

### GENERAL

#### What are the use cases for ZVR and AWS?

##### Replication from on-premise to AWS

- Enterprise customers who would like to have BC/DR in the cloud for test and development
- Enterprise customers with mixed hypervisors who would like a single BC/DR cloud solution

##### Migration from on-premise to AWS

- VMware Customers that migrate completely to AWS
- Enterprise or HyperV customers who would like to migrate on-premise site the public cloud to save costs, eliminate HW maintenance, obtain on-demand resources
- Enterprise customers who would like to migrate their DR site to the public cloud and then to use Zerto for on-premise to AWS replication

##### New DR

- Customer who would like to setup a new DR site fast, on-demand, and without waiting for physical equipment or other factors, such as reducing costs
- Migrating or having DR from Cloud Service Providers to AWS (vCD to AWS). Not putting all resources in a single provider's hands.

#### What are the components of the solution?

**Zerto Cloud Appliance**—manages the three Zerto services within Amazon Web Services EC2 instance. The three services included in the Zerto Cloud Appliance are:

- *Zerto Virtual Manager*—Manages disaster recovery, business continuity and offsite backup functionality at the site level
- *Zerto Virtual Replication Appliance*—Replicates the VMs and virtual disks
- *Zerto Backup Appliance*—Manages offsite backup operations. Runs as a service at the target site, in this case, in Amazon Web Services and enables the backup of replicated data. There is no host in ZCA.

**Journal**—Like a DVR for the environment, stores 1 hour up to 5 days worth of continuous checkpoints for failover

#### What are the system requirements to use ZVR and AWS?

- VPN connectivity between on-premise site and "AWS site" (ZVR instance in AWS)
- S3 Services
- EC2 Services
- VPC Services

- Instance type: m3.xlarge on which the Zerto Cloud Appliance (ZCA) will be installed
- User with Amazon EC2 Full Access permissions to use EC2, S3 services

#### Why did Zerto add AWS as a supported platform?

Zerto added AWS as part of the Cloud Continuity Platform vision of complete workload portability between any cloud and any hypervisor.

#### What is the target environment size for AWS?

There is not a hard limit to how many VMs can be protected using ZVR to AWS. This solution provides a new option that is a more cost effective option for many workloads. Enterprise environments can utilize AWS for workloads that may not need the aggressive DR capabilities that demand a dedicated recovery site, yet want a solution that is more readily available than what a backup solution offers.

#### How does ZVR work with AWS?

- It is installed on an instance in AWS
- A VPN connection is made to AWS
- ZVR in AWS will be paired based on the VPN connection between sites
- VPG configuration and recovery capability is similar to what is available today in non-AWS site pairings

#### What gaps in protection does this solution solve for my business?

ZVR to AWS allows for a more capable solution than disaster recovery provide without the overhead of supporting a second recovery datacenter

#### What are the expected RPOs and RTOs with AWS?

- RPO of seconds
- RTO is longer than in a VMware or Microsoft environment but it is still faster than any competing product. Depending on the amount of data, the RTO is approximately one hour.

#### If I need support during an actual outage and I am not sure if it's Zerto or AWS, whom would I contact first?

Using the integrated capability in ZVR, open a support case with Zerto first and we will help determine root cause.

#### How will Zerto Virtual Replication be licensed for AWS?

ZVR for AWS will be licensed in packs and subscription-based. The smallest pack is 25 VMs. Targeted availability is Q2 2015. Migration licenses are also available to migrate

an application to AWS. Migration licenses are also available in packs and the smallest pack is 10 VMs.

#### **Am I alerted when there are issues between my site and AWS?**

Yes, the same alerting capability found in a non-AWS deployment is available for the ZVR to AWS deployment. SLA status, recommendations and even the integrated capability to open Zerto support tickets is present in the ZVR to AWS configuration.

#### **How does using AWS impact SOX \ PCI \ HIPAA \ other compliance requirements for auditing?**

The features of Zerto Virtual Replication do support components of many compliance requirements. Please consult your compliance or risk officer for details on these requirements.

#### **Is the history for the point in time journal still 5 days in AWS?**

Yes, the point in time journal is 5 days, even when using AWS as the target.

#### **Can I use ZVR to AWS if I have Microsoft Hyper-V?**

Yes, Hyper-V to AWS is supported.

#### **Could this be used to fully migrate a VMware vSphere or other hypervisor environment to AWS?**

Yes, VMware vSphere and vCloud Director and Microsoft Hyper-V are all supported platforms.

## CONNECTIVITY

#### **Is the replication traffic compressed?**

ZVR has built-in compression that can be toggled on or off. ZVR also supports compression products like Riverbed and Silver Peak as well.

#### **Is the replication traffic encrypted?**

While the ZVR traffic is not encrypted, ZVR requires a VPN connection to AWS, which is encrypted.

#### **Is EC2 Classic platform supported?**

It is not supported. Only Amazon VPC is supported.

