

WHITEPAPER

Cloud DR: Rebooting your Business in the Cloud

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Introduction

As businesses increasingly rely on networks to explore opportunities globally, their risks against man-made and natural disasters increase. A strong business continuity plan assures both investors and customers that their investments in you are safe. But DR can be both expensive and resource-intensive.

This Whitepaper shows why Cloud DR offers a smarter route. Key benefits, and how companies from SMEs to large enterprises can safeguard their resources better and more cost efficiently will be explored. In addition, you will learn how businesses can protect their operations better with business resumption services in addition to Cloud DR.

Three cases will attempt to show how Cloud DR can solve real-world problems. Representing companies of different sizes, industries and requirements, they highlight why choosing Cloud DR service providers with strong infrastructures, deep expertise and decades of experience makes perfect business sense.

than just another Internet-based backup solution. According to the same Forrester Research report, "Cloud-based DR offers easier, more frequent, less expensive testing, and also pay-as-you-go pricing."²

Timing could not have been better. Companies are becoming increasingly dependent on the Internet and data analysis, especially Big Data, to gain a competitive edge. Mitigating risks to data—the crown jewels of any business—has become more urgent than ever. According to research firm Ovum, storage and disaster recovery/business continuity applications top the list of what customers are looking for in Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS)³. Not wanting to invest heavily in idle facilities like a standalone DR facility, it has prompted many to take a hard look at Cloud DR.

Cloud DR Evolution

For many, traditional DR is like buying disability insurance. You know that the protection reduces your risks drastically but saps up your valuable resources. According to Forrester Research Inc.'s report, "DR is still an all-or-nothing investment, and there were few options for moderately-priced solutions that offered recovery times ranging from a few hours to a day."¹

Enter Cloud DR services. With no upfront cost for building your own DR infrastructure, expertise at your fingertips and metered payments, it is more

Sustainable business success needs disaster recovery (DR).



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9 Reasons to Choose Cloud DR

There are many reasons why Cloud DR offers a better solution. Below are nine that are most commonly quoted:

1. No Upfront Costs

The cost of building and maintaining the infrastructure has always been DR's biggest turn off. And it goes beyond just servers and real estate space. Many traditional solutions rely on tapes or CDs for backup, which require extra investment for proper storage, management and retrieval. Cloud DR makes these unnecessary.

2. Shorter Deployment

Deploying traditional DR can take a few months, and in some cases can go beyond half a year. This exposes you to market risks as today's market environment are evolving ever faster. So when your DR goes live, it may not be aligned with the current business needs. Cloud DR drastically shortens deployment times into just hours by offering solutions that already run on deployed hardware. This improves overall business IT alignment, while offering you protection from almost day one.

3. Reduces Idle Time

Besides cost and deployment time, a huge stumbling block for CIOs looking to get Board approval for DR is idle resources. On most days, when disasters don't strike, all that hardware and software investments are not being used, making it tough to justify in today's lean times. Cloud DR overcomes this by enabling you to turn on or off resources when you need it, or even repurpose them with just a few mouse clicks.

4. Testing Simplified

Recovery time objectives (RTOs) and recovery point objectives (RPOs) are always used as valuable benchmarks for DR effectiveness. The former estimates how fast you can return your critical resources to normal after a disaster, while the latter defines the point from which data will be restored. But testing can affect daily operations and take up valuable resources. In Cloud DR, regular testing can be written into the solution's service-level agreement (SLA) and run in isolated virtual network environments.

5. Faster Recovery

It's not just about meeting RTO and RPO objectives; Cloud DR can also improve them. Traditional models often see RTO taking up from a few hours to a few days while RPO will depend on the number of backup copies. In Cloud DR, RTO can be measured in minutes or hours depending on the needs of the business, while RPO can be easily improved by taking snapshots of the production environment.





6. Hardware Vendor Independence

CIOs often fret over being tied to one vendor's hardware, and, frankly, nobody likes to be "locked in". But many can't afford incompatibilities when a disaster strikes, so they end up investing in hardware from the same vendor. In Cloud DR, since everything is virtual, this dependency is removed. You are now free to choose your own hardware and not worry about any hardware compatibility issues.

7. Better Options

Cloud DR multiplies your options. And with a service provider who already owns an extensive network and data centre facilities, these options can make your business more agile and competitive. For example, a service provider who offers IP-VPN, leased line and IPSec VPN connectivity options can support specific public, private and hybrid Cloud needs, while allowing you to expand or grow your Cloud DR infrastructure as your business demands it.

