

ESG Economic Validation

The Economic Benefits of Managing Unstructured Data with Cohesity SmartFiles

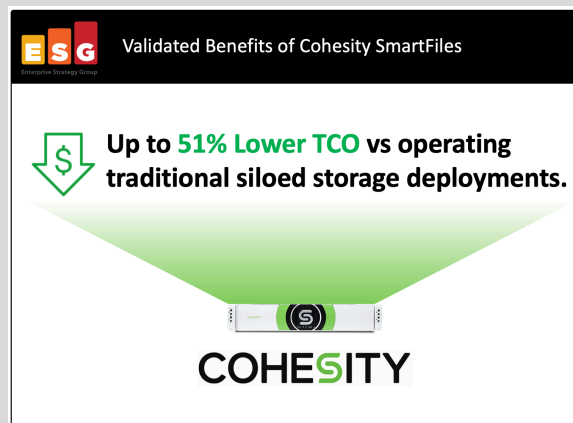
By Aviv Kaufmann, Senior ESG Validation Analyst
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Executive Summary

Businesses have amassed an enormous and growing amount of unstructured data stored in storage silos made up of different technologies and protocols in the data center, at the edge, and in public clouds. Storing, managing, protecting, and deriving value from this data has become a difficult task that is complex, time consuming, error prone, and costly. This places a burden on administrators, limits the value of the data for the organization, and slows business agility.

Cohesity addresses these issues with SmartFiles, an enterprise-class, software-defined, data-centric, multiprotocol file and object solution for managing unstructured data in the enterprise. ESG validated the many benefits that Cohesity SmartFiles has delivered to customers and found that SmartFiles has helped to greatly simplify unstructured data management for organizations while lowering costs, improving operational efficiency, increasing business agility, and reducing risk to the organization.

We used what we learned from these customer interviews to create a five-year modeled scenario that predicts that organizations can lower their expected total cost of storage ownership by up to 51% with SmartFiles versus continuing to operate their siloed storage deployments. We found that SmartFiles can help to avoid CapEx spend, lower power, cooling, and floorspace costs, reduce support and maintenance costs, and free up significant time for administrators. This resulted in an expected return on investment of 354% to 593%.



Introduction

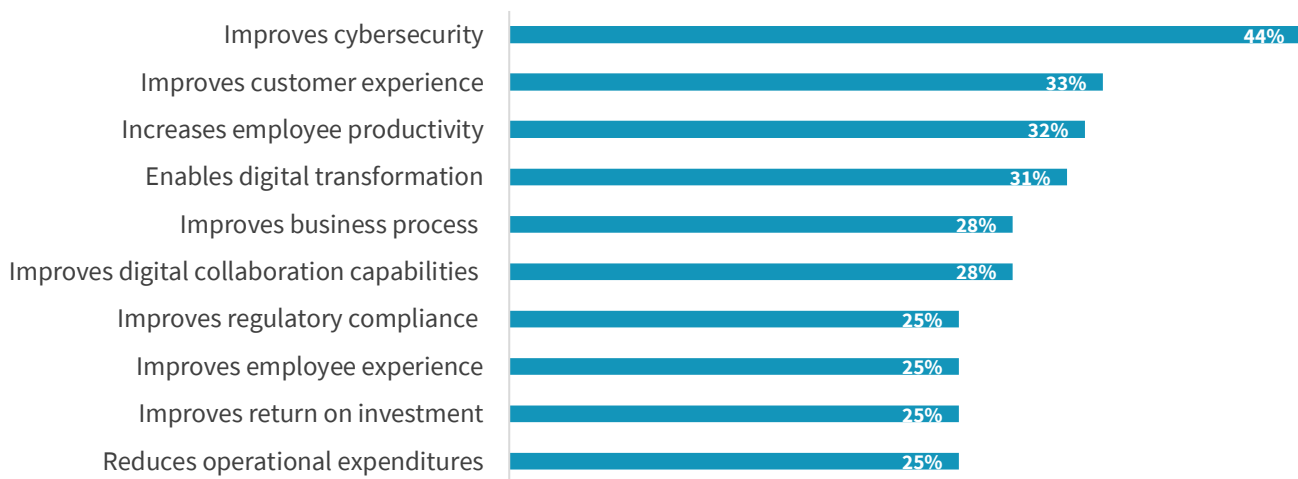
This ESG Economic Validation focused on the quantitative and qualitative benefits organizations can expect from leveraging Cohesity SmartFiles to reduce cost, increase operational efficiency, and improve business agility on-premises, at the edge, and in the cloud. ESG created a modeled scenario that considered the operational benefits of deploying Cohesity SmartFiles and predicted the cost savings for a modeled organization over a five-year period.

