How to Determine If DRaaS Will Save Money

I&O leaders are increasingly looking to DRaaS for a variety of reasons including faster implementation, increased business resiliency and a potential reduced cost of 30% to 50%. In this research, we help to answer the question of whether DRaaS actually will save money.

Overview

Key Challenges

- Services that are not true disaster recovery as a service (DRaaS) are often marketed as such, which can make evaluation difficult and increase the likelihood of suboptimal selection and spend.

- The identification of what responsibilities or costs will remain when using DRaaS presents a daunting set of variables that need to be considered.

- Not all do-it-yourself DR-related costs are easily quantified.

Recommendations

Infrastructure and operations leaders seeking to determine whether DRaaS will save their organization money must:

- Eliminate faux DRaaS offerings by evaluating them against other resilience approaches using a feature comparison table.

- Create an optimal cost comparison analysis by utilizing a comprehensive and fact-based approach for cost identification.

- Build a compelling case for the chosen approach by being transparent with the estimation methodology.

Strategic Planning Assumption

By 2023, at least 50% of commodity server workloads still hosted in the data center will use public cloud for disaster recovery.

Introduction

For IT leaders that want to move away from "the data center business" and save money, service providers seek to make appealing offerings available to those organizations — DRaaS providers are no exception. It is not uncommon for DRaaS prices to be 30% to 50% of what it would otherwise cost to build out similar capabilities. It is these potential cost savings that are the predominant driver for the consideration and adoption of DRaaS. Another cost-related motivation that favors DRaaS is the desire to improve disaster recovery capabilities with reasonable or incremental investments.

In parallel, organizations will also typically consider do-it-yourself options for recovery to cloud — to skip the middleman and potentially garner more savings.

Despite that potential economic appeal, cost savings should not be and are not taken for granted by management. Often, infrastructure and operations leaders are asked to conduct cost comparison exercises. These comparison exercises are used to justify choices like DRaaS by determining whether those choices actually will save money if they are chosen in favor of existing approaches. This research will provide some best-practice recommendations for determining whether cloud-oriented options will save money through a cost comparison against more typical do-it-yourself DR implementations. This cost analysis is not to suggest that the total value of ownership (TVO) of any solution should be ignored. Instead, it uses cost as its lens because this is a comparison that is often requested of I&O leaders.

The first step for an effective cost analysis starts with understanding exactly what DRaaS means and what features it provides.

Analysis

Evaluate DRaaS Against Other Resilience Approaches

The Elements of DRaaS

There are myriad different solutions in the market that are often misclassified as disaster recovery as a service. Simply put, DRaaS is a service in which the provider manages server image and data replication to the cloud, run book creation, automated failover and failback to and from the cloud, and network element configuration during and for recovery operations. To be considered DRaaS, as opposed to do-it-yourself recovery, all elements of the service must be included in the service offering contract between the provider and customer and include a standardized SLA for recovery.

DRaaS Versus Other Resilience Approaches

What does DRaaS offer in contrast to other resilience approaches? Figure 1 provides a summary of the differences when compared to backup/replication software, IT resilience orchestration (ITRO) tools, cloud infrastructure as a service (IaaS) and traditional DR.

<p align="center" style="color:orange">Figure 1. Distinguishing Differences Between DRaaS and Alternatives</p>

Distinguishing Differences Between DRaaS and Alternatives

● Included   ● Sometimes Included   ● Not Included

	On-Demand IaaS	Replication	Recovery SLAs	Automated Recovery + Failback
DRaaS	●	●	●	●
Backup/Replication Software	●	●	●	●
IT Resilience Orchestration (ITRO) Tools	●	●	●	●
Cloud Infrastructure as a Service (IaaS)	●	●	●	●
Traditional DR	●	●	●	●

