VIABILITY OF AN ENTERPRISE BACKUP APPLIANCE

Including the five features you can't be without

By John Pearring, vice president of STORServer, Inc.

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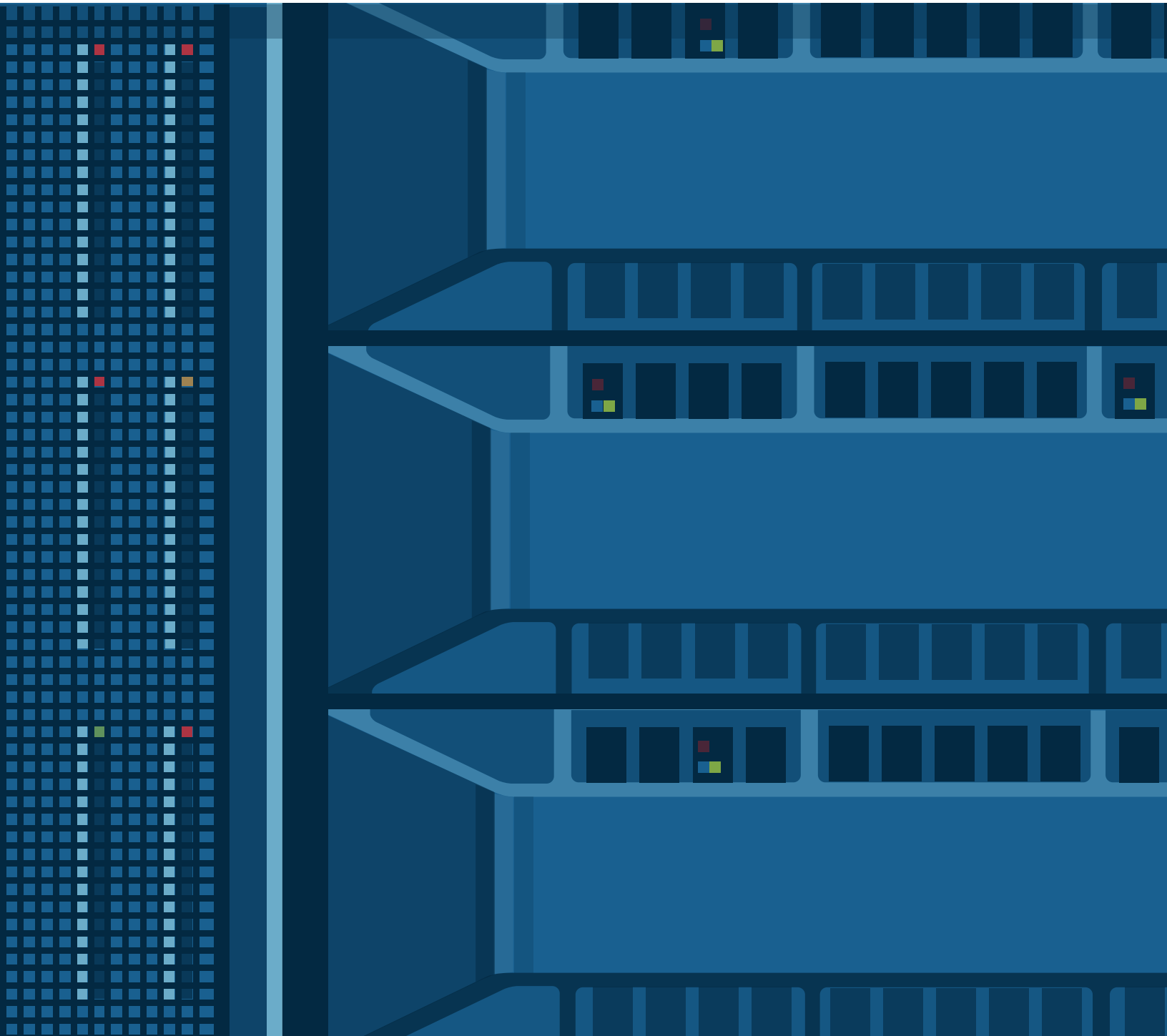

Over the last decade, integrated backup appliances have successfully shown that they are the next evolutionary step in the development of mature data protection solutions. More recently, enterprise-level data protection appliances can justifiably claim that they are the beginning of practical, affordable information management, in the sense of managing the information contained in the data.

Three things demonstrate the viability of appliances as the next step in data protection.

1. An appliance implementation of data protection technologies shortens implementation of a solution to mere days.
2. Appliance configurations compress support and maintenance into quickly serviced and single-vendor events.
3. Enterprise appliance architectures provide stability over time for adaptable environments and the adoption of new, proven technologies.

