SQL Server databases form the foundation for many mission-critical applications, such as corporate financial and analytics systems that keep the business operating. Traditionally, the valuable data sets within SQL Server environments are protected using either full backups, or, more recently, software-based snapshots via Microsoft Volume Copy Shadow Service (VSS). With the growth in data, this model is becoming strained. The amount of time needed to complete backups and recoveries is not allowing business requirements to be met.

Administrators are under pressure to shrink backup windows due to the performance impact that backup has on the business. However, the amount of data to protect is constantly growing, so something must give. Traditional backup processes can take hours to complete, and are therefore usually performed once per day. As much as 24 hours of new database records may be at risk of loss in the event of a failure of any type.
The Time Needed To Protect and Recover Data Must Shrink

Increasing the frequency of backups, or your recovery point objective (RPO), is not possible with the traditional backup model. A different, more modern approach is needed.

The time to recover, or recovery time objective (RTO), is also under pressure. The traditional method of restoration takes hours in a small environment. For databases larger than a few terabytes, a tape restore can take days. The costs of this downtime can be catastrophic.

Hitachi Data Instance Director provides automated, end-to-end copy data management of SQL Server databases to enable fast, effective operational recovery, business continuity, disaster recovery and data repurposing.

Meet Aggressive Business Service Level Objectives With a Modern Solution From Hitachi Vantara

To address these problems, organizations are increasingly turning to storage-based snapshots and replication. Hitachi Data Instance Director (HDID) orchestrates and automates application-consistent storage-based snapshot, clone, clustering and remote replication for the SQL Server environment using an intuitive, comprehensive and efficient user interface. Create service-level-driven policies with HDID, based on RPO and retention requirements. Also, use HDID to orchestrate crash-consistent SQL Server snapshots at a remote location.

Hitachi’s global-active device feature enables continuous business operations between two or three data centers, ensuring critical databases, data sets and applications are always available. In the event of an unplanned outage at one location, the Hitachi storage systems at the second site automatically take control to continue operations. Global-active device operations can be fully orchestrated from within HDID policy-based dataflows.
Increase Application Availability, Mitigate Risks and Reduce Costs

Eliminate the Need for Backup Windows
Using traditional methods, it can take many hours to complete the backup of a large database. This “backup window” defines the best-case RPO. By shortening, or eliminating, the backup window, you can perform backups more frequently.

Complete backups in a few minutes, even for very large databases, with no application impact.

Include Business Continuity and Disaster Recovery
A local backup does not offer complete protection. Maintaining a current copy of data off-site, outside of any potential disaster zone, is a widely accepted best practice. But you don’t need to buy and manage a separate point solution.

Remote replication can easily be added to the operational recovery dataflow, simplifying administration and ensuring availability.

Storage-based snapshots create fast, frequent backups for near-instant operational recovery.
Local and remote clones can be used to support secondary uses of your databases.
High-performance remote replication supports high availability, business continuity and disaster recovery.
Automation and orchestration makes it easy to tie all these capabilities into a single policy-based dataflow.

Reduce Recovery Point Objectives by 95%
By taking an application-consistent snapshot of critical databases once per hour rather than relying on a once per day backup, you will have 95.8% less risk of new data loss. Creating a storage-assisted snapshot does not impact application performance or availability.

Maximize application availability and recoverability. Meet strict RPOs with full automation and orchestration.

Get More From Your Data With Nondisruptive Repurposing
Backup data usually sits dormant, adding value only when a recovery is required. With HDID, it is easy to automate the creation, refresh and expiration of physical and virtual copies for secondary uses, such as DevOps and legal discovery.

Support secondary functions with up-to-date data without burdening the production systems or their administrators.

Perform Operational Recovery in Minutes Instead of Days
Restoring a full database can be a long, manual, risky process. It can take days when copying the data from tape. With the Hitachi solution, a snapshot can be reverted or mounted to make it fully available within a few minutes.

Avoid the costs of extended unplanned downtime with a simple, easy-to-perform restore and recovery operation.

Reduce the Costs of Storage and Administration
As data continues to grow, the costs of effective backup and disaster recovery naturally grow as well. Hitachi’s modern data protection solution for SQL Server reduces storage costs with space-efficient, incremental-forever snapshots, and dramatically reduces administration time.

It is possible to significantly reduce the massive, recurring costs of creating, storing and recovering backup data.
Offer SQL Server Protection as a Service
HDID includes everything needed to add data protection, disaster recovery and copy data management to a service provider’s offerings. Its features include a robust application programming interface (API), granular role-based access controls, and multitenancy access for data and resources.

Easily integrate HDID’s automation and orchestration of database protection into private or public cloud services.

Not Using Hitachi Storage? No Problem.
HDID also provides a choice of host-based, block-level, incremental-forever data protection options for SQL Server, including continuous data protection (CDP), live backup and batch backup. The HDID repository can also be replicated to heterogeneous storage to provide disaster recovery capability.

HDID supports a range of applications and operating environments to provide an end-to-end solution.

Get It Right the First Time With Hitachi Services
Hitachi Vantara’s global services organization can assess your current situation and work with you. We’ll help you plan, design and implement a solution configuration that meets your business requirements today and is flexible enough to meet the demands of the future.

We have helped thousands of organizations maximize the value and rock-solid reliability that is built into Hitachi solutions.

By 2020
30% of large enterprises will leverage snapshots and backup for more than just operational recovery (e.g., disaster recovery, test/development, DevOps, etc.), up from less than 15% at the beginning of 2017.

Source: Gartner Magic Quadrant for Data Center Backup and Recovery Solutions. Published: July 31, 2017. ID: G00311191
Let Hitachi Help You Modernize the Protection of Microsoft SQL Server

Certain applications require zero downtime and zero data loss to meet business objectives and regulatory requirements. These applications, which are often run on SQL Server database environments, demand the levels of protection that storage-based snapshots and remote replication provide.

HDID supports SQL Server 2008 – 2016. For storage-based protection, an agent on the SQL Server host provides the application integration to orchestrate application-consistent snapshots and clones. Alternatively, agentless protection provides crash-consistent copies, and application consistency is possible with the deployment of pre-execution and post-execution scripts.

Host-based protection is also supported, in the cases where the SQL data is not stored on Hitachi storage. HDID provides the choice of true block-level continuous data protection (CDP), live backup and off-line batch backup operations.
Next Steps

Modern replication and automation technologies can ensure that the availability of critical SQL Server databases meets business service level requirements, now and in the future. Hitachi Vantara stands ready to show you how to deploy the right technologies, at the right price, to maximize data availability, dramatically improve recoverability, make greater use of copy data, and minimize costs.

Every new application, operating environment or location complicates data protection. Learn about simplifying data protection in our white paper.

Modern replication and management capabilities are equally needed by small and medium-sized enterprises. Download the solution profile.

Learn more about snapshot and replication orchestration from the Modern Data Protection and Copy Data Management overview brochure.

Access our compatibility matrix of supported application, operating system and storage configurations.

Visit the Hitachi Vantara data protection website to learn about all the modern approaches available to protect SQL Server databases and other application and filesystem environments.

Hitachi Vantara At a Glance

Your data is the key to new revenue, better customer experiences and lower costs. With technology and expertise, Hitachi Vantara drives data to meaningful outcomes.