



Don't waste backup storage budget

With the right enterprise backup solution, you can reduce storage costs by up to 93%.



Introduction

Exponential data growth is eroding IT budgets for backup and disaster recovery. IDC forecasts that by 2025 the global datasphere will grow to 163 zettabytes. Soaring storage costs on-premises and in the cloud typically forces IT leaders to prioritize what data they protect, how often to run backup and how long to keep their backups. Data growth also affects backup and recovery performance and network throughput. That's why it's critical to leverage an enterprise backup solution that includes powerful data deduplication technology to eliminate redundant data and optimize backups.

Data deduplication technology

Data deduplication has been available for more than two decades and is a critical part of most enterprise data protection IT strategies. This storage optimization technology is available as part of some enterprise backup & recovery solutions as well as a few purpose-built appliances (PBAs) and storage devices.

There are many different types of data deduplication approaches including:

- Source-side deduplication
- Target-side deduplication
- Fixed block deduplication
- Variable block deduplication
- Pre-process
- Post-process
- Software-defined
- Hardware appliance

There are different pros and cons of each data deduplication approach.

Source side vs. target side

Source side deduplication performs deduplication at the data source, typically referred to as a "client." Target side deduplication captures all the backup

Exponential data growth is impacting data protection budgets and performance.

data on the target storage device and then performs deduplication. In general, source side dedupe is considered pre-process while target side dedupe is considered post-process. Source side dedupe will allow you to speed your backup process and run more backup jobs in parallel while significantly reducing network traffic on-premises and to the cloud. It also enables you to perform global data deduplication across multiple backup jobs and sources. But source side dedupe could impact the client performance in some environments.

Fixed block vs. variable block

Fixed-block deduplication takes a stream of data and slices it up into blocks of a fixed size. We call these 'chunks' of data. These chunks are then closely compared using several methods, and if they are deemed the same, then only a single 'chunk' is stored and a reference is kept for each subsequent match. It works well on some data types that are stored directly on the file system, since they are "byte-aligned" and have their file systems written in 4k, 8k, 32k chunks, like virtual machines, for example. Fixed block dedupe solutions typically deliver up to 30% data reduction.

Unfortunately data is anything but consistent, and depending on its type, will have a different make up, block size, byte alignments and content.

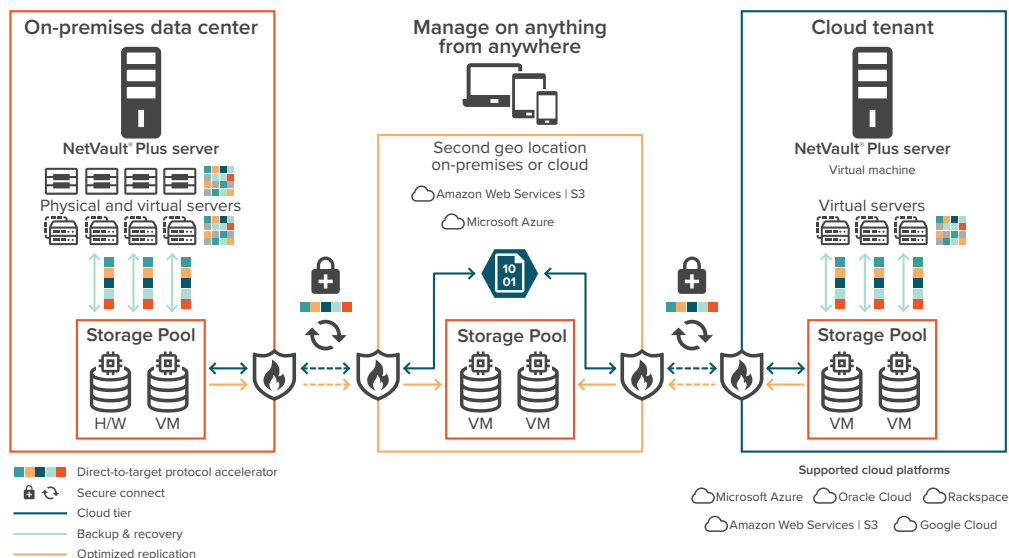
To overcome this, the use of a sliding window, variable chunk dedupe is used. Because the data is variable and is calculated over a sliding window, that same set of bytes of data (variable chunks of data) can be identified again and again, no matter where it is in the stream of data. This eliminates the need to have the data nicely aligned to catch duplicates, like with fixed- block dedupe systems. Variable block dedupe can deliver data reduction results up to 93% depending on the data type and frequency of backups.

Source side, variable block deduplication can deliver up to 93% storage savings on-premises and in the cloud.

NetVault® Plus data deduplication

NetVault Plus is an enterprise data protection (backup and recovery) software solution used by thousands of businesses and non-profit organizations around the globe. NetVault Plus is used to protect all your systems, applications and data in the data center, remote offices and in the cloud (like Microsoft 365).

NetVault Plus includes source side, variable block data deduplication and adds a content-aware algorithm to its variable-size chunking. The algorithm identifies patterns in the data — despite the shifting that results from additions or deletions in the data stream — then aligns the block start- and end points to duplicate chunks, while identifying only the changed chunks as unique.



In addition to unparalleled data deduplication results, NetVault Plus also includes key ransomware protection and recovery features like immutable backups, encryption, air- gap backup to tape and cloud, backup replication and cloud tiering. All these capabilities are integrated with its deduplication engine, so you get a level of data protection and backup optimization not found in other data protection solutions.

Summary

Data is growing at an exponential rate which means backup and recovery takes longer and backup storage costs even more. Don't waste your valuable IT budget. The right backup and recovery solution will help speed backup and recovery while reducing storage costs by up to 93%.

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