

Make the Most of Your IT Infrastructure with **STONEFLY'S INTEGRATED DATA SERVICES**

The Average Storage Administrator Experience: As the infrastructure grows, so does complexity – and efficiency decreases

One of the most common challenges in an enterprise data center is idle storage. As business and customer needs increase, storage administrators are forced to scale – usually via forklift upgrades or cloud integration. Either way, the larger the scale of the infrastructure, the greater the complexity which leads to a decrease in storage efficiency, lower return on investments (ROIs) and higher total cost of ownership (TCO).

In order to facilitate the diverse variety of workloads in their environment(s) such as virtualization, Software-as-a-service (SaaS) applications, Customer Relationship Management (CRM) software, cloud, databases, etc. IT systems are scaled to meet demanding performance and storage capacity requirements. This adds to the cost and to the volume of underutilized storage resources.

Although virtualization helps improve resource consumption, it does not solve the challenge of idle storage completely. As you'll hear from most storage administrators, in order to set up and utilize virtualization, a great deal of data center resources remain idle and underutilized.

IT infrastructure are built to effectively store, process, and manage business and customer data. As data is the critical asset for any digitally transformed company, it makes no sense for the infrastructure supporting it to become a liability. Considering the rate of business data growth and the diversity of workloads in an enterprise IT infrastructure, ensuring efficient and cost-effective utilization can be difficult. The inability to do so affects the company's ability to compete in their market which in turn leads to a loss of reputation and consequent loss of business.



FIVE COMMON CHALLENGES THAT CAN BE OVERCOME WITH DATA SERVICES

In addition to the inability to effectively leverage IT infrastructure resources and reduce costs, here are five common challenges that data center owners can avoid by using data services:

INCREASING CYBER-THREATS AND RANSOMWARE ATTACKS

“By 2025, at least 75% of IT organizations will face one or more attacks as free-rein researchers document a dramatic increase in ransomware attacks during 2020, pointing to sevenfold or higher rates of growth.”¹

Without consistent data protection measures and accessibility controls across on-premises and cloud environments, business IT infrastructure is vulnerable to the increasing number of ransomware attacks, data breaches, and hackers. The increasing complexity of underutilized environment(s) only adds to the vulnerability.

Furthermore, as the majority of global business critical workloads have moved to remote and hybrid environment(s), the number of endpoint(s) that need consistent data security has increased.

DATA GROWTH AND INFRASTRUCTURE SCALABILITY

It is estimated that the data created, captured, and consumed globally will rapidly increase from 64.2 zettabytes (2020) to 180 zettabytes by 2025². This forecasted data growth includes data generated by government, corporate companies, and small to large businesses. Based on these numbers, it's clear that the ability to scale dynamically, with minimum to no disruption, is a necessary IT infrastructure capability.

¹ Gartner, 'Detect, Protect, Recover: How Modern Backup Applications Can Protect You from Ransomware', Nik Simpson, Ron Blair, January 06, 2021

² Statista, 'Amount of data created, consumed, and stored 2010-2025', Arne Holst, June 07, 2021

Legacy on-premises data centers can only scale via forklift upgrades – which we all know is a disruptive and time-consuming process. The inability to scale quickly puts businesses at a competitive disadvantage and it also hinders work for organizations such as charity or non-profit organizations, services providers, etc.

ERROR-PRONE MANUAL PROCESSES AND LOW PRODUCTIVITY

The modern IT infrastructure is built to support a diverse range of workloads including virtualization, databases, containers, multi-generational data sets, etc. By relying on manual processes, companies experience low productivity and risk losing data due to human error.

Furthermore, manual processes cost more in the long-run in-comparison to automation – which is what makes automation a necessity.

In addition to reducing costs by minimizing management overhead, automation also helps improve productivity of overall IT operations. With less IT staff focused on routine tasks, companies experience an increase in productivity as the resources are allocated elsewhere – accordingly. Automation also improves data security as it minimizes the possibility of human error – which is one of the leading causes of successful ransomware attacks and data breaches.

COMPLIANCE AND PRIVACY REQUIREMENTS

The increase in ransomware attacks led to a greater expectation for compliance and privacy. Companies offering services in healthcare, finance, legal, and government departments have felt the brunt of the restrictions in the form of GDPR, HIPAA, CCPA, etc.

