

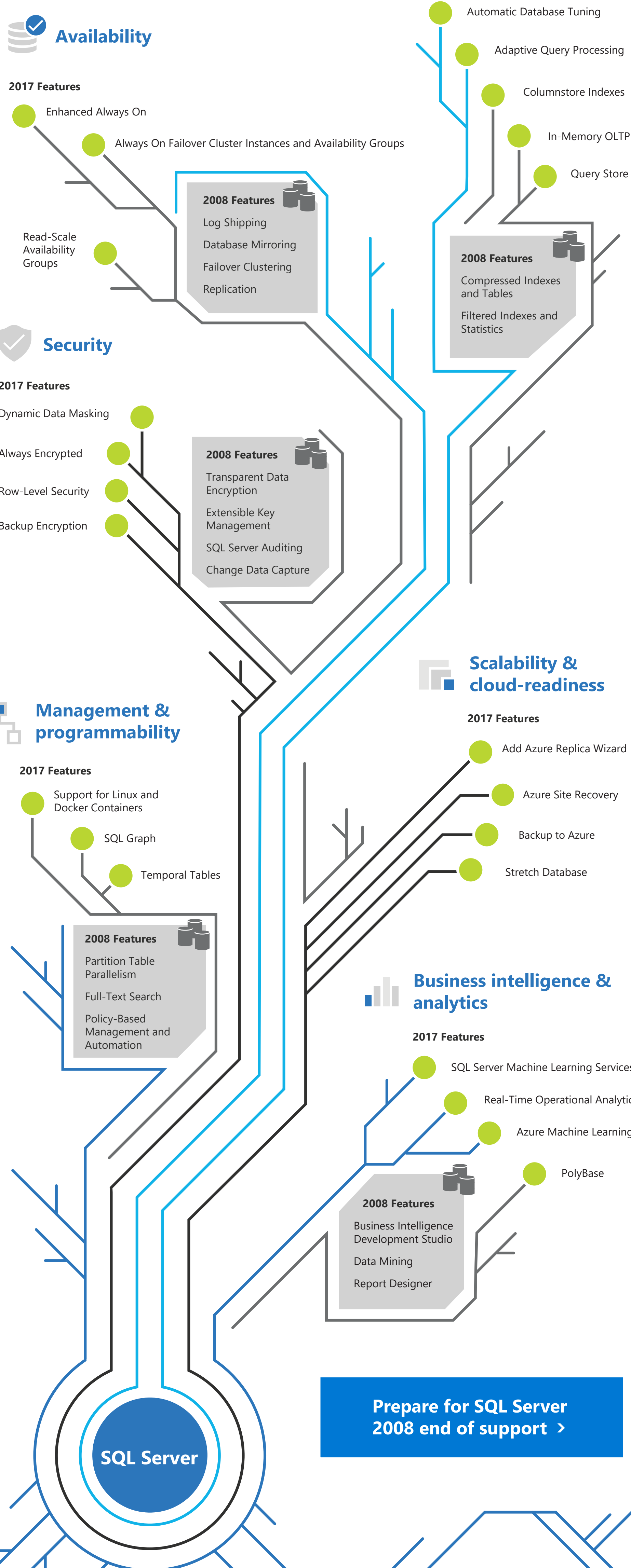
Growing SQL Server

Features from 2008 to 2017

SQL Server 2017: more than just a database

SQL Server 2017 helps business from the ground up, extending your reach further than before. But at Microsoft, we remember our roots—including the features that grew SQL Server to where it stands today.

As you prepare for the end of support for SQL Server 2008, get to know the features and benefits now available to you in SQL Server 2017.



Performance

Regardless of complexity, today's database engines are expected to return query results extremely quickly. With a shift from index optimization to in-memory transaction processing, today's SQL Server isn't just faster, its adaptive querying and tuning features make it smarter, too.

SQL Server 2008	SQL Server 2017
Compressed indexes and tables improve query performance in I/O bottleneck scenarios.	Columnstore indexes accelerate analytics performance by redefining data storage and queries.
Filtered indexes and statistics offer better query performance and optimized storage.	In-Memory OLTP achieves greater speed through memory-optimized tables.
	Adaptive Query Processing shapes optimization strategies based on your application workload's runtime conditions and characteristics.
	Automatic Database Tuning corrects query execution plans causing performance issues.
	Query Store gives you insights on query plan choice and performance.

