The Need For Speed. SSDs in the Enterprise.

Don MacVittie, 2011-14-10

#F5Friday SSDs speed more than just disk I/O on your servers.

If you're one of those geeks (or gamers) that squeezes every last ounce of performance out of their personal computing equipment, then you're well aware that the performance of Solid State Drives (SSDs) is far and away better than the performance of traditional Hard Disk Drives (HDDs). Simply put, because the disk does not have to spin up, the arm does not have to seek, and the head doesn't have to wait for the correct sector to pass under it, SSDs are faster. The ability to just look up a storage location in a manner very similar to how your computer looks in RAM and return values through a conventional hard disk interface means they will likely always be faster than HDD technology. They're more expensive though, and the bigger the drive, the bigger the cost difference per gigabyte. And even though SSDs have gone down in price since their introduction, HDDs have too, maintaining the disparity in prices.

But that doesn't mean they're unobtainable, or even significantly limit their uses where the enterprise is concerned. For systems that truly need SDDs, the cost differential is warranted. If you have the cache on your database read/writing from SSD for example, your database performance will go up significantly, making the ROI worthwhile for many organizations.

And the same is very much true for other caching environments that require high-speed throughput. The ability to write out to disk at two or three times the rate of an HDD can greatly improve performance of high-throughput systems.

SSD and HDD, Courtesy of MSystems and Wikipedia

That is why we at F5 recently introduced an SSD option for our new F5 BIG-IP 11000 platform. With the optional SSD drives, you can speed processing for such disk-intensive operations as encryption, compression, and if you have BIG-IP WOM installed, de-duplication. These processes are commonly offloaded to BIG-IP systems for the purpose of lightening the load on servers, and now SSDs can speed the processing on the BIG-IP. To be sure, many organizations don't need SSD drives, that's why they are optional in our configurations. Should your organization be one of those that does, however, now you have a solution. By speeding these processes – that occur in-line during transport – you speed overall communications on whatever network you are utilizing, be that a WAN replication scenario or an internal LAN Web Services request.

And that's important. When you are shipping information over the public Internet, encrypting it on the way out preserves server CPU cycles for the application, and SSDs stretch just how much can be offloaded, because performance is increased. If your network is overloaded, having compression and/or de-duplication is also a major bonus, but only if the device doing the work is fast enough to keep up. For those organizations with so much throughput that encryption, compression, and/or de-duplication are causing unwanted latency, SSDs in their BIG-IP is the answer.

Another solution from our broad selection of tools, all aimed at helping you deliver solid solutions to meet the needs of your business, and keeping the network secure, fast, and available.