COMMVAULT®

Scale-Out, Not Up, For Data Management Economics

7 REASONS TO EMBRACE SCALE-OUT INFRASTRUCTURE VS. SCALE-UP FOR YOUR DATA PROTECTION

The cloud has introduced new benefits to our IT infrastructures. From compelling elasticity and scale to greater resiliency and availability, it has raised the bar for our service delivery expectations. Even so, the cloud is not the ideal home for all data or every workload. But, that doesn't mean you must resign yourself to the idea that web-scale services can't be achieved with on-premises infrastructure. New scale-out infrastructure has been optimized to support the data protection and management you use, as well as secondary storage you use, to help you achieve cloud-like benefits within your own environment.

Consider these seven reasons to embrace a scale-out, rather than scale-up, approach for your data management. When used for processes such as backup and recovery, scale-out technology can help you realize the cloud-like the economics and performance you want, in your datacenter.

Traditional storage architectures, which focus on a "scale-up" architecture to increase capacity and capabilities, have become complicated to manage. They also drive high infrastructure costs, limit services and impede availability. Further, when used for secondary workloads, which can be as much as 50-70% of typical infrastructure capacity,[1] or backup and data protection processes, these traditional approaches can stand in the way of necessary digital transformation projects.

Despite these challenges, scaling-up has become an industry standard when it comes to secondary storage or adapting backup and recovery architecture to accommodate data growth and data center expansion. As a result, the issues have compounded resulting in multiple, misaligned point products, rising costs and unreliable data access. Even worse, it causes confusion about where data is, who's using it and whether or not it's being protected - not to mention the limitations scale-up approaches place on future cloud adoption plans.

It's time to stop the fork-lift upgrades and siloed data management with a modern, scale-out approach to data protection and management. By allowing you to select the hardware infrastructure of your choice while optimizing your data protection environment for the future, a scale-out approach can eliminate traditional storage architecture challenges and give you cloud-like agility and services.

The hyperconverged infrastructure market will reach $12.6 billion by 2022.

- MARKETS AND MARKETS
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LESSONS LEARNED FROM HYPERCONVERGED INFRASTRUCTURE

Scale-out technology for secondary storage and data protection and management has borrowed liberally from the successful approaches of hyperconverged primary storage infrastructure. It abstracts the commodity hardware from the services to provide building blocks of computing power and storage resulting in an efficient and flexible means to deploy clusters of highly available infrastructure. By being abstracted, this infrastructure can then be managed from anywhere, offering ease of setup, improved performance and above all simplicity. This approach has been rapidly embraced. Gartner has found that the adoption of hyperconverged primary storage infrastructure has increased 54% in 2016 over 2015,[2] and Markets and Markets estimates that the hyperconverged infrastructure market will reach $12.6 billion by 2022.[3]

Why so much growth? Organizations report that their adoption reflects their support of hyperconverged infrastructure's most important criteria. This criteria by importance includes; cost/ROI (55%), high availability features (44%), ease of scaling capacity and performance (43%), support for integrated backup and replication (25%) and management through a common interface (24%).[4]

Taking a lead from hyperconverged primary storage, a scale-out approach applies these concepts to efficiently support secondary

1 Commvault Customer Profile
2 Gartner Keynote Presentation, Gartner Infrastructure, Operations & Data Center Summit, 2016
3 Markets and Markets, "Hyper-Converged Infrastructure Market by Hypervisor, Vertical and Geography – Global Forecast to 2022," May 2016
4 Actualtech Media, 2016 State of Hyperconverged Infrastructure Market, June 2016

workloads, such as backup and recovery, while enabling greater extensibility into the cloud and cloud-like services on-premises. By consolidating all the roles performed by discrete servers in a traditional, scale-up data protection architecture, this scale-out approach centralizes operations in a single software-defined stack. Here, the software spans multiple storage nodes running on general purpose servers and creates a massively addressable storage pool with built-in enterprise class data management capabilities. This eliminates the need for dedicated media servers, proprietary controller-based storage devices and cloud gateways, reducing infrastructure costs and delivering cloud-like economic and operational benefits.

7 BENEFITS OF A SCALE-OUT APPROACH FOR DATA MANAGEMENT

By delivering the resiliency and availability of a software-defined architecture, a scale-out approach for data protection and management gives enterprises the ability to deliver consistent services to all workloads – whether on-premises or in the cloud – with greater agility and reliability. Consider these seven reasons to embrace a scale-out, rather than scale-up, approach for your data management and secondary storage infrastructure.