Availability

The global economy never sleeps and neither does the demand for data. Building on the old standbys of high availability—mirroring and failover, Always On Failover Cluster Instances, and Availability Groups—doesn't just ensure access to your database. It ensures the data returned is the right data.

SQL Server 2008	SQL Server 2017
Database mirroring increases the availability of your SQL Server database.	Always On Failover Cluster Instances and Availability Groups enable HADR scenarios on both Linux and Windows.
Failover clustering helps you recover an entire SQL Server instance.	Enhanced Always On offers up to eight secondary replicas per primary database, plus a Replica Wizard to guide you through the process.
Log shipping supports high availability at the database level.	Read-Scale Availability Groups provide clusterless support for read-only workloads.
Replication maintains consistency between databases and synchronizing.	

Security

As technology advances, so do the potential threats to business continuity and data privacy. Access to and protection of personal information is at the forefront of data security today and SQL Server 2017 now has multiple layers of data security built in, enabling administrative access without exposing sensitive data.

SQL Server 2008	SQL Server 2017
Transparent Data Encryption performs real-time I/O encryption and data decryption.	Always Encrypted provides separation between those who own and manage data.
Extensible Key Management enables third-party vendors to register their devices in SQL Server.	Dynamic Data Masking limits data exposure while simplifying security design and coding.
SQL Server Auditing creates customized audits of Database Engine events.	Row-Level Security controls access to rows in a database table based on user characteristics.
Change Data Capture helps you view table changes in an easily consumable format.	Backup encryption gives you extra security for backup files.

Scalability & cloud readiness

Today's databases in the cloud offer portability and redundancy. Cloud-based computing is the modern server farm. Although SQL Server 2017 can still be used on-premises, economies of scale really add up in the cloud. SQL Server 2017 gives you multiple deployment options that just didn't exist before.

SQL Server 2017

- Stretch Database** migrates cold data transparently, securely, and cost-effectively.
- Backup to Azure** enables backup and restoration from the Azure Blob service.
- Azure Site Recovery** provides replication and failover through high availability technologies.
- Add Azure Replica Wizard** simplifies disaster recovery and extends your Always On Availability Group to include Azure replicas.
- Azure SQL Database Managed Instance** helps you move to the cloud with minimal application and database reengineering.

Management & programmability

Upkeep is essential to any software as a service (SaaS), but only certain tasks really require frequent human intervention. SQL Server 2017 offers so much more flexibility than past versions—both around deployment options, with support for Linux and for Docker containers, and data presentation with relationship graphing.

SQL Server 2008	SQL Server 2017
Partition table parallelism provides better performance and resource utilization.	Support for Linux and Docker Containers empower you to use SQL Server tools on Linux.
Full-Text Search enables comprehensive queries against character-based data.	SQL Graph enables you to map and query relationships in a graph structure.
Policy-based management and automation defines and enforces policies across an enterprise.	Temporal tables help you to see data changes in your tables from any point in time.

Business intelligence & analytics

With increases in consumer data collection, data analysis and BI have become essential to strategic decision-making. Machine learning and AI on SQL Server 2017 can transform your data into meaningful insights at speeds that keep up with the torrent of today's data-gathering techniques.

SQL Server 2008	SQL Server 2017
Business Intelligence Development Studio offers solutions such as Analysis Services, Integration Services, and Reporting Services projects.	PolyBase joins structured, semi-structured, and unstructured data in platforms like Azure Blob Storage or Hadoop.
Data mining tools perform powerful analytics without you needing to know data mining concepts.	SQL Server Machine Learning Services bring calculations and processing to where the data resides, eliminating the need to pull data across the network.
Report Designer organizes data in reports and helps you design reports interactively.	Azure Machine Learning provides packages of machine learning algorithms plus pretrained models for image extraction or sentiment analysis.
	Real-Time Operational Analytics enables you to run both analytics and OLTP workloads on the same database tables simultaneously.

Prepare for SQL Server 2008 end of support >