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What's New in PowerStoreOS 4.0?



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PowerStoreOS 4.0 is the latest major release on the Dell PowerStore platform. Headlining this release, is the highly flexible PowerStore 3200Q!

PowerStoreOS 4.0 is jam-packed with an abundance of new features and enhancements that cover a multitude of areas such as:

- Data efficiency
- Hardware
- Networking
- Data protection
- Import
- Performance
- Security

- Serviceability

More ways to save

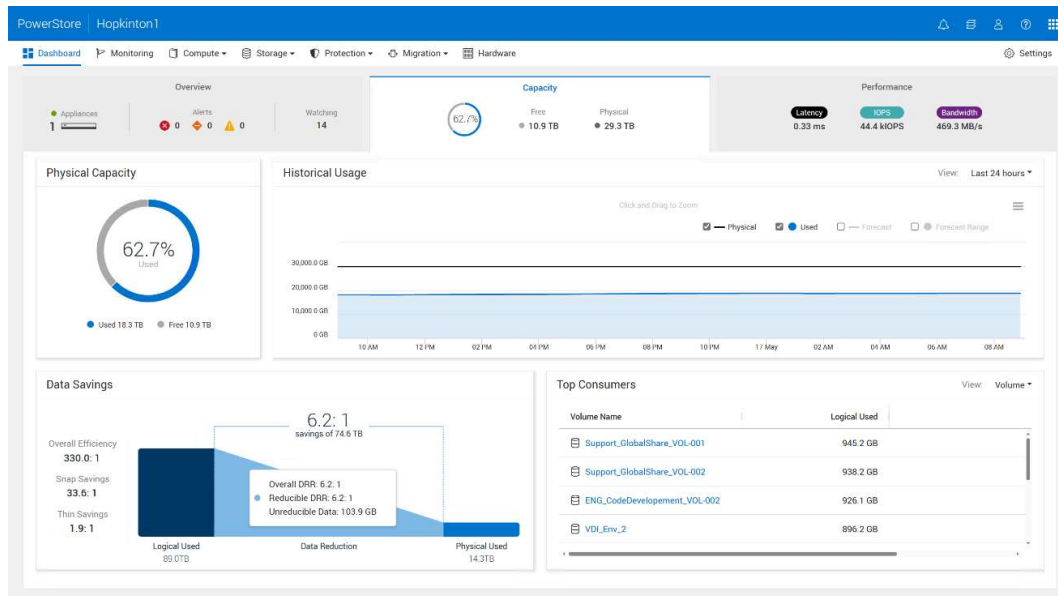
Data efficiency

PowerStoreOS 4.0 includes enhancements to make PowerStore's data efficiency even stronger. In this release, the intelligent compression algorithms have been updated to recognize variable patterns to further reduce compressible workloads.

This release also includes additional metrics to better view and evaluate space savings at the cluster, appliance, and storage object levels. The following metrics are now included in the PowerStore Manager UI, CLI, & REST API:

- Volume Family Unique Data: Physical space that is used by the volume family after deduplication and data sharing savings are applied.
- Overall DRR: Data Reduction Ratio which includes reducible and unredurable data.
- Reducible DRR: Data Reduction Ratio which includes only reducible data.
- Unreducible Data: Total amount of unreducible data.

The simplified reporting of these data reduction metrics allows the end user to make more informed decisions about where their datasets should reside.



PowerStoreOS 4.0 is also part of PowerStore Prime. Prime is a multi-faceted integrated offering that combines storage advancements with strategic business advantages. Prime raises the bar for the data reduction guarantee, moving it from 4:1 to 5:1 without requiring a preassessment.

PowerStore 3200Q

In the PowerStoreOS 4.0 release, we are releasing an all new PowerStore model with

in the PowerStoreOS 4.0 release, we are releasing an all-new PowerStore model, with QLC (Quad-Level Cell) drives, called the PowerStore 3200Q. The 3200Q model supports 15.36 TB QLC drives and has a minimum drive count requirement of 11. Supporting QLC drives can drive down capacity costs on a per gigabyte basis.