Challenges

As unstructured data capacity continues to grow faster than ever before, many organizations continue to store, manage, and maintain mountains of accumulated data in silos of storage that span multiple storage technologies and protocols. This data is often created for a particular use but remains valuable over time. In fact, 93% of organizations have been very successful or somewhat successful at utilizing data to create or discover significant, new revenue opportunities or to increase value in the future.¹ The data is important, but continuing to store, protect, and manage unstructured data across legacy storage solutions is inefficient, time consuming, and costly. It is no small surprise that as organizations look to modernize, operational efficiency remains the most important objective for their digital transformation initiatives.² These concerns are echoed in the fact that the most important considerations in justifying IT investments over the next twelve months include investments that improve cybersecurity, digital transformation, business processes, collaboration capabilities, compliance, and return on investment amongst the others shown in Figure 1.³

Figure 1. Top Ten Most Important Considerations in Justifying IT Investments Over the Next 12 Months

Which of the following considerations do you believe will be most important in justifying IT investments to your organization's business management team over the next 12 months?
(Percent of respondents, N=706, five responses accepted)



Source: ESG, a division of TechTarget, Inc.

Digital transformation also allows users to interact in new ways, provide better and more differentiated customer experiences, and develop new data-centric products and services. Becoming more operationally efficient at managing data is critical to the success of modern organizations. Storage administrators now play a vital role in helping the business make the most of its valuable data by making it securely available to the right person or application in the data center, at the edge, or in the cloud as quickly as possible. Manually managing and migrating data across traditional storage silos and

¹ Source: ESG Research Report, [Data Storage Trends in an Increasingly Hybrid Cloud World](#), March 2020

² Source: ESG Research Report, [2022 Technology Spending Intentions Survey](#), November 2021.

³ Ibid.

technologies is inefficient, time consuming, prone to human errors (such as accidental deletion or exposure of data making it vulnerable to potential cyber-attacks). This has become a roadblock to business agility.

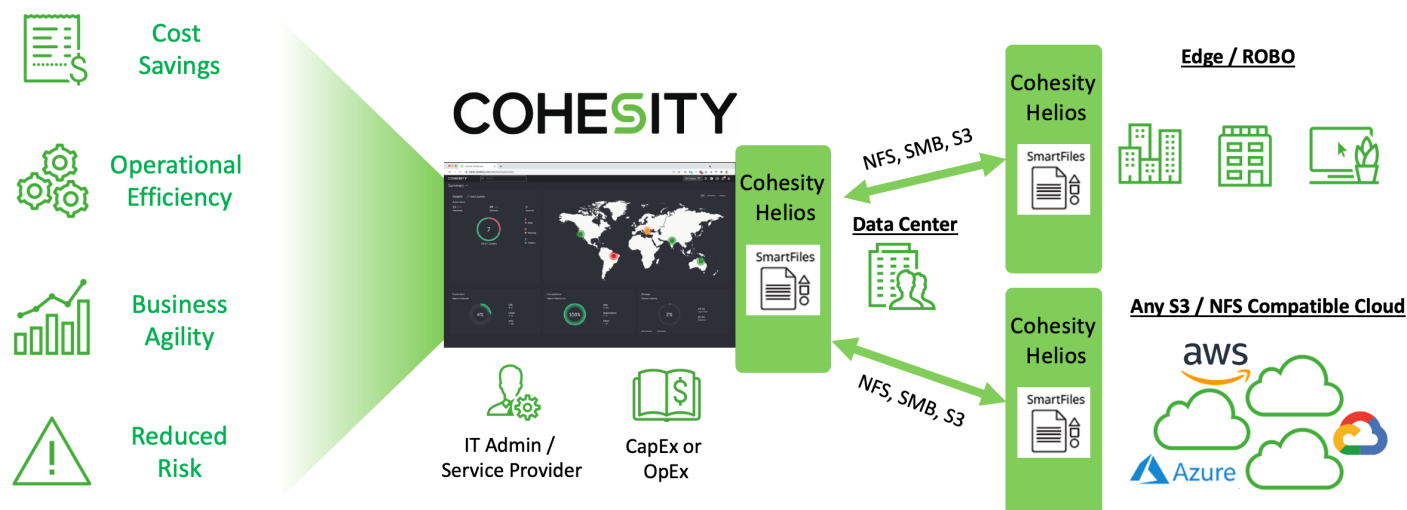
Organizations need a software-defined, data-centric storage solution that helps them to simplify data management, optimize storage efficiency and flexibility, improve visibility and insight into data, reduce risk, and maximize business agility.

