

Uptime. All the time.



## Fact Sheet

High Availability -  
Microsoft



# Turning SQL Server features into business solutions

## Achieve maximum application availability and data protection

Achieving the required business continuity service level involves ensuring continuous uptime of critical applications and protecting critical data from unplanned and planned downtime. Microsoft® SQL Server® 2012 provides a set of features and capabilities that enable businesses to achieve the highest level of availability and data protection without the cost and complexity.

### Benefits at a glance:

- Achieve maximum application availability and data protection using SQL Server AlwaysOn and other high availability features
- Reduce planned downtime significantly with SQL Server on Windows Server Core
- Improve IT efficiency and performance using Active Secondary
- Simplify deployment and management of high availability and disaster recovery using integrated tools
- Achieve true HA without need for expensive SAN
- Comprehensive Health checks ensure your database infrastructure is fit for purpose, building a pro-active action plan for your high-risk items.

## SQL Server AlwaysOn

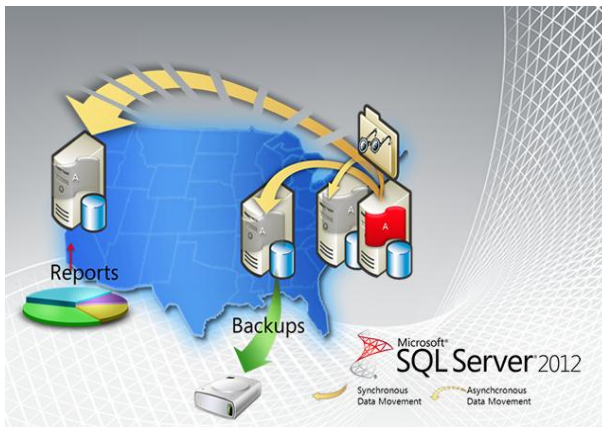
The new integrated, flexible, cost-efficient high availability and disaster recovery solution provides redundancy within a datacentre and across datacentres and enable fast application failover providing maximum availability and data protection for your mission critical applications.

AlwaysOn provides flexibility in configuration and enables reuse of existing hardware investments including shared storage.

AlwaysOn supports configuring availability at both the database and instance level.

**AlwaysOn Availability Groups** is a new feature that greatly enhances the capabilities of Database Mirroring and ensures availability of application databases and protects against data loss. Availability Groups provide an integrated set of options including automatic and manual failover of a group of database, support for up to four secondaries and two synchronous secondaries, fast application failover and automatic page repair.

**AlwaysOn Failover Cluster Instances** enhances the SQL Server Failover Clustering feature and supports multi-site clustering across subnets which enables cross-datacentre failover of SQL Server instances. Fast and predictable instance failover is another key benefit which enables fast application recovery.



### Readable Secondaries

Reduce time on maintenance by utilising the readable secondary options with Always on.

Replicas of your database can be used to perform backups or reporting, reducing intensive workloads to your production databases improving uptime scalability and availability.

Geographically disperse your copies using synchronous or asynchronous mirroring models.

**Database Recovery Advisory** simplifies database restore and allows administrators to quickly and easily restore a database to a point in time from an existing backup set using a visual timeline of the backup chain.

**Peer-to-Peer Replication** is a versatile feature that helps increase scalability, availability, and processing capacity by configuring applications to use different peers and to fail over to another peer in the event of a failure. Applications can protect against accidental conflicts with conflict detection and increase availability by dynamically adding a new node to an existing topology.

**Log Shipping** provides automated backup and restore capabilities within and across data centres and enables delaying recovery of databases to a previous point in time which can help recover from user errors like accidentally dropping a table.

**Database Mirroring** enables database availability and complete data protection by maintaining a single mirror copy of the data. Applications can automatically reconnect to the mirror in the event of a database failover.

## Significantly reduce planned downtime

The key reason for application downtime in any organization is planned downtime caused by OS patching, hardware maintenance, etc. This constitutes almost 80% of the outages in an IT environment.

SQL Server 2012 helps reduce planned downtime significantly by reducing patching requirements and downtime due to maintenance operations.

**Windows Server Core** SQL Server is now supported on Windows Server® Core. By running on Windows Server Core the OS patching can be reduced by as much as 50-60% which greatly reduces planned downtime.†

**Online Operations** Enhanced support for online operations like LOB re-indexing and adding columns with default reduces downtime during database maintenance operations.



**Rolling Upgrade and Patching** AlwaysOn features enable rolling upgrade and patching of instances which significantly reduces application downtime.

**SQL Server on Hyper-V** SQL Server instances hosted on Hyper-V environment get the additional benefit of Live Migration which allows migration of virtual machines without any downtime. This allows administrators to do maintenance operations on the host without impacting applications.

## Eliminate idle hardware and improve cost efficiency and performance

Typical high availability solutions involve redundant passive servers which are very costly in today's environment.

### Active Secondary

AlwaysOn Availability Groups enable secondary instances to be utilized for running reporting queries and backup operations which eliminates idle hardware and improves resource utilization.

The ability to utilize the secondaries improves performance of primary and reporting workloads due to better balancing of workloads across the instances.

## Easy deployment and management

Achieving the highest level of application availability need not be complex and costly. SQL Server AlwaysOn makes deploying and managing a high availability solution extremely easy.

Configuration Wizard, PowerShell support, dashboard, DMV's and Microsoft® System Centre integration simplifies deploying and managing Availability Groups.

Failover Cluster Instances come with easy setup and allows consolidation of greater than 26 instances on a single cluster which simplifies management and instance sprawl.

## Meeting the bottom line

SQL Server has proven to have the lowest TCO per transaction across the major database vendors. SQL Server 2012 helps deliver predictable and next-generation performance backed by customer, partner, and industry-leading benchmarks.

- A trusted platform that continuously leads in industry-relevant TPC-E and TPC-H performance benchmarks and release over release SQL Server is SAP-certified to run some of the industry's most demanding workloads.
- Significantly boost query performance, by up to 100x for star join and similar queries, using the new column store index
- Accelerate the performance of I/O intensive workloads by cutting growing volumes of data 50-60% with compression capabilities.
- Gain predictable performance for concurrent and mixed workloads by defining resource usage across different applications with Resource Governor.