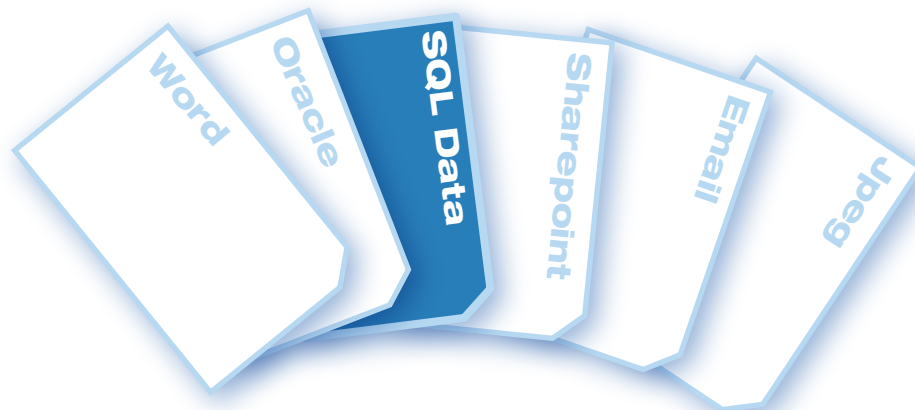
SIOS DataKeeper Cluster Edition gives you the flexibility to create clusters your way. You can configure a multinode failover configuration and mix SAN-based and #SANLess storage to protect your SQL Server applications and data as you choose.



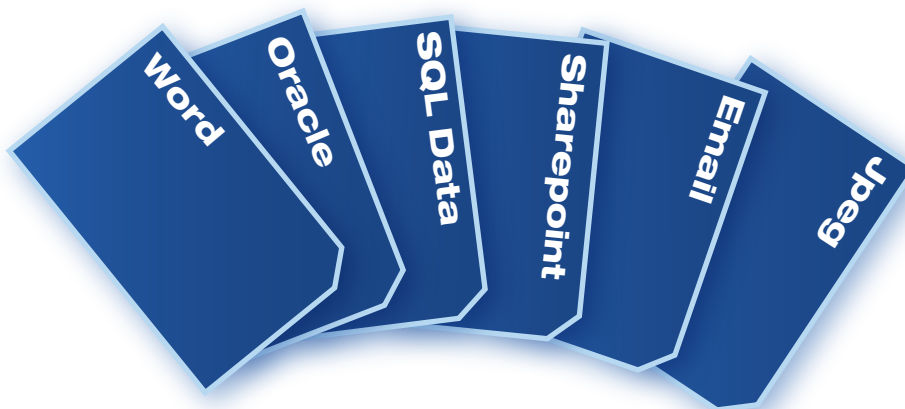
Replicate any data type.



AlwaysOn Availability Groups only replicates SQL Server databases, leaving other data types unprotected.



SIOS DataKeeper Cluster Edition with Windows Server Failover Cluster delivers complete protection of both SQL data and the data your application relies on outside of the SQL database



Improve replication efficiency.

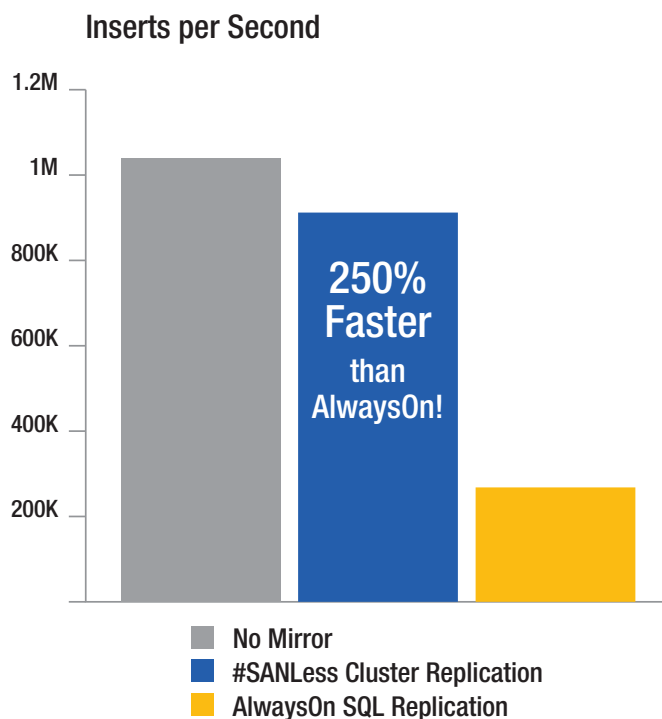
8

When AlwaysOn Availability Groups is configured in Synchronous-Commit mode (required for high availability) it slows application write performance.

Microsoft describes synchronous-commit mode as

“...emphasizes high availability over performance, at the cost of increased transaction latency.”

SIOS DataKeeper uses efficient block level replication that minimizes the performance impact of synchronous replication. SIOS DataKeeper also supports asynchronous replication.

