

Datrium Elastic Replication



DATASHEET

Automatrix Benefits

Fast

Server-Powered, scales with host & transfers from host-flash.

Effortless

VM-Centric, dynamic, policy-based & agile workflows.

Efficient

vDisk granular & WAN efficient with throttling controls.

Predictable

N x M bi-directional, tolerates N-1 host failures & includes built-in SSL encryption.

Simple, Granular, And Server-Powered Replication

Replicating data to another site is widely recognized as a critical element towards achieving disaster recovery and business continuity. Deploying replication, however, can be a sizeable investment in both capital and operating expense for an organization as it can double the number of systems required while imposing additional configuration, networking and performance overheads. Only efficient, simple, resilient and high-performance solutions can reduce the cost of protection and thereby maximize the return on investment.

Traditional storage arrays are burdened with the greatest cost. In a traditional array, the task of replicating data is performed by the array controller, which becomes a centralized bottleneck impacting not only replication performance but also I/O performance of production workloads. In addition, arrays replicate at a volume (LUN) level, which imposes complex configuration restrictions and provides only coarse-grained controls for virtualized environments. Administrators must manually migrate VMs to specific LUNs for them to be replicated. Entire volumes are replicated, including all the VMs and virtual disks contained within the physical volume, when only a subset may be necessary. Replicating one or a specific subset of VMs is simply not possible. Consequently, companies using LUN based replication often stress the WAN links between sites and require more total capacity at both the source and destination as they replicate more data than necessary. This also makes fine-grained recovery on the destination site a manual, multi-step process.

Some hyperconverged systems (HCI) mitigate performance bottlenecks by distributing replication to all hosts within a cluster. They also allow improved granularity by allowing replication of individual virtual machines. However, because data durability is tied to each HCI node host, data is at risk as multiple server node failures could lead to data unavailability and stop replication transfers entirely. Further, while most hyperconverged systems protect and replicate on a per-VM basis, they do not permit finer grained policies that act on individual virtual disks or other files placed within a datastore (like templates and software installation or patch files).

The trade-offs imposed by current offerings make it difficult for customers to achieve a replication infrastructure that encourages data replication for a variety of copy data management uses such as dev/test, analytics/reporting, compliance or even migration to the cloud.

What customers need is an even simpler, more resilient, higher performance and granular solution.

Automatrix Elastic Replication: A fundamentally enhanced Approach to Replication

- **Fast:** Unlike traditional arrays where the active array controller may become a bottleneck to replication performance, Automatrix Elastic Replication leverages processing, networking and local flash resources from all the hosts within the cluster. All source hosts can send data concurrently from local flash, increasing the overall replication bandwidth. This eliminates the typical I/O overheads associated with copying from a disk-based back-end, while simultaneously eliminating the I/O bottlenecks associated with a single controller performing all the work required to simultaneously service I/O as well as replicate data. Since most hosts have un-utilized CPU cycles and 100% of all data is normally cached locally, Elastic Replication has virtually no performance overhead on the I/O workload. In addition, under normal circumstances, only the host that creates new data needs to participate in replicating it, which helps isolate any minimal overheads in high CPU utilization scenarios.

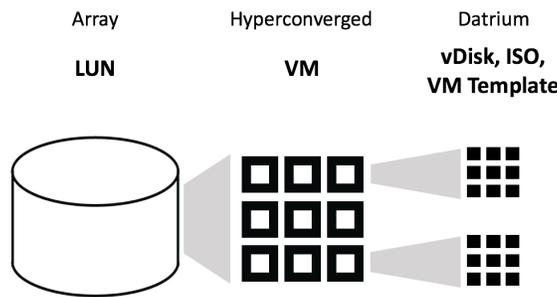
ELASTIC PERFORMANCE SCALING



Erasure Coding, Deduplication, Compression, **Replication**, Encryption

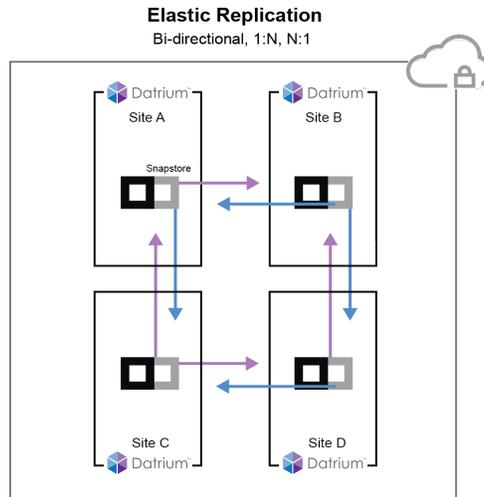
- **Effortless:** All replication is done consistently between arbitrary groups of VMs. The granularity of replication (vDisk, ISO, VM template level) allows for choice or recovery (virtual server or vDisk level) and simplifies copy data management where just data is shared versus replacement of entire VMs. With dynamic policy matching, new VMs inherit the replication policies needed automatically; once policies are set for a group of applications, there is no need to configure policies for new, individual VMs.

Configuring Automatrix Elastic Replication is a snap. In fact, no configuration is required by default. As long as the local hosts can communicate with hosts at the remote site, DVX picks up a port group (1G or 10G) on the host and starts replicating. Admins can specify a particular port group if required. The solution also performs end to end monitoring of all hosts within the cluster and across the source and target sites to alert and react to any failures across the entire replication path. In addition, all VMs are searchable across both sites, saving time in recovery or copy data management activities.



- **Efficient:** Automatrix Elastic Replication leverages DVX snapshots, which provides for highly granular targeting of snapshot policies. DVX snapshots can be targeted to individual virtual disks or other files (eg. VM templates, ISOs, OVAs, software installation/patch files, etc.), which can then be replicated at that granularity. This allows admins the maximum amount of control over what they wish to replicate, and eliminates unnecessary bandwidth and space consumption. Only compressed deltas are sent between the two sites, minimizing the amount of WAN bandwidth required for data transfers. This reduces cost and helps maintain replication service-level-agreements.

- **Resilient & Secure:** Unlike hyperconverged systems, Automatrix Elastic Replication can tolerate multiple host failures and continue replicating data, since a safe copy of all data resides on the DVX data node. In the event of a source host failure, other hosts in the DVX cluster will pick up the job of running existing workloads and replicating the associated data, using the durable copy on the DVX data node. This allows for single host configurations at the destination site. This also enables continuous replication in even extreme failure scenarios — as long as there is at least a single host remaining at both source and destination sites, replication will continue.



Automatrix Elastic Replication supports varied WAN topologies: permitting replication from one site to multiple sites, multiple sites to one, or replicating bi-directionally. Moreover, all these topologies could be mixed and active at the same time if needed for true N x M replication. Comprehensive and flexible multi-site data protection is simple and achievable. Replication traffic can also be secured by enabling encrypted replication tunnels between sites, ensuring data sent over the public WAN network cannot be accessed in an unauthorized manner.

With an alternative to traditional arrays and hyperconverged solutions, there is no need to compromise on performance, efficiency, and resiliency. Automatrix Elastic Replication provides high performance, efficient, granular and resilient data replication; and helps you achieve the agility you need for backup, disaster recovery, dev/test cloning, and content distribution.

Learn more at: www.datrium.com