# Zertø

# Using Zerto For Migrations to Provide True Mobility

STEVE BLOW

VERSION 1.0
APRIL 2018

## Contents

## INTRODUCTION

Migrating IT infrastructure to adapt to ever-evolving IT strategies has long been a challenge for any business. Factors such as in-house knowledge of applications, the speed of technological change in the IT industry, as well as constant emerging cloud technologies means that these migrations can quickly become complex and challenging to implement.

Zerto Virtual Replication delivers a standardized approach to handling these challenges, providing an agnostic offering capable of providing enterprises with a truly resilient IT infrastructure. This means IT services can be implemented and adapted around strategic business objectives, rather than the infrastructure investments which have traditionally been the limiting factor.

## TRADITIONAL CHALLENGES

### Knowledge

One of the key challenges is the in-house knowledge of the applications you are running. For example, the average employee turnover rate in the UK is approximately 15% according to Monster. With IT refreshes traditionally occurring every three to seven years it is often conceivable that this knowledge is therefore lost in between transitions. This results in lengthy and expensive migrations or perhaps worse, leaving the application in situ.

### Technology Lock-in

One thing for certain in IT is that the pace of change is relentless; new ideas, concepts, and platforms are constantly coming to market. Ultimately this means that it is very unlikely that any CIO or CTO is going to replace like for like, resulting in that age-old conundrum of how to coalesce your existing environment with your new infrastructure or solution.

### Cloud Adoption

With many companies implementing a cloud first strategy, a key challenge is how to move to a completely new platform without incurring huge outages or overheads. These platforms present you with something resembling a game of Tetris, many offerings with many ways to integrate them together. However, the overhead of re-architecting applications means that getting your environment into the cloud should nearly always be the preceding step. Tie this in with the popularity of a hybrid cloud strategy, where not all your services run on a single cloud platform, the complexities of being able to migrate workloads between your various platforms should not be underestimated. The last point that should be mentioned here is the exit plan. It is often much easier to get your data into the cloud rather than out, so having a route back out can help your management team sleep well at night.
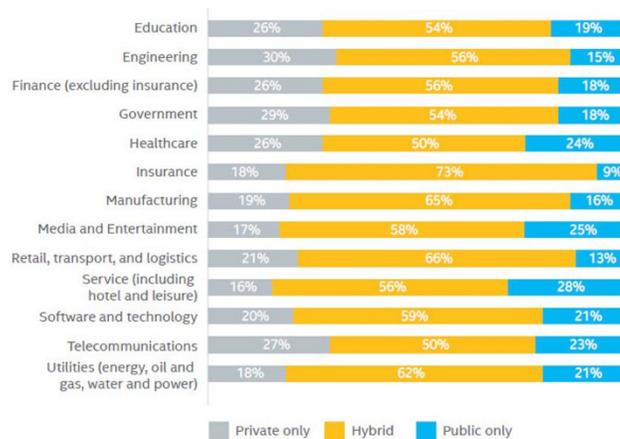


*Figure 1. Which type of cloud architecture is your organization currently using? (Grouped by industry) - Forbes*

### Migration Window

Traditional migrations often require the data to be moved during the actual migration window, with the migration of the VMs occurring at the completion of this data move. This presents a few challenges, namely the migration window required to complete the migration, which is often very lengthy. The second factor is if the data move has not completed in this time, it results in the migration being cancelled and the whole process being repeated in another window. Finally, and perhaps most importantly, there is no control as to when VMs will appear on the target site and be available as there are many variables, such as bandwidth and disk performance, which can alter this time considerably.

