

Cloud SANs Deliver the Benefits of the Cloud to Storage Area Networks

Imagine a Storage Area Network without boundaries

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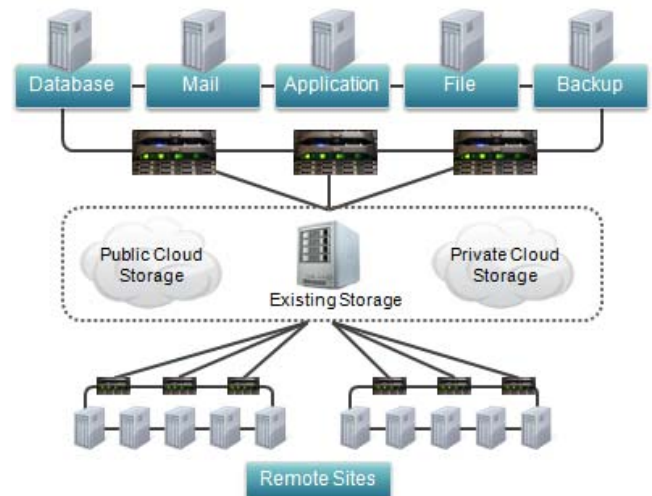
While modular storage arrays and storage area networks (SANs) have become the standard for deploying data storage in businesses all over the world, they are saddled with an undesirable lifecycle, often as short as three years, that requires a disruptive replacement process on a regular basis. This replacement process is not only complex and time-consuming, but is also potentially disruptive to IT and business operations. With data storage needs for many organizations spiraling upwards on an annual basis, the need for more capacity and upgrades is unlikely to change for traditional SANs. By providing unlimited capacity and scale, cloud storage has emerged as a viable alternative to eliminate this burdensome data storage life cycle and other limitations of today's SANs.

Emerging Trend: Cloud SANs (Cloud Storage Area Networks)

Although cloud storage benefits may be easy to understand, visualization of a cloud-enabled storage infrastructure has been difficult. Companies should expand their view of conventional SANs to include private cloud and public cloud storage along with existing on-site storage. The enabling technology for Cloud SANs are storage gateways like TwinStrata CloudArray, which provide homogenous iSCSI access to, and seamless migration between, a variety of on-premise and cloud-based storage.

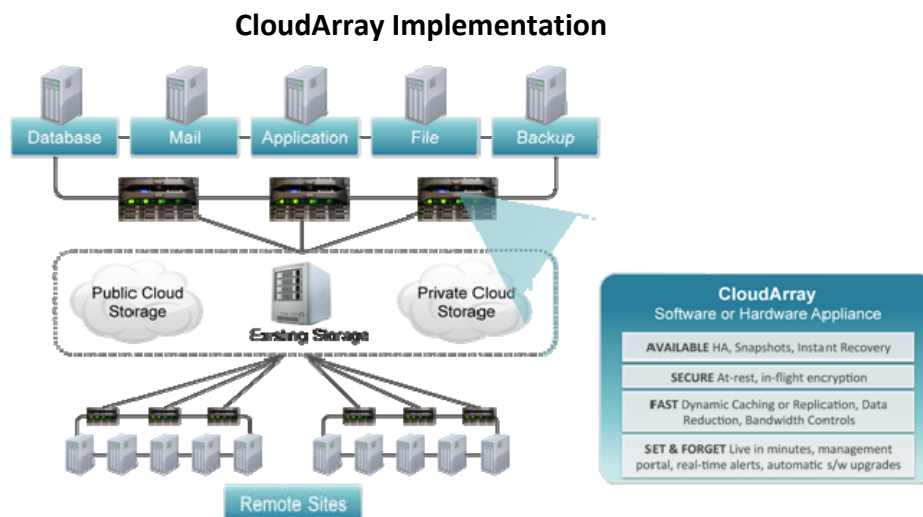
Cloud SANs can provide unlimited data storage capacity, flexibility and ease of management and protection—especially for companies with multiple sites. We also believe that the Cloud SAN approach provides a clear, practical on-ramp to the cloud for companies that have not yet moved there:

