Release Notes For Zerto v6.5 U4

Rev04
Sept 2019
ZVR-RN-6.5
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ZVR-RN-6.5
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, backup and cloud are managed. At 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 mult-clouds. Zerto is trusted by over 6,000 customers globally and is powering resiliency offerings for Microsoft Azure, IBM Cloud, AWS, SunGard AS and more than 350 cloud services providers.

The following topics are described in these Release Notes:

- End-of-Version Support Notice on page 4
- Prerequisites, Requirements and Installation Instructions on page 4
- Upgrading Zerto and/or Zerto Cloud Manager on page 5
- What’s New & Resolved - Zerto Virtual Replication v6.5 Update 4 on page 6
- What’s New & Resolved - Zerto Virtual Replication v6.5 Update 3 on page 7
- What’s New & Resolved - Zerto Virtual Replication v6.5 Update 2 on page 10
- What’s New & Resolved - Zerto Virtual Replication v6.5 Update 1 on page 13
- What’s New & Resolved - Zerto Virtual Replication v6.5 on page 15
- Zerto Analytics on page 22
- Known Issues on page 24
**Important:**

Zerto has identified a data consistency issue introduced in the ZVM 6.5 version. While the issue is only triggered under very unique circumstances of a nested Bitmap Sync, we are taking aggressive action to resolve this issue for our user community. Zerto has fixed this issue in 6.5U3, and **strongly recommends that all customers currently running versions 6.5U0, 6.5U1 or 6.5U2, upgrade to ZVR 6.5U3 or above.**

To ensure data consistency, upon upgrade, and after upgrade of the VRAs, ZVM will automatically force sync all VPGs replicating out of a VMWare/Hyper-V source site that was on ZVM version 6.5U0, 6.5U1, or 6.5U2.

Customers upgrading from version 6.0 or older are unaffected by this issue.

To manually control the timing, order and pace of the VPG force sync, you can override the automatic force sync; during the Upgrade process, select the checkbox to override the automatic force sync. If you choose this option, you are obligated to manually force sync all VPGs that were replicating out of an earlier 6.5 VMWare/Hyper-V source site, after all your VRAs are upgraded to version 6.5U3.

It is important to note that if a MOVE, FAILOVER LIVE, or CLONE operation was used with ZVM 6.5U0, 6.5U1, or 6.5U2 on a production VM, you are encouraged to check the consistency of this VM. For assistance, please contact Zerto Support.

**Note:** Forced-sync is not required if you are upgrading from **6.5U3 to later versions.**

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**End-of-Version Support Notice**

To review the Zerto end-of-version support policies for Zerto Virtual Replication, see the document [Product Version Lifecycle Matrix](#).

**Prerequisites, Requirements and Installation Instructions**

- Before installing Zerto, click to open and review [prerequisites](#) and [requirements](#) of the relevant platform:

<table>
<thead>
<tr>
<th>VMware vSphere environments</th>
<th>Microsoft Hyper-V environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Azure environments</td>
<td>Amazon Web Services (AWS) environments</td>
</tr>
<tr>
<td>Cloud Service Providers (CSPs)</td>
<td></td>
</tr>
</tbody>
</table>

- For [installation](#) instructions, click to open and review the installation guide:
<table>
<thead>
<tr>
<th>VMware vSphere and Microsoft Hyper-V environments</th>
<th>Microsoft Azure environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon Web Services (AWS) environments</td>
<td>Zerto Cloud Manager Installation Guide</td>
</tr>
</tbody>
</table>

- **For Zerto Cloud Appliance** The following platforms are supported for the installation:

  The following applications are required:
  - **.NET 4.5.2.** The .NET 4.5.2 installation package is included with the Zerto Virtual Replication 6.5 installation package.

### Upgrading Zerto and/or Zerto Cloud Manager

To review the upgrading guidelines and instructions, see Upgrading the Zerto Virtual Replication Environment.

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**Important:**

Starting with Zerto 5.5, Zerto changed the maximum sizing limitations when the ZVM database needs to migrate from an embedded internal database, to an external database.

Before upgrading, it is important to follow the sizing guidelines. **Failure to follow the sizing guidelines can result in performance degradation and possible software errors.**

For more information, click to review:

- Scale and Benchmarking Guidelines
- Migrating the Zerto Virtual Replication Database to Microsoft SQL Server

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**Important:**

Zerto has introduced Long Term Retention, see Long Term Retention Solution on page 18, which replaces Offsite Backup. This means that backups created with version 6.0 or earlier, will not be usable in version 6.5 and onwards. Therefore, during an upgrade from v6.0x to v6.5x, any existing configured repositories, or backup configurations are removed.

In order to enable restores from Offsite Backups created with v6.0 and earlier, please refer to Upgrading To ZVR 6.5 While Retaining Backups Created In 6.0 Or Earlier.
What’s New & Resolved - Zerto Virtual Replication v6.5 Update 4

What's New - In Zerto Virtual Replication v6.5 Update 4 on page 6

Resolved Issues - Version 6.5 Update 4 on page 6

What’s New - In Zerto Virtual Replication v6.5 Update 4

Zerto Virtual Replication version 6.5 Update 4 includes the following new features and functionalities:

VMware vSphere

- vSphere version 6.7 U3, which includes vCenter 6.7 U3 and ESXi 6.7 U3, is now supported. See the Interoperability Matrix for specific features support.

  Note: Supported from version 6.5 Update 4 P1.

- vSphere version 6.7 U2, which includes vCenter 6.7 U2 and ESXi 6.7 U2, is now supported. See the Interoperability Matrix for specific features support.

- vSphere version 6.5 U3, which includes vCenter 6.5 U3 and ESXi 6.5 U3, is now supported. See the Interoperability Matrix for specific features support.

vCD

Zerto now supports vCD 9.7 for the latest Zerto version, and for previous versions as well. See the Interoperability Matrix for specific features support.

Resolved Issues - Version 6.5 Update 4

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Resolved Issues: AWS on page 7

Resolved Issues: General on page 7

Resolved Issues: vSphere

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>131702, 134532, 136037</td>
<td>After upgrade to ESXi 6.7.x, customers will succeed in deploying ZCC when their datacenter name includes special characters.</td>
</tr>
</tbody>
</table>
Resolved Issues: AWS

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>135422</td>
<td>The default ZSAT and ZASA security group, when replicating out of AWS, has been hardened.</td>
</tr>
</tbody>
</table>

Resolved Issues: General

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>136712</td>
<td>In environments with Zerto versions 6.0.x and 6.5.x, resolved issues so that the Resource Report from v6.5.x now displays information on the recovery resources, including information on journal sizes.</td>
</tr>
<tr>
<td>132520, 136712</td>
<td>Resolved display issues in the Resource Report so that now the number which appears in the column, Recovery Journal Used Storage in GB, is not rounded.</td>
</tr>
<tr>
<td>132823, 132885, 127780</td>
<td>Resolved various security issues. For example, ZVM version information was displayed before login to ZVM.</td>
</tr>
</tbody>
</table>

What’s New & Resolved - Zerto Virtual Replication v6.5 Update 3

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Resolved Issues - Version 6.5 Update 3 on page 8

What’s New - In Zerto Virtual Replication v6.5 Update 3

Zerto Virtual Replication version 6.5 Update 3 includes the following new features and functionalities:

vCD

- Zerto now supports vCD 9.5. See the Interoperability Matrix for specific features support.

