# Zerto Virtual Replication 4.5

## FAQ

ZVR 4.5 builds on the 4.0 platform by continuously improving IT resiliency and the stability and functionality of the features in ZVR.

Here are the ZVR 4.5 new feature highlights:

Why did you update the Zerto installer?

| Highlights |
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| New ZVR Installer |
| VRA deployment improvements |
| Role based access control |
| Journal File Level Restore (JFLR) |
| S3-Server Side Encryption in AWS |
| Manage VPG API |
| Compressed Journal |
| Always Recover - IT resiliency |
| Maintain Checkpoints when adding VM to VPG |
| Allow recoverability after long network outage |
| Allow "Change Recovery Host" while target host is down |

The ZVR installer was re-written to make the ZVR installation, update and uninstall lifecycle more resilient and even easier to use.

The updates include:

- Better stabilization of installer related flows – Install/Uninstall/Repair/Upgrade
- Better resiliency to failures such as failed upgrades due to existing deployment issues.
- .NET Framework was upgraded to .NET 4.5.2 to keep the product with the most up to date .NET for future supportability.

### WHAT ARE THE VRA DEPLOYMENT IMPROVEMENTS?

As part of Zerto's continuous improvements, we wanted to make the VRAs easier to manage in bulk. This is most relevant to large enterprises and cloud service providers with many VRAs.

**The new ZVR 4.5 features include:**

- Security: Easing deployment and upgrades without providing host credentials in VMware environments. ZVR leverages the VIB functionality available in ESXi 5.5 and higher hosts. This means no more host passwords.
- Seamless Management: Automated VRA deployment using Zerto APIs without providing host credentials.
- Streamlining Operations: Customers that frequently reset host credentials will no longer have to worry about updating Zerto with the new credentials.

### HOW DOES THE NEW ZERTO ROLE BASED ACCESS CONTROL WORK?

One of the primary tenants of a secure and resilient IT environment is only giving users the permissions they need to perform their task. Now for customers using the Zerto Cloud Manager (ZCM), Zerto introduces Role Based Access Controls (RBAC) functionality. ZVR uses Active Directory authentication and then you can assign specific roles to users or groups and set task permissions.

**The schema is configured by:**

User/Group: an active directory user or group.

Entity: an object in the system on which operations can be performed (e.g. a VPG, a ZORG).

Privilege: an operation that can be performed on an object (e.g. create VPG, failover, manage VRA, etc.).

Role: a set of privileges (e.g. the "Site Manager" role has both Manage Site and Manage VRA privileges).

Permission: a triplet {user/group, role, entity} that allows the principal to perform the role's privileges on the entity.

For example: {Bob, admin, ZORG1}  {Roger, Site Manager, Site1}

This gives ZCM customers a whole new way to provide only the permissions to end users.

## WHAT IS THE ZERTO JOURNAL FILE LEVEL RESTORE?

IT managers often want to restore specific files such as database file from a specific point in time without having to recover all the VMs of the application. Now they can with Zerto's Journal File Level Restore (JFLR).

JFLR addresses nearly 90% of the most common recovery use cases: deleted files, file or data corruption and  mini disasters such as an application or service outage due to configuration changes.

Using the Zerto browser based interface in ZVR 4.5, you can recover from any of these problems quickly and easily.

## JFLR ALLOWS YOU TO:

- Rewind up to 2 weeks prior to when the data was good.
- Restore SQL, Oracle, MySQL, PostgreSQL Exchange data and log files.
- Download & restore data to any location or access mounted disks in the recovery site
- Note: Files can be recovered from all files systems supported by Windows.  Files cannot be recovered from protected Linux machines in this version.
- Note: Files can also be recovered by logging into the Zerto Virtual Manager VM and browsing the disks via File Explorer

For more information about JFLR features see this datasheet link to JFLR Datasheet

## WHAT IS THE COMPRESSED JOURNAL?

Although many customers see value in the journal, the first question that is asked is, "If I decide to store 14 days worth of data, how much storage will I be using?" One of the biggest consumers of disk space is storage replication overhead. See this blog post about calculating the cost of storage overhead. http://www.zerto.com/blog/virtualization/calculating-the-tco-of-storage-based-replication/

Zerto is continually streamlining and improving performance, usability as well as opening up new possibilities for efficiency. This is why we added the compressed journal functionality. It can save you substantially and reduce the amount of expensive disk space being used for data protection.