- While many organization have begun to integrate cloud storage into their overall IT infrastructure, many others are slow to adopt due to concerns about performance, availability, security, staff resources committed to integration and vendor lock-in. Not only do storage gateways eliminate most of these concerns, they also enable gradual, seamless inclusion of cloud storage into the infrastructure as comfort levels increase.
- In other cases, the preference of many enterprises is to first make full use of existing storage infrastructure and then look to public or private cloud integrations, which require another decision point and, in the case of private clouds, may require a more significant on-premise deployment. Seamless integration of existing storage into a Cloud SAN enables organizations to better utilize and manage existing storage assets and then expand to public and/or private cloud storage, providing flexible access to virtually any cloud and scalability across multiple sites for multiple tenants.



Cloud SAN Technology Enabler: Cloud Storage Gateways

As mentioned previously, storage gateways like TwinStrata CloudArray are the key enabler of Cloud SAN solutions. CloudArray is an enterprise storage gateway that provides optimized and secure local access to remote storage, that may consist of local storage or one or many storage clouds. CloudArray is available as either a hardware or virtual software appliance. IT professionals have the flexibility to deploy physical hardware at central locations while remote or branch locations can be served by a virtual appliance. The CloudArray virtual appliance enables administrators to spin-up local gateways in minutes at any geographic location. Each gateway functions like a discrete iSCSI storage array with local-speed performance. This flexibility provides high performance, high availability, continuous data protection and instant recovery from virtually anywhere. Security is enhanced with both at-rest and in-flight encryption. Access performance is improved by deploying local caching and/or replication. Data is reduced via compression and deduplication, and bandwidth use is controlled and scheduled via advanced management policies. The CloudArray management portal, which provides continuous monitoring, real-time alerts and automatic software upgrades for each deployed instance from a central interface.



Global Connectivity

TwinStrata's gateway advantage is that all storage resources—on-premises or cloud-based—can be aggregated, accessed, and managed as a single Cloud SAN. In both the physical and virtual appliance cases, storage is accessed using the standard iSCSI block protocol over Ethernet. Management interfaces (UIs, CLIs and APIs) allow configurations to easily be tuned for speed versus costs, and for high demand workloads versus lower demand workloads. High demand workloads can be satisfied by increasing the amount of local cache, which can utilize any type of local storage including high-speed SSD, with the option to create dedicated caches for specific data volumes or applications. Public and/or private cloud can also be configured to optimize overall capacity and price per GB by using a small cache footprint. The integration of caching within the cloud data flow has a very positive impact on both access speed and lowered bandwidth requirements, as hot data is cached in the local infrastructure. In flight and at rest encryption provides security along the way, and complete storage systems can be provisioned and deployed in minutes in case of a failure.

Partner Ecosystem and storage compatibility

TwinStrata has developed an impressive set of partnerships that range from Backup and Archive vendors to storage virtualization to support of Windows, Linux, VMware, Solaris and HP-UX platforms. Support for numerous cloud storage providers includes Amazon, AT&T, Nirvanix, Scalify, Mezeo and Rackspace as well as the OpenStack open cloud API. TwinStrata's Cloud SAN offering is unique in that it also allows customers to leverage their existing storage infrastructure and seamlessly add cloud providers in the future.

Our Take

TwinStrata has expanded its product capabilities and partner ecosystems to the point where it has a dominant position in the cloud gateway market. Recent product capabilities have improved the ease of configuring and enhanced analysis and statistics. Cache management is easy with a single button 'grow cache' function and policy-based control over dynamic caching and automation of cloud provisioning. Free trials and automatic inclusion within partner offerings improves the ease of implementation. The strong storage background of the TwinStrata principals will continue to enhance the offerings.

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