Remote Log Collection

- After enabling Remote Log Collection, a message now appears informing the user whether remote log collection was enabled successfully or not.
- To enable Remote Log Collection for a specific Support case, Zerto now displays a list of active Support cases opened under the account that the Zerto Virtual Manager is registered to.
Resolved Issues - Version 6.5 Update 3

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- Resolved Issues: vCD on page 8
- Resolved Issues: AWS on page 9
- Resolved Issues: File Level Recovery on page 9
- Resolved Issues: API on page 9
- Resolved Issues: General on page 9

Resolved Issues: vCenter

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>128000, 128308, 128433, 128396, 128370, 128432, 128487, 128507, 128506, 127972, 128571, 128568, 128588, 128619, 128630, 128629, 128389, 128701, 128632, 128735, 128673, 128682, 128688, 128519, 128237, 128945, 128966, 128074, 00130180, 00131073, 00129564</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed an issue which occurred after updating to Zerto v6.5 U1, which caused an inundation of refresh tasks in the VCenter Client.</td>
</tr>
</tbody>
</table>

Resolved Issues: vCD

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>00132915, 130288, 00130288</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery operations to vCD environments no longer fails when the total number of powered off VMs in vCenter which vCD can import exceeds 100 VMs.</td>
</tr>
</tbody>
</table>

**Note:** Fixed from version 6.5U3P1
Resolved Issues: Azure

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>00130758</td>
<td>The Premium to Standard conversion tool now shows the copy status every 30 seconds.</td>
</tr>
<tr>
<td>123162, 122420, 123341</td>
<td>Updated the Azure Administration documentation for failing over/moving Linux machines. For more details, see the section &quot;Prerequisites Before Failing Over to Linux Virtual Machines in Azure&quot;.</td>
</tr>
</tbody>
</table>

Resolved Issues: AWS

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>129030, 00129030</td>
<td>The key pair configuration for the ZCA is now an optional configuration property, and not mandatory.</td>
</tr>
</tbody>
</table>

Resolved Issues: File Level Recovery

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>00128181</td>
<td>Resolved an error which sometimes occurred when restoring files on NTFS.</td>
</tr>
</tbody>
</table>

Resolved Issues: API

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>00127899</td>
<td>Fixed data returned for VRAs which are configured with DHCP when using the VRAs API.</td>
</tr>
</tbody>
</table>

Resolved Issues: General

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>00124368</td>
<td>Resolved errors which occurred during Failover Test.</td>
</tr>
</tbody>
</table>
### CASE NUMBER | ISSUES RESOLVED IN VERSION 6.5 UPDATE 3
--- | ---
121971, 00121971 | Resolved an issue which caused the Production VM to be in a paused state and the snapshot to get stuck at 0% for a while. This occurred when a snapshot was triggered on the vCenter Server for a Production VM, and at the same time Zerto was syncing the Production VM.
00129387 | Fixed upgrade and bitmap issues when protecting volumes larger than 32TByte.
00128503 | Exported CVS tasks time stamp is now converted to the local browser time.
113686 | When a recovery VM disk is inaccessible, journal promotion to other VMs is no longer affected. For example, if one VM is powered off, journal promotion to other recovery VMs will not slow down.
00129721, 00129883 | Fixed a performance issue related to compression in a multi-CPU VRA configuration.
\*Note:* Fixed from version 6.5U3P1

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### What’s New & Resolved - Zerto Virtual Replication v6.5 Update 2

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**What’s New - In Zerto Virtual Replication v6.5 Update 2**

Zerto Virtual Replication version 6.5 Update 2 includes the following new features and functionalities:

**APIs**

- A new API enables users to retrieve information about all or specific datastores in a site, available under:
  
  `https://zvm_ip:port/v1/datastores`

- A new API enables users to retrieve information about all volumes in a site, available under:
  
  `https://zvm_ip:port/v1+volumes`

- A new API enables users to retrieve information about recovery operations such as failover, failover tests and move, available under:
  
  `https://zvm_ip:port/v1/reports/recovery`
- A new API enables users to perform a Move operation, available under:
  - `https://zvm_ip:port/v1/vpgs/{protectionGroupIdentifier}/move`
  - `https://zvm_ip:port/v1/vpgs/{protectionGroupIdentifier}/moveRollback`
  - `https://zvm_ip:port/v1/vpgs/{protectionGroupIdentifier}/moveCommit`
- A new Resources Report API, `https://zvm_ip:port/v1/reports/resources`, is available with the following enhancements:
  - Improved JSON scheme
  - Basic and advanced filtering

*Note:* The existing Resources Report API, `https://zvm_ip:port/ZvmService/ResourcesReport`, is planned to be deprecated in a future version.

- A new format is used for duplicate network names. When the network name is duplicated, the switch name is appended.

The documentation can be accessed via the link: [https://www.zerto.com/myzerto/technical-documentation/](https://www.zerto.com/myzerto/technical-documentation/).

**VMware vSphere**

- vSphere version 6.7 U1, which includes vCenter 6.7 U1 and ESXi 6.7 U1, is now supported. See the [Interoperability Matrix](https://www.zerto.com/myzerto/interoperability-matrix) for specific features support.
- NSX-T network is now supported. For details, see the [Interoperability Matrix](https://www.zerto.com/myzerto/interoperability-matrix).

**Windows Server 2019**

- Zerto Virtual Manager on Windows 2019 is supported for vSphere and Hyper-V. For details, see the [Interoperability Matrix](https://www.zerto.com/myzerto/interoperability-matrix).
- Windows 2019 is supported on vSphere hosts. For details, see the [Interoperability Matrix](https://www.zerto.com/myzerto/interoperability-matrix).