The Solution: Cohesity SmartFiles

Cohesity SmartFiles is an enterprise-class, software-defined, data-centric, multiprotocol file and object solution for managing unstructured data in the enterprise. Compared to traditional network attached storage (NAS) solutions, SmartFiles natively supports simultaneous access of data using SMB, NFS, and S3 protocols and offers improved manageability, scale, security, efficiency, and multi-tiered data management. It is a data service that runs on the Cohesity Helios multi-cloud data platform, which delivers a patented distributed architecture for scale-out storage in a pay-as-you-grow model that never requires disruptive upgrades. SmartFiles efficiently moves data, based on pre-defined criteria such as age or frequency of access, from higher-cost storage to lower-cost infrastructure while leaving metadata so the files remain in the same directories. This means that data can be accessed and analyzed wherever it is stored without the need to rehydrate data from other tiers of storage or from cloud storage. Cohesity SmartFiles is a modern converged target for consolidating data silos and securely managing unstructured content and application data, including digital libraries, archives, rich media, video surveillance, big data, and backup data sets.

As shown in Figure 2, SmartFiles software works efficiently on-premises as well as in the public cloud to optimize data capacity to make data visible and manageable. Its multi-cloud capabilities ensure seamless and rapid data mobility and application portability. Wherever data resides, it is always protected and preserved with integrated layers of security features and file integrity functions. Intelligent policy-based management and automation affirm efficient placement, governance, and protection of volumes of data.

Figure 2. Cohesity SmartFiles from Edge to Cloud

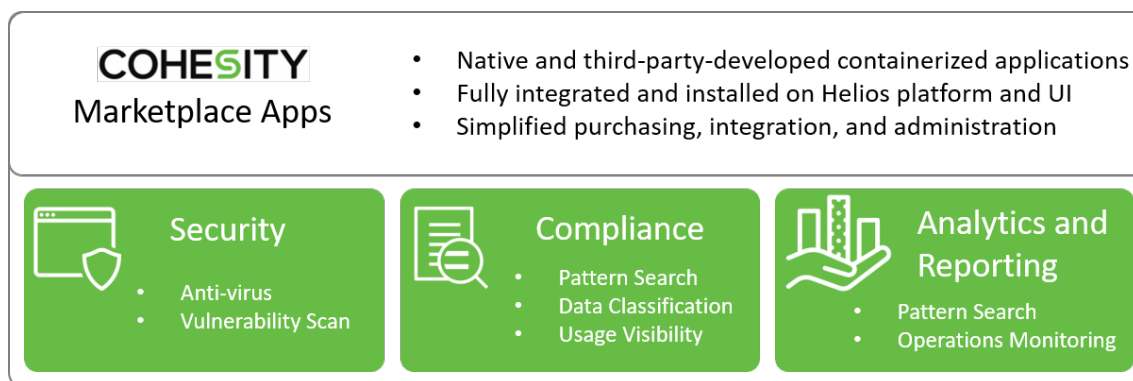


Source: ESG, a division of TechTarget, Inc.

Unlike traditional NAS, SmartFiles is data-centric, not storage- or infrastructure- centric. This means there is no need to move data to applications since applications and data are integrated in the same platform, thereby removing the complexity and cost of running file ecosystem applications for file environments. Cohesity Marketplace applications and machine-learning-assisted management provide intelligence and ease of management, which separate SmartFiles from traditional scale-out NAS appliances.

The Cohesity Marketplace offers free and licensed apps from Cohesity and leading data security, compliance, and business intelligence vendors. Marketplace apps have UI-level integration within Cohesity and allow IT teams to access and control applications from within the Cohesity UI (see Figure 3).

Figure 3. Cohesity Marketplace Apps



Source: ESG, a division of TechTarget, Inc.

Using AI-powered cybersecurity and built-in governance capabilities, SmartFiles offers a holistic approach to protecting against ransomware attacks, discovering cyber-vulnerabilities, detecting attacks in progress, and responding and recovering quickly from ransomware and other emerging cyber-threats.

SmartFiles is designed on a secure platform with built-in multitenancy with strong QoS support, data isolation, role-based access control, data at rest and in-flight encryption, and separate encryption keys. SmartFiles is compliant with leading standards. Unlimited snaps and clones and immutability with DataLock provide advanced protection against ransomware and other potential malicious attacks. Furthermore, the Cohesity DataGovern data security and governance service will integrate with SmartFiles and uses AI/ML to accurately discover sensitive data, meet compliance requirements, and detect suspicious activities based on usage patterns.

ESG Economic Validation

ESG completed a quantitative and qualitative economic analysis of Cohesity SmartFiles. Focus was placed on the operational efficiencies and economic benefits organizations can expect when leveraging Cohesity SmartFiles in the enterprise or cloud environments.

