Would You Like Some Disk With That Cable?

Don MacVittie, 2011-03-02

Our basement, like most geek basements, has a pretty good collection of outdated computer gear. Some of it is running on the network, some of it is sitting there waiting for the end times. Or for a crook to break in and steal it so we don't have to dispose of it. I've posted this picture before, but here is "the cable box" before the last time I went through and cleaned it up. Or at least a close-up of one part of it, it is a pretty large box.

One of the things that we have been asking ourselves is how much sense it actually makes to continue building the pile of outdated machines when cloud is available. Our first look into using cloud computing was actually email, but for a variety of reasons we decided it wasn't for us. We could have made it work, but we would not have garnered the benefits – reduced infrastructure – that were driving us to check into it to begin with.

That would not be true if we were an enterprise. For us, keeping one redundant pair of mail servers is the same as running mail out of the house – we only have a few dozen email accounts active. And we use mail servers for reporting on everything from the NAS boxes to the firewall, so we needed to keep something here to handle that mail – forward it to the cloud-based mail servers if nothing else. In an enterprise, dropping to one or two mail servers would be a blessing, for us it's just added overhead.

The other area we would have considered looking into had our needs better meshed with technological progress was storage. We have Terabytes of free space on our storage that is less than a year old, so there's no reason for us to look deeply at cloud storage at this time.

But that's not true for you, and leads into the point of this blog. Your storage needs are going to continue to grow, and the question of what you should do about that is a big one. Do you buy more disk, or hook up with a cloud storage vendor to suit your needs? In short, do you need more of this:

Or more of this:

And that's a question you are likely to revisit a lot in the next couple of years… The current economics of the two certainly make cloud storage more appealing, but performance limits the places that most organizations are going to want to deploy cloud storage. Storing in the "Cloud Tier" definitely has its uses and will likely have a place in your enterprise, but it is no panacea. Given an ease-of-use model such as that created by Cloud Storage Gateways and WAN Optimization that is supported on both ends of your cloud connection, you can make it perform better, but it is still not as responsive as your LAN is going to be.

So the questions you need to start considering are manifold. First and foremost is what are the parameters of your storage needs? If you have storage needs that must be highly responsive, then cloud storage is less appealing. If you have storage needs that are growing faster than the average, then cloud is more appealing – because it contains cost, charging only for what you use, not for what you might need, and there is no huge per-rack fee to add new storage beyond what fits in your current arrays. It grows as you need it, but this is a double-edged sword, because you need to watch growth in the cloud to stay on top of costs.

Those are the immediately obvious ones, but there are more that are very important. Like how much room is left on your WAN connection, because cloud storage is going to chew that up space pretty quickly. If you can hook up with a cloud storage vendor that supports WAN Optimization, you can work with them to set up symmetric WAN Opt between your datacenter and the cloud. Also, most cloud storage gateways will compress and dedupe your storage on the way out, so you can get more storage for the cost… Though when making this comparison, that should be a wash because if you have data you are willing to dedupe and compress, most major storage vendors will help you do that on your primary arrays.

If you do opt for a cloud storage gateway, you'll get the benefit of locally cached frequently accessed files, giving you LAN-like access to the data you use the most, which definitely reduces the performance concerns inherent in anything stored on the WAN, but doesn't eliminate those concerns. It is definitely worth checking out how local caching might help in your environment with your specific storage needs.

Of course I think you should use a product like our ARX to virtualize your environment, thus gaining agility *and* a cloud storage gateway, but download the trial version and check it out for yourself.

The other thing you will want to consider is what happens if you end your relationship with the cloud storage vendor – in short, nothing lasts forever, what is the exit plan for your relationship with said vendor? Assume that you will not have enough space on your local storage to hold everything you put in the cloud… What do you do with the excess? The answer is highly organization and data dependent, some will be okay losing it, while others will believe if they could lose that data they wouldn't have stored it.

The best answer here from an exit perspective is to do backups, just like you do to protect data on arrays, but that too adds to your WAN traffic, and some cloud storage vendors charge by how much traffic you send through them, which makes backups more expensive from the cloud. An alternative option is to consider replicating from one cloud vendor to another, so you can walk away from one without changing anything but where to look for storage (and if you have directory virtualization, this is not a big deal.. Hmmm… Look for another blog on this topic soon). Of course, this doubles your cost exposure, but more than doubles your agility when contract negotiations come up.

It's a lot to consider, but I really believe that cloud storage can help your organization to deal with storage growth issues. You just have to be careful how/where/when you use it, and always pay more attention to "best for the company and customer" than to "what we do" or "best for the budget". I don't foresee cloud storage taking over the world with today's technology, but I do see it as here to stay, and as playing a role in your storage architecture decisions in the months and years to come.

F5 Networks, Inc. | 401 Elliot Avenue West, Seattle, WA 98119 | 888-882-4447 | f5.com

F5 Networks, Inc.	F5 Networks	F5 Networks Ltd.	F5 Networks
Corporate Headquarters	Asia-Pacific	Europe/Middle-East/Africa	Japan K.K.
info@f5.com	apacinfo@f5.com	emeainfo@f5.com	f5j-info@f5.com