White Paper

Scalable Data Protection with the Commvault Appliances Portfolio

Delivering Enterprise-class Backup and Recovery From Remote Office to the Data Center with Commvault Appliances

By Christophe Bertrand, ESG Senior Analyst

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An Evolving Landscape

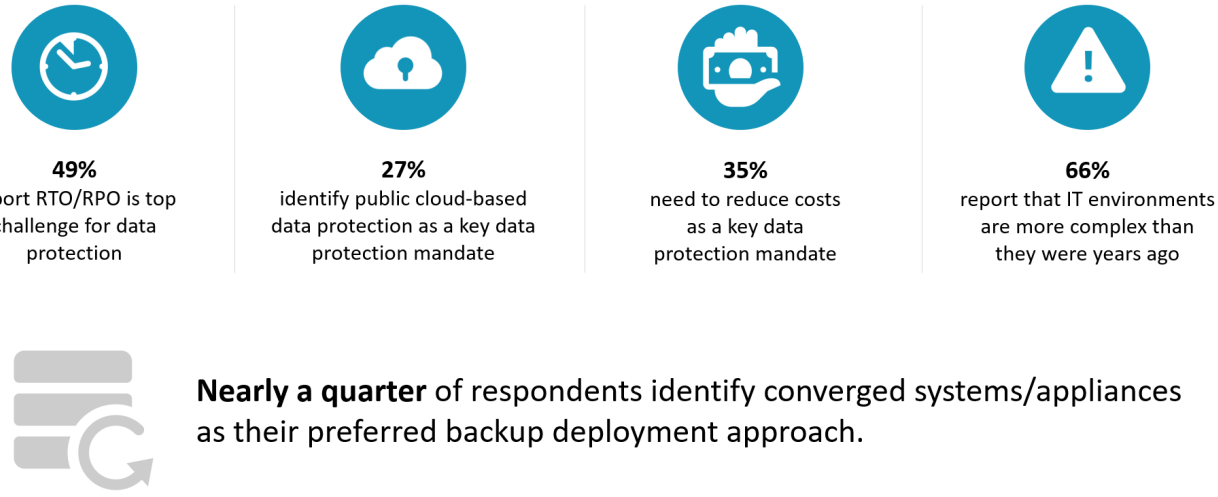
Despite being an established and mature market, data protection never ceases to surprise with a vigorous and continuous set of changes. End-users must keep a close eye on these evolving trends in order to better adapt and adjust their infrastructures, and vendors must also do so to provide the right solutions. It stems from a fundamental realization that IT and business must be aligned, which in data protection terms translates into the delivery of service levels for efficient and effective protection and recovery of data and applications. Recent ESG research points to the fact that delivering against recovery point objectives and recovery time objectives is not only the top data protection mandate from IT leadership, but also the number one challenge for the teams tasked to do so.[1]

There is significant complexity in today's enterprise IT infrastructures, which, combined with a lack of skills in key areas, naturally generates additional challenges to getting the job done. Recent ESG research highlights that 66% of IT professionals report that their IT infrastructure has become more complex than it was two years ago.[2]

We have reached a point in the industry where simplicity—with no trade-off on service levels—must become the norm in the enterprise. This is easier said than done, considering the added dimension of cloud. ESG has identified the fundamental shift of backup/recovery workloads and services to the cloud, which represents another key set of mandates and challenges for IT professionals. In parallel, organizations are seeking and adopting solutions on-premises. The rise of converged systems (appliances) is a great example of a much-needed evolution that is gaining end-users' favor.[3]

From our observations, the appliance form factor, which converges hardware, software, and networking, is often preferred in decentralized topologies for its simplicity, such as ease of use, reduced staffing resources, deployment, and management, as well as scaling and support, including in large data centers. Enterprises expect scale-out capabilities and flexible offerings with delivery modality options ranging from reference architectures through virtual appliances to physical models. In addition, appliances offer efficiencies in deployment and management that allow enteprises to redeploy ressources on other projects.

Figure 1. An Evolving Data Protection Landscape[4] [5]



Source: Enterprise Strategy Group

[1] Source: ESG Master Survey Results, *2018 Data Protection Landscape Survey*, October 2018.
[2] Source: ESG Master Survey Results, *2019 Technology Spending Intentions*, to be published.
[3] Source: ESG Master Survey Results, *2018 Data Protection Landscape Survey*, October 2018.
[4] Source: ESG Master Survey Results, *2018 Data Protection Landscape Survey*, October 2018.
[5] Source: ESG Master Survey Results, *2019 Technology Spending Intentions*, to be published.

Key Requirements for Enterprise Appliances

Appliances have, for many years, been a form factor that has helped lower complexity in many IT infrastructure use cases, ranging from storage to networking and data protection. Appliances for backup and recovery originated as a "loose" bundle of standard software, networking, compute, and storage components, sometimes all-in-one box under a common SKU or set of SKUs. Technology and needs have evolved over the years, and more integration and purpose-specific designs are now available and yield higher efficiencies.

Today, data protection appliances can offer many operational efficiency advantages to both centralized and decentralized enterprises. As mentioned before, complexity is pervasive, with many use cases to cater to and a broad set of applications and associated data to cover in the modern enterprise. This is true not only in "traditional" data centers, but also in edge data centers, remote offices and cloud infrastructures. Business is conducted all over the world in many locations at once, making the modular design of the appliance critical. It's a tall order, so let's review what makes a great enterprise appliance, in ESG's opinion.

