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Cloud DR coming of age at Amazon (and everywhere else)

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Amazon Web Services (AWS) has released a white paper that lays out how to use its panoply of infrastructure services to create disaster recovery (DR) plans and provision virtual infrastructure in a way that knocks the legs out from under traditional approaches. There hasn't been a mass exodus to the cloud for DR just yet, but it's an idea that is rapidly gaining mainstream legitimacy and has even seen some adoption by enterprises, as overall mistrust of cloud infrastructure ebbs. Advances in networking sophistication by services like AWS and increasing virtualization within the enterprise contribute.

Amazon's white paper is equal parts a rehash of standard DR philosophies and a bold discourse on methods and techniques that simply weren't possible a year or so ago. It's a reflection that AWS' core strength, a massive pool of widely available cheap infrastructure, has been updated by enough features like Virtual Private Cloud (VPC) and VMImport and new networking tools that a good-sized slice of the most common office and enterprise network environments can be replicated on it with comparative ease.

Amazon, as with all things in cloud, is a forerunner to the mainstream. It has had to build its capabilities up to the point where its cloud can function well enough, from an IT perspective, to gain serious consideration. Other providers with more established enterprise credibility are also angling for cloud-based DR services as they catch up to Amazon's sales and delivery model. **IBM** launched the IBM SmartCloud Resilience in June. **SunGard** has a cloud-style DR option for its customers, and on the software side, **VMware** touts vCloud and Site Recovery Manager (SRM) as a viable part of a DR strategy.

The basic idea is that an IT shop can audit, replicate and recreate the servers and connections under its control, and upload the whole thing to a cloud infrastructure, ready to be turned on or updated as needed, with only the smallest financial commitment possible: a single instance that monitors connections and launches the rest of the DR environment on command, for example. Amazon calls this 'pilot light' DR, after the pilot light in a gas furnace.

Compare that with the traditional DR implementation of a replicated datacenter, with racks of physical gear necessary to duplicate existing infrastructure, needing floor space, maintenance, upgrades, power and cooling, all in the hopes that it never is turned on, and the idea of cloud-based DR is immediately attractive to the end user. This kind of DR infrastructure could cost even a small IT department $50,000 up front, not to mention ongoing costs; getting a functional, virtual equivalent on AWS might be in the hundreds of dollars.

This concept isn't entirely new; there have been virtualized DR services that capitalize on consolidated hardware for quite some time, from all the major providers. The sticking point has been that virtualization among customers hasn't been high until recent years, and often virtualized infrastructure was considered a very low priority for DR, like testing and development infrastructure or Web servers. Online backup and recovery services were limited to exactly that, and could never rise to the level of a true failover-ready disaster scenario approach.

Cloud computing seemed to hold out a promise to change that; after all, combining robust online storage on demand with the capacity to deliver servers on demand would seem tailor made. But cloud environments, even at the market leaders like Amazon, **Rackspace** and **Joyent**, was wholly inadequate. Necessary capabilities, like replicating a network topology or automatically updating, monitoring and triggering activation were just not there.

That's changed; Amazon now has the ability to replicate and store a significant swath of networking setups, which can be combined with a broad geographical footprint and availability to make a potential DR environment plausible to a customer in the right situation.

There are real-world examples; one upstate New York financial services firm virtualized and consolidated its modest infrastructure needs and upgraded its Internet connection, and was able to roll out a DR practice on AWS in about six months. The firm replicated about a dozen servers, a standard network layout and business-critical application support and – this is the key – can update it, tweak it and test it whenever needed with the click of a mouse. Compared with the DR system it replaced, where there was a minimum of visibility and access and testing took days to execute and weeks of planning, cloud-based DR is a frank relief.

Note the need for a virtualized infrastructure and a fast pipe; there's no getting away from those requirements. But something else seen as fatal to the concept of cloud DR, mistrust, is also rapidly fading. Recent ChangeWave surveys show a majority of CIOs consider cloud infrastructure largely reliable, rather than unreliable, a sea change from a few years ago, and backup, data storage and DR rank very high on the list of thing they want to push out to the cloud, right after CRM, email and other well-established SaaS applications.

T1R take
The cloud will not eat the DR business alive just yet – if for one reason only, that virtualization has not wholly subsumed the enterprise datacenter, and that's necessary to make so-called 'pilot light' DR scenarios like Amazon's a widespread phenomenon. That said, it's happening, and will continue to happen, for exactly the same reasons that cloud infrastructure services got popular in the first place. There's the pressing economic reality of very expensive DR products, and the enterprise is rapidly warming up to the long-term viability of (mostly) ubiquitous and (mostly) highly available cloud infrastructure.

Add that to the very real onset of specialized, high-performance cloud-style IT services, such as on-demand databases or first tier data storage in the cloud, and enterprises will increasingly be able to put together dynamic, viable and satisfactory DR plans from cloud infrastructure, at a fraction of the cost of traditional DR. That's not going to be a hard decision for the IT professional; they're going to run, not walk, away from traditional DR as soon as they can.

Service providers that run cloud environments may not have the geo-distributed availability of Amazon, but if you run a cloud, it's designed to be fault tolerant by default. If providers can identify ways to share that capacity with users, there may well be opportunities to sell cloud to someone that wouldn't otherwise buy: a DR alternative viewed as an insurance policy instead of a massive sunk investment.

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