

Solution Showcase

Protecting and Leveraging Database Environments with Cohesity

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Abstract: Databases, traditional and modern NoSQL databases, are core to an organization's operations. Growing data sets, combined with their dependency on legacy point solutions that were not designed to support these large swaths of data, are making it complex and cost-prohibitive for organizations to effectively manage and protect these critical data sets. They need to reconsider their data management and protection strategies with a solution like Cohesity.

Overview

Mission-critical or high-priority applications and their data increasingly *are* the business for many organizations. If the business runs into any issues with them, everything stops. ESG research shows that loss of customer confidence, direct loss of revenue, and missed business opportunity are the top three most-cited direct consequences of application downtime.¹

To continue meeting the demands of today's modern enterprises, IT organizations need to consider the many facets of availability for their critical environments, including evaluating their strategy to protect, predictably recover, and reuse data. A few challenges arise immediately as IT leaders consider the ramifications of the complexity of their mission-critical infrastructure against a backdrop of seemingly unstoppable data growth: the higher level of dependency on databases such as Oracle and Microsoft SQL Server, and the increased adoption of modern NoSQL databases like MongoDB, CouchDB, and Hbase that run within the same environment.

When it comes to data availability and protection, service levels are paramount. Half of surveyed organizations expect no or less than 15 minutes of downtime, or recovery time objective (RTO), for high-priority applications when incidents happen, which includes key databases (see Figure 1). Many legacy solutions – 1) cannot protect all these data sources on a single platform and 2) cannot deliver against these stringent requirements. The amount of lost data, or recovery point objective (RPO), is similarly low—meaning that there is little data loss tolerance—with nearly a third of organizations reporting a tolerance of “lost data” below the 10 minutes bar for high-priority data.²

The variety of approaches IT professionals typically leverage to protect their critical applications and databases, often in combination, include backup and replication software, storage systems with replication mechanisms, and hyperconverged appliances and solutions.

Protection is the first step. Organizations today are data-centric: data is the product, which provides insight or helps in creating services to complement tangible goods. Recent ESG research shows that over 52% of organizations plan to

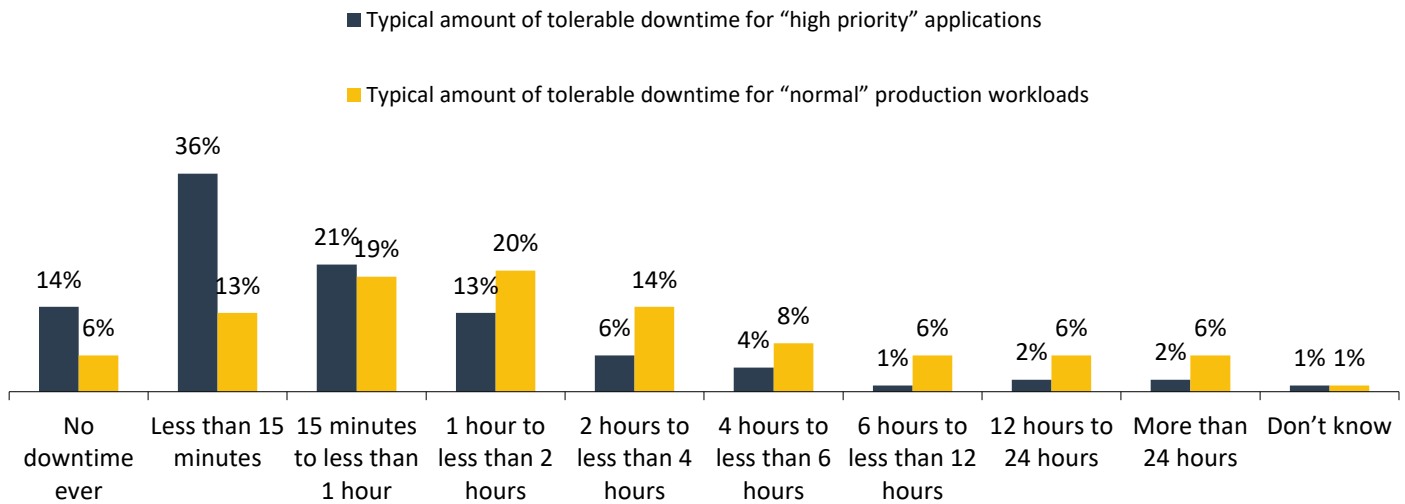
¹ Source: ESG Master Survey Results, [Real-world SLAs and Availability Requirements](#), May 2018.

