NEVER OBSOLETE STORAGE

WITHOUT THE GREEN

By George Crump

Storage Switzerland, LLC

coraid

Never Obsolete Without the Green

Recently, storage vendors started to promote a concept of evergreen storage. Essentially, the vendor will swap out the customer's storage hardware with the latest, more capable hardware at some point in the maintenance contract. The problem is this swap-out is too complete, the vendor provides new software, new storage media along with the new hardware.

The customer is paying a premium for this "service" because the only component they need to upgrade is the hardware. In most cases, the software is already up to date and the media, especially if it is flash, is already performing better than the organization needs. These so-called evergreen strategies emphasize the extra green the customer spends to stay current.

Storage Systems are made up of two primary components – hardware and software. They refresh at entirely different paces. Many vendors update their storage software three or four times each year, while the hardware may stay essentially the same for three to four years. In the data center, the storage software receives upgrades when storage vendors release new updates, but the customer's need drives hardware upgrades. The organization will either require more performance, more capacity or both. Unfortunately, most storage vendors don't allow enterprises to purchase the hardware and software independently.

The Problem with Bundled Systems

For most vendors, the lowest common denominator is the storage system. It is a single unit that includes hardware and software. The vendors bundle both within the same maintenance contract. During that contract period, they deliver software updates, and if there is a hardware failure, they resolve it. If the storage system runs out of capacity and has room for expansion, then an expansion shelf is added as well as a potential capacity license update on the software. So far so good.

Problems start to occur when the customer needs to replace the storage system because the system will no longer expand to meet capacity concerns or the system won't deliver enough performance. The customer, at this point, needs a new storage controller that can provide better performance and/or support more storage capacity.

When customers buy the new hardware, they also have to buy new software because the two are bundled, even though the customer already has software and it is current, thanks to the maintenance contract. With very few exceptions they can't transfer the software license from the old hardware to the new hardware. This situation is especially ironic since most vendors today claim to be "software-defined," yet they are from a "go to market" standpoint hopelessly tied to hardware.

The impact to the customer is they will not only pay a premium for the hardware because they get that hardware from the storage vendor, but they will also pay for the software all over again. Some vendors try to get around this conundrum by claiming the software is "free" and included with the storage system. IT professionals are smart enough to know nothing is ever free, and its free inclusion is why they pay the premium for the hardware.

Another cost aspect of these upgrades is, in most cases, vendors force the customer to buy the hardware with new storage media installed. The customer can not "carry" the old media to the new system. Not only do the customers pay for the capacity twice, but they also need to go through a complicated and time-consuming data migration process.

Does Scale-Out Storage Solve the Problem?

Vendors may claim scale-out solutions resolve this issue because instead of buying a new storage system, customers simply add nodes to an existing storage cluster. While true to some extent, most scale-out storage systems are only as fast as their slowest node, and eventually, the customer will want to upgrade the processing power of individual nodes. Also, there is a limit to how far a customer will want to grow a cluster. While scale-out storage has value, as the node count increases the complexity of managing the cluster becomes increasingly complicated, as does the inter-networking required to keep dozens of nodes in-sync. Fewer more powerful nodes are easier to manage and support than dozens of less powerful nodes

Storage is all About Software

Storage hardware, both from a compute perspective and now, thanks to flash, even from a media perspective, equalizes the market. In the early days of shared storage systems, engineers spent a lot of effort optimizing storage performance because of processor capability limits and storage media that was hard disk-based.

Now Intel can provide all of the performance the storage software needs, and flash can deliver more performance than most data centers require. Today, differentiation is all about the storage software. Does it have the necessary features? Can it take full advantage of Intel multi-core processors and flash-based media? Does it have the protection and reliability capabilities the organization requires?

Never Obsolete With No Strings.

IT needs a solution that is "never obsolete" without attaching strings to it. The solution is to look for a vendor that enables the transfer of the software license to new storage hardware as the need for that hardware arises. This approach may mean the vendor provides the option to deliver storage hardware without the associated storage software or deliver the system with the software but require the old software key to make that software active.

Ideally, the vendor will take the upgrade process a step further and allow the customer to physically move storage media from the old system into the new system (assuming the original system supports the same sized drives). The value of the "carry media forward" approach is now the new upgraded, more powerful system is less expensive since the customer is buying an empty shell and does not need to go through a migration process. The storage software and all of its data are already on the drives from the old system. All the customer has to do is install the drives and turn on the system, and is back in operation with a newer more powerful system.

Introducing Coraid

Coraid is a software-defined storage (SDS) solution, but it does provide the hardware for a more turnkey experience. Providing hardware simplifies initial installation and enables the organization to receive better support. However, unlike most bundled solutions, Coraid licenses the software and hardware separately. That means when it comes time for the customer to upgrade the hardware, the customer buys just the new hardware and transfers the license over to it.

Also, the the customer can purchase hardware with no internal storage, which also means that the storage media in the old system can transfer to the new system. The transfer of storage media becomes increasingly important in an era of flash-based storage systems. Flash, in most cases, means the storage media is no longer the source of the bottleneck. Most often, hardware has to be upgraded to support even more flash media or to gain access to more powerful compute to make the storage software faster.

Conclusion

A long-standing goal of organizations is never to have to throw out their investment in storage. With flash media and software-defined storage, that goal becomes more realistic. In many cases, the only component that needs to change is the server that makes up the system itself.

But storage vendors need to change their "go to market" strategies to encompass this new reality. They need to separate the software licensing component from the hardware, AND they need to allow storage media to move to the new system.

The Firm

Storage Switzerland is the leading storage analyst firm focused on the emerging storage cataegories of memory-based storage (Flash), Big Data, virtualization, and cloud computing. The firm is widely recognized for its blogs, white papers and videos on current appraoches such as all-flash arrays, deduplication, SSD's, software-defined storage, backup appliances and storage networking. The name "Storage Switzerland" indicates a pledge to provide neutral analysis of the storage marketplace, rather than focusing on a single vendor approach.

About Our Partner

The Coraid team is a collective of coders and other creatives led by Brantley Coile. Brantley, inventor of the PIX Firewall and LocalDirector, and founder of the former Coraid, Inc., has over 40 years of coding experience and a 10-year AoE track record, holds the rights to 26 patents, and is a pretty cool guy to share a beer with.

The Analyst

George Crump is the founder of Storage Switzerland, the leading storage analyst focused on the subjects of big data, solid state storage, virtualization, cloud computing and data protection. He is widely recognized for his articles, white papers, and videos on such current approaches as all-flash arrays, deduplication, SSDs, software-definedstorage, backup appliances, and storage networking. He has over 25 years of experience designing storage solutions for data centers across the U.S.