**Resolved Issues - Version 6.5 Update 2**

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### Resolved Issues: vCenter

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>00126812</td>
<td>The ZVM installer no longer hangs when upgrading from ZVM v6.0 Update 3 to ZVM v6.5.</td>
</tr>
<tr>
<td>114609</td>
<td>Fixed issues with installation/upgrade that caused the ZVM initialization to fail.</td>
</tr>
<tr>
<td>00128093, 128319, 00128116, 00128158, 00128408, 00127959, 00128553, 00128537, 00128653, 00128913, 00127886, 127886, 00129174</td>
<td>Resolved an issue that prevented installing VRAs on ESXi 6.7 U1 hosts.</td>
</tr>
</tbody>
</table>

### Resolved Issues: VRA

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>119211</td>
<td>An optimization in the VRA improved the process of creating volumes in public cloud which occasionally caused the ZCA VRA service to crash.</td>
</tr>
<tr>
<td>126449, 00126449, 127658, 00127394</td>
<td>Fixed an issue in UNMAP operations initiated by the recovery VM. The VRA stopped handling recovery I/O operations which caused the recovery VMs to freeze.</td>
</tr>
</tbody>
</table>

### Resolved Issues: ZCM

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>117803</td>
<td>When the ZVM authentication is managed by ZCM &quot;Roles&amp;Permissions,&quot; logging into the ZVM with a &quot;.local&quot; suffix as part of the domain name no longer causes an error in login.</td>
</tr>
</tbody>
</table>
What’s New & Resolved - Zerto Virtual Replication v6.5 Update 1

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What’s New - In Zerto Virtual Replication v6.5 Update 1

Zerto Virtual Replication version 6.5 Update 1 includes the following new features and functionalities:

**VMware vSphere**
- VSAN version 6.7 is supported. See the Interoperability Matrix for specific features support.

**AWS**
- Zerto published a set of minimal permissions required for Zerto to operate on AWS cloud. You can specify permissions in the AWS Access Management (IAM) service by creating a policy in JSON format. See https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html. Zerto has not changed the AWS Access key ID and AWS secret access key requirement which is used to access the AWS API.

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- Resolved Issues: vCD on page 14
- Resolved Issues: AWS on page 15
- Resolved Issues: APIs on page 15
- Resolved Issues: General on page 15
Resolved Issues: vCenter

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>116317, 121851, 122531, 123134, 123502, 00122531, 124913, 00119474</td>
<td>Failing over multiple volumes which have the same name in different letter case will no longer fail.</td>
</tr>
<tr>
<td>122503</td>
<td>Resolved an issue which prevented the user from selecting VMs for replication after a vCenter IP change.</td>
</tr>
<tr>
<td>117550</td>
<td>Failover Test/Failover button for self-replicating VPGs is no longer disabled when the protected and recovery VRAs are disconnected.</td>
</tr>
<tr>
<td>00125861</td>
<td>Resolved an issue which prevented the user from changing VM Recovery Host when journal default datastore is set to datastore cluster.</td>
</tr>
<tr>
<td>118235</td>
<td>Resolved an issue where Resources Report did not correctly report the journal's used disk space in the datastore.</td>
</tr>
</tbody>
</table>

Resolved Issues: Hyper-V

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>121273</td>
<td>A datastore selection error is no longer caused when the datastore is a subset of other datastores.</td>
</tr>
<tr>
<td>00123223</td>
<td>Fixed failure issues in the VPG creation process which were caused when the VPG had several volumes for each VM.</td>
</tr>
</tbody>
</table>

Resolved Issues: vCD

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>117544, 00124380, 125117</td>
<td>Resolved a timing issue where vCD was not yet aware of all the VM's disks during Failover and Failover Test operation, causing these operations to fail.</td>
</tr>
</tbody>
</table>
Resolved Issues:

**Resolved Issues: AWS**

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>120167, 121509, 00124376</td>
<td>Resolved an issue which prevented a cleanup of shadow VRAs when the recovery site is vCD site, and Storage vMotion was triggered while the protected and recovery sites were disconnected.</td>
</tr>
</tbody>
</table>

**Resolved Issues: AWS**

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>00125439</td>
<td>Fixed an error that occurred during Failover to AWS, while importing a volume using the zimporter which occurred when VM or volume names were too long.</td>
</tr>
<tr>
<td>123389</td>
<td>ZertoTools now supports 2008R2 when performing failover using the Zerto Import for All Volumes import method.</td>
</tr>
</tbody>
</table>

**Resolved Issues: APIs**

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>122486</td>
<td>Fixed an issue that prevented adding new VMs to a VPG via Rest API when the VPG already has VMs replicating to different Journal Datastores.</td>
</tr>
</tbody>
</table>

**Resolved Issues: General**

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUES RESOLVED IN VERSION 6.5 UPDATE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>92092, 92226, 91351, 89532, 89993, 91738, 90796, 89558, 89077, 91006, 90977, 91266, 93385</td>
<td>Removal of a VPG during the promotion phase is no longer possible via the GUI. It is only possible to force removal of a VPG by running a Cmdlet.</td>
</tr>
</tbody>
</table>

**What’s New & Resolved - Zerto Virtual Replication v6.5**

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- Resolved Issues - Version 6.5 on page 19
What’s New - In Zerto Virtual Replication v6.5

Zerto Virtual Replication version 6.5 includes the following new features and functionalities:

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- Add Volume to a Protected VM on page 17
- vCloud Director on page 17
- Hyper-V on page 17
- vSphere on page 18
- ZCM on page 18
- Long Term Retention Solution on page 18
- VPG on page 18
- Database on page 19
- VRA on page 19
- General on page 19

**Important:**

VSS functionality is no longer supported in Zerto Virtual Replication. If you require VSS functionality, see Release Notes for Zerto Virtual Replication with VSS, and Zerto Virtual Replication - VSS Deployment and User Guide.

**API**

- A new API now enables users to generate sessions to the Zerto Self-Service Portal.

**Note:** The existing method for generating sessions via the CloudPortalUrlFactory is planned to be deprecated in a future version. Code changes will be required in order to utilize this API, once the existing method is deprecated.

- A new API now enables users to execute File Level Recovery operations.
- A new API now enables users to configure a VM with a preseeded volume.
- A new API now enables users to configure a VM with RDM.
Azure
- RTO: Improved the Failover time to Azure.
- VPGs can now be recovered to Premium Managed disks. A VPG can include any combination of VMs with Premium Managed disk and Standard Storage account. After live failover, the VMs that are recovered to Premium Managed disks cannot be protected. A conversion tool must be used to convert them into Standard Storage account VMs for them to be protected.
- The **Premium to Standard Conversion tool** enables replicating and failing over Premium Managed disks. The tool clones the Premium Managed disks and creates the same VM with Standard Storage disks, which the ZCA will then be able to protect.

AWS
- RTO: Improved the Failover time to AWS.
- Recovery to C5 and M5 instances is now supported. C5/M5 instances can be selected with the Zerto Import for All Volumes import method. C5/M5 instances are supported with Windows 2012R2 and Windows 2016.
- RTO was improved when performing the Move operation from AWS.

Sub VPG Operations
- Users are now able to Failover, Failover Test or Clone selected VMs in the VPG and are not required to perform the operation on all of the VMs in the VPG.
- Sub VPG Operations are supported only when the protected site is up and connected.
- Sub VPG Operations are not supported when replicating from a vCD site.