The 3200Q provides flexibility by simply:

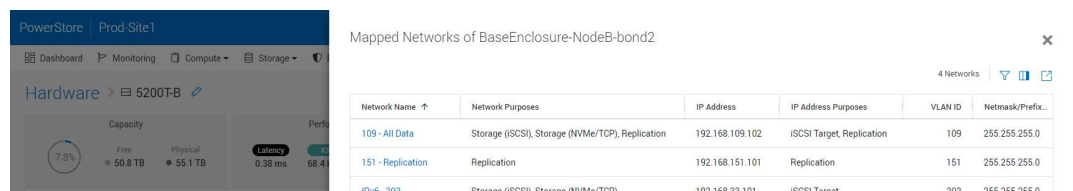
- Giving users the option to scale up capacity on a per drive basis
- Allowing users to easily integrate PowerStore T and Q appliances together into a cluster

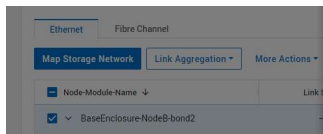
When deploying a PowerStore 3200Q system, it is important to note that double fault tolerance configuration is required. For more details about the PowerStore 3200Q, see the blog [Introducing the PowerStore 3200Q!](https://infohub.delltechnologies.com/en-us/p/introducing-the-powerstore-3200q) (<https://infohub.delltechnologies.com/en-us/p/introducing-the-powerstore-3200q>).

Getting more out of your network

PowerStoreOS 4.0 provides multiple networking enhancements in this release:

- In previous versions of PowerStoreOS, user-defined aggregated groups (LAGs) were limited to file usage only. In PowerStoreOS 4.0, support for storage and replication networks on user-defined LAGs is available, allowing for increased flexibility to split up replication and host traffic onto different ports/LAGs.
- PowerStoreOS 4.0 also provides the user with the ability to select different individual or multiple replication data networks for remote system pairing. The capability of using multiple ports and networks improves each layer of flexibility, performance, and resiliency within the environment.
- Additional enhancements to the networking view in this release simplify the PowerStore Manager UI, making it easier for administrators to implement, scale, and maintain their SAN(s).
- PowerStoreOS 4.0 can scale up to 256 storage networks, compared to the maximum of 32 storage networks in prior releases.



