Capacity measurements in System Manager

ONTAP 9

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Capacity measurements in System Manager

System capacity can be measured as physical space or logical space. Recent versions of System Manager use measurements of logical capacity.

The differences between the two measurements are explained in the following descriptions:

- **Physical capacity**: Physical space refers to the physical blocks of storage used in the volume. The value for physical used capacity is typically smaller than the value for logical used capacity due to the reduction of data from storage efficiency features (such as deduplication and compression).
- **Logical capacity**: Logical space refers to the usable space (the logical blocks) in a volume. Logical space refers to how theoretical space can be used, without accounting for results of deduplication or compression. The value for logical space used is derived from the amount of physical space used plus the savings from storage efficiency features (such as deduplication and compression) that have been configured. This measurement often appears larger than the physical used capacity because it includes Snapshot copies, clones, and other components, and it does not reflect the data compression and other reductions in the physical space. Thus, the total logical capacity could be higher than the provisioned space.

In System Manager, capacity representations do not account for root storage tier (aggregate) capacities.

Measurements of used capacity

Measurements of used capacity are displayed differently depending on the version of System Manager you are using, as explained in the following table:

Version of System Manager	Term used for capacity	Type of capacity referred to
9.5 and 9.6 (Classic view)	Used	Physical space used
9.7 and 9.8	Used	Logical space used (if storage efficiency settings have been enabled)
9.9.1	Logical Used	Logical space used (if storage efficiency settings have been enabled)

Measurement terms

- **Physical used**: Displays the amount of capacity used in the physical blocks of a volume.
- **Physical used %**: Displays the percentage of capacity used in the physical blocks of a volume compared to the provisioned size.
- **Logical used**: Displays the amount of used space without considering the space saved by storage efficiency features.
- **Logical used %**: Displays the percentage of the current logical used capacity compared to the provisioned size, excluding the Snapshot reserve of the volume. This value can be greater than 100%, because it includes efficiency savings in the volume.

Additional references:

"Logical space reporting and enforcement for volumes" topic in the ONTAP 9 Logical Storage Management Guide