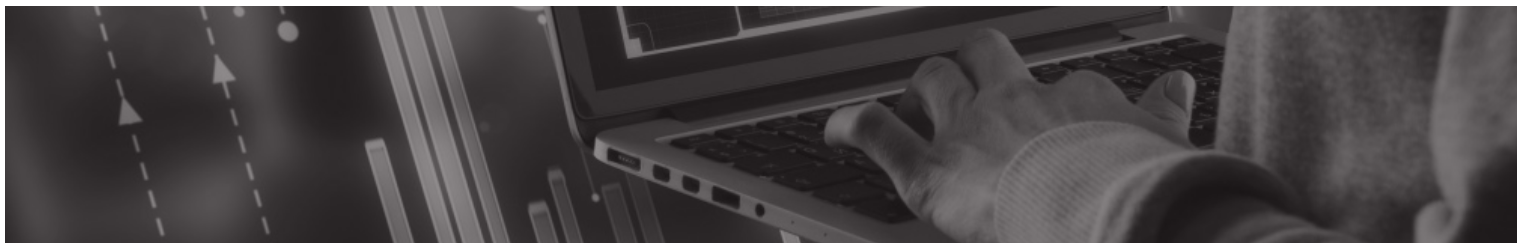


**FLEXIBLE AND  
COST-EFFECTIVE BACKUP  
STORAGE SOLUTION  
WITH RANSOMWARE  
PROTECTION PROVIDED  
BY STORONE**



The State of Georgia Department of Labor's (DOL) Data Protection Team, led by Steven Lien, an experienced Enterprise Storage/Virtualization Engineer, encountered storage challenges when their existing appliance ran out of space. After investigating options such as Data Domain, Exagrid, and Dell, they ultimately selected StorONE as their backup environment. This case study explores how StorONE provided a solution that helped the department overcome storage challenges, enhance backup and recovery times, and provide a flexible solution that goes beyond traditional backup or backup-only appliances.



## CHALLENGES:

The DOL's backup environment was over-utilized, leading to too many jobs and inflexibility. They decided to move away from their appliance approach and reached out to StorONE for a solution.

The DOL found it difficult to achieve a promised 20:1 dedupe ratio due to their data sets. StorONE helped the DOL realize that with Commvault deployed, they could still maintain an adequate dedupe ratio, and save money by not having to spend money on hardware and software dedupe.

StorONE also gave them better control, flexibility, and visibility at a lower cost. The backup servers were also in need of faster storage for metadata and would have had to purchase SSD drives for the servers to process the backup jobs. Storage solutions that lack immutable snapshots for ransomware protection face a number of challenges, including:

- **Data Corruption:** Hackers can encrypt, modify or delete important data, resulting in data corruption, making the data unusable.
- **Time-Consuming Recovery Process:** Without immutable snapshots, the recovery process is time-consuming and complex, as admins will need to manually identify the files that have been infected or corrupted and restore them from backups.
- **Data Loss:** In the event of an attack, it is possible that data loss may occur, making it difficult to recover the lost information.
- **Encrypted backups:** If backups were impacted by hackers during a ransomware attack, it could render the organization's ability to restore critical data useless. Ransomware attacks are designed to prevent access to data, so if backups are also inaccessible, the organization may have no choice but to pay the ransom to regain access to their data. Additionally, even if the organization does pay the ransom, there is no guarantee that the hackers will actually restore access to the data. This underscores the importance of having secure, immutable backups that are kept separate from the main network to ensure data can be restored in the event of a ransomware attack.

Hackers can impact storage solutions by accessing the systems through vulnerabilities in software, exploiting weaknesses in security protocols, or using social engineering techniques to gain access to user accounts. Once they have gained access to the system, they can encrypt, modify or delete data, potentially causing significant damage to the organization.

Backup servers were running slow and the backup jobs were taking longer and longer to complete. The backup software really required each of the servers to have SSD drives in the servers and place the metadata on the SSD drives to improve performance. With a backup only appliance this was not possible and they would still be faced with the slowness of the backup servers.

## SOLUTION:

StorONE's cost-effective, flexible, and versatile solution allowed the DOL to save on hardware and storage costs. The ability to snapshot and replicate data was impressive, and the CLI offered improved control and visibility into the storage environment.

The solution provided more control, visibility, and manageability for the DOL, allowing them to connect different protocols and use fiber channel backend. StorONE's vRAID provided better efficiency and performance than their other existing Dell storage arrays.

