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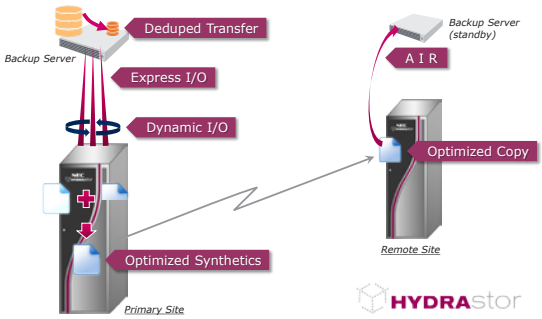
Advanced Integration for Backup and Archive Applications

HYDRAstor® Advanced Data Services



At a Glance

- Dynamic I/O - Adaptive Load Balancing
- Express I/O - Lightweight Data Transport
- Deduped Transfer - Source Side Deduplication
- Optimized Synthetics - Storage-Synthesized Full Backup
- Optimized Copy - WAN-Optimized Replication Services for DR

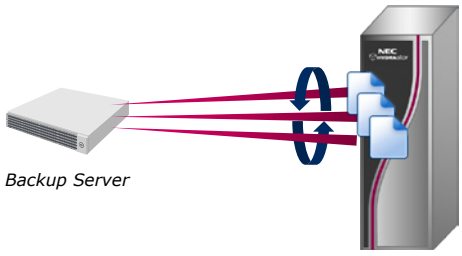
Overview

NEC's HYDRAstor Advanced Data Services extend the functionality of backup and archive applications, leveraging intelligent storage system capabilities via Advanced Data Services framework.

The integration with backup and archive applications improves throughput, maximizes storage capacity utilization, shortens backup windows, reduces network bandwidth consumption and optimizes off-site backup workloads.

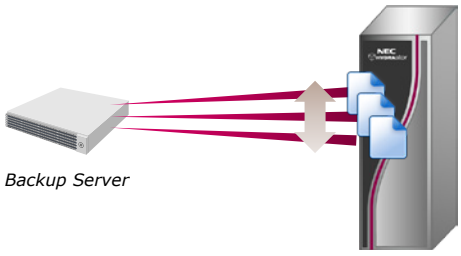
Solution

Dynamic I/O - Adaptive Load Balancing



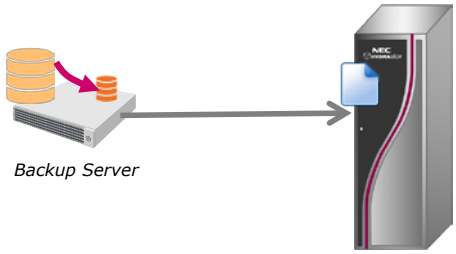
Dynamic I/O enables automatic distribution of backup jobs across front-end nodes to adapt to changing workloads, while optimizing storage responsiveness and capacity utilization on the backend via HYDRAstor's DataRedux™ inline global data deduplication capability. By combining the benefits of dynamic front-end load balancing with automatic inline global data deduplication and distribution on the backend, enterprises can maximize both throughput and capacity without compromising efficiency.

Express I/O - Lightweight Data Transport



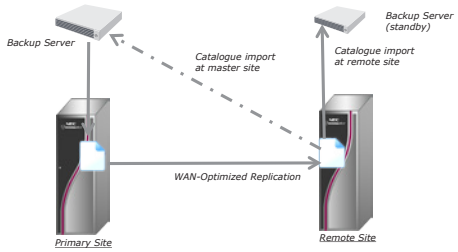
HYDRAstor's Express I/O is a lightweight data transfer protocol that delivers more efficient data transfer than standard protocols such as NFS and CIFS. Express I/O reduces the overhead of data access and maximizes backup performance. With Express I/O, backup servers can achieve maximum performance with HYDRAstor resulting in shorter backup windows.

Deduped Transfer - Source Side Deduplication



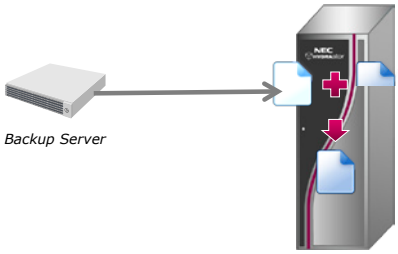
HYDRAstor's Deduped Transfer delivers higher performance than standard Express I/O by reducing network bandwidth consumption between backup server and HYDRAstor. Deduped Transfer leverages backup server resources for data deduplication pre-processing and sends only unique chunks of data from backup server to HYDRAstor, resulting in significantly higher throughput for backup workloads. Deduped Transfer can let backup servers at small remote sites directly backup to HYDRAstor at data center, and reduce both network and storage cost.

Optimized Copy - WAN-Optimized Replication Services for DR



HYDRAstor's Optimized Copy leverages HYDRAstor's RepliGrid WAN-optimized replication technology to efficiently copy backup images to remote systems. HYDRAstor's WAN-optimized replication sends only unique compressed chunks of data to the remote site. For Veritas NetBackup®, Optimized Copy automates the copy process and updates the NetBackup catalog, while minimizing required bandwith and simplifying administration workflows. HYDRAstor also supports NetBackup Auto Image Replication (AIR) via OpenStorage API, which automates site-to-site disaster recovery. Using AIR, the NetBackup server at DR site automatically imports the images replicated by HYDRAstor WAN-Optimized Replication and updates its catalog, enabling quick recovery at DR site.

Optimized Synthetics - Storage-Synthesized Full Backup



HYDRAstor's Optimized Synthetics extend the synthetic full backup functionality of backup applications, minimizing the backup window by offloading synthetic full backup processing to HYDRAstor. Controlled by the backup server, Optimized Synthetics synthesizes a new full backup using the last full backup and subsequent incremental backups. HYDRAstor's Optimized Synthetics work with Veritas NetBackup's synthetic backup and Accelerator feature via OpenStorage API. Supporting Accelerator simplifies the process even further by automating the synthesis of the next full backup as soon as the new incremental backup is received. Optimized Synthetics enable the user to eliminate weekly full backup from the job schedule and maintain an up-to-date full backup image with only daily incremental backups, while improving the efficiency of the backup process by reducing backup server workload and network traffic.

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