Add Volume to a Protected VM
- History is no longer deleted when users add a new volume to a protected VM.

vCloud Director
- Zerto operational interactions with vCD, such as, Create vApp, are now performed via the vCD REST APIs

Hyper-V
- Communication between the ZVM and Hyper-V agent can now use TLS version 1.2
- Resolved multiple issues with replication of volumes of arbitrary sizes.
- Environment data collection in Hyper-V is faster and more robust.
• Installing PowerShell module on Hyper-V hosts is no longer required and host operations performance is improved.

vSphere
• VMs in vSphere which have Fault Tolerance cannot be protected by Zerto. As such, starting from Zerto Virtual Replication version 6.5, Zerto does not allow protecting these VMs. This is enforced by filtering out and not including the VMs in the list of available VMs for protection.

ZCM
• Zerto now supports replication between multitenant CSP-managed sites and Public Cloud sites through Zerto Cloud Connector (ZCC). Each ZCA is expected to run in the end customer subscription and be co-managed by the CSP and the customer. Using ZCA through a ZCC enables filtering of VMs from the multitenant environment so that the ZCA operates only with VMs and other resources limited within a given ZORG.
• If there is more than one port group with the same name under the same vDS, the network resource in ZCM will include the vDS adapter name.

Long Term Retention Solution
• With Zerto’s newly designed Long Term Retention Solution, customer retention processes are now able to operate at large scale. This is achieved by running the retention processes and VPG Restore processes using a component residing on the VRA, which is scaled out.
• Zerto's new Long Term Retention provides a new approach for IT Resiliency by offering a scalable solution, with no production impact, leveraging Zerto’s CBT from previous restore points (incremental), which is able to keep and maintain longer term retention sets up to a year.
• Zerto's Long Term Retention is supported only in Enterprise Cloud Edition Licenses as well as “Cloud One-to-Many”.
• Zerto's Long Term Retention is now performed incrementally, meaning, only data that has changed since the last retention process will be read and written.

VPG
• When choosing datastore cluster as a target datastore, ZVM now selects the most optimal datastore based on free space per volume.
• Added an alert to show a powered-off diskbox.
• As reverting a protected VM from a VMware snapshot renders it inconsistent, ZVM now automatically detects such events and automatically force-syncs the VPG.
• When changing recovery volume settings from temp to non-temp or vice versa, the VPG no longer loses its history.
Database

- Zerto now automatically installs a Microsoft SQL Server 2014 Express LocalDB for the ZVM embedded database and no longer uses SQL CE for the embedded ZVM database. With this change, Zerto is able to support more VPGs in each ZVM without the need for an external SQL database.

  When upgrading ZVM, any ZVM currently using the embedded SQL based SQL CE database is automatically migrated to a Microsoft SQL Server 2014 Express LocalDB instance.

- Zerto increased the maximum allowed protected volume size, for a single volume, to 96TB.

VRA

- There were multiple VRA optimizations which improved performance and quality. For full details, see the Zerto Scale and Benchmarking Guidelines.

- VRA upgrade process was improved. Now, if a failure occurs during the upgrade process, the system will rollback to the previous step in the upgrade.

General

- ZVM initialization is faster and involves fewer platform operations.

Resolved Issues - Version 6.5

- Resolved Issues: vCenter on page 20
- Resolved Issues: Hyper-V on page 20
- Resolved Issues: vCD on page 20
- Resolved Issues: Azure on page 21
- Resolved Issues: AWS on page 21
- Resolved Issues: ZCM on page 21
- Resolved Issues: VPG on page 21
- Resolved Issues: APIs on page 22
- Resolved Issues: General on page 22
## Resolved Issues: vCenter

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>115348, 116850</td>
<td>Fixed an issue which caused Failover from AWS to VC to fail due to a AWS PV driver upgrade. ZertoTools now allows manual or auto downgrade of AWS PV Drivers before Failover to VC.</td>
</tr>
</tbody>
</table>

## Resolved Issues: Hyper-V

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>117430</td>
<td>Resolved an issue that prevented VRA install(upgrade when mount points are defined with a domain suffix.</td>
</tr>
<tr>
<td>121273, 122284, 122474</td>
<td>Fixed an issue which prevented moving VPGs between recovery hosts.</td>
</tr>
<tr>
<td>99090</td>
<td>Operations involving the creation of large volumes no longer times-out arbitrarily.</td>
</tr>
<tr>
<td>106076, 00106076</td>
<td>Fixed an issue in which Failover from Hyper-V of a VPG with a dynamically sized volume and reverse protection results in un-resolvable “Needs Configuration” status.</td>
</tr>
</tbody>
</table>

## Resolved Issues: vCD

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>121947</td>
<td>Added a validation to avoid importing a VM into a vApp, before the VM is recognized by the vCD.</td>
</tr>
<tr>
<td>116271</td>
<td>Fixed an issue which caused target disks to move to a datastore which was not within the volume's storage policy. Prior to remove VPG task, a validation step informs the user if a datastore for preseeding should be configured within the same storage policy.</td>
</tr>
<tr>
<td>116271</td>
<td>Fixed an issue which prevented target disks from moving to their preseed location within the user’s ZORGs resources, when unpairing sites.</td>
</tr>
</tbody>
</table>
### Resolved Issues: Azure

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>118738</td>
<td>Fixed an offset calculation in the optimization mechanism when promoting to Azure.</td>
</tr>
</tbody>
</table>

### Resolved Issues: AWS

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>120773, 114473</td>
<td>The AWS Linux re-IP script allows failing over Linux operating systems with static IP from VMware to AWS (when Zerto Import for all volumes is being used).</td>
</tr>
<tr>
<td></td>
<td>Increased some configuration defaults to enable faster Failover, Failover Test and Move operations to AWS for single volumes.</td>
</tr>
<tr>
<td></td>
<td>Zerto Import for All Volumes and Zerto Import for Data Volumes import methods support AWS C5/M5 instance types as zImporters VMs.</td>
</tr>
<tr>
<td>112896, 114154, 117031</td>
<td>Fixed an issue which caused the VRA to crash while attempting to apply unlisted objects to the mirror disks. Added a validation in the VRA during recover from restart to ensure all journal data in the cloud journal disk is listed.</td>
</tr>
</tbody>
</table>

### Resolved Issues: ZCM

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>116914, 116904, 117610</td>
<td>When pairing sites with ZCC fails, the error message is now more informative.</td>
</tr>
</tbody>
</table>

### Resolved Issues: VPG

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>106080, 116000</td>
<td>When changing the recovery volume provisioning type fails, the VPG now goes into a Need Configuration state.</td>
</tr>
<tr>
<td>21129, 115465</td>
<td>Fixed an issue with the Reverse Protection network settings.</td>
</tr>
<tr>
<td></td>
<td>The Alert RecoveryDatastoreFull (STR0002) now also checks VPGs with thick provisioned volumes.</td>
</tr>
</tbody>
</table>
Resolved Issues: APIs

