



AssuredSnap™ Sparse Operations Saving space in the storage system

Protecting business critical data is easy with copy-on-write technology and automated space management featured snapshots.

Snapshot Overview

As the name implies, a snapshot is an image of the data captured at a specific point in time. This simple operation is a very powerful tool as the snapshot data can be used to improve backup operations, provide instant file recovery, or provide real-time fail-over volumes for business continuance.

Copy-On-Write technology

Dot Hill's snapshot solution uses a Copy-On-Write technology that reduces the amount of space required to take and retain snapshots by capturing only the information that has changed since the last snapshot. This technology is similar to a traditional differential backup. This functionality is designed in such a way that for any "new" write operation performed, a single write operation of the block being updated is performed to the snapshot to preserve the original data.

Volume Name	Size	Type
Selected ▶ "SnapsV1"	10240 MBytes	Master
"SnapsV1_SS1"	10240 MBytes	Snapshot
"SnapsV1_SS2"	10240 MBytes	Snapshot
"SnapPool1"	20480 MBytes	Snap Pool
Free Space	469368 MBytes	---

From within the system it appears that the snapshot size is equal to the size of the volume – 10GB....

"SnapsV1" Volume Status

Volume Type	Master
Volume Name	SnapsV1
Belongs to Virtual Disk	Snaps
Volume Presented Globally?	No
Associated Snap Pool	SnapPool1
Number of Snapshots of Volume	2
Snapshot Data Size	25.1MB
Rollback Percentage	---

... however, prior to any data being written the snapshot only takes up enough space to identify itself to the system

Snapshots of this Master Volume

Name	Time	Size
SnapsV1_SS2	TUE MAY 20 07:56:03 2008	262.1KB
SnapsV1_SS1	TUE MAY 20 07:52:12 2008	1572.8KB

From within the user interface you can track how much space is actually being consumed by your snapshots. A snapshot can not grow beyond the original volume size without growing the original volume first.

Snapshots of this Master Volume

Name	Time	Size
SnapsV1_SS2	TUE MAY 20 07:56:03 2008	167.7MB
SnapsV1_SS1	TUE MAY 20 07:52:12 2008	1572.8KB

After the data is written the snapshot only takes up enough space to accommodate the changes to the volume.

To further ease snapshot utilization, Dot Hill has eliminated the need to know (or guess) how much space will be needed to accommodate changes. The user can set an automated trigger which will grow the snapshot space as required.

Warning Policy:
Notify Only at % of capacity

Error Policy:
 at % of capacity
 size to expand (MBytes)

Critical Policy:
 at % of capacity

Administrators can set policies to automatically grow the snapshot space at specified capacity thresholds and by specific increments.

Obtaining a Snapshot License

To get or extend your snapshot licenses contact your Reseller sales representative or email Dot Hill at support@dothill.com. You will be issued a license key which extends snapshot counts up to 64 or 256 depending on the storage array.

Licensed Features Installed

Snapshot	Enabled
Snapshots Available	64 (16 on default system)
Snapshots In Use	2
Volume Copy	Enabled
VSS	Disabled
VDS	Disabled
License File Signature	90abee5c551f37c24efbf7ad7

16 snapshots are included in the 2000 series product. You can increase up to 64.

More Snapshot Information

For more information about snapshots reference the following web site, <http://www.dothill.com/storage/software/assuredsnap/>

Solutions Brief

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