Zerto | Business Continuity for Microsoft SQL Server

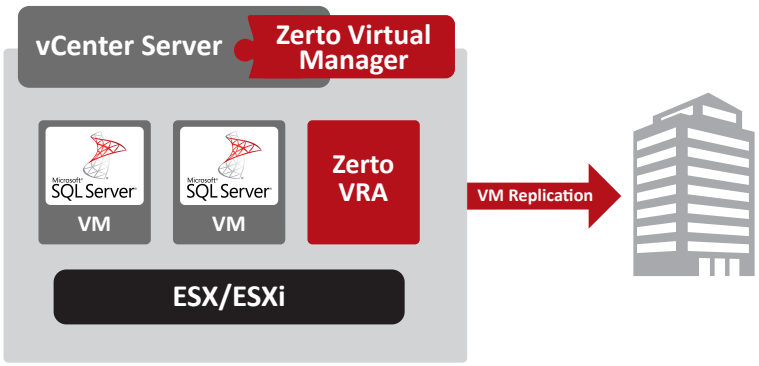
Microsoft SQL Server is a robust database application that is critical for many businesses. If it is unavailable, productivity is interrupted, customer service is impacted, and the corporate brand is damaged. A multi-tiered application requires robust replication and orchestration to ensure its availability. The usual solution is complex, with multiple tools requiring coordination, driving up costs and marginally supporting the required service levels. Zerto Virtual Replication provides robust replication and orchestration in a simple solution, delivering aggressive service levels while easily handling the challenges associated with replicating a highly transactional database.

Challenges for Business Continuity Disaster Recovery for Microsoft SQL Server

Protecting databases is challenging as transactions are written quickly and there is a high rate of change within the application. Many organizations use log shipping as a recovery method, which typically translates to a manual recovery process and overall higher risk. In addition to this complexity, just getting the data to the recovery site is insufficient as the order of the I/O is critical for database recovery. If write-order fidelity is not preserved, the database cannot be recovered without additional manual intervention. Additionally, these applications are usually comprised of several VMs with terabytes of associated data, making it difficult to ensure write-order fidelity. If the group of VMs is not recoverable to the same point in time, a lengthy, manual recovery is required, further damaging the business.

Benefits of Zerto Virtual Replication for Microsoft SQL Server

- Delivers application consistent checkpoints with support for SQL VSS writer
- Ensure the lowest possible application data loss with Zerto Virtual Protection Groups (VPGs) which ensure crash or application consistency and write-order fidelity across all VMs
- Reduce costs by replicating virtual machines, not LUNs, reducing storage and bandwidth requirements
- Simple, centralized management with a unified view of all BC/DR assets in a single interface
- Realize aggressive service levels minimizing the impact on end-user productivity
- Automated disaster recovery testing verifies that BC/DR processes complete quickly and successfully versus log shipping, which can take days



Delivers application consistent checkpoints with support for SQL VSS writer. Zerto leverages the native SQL VSS writer to capture application consistent checkpoints. Coupled with the near-CDP replication capability, Zerto makes it possible to add frequent VSS application-consistent checkpoints to enable better overall application data consistency. These application-consistent checkpoints provide a level above crash consistency, delivering robust protection and disaster recovery capability for SQL databases.

Ensure the lowest possible application data loss with Zerto Virtual Protection Groups (VPGs) which ensure crash or application consistency and write-order fidelity across all VMs. VPGs are groups of VMs which are protected consistently no matter where the VMs are in the infrastructure. These VPGs enable crash and application consistency across the VMs for a particular application. Other virtual replication solutions are either crash or application consistent, but with ZVR the end user can select either. With most BC/DR solutions, the only possible recovery options are either the most recent point in time or a transactionally-consistent point in time from an infrequent backup operation. With ZVR, recovery to any point in time – including transactionally-consistent points in time – is always possible.