One thing justifies the claim that enterprise backup appliances now allow IT directors to finally manage their backed up and archived data as the critical information that corporate users at all levels need to have at their fingertips. That one thing is the increased accessibility of backed up data to different sets of users. Rather than just sit in a warehouse with one owner, backed up and archived data can now be viewed and searched in many different ways from any authorized user in the company.

With those advances in mind, then, what comprises an enterprise backup appliance? First, an enterprise appliance is a highly automated, comprehensive and fully integrated, backup, archive and disaster recovery (DR) solution. That solution consists of a single, easy-to-use configuration of hardware and software technologies. Second, an enterprise backup appliance is the automated repository of historical information built for 21st century corporate environments. In no other location can a company so quickly and comprehensively review its corporate information.

The protection of stored data in the previous century was mostly an afterthought. Companies usually printed out hard copies of their data for disaster recovery and manually made several copies of production tapes and/or disks. Such protection could be called adequate. Some folks also stored a hard and soft copy of their data off-site. These people were heralded for operational efficiency. In simpler times, with simpler formats and few regulations, this procedure was an acceptable practice. That's no longer the case.

Now, all data protection functions need to include the following, at the least:

- Backup copies of agreed upon sets of versions
- Archive copies that meet corporate, industry and government retention
- DR copies of all backups and archives in a remote, secure location
- Measurable recovery time and recovery point objectives (RTO and RPO) that direct recovery expectations

RTO and RPO set the timelines and business continuity for a corporate entity. Without expected recovery objectives, data protection is aimless.

This basic list of data protection capabilities lies at the root of cost-effectiveness in an appliance implementation. Without an appliance deployment meeting these four functions, IT shops struggle to maintain just the first bullet. While there are many options and ways to back up and recover data, an enterprise backup appliance can be the best solution for businesses who cannot muster the consistency to pull these functions off on their own.

Corporate goals follow the mission for an industry and market. Computer technology is enlisted to keep the primary purpose of a corporation focused on its mission. Self-constructed IT solutions are only necessary when no automated solution exists.

An appliance eliminates the need to implement commodity bundles, or mere collections of software and hardware components packaged with build-your-own instructions. With so many options in hardware configurations and disparate technologies in software, how can any IT department justify resources and long-term maintenance of a non-hardened data protection solution? The time, resources and financial commitment to develop what an appliance already offers has now crossed the line of effective use of an enterprise operation's dollars and staff.

With that premise in place, this article is intended to guide readers on how to choose the best backup appliance for your business.

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Enterprise or Department Appliance?

Many appliances, as we've noted, perform the basics of backup with a disaster recovery option. An enterprise appliance addresses complex environments and their disparate recovery needs. Complexity means having multiple platforms (Windows, Linux, Unix, etc.), various file types and databases, ranges of users, research and development, virtual machines, fiber connectivity and numerous sites. The size of a customer's data set does not necessarily mean it is "complex." Even a small datacenter may require enterprise capability.

Even non-enterprise environments must at the least perform the four basic goals of data protection mentioned above: backup, archive, DR and RTO/RPO. Enterprise appliances not only address the elimination of single point of failure issues for larger environments, but for scalable and disparate roll-outs of people and corporate information. Consequently, the enterprise nature of an appliance will need to deal with complexities in every area of a business. A non-enterprise appliance typically only services a small operation, single department or remote office, all of which would have small amounts of data and a similar range of user needs.

Hardware and Software Considerations

Backup appliances consist of two primary components: the hardware (server and storage) and the software (data protection engine). These components should already be integrated and operational before they get to your site. When considering enterprise hardware, however, you need flexibility to configure multiple footprints and scalability to address both growth and shifting data concentrations. If your business continues to grow, your enterprise backup appliance needs to be able to scale with it.

The data protection engine centralizes and automates all the functions needed for backup, archive and content management (both discovery and analysis). The software in the appliance should include version upgrades as well as maintenance options that adapt to your IT environment. In other words, along with enterprise-level hardware, the software engine must also provide enterprise-level capabilities.

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Five Features You Need in Your Enterprise Backup Appliance

You'll need the following before selecting a backup appliance.

1 Deduplication technology options

Deduplication is a method of reducing needs by eliminating redundant data. Duplication of files across multiple users and systems contributes to increased backup storage sizes. Using deduplication technology, customers can now copy these duplicated files across a global environment just once for an entire company. Even in a global market, the right deduplication technology allows companies to copy duplicated files just once. This drastically reduces backup storage sizes and allows for data protection storage to shrink (at most) to just three times the active production storage, instead of 50 times the backup storage requirement as offered by outdated solutions. In fact, enterprise deduplication offers byte- and block-level deduplication that assists beyond just file dedupe advantages. Plus, deduplication at the source location helps to eliminate transferring a file, byte or block in a backup event, because that data already sits in the backup or archive space.

Did you know?