With the global workforce working remotely or in hybrid environments, ensuring compliance and protecting business and customer privacy is challenging and the inability to do so costs more than just reputation. Depending on the regulation, companies that are not compliant can potentially be fined tens of thousands of dollars.

In addition to compliance regulations, consumers have also realized the value of their Personally Identifiable Information (PII). Most regulations allow consumers to ask for details about how their data is stored, managed, and processed in addition to asking data processors to completely erase it – adding to the complexities IT infrastructures have to address and be accountable for.



MANAGING DISTRIBUTED INFRASTRUCTURE AND REMOTE WORKLOADS

The global cloud market is expected to grow from USD 371.4 billion in 2020 to USD 832.1 billion in 2025³; fueled by the majority of the global workforce working remotely or in a hybrid environment.

In order to facilitate a distributed workforce, IT infrastructures have to support cloud integrations in addition to the increasing demand of performance, scale, and security. The distributed workloads across remote branches, offices, and cloud make it challenging to deploy a secure environment for business-critical assets.

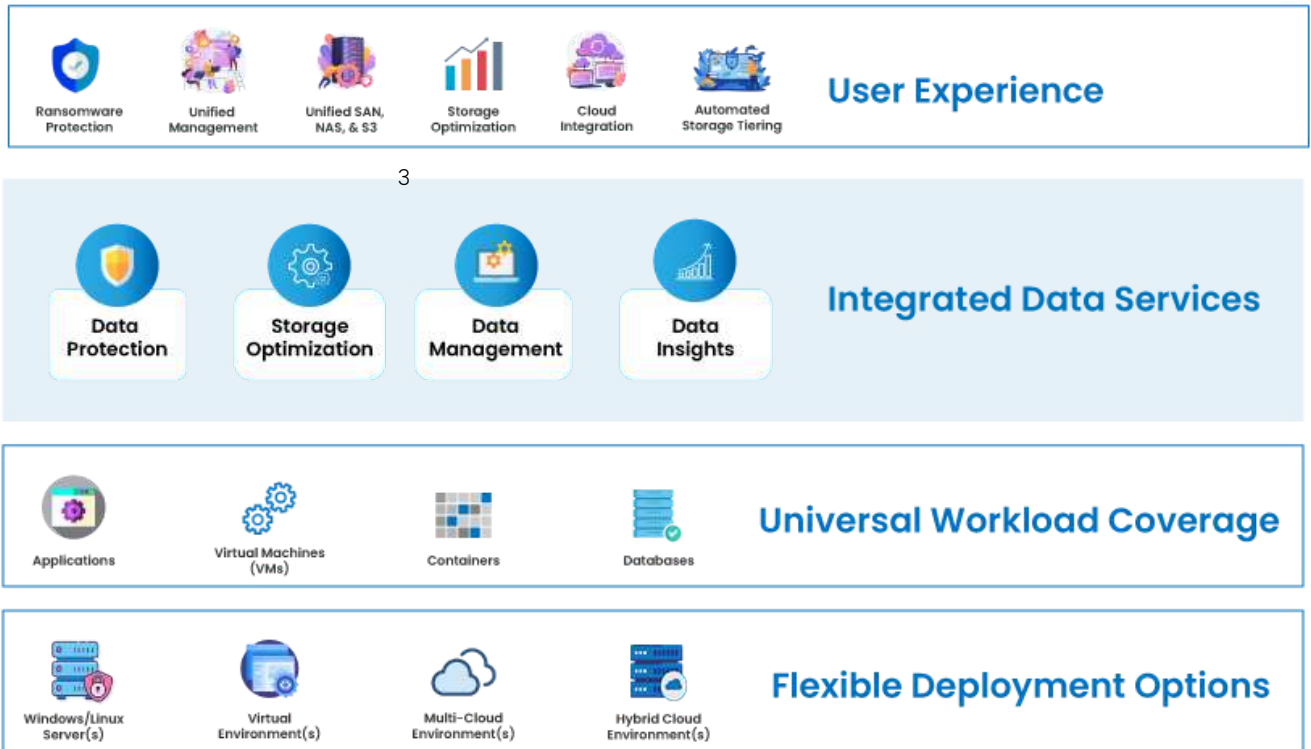
While the mix of on-premises, cloud, and hybrid technologies is unavoidable, the task of managing it is a complex one – and the inability to do so effectively puts business productivity and reputation at risk.