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>117654</td>
<td>Fixed an issue where creating VPGs using REST API failed. The API script selected a host cluster that did not have a VRA.</td>
</tr>
</tbody>
</table>

Resolved Issues: General

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>ISSUE RESOLVED IN VERSION 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>109216</td>
<td>Large scale environments: Synchronization between ZVMs was improved.</td>
</tr>
<tr>
<td>108683, 113347</td>
<td>The alert “Inaccessible recovery volume” no longer appears during Failover or Failover Test.</td>
</tr>
<tr>
<td>00110425</td>
<td>Pre-recovery and post-recovery scripts now run in parallel.</td>
</tr>
<tr>
<td>15811, 20182, 19186, 84966, 88934</td>
<td>An error message now appears when selecting a datastore for replication that is not enabled for replication in the Configure Provider vDCs window.</td>
</tr>
<tr>
<td>00120907</td>
<td>Fixed an issue where when opening more than one VPG tab, tooltips with results did not appear upon mouse-over of performance graphs.</td>
</tr>
<tr>
<td>119729</td>
<td>Fixed grid filters and column resize issue in ZVM GUI.</td>
</tr>
<tr>
<td>119272</td>
<td>Added Visual C++ redistributable package to ZVM installer.</td>
</tr>
<tr>
<td>00128247, 00128563</td>
<td>Adjusted configuration settings in the VRA to prevent performance degradation in the system, which in some cases might cause the VRA to slow down, or stop.</td>
</tr>
</tbody>
</table>

Note: Fixed from version 6.5U1P1

Zerto Analytics

*Insight-driven data analytics for a new era of data protection*

As IT infrastructures become more complex and demands for performance rise, companies require visibility and control over protected IT environments. Visibility of your entire IT infrastructure (both on-premises or cloud) is imperative to monitor, analyze and plan your environment and resource requirements to ensure zero interruptions. To have confidence that business Service level Agreements (SLAs) are met, you need not only visibility and insights to address existing issues, but also to be able to plan for your future data protection needs.

Zerto Analytics delivers these capabilities through a single interface and one user experience for a comprehensive overview of your entire multi-site, multi-cloud environment. Utilizing metrics such as
average recovery point objective (RPO), network performance, and storage consumption, Zerto Analytics delivers real-time and historical insights on the health and protection status of your applications and data. Through Intelligent dashboards you can spot trends, identify anomalies, and troubleshoot issues in network, RPO, and other business SLAs. With these insights, you can eliminate inefficiencies and allocate resources effectively to mitigate data loss, reduce downtime and take control of your data.

See also:

Before Getting Started with Zerto Analytics on page 23
Accessing the Zerto Analytics Portal on page 23
Zerto Analytics APIs on page 23
Zerto Analytics Product Feature Matrix on page 24

Before Getting Started with Zerto Analytics

Verify the following:

- At least 1 ZVM is running Zerto 5.0 or higher.
- Enable Support notification and product improvement feedback checkbox is selected This is accessed in the ZVM application in Settings > About.
- Internet access.
- A myZerto account using your corporate email address.

Accessing the Zerto Analytics Portal

Zerto Analytics can be accessed from https://analytics.zerto.com, or through https://www.zerto.com/myzerto/ and signing in using your myZerto credentials.

You can also access the Zerto Analytics portal from the ZVM Application Menu tab: Click to open Zerto Analytics in a new browser tab.

⚠️ TIP:

Use the What’s New 📘 WHAT’S NEW and Help 🤔 features in Zerto Analytics to learn more about each of the features available in Zerto Analytics.

Zerto Analytics APIs

Zerto Analytics is developed with an API first approach, therefore, everything that is presented in the GUI, is also available with APIs. APIs are available the same version as their GUI counterparts.

Zerto Analytics APIs are available in OpenAPI Specification.
The documentation can be accessed via the link: https://docs.api.zerto.com/

**Zerto Analytics Product Feature Matrix**

The following table lists the available features and from which ZVM version it's supported.

For further details about new features, access the Zerto Analytics portal and click [WHAT'S NEW](#).

<table>
<thead>
<tr>
<th>Feature</th>
<th>Zerto 6.5</th>
<th>Zerto 7.0</th>
<th>Zerto 7.5</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dashboard</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>VPG Analytics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Storage Analytics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Available from Zerto v6.5 Update 2</td>
</tr>
<tr>
<td>Monitoring: Alerts, Tasks, Events</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Reporting: RPO, Journal, Network</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>Available from Zerto v7.0 Update 1</td>
</tr>
<tr>
<td>ZORG Filter (CSP end user)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Network reporting: single VPG Not available for Storage tab</td>
</tr>
<tr>
<td>90 Days History</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>ECE and Cloud licenses Standard 30-day</td>
</tr>
<tr>
<td>Swagger RESTful API</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Not yet available for Planning</td>
</tr>
</tbody>
</table>

**Known Issues**

The following are known issues when using Zerto:

- Known Issues on page 24
- Virtual Protection Group (VPG) and Recovery on page 25
- VPG Management on page 25
- Failover, Move and Test Failovers on page 26
- vCenter Server on page 26
- vCloud Director on page 27
- VMware vSphere on page 27
Virtual Replication Appliance (VRA)

- You have to wait a few minutes after moving a protected virtual machine to another host before you can forcibly uninstall the VRA ghost on the original host.
- If the VRA IP is allocated via DHCP and the DHCP server at a later date allocates a different IP, the VRA does not change the IP. For this reason it is recommended during production to only use static IPs and use static IPs or DHCP during trials.

Virtual Protection Group (VPG) and Recovery

- Attempting to create a VPG when the target datastore is unavailable fails.
  
  **Workaround:** Try again after the datastore is up.
- Virtual machines with SATA controllers cannot be included in a VPG.
- When an existing VPG is attached to a ZORG, it is not possible to edit this VPG either after uninstalling the ZCM, or after removing a site from the ZCM.

VPG Management

- If a VM is removed from the hypervisor inventory, Zerto Virtual Replication stops the replication. When adding back this VM to the inventory the ZVR resumes the replication. In Hyper-V environments only, adding back the VM does not resume the replication.
• When the protected site is vCD, initiating "Copy VPG Settings" from the Recovery site is currently not supported.