In the past, backup technologies could force up to 50 times the backup storage requirement. Now, at most, customers only need backup storage at one to three times their active production storage.

2 Appliance replication features

The copying of active files to a backup location is the foundation of data recovery. This copy can now be accessed internally or at the remote DR location instantaneously. Different forms of replication from one appliance to another should be available. Disk-based backups and high-speed pipes are driving this innovation. Users should expect to have the ability to immediately restore the backup copy directly from their remote copy. While all backup is actually a replication activity, the new focus provides active synchronizing of data by node or machine. A remote appliance, in fact, can also be a local backup appliance as well a remote replication provider.

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Did you know?

The deployment of cost-effective replication technologies are largely accredited to the development of disk-based backup systems.

3 Virtual machine (VM) backups

Since VMs are now a component of everyday IT computing, backup appliances must incorporate both the VM nature of full machine protection and restoration as well as the different treatments of managing VM backups. Thanks to the introduction of VMs, complete machine protection and restoration is one of the key features offered by backup technology. Enterprise backup appliances take advantage of this capability. VMs allow for quick restore and redeployment of a user's machine without complex issues regarding the underlying server or storage components.

Did you know?

Seventy percent of businesses are considering virtualization as a viable option, according to a Symantec Small Business Virtualization poll.

4 Flexible console viewing ability

Typical appliances provide a single console view, but not one that can conform to the needs of each user managing their own data. Consoles help operators and managers steer the dashboard items they need, as well as the policy management and dynamic reporting and alerts. Console flexibility basically provides portal views into the backed up and archived data for every level of user. Console views give operators and managers the ability to visualize the data environment on a dashboard. Your console view must incorporate:

- Dynamic reporting
- Alerts of suspicious or alarming threats
- The ability to show a variety of views into data protection stores and pools

In addition, console views commonly offer a subset of portal access for users through their mobile devices. Presenting real tools from apps to browsers allows the widest range of user access to their own data and takes data protection from a brain-dead bucket of data to an accessible library of both recent and historical information.

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5 Cloud connectivity

Disks and tapes now have a new ally in data protection and recovery – the cloud —with both private and public cloud options. Cloud allows the location of storage to reside in a transparent, remote location without concern for the physical management of the storage on the part of a user. Typically, data moves to the cloud and back in digitized transfer over wide area network (WAN) connectivity, and appliances should have built-in capabilities to take advantage of cloud locations. Cloud solutions offload an off-site, accessible copy to a transparent location. "Public" cloud locations push hardware and storage resources and management to a third party. Even "private" cloud locations, which keep hardware and storage resources in-house, automate delivery of disaster recovery copies. Cloud locations now allow for recovery of complete systems in the cloud without restoring or retrieving data back to a datacenter.

What You Need From the Manufacturer

The most important consideration in regard to the manufacturer is support. Look into the following before making any decisions:

Range

Find a manufacturer that provides end-to-end support to ensure efficiency. Operators and data protection managers should have single access for every element of their data protection solution. This identifies the foundation for a purpose-built backup appliance.

Cost

The cost of support should follow industry expectations of 16 to 22 percent each year for a comprehensive support contract. While actual support costs varies for both hardware and software, the conglomeration of parts and pieces supported by one entity should solve support and maintenance renewal problems at a price similar to multiple agreements. Plus, warranty and registration management should be included in one appliance agreement.

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Diagnostics

This leads to finding the source of the problem and proceeding to fix it. While support and maintenance are typically stovepipe procedures, an appliance begins with full solution diagnostics that includes two important functions:

- Identifying the source(s) of a problem
- Providing a pathway to a resolution

Uptime

Some support issues can take days to fix. Look for support maintenance that provides workarounds during lengthy repair cycles.

Other Key Considerations

- **Positioning:**
  Appliance manufacturers should offer robust feature/benefits technologies, easy-to-use operations and head-to-toe support measures.

- **Financial factors:**
  Weigh the return on investment and cost of ownership (ROI and COO) against the value of your data.

- **Licensing options:**
  You need both machine-based and capacity licensing costs factored into the pricing.

- **Model options:**
  Appliances that offer enterprise options for the larger companies will provide better scalability than small, departmental build-on appliances.

Not all backup appliances - enterprise or small office - are the same. Choose wisely based on the parameters presented here in order to get the best cost, solution and protection for your data.

Find out which STORServer Backup Appliance is right for you.

Use our Solution Wizard http://bit.ly/AppWizard

By John Pearring, vice president of STORServer, a leading provider of proven data backup solutions for the mid-market, selling exclusively through the channel. As STORServer president from 1995–2008, John built the original OEM alliances and e-business infrastructure for the company. Appliance shoppers can use STORServer's Solution Wizard to evaluate which best backup appliance is best for their business.

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