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Without Advanced Data Management and Protection, All Else Fails

Organizations need modern solutions to manage data throughout its entire lifecycle.

Given this context, organizations positioned for success must be able to positively answer questions such as:

Are we confident that our most critical data is protected from all threats — from equipment failures to natural disasters to cyberattacks?

Can our data governance processes categorize and pinpoint specific data, retain data needed to meet legal or regulatory requirements, and delete unneeded or potentially risky data as soon as safely possible?

Do our data backup and recovery solutions have the granular application intelligence required to ensure speedy recovery and business continuity?

Can our data management infrastructure accommodate both traditional applications as well as modern workloads built with containers, microservices, and other advanced technologies?

White paper

Data analytics — increasingly enhanced with artificial intelligence and machine learning technologies — has become a top business priority. IT leaders view data and business analytics as the top driver of IT investment in 2021, ahead of other core initiatives such as security and customer experience technologies, according to IDG's 2021 State of the CIO.

If anything, the IT and business disruptions caused by the global pandemic have increased the need to make optimal use of data resources and the applications that depend on them. In their urgency to deploy analytics to extract new insights across the enterprise, however, organizations must take care not to overlook a key foundational component of any successful analytics initiative: data management.

Success with data analytics — and with all data-dependent operations — requires an upfront and ongoing focus on the management, protection, and availability of data. Solutions that address these fundamental requirements have become ever more critical as data volumes grow exponentially and extend from on-premises data centers to the cloud.

Addressing these and other requirements requires applying sophisticated data management platforms and solutions throughout the entire data lifecycle. Data management encompasses everything from initial data extraction, loading, and transformation to support for different data storage formats, media, and platforms. These platforms, in turn, may be physical or virtual, on-prem or in the cloud. Also under the data management umbrella are: data classification, migration, data protection, and, ultimately, archiving or deleting.

Given the breadth and diversity of data management and protection, it's hard if not impossible to find a single technology vendor that can address the full scope of requirements on its own. That's why some of the most comprehensive solutions come from complementary vendors that partner strategically to meet today's daunting data management demands.

IDC CALCULATED THE WORLDWIDE INSTALLED BASE OF STORAGE CAPACITY WOULD REACH

6.7
ZETTABYTES
IN 2020

AND PREDICTS CAPACITY WILL CONTINUE GROWING AT A

17.8
COMPOUND ANNUAL GROWTH RATE
THROUGH 2024

Data management: A cascade of challenges

It's hard to believe there was once a time when organizations felt they didn't have enough good data to make informed business decisions. Today, too much data — most of it unexamined — is a more common problem, for a number of reasons.

For starters, digital data continues to amass at a staggering rate, and data storage capacities and budgets have their limits. IDC calculated the worldwide installed base of storage capacity would reach 6.7 zettabytes during 2020 (with one zettabyte roughly equivalent to one trillion gigabytes), and predicts capacity will continue growing at a 17.8% compound annual growth rate through 2024.

Individual organizations, thankfully, don't yet have to think in terms of zettabytes. But dealing with compound annual growth rates for storage that may push 20% is no trivial challenge no matter the total storage volumes involved. The more data collected, the harder and more costly it is to manage and protect. And don't forget: Analyzing and protecting data creates even more data.

Among their many data-related challenges, IT managers must determine where and on what media to store data, which data to back up or delete, and what level of protection different categories of data require. Securing data, long a priority, has emerged as an even more acute area of focus given the escalation in ransomware and other cyberattacks. The data protection imperative further intensified as the global pandemic forced a mass migration of employees, and data, from communal offices to homes and other remote workplaces that often lack firewalls, greatly increasing the attack surface.

In addition to security challenges, many organizations lack clear visibility across all of the data they generate and collect, which makes it difficult to easily identify and mine data that may hold significant business value. Data opacity also causes many organizations to retain far more data than necessary, which can drive up both costs and complexity as well as data exposure risks.

Addressing these challenges requires tightly integrated storage platforms and software solutions.

Establishing a solid data storage foundation

It's easy to feel overwhelmed with the many options available when selecting storage media and platform types, storage locations, and supporting data management software. For example, high-speed and reliable solid-state flash storage has grown increasingly popular as prices have fallen, but disk-based and hybrid platforms still offer price advantages for data protection and other less-demanding storage needs.