8. Pay For What You Need

Cloud DR allows you to pay on a monthly basis or adopt a pay-as-you-go model. This is made possible by the metering feature of Cloud, which improves budget forecasting, moves your expenditure from CAPEX to OPEX, and helps you to keep a lid on overall expenses. And when you are ready to get more value-added services, you only need to increase your OPEX budget.

9. Management Simplified

Cloud DR ensures DR management is not rocket science anymore. Client-side online management portals allow IT administrators to easily manage their own DR environments. When disaster strikes, recovery can be carried out within a few minutes or hours with just a few mouse clicks.



Beyond Cloud DR

3

You can further increase your protection using Virtual Desktop and Business Resumption Centre (BRC).

With Virtual Desktop, employees can continue to work in a remote and safer location even after the disaster strikes. These, accessible anytime and anywhere over the Internet, also improve management by centralising data backup and patching, and reducing provisioning time. Overall, Virtual Desktop can help to mitigate your operational risks and allow you to continue serving your customers.

BRC goes a step further. An on-site BRC, available 24 x 7, 365 days a year, literally offers a second physical site to conduct your business. When disaster strikes, experienced ICT experts will take the necessary steps to recover your business applications and data as soon as possible to the BRC. Meanwhile, your employees can resume their work at the BRC, minimising any inconvenience to your customers and protecting your reputation.

Cloud DR is only the first step in improving your business resilience.



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Case Studies

There is no such thing as one size fits all in IT. Industry needs, market demands, compliance requirements, local market practices and such make each company's IT DNA different.

And it is not just tangible ones either. Expertise, experience and talent can also mean the difference between disaster averted and a death knell.

As real-world cases offer the best way to appreciate Cloud DR benefits, below are three typical ones, but they can be adapted to a wide variety of industries and scenarios.

Case 1: Marketing Dilemma

- Industry:** Advertising
- Challenges:** DR for fast changing business needs and intensive compliance audits for regional expansion strategy
- Solution:** A flexible pay-as-you-go Cloud DR solution using IPSec Site-to-Site VPN gateway
- Results:** Securely consolidated backup data and applications between head office and subsidiary office for better flexibility, inherent scalability, and operation cost savings for the increasing number of subsidiaries spanning across different countries

A well-established advertising agency in Hong Kong has built its success by leveraging the social media age. The company has transformed its core business from traditional printed and TV media to online and social media marketing. With the surge in Asian economic growth and new business opportunities increasing in the region, the company has begun expanding through mergers and acquisitions.

Challenges

The life cycle of promotional campaigns is becoming shorter. While a print advertising campaign in the past lasted for a couple of months, a social marketing campaign today lasts at most a few weeks or days.

This means the company needs to produce a huge amount of digital content for their clients, faster and more frequently.

This transformation to a digital marketing agency has created a huge challenge to the company's data backup and DR infrastructure. Traditional DR solutions with low flexibility to scale up or down resources immediately, could no longer cater to the company's tremendous growth of multimedia content. Data usage spikes during peak yet short promotional seasons, like festivals, has also made traditional DR planning problematic. Besides, the company did not want to invest a huge part of its revenues on refitting its DR infrastructure as it wanted them for speeding up its business expansion plans.

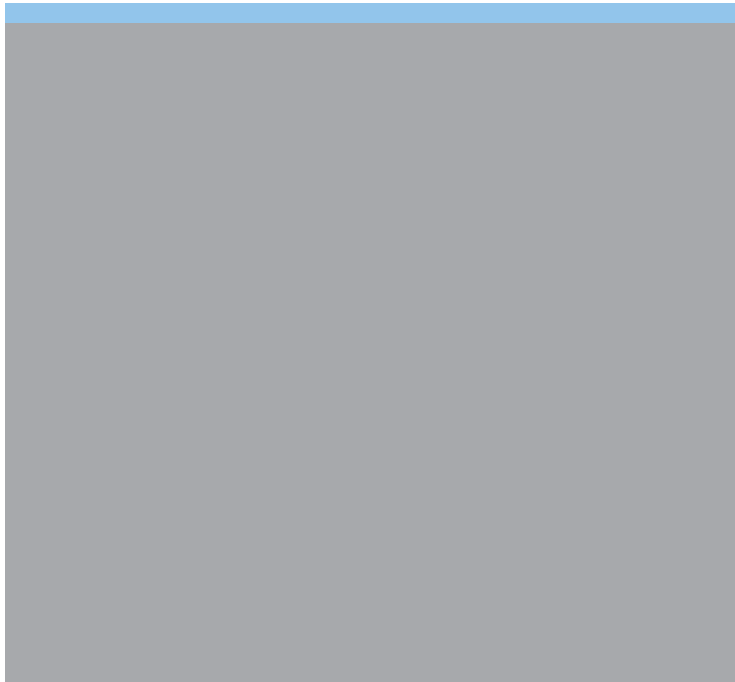
However, the company still needed a DR plan. M&A activities involve intensive audit and it has become crucial to include business continuity and risk management as part of corporate governance. When Hong Kong was the only territory of operations for the company, the traditional DR solution was still affordable. But as the number of subsidiaries cross the border increased, it has become very expensive. With some subsidiaries having very limited manpower to support IT, DR was proving to be an enabler to success.