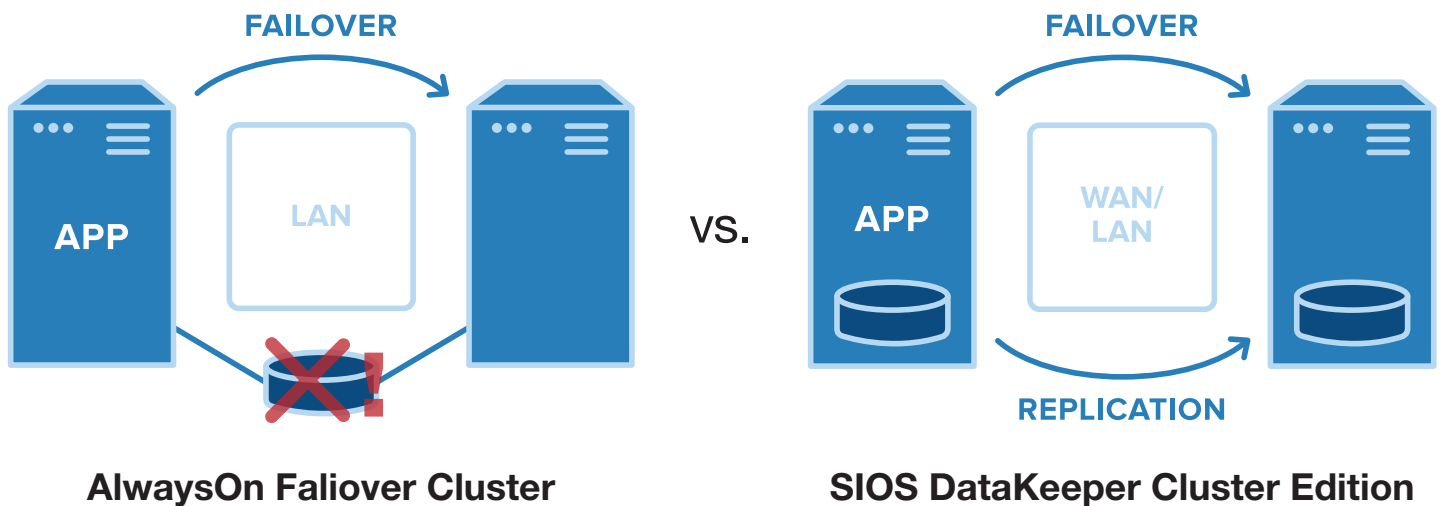


Eliminate the SAN single point of failure.

9

A traditional SAN-based AlwaysOn Failover Cluster Instance adds risk as a potential single point of failure.

SIOS DataKeeper Cluster Edition uses real time, block level replication to synchronize local attached storage, enabling you to create a #SANLess cluster and eliminate the cost, complexity, and single point of failure risk of a SAN.

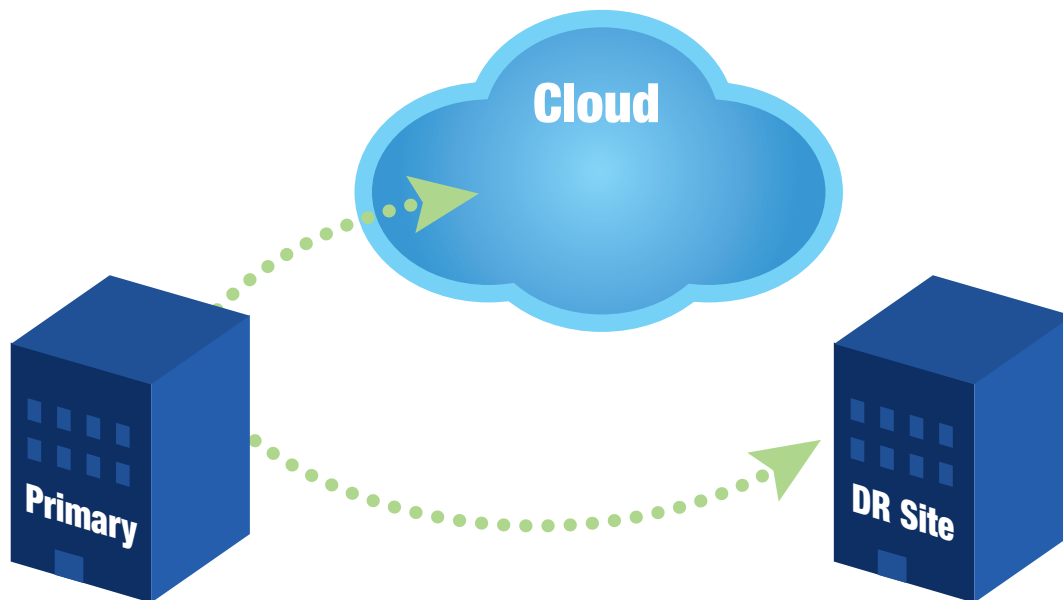


Create multisite clusters.

10

Because AlwaysOn Failover Clusters rely on a SAN they are limited to a single site.

SIOS DataKeeper Cluster Edition lets you deploy a multisite cluster for high availability and disaster recovery without the need for multiple SANs. You can configure it with all replicated storage or a combination of shared and replicated storage.



10 Ways to protect SQL Server

10

		AlwaysOn Availability Groups	AlwaysOn Failover Cluster	AlwaysOn Failover Cluster with SIOS DataKeeper
1	Support SQL Server Standard Edition	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2	Protect distributed transactions	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
3	Protect an unlimited number of databases	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
4	Protect system databases (master, MSDB, etc)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
5	Automate database administration	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
6	Support more than two nodes in failover configuration	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
7	Replicate data other than SQL	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
8	Improve replication efficiency	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
9	Eliminate SAN as single point of failure	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
10	Support multisite clusters	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Ready to Learn More

About protecting your applications with a SIOS SAN
or SANless cluster?

<https://us.sios.com>

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