## INSTALLATION AND ADMINISTRATION

#### **What are the components I need for ZVR to work with AWS? Will they be the same (ZVM, VRAs, Journals)?**

The ZVR is installed on an instance in EC2 - named Zerto Cloud Appliance (ZCA). The ZCA includes the following services:

- Zerto Virtual Manager
- Zerto Virtual Replication Appliance
- Zerto Backup Appliance

#### **Will the Zerto management interface look the same with AWS?**

Yes, although there will be adaptations to AWS (some screens will be removed such as VRAs, Datastores etc). Create VPG and Failover/Test/Move workflows will all function the same.

#### **Will I still be able to install ZVR myself if I use AWS or will I need professional services?**

The deployment will remain an easy installation. It is so straightforward that Zerto does not require professional installation services.

#### **Is ZVR converting the VMDK's to another format?**

Virtual Disks are replicated to AWS S3 and upon recovery they are imported to EC2 as EBS disks and are attached to the recovered instance.

#### **Will there still be a very granular point-in-time Journal for recoveries?**

Yes, the points in time are made every few seconds for very low RPO.

#### **How much data / how many VMs can I recover in AWS?**

Zerto Virtual Replication can replicate nearly any amount of data, however there are limits in AWS:

- 16TB of protected volume. This comes from AWS limit - EBS disk maximum size is 16TB.
- By default, only 5 concurrent imports are available. This limit can be eliminated by contacting AWS support.

Since ZVR recovers entire VPGs in AWS and not limited to single VM recoveries like some competitive products, you are assured that the necessary VMs are failed over in the correct order and point in time.

#### **How do I connect to AWS—Virtual Private Connection (VPC) or AWS Direct Connect?**

Both VPC and Direct Connect are supported.

#### **Can I perform data center migrations using ZVR and AWS?**

Yes, datacenter migrations are one of the new options that ZVR to AWS provides. The VMware environment can be migrated to AWS quickly and easily.

#### **All of my VMs are for VMware. How can ZVR protect them in AWS?**

ZVR enables the option of running some, or all of your VMware VMs in AWS. Because of the non-disruptive testing capabilities of ZVR, as long as the OS is supported by AWS, you can migrate to AWS and have a very seamless, low impact to production migration.

#### **What format are the VMs running in AWS?**

They are native EC2 Instances.

## OPERATIONS

### Can I fail over to AWS and actually run applications there?

Yes. The virtual machines become AWS instances and the applications will be fully functional.

### Are there any differences when creating VPGs with AWS as the target?

The VPG creation process is exactly the same. Since the target storage and networking is already configured on the AWS side, these selections are unnecessary and are omitted from the VPG creation wizard.

### How does failback work?

For version 1.0, failback is a manual V2V process. Automated failback will be available in a future release.

### What kind of performance impact does running in AWS have?

The workloads will perform as expected in AWS.

### Will failover testing operations work normally in AWS?

Yes, the workflow is the same.

### Will the failover testing still be non-disruptive?

Yes. Non-disruptive testing is critical in achieving the lowest possible RTOs and meeting SLAs. Testing can be performed anytime, even in the middle of the day since it does not impact the production systems.

### Can I do pre-seeding to AWS? How?

Pre-seeding is in the roadmap to be supported in a future version.

### If I am using Zerto Offsite Backup in AWS storage, can I use these as pre-seed VMs?

Preseeds are not supported at this time.

### Can I run pilot light servers and services (AD/DNS) on AWS along with ZVR?

Yes, in fact that is a great use of AWS to ensure the critical services are available in case of an outage or need to failover to AWS.

### How do I access my VMs at the recovery site for a Move, Failover or Failover Test?

The VMs can be accessed either by the private address or the Amazon Elastic IP Address (EIP).

You can manually associate elastic IP to the instance. The credentials to the VMs are the same as they were on protected site. There is no need for Key pair.

### Can I do failover testing and recoveries between AWS availability zones?

This feature will be included in future releases.

### Can I do bi-directional replication between HyperV/vCD/VMware and AWS?

HyperV/vCD/VMware are all in the roadmap as supported platforms.

### Can the IP addresses be retained or changed during the failover operations to AWS?

Yes, private IP address configuration is supported.

## CLOUD PROVIDERS

### As a CSP, how does Zerto's addition of AWS benefit me?

- Many customers will not want to administer their DR to AWS as they do not have the experience or expertise. The CSP can be the intermediary from the customer to AWS and a trusted advisor.
- For the managed service customers, the CSP can maintain fully managed service capability while leveraging the cost efficiencies of the AWS platform.
- Using AWS may be a more cost effective platform for storing Zerto Offsite Backups.
- CSPs can also offer a new service for assisting the setup and monitoring of a ZVR to AWS deployment.
- ZVR to AWS enables the CSP to offer a new service tier along with the DR as a Service that is more capable than backup as a service.

### Can I use Zerto Cloud Manager with AWS?

Yes you can. AWS resources cannot be added as resources but the ZCA can be managed from the ZCM.

### How do I obtain AWS licenses?

As a Cloud Provider, you may purchase them in packs and include them in your service offerings as you see fit.

## 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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