INTEGRATED DATA SERVICES

StoneFly's patented 8th generation storage virtualization engine (StoneFusion™) enables data center owners to overcome the abovementioned five challenges and improve the performance of their existing infrastructure. With more than two decades of innovation, and experience of serving government departments, corporate leaders, healthcare, finance, and manufacturing, StoneFly solutions have been an essential component for our customers in their pursuit for digital transformation and productivity.

The StoneFusion software enables our customers to build a future-proof infrastructure that can scale-on-demand. With over a million lines of code, the software has been rigorously developed to meet the ever-changing needs of enterprise customers. All data management, data protection, storage optimization, and resource consumption monitoring is managed using a unified browser-based management interface across environments such as on-premises server(s), hybrid cloud, and multi-cloud.

³ Marketsandmarkets, 'Cloud Computing Market by Service Model (Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS)), Deployment Model (Public and Private), Organization Size, Vertical, and Region - Global Forecast to 2025', July, 2020



StoneFly Integrated Data Services Architecture

THE UNIQUE VALUE THAT ONLY STONEFLY INTEGRATED DATA SERVICES OFFER:

UNIFIED SAN, NAS, AND S3 OBJECT STORAGE

The StoneFusion storage virtualization engine enables our customers to provision a unified storage environment that supports unstructured, block, and object data – on-premises and in the cloud. With StoneFusion, our customers can reclaim and repurpose unused storage space and provision resources for new applications and projects quickly and seamlessly.

With StoneFusion, our customers can set up dev and test environments for DevOps, scale storage and performance with a few clicks, and provision resources for new projects with a few clicks!

RANSOMWARE-PROOFING WITH AIR-GAPPING AND IMMUTABILITY

To address the data protection concerns of our customers looking to protect their data from ransomware attacks, StoneFusion offers the following data services:

- **Air-Gapped Controllers** – Deploy two storage controllers and target storage repositories with one pair isolated air-gapped and with automated network and power management; and the other network-facing and always accessible. When isolated, the storage controller and associated storage volumes cannot be accessed via the network.
- **Air-Gapped Repositories** – Deploy a storage controller with two target storage repositories – one isolated and air-gapped with automated network and power management; and the other network facing and always accessible. When isolated, the target storage repository cannot be accessed via the network.
- **Write-Once Read-Many (WORM) Volumes** – Secure and immutable file storage repositories that can be deployed on-premises and/or in the cloud. Data stored in WORM volumes cannot be edited, overwritten, deleted, or maliciously encrypted – making it safe from ransomware attacks.
- **S3 Object Lockdown** – Cloud-native S3 object storage volumes that can be locked as per user-defined policies. When locked, the data stored in the object storage volumes cannot be edited, overwritten or deleted. With StoneFusion, our customers can provision S3 volumes on-premises and in the cloud – object lockdown feature also supported on on-premises, hybrid, and cloud environment(s).

OPTIMIZED STORAGE CONSUMPTION

In addition to enabling users to repurpose unused resources, StoneFusion also optimizes storage utilization with data services such as deduplication, thin provisioning, automated hot/cool storage tiering, and Flash Cache.

Our customers are able to effectively reduce their data footprint, efficiently utilize high performance and capacity storage tiers, and set up high speed SSD-based caches for frequently-used hot data for increased throughput.



