



The Original Innovator
of the iSCSI Protocol



StoneFly Backup & DR

Product Catalog



NAS, SAN, S3,
& Unified Storage



Hypervisor-agnostic
Hyperconverged
Infrastructure (HCI)



Powered by
8th gen patented
storage OS

High Performance High Availability Backup & DR

Explore StoneFly's diverse range of budget-friendly hardware & cloud-based backup & disaster recovery (DR) solutions for SMBs, SMEs, & large enterprises.



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About StoneFly, Inc.

The Beginning

StoneFly's journey started with the creation of the iSCSI storage protocol and the registration of the domain name "iscsi.com" in March 1996. Headquartered in Silicon Valley (Hayward, California), StoneFly was among the first to manufacture and ship iSCSI storage appliances in 2002. Ever since then, StoneFly has contributed in making the iSCSI protocol into the globally standard storage protocol used by industry professionals across the globe.

Our Vision

StoneFly was founded with the singular vision of delivering simple and affordable enterprise-class data management solutions to SMBs, SMEs, and large organizations worldwide.

Diverse Range of Enterprise Products – Physical Servers & Cloud-Based Solutions

This vision has guided innovation at every step of the way and enabled StoneFly to introduce several enterprise-grade storage solutions such as NAS, SAN, Unified (NAS, SAN and Object), and Hyperconverged Infrastructure (HCI). StoneFly also stepped into the backup and disaster recovery market with purpose-built unified server and storage hyperconverged backup solutions capable of delivering reduced RTPOs for enterprise workloads.

With more than two decades in the industry, StoneFly has now built a wide range of enterprise products and solutions that extend beyond physical solutions and also include serverless and cloud-based offerings. Our strategic technology partnerships with Veeam, Microsoft Azure, Amazon AWS, and other industry leaders has enabled us to offer cloud storage, cloud backup, cloud storage gateways, and data migration solutions to our customers worldwide.

Our Patents

All StoneFly physical and virtual data management solutions are protected by StoneFly storage virtualization patents as certified by the United States Patent and Trademark Office (Patent#: 7302500, 7555586, 7558885, 8069292).

Our Memberships

StoneFly is a member of the Storage Networking Industry Association (SNIA) and the founding member of the IP Storage Institute (IPSI).

Our Partnerships

StoneFly has longstanding partnerships with industry giants such as Veeam, Microsoft, Amazon, VMware, and several others.

A brief list of StoneFly partnerships is as follows:

Veeam

- Veeam Technology Alliance Partner
- Veeam Cloud Service Provider (CSP)



Microsoft

- Certified Microsoft Azure Marketplace Partner
- Microsoft Cloud Solution Provider (CSP) Partner
- Microsoft Government Cloud Service Provider Partner



VMware

- VMware TAP Advanced Partner
- VMware Professional Solution Provider



Amazon

- Amazon AWS Technology Partner



Chapter 1:

StoneFly Backup & Disaster Recovery Solutions Overview

StoneFly shipped its first IP SAN appliance in 2002. Throughout the years we have been continuously adding new features and connectivity options to our products. In 2014, StoneFly began offering enterprise-grade backup and Disaster Recovery (DR) solutions to complement our already robust variety of storage products. Our range of DR solutions started from integrated backup and DR appliances and quickly expanded to include dual-node shared nothing, scale out, and disaggregated High-Availability (HA) backup and DR solutions including universal backup and DR appliances purpose-built for Veeam, Acronis, Zerto, Commvault, Veritas and other backup software packages.

StoneFly's robust range of products includes enterprise, mid-tier, and value-tier solutions for both on-premises and cloud-based (serverless) backup and DR.

All of StoneFly's backup & DR products are powered by our patented storage Operating System: Storage Concentrator Virtual Machine (SCVM™). For more information about our storage OS, please refer to the **Storage Product Catalog**.

Following is a list of StoneFly's enterprise and value-tier backup & DR solutions:

1.1. On-Premises Backup & DR Solutions

1.1.1 DR365™ Backup & DR Appliances (DR Site in a Box)

Robust, feature-rich, unified storage and server hyperconverged backup and DR appliances built to ensure data loss prevention, ransomware protection, and business continuity.

- DR365 “DR Site in a Box” Appliances
- DR365-HA™ High-Availability (HA) Cluster Appliances

Supported Hardware Configurations for DR365:

- [Integrated Appliances](#)
- [Dual-Node Shared Nothing Appliances](#)
- [Scale Out Appliances](#)
- [Disaggregated High-Availability \(HA\) Appliances \(DR365-HA\)](#)

Appliance Series:

- DR365: [D-Series](#), [XS-Series](#), & [XD-Series](#) appliances.
 - DR365-HA: [D-Series](#), [XS-Series](#), and [XD-Series](#) appliances.
-

For more information about the hardware specifications of StoneFly DR365, please refer to [section 4.1](#).

1.1.2 DR365V™ Veeam-Ready Backup & DR Appliances

The DR365V backup & DR appliances are purpose-built for Veeam Availability Suite. Reduce your Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs) to less than 15 minutes with the StoneFly DR365V appliance.

- DR365V Veeam-Ready Backup & DR Appliances
- DR365V-HA™ Veeam-Ready High-Availability (HA) Cluster Appliances

Supported Hardware Configurations for DR365V:

- [Integrated Appliances](#)
- [Dual-Node Shared Nothing Appliances](#)
- [Scale Out Appliances](#)
- [Disaggregated High-Availability \(HA\) Appliances \(DR365V-HA\)](#)

Appliance Series:

DR365V: [D-Series](#), [XS-Series](#), and [XD-Series](#) appliances.

DR365V-HA: [D-Series](#), [XS-Series](#), and [XD-Series](#) appliances.

For more information about the hardware specifications of StoneFly DR365V, please refer to [section 4.2](#).

1.1.3 DR365U™ Universal Backup & DR Appliances

Universally compatible and fault-tolerant backup & DR appliances. The DR365U is a flexible data protection solution that supports mainstream backup software such as Commvault, Veritas, Quest, Acronis, and others.

DR365U lets you build your data protection infrastructure using the backup software that you're comfortable with.

- DR365U Universal Backup & DR Appliances
- DR365U-HA™ High-Availability (HA) Cluster Appliances

Supported Hardware Configurations for DR365U:

- [Integrated Appliances](#)
 - [Dual-Node Shared Nothing Appliances](#)
 - [Scale Out Appliances](#)
 - [Disaggregated High-Availability \(HA\) Appliances \(DR365U-HA\)](#)
-

Appliance Series:

DR365U: [D-Series](#), [XS-Series](#), and [XD-Series](#) appliances.

DR365U-HA: [D-Series](#), [XS-Series](#), and [XD-Series](#) appliances.

For more information about the hardware specifications of StoneFly DR365U, please refer to [section 4.3](#).

1.1.4 Backup Gateway Appliances

Leverage existing storage resources and build a cost-effective backup infrastructure with StoneFly backup gateway technology. The backup gateway appliance is an affordable hardware chassis that comes preconfigured with your choice of backup software.

No need to purchase new infrastructure if you already have the storage resources. Adding a StoneFly backup gateway appliance to your existing equipment facilitates an affordable backup and DR solution that incorporates your existing storage.

Supported Hardware Configurations for BG365:

- [Integrated Appliances](#)
- [Disaggregated High-Availability \(HA\) Appliances \(BG365-HA\)](#)

Appliance Series:

BG365: [XS-Series](#) & [XD-Series](#)

BG365-HA: [XS-Series](#) & [XD-Series](#)

For more information about the hardware specifications of StoneFly BG365, please refer to [section 4.4](#).

1.2. Integrated Appliance Expansion Units

StoneFly single-node expansion units support enterprise SSDs and SAS drives, and facilitate storage capacity expansion via scale up or vertical scaling. The single-node expansion units are compatible with all StoneFly XS and XD-Series integrated, dual-node shared nothing, and scale out hardware architectures.

For more information about the hardware specifications of integrated appliance expansion units, please refer to [section 4.5](#).

1.3. High-Availability (HA) RAID Arrays

StoneFly HA RAID arrays consist of built-in dual active-active hardware RAID controllers with support for up to 12, 16, or 24 enterprise SSDs and SAS drives. The HA RAID array chassis is a part of StoneFly disaggregated HA hardware architectures (Refer to **Chapter 2: Backup & DR Hardware Overview**).

1.4 HA Cluster Appliance Expansion Units

StoneFly HA Expansion units are similar in function to the single-node expansion units; they are used to increase the storage capacities of disaggregated HA cluster appliances. HA expansion units support up to 12, 16, 24 or 60 enterprise SSDs and SAS drives to facilitate scale up (scale vertically) storage.

For more information about the hardware specifications of HA appliance expansion units, please refer to [section 4.6](#).