Portfolio/Models

With so many variations in enterprises' IT infrastructures, it would seem impossible for any vendor to match every need with the right appliance for every case. However, innovative and customer-focused vendors can leverage a combination of technologies—such as scale-out and those that "right-size" the hardware for targeted market segments—to offer a flexible portfolio that can grow and evolve with customer needs. In some cases, such as remote offices, the ability to start small and scale-up may be a more successful approach, as long as deployment and management can be kept simple. While there is no right absolute answer, most enterprises should seek a combination of remote office (scale-up) and data center (scale-out) models.

Enterprise Software Capabilities

Success starts with great data protection capabilities and software to tackle the diversity of enterprise environments and turn a complex exercise into an easy-to-manage data protection workflow, at scale. Many solutions are available in the market today, but not every solution is equally competent: it takes an enterprise set of software capabilities to deliver on the mission-critical SLAs expected from IT.

Among the core capabilities that enterprises need to consider is broad enterprise application support in order to deliver against mission-critical SLAs of transactional and non-transactional applications and data. Similarly, supporting the broad ecosystem of hosts and storage vendors' snapshot capabilities is a "must have," as is broad OS and hypervisor integration. As pointed out earlier, data protection is evolving rapidly to support and leverage cloud infrastructures. Logically, advanced cloud support for data storage and optimized recovery across on-premises environments and cloud must be an integral set of capabilities integrated into the appliance.

Storage and backup efficiency are expected in enterprise-class solutions, and appliances are no exception. As a matter of fact, deduplication and replication at scale are critical to support operational efficiencies objectives, manage costs, and deliver on SLAs as data volumes expand.

Enterprises also expect advanced archiving capabilities to "offload" production, meet compliance requirements, and optimize costs. To do so, while cloud destinations are gaining in popularity, advanced tape support is another "must have" to be a credible enterprise player.

None of these capabilities matter if multiple forms of data, application, and disaster recovery can't be performed. This is an area in which a modern appliance would also inject advanced orchestration capabilities to recover the various components

of the infrastructure in an orderly and predictable fashion. More modern approaches include the use of artificial intelligence to tighten RPOs and RTOs even further.

Easy Deployment

Modern IT teams in the enterprise expect ease of deployment as a key characteristic of their hardware and software investments. Faced with increasing complexity to support business and data needs, they scrutinize any new investment for simplicity. The makeup of the traditional IT workforce has changed over the past few years, with the emergence of IT generalists (versus specialists) against a backdrop of IT skills shortages in key practices such as cybersecurity, data protection, and IT planning. For example, in a net-new backup/recovery environment, an IT generalist (nonexpert in backup and recovery) should be able to deploy an appliance in a short amount of time, ideally in an hour or less, particularly in decentralized locations where IT skills may be less available than in a major data center. The time to "first backup," while not the most scientific metric, is a good indicator of the ease of use of an appliance deployment.

Management

Enterprises come in all shapes and so do their IT topologies. In larger organizations, the ability to centrally manage multiple systems across a vast geographic area is expected by design. Using a single console is a perfect example of advances that reduce complexity while helping IT get the job done. In addition, dealing with only one vendor simplifies support and upgrades and mitigates the risk of interoperability questions or finger-pointing that sometimes happens when multiple solutions are involved.

Scale-out Capabilities

It is also key to recognize that data creation and accumulation in the enterprise is not going away anytime soon. Protecting more data over time must be built into the technology in a way that minimizes disruptions. That's where the ability to easily expand the data protection appliance footprint comes into play. Scale-out technology is an absolute necessity for larger environments in which the "rip and replace" approaches of the past are simply unfeasible.

Commvault HyperScale Appliance Portfolio Highlights

Commvault is a well-established software vendor in the enterprise data protection space that has fully embraced the delivery of its technology in the appliance modality with a complete and modular portfolio spanning remote locations to large-scale data centers. These appliances not only meet but exceed the modern enterprise data protection requirements outlined.

The portfolio comprises three models:

1. For remote office use cases, the Commvault Remote Office Appliance 1100 can be used as a standalone backup appliance or as part of the HyperScale backup and recovery schema and offers a 5-15TB range of usable capacity.

2. For medium to large environments, the Commvault HyperScale Appliance 1300 provides a modular scale-out solution with up to 87 TB of usable capacity.

3. For large environments or managed service providers (MSPs), the Commvault HyperScale 3300 also relies on scale-out technology and includes up to 261 TB of usable capacity. HyperScale Appliances can scale-out by adding multiple appliances together, managed as a single appliance, to support petabytes of data.

Figure 2. Commvault's Appliances Lineup

Source: Commvault

The Bigger Truth

The quest for simplicity and efficiency in the enterprise manifests itself in the increased interest in and adoption of data protection appliances. Many options exist in the market, and it may be hard to discern differences in what at first glance seems to be a hardware decision.

However, one could argue that all vendors across the market are using essentially the same exact components in their appliance offerings. After all, there are limited choices in terms of processors, disk drives, flash drives, HBAs, networking ports, etc.

It comes down to *what the backup and recovery software can do*. What are the features and functionality it offers? How broadly and deeply can it extend into a decentralized IT environment?

Commvault really shines in terms of the level of integration it offers, its data center consolidation capabilities with scale-out, its ease of deployment, and its ability to connect to and then leverage an ecosystem of cloud providers. Both scale-out capability and cloud connectivity are driven by the software, not the hardware!

The Commvault appliance portfolio, powered by its enterprise-class software, should be considered and evaluated by any organization seeking to modernize its data protection infrastructure.

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 www.esg-global.com

 contact@esg-global.com

 P. 508.482.0188