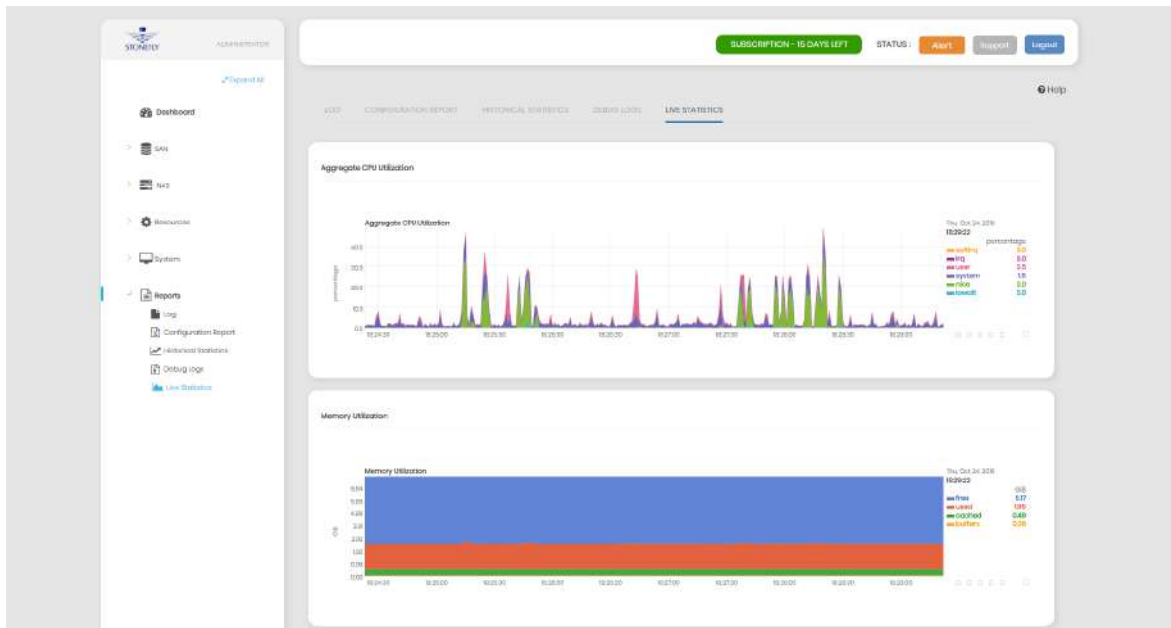
CENTRALIZED MANAGEMENT ACROSS ALL ENVIRONMENT(S)

Manage all your on-premises, hybrid, and cloud workloads and integrated data services from a centralized web-browser based management interface. The StoneFusion software GUI provides real-time performance monitoring, notifications, and reporting. With the management interface, our customers can effectively control their resource consumption, ensure efficient utilization, and effortlessly manage the cost of their infrastructure.

FLEXIBLE DEPLOYMENT OPTIONS

StoneFly solutions can be customized to suit the needs of our customers and support a broad range of workloads including physical servers, virtual machines (VMs), containers, databases, and SaaS application(s).

The StoneFusion software can be deployed as an Azure virtual machine directly from the Azure marketplace – for customers looking for a serverless infrastructure.



StoneFly StoneFusion Dashboard



WHY IS STONEFLY TRUSTED BY US GOVERNMENT CLIENTS AND ENTERPRISE MARKET LEADERS WORLDWIDE

StoneFly solutions are trusted by US Navy, US department of defense, several US district councils and local/state departments, banks, healthcare service providers, educational institutes, retail, and utility companies. For over two decades, StoneFly solutions have been innovated to solve enterprise data storage and data protection problems and engineered to offer simplicity and affordability.

GOVERNMENT DEPARTMENT(S):

Government department(s) require solution(s) that can fit their budget, be compliant to regulation(s) such as GDPR, FedRAMP, CJIS, etc. are future-proof, and can scale-on-demand. With our integrated data services, government department(s) are able to build a unified infrastructure that they can scale-on-demand and rely on.

HEALTHCARE SERVICE PROVIDER(S):

HIPAA compliance requires healthcare service provider(s) to make sure their patient medical records and Personally Identifiable Information (PII) are safe, always available and backed up – so that they can be restored in the event of a disaster. Our integrated data services enable healthcare service providers, big and small, to build on-premises, hybrid, or cloud infrastructure that can do all of the above and still fit the budget of our customer(s).



BANKS AND FINANCIAL SERVICE(S):

Financial services provider(s) need to make sure that their digital services are always available, their systems can scale dynamically as per customer needs, and the confidential information of their clients is safe from ransomware attacks. Our integrated data service(s) enable financial service provider(s) to do so with a unified solution rather than purchasing and managing a number of tools.

Furthermore, our customers can also set up clustered appliances with automated failover and failback. In the event of a disaster such as ransomware attack, natural disaster etc. if the primary system fails, the system automatically fails over to the secondary appliance – reducing downtime and minimizing Recovery Time Objectives (RTOs).

EDUCATIONAL INSTITUTE(S) – SCHOOLS, COLLEGES, AND UNIVERSITIES:

Building an environment that's secure and can facilitate distance learning is a challenging task – especially for schools, colleges, and universities as IT infrastructure is at the bottom of most budgeting priorities.

Furthermore, information such as scholarship programs, student PII, and administration details require robust data protection capabilities that protect this critical data from threats such as hackers and ransomware attacks. With StoneFusion, our customers can build a highly secure infrastructure that facilitates file storage and sharing, and distance learning efficiently and cost-effectively.



