Zerto

A Comparison: Zerto Versus Traditional Backup

Version 1.0

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Zerto

Zerto Versus Traditional Backup

Backup has been an essential part of IT infrastructure since its inception and that will likely never change. But with the IT landscape rapidly changing and threats increasing, are we still able to rely on the backup technology we currently use? In this white paper, we will discuss how backup requirements are changing and whether today's backup technology can meet businesses' evolving demands to drive modernization and digital transformation.

The Zerto platform converges backup, disaster recovery, and data mobility, whether on-premises or to, from, and between hybrid and multi-cloud environments. Built on a foundation of continuous data protection (CDP), with built-in orchestration and automation capabilities, the platform provides you with simplicity, enterprise scale, and agile data protection to save time, resources, and costs. Analytics, with intelligent dashboards and live reports, gives you complete visibility across multi-site and multi-cloud environments and instills confidence that you meet business service levels and compliance requirements.

Comparing Zerto to Traditional Backup

There are many different approaches to providing data protection in virtualized IT environments. This comparison will focus on the following technologies and products:

- Software-based backup solutions
- Hardware appliance-based backup solutions

For all technologies and products, we will also compare the following capabilities and characteristics:

- Protection technology
- Granularity in recovery
- Application protection and recovery
- Scalability
- Simplicity
- Visibility

KEY DIFFERENTIATORS

One Platform

A single, simple, scalable platform replacing multiple complex tools.

Continuous Backup

Continuously backup your data, ensuring RPOs of seconds. without performance impact.

Granularity of Seconds

Recover to any point in time, only seconds apart, with journal-based recovery

Full Application Stack Consistency

Protect and recover entire application stacks with guaranteed consistency.

Protection Technology

Moving data from the production environment to its target(s) is key in any backup solution. This technology lives at the core of all solutions and needs to be both robust and flexible.

TRADITIONAL BACKUP	ZERTO
Utilizes snapshots to protect virtual machines. However, creating and using snapshots has a negative impact on the performance of the production environment and requires careful planning and scheduling. As a result, snapshots are only taken every few hours or even only once every 24 hours to minimize the performance impact. The data is then read from these snapshots by dedicated servers (or components) of the backup solutions and moved to dedicated backup storage. In large organizations this requires powerful and often multiple compute resources to be able to scale and meet service-level agreement (SLA) requirements. For long-term retention, the data is typically moved to cost-effective cloud storage (e.g., Amazon S3 or Azure Blob storage). Some solutions support CDP for VMware virtual machines and have to ability store every change created by the virtual machine on the backup storage target without impacting performance. Most solutions consider this an add-on that is priced separately.	Utilizes continuous block-level replication to protect virtual machines. This replication technology operates at the hypervisor level and is asynchronous, which results in no performance impact on the production environment. Zerto utilizes a software-only scale-out architecture which consists of multiple virtual appliances that perform the replication. No dedicated hardware resources are required. The replication data is stored in journals and replica disks on production-grade storage resulting in near-zero RTO restores. For long-term retention, the solution reads data from these journals and replica disks and moves it to more cost-effective storage (e.g., Amazon S3 or Azure Blob storage), which again eliminates impact on production systems.

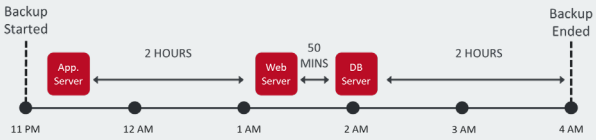
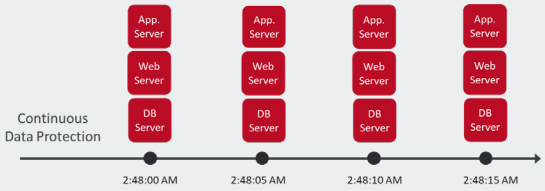
Granularity in Recovery

Backup solutions should protect organizations' data and ensure minimal data loss in case of an event.

TRADITIONAL BACKUP	ZERTO
Traditional solutions use snapshots to protect the production systems. Due to the negative impact of those snapshots on the production systems, these snapshots are taken only every few hours or even only once every 24 hours. This results in restore points that are hours apart, including up to 24 hours of data loss.	Continuous block-level replication utilizes journaling technology to keep track of every change made to a VM. Checkpoints are created every few seconds and offer point-in-time recovery, enabling granularity of seconds and near-zero data loss.

Application Protection and Recovery

Consistent application recovery is key to minimizing the impact on revenue and business productivity.

