



HYBRID DISASTER RECOVERY OFFERS BUSINESSES A GOOD WAY TO EASE INTO PUBLIC CLOUD

Zerto solution enables enterprises to gain experience with public cloud services while protecting sensitive data

Zerto



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The move from private to public cloud can be challenging for many organizations. Companies lack the expertise needed to manage public services and often are leery of putting mission critical production applications at risk. Hybrid computing offers them a path from where they are now to where they want to be in the future. Disaster Recovery (DR) systems are a good application to begin the adoption of public cloud because firms run their production systems safely and securely while gradually gaining public cloud expertise.



Many businesses intend to move their workloads to the public cloud. Spending on public cloud is expected to rise from \$209.2 billion in 2016 to \$246.8 billion in 2017, an 18 percent increase, according to market research firm Gartner, Inc.

A NEW MODEL

However, barriers emerge as corporations adopt this new computing model, a big one being familiarity. Quite simply, a public cloud solution is not managed in the same way as an on-premises system. Public cloud shifts hardware system ownership and responsibility. The IT team does not directly interface with the infrastructure but instead works with the solution provider to ensure that Service Level Agreement metrics are met.

Consequently, techies have to develop new skill sets and mindsets to support this deployment model.

“In the old days, IT pros worked with racks of physical hosts,” noted Tim Warner, author and tech evangelist at Pluralsight, and a Microsoft MVP in Cloud and Datacenter Management. Applications were tightly tied to physical hardware.

Today, virtualized systems, such as those running VMware or Microsoft’s Hyper V, and cloud enable workloads to move freely among systems. Consequently, CIOs need to cultivate a service based mentality and less of the traditional tinkering techie approach.

Because of the change, swapping out premises systems for a public cloud solution can intimidate many corporations. DRaaS (Disaster Recovery as a Service) offers organizations an unobtrusive way to begin making the change.

“DR is the perfect stepping stone to public cloud services,” stated Pluralsight’s Warner. “You can dip your toes in the water. Your systems keep running as you gain experience in working with the cloud.”

In this case, the on-premises applications continue to function, and no data is put at risk (mishandled or lost) as the company adopts the public cloud.

SIFTING THROUGH VARIOUS OPTIONS

What does change is how information is backed up and restored in case of an outage. Businesses have taken many

different approaches to DR and backup, which are complex and touch upon a number of areas.

Many companies do not have a DR plan in place. IDC found that less than half of corporations have a robust DR plan in place. One reason is traditionally, enterprises had to purchase redundant hardware, which adds to their Capital Expenditure (CAPEX) budget. Businesses have found cost-justifying such large expenses to be quite challenging. In addition, smaller firms lack the staff and expertise needed to develop strong DR programs.

Medium and large organizations often have more than one data center, and use them in tandem to deliver DR services. The business might have a West Coast data center act as a DR site for its East Coast applications and vice versa.

Co-location is another option: here, the back-up system runs in a third party's data center.

A DANGEROUS GAME

Businesses without robust DR systems in place have been playing Russian roulette. With computing becoming integral to just about all businesses, downtime has a significant impact on businesses.

"Nowadays, companies have plenty to be scared about if their systems go down," noted Pluralsight's Warner.

Corporations rely on features, like virtualization, to minimize downtime, but problems arise. Hardware wears out, storage systems overheat, and software bugs knock applications offline.

Downtime is expensive. Even with 99.9 percent availability 8.76 hours of downtime still occurs every year and hurts the bottom line. According to IDC, Fortune 1000 companies lose between \$1.25 billion and \$2.5 billion every year because of application outages. A large \$1 billion enterprise loses as much as \$686,000 for every hour of downtime, according to AppDynamics.

Cloud helps IT address some of the traditional DR cost justification challenges. As noted, duplicating a data center can be expensive, but paying a monthly fee avoids the significant upfront investment.

In addition, cloud DR is safe. Companies can adopt it without any impact on their production environments. Firms can install, protect, test, and upgrade their DR systems as their business critical applications merrily hum along.

A FEW WARTS

But public cloud is not a panacea. Corporations need to be sure that the service costs—which can quickly add up—make business sense. Virtual Machines (VMs) provide virtualized workloads but they still use physical resources, and customers pay for using them.

Also, data costs can add up.

"With cloud, you pay for both ingress, information moved into the cloud and egress, data out of the cloud," explained Shannon Snowden, senior technical architect at Zerto. So companies need solutions that minimize data updating.

Network bandwidth can become an issue. With public cloud, more

information flows out from the organization and onto the Internet, so higher speed connections may be needed.

Finally, cloud services have become complex.

“When IT pros look at a system like Microsoft’s Azure, they can feel overwhelmed,” stated Zerto’s Snowden. “There are so many services and so many things being regularly added that they don’t know how or where to start deploying the service.”

To migrate to public cloud successfully, businesses need a strong, flexible

VRA is installed for each hypervisor VM.

