

DISASTER RECOVERY- AS-A-SERVICE

The US Signal Disaster Recovery-as-a-Service is powered by the Zerto Virtual Replication platform to provide you with near continuous block-level replication of critical workloads. Virtual machines are protected from their production data center to a US Signal cloud data center.

AT-A-GLANCE

- + Available as a fully managed solution
- + Available multi-cloud replication provides second target environment for enhanced protection, test sandbox, or protected cloud migrations
- + Data protection offering with near continuous block-level replication providing tested RPOs of seconds and RTOs of minutes
- + Monthly, usage-based licensing
- + DR Playbook encompassing protection and recovery processes and operations for managed DRaaS
- + Supports VMware ESX/ESXi
- + Built-in data compression to reduce bandwidth requirements for initial data sync and ongoing replication
- + Available, managed recovery testing to validate recovery operations with supporting reports to satisfy compliance requirements
- + Easily recover individual applications or entire data centers with industry-leading RPOs
- + Granular point-in-time recovery with write-order fidelity across all protected virtual machines in a single virtual protection group

TECHNICAL OVERVIEW

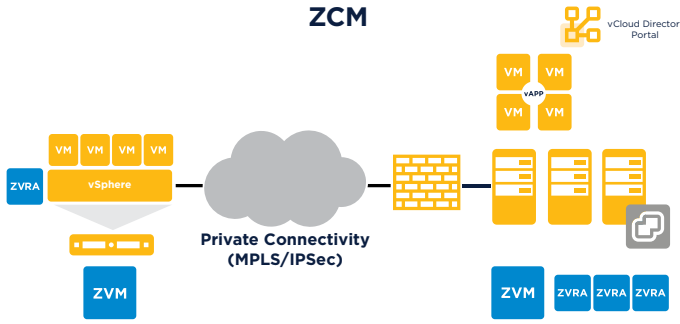
US Signal Managed Services Engineers will work with your team to establish connectivity. They will also assist managed customers in deploying the required Zerto software components within the source compute environment. Once the software components have been deployed and the private network connectivity is established, the replication of workloads can begin.

The following software components may be used as a part of the solution:

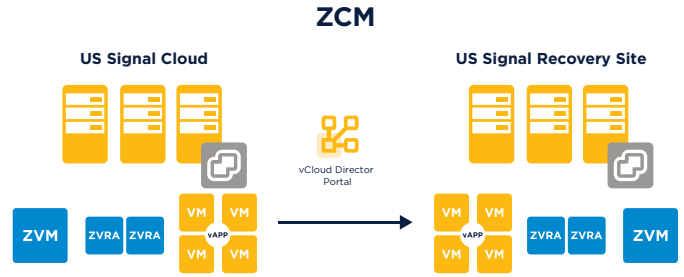
ZVM (Zerto Virtual Manager)

Windows-based virtual machine that is used to monitor and manage replication activity, site links, VPGs (Virtual Protection Groups), and protected VMs. The site ZVM is designed to be installed on a dedicated server that has network connectivity to vCenter or SCVMM.

DISASTER RECOVERY-AS-A-SERVICE TECH SHEET



Customer Premises to US Signal Cloud



US Signal Cloud Resiliency

ZCM (ZERTO CLOUD MANAGER)

Windows-based service that is used as a management layer above the ZVM. An individual ZVM controls one site, the ZCM manages multiple ZVM's and their respective sites.

VRA (VIRTUAL REPLICATION APPLIANCE)

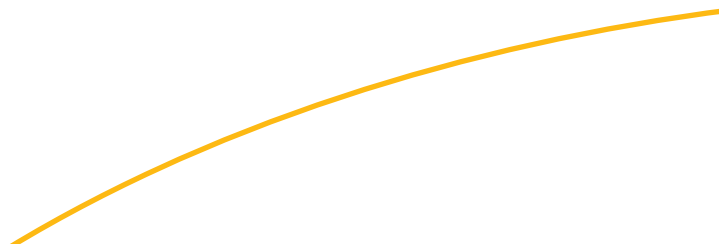
Debian Linux-based virtual machine that is installed on each ESXi/Hyper-V host in the environment. The purpose of this appliance is to intercept all I/O (data) writes to a protected VMs storage. The appliance will then clone it, compress it, and write operations to the VRA in the recovery environment which will be written to the recovery volume and the journal.

AGENT COMPATIBILITY

As the Zerto Virtual Replication platform works at the hypervisor level, there are no inherent conflicts with other agents that may be operating on the protected virtual machines. Traditional backup software can still be utilized to provide an additional layer of data protection for the workloads.

REPLICATION OPERATIONS AND FEATURES

Every I/O write from a protected virtual machine in the source environment is copied by the VRA appliance located on the ESXi host then transferred to the recovery site to the paired VRA appliance in your recovery site where the write operation is placed into a journal. Checkpoints are recorded in the journal every few seconds, which allows you to failback to any point in time recorded in the journal's history with write order fidelity across all the virtual machines protected within that VPG. The journal length is configurable and directly relates to the amount of available checkpoints and storage consumption in the target environment.



DISASTER RECOVERY-AS-A-SERVICE TECH SHEET

RECOVERY DATA CENTERS

Workloads can be protected to the following US Signal data centers: Grand Rapids, MI, Detroit, MI and Indianapolis, IN.

Workloads running in US Signal's enterprise cloud environment in one of these markets can either be protected by the same US Signal data center, another US Signal data center, to your source data center, or any two out of the three.

REQUIRED COMPONENTS

- + Minimum dedicated bandwidth of 10 Mbps
- + Private MPLS or IPsec network connectivity between your source compute environment and recovery environment

VMware

vCenter Server versions 6.0+ or higher with at least one ESX/ESXi host.

Customer Premises to US Signal Cloud

- + Private Connectivity (MPLS/IPSec)
- + vSphere
- + Cloud Director
- + Portal
- + US Signal Cloud
- + US Signal Recovery Site
- + US Signal Cloud Resiliency
- + ZCM

PLAYBOOKS

With managed DRaaS, US Signal Professional Service Engineers will work with you to develop a customized DRaaS playbook, which includes all the necessary actions to failover the protected environment in the event of a disaster. Regular updates to the playbook are performed to ensure changes in your source environment are considered with your overall disaster recovery plan.

SERVICE LEVEL AGREEMENTS

SLA on the recovery time objective (RTO) will be established and documented in the customer's DRaaS playbook. RTOs range from minutes to hours. Actual achievable RTO will be derived through initial simulated failovers and are based on contingencies of customer's environment size, bandwidth availability, or any other mitigating factors.

TESTING

Two free recovery tests per year are included to validate the viability of the recovery solution. For managed DRaaS, US Signal's Professional Services team will work with you to determine the testing scenario that meets your objectives.