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Backup is Changing, Are You Prepared?

5 BACKUP NECESSITIES FOR THE MODERN ENTERPRISE

Backup has changed significantly over the past decade, becoming increasingly more complex. No longer is it simply about backing up physical servers on-premises to tape. Today, backup environments must cover physical servers across multiple locations, as well as virtual machines, endpoints, appliances, and the cloud. On top of this, backup strategies must account for the impact of the continued exponential growth of data, applications, hyperconvergence, and digital transformation strategies.

As a result of this complexity, legacy solutions are no longer adequate because they weren't architected to handle today's modern environments, including the cloud. And adding a slew of new point products to address specific use cases simply compounds the complexity of your environment.

This is driving many customers to consider replacing their backup and recovery solution. In fact, Gartner says that by 2021, half of all organizations will augment or replace their current backup application with a different solution, compared to what they deployed at the beginning of 2017.[1]

Amidst all this chaos, the fundamental purpose of backup remains unchanged: you must be able to safely backup data wherever it lives and quickly recover it wherever it's needed. Backup may not be sexy, but it's necessary, and addressing these challenges requires a fresh approach.

1 Gartner, "Magic Quadrant for Data Center Backup and Recovery Solutions," Dave Russell, Pushan Rinnen, Robert Rhame, July 31, 2017

▶ BACKUP NECESSITIES FOR THE MODERN ENTERPRISE

Consider these five core backup requirements for today's modern enterprise:

1 **Flexibility.** The only constant is change. Whether you inherit new applications that you don't currently support following a merger or acquisition, or you're asked to support multiple cloud storage providers to enable flexibility and take advantage of price arbitrage opportunities, or you want to leverage snapshots across multiple or different storage arrays to accelerate recovery, your environment is constantly changing.

Legacy backup solutions may have limited virtualization, cloud or integrated snapshot support or may require expensive gateways to get data to the cloud, which adds cost and limits your visibility into the data once it's in the cloud. Meanwhile, many of the 'newer' solutions may support a limited number of cloud providers or snapshot engines, which either limits your flexibility or forces you to deploy multiple backup solutions putting you right back to managing complexity.

You need a solution that can protect your workloads across data centers, geographies, and in the cloud, regardless of the number and type of applications and databases, storage hardware, operating system, hypervisor, or cloud storage providers in your environment. Ideally, you want a solution with broad coverage and a history of adopting new technology quickly. This gives you confidence that you will not only be protected today, but also in the future as technology continues to evolve.

2 **Automation.** Nobody likes complicated manual processes or creating and maintaining complex scripts, yet that's exactly what exists in many backup environments today. These processes consume valuable IT resources and are prone to human error, wasting precious time and money that could be spent on adding value back to the business.

Modern backup solutions, on the other hand, incorporate automation, orchestration, and policy-based management. This improves IT productivity by simplifying operations and making them more reliable. Automation also reduces complexity, eliminates time-consuming and error-prone manual scripts, and saves on operational costs. And by providing self-service access to extended teams based on policies that you define, you can free up IT resources to focus on more strategic initiatives.

3 **Modern.** The term 'modern' is used a lot, including in this context. So, what does it mean? The definition actually changes based on what exists at a given point in time, and the backup space is no different. At one point, modern referred to supporting virtualized environments.

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Later, it referred to leveraging snapshots to augment traditional backup. Both are now table stakes in the backup space, so the definition of modern has evolved to include scale-out architectures that support today's hybrid cloud environments.

In many legacy environments, you must purchase large, monolithic scale-up appliances that force you to buy more storage capacity than you initially need, and then require expensive forklift upgrades once the appliances are full or reach the end of their useful life.

Compare this against modern scale-out architectures that allow you to purchase the capacity you need upfront and simply add capacity and compute as your data grows. These cloud-like architectures increase application availability and provide predictable performance. And they can be delivered in the form of standalone appliances or reference designs that allow you to leverage your existing hardware investment. Regardless of how they're deployed, they allow you to take advantage of the cost and scale efficiencies of cloud infrastructures.

4 **Cost-Effective.** Almost every solution claims to be cost-effective, so it's important to understand how cost is measured in the context of your entire backup environment. Price is part of the equation, but if you must buy multiple 'cheap' point products to address your various use cases (e.g., one for VMs, one for archiving, one for deduplication, one for the cloud, etc.), did you really save anything, or did you just significantly increase your management complexity?

There are better ways to reduce costs. The most common is by using deduplication, which eliminates backing up redundant data. This enables you to optimize your primary and secondary storage costs. Source-side deduplication further reduces your costs when compared against dedicated target-based deduplication appliances by deduplicating at the source/client, which reduces the amount of data that is sent over the wire when backing up remotely.

Another way to optimize your storage costs is by aligning the value of the data to the cost of the storage. In other words, you want your production data and most frequently accessed data on your highest performing (and likely most expensive) storage. But as that data ages or is accessed less frequently, you want to move it to less expensive secondary storage, and even tertiary storage, inclusive of the cloud.

You can only achieve this optimization if you're able to easily store and move data across storage tiers, including tape and the cloud, based on user-defined policies and service-level requirements. If implemented properly, once data hits a defined threshold, it is automatically migrated to another tier, whether that is from primary to secondary storage, on-premises to the cloud, between cloud providers, and/or disk to tape. And this is only possible if your enterprise backup solution has broad application, cloud, and storage support.

Simple, Cost-Effective, Modern Backup and Recovery: How to Have It All

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Finally, you can reduce costs by expediting disaster recovery. This reduces downtime costs and increases availability by providing instant access to your applications and data and can be achieved by utilizing snapshots and automated workflows.

5 **Active.** Historically, backup served as an insurance policy. It was there in case you needed it, but for the most part, data just sat there consuming storage and doing nothing. Those days are gone. Today's enterprise backup solution has evolved from simply protecting the data to using the data for business purposes, such as accelerating dev/test, migrating to the cloud, or improving data analytics.

This is achievable by using a central repository and dynamic index that increases data visibility, improves compliance, and simplifies management operations. Even more, today's backup solutions can eliminate siloed data protection approaches that increase risk, all while reducing capital expenditures and improving data insight.

▶ IT'S TIME FOR A CHANGE

Over the last decade, your environment has changed due to business requirements, improved and new technologies, and even a new wave of external threats. However, you are still using an old approach with a legacy backup and recovery solution to meet these new challenges, or you're chasing shiny objects with limited functionality that increase your management complexity. A modern backup strategy should account for the impact of the continued exponential growth of data, applications, hyperconvergence, migration to the cloud, and Digital Transformation strategies. Backup has changed, have you?

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