

Executive Summary

The Economic Value of the Dell EMC Data Protection Portfolio

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To out-innovate and out-pace their competition, organizations must be on a consistent path to keep their infrastructures modern. IT is under constant pressure to deliver optimized infrastructure for new business initiatives and application support all while trying to contain or even reduce costs. In fact, respondents to ESG's ongoing spending intentions research consistently cite cost reduction as one of the top business drivers affecting their IT spending.¹

Read the Full Report at <https://www.dell EMC.com/esg-economic-white-paper>

Economic Benefits

Let's take a closer look at the cost to protect, or how the Data Domain and IDPA architectures translate into economic benefits for business stakeholders. Data deduplication enables customers to store more data on the same amount of physical disk space. This reduces storage capacity requirements and drives down cost. Data deduplication implemented at the source or client side also helps with capacity savings, but with the added benefit of improving backup performance. ESG's analysis of real-world data, including hardware, power, cooling, and deduplication, demonstrates that Data Domain and IDPA systems are easily capable of serving storage to data protection environments for fractions of a penny per GB per month. Key takeaways include:

- **Low Cost to Protect:** Only one of the analyzed customers was slightly over a penny per GB per month. The remaining 11 customers ranged from .8 cents per GB per month to .06 cents per GB per month for data protection capacity.
- **Mature Deduplication:** An added benefit of mature deduplication comes when some of the deduplication process can be offloaded to the client. This can reduce the amount of data that needs to be transferred for backup, thus shortening backup windows and increasing the frequency of data protection. The benefit is decreased risk, improved SLAs, and greater flexibility in the deployment of data protection resources.



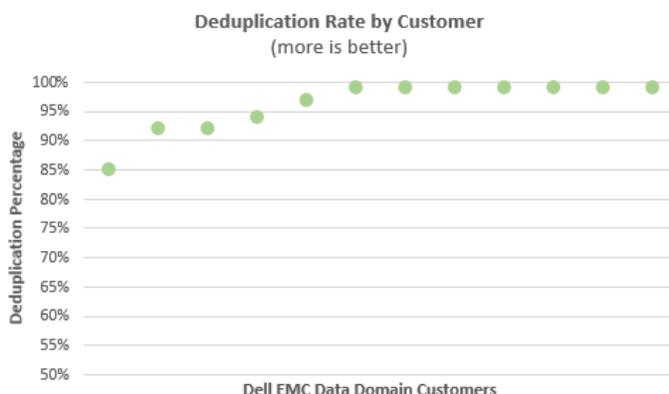
? Why This Matters

The top data protection mandates from IT leaders are focused on improving the fundamental reliability and agility of the solution(s) in use. The mandate that follows closely behind is cost reduction, which is also seen as a top priority among data protection implementers.² These challenges should not be seen as contradictory or mutually exclusive; in fact, they can all be addressed by improved data protection solutions that are engineered as much for efficiency as they are for reliability and capability.

Technical Benefits

ESG began its exploration of the economic value of Data Domain and IDPA deduplication capacity savings by auditing and analyzing call-home support data from 12 active Dell EMC customers. This figure shows the percentage of deduplication achieved for each of the 12 customers. It should be noted that a 50:1 deduplication ratio is equal to a 98% deduplication rate. Key takeaways include:

- **Deduplication Rates:** The audited and analyzed deduplication rates ranged from 85% to 99%, with an average of 96%. This means that only a fraction (in best cases, 1% or less) of the backup data processed needed to be stored on the Data Domain and IDPA systems for protection.
- **Under 90%:** Only one customer from the analyzed data had a deduplication rate under 90%. This customer represents an environment where a Data Domain supports a third-party, non-Dell EMC data protection application.
- **90% and Above:** The remainder of the clients analyzed achieved deduplication rates above 90%. In fact, seven of the remaining 11 customers achieved deduplication rates of 99%.



Other Considerations

Data Domain and IDPA address the cost reduction challenge by leveraging two key performance elements: Stream-informed Segment Layout (SISL) and DD Boost software. SISL is an architectural element of the Data Domain and IDPA platforms that enables 99% of the deduplication process to occur in CPU and RAM. This means the solution does not rely on a high disk spindle count for performance. As a result, smaller footprint solutions can achieve the same performance as higher spindle count configurations.

DD Boost software also helps deliver performance by distributing parts of the deduplication process to the application clients or the backup server. With DD Boost, only unique data needs to be moved from the backup server or clients to the Data Domain and IDPA system. DD Boost reduces the amount of data moved by up to 99%. The net benefit of quicker backup job completions was audited by ESG.



The Bigger Truth

By providing what many in the industry consider synonymous with “protection storage” and/or “deduplication,” Dell EMC has expanded from simply providing data protection components to providing a complete ecosystem that includes protection storage, backup, recovery, archive, and plug-in accelerants for applications (i.e., DD Boost), among other elements. The Dell EMC IDPA is now part of this ecosystem with protection software, servers, storage, single UI management, cloud capabilities, search, and analytics, all included and preconfigured.

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¹ Source: ESG Research Report, [2019 Technology Spending Intentions Survey](#), February 2019.

² Source: ESG Master Survey Results, [2018 Data Protection Landscape Survey](#), November 2018.