Solution

A flexible pay-as-you-go Cloud DR solution using IPSec VPN gateway is recommended to address the challenges the company faced. Key benefits include:

- Cloud's high flexibility allows the company to scale up its backup computing resources to meet fast changing needs, especially during data spikes in the peak season. It also allows the company to scale down during low seasons to minimise cost.





- By consolidating the backup data and applications of the head office and all subsidiaries to the Cloud, the company does not need to worry about a huge upfront and manpower cost in building and maintaining a physical backup infrastructure in different countries. In addition, a reliable Cloud service provider should already be using fully redundant data centres that are strategically located at robust and stable environments to minimise the risks of disaster. This eliminates the need for the company to waste time and resources seeking suitable backup sites in different countries by itself.
- Using IPSec communication with VPN gateway to connect the head office and subsidiary offices to the Cloud ensures the company and its subsidiaries can replicate data to the Cloud DR platform anytime via a highly-secure network.
- With the online management tool, the company can centralise and standardise the execution of the DR plan for the head office, ensuring strict compliance to corporate standards.

its business saw the company often managing various construction projects at the same time, each involving multiple project teams and contractors located at temporary remote offices in disparate construction sites.

With each remote office conducting a huge amount of email and documentation exchanges with various parties every day, it has become crucial for the head office to conduct data backup for effective project management and business continuity. Besides, the industry itself is also becoming highly agile, with projects beginning almost immediately once a tender is confirmed and featuring a tight schedule for completion.

Challenges

Mobility is both a boon and bane for the company. It offers employees the flexibility to be more productive, yet, without real-time data synchronised, makes it difficult for tracking and updating data.

At most construction sites, the IT facility is limited and often does not feature remote backup. Storing data onsite and physically transferring them to the head office not only delays time but increases the risk of data loss or theft. With employees often working on the road or at different sites, the company needs a highly-secure DR solution that prevents data leakage during back up and retrieval.

In addition, the agile nature of the industry means that the company requires an agile DR solution that can scale up when new projects confirmed and have the ability to back up data quickly over temporary and low throughput pipelines. And since the company's remote offices are often taken down once the projects

Case 2: Builder's Paradox

Industry: Construction
Challenges: A complete business continuity DR solution for quick recovery minus the huge investment
Solution: Two-phase deployment of Cloud DR on Cloud Hosting and BRC with Virtual Desktop
Results: Fast DR deployment with no impact on production environment, maximises business continuity and operations protection at minimal CAPEX cost

A construction company has staked its solid reputation on its professional project management. A boom in



are completed, the DR solution also needs to scale down when demand becomes low.

Solution

A two-phase Cloud DR solution leveraging Cloud Hosting, a Business Resumption Centre (BRC) with virtual desktop is recommended to support the construction company. Key benefits include:

Phase 1 – Cloud Hosting for DR:

- With Cloud Hosting using a pay-as-you-go model, the company does not have to invest heavily in setting up a DR infrastructure at each temporary remote office. Cloud's rapid deployment also allows quick implementation of a simple but effective fail-over solution whenever a new remote office for a new project is erected.
- By transferring data between remote offices and a firewall-protected Cloud through secure virtual terminals, the solution improves security. It also eliminates the need to use physical backup tools, such as tapes or CDs, which increase the risks of information leakage.
- Cloud DR complements the off-site data archival service by enabling the secure management of data growth in a trustworthy location.
- The block-level replication feature offers the ability to relocate and replicate servers without disrupting work processes.

Phase 2 – BRC with Virtual Desktop Solution

- The BRC service with Virtual Desktop Solution further improves DR capabilities. The BRC serves as a backup office that is well-equipped with all the necessary equipment, such as telephones, office appliances and Internet access. When there is an outage or a disaster at the remote office, the project teams can immediately resume their work at the BRC. With the Virtual Desktop Solution, the team can immediately access the company data, applications and OS that are securely stored and encrypted in the Cloud, using any Internet-connected computer.

