Storage - Where do we go from here?

Don MacVittie, 2008-14-07

There's a lot out there right now that is up in the air... The future direction of social networking, mobile vs laptops, security, when next I'll shave my head, and the topic of today's post, what to do about data storage.

There's a post over on DrunkenData.com that talks about preliminary results from a bit of UC/NetApp research that decided... SURPRISE! That 90% of your data is just sitting there taking up space.

The first thing that struck me about this claim was "Structured or Unstructured?" but I quickly remembered that it's NAS, so unstructured.

Not that this is really news to most people in the storage world, but the next question must be "what to do about that"? It's information we've had for a while, and things like ILM did *nothing* to help us capitalize on it, just as many of us predicted and analysts denied.

The post suggests going to tape and optical jukeboxes for those infrequently accessed files, and now that all OS's actually honor access times, that's possible in a NAS world (it wasn't, more recently than you think), and there are plenty of products like Acopia that can direct data based on access date/time. Another thing that gave me a chuckle was the tape world. Tape is good for long-term, off-site, archival storage. Its other uses have dwindled as the cost of disk has dwindled. But the article calls tape arrays "greener technology". Funny, it used to be sold as "cheaper". one can't help but wonder what it will be sold as after this post.

Another solution that doesn't require 15 year wait times for tape to seek to your users' files when they need access to them is disk arrays that spin down when not in use. Simple and to the point, EMC and NexSan make them, I'm certain others do too, but it's been a while since I was living/breathing in this space. The theory is simple, if this is tier two (or three) of your data architecture, and drawer #7 hasn't been accessed in X number of minutes, spin it down and leave it that way until someone *does* access a file stored there. That's green, it saves you green, and you don't have tape seek times to contend with (and in a jukebox, just tape or disk selection time could constitute the need for a coffee break).

Combine that with an intelligent tool for figuring out what goes on this system and what goes on your big, beefy, NetApp box, and you're in data nirvana, right? Well, at least your costs are down, your access times aren't up, and you are on the road to a greener Mother Earth. And tape can still be your archive format of choice.

I'm not as close as one might expect with the Acopia team (I know, I'm working on it), in fact, I know more about the competing technology one of our competitors sucked up, but migration based on access times is pretty simplistic as NAS Virtualization goes, so I'm going to stick my neck out with some amount of bravado and suggest we can do it.

So the architecture then would be simple. in front an Acopia box, behind it your spin-down disks on the right, and your NetApp Filers with hyper-active data on the left. As the data ages, it moves to the right (any presumed allegory to humanity is in the author's imagination, I assure you), the trays on the right are arranged such that all older data is in one tray, working backward to the newest stuff. So you'll have a couple of trays that never spin down, a bunch that are nearly always spun down, and your NetApp cranking out file after file. All coordinated by your NAS Virtualization engine, of course.

The only thing left in the seven-headed hydra that is data storage is SAN, and since the only company that truly managed the SAN/NAS leap is dead and gone, their technology and patents disappearing into the bowels of EMC, I guess you'll have to wait for the next revolution to work SAN into your NAS architecture.

Think about it, once set up you would have to do nothing and your electricity costs would go down. Monthly savings until such time as technology eliminates this architecture as an option versus the one-time expense of setting it up. Appealing.

Don.

/Reading: Smotherhood. These days I read while waiting for paint to dry on miniatures, and Lori left it lying around. Good book.

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