

News

DR in the Cloud

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Disaster Recovery solutions have gained a new dimension with the arrival of the Cloud, especially for SMBs. With security and other issues being sorted out for the greater part, customized, Cloud-based DR solutions are likely to find takers amongst large enterprises as well. By KTP Radhika



buildings etc.

For businesses, data is like oxygen. Therefore, safeguarding it from disasters, either man-made or natural, becomes a paramount concern at any company. An effective Disaster Recovery (DR) solution is an inevitable component of any data driven business. Today, even SMBs consider DR to be a necessity rather than a luxury. Having said that, traditional DR solutions entail setting up a secondary site that's on par with the primary, which in turn necessitates considerable CAPEX on equipment,

The emergence of DR on the Cloud has created a scenario of choice. "Traditional DR relies on complex IT infrastructure and software. It is not a good use of money. Cloud-based DR is a rising trend," said Mohammad Wasim, Global Infrastructure Practice Lead, Sapient. The pay-as-you-go models from many Cloud providers keeps costs low for DR and provide many additional benefits.



Going Cloud

A typical DR solution involves deploying an identical hardware environment at a remote site. Data, in such cases, is synchronized by replication. "This kind of solution tends to be expensive," said Santosh D'Souza, Vice President - Technology, Data Center & Cloud Computing, Cisco Systems India & SAARC. "On the other hand, inexpensive solutions have their own drawbacks including complicated operations and difficult changeover procedures. DR solutions using the Cloud will solve these issues and are attracting attention nowadays for this reason."

The concept of Cloud-based DR is starting to catch on even in India. Customers are opting increasingly for Cloud DR and vendors are coming up with new products and innovative technologies. Apart from the cost factor, the rigid infrastructure requirements in a traditional DR setup are also pushing organizations to migrate to the Cloud. "This is because DR is something that may or may not be needed," said BS Nagarajan, Director-SE, VMware India. "About 80% of the people who invest in DR do not get an opportunity to utilize it. Nevertheless, because of the risks involved, guidelines and compliance, companies should set up DR systems. DR on the Cloud is a good option for companies that lack the financial capability to invest in building the required infrastructure for a traditional setup."



When it comes to Cloud-based DR solutions, the reliability of the Cloud provider, the solutions that it provides, the level of availability that it delivers are all key factors that must be considered. The choice of a Cloud Service Provider or Managed Service

Provider (MSP) is crucial. The wrong choice may land a business in big trouble. Rajesh Awasthi, Director, Telecom & Cloud, NetApp India, said, "While considering DR as a service, two things are vital. One is the customer's mindset to accept DR as a service delivered by an external provider and the other is the readiness of the service provider to

provide the same. The important Service Level Agreement (SLA) that the client will look to here are the Recovery Point Objective (RPO) and Recovery Time Objective (RTO)." Moreover, the enterprise should identify the recovery methods that are going to be used.

Sridharan Mani, CEO & Director, American Megatrends, said, "RTO and RPO define the models to be adopted for DR. A Cloud vendor also has to align to the business needs of the customer and ensure replication, availability and reliability of its platform." One can always choose multiple sites from a Cloud vendor or choose to play with multiple vendors.

In any DR plan, recovery is the key aspect for success. Therefore, recovery should fundamentally be a part of the solution design rather than a critical action item to be noted after a disaster. Typically, the decision to move DR on to Cloud is an economic decision, one that's made in order to save money that would otherwise have to go into maintaining a secondary site. The process starts with a business requirement analysis followed by a vendor evaluation against the business requirement. The entire package needs to be looked at closely in order to ensure that the operating cost of DR is low as is the cost of storage and compute resources in the Cloud.

Benefits of Cloud-based DR

Availing DR as a Service (DRaaS) confers many benefits. Cost is the prime factor. A company does not have to invest in special and, at times, large infrastructure in the Cloud environment. Wasim of Sapient said, "Compared to traditional DR, there is a significant cost saving in the case of Cloud-based DR. Also, CAPEX is near zero."

The ability to scale up or down as per demand is a big advantage of any Cloud-based service including DRaaS. The flexibility in leveraging the services offered by a Cloud Service Provider help the organization to optimally utilize its operational budget. Jiten Patil, Senior Cloud Expert & Technology Consultant, CTO Office, Persistent Systems, commented, "Cloud-based DR gives you a great deal of flexibility and scalability to address needs other than those addressed by traditional DR. In a Cloud-based system, the underlying computing model allows you to scale and gives you the elasticity to manage the unpredictable impact of a disaster."

"Providers such as Amazon, Microsoft, Rackspace, etc. who offer multi-site Cloud choices, help you add the extra robustness to your Cloud-based DR solution," he added.

Fully automated DR allows IT heads to ensure that enterprise applications keep running even while the company is experiencing a site-level disaster with a view to enabling the day-to-day business of the company to continue. "Frequent and automated DR testing ensures that DR plans are complete, accurate and that they can be executed reliably every single time," said Nagarajan of VMware.

