



# **Run storage efficiency operations at less busy times**

## **Active IQ Unified Manager**

NetApp  
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# Run storage efficiency operations at less busy times

You can modify the policy or schedule that handles storage efficiency operations to run when the impacted volume workloads are less busy.

Storage efficiency operations can use a high amount of cluster CPU resources and become a bully to the volumes on which the operations are being run. If the victim volumes have high activity at the same time when the storage efficiency operations are run, their latency can increase and trigger an event.

On the Event details page, the System Diagnosis section displays workloads in the QoS policy group by peak deviation in activity to identify the bully workloads. If you see “storage efficiency” displayed near the top of the table, these operations are bullying the victim workloads. By modifying the efficiency policy or schedule to run when these workloads are less busy, you can prevent the storage efficiency operations from causing contention on a cluster.

You can use ONTAP System Manager to manage efficiency policies. You can use the ONTAP commands to manage efficiency policies and schedules.

## What storage efficiency is

Storage efficiency enables you to store the maximum amount of data for the lowest cost and accommodates rapid data growth while consuming less space. NetApp strategy for storage efficiency is based on the built-in foundation of storage virtualization and unified storage provided by its core ONTAP operating system and Write Anywhere File Layout (WAFL) file system.

Storage efficiency includes using technologies such as thin provisioning, Snapshot copy, deduplication, data compression, FlexClone, thin replication with SnapVault and volume SnapMirror, RAID-DP, Flash Cache, Flash Pool aggregate, and FabricPool-enabled aggregates which help to increase storage utilization and decrease storage costs.

The unified storage architecture allows you to efficiently consolidate a storage area network (SAN), network-attached storage (NAS), and secondary storage on a single platform.

High-density disk drives, such as serial advanced technology attachment (SATA) drives configured within Flash Pool aggregate or with Flash Cache and RAID-DP technology, increase efficiency without affecting performance and resiliency.

A FabricPool-enabled aggregate includes an all SSD aggregate or HDD aggregate (starting with ONTAP 9.8) as the local performance tier and an object store that you specify as the cloud tier. Configuring FabricPool helps you manage which storage tier (the local tier or the cloud tier) data should be stored based on whether the data is frequently accessed.

Technologies such as thin provisioning, Snapshot copy, deduplication, data compression, thin replication with SnapVault and volume SnapMirror, and FlexClone offer better savings. You can use these technologies individually or together to achieve maximum storage efficiency.

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