**DEALING WITH COMPOUND
ANNUAL GROWTH RATES FOR
STORAGE THAT MAY PUSH**

20%

IS NO TRIVIAL CHALLENGE

IT managers must also weigh the pros and cons of on-premises network attached storage, block storage, and other traditional platforms along with new object storage platforms and services designed for cloud-based and hybrid storage environments. Increasingly, they may be evaluating storage elements that come integrated with servers and networking devices as part of hyperconverged infrastructure (HCI) solutions. And, as always, IT managers must determine how best to move and secure data as it migrates across various platforms, networks, and environments.

IT managers should consider five important capabilities when evaluating data storage solutions:

1 **Range of storage platforms and media**: Different businesses, applications, data types, and IT budgets require different storage solutions. This complexity demands storage vendor portfolios that range from disk to all-flash to hybrid, from NAS to object storage, from data warehouses to data lakes, and from on-prem to cloud-based storage-as-a-service options.

2 **Converged and hyperconverged infrastructure solutions**: Rather than simply purchasing discrete storage platforms and then integrating them with other required IT elements, many organizations are turning to pre-tested, pre-integrated converged and HCI solutions that blend combinations of storage, compute, and networking components into optimized packages.

3 **Storage virtualization/software-defined architecture capabilities**: Today's fast-changing business and application requirements demand flexible storage solutions that can be virtualized, pooled, and reconfigured on the fly to quickly adapt to current needs.

4 **Intuitive and proactive storage management**: Complex, distributed storage platforms and services require sophisticated management software. This software will increasingly rely on analytics enhanced with AI and machine learning technologies to identify and counter potential problems before they can materialize, and to lessen the management burden on IT professionals by automating many formerly manual tasks.

5 **High-availability and disaster recovery in a multi-cloud environment**: Ultimately, storage platforms and services must excel at their most fundamental requirements: ensuring that data, no matter its location, is readily available to applications or people needing it — or rapidly and wholly recoverable after any type of disruption or attack.

Consider these important capabilities when evaluating data management solutions:

- **RPO and RTO requirements**: Solutions must help organizations determine and implement the appropriate frequency of data backups and acceptable data loss (the Recovery Point Objective) as well as the time necessary to restore an application or other business operation to avoid a significant business impact (the Recovery Time Objective).

- **Tight application integration for granular data restore**: Related to the RTO, data management software should "understand" which data must be recovered in which sequence to ensure applications can restart as rapidly as possible.

- **Infrastructure analytics**: Ideally, managers will have visibility across all their major storage, data protection, and virtual infrastructures, on-prem and in the cloud, along with the information and tools they need to ensure the infrastructure is configured and performing optimally.

- **Process automation**: With data volumes rising and real-time business and application demands becoming the norm, many manual interventions have become impractical or impossible. This means a growing percentage of data lifecycle operations require full or partial automation — automation that will increasingly be guided with AI and machine learning enhancements.

- **Immutable and indelible protection**: Protected data must be safeguarded against alteration (immutability) and deletion (indelibility). With ransomware a growing threat, protection against malicious data encryption is also in high demand. Delivering this type of protection requires specific data storage capabilities as well as complementary data management software.

Complementary data management for protection and recovery

Data-dependent organizations require a range of data protection capabilities layered on top of a core data storage foundation. These complementary data management functions must do everything from securing data dispersed across multi-cloud environments to ensuring that business applications and operations can rapidly restart following an outage, whether it's caused by a natural disaster or a ransomware attack. They must also function seamlessly across both legacy applications and modern workloads.

Higher-level data management tools can help initially by identifying which data has value and which can be deleted. Once pared down to the essential data, data backup and recovery along with all other operations become less onerous, faster, less costly, and, ultimately, higher value.

Veritas and Hitachi Vantara — A strategic data management partnership

Hitachi Vantara, the market leader in enterprise and object storage, and Veritas, the market leader in protection and recovery, have combined their strengths under the auspices of a 7-year strategic global partnership. This deep and long-standing relationship reflects the on-the-ground reality in many enterprise and cloud data centers. For example, the majority of Hitachi Vantara's global enterprise customers have Veritas solutions installed, complementing the Hitachi solutions in place.

Veritas and Hitachi Vantara have — and are continuing — to bring to market their complementary solutions and to ensure that data is stored, protected and managed by those solutions throughout its full lifecycle. Veritas and Hitachi Vantara together continue to innovate and address the full range of multi-cloud data storage, protection, analytics, and management needs.

The two companies have established a Cooperative Support Agreement to jointly support shared customers, and are partnering to understand evolving data management needs and to collaboratively leverage emerging technologies and innovations.

For more information about Veritas and Hitachi Vantara see
https://www.transformingyourdata.com/

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