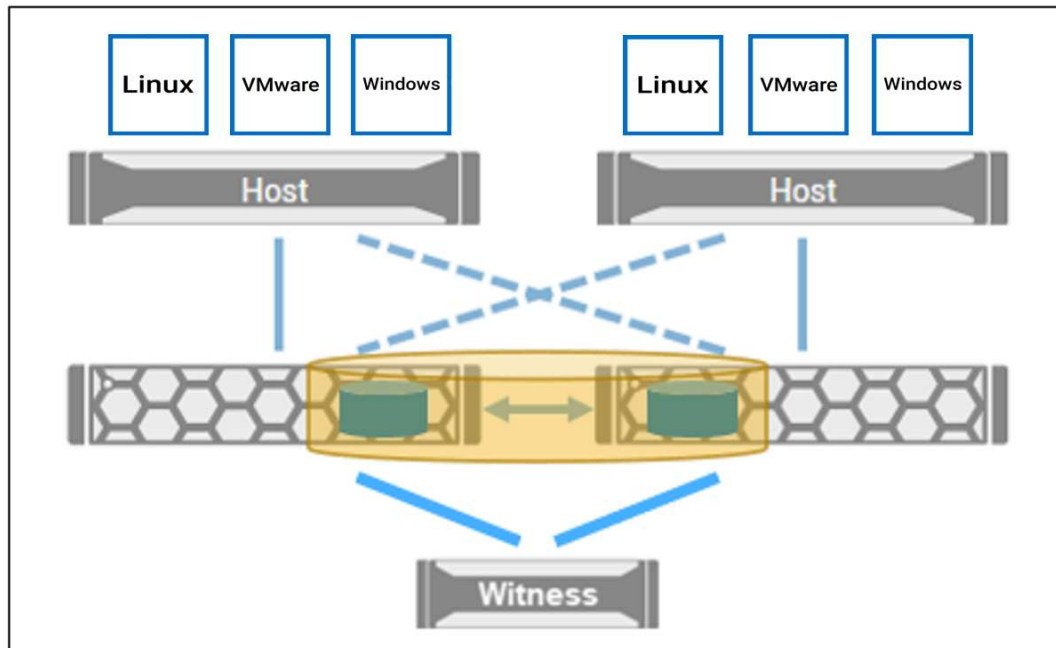


IPV6 - 320	storage (154.31)	storage (154.31)	192.168.32.101	154.31 target	320	255.255.255.0
IPv6 Replication - 320	Replication		192.168.32.101	Replication	320	255.255.255.0

Protecting with flexibility

Metro enhancements

PowerStoreOS 4.0 expands Metro Volume support to include Linux and Windows operating systems, in addition to the existing support for VMware ESXi environments. This release also includes SCSI-3 persistent reservations support for clustered applications on Metro Volumes. This allows Metro Volume configurations to be implemented with clustered Windows and Linux hosts. Additionally, Metro Volume now supports volume groups for simplified management.



Synchronous block and file replication

PowerStoreOS 4.0 offers native synchronous replication for block and file resources. Synchronous replication provides **zero** RPO to address the need to protect mission-critical block and file storage resources. Synchronous replication is supported on volumes, volume groups (with write-order consistency), thin clones, and NAS servers.

Additionally, we have added ClusterLion support as an automatic failover solution for PowerStore file synchronous replication deployments.

Reprotect with discard changes after failover

To address the requirement to validate file Disaster Recovery (DR) tests, PowerStoreOS 4.0 delivers the ability to perform a reprotect and discard the changes after a failover. This feature lets administrators make changes during rigorous DR testing without making them persistent. It also alleviates the requirement to manually revert changes made to the configuration and production dataset.

Making migrations easy

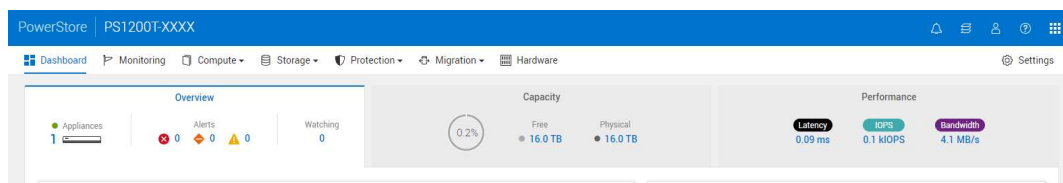
PowerStoreOS 4.0 offers the following migration features and enhancements:

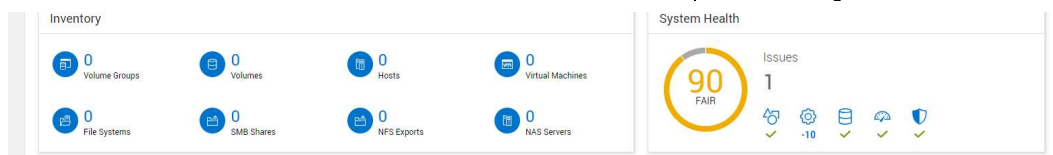
- PowerStoreOS 4.0 supports Unity file import. This provides a seamless native import of SMB and NFS NAS servers from your Unity storage system to your PowerStore system.
- In PowerStoreOS 4.0, the **universal** type of import is supported to enable agentless import from most block storage systems, making it easier and faster than ever to move to PowerStore! FC and iSCSI connections are supported for universal type block import. Because the discovery and import leverages only the data path, universal import doesn't require control path connectivity to the remote storage system.
- Dell is partnering with RiverMeadow to provide a workload migration solution that enables the user to easily migrate their workloads ground-to-cloud or cloud-to-ground between PowerStore and APEX Block Storage for Public Cloud.