According to Cisco's D'Souza, a key advantage of Cloud-based DR over the manual, runbook style of DR process execution was nothing less than the fact that it minimized downtime and offered the lowest RTO. "This is critical for next generation Cloud solutions that will be required to host hundreds to thousands of virtualized applications on the same shared infrastructure," he added. Moreover, the pay-as-you-go Cloud model allows businesses to gradually test and deploy applications in the Cloud and figure out their comfort level and what works for them. In the case of Cloud-based DR, it is possible to enable automation for recovery, management and control through multiple frameworks. The Cloud also offers better flexibility and tracking of RTO and RPO. Some Cloud providers including Microsoft with Azure provide inbuilt DR for data services such as storing data copies on multiple data centers across geographies as part of the storage service itself.

For SMBs

Due to the lowering of the CAPEX entry barrier as well as the ease of deployment and management that Cloud-based DR provides, it can be a good choice for SMBs. Vijayant Rai, Director, India & SAARC, Nimsoft & Data Management, CA Technologies, commented, "Many SMBs barely have the time, money and resources to run all of their IT operations and, at the same time, adequately protect the systems, applications and data that their business depends on. Also most

don't have a disaster recovery plan." Many of these companies would go out of business if struck by a disaster be it fire, flood, hurricane or earthquake or even simple day-to-day challenges including power outages, viruses and malware. Arun Velayudham, Evangelist, CSS Corp Labs, said, "Technology is a critical factor in an SMB's success as is cost. Since the Cloud offers a level playing field for SMBs to compete with other major players, they look to the Cloud for their DR needs as well."

K Ganesh, Enterprise Sales Manager- India, Vision Solutions, felt that SMBs on the whole were scaling up with branches in most cities. "However, it is difficult to employ people at each of these locations for DR. Cloud-based DR can solve this problem," he said. Apart from cost reduction there are other attractions too. Cloud Service Providers offer their services through a simplified Web-based interface and users don't need the kind of know-how that managing a traditional DR setup requires.

Anurag Shah, COO & Head of Global Operations, Omnitech InfoSolutions, said, "DR is a specialized science and, for SMBs, it is better to outsource this activity. Continuous or scheduled replication can be a strenuous process. Responding to invocations is a matter of training and inculcation and with the high attrition rates of skilled IT manpower, it is difficult to keep all IT staff trained up all of the time." The automation of the DR process using Cloud services helps SMBs focus on growing their business rather than worrying about business continuity.



For larger enterprises

Given the economic situation around the world, large business are cautious about incurring large amounts of CAPEX. Moreover, many large enterprises have already invested in setting up traditional DR centers. That said, their utilization of data center resources are on the rise. "In order to generate a better return on the investments made in the secondary data center, they are increasing their consumption of resources which include the DR center's resources. Therefore, they are looking to the Cloud for DR rather than investing in yet another traditional DR setup," explained Velayudham of CSS Corp. This model combines the consumption of capital investments made in traditional DR alongside utilizing the latest technologies by adopting Cloud services.



Shubhomoy Biswas, Country-Director, SonicWALL India, commented, "We often see departments or branch offices of larger enterprises using the Cloud for local DR while still replicating back to the data center at the company's HQ. Cloud providers offer a flexible and cost-effective solution for a company's smaller sites."

Another common use case for these companies is to provide a higher level of protection for specific and critical application workloads such as Exchange or specific databases.

Rather than treat the enterprise as a whole, the effort enables Cloud DR for application groups within business units of the enterprise.

"This enables the enterprise to plan, design, test and deploy the DR process in a more granular fashion. Since mission-critical applications support the business and not the other way around, this strategy is more effective and manageable," added Biswas.

The larger the organization becomes, the complexity of its data increases. Therefore, solutions for very large organizations also differ. "DR as a service for the large enterprise should be customized according to the customer's requirements," said Awasthi of NetApp.

"As a strategy, enterprises are first experimenting with Cloud DR services for their non-critical applications. The approach is to be cautious from the security and availability perspective," opined Gajanan Kabe, CTO, Atos India.



Security aspects

Cloud-based DR providers are doing their bit to ensure that they offer a high level of security to their customers. Patil of Persistent Systems commented, "This means securing data in transit and at rest as well as complying with various security standards and guidelines. Security aspects like data segregation, encryption, protection and isolation are the measures that all big providers typically employ."

Then there is the need to develop a realistic testing mechanism for companies to use while opting for DR in the Cloud. Mature operational disciplines are necessary to reduce the chance of errors and oversights. Another issue is with regard to providing for platform independence. "To ensure 100% platform independence is difficult. Most popular platforms such as Windows and Linux have abundant support with other, more sophisticated platforms also being seen of late in the Cloud," said Shah of Omnitech.

According to Biswas of SonicWALL the largest issue in DR was one that wasn't specific to the Cloud. "It is the assured ability that the system that you have replicated to the Cloud will in fact start and run," he added. Choosing the right backup and replication platform is critical. Issues like inadequate bandwidth, vendor lock-in, device adaptability, financial health of the service provider etc have to be tackled before the Cloud becomes a prime choice for DR.

"Apart from the significant cost savings, the driver to adopt the Cloud for DR would be the explosive growth in data volumes, which will result in large adoption of Cloud for DR and production in future" opined Wasim of Sapient.

Gartner has stated that, by 2014, over 30% of mid-sized companies would have adopted DR in the Cloud or recovery-as-a-service. As the technology evolves and service providers roll out an increasingly larger swath of choices and customized applications, the growth of Cloud-based DR is assured. The map would likely include increased security and a broader portfolio of services that would match the varying needs of SMBs and large enterprises.

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