Paragon Software Group Whitepaper

Paragon SOFTWARE GROUP | the leading storage management experts

PARAGON SNAPSHOT FOR MAC

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EXECUTIVE SUMMARY

What's in this document?

Thanks in part to enhanced usability, convenience, and an abundance of design-specific apps for OS X, Macs have become increasingly popular for content development: photo editing, video production, publishing, etc. Compact-sized Mac laptops are easy-to-carry and offer suitable processing power. Many professionals, who often play significant roles in their companies, use these handy laptops wherever they go for both business and personal needs. Any data-loss would be a nightmare, meaning reliable backups become a must under such circumstances.

When it comes to snapshot-based backup solutions, Paragon Snapshot for Mac OS X shows significant advantages over traditional file-based backup software. This paper highlights the advantages of snapshot-based image backup and recovery solutions for OS X over highly-used but outdated file-based backup apps. Specifically, Paragon Snapshot for Mac OS X technology, as the basis of a snapshot-based backup, has proven its benefits compared to file-level backup, which is utilized in the majority of existing OS X disaster recovery solutions, including Apple's proprietary Time Machine backup. The main advantages to image-based backup include smaller incremental archives, shorter incremental backup and restore procedures, and consistency of recovered data. These advantages translate to real value for customers of ISVs and DR solution providers and increase client satisfaction and loyalty.

«The main advantages to image-based backup include smaller incremental archives, shorter incremental backup and restore procedures and consistency of recovered data»

TARGET AUDIENCE

Independent Software Developers - Do you develop your own backup solution for Mac? You can make it even more robust, increasing customer satisfaction and loyalty, by accelerating backup routines. When disaster strikes and users are desperate to get their Mac back on track, they will be more than grateful to have it performed quickly and easily from snapshot-based backup archives.

Disaster Recovery Solution Providers - Do you represent a vendor of market-proven disaster recovery solutions for businesses of all sizes – particularly SMBs and entities with extensive and complex IT environments? Paragon Snapshot for Mac will help you to increase your target audience with companies whose businesses rely on Macs, i.e. design firms, movie production studios, etc.

SNAPSHOT-BASED IMAGE BACKUPS vs FILE-BASED BACKUPS

Data has been called "the new currency", "the new raw material of business", and even "the new oil". More than ever, people understand the value of data they collect and generate, and rely on mission-critical information systems to drive sales, build relationships and advance their businesses. Whether recovery means simply being able to restore a file inadvertently deleted by a user or a site-destroying event, modern backup systems that eschew file-based approaches provide clear advantages to businesses of all sizes.

The majority of backup solutions for OS X work at a file level. Unlike this approach, Paragon Snapshot for Mac OS X technology brings valuable benefits to backup and recovery routines, which are outlined in detail further in this document.

INCREMENTAL ARCHIVES

Paragon Snapshot for Mac OS X brings additional value to a backup solution through incremental backups. Incremental archives occupy less storage space, while taking a shorter time to produce, and as a result they can be created more frequently to assure that backups are 100% up-to-date. This ensures that any important piece of information is securely saved and easily recoverable in case of data loss, a program error or system failure. Additionally, incremental backups provide consistency for both individual files and groups of files which must remain in sync.

EFFICIENT BACKUP STORAGE

Creative industry professionals worldwide tend to use Macs for their daily tasks of video production, web and mobile design, publishing etc., as there are so many specialized easy-to-use apps for OS X. Designers have to operate with rich media files, which requires they manage data protection and run backups as often as possible, to be able to restore changes in their creative works easily in the event of any failure. However, due to the potential size and frequency of that many backups, it raises concern over a lack of available storage space.

Traditional OS X backup solutions, such as Time Machine, work at the file level. This means that every time an incremental backup procedure is run, all changed files should be saved in their entirety in order to preserve any changes. This is inefficient, as design files often account for a few Gigabytes of storage! Alternatively, Paragon Snapshot for Mac OS X makes it possible to track only the changes that occur in hard drive blocks and save them. Such increments don't occupy a great amount of disk space and allow for more restore points, to stay on the safe side.

RAPID IMAGING

Traditional file-level backup speed is approximately equal to a simple file copy, which is painfully long for large files. Paragon Snapshot for Mac OS X captures the latest file changes to an incremental backup, thus dramatically shortening the image creation process. The incremental recovery points can be created much more often, eliminating potential risks of data loss.

