

RVA Helps Data Centers “Go Green”

Green Benefits

- Extend life span of tape media
- Avoid premature disposal of tape media
- Minimize tape media quantities – all volumes written full
- Reduce backup and restore power requirements – jobs run quicker
- Decrease backup job frequency – jobs run reliably the first time

Enterprise initiatives to “go green” are evolving from one-off efforts to help the environment by reducing carbon footprints to a fundamental re-examination of corporate energy usage, business processes, material recyclability and staffing. Going green now has a new mission – saving money. As going green becomes part of mainstream corporate culture, attention is particularly focused on IT organizations, where large amounts of a company’s manpower and physical resources are traditionally directed.

“Green IT” is expanding beyond the traditional focus of server energy consumption and data center cooling requirements to include all materials, processes and manpower that support IT operations. As one of the principal responsibilities of IT, data backup and restore, off-site archive and disaster recovery (DR) operations have become a major focus of green IT. With green initiatives transitioning to cost savings, IT administrators are searching for data protection solutions that optimize system performance, reduce waste and require less manpower, yet require minimal capital investments.

Backup, restore and archive systems that use tape to store data are considered the most green approach to data protection operations because tape is a low-power, portable, inexpensive storage solution that is capable of handling large amounts of data. In fact, data retention requirements are driving even greater needs for tape technologies to archive data for the long term. However, with large data volumes, tape drives and tape media can become difficult to manage, introducing a number of variables into data protection operations that too often result in failed backups and/or unreliable recovery events. Up to 80% of backup failures can be directly attributed to tape drives, tape media or the interaction of the two. Effective management of tape drives and tape media is clearly an opportunity to reduce backup failures and recovery errors and minimize processing time. Avoiding repetitive operations and helping conserve power are key green initiatives.

In addition, the lack of a systematic approach to media management often results in tape being retired when it still has useful life or tape media remaining in use until it fails and results in catastrophic data loss. Both scenarios ultimately translate into waste and higher expenses and introduce reliability issues into the backup, archive and restore processes. Effective tape media management would proactively measure the error rate of data being written to tape and alert when rates reach unacceptable levels so media can be retired prior to catastrophic data loss. Effective tape media management could also potentially extend the useful life cycle of tape media, saving money, reducing waste and helping data centers go green.

IT administrators who want to save costs can use features of the backup management application (BMA) to measure backup application performance and identify opportunities to reduce processing times and improve reliability. While optimized backup applications can contribute to green IT initiatives, the full beneficial impact of going green can only be achieved when every aspect of the backup system infrastructure is examined, including physical tape drives, libraries, network and tape media. Crossroads ReadVerify™ Appliance (RVA) does just that – proactively validating the integrity of every component of the tape backup system and providing a simple method for monitoring, validating and reporting on the performance and utilization of tape devices as well as individual media integrity. This information allows users to optimize backup, recovery and archive processes, proactively manage tape media and identify points of error when failures occur.

RVA is a tape system monitoring appliance that installs and configures easily and immediately begins reporting on the health of the backup infrastructure. RVA measures the utilization of each unique drive in the overall backup system and reports on drives that are over- and under-utilized when analyzed against prior performance. The performance of each drive is measured and compared to the theoretical average performance of the drive type, providing a method to tune the system and increase utilization. RVA's data analysis and reporting tools alert users to a potential system imbalance, system configuration issue or problem with individual drives. Proper configuration of data management applications and system infrastructure increases the performance and reliability of operations, minimizing server run times and optimizing the use of storage devices. In addition, during restore events, data can be retrieved more quickly and reliably. Increased efficiencies are measurable and can translate into real savings in backup system operating costs, thus contributing to going green initiatives.

Because data must be kept on tape media for long periods of time, a method is needed to ensure data written to tape remains valid. RVA proactively assesses tape media validity over its effective life, tracks the capability of the backup system to read the media and analyzes the results over time. Results are compared against a user-defined set of policies, users are alerted concerning suspect media and given opportunity to retire media from operations prior to failure. This approach is a vast improvement over traditional tape media management where tapes were either used until they fail or used a fixed number of cycles, based on the tape media manufacturer's recommended life cycle. Both approaches introduce unacceptable error into data protection operations because tapes could be pulled from service prematurely or data could be catastrophically lost when tapes fail. By providing a vehicle to remove error-prone or defective media, RVA maximizes tape media utilization and can reduce media costs, minimizing waste and improving data reliability – all benefits that contribute to going green.

As “going green” becomes a major focus of the enterprise, companies that are seeking a simple, take-action-now solution that pays immediate benefit can choose Crossroads ReadVerify Appliance to optimize backup, restore and archive operations. RVA offers an ideal solution that provides immediate benefit via analytical tools that comprehensively evaluate the entire backup infrastructure to demonstrate measurable efficiencies and improve reliability, leading to energy savings and waste reduction.



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