Reduce costs by replicating virtual machines, reducing storage and bandwidth requirements. ZVR replicates exactly what is needed in a virtual environment, the VM and its disks, including both VMDKs and RDMs. This greatly reduces the storage and bandwidth

About Zerto

Zerto has developed the first hypervisor-based, disaster recovery and replication software for virtualized environments, offering simplicity and greatly reduced operational and maintenance costs. Developed exclusively for virtualized and cloud environments, Zerto's award-winning solution, Zerto Virtual Replication (ZVR) is rapidly becoming the standard for disaster recovery and business continuity in the modern data center. ZVR received 'Best of Show' at VMworld 2011, as well as 2012 and 2011 'Product of the Year' Gold Awards. For more information, please visit: **www.zerto.com**.

requirements to support BC/DR processes. The swap disk feature will perform an initial synchronization of the selected disk, but does not replicate any subsequent changes to the selected disk, thereby saving storage space and bandwidth utilization.

Simple, centralized management with a unified view of all BC/DR assets in a single interface. Coordinating virtual, storage and database assets across several applications is difficult, increasing complexity and costs. With ZVR, everything is in one interface simplifying management, monitoring, and reporting and ensuring accuracy. Replication and orchestration is in one product, delivering a complete BC/DR solution.

Realize aggressive service levels minimizing the impact on end-user productivity. Continuous, block-level replication captures all I/O, even during the times with the highest number of transactions. The replication method that ZVR leverages was designed to excel even under extreme rates of change. This minimizes the recovery point objectives and maximizes the data available on failover. Other products leverage other methods such as snapshots, which not only impact the performance of the application, but occur at specific intervals, causing very high recovery point objectives.

Automated disaster recovery testing clearly demonstrates BC/DR processes complete quickly and successfully versus manual processes, such as log shipping where recovery can take days. ZVR automates testing, with just a few clicks to verify the BC/DR processes you have in place will execute when needed. During testing, SQL Server is still operating, users are still working, and changes are still being replicated without interruption. Failover can be executed even during a test, in the off chance that an incident occurred that required a failover action.

Additional Benefits:

- **No configuration changes required:** ZVR installs seamlessly into the existing infrastructure quickly without disrupting carefully configured applications and data.
- **Raw Device Mapping:** Support for Raw Device Mapping (RDM) disks in both virtual and physical compatibility modes.
- **Easily scale to support a growing environment:** The software only solution easily scales to support a growing environment and ensure consistency in BC/DR processes.
- **Journaling capabilities deliver point in time recovery:** The journal provides up to 5 days worth of data points that are seconds apart for recovery from logical failures, power outages and natural disasters.
- **Simple migration:** Perform application migrations in minutes with zero data loss versus days or weeks.
- **Comprehensive reports:** Audit reports provide full details of the recovery process including steps and time elapsed for predictable recovery times. Performance and resource reports enable better planning for infrastructure requirements.

Summary

Many businesses rely on Microsoft SQL Server and if the database is not available productivity and revenue are impacted or worse, a company's hard-earned reputation and brand. ZVR leverages continuous, block-level replication that has been purpose-built to maintain the data integrity of rapidly changing applications while minimizing data loss. Through automation of failover, failback and DR testing, aggressive service levels are realized with recovery point objectives of seconds and recovery time objectives of minutes.

" Zerto Virtual Replication is a straightforward and simple solution for BC/DR. We have near real-time replication of our very large systems and it is the best product we found to keep our SQL databases in sync at the transaction level."

— Hal Bullock
Asst Director for IT
National Strategic Planning and Analysis Research Center

" The testing capability is really remarkable. We have run two full DR tests in the last six months which involved the entire organization. The product performed beautifully and we are fully confident in our ability to recover. DR testing with other solutions was so complex, we couldn't test! It gives us great peace of mind that replication is still occurring, even during testing, and we are never exposed."

— Uzah Chinedu
Infrastructure Manager
Leadway Pensure PFA Limited

Zerto

Contact us today to learn more or request a free trial at **www.zerto.com** or **info@zerto.com.**

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