ZVR-INA-4.0U1-01-04-06-15

Zerto

TABLE OF CONTENTS

CHAPTER 1: INSTALLING ZERTO VIRTUAL REPLICATION

Zerto Virtual Replication provides a business continuity (BC) and disaster recovery (DR) solution in a virtual environment, enabling the replication of mission-critical applications and data as quickly as possible, with minimal data loss. When devising a recovery plan, these two objectives, minimum time to recover and maximum data to recover, are assigned target values: the recovery time objective (RTO) and the recovery point objective (RPO). Zerto Virtual Replication enables a virtual-aware recovery with low values for both the RTO and RPO. In addition, Zerto Virtual Replication enables protecting virtual machines for extended, longer term recovery from an offsite backup.

You install a Zerto Cloud Appliance (ZCA) in the AWS site that is to be used for recovery. The Zerto Cloud Appliance is comprised of the following:

Zerto Virtual Manager (ZVM) – A Windows service that manages everything required for the replication between the protected site and AWS, except for the actual replication of data. Each Zerto Virtual Manager can manage up to 5000 virtual machines, either being protected or recovered to that site.

Virtual Replication Appliance (VRA) – A Windows service that manages the replication of data from protected virtual machines to AWS. A Virtual Replication Appliance can manage a maximum of 500 volumes.

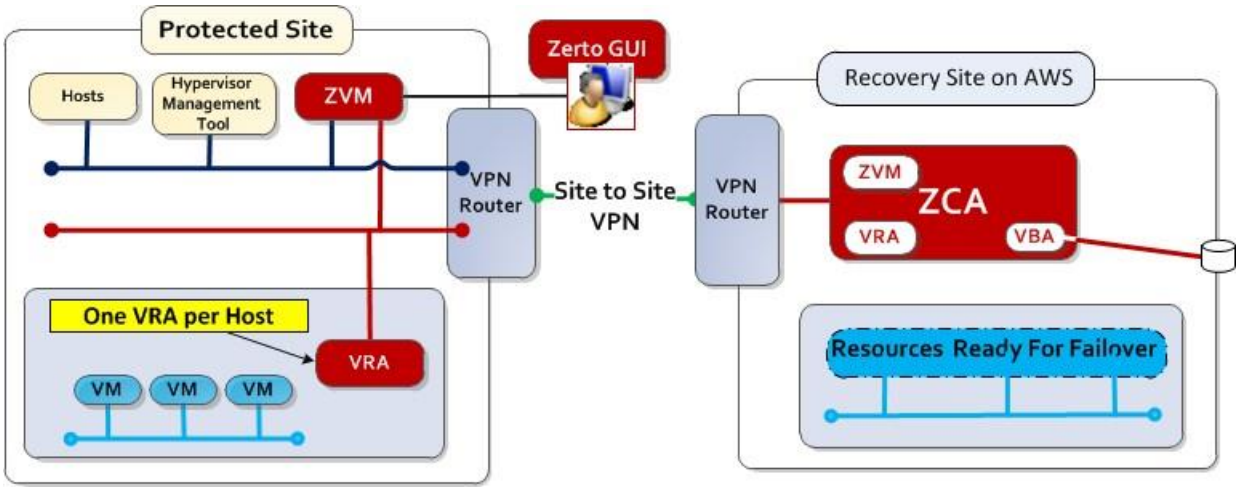
Virtual Backup Appliance (VBA) – A Windows service that manages back-ups within Zerto Virtual Replication and is responsible for the repositories where offsite backups are stored. These repositories can be local or on a shared network.

Zerto User Interface – Recovery using Zerto Virtual Replication is managed by the Zerto User Interface in a web browser.

The following topics are described in this chapter:

Zerto Virtual Replication Architecture

The following diagram shows how the main components of Zerto Virtual Replication are deployed across protected sites and AWS to provide disaster recovery.[1]



Zerto Virtual Replication can be installed at multiple sites, all of which can be paired to AWS. For information about the ports used by Zerto Virtual Replication, see "Zerto Virtual Manager Firewall Considerations", on page 6.

1. For cloud-based architecture diagrams for cloud service providers, see *Zerto Cloud Manager Installation Guide*.

Requirements

The Zerto Cloud Appliance installation must be on an instance on AWS EC2 running a Windows operating system with the following requirements:

- Windows Server 2003 SP2 or higher, or Windows Server 2008, 2008R2, 2012, or 2012R2.

  Zerto recommends, as the minimum, using an m3.xlarge type instance.

  The clocks on the machines where Zerto Virtual Replication is installed must be synchronized with UTC and with each other (the timezones can be different). Zerto recommends synchronizing the clocks using NTP.

  Note: Installing Zerto Virtual Replication on a 32-bit Windows operating system limits the memory to 2GB. This limits the number of virtual machines that can be protected.
- At least 2GB of free disk space.
- Microsoft .NET Framework 4 or higher. The 4.0 installation executable is included as part of the Zerto Virtual Replication installation kit and it needs an additional 1.8GB of free disk space. Note that recent Windows operating systems include .NET as part of the operating system. Make sure that you have the latest .NET and Windows updates, unless Zerto support warns against a specific update.

Installing the Zerto Cloud Appliance on AWS installs the Zerto Virtual Manager, Virtual Replication Appliance, and a Zerto Backup Appliance as Windows services. There can be multipleZerto Cloud Appliances per AWS account and availability zone. For each account on AWS, there must be:

- Access to AWS:
  - AWS access key ID
  - AWS secret access key
- Permission to use both S3 and EC2, including importing data from S3 to EC2. Specifically, this means the Zerto Cloud Appliance users must have *AmazonS3FullAccess* and *AmazonEC2FullAccess* permissions. These can be set in the AWS IAM service. For more information about the IAM permissions, see, http://d /AWSEC2/latest/UserGuide/VMImportPrerequisites.html.
- A VPN connection between the instance on AWS and the protected site.

Note: For cloud service providers, Zerto recommends one ZCA per account.

Routable Networks

The virtual machine on which Zerto Virtual Manager is installed must have an IP address that belongs to a subnet that is part of the VPN.

Zerto Virtual Manager does not support NAT (Network Address Translation) firewalls.

Minimum Bandwidth

The connectivity between sites must have the bandwidth capacity to handle the data to be replicated between the sites. The minimum dedicated bandwidth must be at least 5 Mb/sec.

For the Zerto User Interface

Microsoft Windows Explorer 9 is not supported and version 10 does not work well with the user interface. Zerto recommends using Chrome, Firefox, or later versions of Internet Explorer. The minimum recommended screen resolution is 1024*768.

Database Requirements

By default, an embedded SQL-based database is used but it is possible to use an externally managed database, Microsoft SQL Server. To use an externally managed database, during the installation choose the `Custom Installation` option.

The following Microsoft SQL Server versions are supported: 2008, 2008R2, 2012, 2014.

You must have the following permissions set:

- *Public* and *dbcreator* server roles.
- Permission to connect to the database engine.
- Login enabled.