Staying on top of things

System health score in the PowerStore Manager UI

PowerStoreOS 4.0 provides a system health score on the dashboard of the PowerStore Manager UI for systems that are connected to APEX AIOps Infrastructure Observability. This enables administrators to quickly understand the overall health of the cluster and identify issues when they arise.





One-click update

With this release, PowerStore lets administrators select a “Software Release Package Preference” for automatic software downloads. The administrator can select the target or latest code for available software packages. This allows them to stay up to date with their software upgrades, and provides an easy and seamless way to upgrade their systems.

Data-in-Place (DIP) upgrade support

For customers looking to scale up and scale out their storage environments to meet their business needs, Data-in-Place (DIP) upgrades allow users to upgrade their existing T model systems while the system remains online. PowerStoreOS 3.6 delivered Data-in-Place upgrade support from a PowerStore x000T to a PowerStore x200T model. PowerStoreOS 4.0 extends this to support upgrading from a PowerStore x200T model to a higher x200T model.

It's all about balance

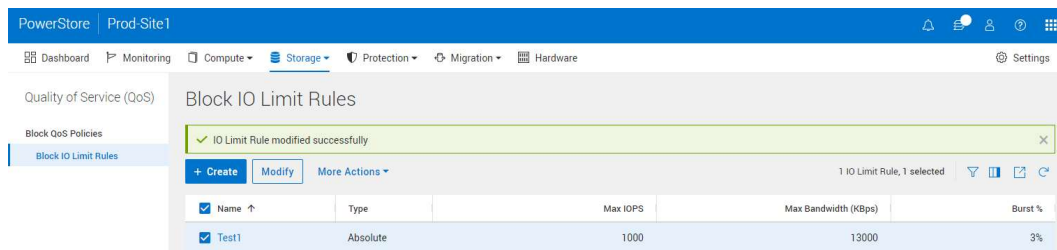
Dynamic Node Affinity for vVols

In PowerStoreOS 4.0, dynamic node affinity is being expanded to support vVols in addition to volumes. This provides the ability to dynamically change a vVol's node affinity based on performance metrics. This allows the appliance to maintain relatively consistent utilization, latency, and performance across both nodes. This provides several benefits including balancing hardware utilization, optimizing performance, and providing the ability to adapt as workloads change.

Quality of Service (QoS) for block resources

In PowerStoreOS 4.0, the system supports Quality of Service (QoS) for block storage resources. QoS provides the ability to limit the performance capabilities of a resource. Administrators can limit low-priority workloads and avoid noisy neighbor

scenarios where an application can monopolize the performance of the system. This also enables service providers to set limits on storage objects based on their SLA with their customers.



Confidence in your data

vCenter certificate verification

PowerStoreOS 4.0 delivers additional security features and improvements.

PowerStore now provides a **Verify SSL server certificate** checkbox when connecting your PowerStore system to your vCenter server. This retrieves and displays the vCenter's certificate so the administrator can confirm that it matches what is displayed in vCenter. When accepted, a secure SSL connection can then be made between vCenter and PowerStore.

CAVA enhancements

PowerStoreOS 4.0 brings CAVA (Common Anti-Virus Agent) ease-of-use enhancements by making configuration and management operations available natively in the PowerStore Manager UI, PSTCLI, and REST API. This makes it easier for the administrator to configure, manage, and monitor CAVA details.

Conclusion

It's no secret that PowerStoreOS 4.0 is a huge release for the Dell PowerStore platform, because it offers many features and enhancements that vastly optimize, modernize, and scale your storage infrastructure. This blog encapsulates the key features in this release. For more details about the PowerStoreOS 4.0 release, check out the following Resources.

Resources

For additional information about the features described in this blog, plus other information about the PowerStoreOS 4.0 release, see the following white papers and solution documents:

- Dell PowerStore: Introduction to the Platform (<https://infohub.delltechnologies.com/t/dell-powerstore-introduction-to-the-platform-1/>)
- Dell PowerStore: File Capabilities (<https://infohub.delltechnologies.com/t/dell->