## ZERTO OVERVIEW

Zerto Virtual Replication is built from the ground-up to be a simple, yet powerful workload mobility solution, including all replication, orchestration, and automation in one simple software platform.
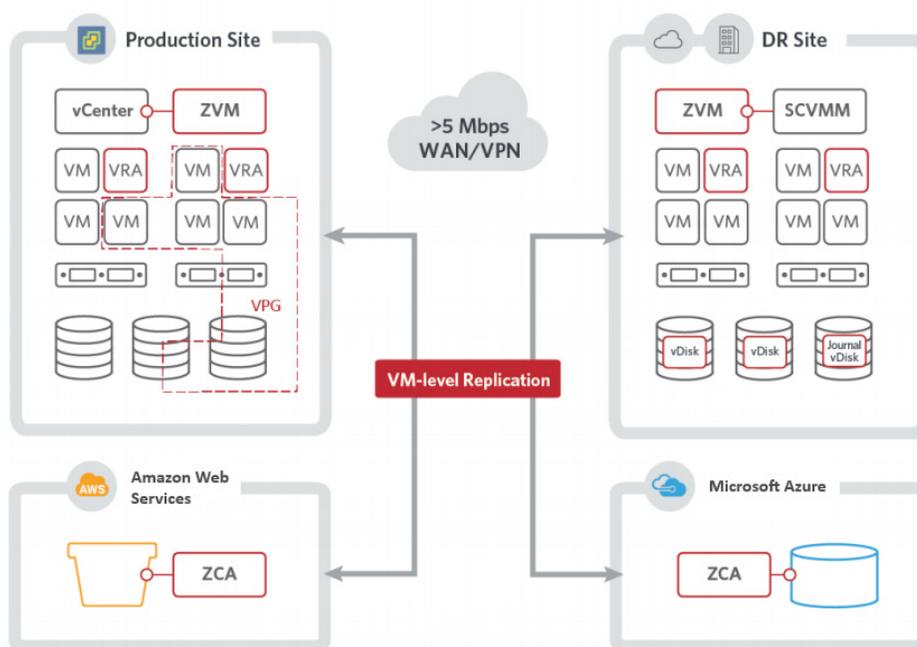


*Figure 2. Zerto Architecture*

In fact, a Zerto Virtual Replication deployment is so simple it typically only consists of just two components. The first is the management server, the Zerto Virtual Manager (ZVM), which installs on a standard Windows Virtual Machine (VM). This will integrate with the local hypervisor manager, vCenter in a vSphere deployment or SCVMM in a Hyper-V deployment. The second component, and where the replication occurs, is the Virtual Replication Appliances (VRAs). These are deployed from within the ZVM interface via a template to every hypervisor host where you have VM workloads to be replicated from or to.

Of course in a public cloud deployment, access to the hypervisor is not possible, so the deployment then only requires a single component to be installed, a Zerto Cloud Appliance (ZCA). The ZCA integrates with the relevant public cloud APIs, managing all the replication, orchestration, and automation configured.

This simplicity means that Zerto Virtual Replication can be deployed and replicating with a matter of hours, drastically reducing resource overheads.

Zerto Virtual Replication operates at the hypervisor layer, meaning there are no agents installed in your VMs, or snapshots utilized, minimizing impact. Because of this, Zerto Virtual Replication can replicate any OS or application capable of being virtualized, whilst adding next to no performance overhead on the production site.

With all the various platforms supported by Zerto Virtual Replication, you may expect to see a different interface for each one, making management clunky and cumbersome to say the least. However, Zerto Virtual Replication maintains the samelook and feel regardless of which platform you are replicating to or from.
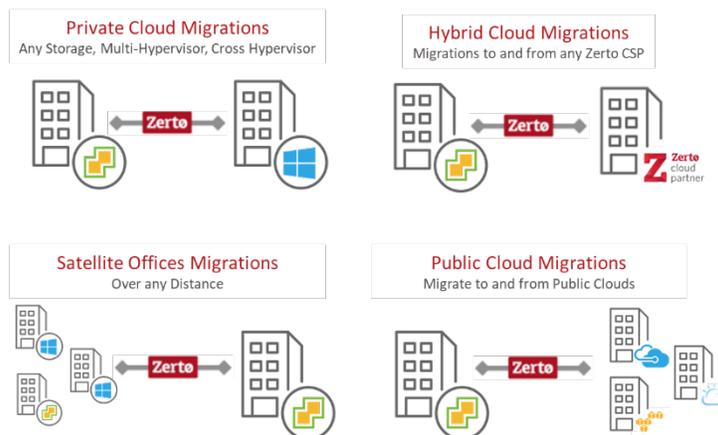