Failover, Move and Test Failovers

• After stopping a failover test, the checkpoint that was used for the test has the following tag added to identify the test: Tested at startDateAndTimeOfTest(OriginalCheckpoint_DateAndTime). The Tested at startDateAndTimeOfTest value is taken from the Zerto Virtual Manager and not from the UI.
• Recovering a VPG using one of the very earliest checkpoints available can fail when the checkpoint specified is moved out of the journal before the recovery operation can commit.
• After a recovery operation, the field bios.bootOrder is not passed to the recovered VM. In some cases, not passing the field bios.bootOrder can lead to the wrong boot order in the recovered VM.

vCenter Server

• In some cases, after updating Zerto software, and after vCenter DB reinitialization, Zerto may not be able to identify some of its entities automatically, due to vCenter MoRef changes.
• When an ESX/ESXi host is disconnected from the vCenter Server but the network connection is still available, the status of any VPG recovering to this host and the status of the VRA on the host are displayed as OK in the Zerto user interface. However, all recovery operations will fail.
• Due to a VMware problem, configuring IPs for the recovery machines is lost when cloning virtual machines with VMXNET3 NIC on Windows 2008 R2 machines. For details and solutions, see http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1020078.
• VMware does not identify the IP origin for Linux virtual machines and therefore Zerto cannot know whether it is static or DHCP.
• The boot order defined for a vApp is not reproduced for a cloned vApp.
• Increasing the size of an RDM disk is not reflected in the VPG, nor by the recovery VMDK.


☆ After hibernating a laptop running vSphere Client console, you have to restart the console to reload the Zerto GUI.
☆ Zerto is not localized. VMware issues alarms where the language is not English with XXX.

Workaround: Start up the vSphere Client console adding the following argument: -locale en_US, to display all Zerto alerts in English.
☆ If a host is removed from a site, a ghost VRA is created which you can remove. After the host is added back to the site, a ghost virtual machine is displayed in the vCenter hierarchy.
**Workaround:** Remove the ghost virtual machine from the inventory.

**vCloud Director**

- When recovering in vCloud Director v9.0 and above, vApps containing Standalone VMs will not maintain the standalone VM view in the Tenant UI.
- After updating a VPG, for example by adding a new virtual machine to it, and then immediately moving it or failing it over to vCD, causes the vCD reflection to be out of date and recovery virtual machines are not powered on, resulting in the promotion hanging.
  
  **Workaround:** Wait a few minutes between changing the VPG and performing the move or failover operation. If you do not wait, manually power on all recovery virtual machines that are not powered on automatically.
- Recovering a VPG to vCD will fail if the vApp name contains any of the following special characters: ! * ' ( ) ; @ & = + $ , / ? % # [ ].
- When both the recovery site is vCD, if NICs are added to a virtual machine that is included in a VPG and then the VPG is recovered, with reverse protection defined, the VPG for failback needs configuration, but the Zerto User Interface does not enable this configuration.
  
  **Workaround:** When adding NICs to a virtual machine that is included in a VPG, edit the VPG to add these NICs to the VPG definition, before performing a recovery operation with reverse protection.
- Improved RTO when replicating to vCD 9 and Guest Customization is enabled, by avoiding a redundant VM power on and off, which was used by vCD to identify whether VMTools were installed on the VM.
- When replicating a large vCD vApp (containing tens of VMs) to vCD, RTO is impaired.
- Storage Policy configuration for VPGs:
  - Preseeding: Browsing the location of the preseeded disk will show only datastores which belong to the VM Storage Policy, and not all Storage Policies in the orgvDC.
  - Zerto does not maintain the Storage Policy per volume of protected VMs upon reverse protection when replicating between vCD<>vCD - the volumes will be aggregated to the VM Storage Policy.

**VMware vSphere**

- vSphere Web (FLEX) Client 6.7 is not supported.
- Zerto does not support enabling `VMkernel.Boot.execInstalledOnly` on ESXi advanced system settings.
- Datastores which are used by Zerto must not contain special characters in their names.

**Hyper-V**

- Changing the storage used by a VRA from a CSV to non-CSV storage, or from a non-CSV storage to CSV storage, fails.
• You cannot protect virtual machines using storage that is only configured in Hyper-V and not in SCVMM.

• Virtual machines with fixed size disks are always recovered with dynamically expanding disks.

• SCVMM is not automatically refreshed after any recovery operations to or from the SCVMM. This can result in Integration Services not being detected by the Zerto Virtual Manager and this can lead to virtual machines failing to boot and Integration Services functions such as re-IP not working.

  **Workaround:** Manually refresh the virtual machine in SCVMM.

• All management operations that can be executed from SCVMM, must be executed from SCVMM and not from the Hyper-V host. For example, removing a virtual machine must be done from the SCVMM console and not from the Hyper-V console.

• When Hyper-V Replica is used on a virtual machine protected in a VPG, removing the virtual machine from the VPG is not reflected in the user interface.

  **Workaround:** Re-edit the VPG to remove the virtual machine and click **DONE**.

• A VRA cannot be installed on a Hyper-V host when the host is attached to a LUN via iSCSI along with other Hyper-V hosts.

• Recovery or replication of Hyper-V virtual machines with shared disks does not work.

• If you mark a disk as shared after the virtual machine to which it is attached is already in a VPG, the virtual machine must be refreshed in the SCVMM console immediately, otherwise the VPG enters an error state. Then, remove that virtual machine from the VPG since a virtual machine with a shared disk cannot be recovered or replicated by Zerto.

• When a protected Windows VM configured for DHCP is failed over with re-IP set to DHCP, a failed SCVMM job will appear in the SCVMM console.

### AWS

• Tagged checkpoints, Force Sync, One-to-Many and Long Term Retention functionalities for VPGs with AWS as the protected site are not supported.

• Preseed to AWS is not supported.

• Restore from retention sets is not supported for VPGs with AWS as their recovery site.

• When using zlimport, the disk type is io1 and cannot be configured.

• Only the ZCA’s Availability Zone (AZ) can be used for faster recovery.

• VMs with EBS volumes using Key Management Service (KMS) to encrypt data cannot be protected.

• When using Zerto import for all volumes, the following Operating Systems are **not** supported:
  
  • CentOS 7
  
  • Ubuntu 13.10
- Solaris 11.2
- The default account limit of the number of c4.8xlarge AWS EC2 instances that can be deployed is 20. To ensure scalability, contact AWS support to request a limit increase.
- The default account limit of the number of m4.large AWS EC2 instances that can be deployed is 20. These instances are used for zSATs and zASAs. To ensure scalability, contact AWS support to request a limit increase.
- When using Zerto Import for Data Volumes and AWS Import methods, the Access Key ID and Secret Access Key are required.
- GPT cannot be used as the boot disk.
- Recovery to AWS using "zImport for all volumes" may require installing drivers on the production VM. Refer to the Interoperability Matrix to determine if running ZertoTools for Linux/Windows is required.
- FOL to AWS fails when the VPG definition contains an invalid entity such as a security group, subnet, VPC or instance type. An invalid entity might be an entity that was removed from the AWS platform.
- Recovery of Windows VMs will freeze when using AWS import method with the PV driver installed.
- AWS rounds up all volumes to the closest 1GB. When failing over/ moving to AWS, with reverse protection, if the VM is with disks that are not a round number of 1GB, the VPG goes into a Needs Configuration state after being recovered to AWS. This is due to a volume size mismatch between the protected and recovered sites. After recovery, the user needs to delete this VPG and recreate it, initiating "initial sync".