The StorONE solution provided a comprehensive ransomware protection strategy while maintaining flexibility for the DOL. By utilizing Virtual Storage Containers (VSC) and StorONE immutable snapshots, the backup metadata and data were protected from potential ransomware attacks. The DOL connected their slow backup servers to the StorONE system over Fibre Channel and provisioned VSCs for the backup metadata, placing it on the SSD tier. The granular data protection provided by StorONE snapshots allowed for a 360-degree protection strategy, including snapshot locking features provided by StorONE. The DOL was impressed by the StorONE platform's flexibility, which enabled them to use it for more than just backups or a backup-only appliance.

“

**By picking StorONE we have more control and visibility over the storage and can use it for more than just backup, unlike backup appliances, which are single type solutions.**

Steven Lien, State of Georgia Department of Labor

The StorONE solution's future-proof capability allows the DOL to leverage its flexibility and adapt to any protocol and storage media in the future.

## IMPLEMENTATION:

Mr. Lien was involved in the implementation and learned about the physical layout and connectivity of the storage. The department had existing network configuration issues, which were resolved with the help of StorONE's team, this calls out the outstanding support of the StorONE team. The department purchased two Seagate hardware systems, one for the central office and one for disaster recovery.

“

**I was blown away by the StorONE replication technology and how easy it was to replicate, failover and fail back. This is something that our current platform could not do as they must replicate everything all over again in order to fail back. This was most impressive.**

Steven Lien, State of Georgia Department of Labor

StorONE's optimized data placement automatically maximized performance, resiliency, and cost-efficiency. Despite some challenges with backup admins putting more retention on backups, the DOL avoided having to buy more hardware by using StorONE's solution for their backup use case.

With StorONE's snapshots, the DOL implemented ransomware protection for the backup Virtual Storage Containers (VSCs) and metadata VSCs for the backup servers. The solution includes granular snapshots, which can be taken as often as every 60 seconds, immutable snapshots by default, Multi-factor authentication (MFA), and anomaly detection features. This complete ransomware protection strategy offers 360-degree data protection, enabling quick and secure data recovery from any point in time. Additionally, the replication features allows for instant recovery from any location.

“

**By standing up StorONE as a disaster recovery configuration we can be more granular with RPO and replication policies by utilizing Commvault and AUX copy processes, this is more efficient than having a backup appliance as it is a black box where backups are sent.**

Steven Lien, State of Georgia Department of Labor

## BENEFITS:

StorONE's backup solution was a cost-effective and flexible choice for the DOL's needs, offering improved control and visibility into the storage environment. Its ability to connect to different protocols, unlimited snapshots, and replication of data, set it apart from other solutions. The DOL experienced improved performance with StorONE's cacheless architecture and vRAID. The use of Virtual Storage Containers (VSC) allowed the DOL to utilize their data platform for multiple use cases while virtualizing connectivity and media, with specific settings for raid, snapshots, and replication for each storage container.



- **The DOL realized a 57% cost savings** as compared to competing backup solutions. Mr. Lien said ***“Backup appliances would have cost us more money than our production storage. That should not be the case, with StorONE we can realize these savings immediately.”***
- The DOL saw **60% better performance due to Direct-Write Cacheless Architecture** vs. having their backup servers on the competition storage platforms and moving SSD's into each server independently.
- The DOL saw **35% better capacity utilization due to VSC, vRAID, snapshot and Auto Tiering** features in the StorONE solution.
- The DOL is confident that the StorONE solution provides them a 100% future proof for unknown future workloads by virtualizing the hardware and providing all protocols in a single data platform powered by the StorONE engine. This was realized when they moved their backup servers to StorONE and saw immediate performance improvements.

## CONCLUSION:

In conclusion, StorONE provided the State of Georgia, Department of Labor a cost-effective, flexible, and versatile solution to their storage challenges. By utilizing StorONE's Virtual Storage Containers (VSC) and immutable snapshots, the department's backup metadata and data were protected from potential ransomware attacks. The StorONE solution provided a comprehensive ransomware protection strategy while maintaining flexibility for the department. StorONE's cacheless architecture, vRAID, optimized data placement, and differentiated snapshots provided better efficiency, performance, and capacity utilization than their existing storage solutions. The department experienced improved performance, capacity utilization, and a 57% cost savings compared to competing backup solutions. The future possibilities of other projects, such as providing file or object storage, make the StorONE platform a future-proof choice for the department's storage needs. With the outstanding support of the StorONE team and the ease of implementation and management, the department can focus on their core business without worrying about storage infrastructure.

“

**If we didn't go down this path with StorONE, we would have had to put up some money for SSDs in our backup servers and pay more money than our production storage system for the backup appliances. So by choosing StorONE, not only did we save money on the storage, we saved money on our overall hardware costs.**

Steven Lien, State of Georgia Department of Labor