ESG's Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages ESG's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. ESG conducted in-depth interviews with end-users to better understand and quantify how Cohesity SmartFiles has impacted their organizations, particularly in comparison with previously deployed and/or experienced NAS storage solutions. The qualitative and quantitative findings were used as the basis for a simple economic model showing the cost benefits, data protection, and operational efficiencies gained by deploying Cohesity SmartFiles.

Cohesity SmartFiles Economic Overview

ESG's economic analysis revealed that Cohesity SmartFiles provided its customers with significant savings and benefits in the following categories:

- **Cost Savings:** SmartFiles helped to lower storage costs by consolidating data onto more efficient and massively scalable storage systems, retiring older hardware, and effectively automating data lifecycle management.

- **Improved Operational Efficiency:** SmartFiles reduced the effort required to manage data by reducing the number of management interfaces, greatly simplifying management tasks, streamlining workflows, integrating applications, and intelligently automating information lifecycle management (ILM).
- **Improved Business Agility and Reduced Risk:** SmartFiles provided faster identification and access to archived data, enabling improved business agility while reducing risk through improved security, availability, and compliance.



Cost Savings

SmartFiles provided cost savings by enabling the flexibility to match workload, capacity, and cost requirements with a range of storage infrastructure choices. Data deduplication, compression, and small file optimization minimized required storage capacity without impacting performance. Simplified moving of infrequently accessed content from expensive tier-1 storage to lower cost storage also assures investment protection. Some areas of cost savings include:

- **\$/GB Savings:** SmartFiles helped organizations to reduce the overall cost of storage by offloading cold and archived data off of flash, hybrid, and NAS hardware onto more cost-effective storage without negatively impacting time to data identification and access. This helped teams to free up capacity on production systems (delaying capacity expansion) and decommission older/less efficient NAS storage systems, cloud gateways, backup software, and tape backup solutions with high operational costs.
- **Consolidation:** ESG found that SmartFiles allowed businesses to consolidate data that used to reside across many different storage systems, technologies, and namespaces into a single, unified namespace that could be easily managed, indexed, searched, analyzed, and optimized. In addition, businesses benefited from improved data efficiency due to Cohesity's global data reduction, snapshot, and cloning technologies that we validated to provide up to 55% more capacity savings than alternative solutions. Finally, organizations felt that Cohesity provided them with a much more scalable solution compared to their previous scale-out NAS solution.
- **Included Software and Features:** The built-in, value-added software provided by Cohesity Helios with SmartFiles allowed organizations to eliminate some storage software licenses or avoid investments in point solutions (like intelligent tiering, security and compliance tools, replication, and other data protection add-ons). Native applications, including ClamAV (anti-virus), Spotlight (global content search), Insight (file audit), and other containerized applications, provide added value at no cost, while validated third-party apps are easily available through the Cohesity marketplace. An SDK allows for creation of customized applications.
- **Price Flexibility:** Cohesity Helios and SmartFiles is a software-defined solution with no upfront capital expenses (CapEx), offering a flexible subscription-based pricing model based on capacity. Organizations were able to flexibly decide on the new or existing on-premises or cloud infrastructure to deploy in order to give them full control over cost and capabilities. SmartFiles provides the flexibility to move between private cloud, hybrid cloud, and multi-cloud storage offerings without the need to invest in data services or the risk of being locked in to one vendor.

“Our storage costs dropped by more than 70% after we implemented Cohesity SmartFiles to manage data lifecycles.”



Improved Operational Efficiency

As businesses struggle with rapidly growing volumes of unstructured data, the need to optimize and simplify data management becomes more critical. By introducing SmartFiles into their data center or cloud environments, administrators noted that operational efficiency was greatly improved. Cohesity helped to save organizations time and improve processes through:

- Management Simplicity:** ESG found that SmartFiles was easy to deploy and made it simple and quick to migrate data without requiring complex training for administrators. SmartFiles provided a single consolidated platform for data protection, files, objects, dev/test, analytics, and cloud integration that required no disruptive upgrades. Organizations reported that they were able to free up to 60% to 80% of their time by consolidating operations into a single and intuitive management interface, managing data in the cloud, at the edge, and in the data center through policy-based actions with SLAs, with quick searching for VMs, files, and objects aided by automated global indexing and Google-like global content searches. Administrators reported that they were able to save time by providing multiprotocol access to the same data using unified sets of permissions. The time saved by administrators enabled them to be more proactive and allowed them to provide faster response to the needs of the business when required.