*Figure 3. Zerto Migration Use Cases*

## THE ZERTO SOLUTION

### Knowledge

As mentioned, one of the key aspects to the Zerto Virtual Replication solution is that no agent needs to be installed in any of the protected guest VMs. Despite thinking that this would limit the ability to move application workloads effectively, when tied with the hardware and hypervisor agnostic approach this is in fact an enabler. Firstly, the lack of an agent means there is no overhead on the guest VM itself.  Furthermore, our agnostic capabilities means we can move entire applications made up of multiple VMs, as is, without the need for extensive deep application knowledge. On top of this our failover test feature allows you to ratify any migration, many times before committing to the move, at which point a one click rollback is available until you are completely happy and have committed the move. All of this adds up to a highly capable migration solution that is as simple as it sounds.

### Technology Lock-in

By replicating at the hypervisor layer, Zerto Virtual Replication not only allows replication and recovery between any storage, it also includes multiple hypervisors too, in both private, hybrid and public clouds. This market leading technology delivers the best of breed migration solution irrespective of underlying hypervisor or storage, providing true application mobility and removing any hardware lock-in that may exist.

### Cloud Adoption

With Zerto Virtual Replication's support for multiple public cloud offerings, whether it's AWS, Azure, IBM Cloud or one of the 350 Zerto Cloud Partners, Zerto can enable you to move your workloads into these clouds with ease, performing any conversion as they are replicated. Coupled with the ability to replicate back in the opposite direction, Zerto becomes the market leading tool for enabling a true hybrid cloud strategy, providing unparalleled workload mobility, and future proofing your business's IT strategy.

### Migration Window

As previously discussed, the moving of the data required is the most time-consuming element of any migration. Ensuring that the time associated with this is reduced is therefore central to Zerto Virtual Replication's migration capabilities. With Zerto, the mass data migration is a background task, moving your virtual disks to the target without downtime and next to no impact for your production environment. Zerto even has a bandwidth throttle built in to manage the bandwidth utilized for this. This therefore enables this process to be performed outside of any migration window. Once the initial data has been synchronized to the target site, Zerto will then ensure continuous data protection (CDP), maintaining near-zero synchronization between source and target at all times. This puts the control of when the migration will occur completely into your hands. Because there is no large data move to be completed, when you do decide to initiate the migration, it takes just minutes to move your VMs with zero data loss.
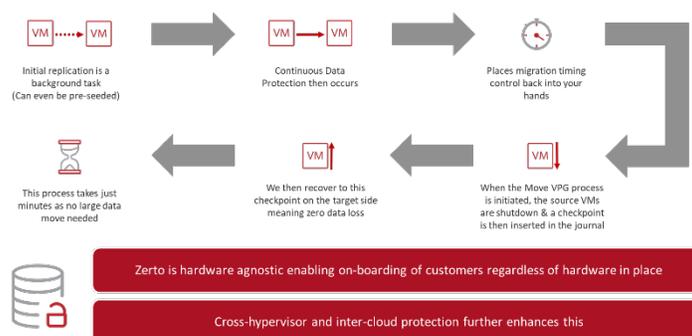


*Figure 4. Zerto Migration Workflow*

### WRAP UP

Zerto Virtual Replication removes the limitations that have traditionally made migrations lengthy, challenging and impacting. By presenting an agnostic approach to replication, hardware, hypervisor, and cloud lock-in is removed, enabling true workload mobility across competing platforms without the need for manual conversions or implementations. Utilizing Continuous Data Protection (CDP), the traditional migration window can be reduced from days to just a few minutes, with next to no impact on the production environment until the migration is performed. Lastly Zerto Virtual Replication does not rely on any additional tools, providing the replication, orchestration, and automation together in one consistent interface.  Taken together, these capabilities make Zerto Virtual Replication the industry standard for fast and seamless datacenter migrations.

**About Zerto**

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, data protection and cloud are managed. With 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 multi-clouds. **www.zerto.com**