



Virtual Storage + Virtual Servers

Using Virtualization

Consolidating hardware resources into virtual storage, servers, operating systems, applications or networks allows any organizations to improve efficiency and simplify the management of its datacenter or IT infrastructure. Since its founding in 2000, StoneFly has been applying the principles of virtualization in the development of simple-to-operate, highly available, high-performance IP SAN technology. With StoneFly's StoneFusion Operating System, centralizing storage resources into an intelligent storage area network supporting advanced storage services provides the benefit of increasing storage utilization and removing islands of underutilized disk resources. StoneFusion's virtualization engine creates pools of storage from multiple physical resources. These pools are managed by the Storage Concentrator and are carved out into iSCSI logical volumes; separating the iSCSI intelligence from disk and RAID hardware. This layered approach offers multiple methods of maximizing system reliability, availability, and performance into one central solution.

Server Virtualization enables organizations to consolidate physical servers into a single system running multiple operating systems and applications to increase system utilization. Virtual servers benefit from a centralized and virtualized storage infrastructure environment to reduce system management requirements, capital expenditures, and administrative overhead.

IT administrators can take advantage of the unique capabilities of a StoneFly IP SAN in a virtualized environment to:

- Deploy storage networks with existing Ethernet infrastructure for seamless storage integration
- Simplify storage deployment for virtual machines without suffering system downtime
- Eliminate application downtime with easy storage resource expansion
- Utilize clustering technology for building highly available server and storage infrastructures

Benefits of StoneFly IP SANs

StoneFusion-powered storage can be easily deployed in environments requiring tiered storage, high availability, or flexibility.

- **Stonefly Modular Storage Concentrators (MSC):** MSCs are designed for mission critical deployments requiring flexibility, tiered storage, clustering and high availability.
- **Stonefly Integrated Storage Concentrators (ISC):** The cost-effective ISC product line is an easy to deploy IP-SAN-in-a-Box, providing integrated storage and management.
- **Stonefly Hybrid Storage Concentrators (HSC).** The HSC product line is the best of both worlds, offering the benefits of Stonefly clustering and the ease of IP SAN-in-a-Box deployment.

Deploying a StoneFly IP SANs with VMware Virtual Infrastructures

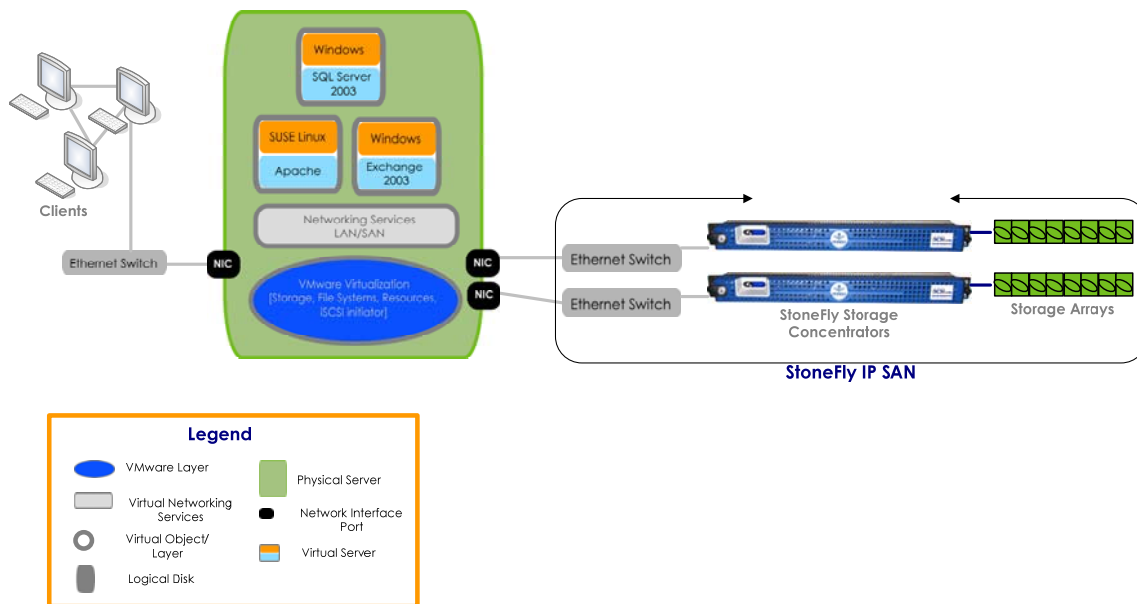


Figure 1 StoneFly IP SAN + VMware Virtual Infrastructure

The VMware Infrastructure Storage Architecture manages and presents the storage to virtual machines independent of the physical storage environment that is attached to it. Applications and virtual machines are unaware of the characteristics of the storage device beyond its virtual HBA (host bus adapter). For each VMware virtual machine, StoneFly iSCSI volumes are seen as locally attached SCSI disks. A virtual machine can be provisioned additional storage by hot-adding virtual hard disks (or expand existing virtual disks) from the StoneFly IP SAN without causing any system downtime. Additionally, key VMware technologies including VMotion, HA (High Availability), and DRS (Distributed Resource Scheduling) are also supported and offer organizations a simpler solution for building DR and remote sites for business continuity applications.

Deploying IP SANs with virtual server technologies is an ideal way to consolidate server and storage administration, gain organizational efficiencies, simplify the deployment of new applications, enhance disaster recovery, and improve business continuity initiatives. Implementing a StoneFly IP SAN with VMware's Virtual Infrastructure offers IT administrators an easy way to manage and reduce complexities in their IP infrastructure.

About StoneFly

Stonefly is an iSCSI Pioneer, offering cost-effective, field-tested IP SAN solutions. With the scalable architecture of the intuitive StoneFusion platform, Stonefly IP SANs are ideal for storage deployments for all organizations. Headquartered in San Diego, StoneFly started in April 2000 to deliver upon the vision of simple and affordable storage optimization through IP SAN solutions. In 2006 Stonefly was acquired by Dynamic Network Factory and continues to operate as a wholly-owned subsidiary.