“With Cohesity SmartFiles, we gained full visibility into our data as well as frequency of acquisition so we could efficiently move cold files to lower-tier storage while appearing to still be on top tier.”
- Streamlined Workflows:** One of the most noticeable benefits reported was that SmartFiles helped organizations to streamline workflows that involved searching for, providing access to, or restoring data for individuals across the organization. While these workflows previously involved opening an IT ticket and took up to a week to complete, administrators could now keep the business operating at speed within a single phone call, helping to restore deleted or compromised files, objects, and VMs, or identify useful and related project information that end-users did not know how to find. In addition, customers reported significantly less time spent dealing with backups, security, and compliance. Administrators were also able to automate some of the more repeatable workflows with the use of the Cohesity API to remove bottlenecks introduced by manual activities and interactions and quickly leverage marketplace integrations to solve new and existing business requirements.
- Operational Intelligence and Insight:** Customers stated that, by consolidating all of their previously siloed data with SmartFiles, they achieved a much-improved operational view of the organization’s data from a view that was disaggregated from the application. This new insight allowed for much simpler monitoring and predicting of capacity requirements and made it possible to provide globally efficient data-driven services at scale while making well-informed decisions to improve the cost effectiveness, security, and compliance of data regardless of where and how it was currently stored, located, or being accessed from.

“The visibility and insight that we got from Cohesity allowed us to identify and educate users about the data and then take action to contain sprawl.”
- Intelligent Information Lifecycle Management:** SmartFiles can greatly simplify ILM for administrators through automated data tiering that can automatically age data from higher-cost NAS storage systems to more cost-effective storage and even archive to AWS S3 storage in the cloud. This built-in ILM and NAS tiering capability

allows for greatly simplified scalability and offloads many of the decisions and manual work previously required by administrators to migrate data and permissions between systems and locations.



Improved Business Agility/Reduced Risk

Data-driven organizations require that information be made available for use in minutes rather than days while their data remains in compliance and is prevented from being compromised by internal and external threats. Since deploying SmartFiles, organizations reported significant improvement in business agility and reduction in risk to the organization. ESG found that SmartFiles delivered these business benefits:

- **Faster Business Response:** Every organization that we spoke with reported that SmartFiles provided them with a very visible benefit to the business as a result of being able to provide faster access to backups, VMs, objects, and files. This ranged from saving days of time on a project by being able to locate and provide access to previous architectural plans in minutes to directly saving lives by providing timelier access to patient images and information on the hospital floor. An accidental deletion of critical data that previously took nine hours to restore was reduced to minutes with Cohesity SmartFiles.

“SmartFiles has been a big part of our success. We had questions on how we were going to move things off of our legacy devices. Cohesity provided the migration path and made it very easy to pivot.”

limited scalability, and many of these operations had previously interrupted business continuity or took up to a few weeks to accomplish. By providing organizations with faster access to storage resources and giving them the ability to quickly pivot storage strategies, SmartFiles enabled organizations to quickly react to the changing needs of the business and immediately act when new opportunities arose. These organizations reported that they were also able to gain more insight from their data and find new ways to make it more valuable to the organization internally or monetize it externally.

“Ransomware incidents used to take us two to three weeks to find and remedy. With Cohesity, we are protected in advance and can now identify, purge, and restore in less than two hours, which includes all of the time to work with the end-user.”

- **Reduced Risk:** SmartFiles helped administrators sleep better at night knowing that their data was secured, available, and in compliance. The previous NAS- and tape-based archive solutions that were used were far more complex and costly to operate, and the manual processes used to backup and restore data were time consuming and error prone. SmartFiles built-in replication, end-to-end encryption, integrated virus protection, and WORM immutability helped to protect organizations from data loss, ransomware, and other potential threats while automation reduced the risk of human error. Third-party-developed applications on the Cohesity Marketplace further improved compliance and security response times. Customers reported immediate improvements in identification of malicious issues and much faster recovery times, resulting in reduced risk to the organization.

“Files that used to take us half a day to find and recover for business users now take only five minutes with SmartFiles.”

- **Faster Time to Value:** By disaggregating the data location and storage infrastructure from the application, SmartFiles provided faster time to value for organizations by helping them to migrate, secure, protect, provide access and services to data, and rapidly scale storage capacity when it was needed quickly and without disruption. The traditional NAS storage strategies that they had previously used had

ESG Analysis

ESG leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create a five-year TCO/ROI model that compares the costs and benefits of Cohesity SmartFiles against the costs and benefits of continuing to store files and cold data across a variety of siloed storage devices. ESG’s interviews with customers who have recently made the transition, combined with experience and expertise in economic modeling and technical validation of Cohesity SmartFiles, helped to form the basis for our modeled scenario.