Azure

The following limitations apply:
- Self replication within a ZCA is not supported.
- Although two ZCAs can share storage accounts (either paired to each other, or each paired to a different site), this is not recommended as ZCAs which point to the same storage account are not aware of each other.
- Preseed is not available in Edit or Create VPG flows.
- Disks saved when deleting a VPG or un-pairing sites cannot be used for preseeding in Edit/Create a VPG.
- For Virtual Machines to be protected in Azure, the VMs' volumes must reside in the Standard Storage Account (Zerto Storage Account) that was defined during its installation.
- VMs which are not deployed via the Azure Resource Manager cannot be protected from Azure.
- You cannot protect machines that have a disk larger than 4TB.
- The protected virtual machines needs to have at least one NIC.
- Azure rounds up all volumes to the closest 1MB. When failing over/ moving to Azure, with reverse protection, if the VM is with disks that are not a round number of 1GB, the VPG goes into a **Needs Configuration** state after being recovered to Azure. This is due to a volume size mismatch between the protected and recovered sites. After recovery, the user needs to delete this VPG and recreate it, initiating "initial sync".

- When your protected site is Zerto 7.5 and you are recovering to an Azure site running Zerto 7.0, the Zerto User Interface will incorrectly display Managed Standard SSD and Managed Standard HDD as the "Recovery Disk Type" instead of Standard Unmanaged. Both Managed Standard SSD and Managed Standard HDD are currently not supported. Choosing either option will result in recovering to Unmanaged Disks. Recovering to Azure's Managed Disks will be supported in a future version of Zerto.

  Note: Premium Managed still recovers to Premium Managed.

- The supported number of data disks per virtual machine is dependent on the selected instance size. For example, instance size D3_v2 allows up to eight data disks per virtual machine.

- Restore from retention sets is not supported.

- When a VM is recovered to Azure, a temporary drive is automatically created in the drive letter, following the operating system drive. Due to this temp drive, the drives you had set up in your production site may be shifted when recovered to Azure (other than the OS drive) (Azure limitation).

- Use Move operation in order to failback from Azure.

- The minimum RPO from Azure is 1 minute.

- Long Term Retention is not supported for "From Azure" VPGs.

- Reverse protection VM network settings in a VPG are not saved when failing over a VPG from Azure.

- Tag checkpoints, Clone: These operations are not supported for VPGs which have protected VMs in Azure with multiple disks attached.

- For additional limitations, see Azure subscription and service limits, quotas and constraints: https://docs.microsoft.com/en-us/azure/azure-subscription-service-limits.

**Cross-Replication**

- NIC configuration in the VPG definition is not applied.

- Recovery of a virtual machine from Hyper-V to vSphere of a generation 1 virtual machine with more than one SCSI controller, fails.

- Under certain conditions, when the declared OS definition does not match the actual installed OS, recovery operations may not work. To prevent this situation, ensure that the declared and installed OS definitions match. If the two definitions cannot match, use the hypervisor guidelines of the protected virtual machine or contact Zerto support.

- You cannot install VMTools on a Hyper-V VM. VMTools on a Hyper-V VM are needed for re-IP to work.
VMware to Hyper-V Cross-Replication

- When protecting from VMware to Hyper-V, the protected volumes must be multiples of 1MB. If you resize a VMDK, the resize must be a multiple of 1GB.
- In VMware, a virtual machine with a guest operating system booting from UEFI firmware can only be protected by Zerto if the guest OS is supported by Hyper-V VM Generation 2.
- SUSE and CentOS Linux machines in VMware cannot be recovered to Hyper-V.
- Recovering a VPG to Hyper-V from vSphere will fail if the name contains any of the following special characters: ! * ' ( ) ; : @ & = + $ , / ? % # [ ].

Hyper-V to VMware Cross-Replication

- CentOS 7.3 Linux machines in Hyper-V cannot be recovered to VMware.
- When recovering from Hyper-V to VMware, the virtual machines are recovered with the same number of sockets as CPUs and not the original number of 19035.
- When protecting Windows 2012 R2 virtual machines from Hyper-V to VMware, after a failover test you may need to re-activate the virtual machine.
- Windows XP virtual machines cannot be protected from Hyper-V to VMware.

Remote Upgrade for Cloud Service Providers

- Upgrade of cloud sites that support Intra-Cloud Disaster recovery is not supported.
- Remote upgrade functionality assumes that both the Cloud Service Providers version and the customers Zerto version is v6.0 or above, or v5.5U4.
- VSS installers are not supported. Remote Upgrade should be used to download only non-VSS versions.

APIs

- Support of VPG Settings APIs when Creating VPGS from vCD to vCD:
  - vCD > VC is not supported.
  - No validations are performed on the inputs provided.
- Invalid Argument Validations:
  - Previously created REST API calls may fail if invalid arguments were used.
- VRA Bulk Upgrade:
  - The upgrade of VRAs provided will halt if one of the VRAs fails to upgrade.
- Copy VPG Settings API:
• When using the Copy VPG Settings API, Long Term Retention settings cannot be applied to the copied VPG.

File and Folder Level Recovery

• If the Windows virtual machine with files to be restored uses dynamic disks, files cannot be restored from these disks.
• You can only recover files or folders when Long Term Retention is not running.
• Journal File Level Restore (JFLR) is not supported with the vSphere plugin.
• File Level Restore (JFLR) is not supported on a volume where data de-duplication is enabled.
• **Linux file systems only**: Downloading files larger than 1.5GB is not recommended and may take a long time.
• Zerto will not download files from Linux file systems, when the file name contains the following special characters:
  \ / : * ? " < > |
• When recovering files/folders from Zerto 7.0 to 7.5, the Ide 0:0 disk indication appears as the root folder during browse and as the mounted disk regardless of the selected disk. This does not affect the files/folders selected for mounting.
• If the recovery site is 7.0 and the protected is 7.5, the user cannot initiate FLR from the protected site.
• When running FLR from 7.0 and the recovery is 7.5, the user experience is different but all drives are still visible.

**Downloading Files/Folder from Search and Restore:**

• The Search and Restore wizard does not filter unsupported files. If an unsupported file is selected for download from Search, a mount session will be executed but the download will fail.
• The user must unmount the VM manually.

