

Virtualized Storage - Cleaning up invisibly.



Don MacVittie, 2008-15-09

Last week while Joe and I were at our Lowell offices (formerly Acopia, now known as the F5 Data Solutions group), I learned a lot that I didn't previously know about our ARX directory-level virtualization product. Now I'm not new to the storage space, and indeed, had looked at Acopia briefly when I was the storage editor at Network Computing, but there was so much going on in storage at the time that I never got around to covering them directly.

All things considered, I hoped to get a handle on how specifically we did what all storage virtualization products do. I was pleasantly surprised to discover that there were some surprises for me. No stubs when you move data behind the ARX was one. It's the correct solution, but difficult enough that when I left storage I didn't know of any major players that did it... And leaving stubs (soft links in *NIX, shortcuts in Windows) all over your NAS gets hairy when backup time comes. The other interesting bit that I learned was that, unlike most products, virtualization is handled in ARX at the file level instead of the folder/directory level. This is huge for moving things because it means you don't have a bunch of cleanup smacking your disk arrays around after a move. The file is moved and the reference to it is updated. In directory level, stubs are almost required, you can't just toss a single file off elsewhere without interfering with the operation of the device.

So that was great stuff to learn. I also picked up a couple of use cases - which perhaps because I lived in the "Not enough storage" world as an IT Manager, or perhaps because I was a writer for a tech pub, I like to see. It helps me understand who might be using the product and why. My favorite use case (favorite usually involves "Huh. I hadn't thought of that." for me) was the upgrade/reformat a filer use case. Tell the ARX to move everything off of the filer, and it moves without impacting the users or the virtual directory. Then do your maintenance, then tell the ARX to move everything back. Users experience zero downtime, you experience zero hand data movement and share replacement support work, that's the win in my book. It makes for a huge driver to put in a virtualized directory if you have more than a couple of file servers or filers in the building.

Probably the most interesting bit for most of you (it would have been for me several years ago) was reduction of backup window by tiering your storage. Even if all of your disk is SATA, you can say "frequently used files go *here*, files that never even get read go *there*." If you followed my writing at NWC then you know that this is one of the few useful ILM features out there - one of the "Low Hanging Fruits" I identified in my Well Connected Awards write-up for either 2004 or 2005. Once you've set it up to move files, you wait for the ARX to move them, and once the movement is done, tell your backup software not to back up your rarely modified data - tell it not even to look at those directories, no building indexes, nothing.

I also came home with our ARX training manual, which is HUGE. That's very cool, because it means there should be a lot of info in it. I haven't started it yet, but it's bumping my other reading material so I can get a handle on other useful tidbits for you.

Anyway, off to process some more of this stuff... It's great so far, and we're planning on more info.

Don.

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