Source: Gartner

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DRaaS is the only approach that provides on-demand IaaS, replication, recovery SLAs, and automatic recovery and failback. Use these features and the above definition to avoid possible confusion and to ensure that what you are comparing in any cost analysis is true DRaaS as opposed to other offerings in the market.
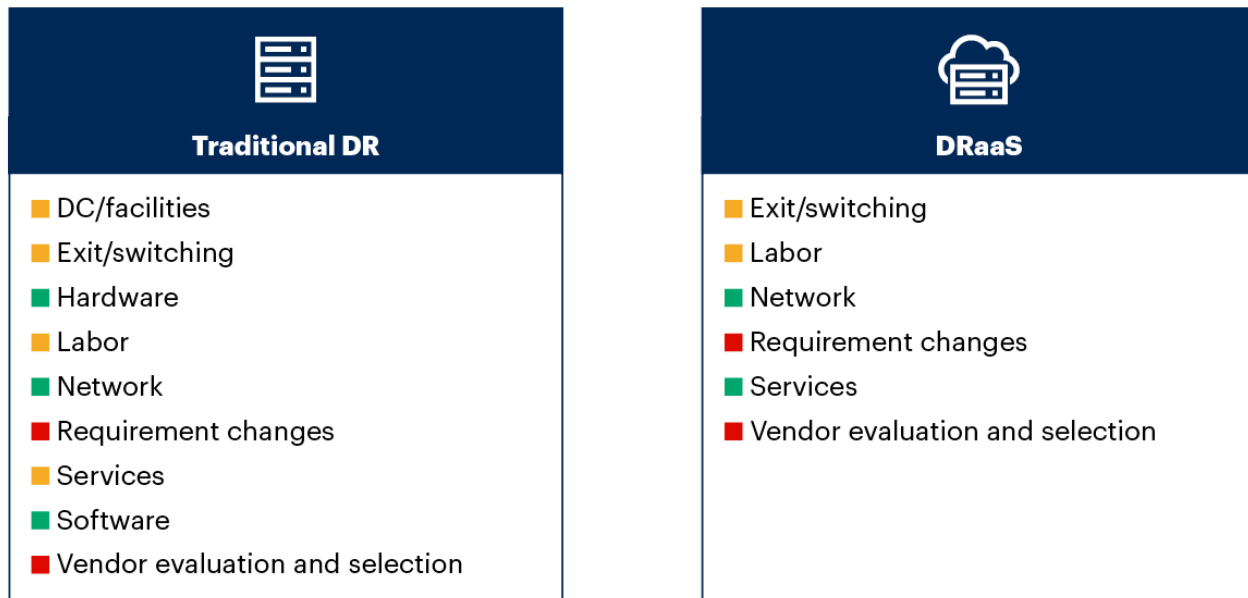
Traditional DR Versus DRaaS as a Starting Point

Traditional DR has a number of cost elements that need to be considered in any comparison. There are a lot more of these elements to consider compared to a DRaaS solution. Some of these elements are more difficult to quantify than others (see Figure 2).

Figure 2. Relative Costs of Traditional DR Versus DRaaS and the Difficulty in Identifying Those Costs

Relative Costs of Traditional DR vs. DRaaS and the Difficulty in Identifying Those Costs

■ Easy ■ Challenging ■ Hard

Traditional DR
■ DC/facilities
■ Exit/switching
■ Hardware
■ Labor
■ Network
■ Requirement changes
■ Services
■ Software
■ Vendor evaluation and selection

DRaaS
■ Exit/switching
■ Labor
■ Network
■ Requirement changes
■ Services
■ Vendor evaluation and selection

Source: Gartner
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The cost elements shown in Figure 2 are defined as:

1. DC/facilities — These are the costs associated with power, cooling and space. They can be very easy to determine in a colocation environment and may be more challenging when in a secondary facility that is owned or leased by the organization and shared with other internal organizations.

2. Exit/switching — These are the costs associated with changing from one approach to another or from one provider to another. Timing relative to the impact on existing contracts/agreements is an important part of this consideration. Contingency costs are also an important part of this element — what if something does not work and requires an unexpected change? Timing impact is relatively easy to derive while contingency costs can be quite difficult to estimate because the future is unknown.

3. Hardware — This refers to the cost of the physical infrastructure (e.g., servers, storage, switches).

4. Labor — This is the time taken for deployment, maintenance, run book updates, exercises. This can be challenging to derive because it involves estimating time requirements and the costs per staff hour.

5. Network — This refers to the network costs associated with the connectivity to the DR site to ensure that it is adequate to support recovery point objective (RPO) needs as well as ample bandwidth during a failover.

6. Requirement changes — This is the cost of changes in required capacities that either increase or decrease (e.g., business impacted by a recession forces a reduction in budget and spending for DR). This can be difficult to estimate because it involves predicting future scenarios.

7. Services costs — This includes other maintenance and support costs for self-owned infrastructure in traditional DR or, for DRaaS, the services costs themselves. This can be challenging to estimate for traditional DR because some aspects may not be readily apparent, while this is easy to estimate for DRaaS.

8. Software — These are all software aspects including backup, replication, OS, hypervisor, database, middleware, application and management tools.

9. Vendor evaluation and selection — This refers to the time it takes to compare vendors and make a choice. It can be very difficult to estimate because it may involve other departments and, during the process, requirements may change in an unforeseen way.

When Factors Go Beyond the Basics

If the cost comparison must be taken a step further (e.g., to compare do-it-yourself DR to the cloud versus traditional DR versus DRaaS), then there are additional elements to consider. They are:

1. Automation/Orchestration Software (i.e., ITRO): It is not a good comparison if one compares the alternatives to an existing solution that is lacking. To have a better apples-to-apples comparison, these costs may need to be added to the in-house or DIY to cloud scenarios.