1. **Standardize and Simplify Management** – Overcoming the mounting challenge of managing multiple point products for backup and recovery, scale-out infrastructure centralizes management into a single, unified console where IT can apply standardized policies, automation and even self-service capabilities across all enterprise data sets. This can have a significant impact on reducing management costs as well as the advantage of minimizing risk and ensuring that regulatory compliance and governance mandates are consistently met.

2. **Achieve Greater Data Portability** – To achieve a truly agile infrastructure, you need to ensure that your data can be easily migrated, when necessary, to take advantage of new technologies or lower cost options. While traditional storage limited the ability to move data between storage tiers and across storage silos to optimize storage utilization, scale-out architectures make data portability both easy and seamless. They can also simplify the movement of data to the cloud, within the cloud or from cloud-to-cloud, so you're never locked in to a specific platform or vendor. Finally, they can more easily automate disaster recovery processes so that recoverability is faster, more reliable and exponentially more available.

3. **Realize Elastic Scalability** – Unlike the limitations of traditional scale-up approaches used for data protection and management, scale-out technology makes capacity and performance expansion dynamic. They

also enable you to mix multiple generations of hardware in a single pool so that you can rapidly benefit from newer architectures and drive densities without performing a costly fork-lift upgrade. As a result, you can easily accommodate the changing needs of the business without having to over provision as you attempt to forecast your future needs.

4 **Enable Web-Like Services –** Scalability isn't valuable unless it can also deliver the web-like access users need to their data. Using a scale-out approach enables secondary workloads to deliver instant data access for users and applications using a standard interface for all managed data – whether in the datacenter or in the cloud. Even the most demanding requests across several users or applications can be supported for web-like service availability. Using integrated find and search capabilities, users can locate files quickly through keyword and content-based searches.

5 **Reduce Complex Infrastructure Costs –** The management of multiple point products and separate data silos creates unnecessary burden on IT staff and resources which is both costly and inefficient. Further, the use of point solutions drives greater data sprawl and limits plans to move data to the cloud. By using scale-out infrastructure to support your secondary storage and data protection and management workloads, you can realize dramatic cost savings for staff and hardware resources. Even more, you can better optimize your budget needs without having to embark on costly hardware refresh projects since the scale-out architecture will support general purpose server-based storage nodes without the need for expensive storage controllers. Finally, you can reduce capital expenditure costs through copy data management, to reduce the number of copies and data consumption, freeing up existing storage and reducing power, cooling and floor space expenses. In addition, taking advantage of operating expenditure pricing models can improve forecasting and business alignment.

6. **Minimize Risk –** The complexity of traditional scale-up architectures can increase application outages, impeding user productivity. Aging infrastructure and custom scripts can cause many unknown opportunities for downtime. Using a modern scale-out architecture limits this risk and can significantly increase availability. Further, it's much easier to implement consistent, unified policies and automation across all corporate data – no matter where it's stored – for assured compliance and governance. The resulting infrastructure also supports an improved disaster recovery posture and enables greater data portability when recovery is required. Support for erasure encoding also ensures that data is reliably available through multiple drive or node failures so that you can meet even the most demanding recovery point objectives (RPOs) and recovery time objectives (RTOs).

"Backup and data protection processes can be as much as 50-70% of typical infrastructure capacity."

COMMVAULT CUSTOMER PROFILE

7. **Improve Service Levels –** Left untouched, traditional scale-up solutions for data protection and management will result in degraded application performance as large silos of inactive data continue to grow and databases become increasingly bloated. A scale-out architecture will solve this performance challenge and ensure that service levels can be consistently met. Further, using proactive monitoring and central policy management, these solutions can detect issues before they impact service level agreements (SLAs) so that business productivity is never compromised.

Scale-out infrastructure is delivering a cloud-like approach for today's secondary storage, including data protection, backup and recovery, that's quickly changing the landscape for today's datacenters. With the ability to meet even the most demanding RPO/RTO and instant data access needs, these software-defined services enable IT organizations to significantly reduce infrastructure costs while delivering the web-like services users demand. By scaling-out, rather than scaling-up, to support your secondary workloads, just like you might for your primary workloads and storage, you can further realize the modern infrastructure that will power your digital transformation goals.

Protect and manage data using scale-out architecture. Visit **commvault.com/hyperscale**.

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