Case 3: Sourcing Success

Industry: Sourcing

Challenges: Continuous data growth and best assurance for protecting global operations

Solution: One-stop global Cloud DR solution across regional data centres through seamless VPN network

Results: Single SLA offering the strongest DR protection at different business regions, while guaranteeing the shortest recovery near the company's actual operations

Data and network are the most mission-critical assets for this multinational sourcing company. After all, their success was built on seeking first-hand market information for clients faster than their competitors.



The daily operations of the company rely heavily on data exchange among its subsidiaries, partners and vendors around the world. Like any typical enterprise that is experiencing successful growth, it is now looking to manage Big Data and wants to review its global IT infrastructure to better safeguard its exploding data.

Challenges

The sourcing company is no stranger to risks. As a company serving international clients with operations spread out across the world, it knows how to mitigate them. This knowledge has helped it to build a strong foundation on a traditional DR solution in the past years.

Now this foundation is being put to the test as data continues to grow in size, amount and complexity. It has become increasingly expensive to own and maintain its own backup infrastructure and secondary data centre sites. So the company is looking to outsource to a service provider with a global network reach to offload their upfront and maintenance costs.

Operational efficiency, information availability and real-time transfers are also topmost concerns. The company does not just want to protect its transaction and pricing data; it wants a solution that makes secure access easy and simple.

Lastly, the company wants to tackle compliance requirements across the world, while empowering quick decision making through the availability of real-time data. It is well aware that this requires the right infrastructure and a partner who understands their needs.