1.5 Enterprise Cloud Backup & Replication Solutions

Protect your mission-critical data in the cloud of your choice with StoneFly cloud backup and DR solutions. Our cloud-based data protection solutions enable users to secure desktops, workstations, Windows servers, Linux servers, and VMs deployed on VMware and Hyper-V hypervisors in Azure, AWS, StoneFly private cloud or any other S3 compatible cloud.

As a Veeam Cloud Service Partner, StoneFly also offers Veeam backup licenses along with cloud-integration for Veeam users using StoneFly gateway technology.

To simplify user experience, StoneFly offers the following full packaged cloud backup solutions:

- Veeam Cloud Connect Backup & Spin Up to Azure ([section 5.1](#))
 - Veeam Cloud Connect Backup & Spin Up to Amazon S3 ([section 5.2](#))
 - Veeam Cloud Connect Backup, Replication & Spin Up to StoneFly Private Cloud ([section 5.3](#))
 - Veeam Office 365 Backup ([section 5.4](#))
 - CDR365™ - Cloud Backup & DR Software ([section 5.5](#))
-

Chapter 2:

Backup & DR Hardware Overview

StoneFly backup & DR appliances support a number of hardware architectures facilitating a variety of enterprise and SMB use-cases. In this chapter, we take a closer look at these hardware architectures, the different key components within the hardware, supported storage drives, and the maximum storage capacities of available storage appliances.

2.1 Available Backup & DR Hardware Architectures

StoneFly backup & DR appliances support the following hardware architectures:

- 2.1.1 [Integrated Appliance](#)
- 2.1.2 [Dual-Node Shared Nothing System](#)
- 2.1.3 [Scale Out System](#)
- 2.1.4 [Disaggregated System \(High-Availability\)](#)

Key Hardware Components of StoneFly Backup & DR Appliances

Before exploring the aforementioned hardware architectures, it's important to know about the following key components of StoneFly backup & DR appliances:

- Backup Controller
- RAID Controller (Integrated Solutions)
- RAID Array (Disaggregated Solutions)
- Expandable Bunch of Drives (EBODs)

Backup Controller

Backup Controller

The Backup controller is a hardware component (or an independent hardware chassis for disaggregated hardware architectures) that functions as the management and virtualization layer for the backup & DR system.

The StoneFly storage virtualization operating system (SCVM) and the hypervisor (VMware, Hyper-V, Citrix, KVM, or StoneFly Persepolis) are deployed on a dedicated PCI-E based NVMe SSD (running independently of the data storage). The backup software also runs on this part of the backup & DR system. Hypervisor availability may vary depending on the StoneFly product series selected.

Backup Controller Form Factors

The integrated appliance, dual-node shared nothing, and scale out storage hardware architectures have built-in backup controllers while the disaggregated storage systems have two or more dedicated hardware chassis for the backup controllers.

The following are the available form factors of backup controllers for the disaggregated hardware architectures:

- Dual 1U Backup Controller with support for 12Gb SAS storage expansion
- Dual 1U Backup Controller with support for 16Gb FC storage expansion
- Dual 2U Backup Controller with support for 12Gb SAS storage expansion
- Dual 2U Backup Controller with support for 16Gb FC storage expansion

RAID Controller

The high-performance hardware Redundant Array of Independent Disks (RAID) controller configures multiple drives (depending on the configured RAID level) to work as redundant drives for fault-tolerance and high-availability. Supported RAID levels depend on the appliance series and model.

| | D-Series (Gen 1) | D-Series (Gen 2) | XS-Series | XD-Series |
|----------------------------------|------------------|------------------|-----------|-----------|
| RAID Controller | Standard | Standard | Standard | Standard |
| RAID Cache Battery Backup | Not Supported | Standard | Standard | Standard |

HA RAID Array (Disaggregated Solutions)

The HA RAID storage expansion array (or simply HA RAID array) is a hardware chassis with storage drives and dual active-active hardware RAID controllers. This hardware chassis is a key component of StoneFly disaggregated HA backup & DR systems.

The HA RAID array supports RAID levels 0, 1, 0+1, 3, 5, 6, 10, 30, 50, and 60. RAID Cache battery backup is standard on each active RAID controller. Supported storage drives include 2.5” and 3.5” enterprise SSD and SAS hard drives depending on the model.

The two types of StoneFly HA RAID arrays include choice of either 12Gb SAS or 16Gb Fibre Channel Host Interfaces for connections to the StoneFly HA cluster nodes.

Note: Supported RAID levels vary depending on appliance series and model. For details, [contact StoneFly pre-sales engineers.](#)

Available Form Factors for StoneFly HA RAID Arrays

HA RAID Arrays with support for 3.5” enterprise SAS drives and SSDs:

- 12-bay 2U Rackmount (12Gb SAS or 16Gb Fibre Channel host interface)
- 16-bay 3U Rackmount (12Gb SAS or 16Gb Fibre Channel host interface)
- 24-bay 4U Rackmount (12Gb SAS or 16Gb Fibre Channel host interface)

HA RAID Arrays with support for 2.5” enterprise SAS drives and SSDs:

- 24-bay 2U Rackmount (12Gb SAS or 16Gb Fibre Channel host interface)

Note: The compatible HA RAID array may vary depending on the chosen disaggregated backup & DR solution and appliance model. For more information, refer to the relevant **Hardware Specifications** section of the relevant backup & DR product or [contact StoneFly pre-sales engineers](#).

Expandable Bunch of Drives (EBODs)

EBODs are storage expansion units compatible with most StoneFly backup & DR solutions. EBODs are used to add more storage capacities to existing StoneFly backup & DR systems (scale up or vertical scaling). With support for enterprise SAS drives, StoneFly EBODs enable users to set up multi-tiered storage capacities with their existing backup & DR infrastructure.

The EBODs used for integrated, dual-node shared nothing, and scale out backup & DR systems differ from the EBODs used for disaggregated HA backup & DR systems.

For more information, please refer to sections [4.5](#) and [4.6](#).

Available Form Factors for EBODs**EBODs for Integrated Hardware with support for 3.5” enterprise SAS drives and SSDs:**

- 12-bay 2U 12Gb SAS Expansion Unit
- 16-bay 3U 12Gb SAS Expansion Unit
- 24-bay 4U 12Gb SAS Expansion Unit
- 44-bay 4U 12Gb SAS Expansion Unit
- 60-bay 4U 12Gb SAS Expansion Unit

EBODs for Integrated Hardware with support for 2.5” enterprise SAS drives and SSDs:

- 24-bay 2U 12Gb SAS Expansion Unit

For the hardware specifications of integrated appliance EBODs, please refer to section [4.5](#).

EBODs for Disaggregated HA Hardware with support for 3.5” enterprise SAS drives:

- 12-bay 2U 12Gb SAS HA Expansion Unit
- 16-bay 3U 12Gb SAS HA Expansion Unit
- 60-bay 4U 12Gb SAS HA Expansion Unit, Single Drawer
- 60-bay 4U 12Gb SAS HA Expansion Unit, Three Drawers

EBODs for Disaggregated HA Hardware with support for 2.5” enterprise SAS drives:

- 24-bay 2U 12Gb SAS HA Expansion Unit

For the hardware specifications of HA appliance EBODs, please refer to section [4.6](#).

2.1.1 Integrated Appliance

The integrated appliance hardware architecture delivers the “backup & DR in a box” experience. This hardware architecture is comprised of a single hardware chassis with built-in backup controller, RAID Controller and storage drives.



12-bay 2U 3.5” Rackmount

StoneFly integrated appliance hardware supports 6Gb SATA (D-Series appliances only), enterprise 12Gb SAS 7200RPM drives, and enterprise 12Gb SAS SSDs with storage capacities ranging from a few terabytes to multiple petabytes.

Available Integrated Appliance Form Factors

D-Series integrated appliances that support 3.5” 6Gb SATA drives:

- 4-bay Mini-Tower
- 6-bay 2U Rackmount

D, XS, and XD-Series integrated appliances that support 3.5” 12Gb SAS drives & SSDs:

- 12-bay 2U Rackmount
- 16-bay 3U Rackmount
- 24-bay 4U Rackmount
- 36-bay 4U Rackmount

D, XS, and XD-Series integrated appliances that support 2.5” 12Gb SAS drives & SSDs:

- 24-bay 2U Rackmount

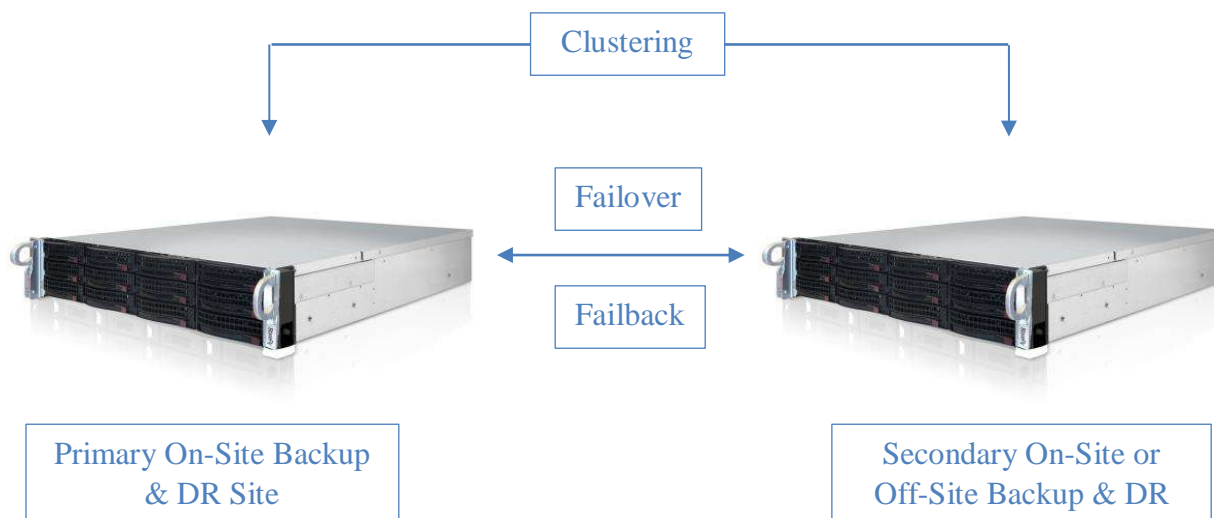
Note: Supported integrated appliance form factors vary depending on the backup & DR solution. For more information, please refer to the **Hardware Specifications** section of the relevant StoneFly backup & DR product or [contact StoneFly pre-sales engineers](#).

2.1.2. Dual-Node Shared Nothing Systems

StoneFly dual-node shared nothing systems are comprised of two synchronized integrated appliance nodes. This hardware configuration is built to deliver fault-tolerance and high-availability in the event of the complete hardware failure of an entire integrated appliance node.

This high-availability hardware configuration leverages the StoneFly storage OS to replicate data between the two appliance nodes in real-time thereby creating redundant copies of data.

In the event of hardware failure of a single integrated appliance node, the system automatically fails over to the secondary node, delivering a disruption-free storage experience while the primary system is repaired. This makes this configuration the best fit for enterprise environments that cannot tolerate downtime and are looking for a backup & DR system without a single point-of-failure.



Note: The available form factors, appliance models and hardware components of the dual-node shared nothing storage systems are the same as the integrated appliance hardware architecture. The only difference between the two is that integrated appliances are comprised of a single hardware chassis whereas the dual-node shared nothing uses two synchronized integrated appliances.

2.1.3. Scale Out Systems

Scale out systems start with three integrated appliance nodes. As the name suggests, StoneFly scale out hardware architecture is built to deliver the ability to scale out to virtually an unlimited number of appliance nodes for petabytes of storage capacity.



Scale Out System – 3 x 12-bay 2U Integrated Appliance Nodes

Each integrated appliance node has a built-in processor, hyperconverged backup controller, RAID controller and storage drives. The total workload is aggregated over the total number of appliance nodes in the backup & DR scale out system. The addition of each new scale out node delivers a gradual increase in performance, along with an increase in storage capacity. The ability to dually scale makes scale out backup & DR systems the perfect fit for business environments that process and back up big data.

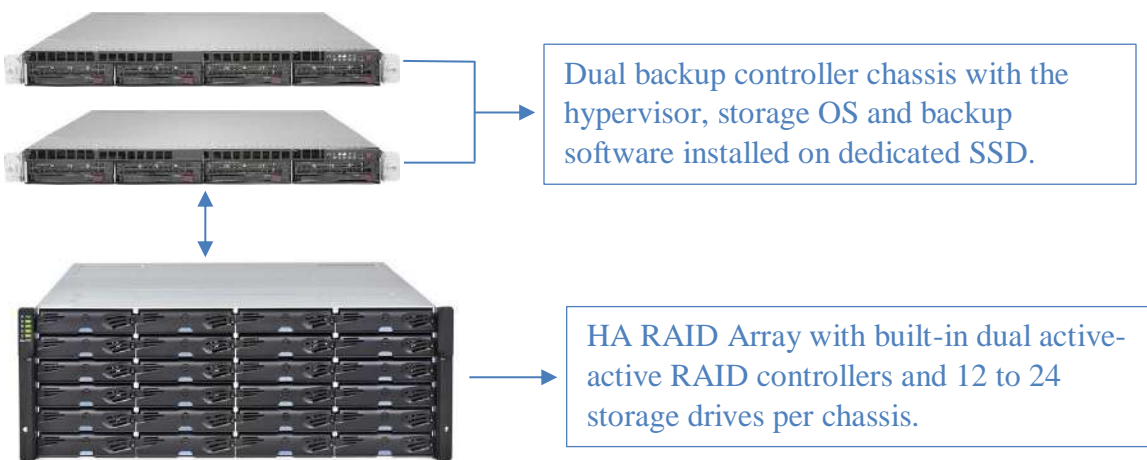
Note: The available form factors, appliance models and hardware components of the scale out storage systems are the same as the integrated appliance hardware architecture. The only difference between the two is that integrated appliances are a single hardware chassis whereas the scale out storage systems are comprised of at least three integrated appliance nodes.

2.1.4. Disaggregated Backup & DR Systems (High-Availability)

The disaggregated backup & DR system is a high-availability modular hardware architecture built to deliver fault-tolerance, remove single point-of-failure, and simplify scalability for enterprise-level workloads.

StoneFly disaggregated backup & DR systems are comprised of three or more hardware chassis:

- Two Backup Controllers (1U or 2U Chassis)
- One or More HA RAID Array(s)
- Optional HA Expandable Bunch of Drives (EBODs)



With hardware independent backup controllers, the disaggregated backup & DR systems prevent downtime due to backup controller failure. Moreover, the dual backup controllers prevent bottlenecks by delivering multi-path access to the storage hardware chassis (HA RAID array) with the optional multipath upgrade option.

Due to the fact that the backup controllers are in separate hardware chassis, the process of repairing them is simpler and budget-friendly. Disaggregated storage solution users can replace the malfunctioned backup controller chassis while the secondary / redundant controller continues to facilitate access.

Even in the event of a backup controller hardware failure, the appliance continues to operate without experiencing downtime. This disaggregated high-availability hardware architecture is thus best fit for enterprises and data centers that cannot tolerate downtime, while providing easy data center management.

Available Form Factors for Disaggregated Systems

For information about the available form factors for the backup controller chassis, please refer to the [backup controller](#) section.

For information about the available form factors for the HA RAID arrays, please refer to the [HA RAID Array](#) section.

2.2 Supported Storage Drives

Following is a list of storage drives supported by StoneFly backup & DR appliances.

| | |
|---|------------------------|
| 3.5" Enterprise Drives | |
| 12Gb 7200RPM SAS | 10TB, 14TB, 16TB, 18TB |
| 6Gb 7200RPM SATA (4 and 6-bay D-Series only) | 10TB, 14TB, 16TB |

| | |
|---|-----------------------------------|
| 2.5" Enterprise Drives | |
| 12GB SAS SSD (1x DWPD) | 960GB, 1.9TB, 3.8TB, 7.6TB |
| 12GB SAS SSD (3x DWPD) | 800GB, 1.6TB, 3.2TB, 6.4TB |
| 12Gb SAS SSD (10x DWPD) | 400GB, 800GB, 1.6TB, 3.2TB |
| 6Gb SATA SSD (3x DWPD) (4 and 6-bay D-Series only) | 240GB, 480GB, 960GB, 1.9TB, 3.8TB |

* 2.5" Enterprise SAS drives are supported in most StoneFly appliances supporting 3.5" Enterprise SAS drives when combined with a special converter or tray.

2.2.1 Raw Storage Capacities for StoneFly Backup & DR Appliances

The following is a measure of the raw storage capacities of StoneFly backup & DR appliances. The usable and effective storage capacities differ based on the configured RAID, deduplication and compression features.

All StoneFly D-Series, XS-Series and XD-Series integrated appliances with 12-bays or larger are capable of **scaling up** to 256 drives per appliance node when combined with StoneFly expansion units.

All StoneFly backup & DR appliances can **scale out** to virtually unlimited number of appliance nodes and corresponding storage capacities.