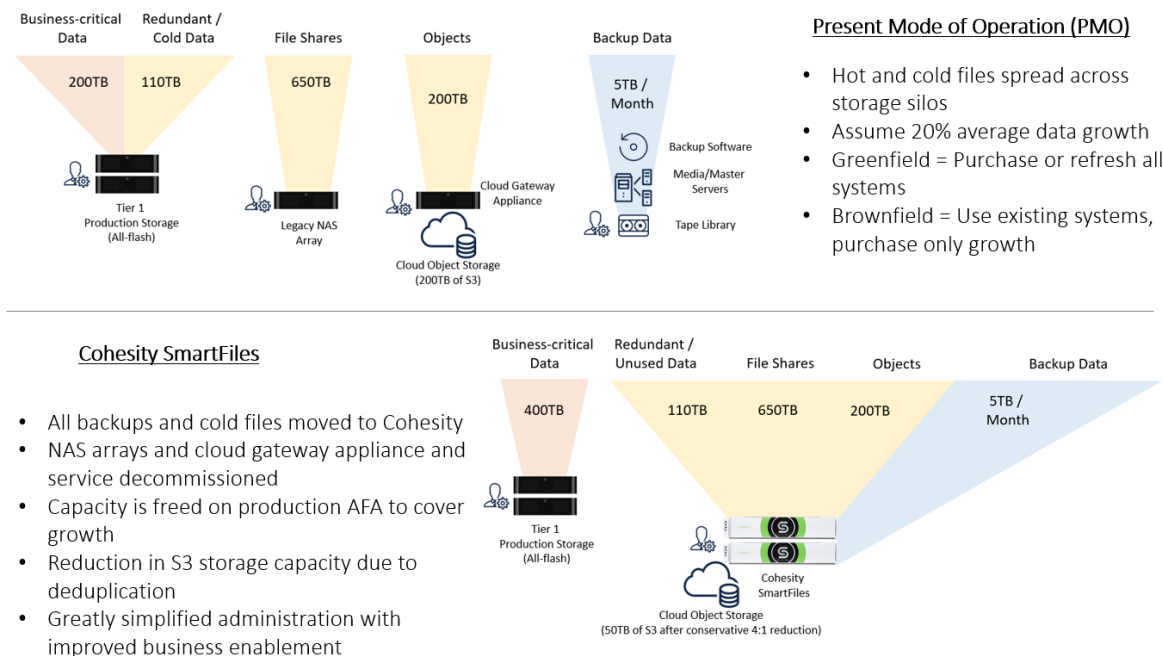
ESG created a modeled scenario of a typical organization managing 1.16PB of data. ESG assumed the organization currently operated a tier-1 flash storage for business-critical workloads (200TB of databases and 110TB of cold data), several tier-2 NAS arrays (650TB of file shares and cold data), 200TB of objects stored in S3 cloud storage, and a tape-based backup/archive solution archiving 5TB of data per month. Our model included an assumption of 10% annual growth for business-critical workloads and a 20% annual growth for unstructured data. We then modeled the expected costs, including the cost of hardware and software acquisition, cloud storage and subscription costs, support and maintenance, and operational expenses (power/cooling/floorspace) and the expected administrative costs to manage and maintain storage and provide file-related business services. We modeled the costs for the current environment (PMO or “Present Mode of Operation”) for both a **greenfield** scenario (net-new purchase or complete refresh scenario) and a **brownfield** scenario (continue to operate and grow the existing infrastructure). Finally, we modeled the expected costs to solve the same set of business needs by consolidating files and cold storage onto Cohesity SmartFiles. Figure 4 compares the PMO scenarios to the Cohesity consolidation scenario.

Why This Matters

Organizations amass a large quantity of files and cold data across many siloed storage devices. Managing this data and providing timely access to their files has proven to be costly and a roadblock to business agility.

Cohesity SmartFiles enabled organizations to consolidate their files and cold data onto a more cost effective and simpler-to-manage solution while greatly accelerating the time to find and retrieve data for the business from days or even weeks to minutes—helping to speed time to value and positively impact revenue.

