Performance and efficiency in the cloud

ONTAP 9

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Performance and efficiency in the cloud overview

Your on-premises ONTAP system offers data efficiency features that enable you to store more data is less physical space, and to tier rarely used data to lower cost storage. Whether you use a hybrid cloud configuration, or you move an entire workload to the cloud, ONTAP enables you to maximize storage performance and efficiency.

FabricPool

Many NetApp customers have significant amounts of stored data that is rarely accessed. We call that *cold* data. Customers also have data that is frequently accessed, which we call *hot* data. Ideally, you want to keep your hot data on your fastest storage for best performance. Cold data can move to slower storage as long as it is immediately available if needed. But how do you know which parts of your data are hot and which are cold?

FabricPool is an ONTAP feature that automatically moves data between a high-performance local tier (aggregate) and a cloud tier based on access patterns. Tiering frees up expensive local storage for hot data while keeping cold data readily available from low-cost object storage in the cloud. FabricPool constantly monitors data access and moves data between tiers for best performance and maximum savings.

Using FabricPool to tier cold data to the cloud is one of the easiest ways to gain cloud efficiency and create a hybrid cloud configuration. FabricPool works at the storage block level, so it works with both file and LUN data.

But FabricPool is not just for tiering on-premises data to the cloud. Many customers use FabricPool in Cloud Volumes ONTAP to tier cold data from more-expensive cloud storage to lower-cost object storage within the cloud provider. Beginning with ONTAP 9.8, you can capture analytics on FabricPool-enabled volumes with File System Analytics or temperature-sensitive storage efficiency.

The applications using the data are not aware that data is tiered, so no changes to your applications are needed. Tiering is fully automatic, so there is no ongoing administration needed.

You can store cold data in object storage from one of the major cloud providers. Or choose NetApp StorageGRID to keep your cold data in your own private cloud for highest performance and complete control over your data.

Related information

FabricPool System Manager doc

Cloud Tiering Service

FabricPool playlist on NetApp TechComm TV

Storage Efficiency

The same storage efficiency features of on-premises ONTAP are available in the Cloud. SnapShot copies, deduplication, compression, compaction, thin provisioning, and FlexClone data clones are all available in NetApp Cloud offerings.

When you move data from on-premises ONTAP to the cloud, the existing storage efficiency is preserved. Whether you are moving an entire dataset, or just tiering cold data to the cloud, you won't move uncompressed or duplicate data.

Related information

Cloud Volumes ONTAP Feature Spotlight: Storage Efficiency Case Studies

Using a volume usage profile in Cloud Manager to manage cloud storage efficiency