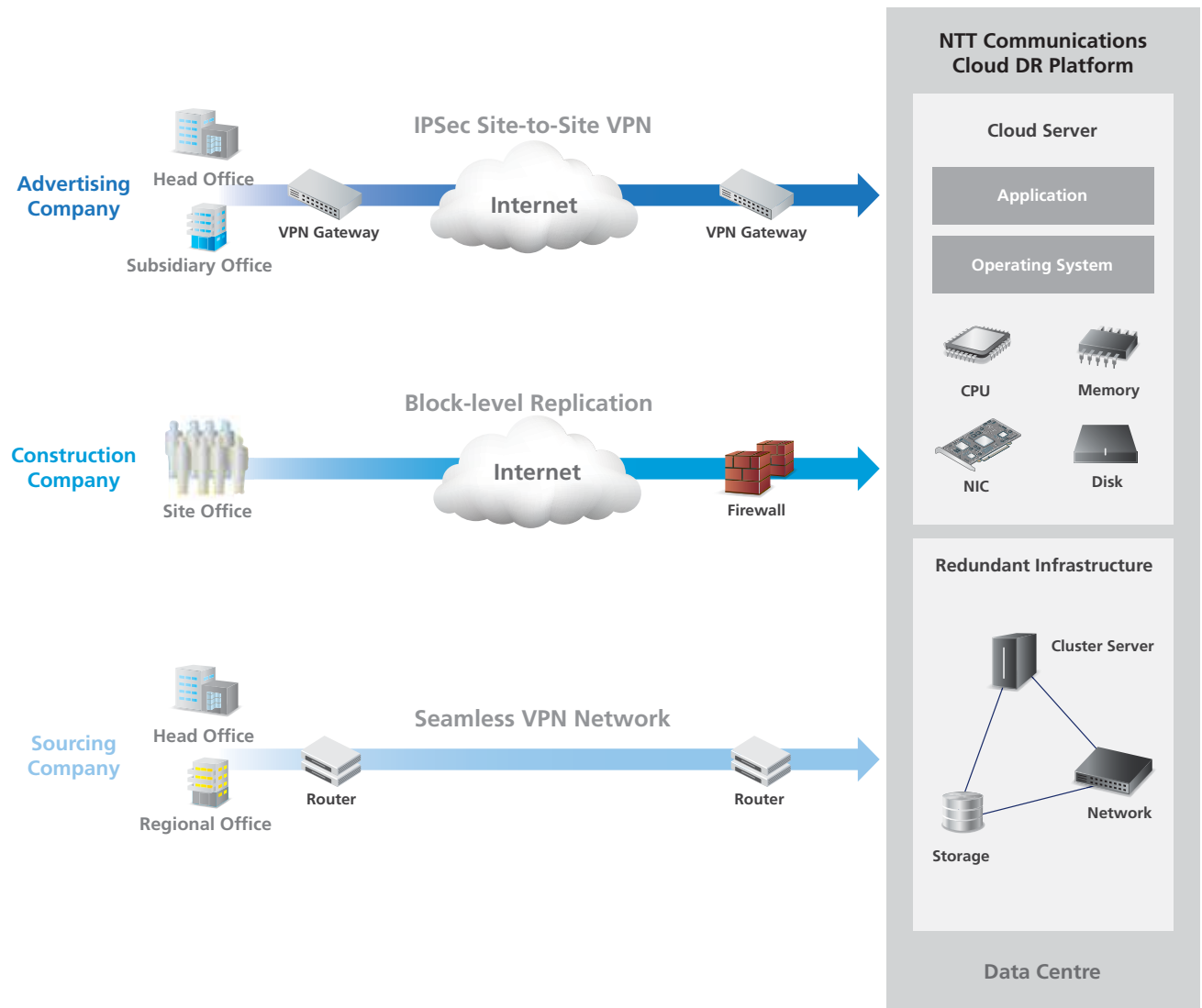
Solution

A global Cloud DR solution with seamless VPN Network connectivity is recommended for the sourcing company. Key benefits include:

- Running the DR solution on the Cloud means no CAPEX. This will enable the company to deploy DR solutions quickly and more cost effectively. And when it wants to expand further, it only needs to purchase additional disk space and Virtual Machines (VMs)—all with a few mouse clicks.
- A Cloud service provider, who is also a global network carrier and a data centre service provider like NTT Communications, can provide a one-stop solution and the global reach the sourcing company wants. Together, the company can securely store and synchronise key information across different data centres located near to its operations via a seamless VPN network, while having more than one mirror site improves business continuity. A global Cloud DR infrastructure also guarantees the shortest recovery time at all regions, and the availability of global BRCs can further support the company's global business continuity plan.
- Outsourcing DR to a single service provider with a global Cloud infrastructure not only reduces CAPEX and manpower cost, but also enables the company to standardise on a single Service Level Agreement (SLA). This eliminates the headaches of managing multiple vendors and service providers in different locations.



NTT Communications Cloud DR Platform for Diverse Industries



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Conclusion

Cloud's high scalability, agility and cost effectiveness allow enterprises of different industries and sizes to customise a more flexible, cost effective and secure DR solution that best fits their needs.

But moving your DR capabilities from in-house to the Cloud requires the right expertise and experience.

Consider NTT Communications. As the winner of the Best Cloud-Based Service of Telecom Asia Awards 2013, the company offers a full suite of Enterprise Cloud Services. They feature:

- Arcstar Universal One global network covering 160 countries/ regions
- Industry leading global IP network with IPv6 and IPv4/ IPv6 dual stack offerings
- Software defined networking (SDN) virtualised network technology
- Over 140 secure data centres worldwide
- Business Resumptions Centre (BRC) facilities
- One-stop customer portal

Empowered by the seamless integration of Cloud, data centres, networks and expertise, NTT Communications can serve as an unparalleled global ICT partner for enterprises looking for a complete and reliable DR solution.

Nevertheless, it is vital to choose your partner carefully before jumping onto the Cloud DR bandwagon. Your time and energy spent examining whether your Cloud DR service provider has the right infrastructure, fiscal strength, track record, experience and expertise, will count when disaster strikes—and when you have no one else to turn to.

1. Rachel A. Dines and Lauren E. Nelson, Forrester Research, **An Infrastructure and Operations Pro's Guide to Cloud-Based Disaster Recovery Services**, March 20, 2012.
2. Rachel A. Dines and Lauren E. Nelson, Forrester Research, **An Infrastructure and Operations Pro's Guide to Cloud-Based Disaster Recovery Services**, March 20, 2012,
3. Ian Brown and John Madden, Ovum, **What enterprise customers want from cloud computing** published in Ovum StraightTalk publication, ITQ2, 2012.

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About NTT Communications

NTT Communications provides consultancy, architecture, security and cloud services to optimise the information and communications technology (ICT) environments of enterprises. These offerings are backed by the company's worldwide infrastructure, including leading global tier-1 IP network, Arcstar Universal One™ VPN network reaching over 160 countries/ regions, and over 140 secure data centres. NTT Communications' solutions leverage the global resources of NTT Group companies including Dimension Data, NTT DOCOMO and NTT DATA.

NTT Communications' wholly owned subsidiary – NTT Com Asia serves as the regional headquarters of East Asia, covering Hong Kong, Macao, Taiwan and Korea. In collaboration with its affiliate HKNet, it provides enterprise-class global network, IP connectivity, data centre, cloud hosting, cloud applications and various services and solutions in the region.

About the Author

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Mr. Taylor Man is responsible for developing and managing strategic technology solutions for the business market, and driving new business streams for NTT Com Asia. During his tenure he has successfully launched one of the best-in-class premium data centres in the region, as well as a wide spectrum of innovative ICT solutions featuring the most advanced cloud computing technology.

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