Raw Storage Capacities (Integrated Appliances, Dual-Node Shared Nothing, Scale Out Systems, Disaggregated HA Clusters, HA RAID Arrays & EBODs)

| | | |
|----------------------------|------------------------|---------|
| 4-Bay Mini Tower (3.5") | 6Gb 7200 RPM SATA | 64TB |
| | 6Gb SATA SSD (3x DWPD) | 15.2TB |
| 6-Bay 2U Rackmount (3.5") | 6Gb 7200 RPM SATA | 96TB |
| | 6Gb SATA SSD (3x DWPD) | 22.8TB |
| 8-Bay 2U Rackmount (3.5") | 12Gb 7200 RPM SAS | 144TB |
| | 12Gb SAS SSD (1x DWPD) | 60.8TB |
| | 12Gb SAS SSD (3x DWPD) | 51.2TB |
| 12-Bay 2U Rackmount (3.5") | 12Gb 7200 RPM SAS | 216TB |
| | 12Gb SAS SSD (1x DWPD) | 91.2TB |
| | 12Gb SAS SSD (3x DWPD) | 76.8TB |
| 16-Bay 3U Rackmount (3.5") | 12Gb 7200 RPM SAS | 288TB |
| | 12Gb SAS SSD (1x DWPD) | 121.6TB |
| | 12Gb SAS SSD (3x DWPD) | 102.4TB |
| 24-Bay 4U Rackmount (3.5") | 12Gb 7200 RPM SAS | 432TB |
| | 12Gb SAS SSD (1x DWPD) | 182.4TB |
| | 12Gb SAS SSD (3x DWPD) | 153.6TB |
| 36-Bay 4U Rackmount (3.5") | 12Gb 7200 RPM SAS | 648TB |
| | 12Gb SAS SSD (1x DWPD) | 276.4TB |
| | 12Gb SAS SSD (3x DWPD) | 230.4TB |

| | | |
|---|------------------------|---------|
| 44-Bay 4U Rackmount (3.5") [EBOD only] | 12Gb 7200 RPM SAS | 792TB |
| | 12Gb SAS SSD (1x DWPD) | 337.9TB |
| | 12Gb SAS SSD (3x DWPD) | 281.6TB |
| 60-Bay 4U Rackmount (3.5") [EBOD/HA EBOD only] | 12Gb 7200 RPM SAS | 1,080TB |
| | 12Gb SAS SSD (1x DWPD) | 456TB |
| | 12Gb SAS SSD (3x DWPD) | 384TB |

Note: The raw storage capacities listed above are for appliances fully populated with a single type of drive. StoneFly appliances can be configured with a combination of different drive types and capacities, thus offering variable raw storage capacities. For more information about the raw capacity of a StoneFly storage appliance, please [contact StoneFly pre-sales engineers](#).

2.3 Network Ports

StoneFly D-Series, XS-Series and XD-Series appliances come standard with at least two 10Gb ports per node. The standard network ports vary depending on the appliance series and model.

Following is a list of the supported network ports and available network port upgrade options for D-Series (Gen 2), XS-Series and XD-Series integrated (including dual-node shared nothing & scale out) appliances:

2.3.1 Network Port Upgrade Options for StoneFly D-Series (Gen 2) & XS/XD-Series Integrated Appliances

- Dual 1Gb Copper Ethernet Ports
- Quad 1Gb Copper Ethernet Ports
- Dual 10Gb RJ-45 Copper Ethernet Ports
- Quad 10Gb RJ-45 Copper Ethernet Ports
- Dual 10Gb SR Optical Ethernet Ports with 10Gb SFP+ SR Optical Transceiver Modules
- Single 10Gb LR Optical Ethernet Port with 10Gb SFP+ LR Optical Transceiver Module
- Dual 10Gb SFP+ Ports (Cables/Transceiver Modules Not Included)
- Quad 10Gb SFP+ Ports (Cables/Transceiver Modules Not Included)
- Dual 40Gb QSFP+ Ports (Cables/Transceiver Modules Not Included)

2.3.2 Network Port Upgrade Options for StoneFly D-Series (Gen 2), and XS/XD-Series Disaggregated (HA) Cluster Systems

| | |
|---|-------------------|
| Quad 1Gb Copper Ethernet Ports for HA Cluster | 2 per Node |
| Eight 1Gb Copper Ethernet Ports for HA Cluster | 4 per Node |
| Quad 10Gb RJ-45 Copper Ethernet Ports for HA Cluster | 2 per Node |
| Eight 10Gb RJ-45 Copper Ethernet Ports for HA Cluster | 4 per Node |
| Quad 10Gb CX4 Copper Ethernet Ports for HA Cluster | 2 per Node |
| Quad 10Gb SR Optical Ethernet Ports with 10Gb SFP+ SR Optical Transceiver Modules for HA Cluster | 2 per Node |
| Dual 10Gb LR Optical Ethernet Ports with 10Gb SFP+ LR Optical Transceiver Modules for HA Cluster | 1 per Node |
| Quad 10Gb SFP+ Ports for HA Cluster | 2 per Node |
| Eight 10Gb SFP+ Ports for HA Cluster | 4 per Node |
| Quad 40Gb QSFP+ Ports for HA Cluster | 2 per Node |

Note: Available network port upgrades vary depending on the appliance series and available PCI-E slots in the appliance. For more information, [contact StoneFly pre-sales engineers](#).

2.4 Processor, System Memory & SSD for OS

This section lists the available processors, system memory and SSD options for the OS.

Note: Standard and compatible hardware components may vary depending on the appliance series and model. Please refer to the **Hardware Specifications** of the relevant backup & DR solution or [contact StoneFly pre-sales engineers](#) for more information.

2.4.1 Processor Options

Processor Options for Integrated & Disaggregated HA Appliances (Per Node)

| | D-Series (Gen 1) | D-Series (Gen 2) | XS-Series | XD-Series |
|-----------------|-----------------------|-----------------------|--|--|
| Standard | 8-Core Xeon Processor | 4-Core Xeon Processor | 10-Core Xeon Processor | Dual 10-Core Xeon Processors |
| Upgrade Options | None | 8-Core Xeon Processor | <ul style="list-style-type: none"> • 12-Core Xeon • 16-Core Xeon • 18-Core Xeon • 20-Core Xeon • 24-Core Xeon • 28-Core Xeon | <ul style="list-style-type: none"> • Dual 12-Core Xeons • Dual 16-Core Xeons • Dual 18-Core Xeons • Dual 20-Core Xeons • Dual 24-Core Xeons • Dual 28-Core Xeons |

Note: The processor options listed above are also supported for the dual-node shared nothing and scale out systems.

2.4.2 System Memory Options

System Memory Options for Integrated Appliances

| | D-Series | XS-Series | XD-Series |
|-----------------|--|---|---|
| Standard | 32GB | 32GB | 64GB |
| Upgrade Options | <ul style="list-style-type: none"> • 64GB • 128GB • 256GB (Gen 2) | <ul style="list-style-type: none"> • 64GB • 128GB • 256GB • 384GB • 512GB • 1TB | <ul style="list-style-type: none"> • 128GB • 256GB • 384GB • 512GB • 768GB • 1TB • 2TB |

Note: The system memory options listed above are also supported for the dual-node shared nothing and scale out systems.

System Memory Options for Disaggregated HA Appliances (Per Node)

| | D-Series | XS-Series | XD-Series |
|-----------------|--|---|--|
| Standard | 32GB | 32GB | 64GB |
| Upgrade Options | <ul style="list-style-type: none"> • 64GB • 128GB • 256GB (Gen 2) | <ul style="list-style-type: none"> • 64GB • 128GB • 256GB • 384GB • 512GB • 768GB • 1TB • 1TB (2U only) | <ul style="list-style-type: none"> • 128GB • 256GB • 384GB • 512GB • 768GB • 1TB • 2TB • 3TB (1U only) |

2.4.3 SSD for OS

StoneFly backup & DR appliances use SSD or Flash for the backup controller and OS. This section describes in detail the standard and available upgrade options for the SSD dedicated for the OS.

NVMe SSD for OS Options - Integrated Appliances

| | D-Series | XS-Series | XD-Series |
|-----------------|--|-----------|-----------|
| Standard | 256GB PCI-E Based NVMe SSD for Hypervisor/OS | | |
| Upgrade Options | <ul style="list-style-type: none"> • 512GB PCI-E Based NVMe SSD for Hypervisor/OS • 1TB PCI-E Based NVMe SSD for Hypervisor/OS • 2TB PCI-E Based NVMe SSD for Hypervisor/OS • 3.8TB PCI-E Based NVMe SSD for Hypervisor/OS | | |

NVMe SSD for OS Options - High-Availability (HA) Appliances (Per Node)

| | D-Series, XS-Series, Dual 2U XD-Series | Dual 1U XD-Series |
|-----------------|---|---|
| Standard | 256GB NVMe SSD for Hypervisor/OS | 240GB SSD for Hypervisor/OS |
| Upgrade Options | <ul style="list-style-type: none">• 512GB NVMe SSD for Hypervisor/OS• 1TB NVMe SSD for Hypervisor/OS• 2TB NVMe SSD for Hypervisor/OS• 3.8TB NVMe SSD for Hypervisor/OS | <ul style="list-style-type: none">• 480GB SSD for Hypervisor/OS• 960GB SSD for Hypervisor/OS• 1.9TB SSD for Hypervisor/OS• 3.8TB SSD for Hypervisor/OS |

Chapter 3:

StoneFly Storage Concentrator Virtual Machine (SCVM)

StoneFly SCVM is an 8th generation patented storage operating system that is included in all StoneFly backup and DR solutions. In this chapter, we'll take a closer at SCVM and describe what it is, how it works and what features it offers to simplify and improve your backup & DR experience.

