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UNIFYING VIRTUALIZED BACKUP, REPLICATION AND RECOVERY - DELL APPASSURE 5 PRODUCT SPOTLIGHT REPORT

George Crump, Senior Analyst

Data protection solutions that focus on protecting virtualized environments tend to gain a reputation for doing one function well but not performing all the data protection functions well. The problem is that data protection is a holistic practice, so you are only as protected as your weakest link. When backing up virtual machines compromises on protection are often made. To address this slight, the latest release of Dell's AppAssure focuses on no-compromise unification of virtualized stand-alone backup, replication and recovery processes.

AppAssure 5 builds on the prior generations' capabilities of providing near-instant recovery of data directly from backup copies, recovery assurance that provides backup integrity verification at the application level and universal recovery from any VM or server to any VM or server. It adds a new scalable architecture with true global deduplication that allows the product to holistically address enterprise data protection requirements.

New Scalable Architecture

AppAssure 5's primary objective was to massively expand the number of servers and the retention times of those servers. To do this requires a more scalable storage architecture. AppAssure accomplishes this by creating a scale-out storage hierarchy. With each AppAssure server a core storage repository is defined. Within that storage repository, storage locations are defined. Each of these locations can be as large as the Windows 2008 operating system will support (256TB).

Storage locations can come from a mixture of storage suppliers, but all are managed centrally by the AppAssure server. This allows an organization to buy the most cost-effective and performance-appropriate storage for its backup and recovery needs.

Data from backup tasks can be written to each storage location individually or it can be written across the storage locations. The manner in which data is written is largely dependent on how the backup administrator wants to configure backup storage. The environment can scale to 255 storage locations, meaning exabytes in total storage capacity. AppAssure leverages an optimized, multi-core storage pipelining technique to drive the attached storage systems to their maximum rates.

In this way, AppAssure 5 combines the economics and density of scale up storage with an infinite, pay as you grow scale out storage system that's commodity based for maximum cost savings. This is ideal not only to scale backup performance, but also to scale recovery performance. Because of AppAssure's ability to mount and provision data directly from the AppAssure snapshot, the random I/O performance of the hardware device may be more important than with other solutions.

In conjunction with its scale-up / scale-out architecture, AppAssure 5's archiving feature enables long-term data retention. Data can be migrated to different types of storage locations based on age and recovery type. Data that is likely to be used for instant recovery can be stored on higher performance media; as it ages it moves to lower-cost, higher-capacity storage.

True Global Deduplication

Deduplication is becoming increasingly more common as data centers seek a way to keep up with storage growth. Deduplication is not without its challenges though, particularly when it comes to the ability to deduplicate across storage systems. AppAssure 5 integrated deduplication and compression works among servers or clients to take storage efficiency to the next level.

Deduplication can be carried out across storage systems (or locations) as long as they are in the same core storage group. Redundant data on Array A can be kept from being stored a second time on Array B. Now the storage horsepower of each individual array can be fully utilized while realizing maximum storage efficiency. Also thanks to AppAssure changed block tracking backup technology, their deduplication engine does not need to examine as much data as competitive products may need to. Not only does changed block tracking reduce the load on the network, but it also reduces the load on the deduplication process.

WAN Replication

The major benefit of True Global Deduplication is that AppAssure can now very efficiently replicate data to a remote DR site. It can be the core of a managed service provider's offering where subscribers can be set up as remote AppAssure offices and then replicate their data to the managed service provider.

Basic replication was built in to the prior version of AppAssure, but there was a significant amount of additional efficiency to be gained if redundant information between servers could be eliminated. AppAssure 5 takes just that step; redundant copies of operating systems, applications, documents and other data found on multiple servers can be reduced to a single copy and only need to be transmitted across a WAN segment one time.

With this WAN efficiency in place AppAssure 5's ability to support Amazon Elastic Compute Cloud (EC2) delivers incredible value. It allows data centers to leverage cloud storage as a DR location and leverage compute capacity to recover their systems as Amazon EC2 instances. These instances can be accessed using industry-standard encrypted IPsec VPN.

Encryption

AppAssure 5.0 puts an exclamation point on its new wide area capabilities by including encryption technology. This enables safe, secure storage of data and legitimatizes the idea of using a managed service provider to store remote backups.

The Managed Service Opportunity

As mentioned above AppAssure 5.0 provides a unique opportunity for managed service providers that are looking to provide a backup solution to their subscribers or modernize their current offering. The AppAssure feature set provides MSPs an impressive array of capabilities to offer to their customers.

- Repositories can be shared for value focused customers or isolated for security concerned customers.
- Deduplication provides maximum storage efficiencies and again can be isolated per customer or shared.
- WAN Efficiency allows for MSP clients to have a local copy for fast recovery and a DR copy as the MSP facility.
- Live Recovery allows the MSP, with permission, to re-start failed servers in their facility in the event of a customer site loss.
- Enhanced encryption provides safe and reliable remote storage that can be audited without permission.

Conclusion

AppAssure 5 builds on an impressive legacy of providing high performance backup and recovery solutions. It provides AppAssure with the necessary scalability and storage efficiencies to address the needs of the largest of enterprises and it can increase AppAssure software's value to the MSP. Unlike many other solutions it eliminates the need for vendor specific hardware, giving the backup administrator complete flexibility.