² *ibid.*

develop new data-centric products by 2021.³ Leveraging data for business outcomes beyond backup and recovery has become more critical in the past few years. These use cases include compliance, cybersecurity testing, DevOps support, analytics, and enhanced disaster recovery testing and resiliency. DevOps is cited among the top three most potentially impactful secondary data reuse scenarios.⁴

Figure 1. Priority Applications Have Stringent Data Protection SLAs

What is the amount of downtime your organization can tolerate from servers running “high priority” and “normal” workloads before making the decision to “failover/recover” to a BC/DR secondary site or service provider? (Percent of respondents, N=320)



Source: Enterprise Strategy Group

Protecting Database Environments with Cohesity

ESG research clearly shows that organizations need to place the ability to predictably recover their data at the heart of their data protection strategy. With data growing exponentially and budget constraints to contend with, organizations are looking for new ways to deliver coherent and consistent RPOs and RTOs for their key database environments. To do so, they need a platform that “understands” and provides best-in-class capabilities not just for one but for a large variety of mission-critical workloads, on-premises or in the cloud. This includes distributed databases like Hadoop and NoSQL, for example.

That’s where Cohesity’s data management platform helps. Inspired by web-scale architecture, Cohesity’s software-defined solution **replaces legacy data and infrastructure silos** including backup software, target storage, media, and master servers as well as cloud gateways. In addition, it comes with a wide set of APIs and integrates with key mission-critical databases commonly found in enterprises. Cohesity is “cloud-native” by design and integrates with Amazon Web Services, Google Cloud Platform, and Microsoft Azure for cloud-native workload protection, long-term retention, and tiering. It also eliminates unnecessary data copies, allowing end-users to leverage backup data for other uses such as application development, compliance, and security.

³ Source: ESG Master Survey Results, *From Data Backup to Data Intelligence*, to be published.

⁴ *ibid.*

Let's review some of the popular databases the Cohesity platform can help with.

Oracle

Cohesity is integrated with key components at the heart of Oracle, such as Oracle Recovery Manager (RMAN), to provide application-consistent incremental forever backup and granular recovery for both Oracle single instance and real application clusters (RAC). This allows end-users to not only deliver against stringent RPOs and RTOs but also linearly scale out performance by simply adding nodes to the cluster, a great advantage in the context of the massive amounts of data that need to be protected. Cohesity provides options—for backups and recovery. The extent of this flexibility is a key component of a modern data management solution. It's important to be able to recover rapidly. It's equally important to recover on your terms, accommodating your unique infrastructure needs. Cohesity provides a range of recovery options including overwrite, alternate site recovery, point-in-time, and granular recovery. Additionally, users can determine the level of performance they need with configurable multi-node and multi-channel support for RAC.

Microsoft SQL Server

Cohesity simplifies protecting SQL Server databases and their corresponding log files. For flexibility, Cohesity offers two approaches for protecting SQL: native SQL backup or leveraging Cohesity's connectors that offer CBT incremental forever backups. The solution leverages Microsoft volume shadow copy services (VSS).

Designed for delivering predictable recovery, Cohesity allows instant and granular database-level recovery to any point and location. A deep solution, Cohesity allows rapid database migration, without the need for log shipping.

SAP HANA

SAP HANA requires no introduction. It can be deployed and therefore protected in the cloud or on-premises. Cohesity provides a certified integration with SAP HANA (SAP Backint API) and is implemented as an agent running inside HANA. This allows SAP Admins to continue using their existing SAP processes and tools such as HANA Studio, DBA Cockpit, or HANA SQL, while Backup Admins can use Cohesity for simplified protection of HANA's data.

Distributed Databases

Distributed databases have become a critical component of modern enterprise infrastructures. They present IT leaders with a unique set of challenges for data management and protection based on the highly distributed and dynamic nature of the architecture and the number and size of data volumes. Backing up and recovering modern databases requires new approaches and techniques to ensure consistency and the ability to meet SLAs as well as support for a broad ecosystem such as MongoDB, Cassandra, CouchbaseDB, and HBase and Hadoop Distributed FS variants including Cloudera and Hortonworks. Key capabilities include application-consistent backups with granular, point-in-time recovery; critical logical database-level backups (versus node-level); and leveraging global variable-length deduplication and compression in the process.

The Bigger Truth: Backup Is Just a Start

As organizations digitally transform, they need to do more than just backup and recovery. While data protection is a business-critical effort, more can be done to leverage data assets to support new business opportunities or mitigate risks.

For example, regulatory compliance, accelerated application testing and development, and data analytics to support business insights are additional objectives that organizations seek to achieve to optimize their investments in data infrastructure. In order to do so, they need secure and easy access to "fresh," relevant, and compliant data in a way that is unified.

To achieve these objectives, they need a platform that gives them data reusability and a way to simplify and streamline the management of data assets across all database systems, with a scale-out, distributed platform that addresses the many variations in applications and technologies.

That's why they should take a close look at the Cohesity solution.

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