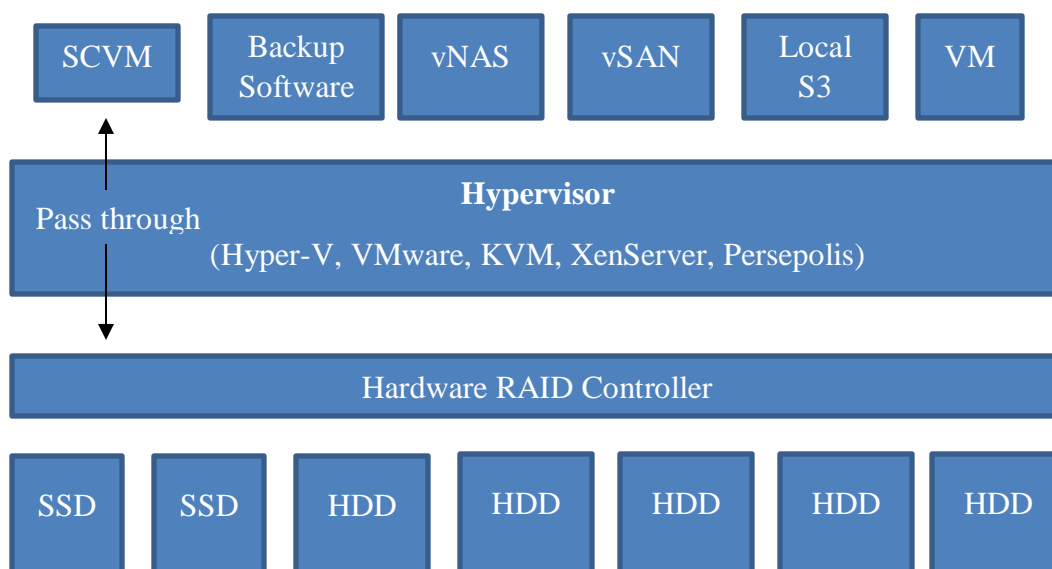
3.1 What is SCVM?

StoneFly SCVM is a storage operating system that enables users to provision NAS, SAN, & object storage on their backup & DR appliance. Besides storage virtualization and provisioning, SCVM also comes with an array of data protection and data storage optimization features that are poised to deliver great value-for-the-money experience.

SCVM also enables users to integrate cloud storage repositories (Microsoft Azure, AWS, StoneFly cloud, any other S3 compatible cloud) with their backup & DR infrastructure; giving users access to highly scalable and affordable target repositories for backup data storage, retention and archiving.

3.1.1 SCVM Deployment

Note: SCVM is standard on all StoneFly backup & DR appliances. StoneFly customers do not have to install the Virtual Machine (VM) on our backup & DR solutions. Users only need to configure the management network for the VM.



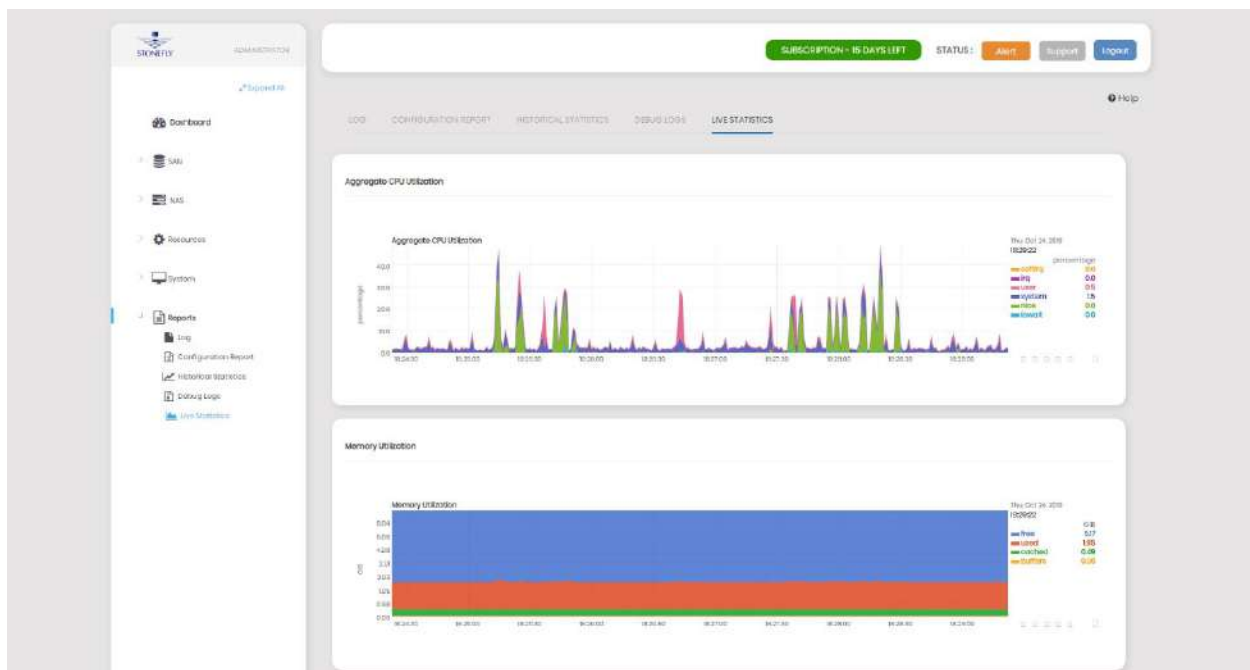
SCVM is deployed as a VM on industry standard hypervisors such as Hyper-V, VMware, KVM, XenServer (Citrix), or StoneFly Persepolis.

Note: Hypervisor availability may vary depending on the StoneFly product series selected.

The storage OS comes with an easy-to-use management GUI that enables users to provision desired resources on the backup & DR appliance. This makes StoneFly backup & DR solutions the complete package containing the backup software, target repository, and software-defined networking.

The SCVM passes through the hypervisor or virtualization environment interacting directly with the RAID controller and gives users the ability to fully utilize their backup & DR appliances. These capabilities truly enhance the user experience and improve the ROI and TCO of the infrastructure.

3.1.2 SCVM Dashboard – Real-time Graphical Performance Reporting



StoneFly SCVM Dashboard

SCVM truly puts users in control of their infrastructure with real-time graphical reporting about metrics such as:

- Aggregated CPU Utilization
- System Memory Utilization
- Aggregate Disk Read/Write Activity
- Aggregate Network Usage

3.2 Enterprise-Grade Features of StoneFly SCVM

StoneFly SCVM is equipped with state-of-the-art features that facilitate data protection and effective storage utilization. Here is a brief list of those features:

3.2.1 Data Protection Features of SCVM

- Detachable Air-Gapped NAS volume provisioning that can be “turned off” or “turned on” (spin up) at user’s discretion
- Backup Vault – Isolated Linux-based virtual appliance
- Immutable delta-based, read-only & mountable snapshots
- Built-in anti-virus & anti-ransomware for NAS volumes
- Threat scan & detection for backup data
- WORM (Write-Once Read-Many) Storage Provisioning
- NAS Erasure Coding
- Advanced AES 256-bit encryption

3.2.2 Storage Optimization Features of SCVM

- Thin Provisioning – quick storage provisioning with space reclamation
- Deduplication – reduced storage space consumption & efficient storage capacity usage
- Flash Cache™ - SSD Caching
- Cloud Connect – with support for Azure blob, AWS S3, StoneFly private cloud & other S3 compatible clouds

3.3 SCVM Resources

To learn more about SCVM, visit the StoneFly website: <https://stonefly.com/hyper-converged/scvm-virtual-storage-appliance>

To view SCVM demo videos or how-to videos, please refer to the **Technical Videos** section on the StoneFly website: <https://stonefly.com/resources/technical-videos>

StoneFly SCVM is also available as a standalone VM. To purchase SCVM licenses or to start a free trial go to: <https://stonefly.com/subscription>

For more details, please [contact StoneFly sales](#).

Chapter 4:

On-Premises Backup & DR Appliances

In this chapter, we'll describe our on-premises backup & DR solutions, the available models and the hardware specifications of different appliance series and models.