TRADITIONAL BACKUP	ZERTO
Snapshots only support per-VM consistency. If an application consists of multiple VMs—as is typical with enterprise applications—snapshots are unable maintain consistency across these VMs. This results in an inconsistent recovery because all VMs will be recovered to different points in time. Most solutions offer integration with the protection frameworks of the major database engines to ensure a consistent protection of the databases. When recovery points are hours apart, this integration is critical to ensure successful recovery.  	Supports consistent protection and recovery of multi-VM applications. This consistency is guaranteed across short-term and long-term points in time. Any application can be protected and recovered with ease by grouping all VMs that make up an application in a single logical entity. This approach results in consistent recovery by restoring the VMs to the exact same point in time while maintaining write-order fidelity. Even databases do not require separate agents or add-ons to be protected by Zerto. Zerto can integrate with existing protection frameworks (like Microsoft Volume Shadow copy Service) for an additional safeguard. 

Scalability

Organizations need to ensure optimal protection at any time, maintaining the SLAs required by the business, while at the same time having flexibility to reliably scale up or down to meet business needs.

TRADITIONAL BACKUP	ZERTO
Traditional backup solutions have multiple components and require dedicated backup infrastructure to ensure protection at scale. These components scale by adding more dedicated compute resources to the backup infrastructure. Sizing is critical to ensure meeting the SLAs the business requires, but with all these separate components, it is also very complex. Due to the nature of snapshots and their performance impact, scale is limited by default: • For example, protecting 1,000 VMs with a 6-hour RPO results in 4000 snapshots being created and removed every 24 hours. Scaling with appliances is easier, but still requires complicated sizing up front and will result in a much higher TCO of your backup solution. With regards to recovery, scalability is limited because the solutions recover VMs on top of storage sized for backup workloads, NOT production workloads. For large-scale recoveries this requires careful planning to avoid performance degradation.	Zerto uses a scale-out architecture of virtual replication appliances to guarantee protection at any scale. Replication is continuous and has no performance impact to the production environment, supporting thousands of VMs. The solution does not depend on latency because near sync replication does not require acknowledgment on the target. Recovery takes place on production-grade storage, which removes performance bottlenecks and results in extremely low RTOs.

Simplicity

With businesses relying on limited IT resources to deliver core services, recovery from any disruption needs to be fast and simple. Ease of operation, sizing, scaling, and maintenance need to be simple.

TRADITIONAL BACKUP	ZERTO
It requires careful planning and sizing due to the disruptive nature of using snapshots to protect the production data. Having multiple components requiring dedicated compute resources results in additional management overhead and complexity. Hardware-based solutions rely on hardware compatibility lists, limiting your freedom of choice.	Zerto delivers a single, simple, software-only platform backed by a scaled-out architecture to protect any environment at any scale. This technology-agnostic approach results in complete freedom of choice. With a consistent user experience and interface, the platform installs and upgrades in minutes without any disruption to the production environment.

Additional Zerto Use Cases

Data Mobility and Migrations

Zerto's technology-agnostic approach to delivering replication with integrated orchestration and automation allows customers to seamlessly move workloads to and from any of the supported platforms.

Infrastructure Refresh
Migrate to New Infrastructure in Minutes

On Premises Migrations
Any Storage, Multi-Hypervisor, Cross Hypervisor

Mergers & Acquisitions
Simplify M&A Infrastructure Consolidation

Public Cloud Migrations
Migrate to and from Public Clouds

Zerto MSP Migrations
Migrations to and from any Zerto MSP

Multi-Cloud Migrations
Migrate Between Public Clouds

Disaster Recovery

Zerto is built from the ground up to be the simplest, most powerful disaster recovery solution for virtualized infrastructures. By including all the replication, recovery orchestration, and automation in one simple software platform, users can recover one, all, or a subset of virtualized applications, from anywhere to anywhere, maximizing the benefits of virtualization and cloud-based computing.

To learn more about the Zerto platform and how your current solution might compare to Zerto, you can request a demo or speak to a solutions representative about your specific needs.

For more information, check out The Future of Backup: From Periodic to Continuous.

About Zerto

Zerto helps customers accelerate IT transformation by eliminating the risk and complexity of modernization and cloud adoption. By replacing multiple legacy solutions with a single IT Resilience Platform, Zerto is changing the way disaster recovery, data protection and cloud are managed. With enterprise scale, Zerto's software platform delivers continuous availability for an always-on customer experience while simplifying workload mobility to protect, recover and move applications freely across hybrid and multi-clouds. **www.zerto.com**

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