Zerto Cloud Appliance (ZCA) is a combination of ZVM and VRA installed with public cloud solutions.

ZERTO SYSTEM FEATURES

The solution offers firms a number of strong features:

- **Seamless application mobility** – Encapsulate and move applications as needed within their IT environment, from on-premises hypervisors to the public cloud.
- **Fast migrations** – Leverage new IT assets quickly as migrations are complet-

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hybrid DR solution. Zerto offers products that ease the migration process.

HOW ZERTO WORKS

Zerto’s replication technology is based on three components:

Zerto Virtual Manager (ZVM) manages disaster recovery, business continuity and offsite backup functionality at the site level. The solution plugs into VMware Inc.’s vCenter and/or Microsoft’s System Center Virtual Machine Manager, and supports browser based and mobile access.

The Virtual Replication Appliance (VRA) captures and clones I/O stream as they pass through the hypervisor. One

ed in minutes with minimal downtime.

• **Simple installation** – The solution installs seamlessly into the existing infrastructure and usually is up in under an hour, with no downtime or major configuration changes required.

• **Centralized management functions**— A single, consistent interface manages multiple sites and platforms, with native multitenancy for Cloud Service Providers.

• **Hardware and hypervisor agnostic** – Enterprises are freed from system constraints and able to use a solution with no hardware or hypervisor dependencies.

• **Cross hypervisor replication** – Move applications and data in VMware

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vSphere to Microsoft Hyper-V environments and vice versa.

- **Broad replication** – Replicate VMware or Microsoft environments to Microsoft Azure, Amazon Web Services, IBM Cloud or any of the more than 350 Zerto Cloud Service Providers solutions.

- **Grouping VMs** – Virtual Protection Groups (VPGs) ensure application consistency by grouping interdependent VMs, which are protected, managed, replicated and recovered as a single entity.

- **Scalability** – The software-based solution grows with the infrastructure, no matter how fast the business expands

- **Non-disruptive DR testing** - Testing can be carried out in an isolated network during working hours in minutes, with no disruption to production environment or the ongoing replication.

- **Robust orchestration** – Automated failover and failback, including boot ordering, re-IP/MAC addressing and custom scripting, with reverse protection executed in just a few clicks.

- **Granular recovery** – Businesses recover data at the file or folder lever. If a file is lost or accidentally deleted, it can be recovered from up to 30 days previously, using the system's journal features.

- **Long-term retention data copies** – Easily create an offsite copy of the

replicated data for longer-term retention and compliance.

PRACTICAL BUSINESS BENEFITS

Hybrid DR customers benefit in many ways.

- **No Major Changes:** With Zerto, an enterprise gets started with public cloud without wholesale changes to its existing processes. Corporations use the same VMs to connect to the public cloud, so the IT team works with interfaces that they are comfortable with. The group can then establish fail overs and tests of the public services, gauge how they behave, and be sure the new system meets company objectives.

- **Reduce Recovery Time:** Zerto Virtual Replication achieves a Recovery Point Objective (RPO) of seconds and a Recovery Time Objective (RTO) of minutes. How? The solution continuously updates data. Many DR solutions are limited because they rely on snapshots, periodic updates. Such products refresh information every ten, 15 or 30 minutes or longer. Zerto takes a different approach. Its journaling capabilities constantly update information. Another plus is its restore function supports granular point in-time recovery of files. As a result, organizations can recreate a record at a specific moment in time.

- **Lower Usage Requirements:** The system is designed to minimize resource

usage. By relying on efficient block-level replication of only altered information, the DR solution avoids negatively impacting application performance. Also, the system runs without agents in the VMs, so its addition has no impact on the production environment.

Run More Tests: With Zerto, companies can run more DR tests. They do not need to synchronize information for a test. Zerto does the orchestration in real time. The system coordinates shutting down of the systems at the source site and then powering them on at the target site simultaneously. This feature is helpful if a business is migrating hundreds of VMs as part of a data center move or running a complex DR test.

“In some cases, customers think the replication did not work because it operates so fast,” noted Zerto’s Snowden.

Support of All Applications. Many organizations run older, critical applications. A business sometimes does not

upgrade from a legacy operating system, like Microsoft Windows 2003, because of cost, complexity, or lack of expertise if the original developers have left the company. Such applications are not supported on public cloud. With Zerto, a firm can deploy a hybrid model and run the application on site and provide it with strong DR capabilities in the public cloud.

Enterprises are looking to the public cloud to lower cost and deliver services faster. However, they need to transition to these services smoothly, without negatively impacting current systems or overwhelming the IT team. DRaaS offers them a way to protect their information and gracefully begin migrating to this new environment. Zerto delivers a robust solution that can help the process.

The Zerto logo is rendered in a bold, red, sans-serif font. The letter 'o' is stylized with a white circle cutout in the center.

For more information, visit:
www.zerto.com