«Recovery from a snapshot-based image of a typical OS X workstation of Paragon Software's QA engineers ran 4 times faster in comparison to a recovery from a file-based backup»

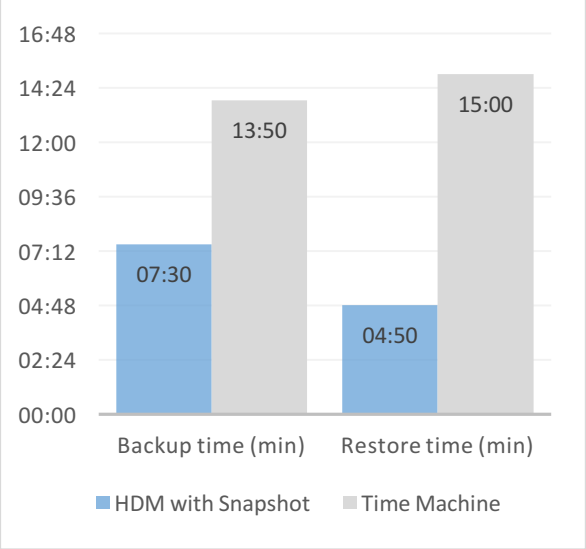
UNSURPASSED PERFORMANCE

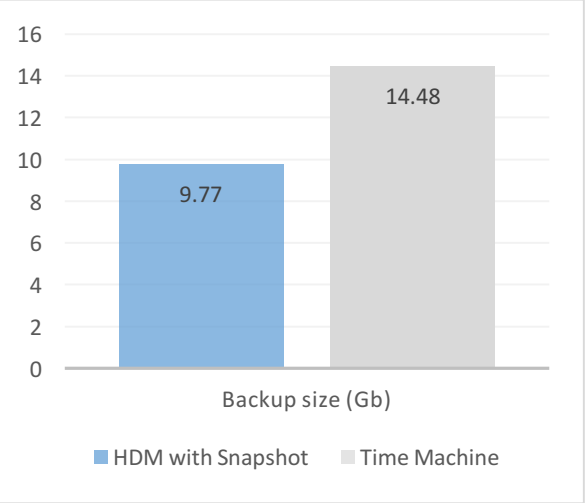
Another important statistic to estimate backup solution efficiency is a Recovery Time Objective (RTO). The lower the RTO, the better the backup software is operating. Many benchmarks tests prove that system restore from a snapshot-based backup takes considerably less time compared to recovery from a file-based backup. This ensures shorter OS downtime and quicker access to required data, which is absolutely critical for businesses and equally important to end-users.

«Paragon Snapshot for Mac OS X makes it possible to track only the changes that occur in hard drive blocks and save them.»

Paragon Software's internal lab tests confirmed the statement. When it comes to incremental backup, recovery from a snapshot-based image of a typical OS X workstation of Paragon Software's QA engineers ran 4 times faster in comparison to a recovery from a file-based backup. Furthermore, the larger the size of an archive, the more notable this difference becomes. Please, refer to the detailed report below.

OS X 10.11 system disk with 12,5 Gb occupied. **Paragon Hard Disk Manager for Mac** with Snapshot *vs* **Time Machine**





SYNCHRONIZED BACKUP OF FILES

Traditional backup solutions copy files in their current state simply one by one in a queue. As a result, a file-level backup archive contains all files at different moments of time, so their states may differ. Users may not be aware of this issue and continue changing particular files that reside within a group of files which require consistency. Some OS X components and applications require groups of files to remain synchronized in time and that's another weak link of file-based backup technologies. File-based backups do not guarantee the consistency for a group of files, compared to sector-level snapshot-based image. The advantage of a snapshot in comparison is, the image-based backup contains changes made at the very moment the snapshot is taken, so all the associated files in the group are in the same state. As the backup is created from the snapshot, all further files changes continue to occur on the hard drive, and are not included in the backup.

IMAGING ANY DISK AREA

Paragon Snapshot for Mac OS X is a flexible solution to create images of any disk area, neglecting the existing disk partitioning scheme and available volumes. This makes the technology reliable and a flexible tool for various innovative projects, where capturing particular disk sector changes at a particular moment in time is required.

«Paragon Software Group has spent the last 20 years developing software to support the data security and storage management needs of businesses of all sizes»

EXPERT SUPPORT

Paragon Software Group has spent the last 20 years developing software to support the data security and storage management needs of businesses of all sizes. Most recently, it has also begun expanding its portfolio of mobile productivity and reference software, further reinforcing its position as a premier provider of business solutions.

Paragon Software Group guarantees highly-qualified integration support by top-level experts, who created the Snapshot technology. They will help to properly set up any ready-made solution so that it takes full advantage of image-based backups. Any issues will be managed gracefully without delays or malfunctions. Product customization services are also offered upon request.

ABOUT PARAGON SOFTWARE GROUP

Paragon Software Group is a leading Backup and Disaster Recovery software providers in the world. Beginning in Europe in 1994, the company started with a focus on hard disk drive management and quickly moved into developing recovery and backup technologies to ensure the security of data for our users. Today, Paragon is a global brand with offices around the world and millions of users in 150 countries. The story continues with thousands of small to mid-enterprise businesses relying on Paragon software products as the foundation of their business continuity strategies and major OEM manufacturers (such as HP, Belkin, WD, Seagate, D-Link, ACER, LG, ZTE, etc.) incorporating PSG technology into their own products – from routers, media players and NAS boxes to tablets, laptops and mobile handsets.

Paragon provides technology to a host of Fortune 500 companies and partners, including Dell, Toshiba, Cisco, HP, Western Digital, Seagate, D-Link, Microsoft, Motorola, Lenovo, Nokia, Philips, and more.