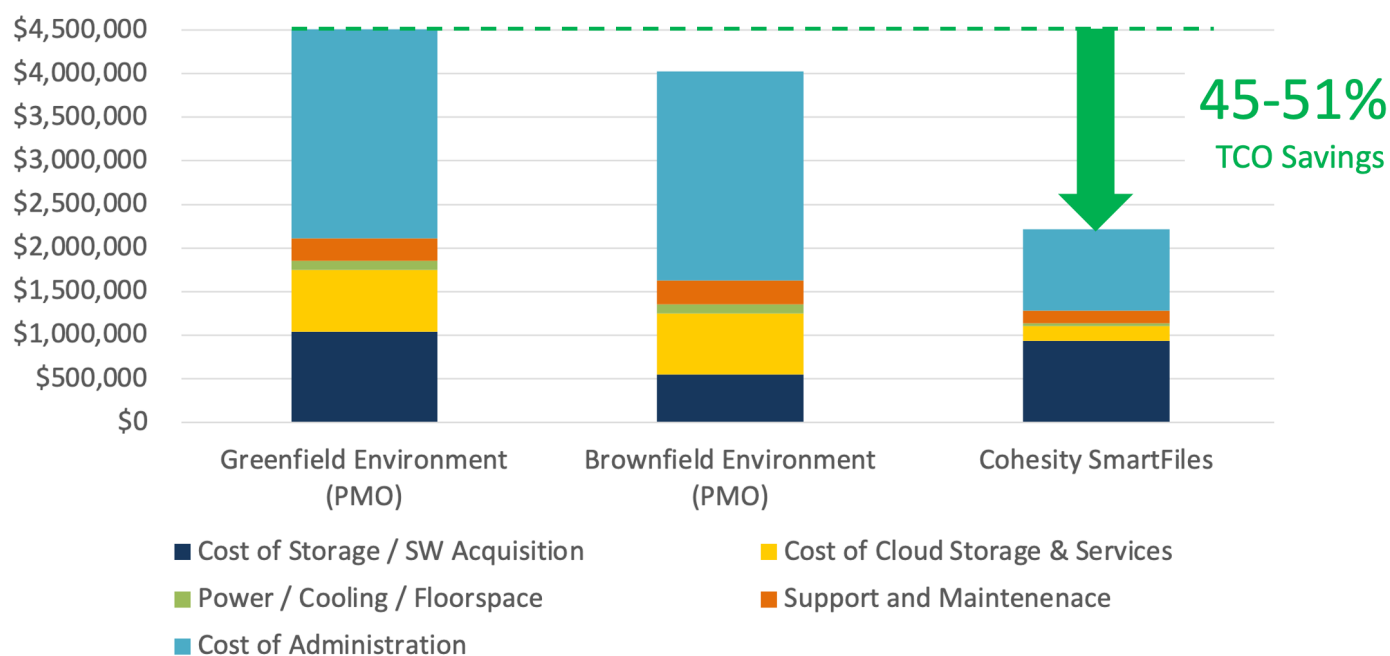
Figure 4. Scenarios Compared in ESG’s Analysis



Source: ESG, a division of TechTarget, Inc.

We found that, by consolidating files and cold storage onto Cohesity SmartFiles, the organization could clear enough space on their tier-1 storage array to handle growth and decommission their aging NAS arrays, tape backup solution, cloud gateway appliance, and cloud gateway service. Our analysis showed that, by consolidating with Cohesity SmartFiles, the organization could lower the expected storage-related Total Cost of Ownership (TCO) by 45% to 51% over a five-year period. The result of our analysis is shown in Figure 5.

Figure 5. Cohesity SmartFiles Five-year TCO Model



Source: ESG, a division of TechTarget, Inc.

The above analysis includes:

- 10% Lower upfront cost of storage, software, and appliances.
- 76% Reduction in cloud spend (reducing S3 storage capacity and eliminating cloud gateway service).
- 75% Lower Cost of power/cooling/floorspace through storage consolidation and reduction in footprint.
- 45% Lower cost of support and maintenance with fewer contracts to manage.
- 61% Reduction in cost of administration through consolidation, improved visibility, and functionality.