In Zerto testing, we see about a 60% reduction in space usage with the compressed journal. Given ZVR's flexible journal is already frugal with storage space, now it takes even less. We're seeing about a 10% overhead for journal in ZVR 4.5. All of this is accomplished with no performance impact delays on steady-state operations or during recovery operations.

What does this mean as far as savings?  By using the calculations shown in the blog post linked above, this feature lowers the cost of owning Zerto versus other solutions significantly.

## WHAT ARE THE AWS FUNCTIONALITY IMPROVEMENTS IN VERSION 4.5?

Customers that are concerned about security and want to replicate or are already replicating their on-premise workloads to AWS now have more security in S3. With ZVR 4.5, the replicated data stored on S3 is now encrypted.

This will go further in meeting regulatory requirements and/or internal organization polices when moving data to the public cloud.

## WHAT NEW APIS ARE ADDED IN ZVR 4.5?

DevOps and data protection operational efficiency are important areas of focus for Zerto. Recently, Zerto introduced a partnership with HPE announced our first HPE OO content package https://hpln.hpe.com/contentoffering/zerto-automated-dr-failover-testing-hpe-oo. We leverage the Zerto APIs in the HPE OO workflows and this demonstrates our commitment to streamlining data protection functionality via APIs.

We are happy to announce even more functionality with these new APIs.

- Create VPGs
- Edit VPGs
- Add/Remove VMs
- Set replication and recovery configuration
- Configure VMs, NICs, Volumes and other parameters

In this version, vCD is not yet supported as well as backup, setting target volume as preseed or RDM disk management.

## WHAT FEATURES HAVE YOU ADDED TO IMPROVE IT RESILIENCY?

ZVR 4.5 introduces important resilient features that are part of our Always Recover area of focus. These features will also shorten outage durations and allow for more rapid recovery.

### Maintain Checkpoints when adding VM to VPG

Through ZVR version 4.0, when a VM was added to an existing VPG, it caused the VPG to trigger a re-write of the journal to include the VM. This temporarily opened the possibility to not have checkpoints very far back to recover to until the VPG met it's SLA. With 4.5, the points in time are retained in the journal and the it factors in the new VM into all the new checkpoints being written.

### Allow recoverability after long network outage

Through ZVR 4.0, a network outage that outlasted the journal SLA duration, would necessitate a manual pause of replication by the administrator in order to recover to a checkpoint in the journal prior to the network being restored. Once the administrator recovered to a checkpoint or created an offsite clone of the VPG, then they would resume replication manually.

In 4.5, we remove the need for manual intervention by retaining a set of milestone checkpoints in the Journal that are always available even after replication resumes. This eliminates an administrative step and enhances journal resiliency.

### Allow "Change Recovery Host" while target host is down

Through 4.0, ZVR allowed you to change a VPG's recovery host VRA when there was a planned outage of the host. For unplanned outages, there was the potential for a period of time where there would be a protection gap.

In 4.5 Zerto improves the replication resilience by enabling the administrator to change the recovery host to a live host in the event of unplanned host outages at the target side.

## ABOUT ZERTO

Zerto is committed to keeping enterprise and cloud IT running 24/7 by providing scalable business continuity software solutions. Through the Zerto Cloud Continuity Platform, organizations seamlessly move and protect virtualized workloads between public, private and hybrid clouds. The company's flagship product, Zerto Virtual Replication, is the standard for protection of applications in cloud and virtualized datacenters.



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