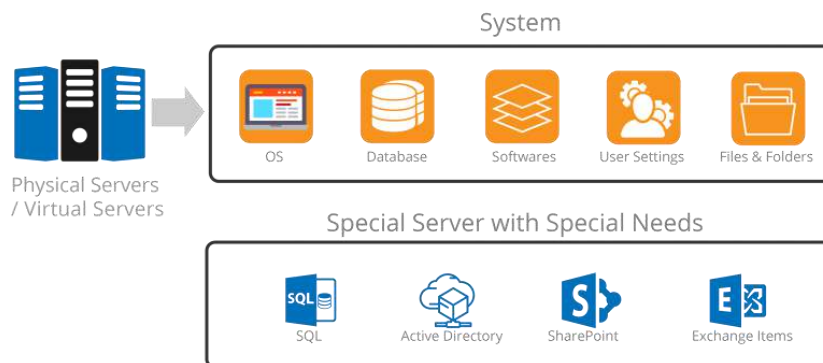
StoneFly's range of on-premises backup & DR solutions is as follows:

- DR365 Backup & DR Appliances (DR Site in a Box)
- DR365V Veeam-Ready Backup & DR Appliances
- DR365U Universal Backup & DR Appliances
- Backup Gateway Appliances

4.1 DR365 Backup & DR Appliance (DR Site in a Box)

The DR365 is an enterprise-grade backup and disaster recovery solution with state-of-the-art data protection features that prevent data loss and ensure high-availability for mission-critical workloads.

What can DR365 backup?



The DR365 appliances can be used to backup physical servers such as Windows Server, Linux, Windows PC, Mac, and Virtual Machines (VMs) running on virtual environments such as VMware, Hyper-V, Citrix, KVM and Oracle VM server.

The backup & DR appliance also facilitates backup and DR for Oracle, MySQL, NoSQL and PostgreSQL databases, Microsoft Exchange, SQL Server, SharePoint, and Active Directory.

With features like direct VM spin up, DR365 backup & DR solutions deliver users the ability to instantly recover mission-critical VMs and workloads and reduce RTPOs to less than 15 minutes.

Available DR365 Appliance Hardware Architectures

- Integrated DR365 Appliances: D-Series, XS-Series, & XD-Series
 - ❖ Dual-Node Shared Nothing DR365 Appliances
 - ❖ Scale Out DR365 Appliances
- Disaggregated HA Cluster DR365 Appliances (DR365-HA): D-Series, XS-Series, & XD-Series

Enterprise-Grade Features of DR365 Backup & DR Appliances

Backup Software Features:

- Central Console for Managing Backup Operations of All Physical & Virtual Systems
- File, Folder, Volume, Full Disk Image (OS, Applications, Configurations, Data), or Bare Metal (Full System) Recovery from any Point-in-time
- Full, Incremental or Differential Backups with Automatic Backup Integrity Verification
- Agentless Backups for Individual VMs Running on DR365 - Backup Software is not Installed on the Individual VMs and Includes Support for Exchange, SQL, SharePoint and Active Directory Backups at No Extra Cost
- Restore Backups of Physical Machines as a Virtual Machine Directly on the DR365 Appliance for Instant Recovery
- Restore from Choice of Physical to Physical, Physical to Virtual, Virtual to Virtual, and Virtual to Physical
- Backups Can Be Restored to the Same Hardware, Dissimilar Hardware, or Different Hypervisor
- Changed Block Tracking Backs up only Used Blocks to Reduce Storage & Network Usage
- SSL-Encrypted Data Transmissions Over the Network and 256-bit AES Encryption of Backups
- Consolidate your datacenter - migrate existing physical servers into VMs on the DR365.
- Quickly spin up new VMs directly on the DR365, at a DR365 mirror or remote DR365.
- Utilize the DR365 appliance's integrated SAN storage for physical machines, for VMs running on the DR365, and for other hyperconverged appliances on your network.
- Asynchronously replicate all of your VMs and storage to the Cloud or a StoneFly DR365 at a remote site for disaster recovery.
- Perform bare metal recovery of the primary appliance from a mirror or remote appliance.

StoneFly SCVM Virtual Storage Appliance Features:

All StoneFly DR365 appliances come preconfigured with our patented storage OS enabling our customers to leverage the enterprise-grade features of the virtual storage appliance.

Following is a brief list of standard and advanced features of StoneFly SCVM:

StoneFly SCVM Standard Features:

- Logical Volume Creation and Patented Advanced Storage Virtualization Services
- 200 iSCSI Volumes Supported with 1022 Concurrent Host iSCSI Sessions
- iSCSI Port Teaming, Failover and Load-Balancing
- Volume-Level Access Control and Dynamic Volume Management
- Support for iSCSI, SNMP Traps, UPS, Nagios, RAID Monitoring, Call Home, VMware VAAI
- Real-Time Graphical Performance Monitoring with Tracking, Monitoring & Utilization Reporting
- Automated Online Volume / Storage Expansion
- Supports up to 200 iSCSI Hosts

StoneFly SCVM Advanced Features:

- StoneFly Snapshot Services with Delta-Based Snapshots per Subsystem
- Mountable Read-Write Snapshot Volumes
- Snapshot Schedule Utility, Command Line Interface Utility
- StoneFly Real-Time Synchronous Mirroring of iSCSI Volumes and Nodes (Campus Mirroring)
- Multi-Site/Multi-Appliance Replication and Unified Central Management System
- Tiered Storage Architecture with Hardware and Software Support
- Thin Provisioning with Space Reclamation
- Available Upgrade Options (Not Included Standard): Asynchronous Replication (One-to-Many & Many-to-One), Hardware-Enabled Volume Encryption, Fibre Channel SAN Target Bundle, NAS (Support for CIFS/SMB and NFS Protocols), Block-Level Data Deduplication, Flash Cache SSD Caching, VSS Support

Additional Features with Optional NAS Volumes Upgrade:

- Support for NAS Volumes (CIFS/SMB & NFS Protocols) and Unlimited NAS Clients
- StoneFly Snapshot Services with 945 Delta-Based Snapshots per Subsystem of NAS Volumes Creating Read-Only Snapshot Volumes
- Scale Out NAS using a Single Name Space to Scale Capacity & Performance
- StoneFly Synchronous Replication of NAS Volumes (Failover Cluster Only)
- NAS Segment AES256 Data Encryption
- WORM (Write-Once, Read-Many) Compliant Policy-Based NAS Storage Support Protects Data from Deletion, Modification, Viruses & Ransomware
- Built-In Virus, Malware and Ransomware Detection and Removal for NAS Volumes
- NAS Tiering, Tiered Storage Architecture with Hardware and Software Support

For more information about StoneFly SCVM, please refer to [Chapter 3](#).

Built-in Cloud Connect

StoneFly DR365 backup & DR appliances come preconfigured with StoneFly SCVM. Users can leverage the patented storage OS (SCVM) to integrate cloud storage tiers such as Azure, AWS, StoneFly private cloud or any other S3-compatible cloud to set up data protection strategies such as the 3-2-1 rule.

Integrated cloud storage repositories can also be leveraged for long term backup data storage, archiving, or storage capacity expansion.

Highly Scalable Backup & DR Appliances

DR365 appliances are capable of storing hundreds of terabytes of backup data when fully populated and are also capable of scaling up (vertically scaling) and scaling out (horizontal scaling).

Integrated DR365 appliances 12-bays and larger can support up to a total of 256 drives (including the internal drives) with expansion units (also applicable to dual-node shared nothing and scale out systems).

The maximum number of drives supported by DR365-HA cluster appliances vary depending on model and configuration. See hardware specifications for further details.

Unified Storage & Server for SAN or NAS Backend Storage

The DR365 appliance series is a hyperconverged unified storage and server capable of storing SAN or optional NAS volumes as back-end storage. Users can also deploy their VMs directly on the DR365 appliances for a variety of use-cases.

To learn more about StoneFly DR365, visit StoneFly website: <https://stonefly.com/dr-backup-appliances>

Hardware Specification - StoneFly DR365 Integrated Appliance Models: D-Series

| | 4-bay Gen 1 | 6-bay Gen 1 | 8-bay Gen 2 | 12-bay Gen 2 | 16-bay Gen 2 | 24-bay (3.5") Gen 2 | 36-bay Gen 2 | 24-bay (2.5") Gen 2 |
|---|--|-------------------------|--|---|---|---------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix | | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 8-Core Xeon Processor | | 4-Core Xeon Processor (Standard) / 8-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 128GB (Optional) | | 32GB (Standard) / Up to 256GB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | | | |
| RAID Controller | High-Performance 6Gb SATA Hardware RAID Controller | | High Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup | | | | | |
| Supported RAID Levels | RAID 0, 1, 5, 6, 10 | RAID 0, 1, 5, 6, 10, 50 | RAID 0, 1, 3, 5, 6, 10, 30, 50, 60 | | | | | |
| Drive Bays | 4 x 3.5" | 6 x 3.5" | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 6Gb SATA: 7.2k, SSD | | 12Gb SAS: 7.2k, SSD | | | | 12Gb SAS: SSD | |
| Expansion | No External Expansion | | | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ports | | Dual Bonded 10Gb RJ-45, Dual 10Gb SFP+ and Triple 1Gb RJ-45 Ports | | | | | |
| Available Slots for Additional Network Ports | No additional slots | | Up to 1 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | | | |
| Power Supplies | 80-PLUS Bronze PS | High Efficiency PS | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 250W (100-240Vac) | 500W (100-240Vac) | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | Mini-Tower | 2U Rackmount | | | 3U Rackmount | 4U Rackmount | | 2U Rackmount |
| Dimensions (H x W x D) | 9.5" x 8.3" x 11" | 3.5" x 16.9" x 26" | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365 Integrated Appliance Models: XS-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|--|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 10-Core Xeon Processor (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 1TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 2 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365 Integrated Appliance Models: XD-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|---|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processors | Dual 10-Core Xeon Processors (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors (Optional) | | | | | |
| System Memory | 64GB (Standard) / Up to 2TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| Fast Storage | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 4 PCI-E Slots Can Be Used For Optional Network Card(s) or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specifications of StoneFly DR365-HA Cluster Appliances

StoneFly DR365-HA is a disaggregated and modular HCI cluster backup & DR appliance series. The DR365-HA supports 12Gb SAS or 16Gb Fibre Channel-attached HA RAID arrays depending on the model purchased.