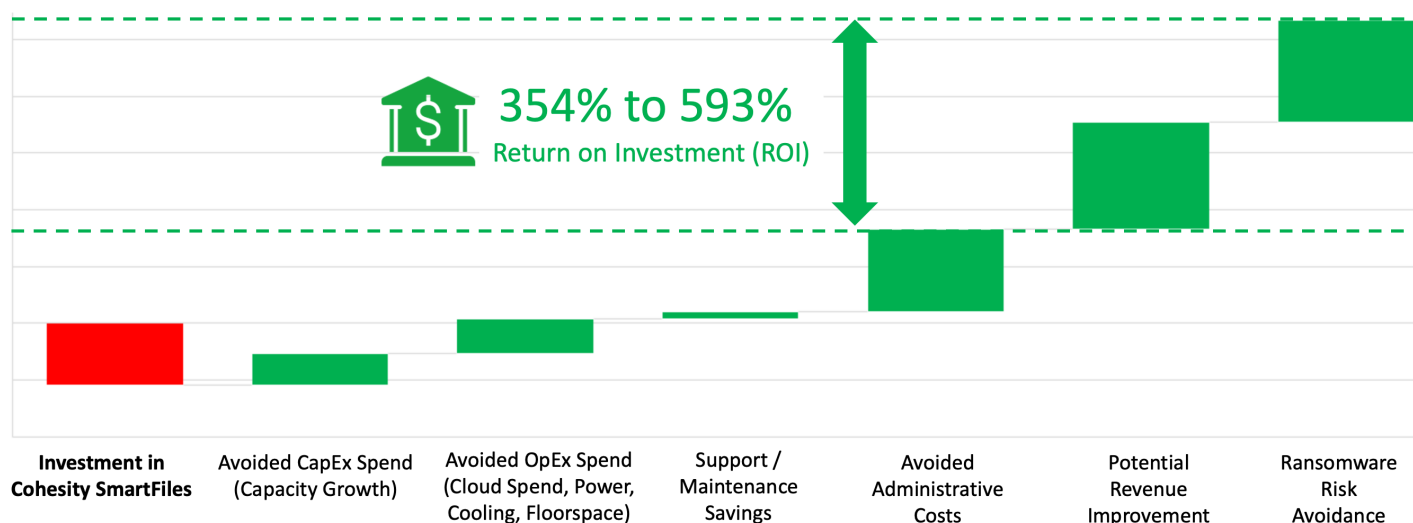
ESG also modeled the expected impact to revenue that Cohesity SmartFiles can have on a data-driven organization where quickly finding files and file sets can have a large impact on business. Examples of this include a project-based business such as a design or architecture firm, law or publishing company, hospital imaging services, software R&D, etc. Our conservative analysis predicted that a \$25M company with 300 projects a year could produce an additional \$1.88M in revenue by improving the efficiency of a small percentage (10%) of projects that would be expected to be impacted by up to a week waiting for required files to be found and made available to the project stakeholders.

In addition, we estimated the expected cost of dealing with ransomware incidents that could potentially be avoided by earlier detection with AI-based alerts and quicker remediation with SmartFiles. By detecting and remediating ransomware in only a few days instead of up to 45 days, SmartFiles allows the organization to restore the state of the affected solution

before many backup retention policies have expired. Based on numbers published by IBM reporting data collected by the [Ponemon Institute](#),⁴ our calculations considered the average probability of a ransomware breach and the expected total impact of a successful breach. We estimated that SmartFiles could help avoid up to \$1.8M over the 5-year period.

Because impact to revenue and risk and cost of ransomware events would vary greatly between businesses, we calculated the expected return on investment both with and without the expected revenue improvement and ransomware avoidance costs. As shown in Figure 6, the net result was a return on investment of 354% (TCO savings only) to 593% (TCO savings and revenue impact).

Figure 6. Cohesity ROI



Source: ESG, a division of TechTarget, Inc.

Issues to Consider

While ESG's models are built in good faith upon conservative, credible, and validated assumptions, no single modeled scenario will ever represent every potential environment. ESG recommends that you perform your own analysis of available products and consult with your Cohesity representative to understand and discuss the differences between the solutions proven through your own proof-of-concept testing.

The Bigger Truth

As data-driven businesses embark on digital transformation initiatives, it is critical that they address the complexity and inefficiency around unstructured data. Cohesity SmartFiles help organizations achieve simplicity and operational efficiency in three ways: First, SmartFiles abstracts the data from the underlying infrastructure, allowing all data to be managed in a single interface and namespace across on-premises, the edge, and clouds. Second, data services are added, allowing all data to be efficiently stored and fully indexed regardless of where it is stored. Finally, built-in intelligent automation and visibility reduce the complexity of data management, and built-in, third-party, and custom-built applications help to provide much improved data availability, security, and compliance.

When we spoke with Cohesity customers, they had initially looked at Cohesity as a modern replacement for their legacy backup solutions. But they were all pleasantly surprised by the benefits that they gained by using SmartFiles. SmartFiles helped customers to lower storage costs by consolidating data onto more efficient storage systems. The effort required to

⁴ Source: IBM Security, [Cost of a Data Breach Report 2021](#), July 2021.

manage data was reduced with a single management interface, profile-based management tasks, streamlined workflows, integrated applications, and intelligent automated ILM. Finally, SmartFiles provided faster identification and access to archived data, enabling improved business agility while reducing risk through improved security, availability, and compliance.

Our models predicted that SmartFiles could help lower the expected storage-related TCO for an organization by 45% to 51% over a five-year period. Savings were provided by retiring legacy systems, delaying purchases of storage for growth, reducing storage footprint, and greatly reducing administrative efforts. If your organization is looking to derive more business value from your unstructured data while reducing costs and freeing up resources, ESG recommends that you give Cohesity SmartFiles serious consideration.

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