



PROFESSIONAL SERVICES TECH NOTE #026

CIFS snapshot file folding

The Concept

One of the best features added to Microsoft Office was the AutoRecover feature. Unfortunately, the mechanism which makes AutoRecover work was created before NAS systems and snapshots became commonplace. When a user opens a document, all Office applications create a temporary file on disk. As the user makes changes and then saves the file the temporary file inherits the filename, the original file is deleted, and a new temp file is created. As diligent users Save and Save Often! (which you have trained them to do) their Office applications spawn numerous temp files. These temp files are then preserved every time a snapshot is taken which consumes disk space. The `cifs.snapshot_file_folding` option conserves space by making pointers to unchanged data blocks in the most recent snapshot and only writes changed blocks to new temp files (similar to how FlexClone works).

Examples

```
fas1> options cifs.snapshot_file_folding.enable on
```

What It Means To You

CIFS volumes which store MS Office documents without this option turned on are holding more changed blocks in their snapshots than is necessary. When you turn this option on and let your snapshots roll over you will notice a decrease in the amount of space used in the Snapshot Reserve. This may allow you to reduce your snapshot reserves rather than grow volumes to hold more data. Unfortunately, there is a bit of CPU and memory overhead required to use this space saving feature.

More Information

Explanation of the Microsoft Office AutoRecover feature:

<http://www.informit.com/articles/article.aspx?p=102169>

The NetApp patent for file folding:

<http://www.freepatentsonline.com/7072910.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