This section details the hardware specifications of the backup controllers and the HA RAID arrays (HA RAID storage expansion arrays) of DR365-HA appliances. For more information about StoneFly’s disaggregated HA cluster hardware architectures, refer to section [2.1.4](#) in Chapter 2.

Hardware Specification - StoneFly DR365-HA Backup Controller Appliance Models: D-Series

| | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support |
|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis |
| Processor | 4-Core Xeon Processor per Node (Standard) / 8-Core Xeon Processor per Node (Optional) |
| System Memory | 32GB per Node (Standard) / Up to 256GB per Node (Optional) |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Array(s) |
| Maximum Supported Storage Drives | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) |
| Network Ports | Dual 10Gb RJ-45, Dual 10Gb SFP+ (Transceiver Modules Not Included), and Triple 1Gb RJ-45 Ethernet Connectivity on Each Node [Total of 14 Network Ports per Cluster for Data Access] |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node |
| Power Supply | 600W (100-240Vac) 80-PLUS Platinum PS per Node |
| Form Factor | Two 2U Rackmounts |
| Dimensions (H x W x D) | 3.5” x 17.2” x 25.5” per Node (7” Total Rack Height for Two-Node Cluster) |

Note: For the hardware specifications of supported D-Series HA RAID arrays, please refer to the [DR365-HA RAID Expansion Array Models](#) section.

Hardware Specification - StoneFly DR365-HA Backup Controller Appliance Models: XS-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processor | 10-Core Xeon Processor per Node (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor per Node (Optional) | | | |
| System Memory | 32GB per Node (Standard) / Up to 768GB per Node (Optional) | | 32GB per Node (Standard) / Up to 1TB per Node (Optional) | |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | | | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 3552 Drives with HA RAID/EBOD Expansion (1776 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | | | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 3 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 500W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 25.6" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Note: For the hardware specifications of supported XS-Series HA RAID arrays, please refer to the [DR365-HA RAID Expansion Array Models](#) section.

Hardware Specification - StoneFly DR365-HA Backup Controller Appliance Models: XD-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|--|--|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processors | Dual 10-Core Xeon Processors per Node (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors per Node (Optional) | | | |
| System Memory | 64GB per Node (Standard) / Up to 3TB per Node (Optional) | | 64GB per Node (Standard) / Up to 2TB per Node (Optional) | |
| SSD for OS | 240GB SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) | | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | |
| Fast Storage | N/A | | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage per Node (Optional) | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 5328 Drives with HA RAID/EBOD Expansion (2664 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Six Bonded 10Gb RJ-45 (Backwards Compatible with 1Gb) or Four Bonded 10Gb SFP+ Ethernet Connections per Cluster | | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 5 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 750W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 29.7" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Hardware Specification - StoneFly DR365-HA High-Availability RAID Array Appliance Models

Note: The following HA RAID expansion arrays are supported by D-Series, XS-Series, and XD-Series DR365-HA appliances.

| | 24 x 2.5" 2U HA RAID Array | 12 x 3.5" 2U HA RAID Array | 16 x 3.5" 3U HA RAID Array | 24 x 3.5" 4U HA RAID Array |
|---------------------------------|--|--|--|--|
| Host Interface | 12Gb SAS or 16Gb FC (depending on DR365-HA model selected) | | | |
| RAID | Built-in Dual Active-Active Hot-Swappable RAID Controllers with Transparent Failover/Failback | | | |
| Supported RAID Levels | 0, 1, 0+1, 3, 5, 6, 10, 30, 50 and 60 and Global Spares with RAID Cache Backup Module on Each Controller | | | |
| Drive Bays | 24 x 2.5" | 12 x 3.5" (or 2.5") | 16 x 3.5" (or 2.5") | 24 x 3.5" (or 2.5") |
| Supported Storage Drives | 12Gb SAS drives: SSD | 12Gb SAS drives: 7.2k, SSD | | |
| Expansion | Supports up to 444 Drives with HA EBOD Expansion | Supports up to 432 Drives with HA EBOD Expansion | Supports up to 436 Drives with HA EBOD Expansion | Supports up to 444 Drives with HA EBOD Expansion |
| Power Supplies | Redundant 80-PLUS® Certified Hot-Swappable Power Supplies | | | |
| Power Output/Input | 460W (100-240Vac) | | | |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount |
| Dimensions (H x W x D)* | 3.5" x 17.7" x 19.7" | 3.5" x 17.7" x 19.7" | 5.2" x 17.7" x 19.7" | 7" x 17.7" x 19.7" |

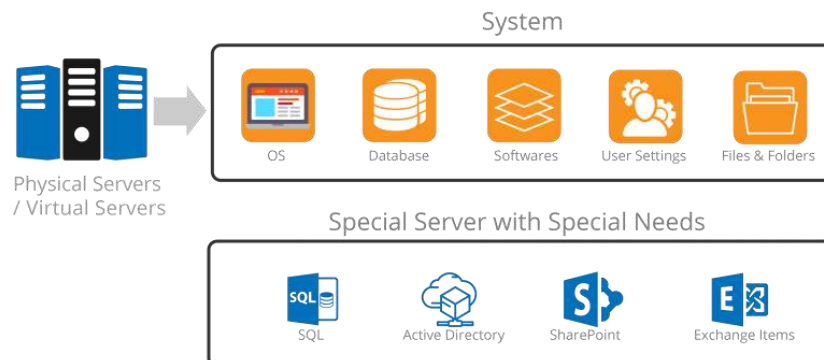
* Excluding chassis ears and protrusions.

Please refer to chapter 2 for more details about supported storage drives ([2.2](#)), raw storage capacities ([2.2.1](#)), network port upgrades ([2.3](#)), processor upgrades ([2.4.1](#)), system memory upgrades ([2.4.2](#)), and SSD for OS upgrades ([2.4.3](#)).

4.2 DR365V Veeam-Ready Backup & DR Appliances

The StoneFly DR365V appliance series is a purpose-built backup & DR solution for Veeam Availability Suite. Preconfigured with Veeam's enterprise-grade Backup & Replication software, the DR365V appliances deliver reduced RTPOs of less than 15 minutes.

What can DR365V Backup?



The DR365V backup and replication appliance enables users to back up physical Windows, Linux, IBM AIX and Oracle Solaris servers and workstations, Virtual Machines (VMs) running on Hyper-V, VMware, and Nutanix AHV hypervisors, NAS volumes (unstructured file-level data such as files, folders, images, videos, etc.), and SAN volumes (structured block-level data such as MySQL, NoSQL, PostgreSQL databases or SAP HANA application etc.).

DR365V also supports backups for Oracle databases, Microsoft Active Directory, Exchange, SharePoint, SQL Server, and Microsoft 365 (formerly Office 365).

Available DR365V Hardware Architectures

The DR365V appliance series is available in enterprise and value-tier appliance models. Following is a list of available DR365V enterprise and value-tier hardware architectures:

Enterprise Appliances:

- Integrated DR365V Appliances: D-Series, XS-Series, & XD-Series
 - ❖ Dual-Node Shared Nothing DR365V Appliances
 - ❖ Scale Out DR365V Appliances
- DR365V-HA™ Disaggregated HA Cluster Appliances: D-Series, XS-Series, & XD-Series

Enterprise-Grade Features of DR365V Appliances

Backup Software Features:

- Supports Veeam Availability Suite with Veeam Backup & Replication, and Veeam ONE (Veeam licenses sold/rented separately).
 - Central monitoring, reporting & capacity planning of your Veeam backup infrastructure.
 - Safely store all of your backups using the DR365V as a Veeam backup repository.
 - Enjoy all of Veeam's built-in features including these and more:
 - 1-Click Restore self-service VM and file recovery.
 - Instant VM recovery restore entire VMs in minutes.
 - Direct Restore to Azure complete turnkey solution to leverage the public cloud.
 - Instant file-level recovery recover individual files effortlessly.
 - Veeam Explorer for Exchange, Active Directory, SharePoint, SQL, Oracle and more.
 - Utilize Veeam's image-based VM replication with failover and failback.
 - Spin up replica VMs directly on the DR365V for instant recovery.
 - Support Veeam deduplication and compression to let you balance storage consumption with performance and backup proxy load. Swap exclusion reduces backup footprints.
 - Seamlessly replicate to the cloud with Veeam Cloud Connect (cloud storage fees apply).
 - Consolidate your datacenter - migrate existing physical servers into VMs on the DR365V.
 - Back up and replicate VMs running on the DR365V (additional Veeam licenses required).
 - Quickly spin up new VMs directly on the DR365V, at a DR365V mirror or remote DR365V.
 - Utilize the DR365V appliance's integrated SAN storage for physical machines, for VMs running on the DR365V, and for other hyperconverged appliances on your network.
 - Asynchronously replicate all of your VMs and storage to the Cloud or a StoneFly DR365V at a remote site for disaster recovery.
 - Perform bare metal recovery of the primary appliance from a mirror or remote appliance.
-

StoneFly SCVM Virtual Storage Appliance Features:

All StoneFly DR365V appliances come preconfigured with our patented storage OS enabling our customers to leverage the enterprise-grade features of the virtual storage appliance.

