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BACKUP APPLICATIONS - RIP OR ENHANCE?



George Crump, Senior Analyst

An increasing amount of research is indicating that many enterprises are considering a new backup application. Changing out a backup application is no small task. There are new capabilities to learn, new shortfalls to work around and of course, old data to maintain. Eventually this leads many IT Managers to the conclusion that it's better to enhance the backup process than it is to rip and replace it.

The Value Of Sticking With It

Enhancing the backup application to fill in the gaps that it may have can be done with backup virtualization appliances like those offered by [Tributary Systems](#). Backup virtualization is the concept of abstracting the backup software from the backup hardware, similar to how server virtualization abstracts the operating system and application from the physical server.

Enhancing the backup process removes the risks associated with a rip and replace decision. First, most backup administrators can identify many things they like about their application. Keeping the existing backup system means keeping these features as well. There's

also the value in not having to learn a new product and all its new terms, processes and features. This is especially true when it comes to finding gaps in the new product that no one knew were there when the product was evaluated, or at least the right questions were not asked to identify them.

The reality is that there's no backup application that perfectly protects every environment and there is no reason to expect there ever will be. For example, most enterprise backup applications still do not provide native support for IBM iSeries (AS/400) or zSeries (Mainframe) environments, despite the fact that these "legacy" systems continue to enjoy strong support and even growth in the IT communities that use them. Enterprise applications have also been slow to support modern environments like server and desktop virtualization, as well as new incarnations of operating systems and database or email applications. There are also backup applications that support one platform significantly better than other platforms, which means mixed environments that use a single backup system have to put up with these shortcomings.

This lack of a 'perfect' backup application is what has led to the multi-vendor backup software environment that we have today. In reality, unifying behind a single application looks good when drawn on the white board, but seldom translates well to the data center environment. As a result, most data centers often end up with a cycle of consolidation from multiple applications to a single application and then proliferation to multiple backup applications again, as new operating systems or platforms are introduced. Eventually, in almost every instance, the needs of the environment or application outweigh the goal of a single unified application.

Potentially, the single biggest advantage to enhancing the backup application over rip-and-replace is that the backup team does not have to deal with an independent legacy data set. Very few backup applications have the ability to read tape formats from other applications. When a new backup application is selected the old data set has to be maintained for a significant period of time, depending on the company's backup retention policy. This means running two backup applications, at a minimum, in parallel, so that restores from the old data set can be made. In many cases, especially as the data ages, the old backup systems become out-of-date, due to lack of attention. Then, when a restore request from that data set is made, the process often fails because the software has not been kept up-to-date to support the latest version of an operating system. The situation is compounded when the attempt is made to consolidate several backup applications into one platform.

Finally, there is also the financial reality of upgrading to a new backup application. While most vendors offer some nominal trade-in value, very few, if any, offer any discount on support and maintenance. Maintenance and support pricing is almost always a percentage of the full list price, not the purchase price. At an industry standard rate of 25% of the LIST price year on year, even if the new backup application was given away, within four years the organization will have paid FULL RETAIL price for that investment. The competitive trade in value simply isn't worth it.

The combined value of sticking with the backup application or application(s) already in the data center will typically far exceed the cost of enhancing those applications. Investing in a new enterprise backup application is seldom worth it. The flexibility and requirement to support specific platforms greatly outweigh any perceived value in consolidating to a single backup application.

Of course the backup team doesn't want to continue to limp along, nor does the organization want to be exposed to holes in their data protection strategy. So, the decision is often made to look at enhancing the backup process through additional hardware and software. Potentially the best decision is to explore backup virtualization.

Enhancing Backup Software Via Backup Virtualization

Backup virtualization may be the ideal way to bridge the gap between the current state of your backup software and where you would like it to be. Backup virtualization can reduce the backup window, improve recovery performance and make the use of low cost tape manageable for long term savings. All of this happens with little to no change to backup operations or the backup application itself. In that way, it's the exact opposite of a backup software upgrade, a seamless, non-disruptive improvement to operations.

The three most common backup improvements needed are increased performance, reduced complexity and more flexibility. While backup virtualization can help with each of these needs, flexibility continues to drive the search for a new backup application. There is often a desire to add a new application, operating system or hypervisor, or to integrate a legacy platform like iSeries and zSeries into the backup process. There can also be a need for a critical feature within a newer backup application, such as backing up and restoring individual Exchange mailboxes as was common a few years ago. Initially, only a couple of vendors had it, then a few more joined the list; but the implementations were cumbersome. Today, almost every vendor has the capability and most are robust in their implementation.

The problem is that without backup virtualization, each time a new backup application is implemented it comes with a new stack of servers, disk backup hardware and tape hardware. This makes the backup environment more complex with each new application.

Again, backup virtualization abstracts the application from the physical hardware. As a result, new backup software can be bought as a simple application or module in the backup process, not as a "stack" of dedicated hardware and software. This allows the more static backup target to remain fixed against an ever-evolving operating environment. The backup virtualization appliance acts as the negotiator between these two worlds.

Backup Virtualization Architecture

Backup virtualization works by being able to present itself as a variety of virtual backup targets across a wide range of backup applications, simultaneously. The changing physical devices can be in reality, nothing like the constant entity with which they're being represented. They can be a combination of disk and tape depending on what makes the most sense for the data center.

All backups are directed to the backup appliance which is optimized for high throughput data movement to the devices. Data is written in an application-compatible method so that the appliance is not needed for recovery. By putting the backup application software and backup hardware on different upgrade planes, each can be

upgraded or changed without regard to the impact on the other. If a new operating system or application is implemented, one needs simply to select the device type that it supports and the backup virtualization appliance will handle it from there.

Another advantage is that if the hardware is upgraded to a new or even different type of media, then no changes need to be made to the application. This allows for seamless hardware upgrades and means that the backup team does not need to wait for software support for the new devices. It also allows for a quick and easy migration from old media to new.

Summary

Switching backup applications rarely goes smoothly. It almost always involves the compromise of unsupported platforms or lost features in exchange for the dream of a single backup platform. The problem is that the dream is often fleeting. Over time, in almost every data center, new platforms are added or legacy ones increase in importance, and the current single backup application can't provide support. The environment is too fluid to try to create a single software standard. It may be more appropriate to standardize on the less fluid backend, the tape targets. Backup virtualization, as we will discuss in our upcoming webinar "[Overcoming The Top Five Tape Backup Challenges](#)" holds the key to making backups faster, simpler and more flexible.

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