STONEFLY, INC.

PORTFOLIO

Storage - Hyperconverged - Backup & DR - Cloud

StoneFly offers enterprise storage, hyperconverged, backup and disaster recovery (DR) appliances, and cloud solutions – all StoneFly solution(s) are powered by our patented storage virtualization engine StoneFusion.

DATA STORAGE APPLIANCES:

Super Scale Out (SSO™) Network Attached Storage (NAS) Appliances – Turnkey scale out NAS appliances with built-in anti-ransomware, cloud connect, deduplication, automated storage tiering, and file lockdown. Supported storage protocols include NFS and CIFS/SMB.

Storage Area Network (SAN) – High performance iSCSI and optional Fibre Channel (FC) block storage appliance with built-in deduplication, thin provisioning, and Flash Cache SSD caching.

Unified Scale Out (USO™) – Highly scalable unified SAN, NAS, and S3 object storage appliances with the integrated data services of all three storage protocols such as anti-ransomware, deduplication, automated storage tiering, thin provisioning, and more.

HYPERCONVERGED INFRASTRUCTURE (HCI) APPLIANCES:

Unified Storage and Server (USS™) – Turnkey iSCSI and optional Fibre Channel HCI appliances with support for industry standard hypervisors and built-in data services such as air-gapping, immutability, WORM, S3 object lockdown, predictive failure, automated storage tiering, and more.



TwinHCI Systems – Turnkey iSCSI and optional Fibre Channel hyperconverged appliances with automated failover and failback, industry standard hypervisor support, and built-in data services such as air-gapping, immutability, WORM, S3 object lockdown, predictive failure, automated storage tiering, and more.

Supported hypervisors include: VMware, Microsoft Hyper-V, KVM, Citrix (formerly XenServer), and StoneFly Persepolis.

BACKUP AND DISASTER RECOVERY (DR) APPLIANCES:

Veeam-Ready Backup and DR Appliances (DR365V) – Turnkey hyperconverged purpose-built backup and DR appliances for Veeam backup software with air-gapped backups, WORM, S3 object lockdown, direct VM spin up, anti-ransomware, and more.

DR Site in a box (DR365) – Turnkey hyperconverged purpose-built backup and DR appliances with air-gapped backups, WORM, S3 object lockdown, direct VM spin up, anti-ransomware, and more.

miniBackup™ – Budget-friendly "plug & play" device with enterprise backup and recovery features and broad range support for industry standard backup software such as StoneFly CDR365, Veeam, Rubrik, and more.

DR365 Veeam-Immutable Veeam-Air-Gapped (VIVA) Air-Gapped Nodes – Purpose-built appliance for Veeam backup environments. The DR365VIVA is a fully automated immutable and air-gapped backup and disaster recovery node with integrated policy-based network and power management.

STONEFLY SOFTWARE

StoneFusion for Bare-Metal – Turn your bare-metal servers to enterprise SAN, NAS, & S3 object appliances with our patented storage operating system. Leverage software defined storage, seamlessly integrate advanced data services, avoid storage silos, and monitor storage resources in real-time.

Storage Concentrator Virtual Machine (SCVM™) – Leverage storage virtualization and virtual SAN (vSAN) capabilities with support for NAS, and cloud-native S3 object storage, cloud gateway, and built-in data services such as air-gapping, WORM, immutability, S3 object lockdown, anti-ransomware, and more.



StoneFusion MSP – Effortlessly provision efficient, secure and multi-tenant file-level, block-level and / or object-level storage volumes using VMware, Hyper-V, KVM and Citrix (formerly XenServer) virtual environments. Offer storage-as-a-service (STaaS) services to virtually unlimited enterprise customers and manage all clients via a centralized web-browser based management interface.

LOOKING TO GET MORE FROM YOUR INFRASTRUCTURE? GET STONEFLY INTEGRATED DATA SERVICES!

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ABOUT STONEFLY, INC.

StoneFly Inc., headquartered in California, was founded to deliver upon the vision of simple and affordable storage optimization and disaster recovery protection through IP SAN solutions. StoneFly is a leading manufacturer of high-performance network-attached storage (NAS), storage area networks (SAN) – iSCSI systems, hyperconverged systems, and RAID systems. StoneFly's range of enterprise products also includes cloud storage solutions, cloud storage gateway solutions, and data migration services for enterprise workloads.



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