2. Replication Appliance: Hosting for such appliances in the cloud often comes at a cost.

3. Compute: This shouldn't look at only what is provisioned in terms of hardware today. Rather, it should analyze average and peak usage. There are a lot of migration tools that help provide these estimates (e.g., Azure) and some DRaaS providers as well (e.g., iland Catalyst). Then there are also typically costs related to Tier 0 (e.g., DNS) and active/active or hot workloads (e.g., databases).

4. Recurring Storage Costs: Be sure to factor in performance requirements, data change rates, retention needs (e.g., the last restore point you can roll back to), and expected growth. In addition, ensure that there is consistency in the comparison as to whether it is the amount of data protected, amount consumed, allocated or raw (i.e., deduplication and compression estimations).

5. Replication Software: Include the cost of software that provides a means to centrally manage and monitor replicated data.

6. Data Retrieval Frequency and Volumes: Estimate data retrieval frequency and volumes to determine potential costs for access to cold storage.

7. Testing Frequency: Estimate testing frequency; self-service DRaaS and DIY-to-cloud scenarios won't include this for free.

8. Exercises: Pay-as-you-go compute for exercises and failovers is what drives a lot of the savings. But it doesn't come free. The team should estimate the number, size and duration of exercises (hopefully derived from an existing 12-month rolling plan). Cost related to coordination, execution, infrastructure costs and egress costs can come into play. OS and application license costs should also be considered. Many have a number of days allowable in the contract. Some become more limited based upon "whose cloud" is the recovery target.

Download this sample spreadsheet designed to help structure a workbook containing the costs to be considered.

DR Cost Component Workbook

Create a Cost Comparison Analysis

A Guide for Estimation

What can I&O leaders do in cases where cost elements are more difficult to quantify and require estimation? Utilize a fact-based methodology to determine those costs. When estimation must be used, while one goal is to be as accurate as possible, there are two additional aspects that should be considered. The first is the relative work required to estimate. The second is the degree of accuracy required. A balance should be sought between these two aspects. If a cost is likely to be relatively low, then the need for accuracy in the estimate is likely to be directly proportional to that cost. For example, if the use of an existing facility for traditional equipment is not resulting in specific chargeback, a rough estimate is likely to be sufficient. On the other hand, the cost of labor in traditional DR is likely to be relatively significant. This will make it worth the effort to examine the number of staff hours required for that labor and the hourly cost to create a labor cost estimate.

In cases where the relative costs increase the importance of the estimate, remember the old carpentry adage — measure twice and cut once. In this case, that double measurement can involve a couple of cost models and can include a couple of scenarios. For example, there may be growth requirements that must be considered and that demand effective estimates. Using more than one model and more than one scenario can help support more effective growth-related cost estimations.

Test and Validate the Cost Modeling With Peers

Peers can be a good source for validation of any methodology that was used to create estimates. Utilize a collaboration platform like Gartner Peer Connect to validate approaches used to develop more challenging estimates. Sharing methods to create credible estimates can help validate the

approach that was taken and provide supporting evidence as to why the particular approach is the most effective one taken for a particular estimate.

Whatever estimates are created, if they are being shared, they must be regarded as being as credible as the other more easily quantified costs. How can this credibility be maintained? The key is transparency in the methodology.

Expose the Methodology

Don't be afraid to share the assumptions and the methodology that are used to create cost estimates and comparisons. Communicating the assumptions and how those assumptions were used to build estimates can be as important as the resulting estimate itself when presenting a cost comparison between DIY to cloud, traditional DR and/or DRaaS. If an alternate approach to any estimate is suggested and deemed as a means to derive a more accurate result, that alternate methodology can easily be tested to see if it produces a significantly different result. Being open to these suggestions, or even presenting alternative methods that were tested to derive a given estimate, lends credibility to the cost analysis and ultimately helps to support an optimal decision related to DR.

Conclusion

When making a cost comparison between traditional DR, DRaaS and DIY to cloud, treat the exercise as one that will be examined and possibly questioned by other members of the organization. Utilize fact-based estimates when needed and document and share the methodology in order to maintain credibility for the overall cost comparisons. By following this approach, a critical question in deciding whether to pursue DRaaS in favor of other DR approaches can be answered. That question is whether the adoption of DRaaS actually will save your organization money.

Recommended by the Authors

Market Guide for Disaster Recovery as a Service

Reduce Costs and Piggyback DR Investments

What I&O Leaders Need to Know About Disaster Recovery to the Cloud

Recommended For You

サービスとしてのディザスタ・リカバリのマーケット・ガイド

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