



PROFESSIONAL SERVICES TECH NOTE #036

Snapshot Reserve

The Concept

The snapshot reserve of a NAS volume (SAN volumes do not use snapshot reserve) is often graphically depicted as a box or partition at the end of a volume. However, the snapshot reserve is not a physical partition but a logical reservation of volume space to retain data blocks which are no longer used by the active filesystem but are referenced by Snapshots. Because Snapshots are a fundamental layer of much of Data ONTAP's functionality, the snapshot reserve setting is a minimum percentage of volume space to be reserved. Snapshot data can consume free space in the active filesystem but the active filesystem can never use free space in the snapshot reserve.

Examples

```
fas1> snap reserve vol05 15 - set percentage of space reserved for snapshots to 15%
```

What It Means To You

The primary function of the reserve is to manage the history of changes in a volume. NetApp has found that most volumes only need 7 – 10% snapshot reserve to retain two weeks of changes. Volumes with user home and group directories experience a lot of change and may require more Snapshot space. Volumes with lots of new data but very little changed data, like log volumes, can use a very small snapshot reserve.

A secondary function is space management. By setting the reserve higher than your needs you can restrict how much space users can see and therefore will use. The snapshot reserve is usable space – you never lose it – and the unused space can easily be returned to the active filesystem by reducing the value. (Many competitors cannot do this because they physically allocate space for snapshots.)

If you have a full volume and see the snapshots have exceeded the snapshot reserve the only way to reclaim the space is to delete old Snapshots. Deleting data in the active filesystem will only transfer the data blocks into the most recent Snapshot rather than freeing up space.

More Information

Refer to the Data ONTAP Online Backup and Recovery Guide

http://now.netapp.com/NOW/knowledge/docs/ontap/rel7311_vs/html/ontap/onlinebk/protecting/concept/c_o_c_prot_snapshot-reserve-what.html

Brought to you by NetApp Americas Professional Services

Send comments, corrections & suggestion to Michael Cope at mcope@netapp.com
Tech Note archive: http://communities.netapp.com/community/products_and_solutions?view=documents