



The Profound Effects of Virtualization Software and DRaaS

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As a technologist, I am constantly thinking about leveraging the latest software or hardware to provide solutions to problems. My latest thoughts revolve around disaster recovery and Disaster Recovery as a Service (DRaaS), and how it can be made more accessible to the masses.

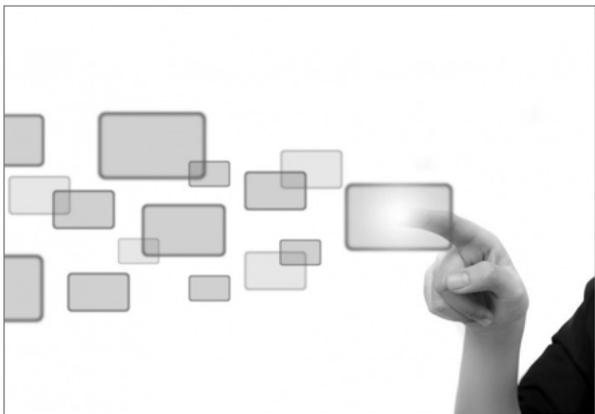
What Is DRaaS?

Before diving into the topic let's first discuss what has enabled it for enterprises of all sizes – in a word, virtualization, a technology which has revolutionized today's data center and has been one of the biggest disrupting technologies of the last decade or so. Server virtualization products such as VMware's ESXi, Citrix's XenServer, Microsoft's HyperV and various other hypervisor platforms have been the driving forces behind server virtualization. The concept of virtualization has bled over into other data center technologies, such as storage and even networking. Though not as common as server virtualization, these technologies display the promise of providing cost savings while enabling agility and scalability.

Virtualization

Server virtualization has enabled enterprises to consolidate physical hardware and more effectively utilize server hardware, while providing a platform for cloud offerings such as Infrastructure-as-a-Service (IaaS), Software-as-a-Service (SaaS) and

Platform-as-a-Service (PaaS) to create a multi-billion dollar market for Amazon, Microsoft, Google and IBM.



Another benefit derived from server virtualization is a market propelled by a plethora of **start-up companies** offering Disaster-Recovery-as-a-Service (DRaaS). These companies are able to offer cost effective disaster recovery solutions to enterprises of all sizes. Dedicated hardware is no longer required at a disaster recovery site, as virtual servers can now easily be replicated to the disaster recovery site's virtual environment. Software vendors also noted this opportunity

and have begun to focus on developing disaster recovery software with greater capabilities and intelligence. Features include replication of virtual machines, agnostic of storage types and server hardware, which allows near instantaneous

recovery point objectives for only the cost of bandwidth needed to keep up with the data flow. The automation in these newer software packages has also reduced possible recovery time from days down to hours.

Today, a **cloud based disaster recovery** service should offer the following capabilities if it is to earn your valued business.

- The ability to seamlessly integrate into your virtual environment, meaning no required software upgrade to your virtual environment to be compatible with the provider's solutions.
- The solution should be storage agnostic, meaning your storage or SAN solution does not have to be the same as the provider's storage solution.



- A Recovery Point Objective (RPO) of seconds should be available and Recovery Time Objective of minutes should be possible depending on quantity of servers being recovered.
- The solution should be completely managed by the provider, taking the burden off you and your team. This includes supplying software, providing installation and performing ongoing management to assure replication is happening error-free, as well as performing and managing the fail-over process when a disaster is declared.
- Allow the customer visibility into their environment to validate that RPOs are in compliance with contract service level agreements and that the service is operating error free as expected.

- The ability to define a protection group for a set of servers that needs to be restored to the exact same point in time is required; it is important for systems that exchange data with one another.
- Provide continuous replication of servers and allow point in time recovery.
- Guarantee that when a disaster is declared, the contracted resources will be available.

DRaaS Planning

Disaster recovery situations are always high pressure, stressful affairs which require cool heads and excellent planning. What can service providers of DRaaS to do to make life easier for their customers and to plan ahead for any eventuality which might occur?

Software Industry

Firstly, it is a proven fact that the more you test your disaster recovery plan, the more likely it is to work when you need it to. So, allow us to test our disaster recovery whenever we want and stop charging us for it. The main reasons for not testing disaster recovery are the costs involved and the lack of time to run proper tests. By making the test free, you immediately eliminate one of the barriers. We could take that one step further. Let the cloud service provider offer to run the disaster recovery tests for the client and report back the results for a fee.

Mission Critical

DRaaS providers have copies of our servers already, so why not leverage those copies for making off-site backups? Many companies are required to maintain off-site backup copies of their data. Being able to leverage your DRaaS for these backups would be of great help. Not only would it offload backup services from your network and **save you time**, but you would eliminate the performance hit your network takes during these backup windows.

Now I realize most companies do not have all their servers under a DRaaS contract: usually just the mission critical systems. But these are precisely the systems usually most important to have backup copies off-site for.

Provide us with a means to access the applications at the disaster recovery site in an effective and productive manner. As companies move to **SaaS-based application delivery**, the problem of application access during a disaster is eliminated. SaaS application are accessed via a browser easily from any computer.

Not all applications are offered via SaaS or have been implemented with a browser front-end. For those applications not accessed via SaaS, a "**thin client solution**" is required to access these applications during a disaster. For companies not already using a thin client solution to deploy applications, having to install one specifically for disaster recovery is an expensive proposition.

What if the DRaaS provider could offer thin client services as part of their disaster recovery offering? Better yet, they could only charge for the thin client infrastructure and licensing when you declare a disaster. That would really add value to the solution.

Failover and DRaaS

Finally, the most important addition that could be made to a DRaaS is the ability to provide near instant server failover for a production server. How many times has a server failed or become corrupted during business hours, causing an outage that could have been avoided.

With the size of today's servers and growing quantities of data, it is not improbable for a single server restore to take eight or more hours. During the restore process the server and applications it serves are unavailable.

Imagine if that failed server was part of your **disaster recovery plan** and you could instantly fail-over to the corresponding server at the disaster recovery location. Granted, performance may be impacted but at least the server and applications would be available while the production issue is addressed. The DRaaS offering could turn into a passive secondary data center solution for the cost of disaster recovery. This would be a tremendous value-add and is possible to deliver with a little extra work by the cloud providers.

As we can see, DRaaS is now available to all enterprises regardless of size thanks to the new market of cloud providers. Now, let's push these providers to take it to the next level and add more value to the offering and solve some real pain points of the IT community.