**Search and Restore:**

• Saving indexed meta-data is currently only supported on SMB Repositories which are not PBBA based.
• When configuring SMB repositories used for indexing, do not use a local user account.
• Operating Systems, File Systems and Volume Manager that Zerto can index:
  • Operating Systems: Windows Vista and 2008 server and above and Linux
  • File System and Volume Manager: NTFS and EXT2/EXT3/EXT4
  • LVM is not supported for indexing
• A VM with over 100 million entries (files or folders) cannot be indexed.
• Rate of entries (files or folders) indexed in NTFS per second: 2000 files.
• Rate of entries (files or folders) indexed in EXT per second: 1500 files.
• Supported partitioning methods: GPT, MBR.
• Zerto can index up to 3 VMs in parallel and no more than one per recovery host.
• Search and Restore is available only from a recovery ZVM GUI.
• While indexing, only a Failover operation is allowed and this will stop the indexing process (indexing cannot be resumed).
• Modified date: displayed in the browser local time.
• Search is not case sensitive.
• Support only search according to entry name (not full path).
• No multi-tenancy support.
• Search and Restore requires Enterprise Cloud Edition, Cloud One2Many or NFR/Trial license.
• If the recovery site is 7.0 and the protected is 6.5, the user cannot set File System Indexing. Both the protected and recovery site must be 7.0 and above.

Long Term Retention

• Upgrade:
  • Existing 6.5 NFS Repositories will be renamed to deprecated and can be used for Restores only. New repositories must be created for continued LTR use with Zerto 7.0 and above.
  • Retention processes will fail until all VRAs have been upgraded to 7.0 and above.
• Repository Supported Protocols:
  • NFS - For list of supported versions, see the Interoperability Matrix.
  • SMB - For list of supported versions, see the Interoperability Matrix.
  • SMB can be configured using IP address only.
  • SMB cannot be configured using DNS naming.
• HPE StoreOnce Catalyst:
  • Catalyst API Server version installed on the server should be v9 and above.
  • Prior to defining the HPE StoreOnce Catalyst store as a repository, Client Access should be enabled on the Catalyst store level. This is the only access mode supported for HPE StoreOnce store, which should be configured on the HPE StoreOnce itself.
  • Low-bandwidth (LBW) is the only Transfer Policy supported for a Catalyst store, to allow source side de-duplication by Zerto. This way, only unique data is sent over the wire.
- High-bandwidth (HBW) Transfer Policy is not supported.
- Source side de-duplication is enabled by default for this Repository and cannot be disabled.
- In order to support source side de-duplication for a Catalyst repository, VRA restart is automatically initiated upon the first LTR operation (Retention/Restore) on that VRA to allow sufficient memory allocation.
  - This will fail the first LTR operation running on this VRA. Upon Restore, if the VRA is different than the one chosen for Retention, this operation is expected to fail as well.
- The maximum number of concurrent streams supported when working with Catalyst type of repository is 60.
  - If the number of available streams on the HPE StoreOnce appliance is smaller than 60, an “Out of Sessions” error will be triggered. (For example, if the HPE StoreOnce appliance supports a smaller number of concurrent streams, or the streams are already utilized by another software).
  - That means, that each VRA can support up to 5 concurrent volumes to be processed for Retention or Restore operations, in a given time. Other volumes will be queued and processed once the current ones are completed.
- **Incremental:**
  - Zerto can track up to 40TB of changes per volume.
- **Scheduling and Retention Policy:**
  - All scheduled Retention process periods (Daily, Weekly, Monthly, Yearly) are scheduled to run at the same time of the day.
  - If a Full and Incremental are scheduled for the same day, the system will run a Full Retention process. For example, if a Daily Retention process is set to run a Full on Sunday and a Weekly is set to run an Incremental on Sunday, a Full Retention process will be performed.
  - Deleted VPGs are not managed and their Retention sets are not removed from the repository, even when the retention period has passed.
  - Retention sets generated in 6.5 will not be managed by any Retention policy and will need to be manually deleted from the Repository.
  - In some scenarios, the Retention process will wait in queue and will start running only on the following day, resulting in two Retention sets on the same day.
- **Restore:**
  - Restoring VPGs is allowed for VPGs which currently exist, or which were deleted.
  - Restoring Retention sets from Repositories prior to 7.0 is not supported.
  - Reconnecting a Repository is not supported.
• If one or more volumes are in "initial sync" state during a Retention process, these volumes are excluded and the Retention process will be considered as Failed.

• **Licensing:**
  • Long Term Retention requires Enterprise Cloud Edition, Cloud One2Many or NFR/Trial license.

• **Performance:**
  • DSS and VRA consume CPU. As such, if the CPU on the VRA reaches high consumption rates, another CPU should be added to the VRA machine. Adding additional CPUs on top of the additional one is redundant and the additional CPUs will not be utilized.

• **Manual Retention Processes:**
  • If the scheduled Retention process on that day has already executed, manual Retention will either run the last settings used, or run a default of 90 days incremental.

• **Cloud Service Providers and Zerto Cloud Manager Users:**
  • "Extended Recovery" Service profiles are not supported and are removed as part of the upgrade.

• **ZSSP Users:**
  • Restoring VPGs is not supported.

• **Other:**
  • When editing a VPG where the protected site is 6.5Ux, and the recovery site is 7.0 and above, the user will not be able to see updated scheduling settings. Any scheduling configuration done on the 6.5 GUI will be ignored.
  • Partial Retention and Restore processes are not supported.
  • Long Term Retention is not supported where the protected or recovery site is a Public Cloud. Therefore, the SETUP tab in the ZCA was removed.
  • Only one Long Term Retention task can run on a VPG concurrently.
  • Retention Reports are not available in 7.0 and above.
  • When configuring FreeNAS as an LTR Repository connected via the SMB protocol, the “Server minimum protocol” parameter needs to be explicitly set with “3_00.”

**Upgradeability**

• **VRA upgrade:** The user is recommended to follow the VRA upgrade via the Zerto Virtual Manager GUI.

  When an update/hotfix installation occurs and the VRA auto upgrade checkbox is still enabled, there is a second event that is presented in the GUI, even though there was no VRA upgrade.
General

- The backslash character (\) is displayed as \%5c in the GUI, for example when used in a virtual machine name.
- If the local site Zerto service is down, you can still recover and clone VPGs. When cloning a VPG, the clone progress bar in the VPG Details screen is not updated.
- In a multi-site environment and when masking is not implemented, adding a virtual machine to a VPG by editing the VPG from the recovery site, displays all virtual machines on the protected site, including those protected to a different recovery site.
- Zerto Cloud Connector *.vswp files are not included in the DATASTORES tab, DR Usage value.
- When creating a VPG and there is no available recovery site, the GUI display is corrupted.
  **Workaround:** Make sure the connection to the replication site is restored and refresh the browser.
- Increasing a protected virtual machine disk size to greater than 2TB causes the VPG to enter the state, Needs Configuration.
- When replication is to a VSAN, disk space used by the journal is not deallocated when the journal size decreases.
- Protecting DVD drives is not supported.
Zerto enhances the Zerto IT Resilience Platform by converging disaster recovery and backup to deliver continuous availability within a simple, scalable platform. Zerto delivers enhanced analytics, platform improvements and cloud performance upgrades required in the future of IT resilience.

Learn more at Zerto.com.

For assistance using Zerto’s Solution, contact: @Zerto Support.

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