Following is a brief list of standard and optional features of StoneFly SCVM:

StoneFly SCVM Standard Features:

- Logical Volume Creation and Patented Advanced Storage Virtualization Services
- 200 iSCSI Volumes Supported with 1022 Concurrent Host iSCSI Sessions
- iSCSI Port Teaming, Failover and Load-Balancing
- Volume-Level Access Control and Dynamic Volume Management
- Support for iSCSI, SNMP Traps, UPS, Nagios, RAID Monitoring, Call Home, VMware VAAI
- Real-Time Graphical Performance Monitoring with Tracking, Monitoring & Utilization Reporting
- Automated Online Volume / Storage Expansion
- Supports up to 200 iSCSI Hosts

StoneFly SCVM Advanced Features:

- StoneFly Snapshot Services with 2520 Delta-Based Snapshots per Subsystem
- Mountable Read-Write Snapshot Volumes
- Snapshot Schedule Utility, Command Line Interface Utility
- StoneFly Real-Time Synchronous Mirroring of iSCSI Volumes and Nodes (Campus Mirroring)
- Multi-Site/Multi-Appliance Replication and Unified Central Management System
- Tiered Storage Architecture with Hardware and Software Support
- Thin Provisioning with Space Reclamation
- Available Upgrade Options (Not Included Standard): Asynchronous Replication (One-to-Many & Many-to-One), Hardware-Enabled Volume Encryption, Fibre Channel SAN Target Bundle, NAS (Support for CIFS/SMB and NFS Protocols), Block-Level Data Deduplication, Flash Cache SSD Caching, VSS Support

Additional Features with Optional StoneFly NAS Volumes Upgrade:

- Support for NAS Volumes (CIFS/SMB & NFS Protocols) and Unlimited NAS Clients
- StoneFly Snapshot Services with 945 Delta-Based Snapshots per Subsystem of NAS Volumes Creating Read-Only Snapshot Volumes
- Scale Out NAS using a Single Name Space to Scale Capacity & Performance
- StoneFly Synchronous Replication of NAS Volumes (Failover Cluster Only)
- NAS Segment AES256 Data Encryption
- WORM (Write-Once, Read-Many) Compliant Policy-Based NAS Storage Support Protects Data from Deletion, Modification, Viruses & Ransomware
- Built-In Virus, Malware and Ransomware Detection and Removal for NAS Volumes
- NAS Tiering, Tiered Storage Architecture with Hardware and Software Support

For more information about StoneFly SCVM, please refer to [Chapter 3](#).

Built-in Cloud Connect

All DR365V appliances come preconfigured with SCVM. SCVM enables users to integrate public cloud storage repositories, such as Microsoft Azure, Amazon AWS, any other S3 compatible cloud, or StoneFly's private cloud with their existing backup infrastructure.

Set up data redundancy, data protection strategies such as the 3-2-1 rule, or simply expand the storage capacities of the DR365V appliances by leveraging this built-in feature.

Highly Scalable Backup Infrastructure

The DR365V appliances can store hundreds of terabytes of backup data when fully populated. The backup & DR appliances can also scale up (vertical scaling) by adding storage expansion units and scale out (horizontal scaling) by adding a virtually unlimited number of appliance nodes.

Unified Storage & Server for SAN or NAS Backend Storage

The DR365V appliance series is a hyperconverged unified storage and server capable of storing NAS volumes and SAN volumes as a back end storage. Users can also deploy their VMs directly on the DR365V appliances for a variety of use-cases.

To learn more about StoneFly DR365V solution, visit StoneFly website:

<https://stonefly.com/backup/dr365-for-veeam>

Hardware Specification - StoneFly DR365V Integrated Appliance Models: D-Series

| | 4-bay Gen 1 | 6-bay Gen 1 | 8-bay Gen 2 | 12-bay Gen 2 | 16-bay Gen 2 | 24-bay (3.5") Gen 2 | 36-bay Gen 2 | 24-bay (2.5") Gen 2 |
|---|--|-------------------------|--|---|---|---------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix | | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 8-Core Xeon Processor | | 4-Core Xeon Processor (Standard) / 8-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 128GB (Optional) | | 32GB (Standard) / Up to 256GB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | | | |
| RAID Controller | High-Performance 6Gb SATA Hardware RAID Controller | | High Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup | | | | | |
| Supported RAID Levels | RAID 0, 1, 5, 6, 10 | RAID 0, 1, 5, 6, 10, 50 | RAID 0, 1, 3, 5, 6, 10, 30, 50, 60 | | | | | |
| Drive Bays | 4 x 3.5" | 6 x 3.5" | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 6Gb SATA: 7.2k, SSD | | 12Gb SAS: 7.2k, SSD | | | | 12Gb SAS: SSD | |
| Expansion | No External Expansion | | | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ports | | Dual Bonded 10Gb RJ-45, Dual 10Gb SFP+ and Triple 1Gb RJ-45 Ports | | | | | |
| Available Slots for Additional Network Ports | No additional slots | | Up to 1 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | | | |
| Power Supplies | 80-PLUS Bronze PS | High Efficiency PS | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 250W (100-240Vac) | 500W (100-240Vac) | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | Mini-Tower | 2U Rackmount | | | 3U Rackmount | 4U Rackmount | | 2U Rackmount |
| Dimensions (H x W x D) | 9.5" x 8.3" x 11" | 3.5" x 16.9" x 26" | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365V Integrated Appliance Models: XS-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|--|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 10-Core Xeon Processor (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 1TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 2 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365V Integrated Appliance Models: XD-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|---|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processors | Dual 10-Core Xeon Processors (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors (Optional) | | | | | |
| System Memory | 64GB (Standard) / Up to 2TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| Fast Storage | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 4 PCI-E Slots Can Be Used For Optional Network Card(s) or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Note: Customers can choose to bring their Veeam licenses or purchase Veeam Availability Suite licenses from StoneFly.

Hardware Specifications of StoneFly Enterprise DR365V-HA Cluster Appliances

The StoneFly DR365V-HA is a disaggregated and modular HCI cluster backup & DR appliance series for Veeam. The DR365V-HA supports 12Gb SAS or 16Gb Fibre Channel-attached HA RAID arrays depending on the model purchased.

This section details the hardware specifications of the backup controllers and the HA RAID arrays (HA RAID storage expansion arrays) of the DR365V-HA appliances. For more information about StoneFly’s disaggregated HA cluster hardware architectures, refer to section [2.1.4](#) in Chapter 2.

Hardware Specification - StoneFly DR365V-HA Backup Controller Appliance Models: D-Series

| Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | |
|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis |
| Processor | 4-Core Xeon Processor per Node (Standard) / 8-Core Xeon Processor per Node (Optional) |
| System Memory | 32GB per Node (Standard) / Up to 256GB per Node (Optional) |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Array(s) |
| Maximum Supported Storage Drives | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) |
| Network Ports | Dual 10Gb RJ-45, Dual 10Gb SFP+ (Transceiver Modules Not Included), and Triple 1Gb RJ-45 Ethernet Connectivity on Each Node [Total of 14 Network Ports per Cluster for Data Access] |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node |
| Power Supply | 600W (100-240Vac) 80-PLUS Platinum PS per Node |
| Form Factor | Two 2U Rackmounts |
| Dimensions (H x W x D) | 3.5” x 17.2” x 25.5” per Node (7” Total Rack Height for Two-Node Cluster) |

Hardware Specification - StoneFly DR365V-HA Backup Controller Appliance Models: XS-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processor | 10-Core Xeon Processor per Node (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor per Node (Optional) | | | |
| System Memory | 32GB per Node (Standard) / Up to 768GB per Node (Optional) | | 32GB per Node (Standard) / Up to 1TB per Node (Optional) | |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | | | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 3552 Drives with HA RAID/EBOD Expansion (1776 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | | | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 3 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 500W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 25.6" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Note: For the hardware specifications of supported XS-Series HA RAID arrays, please refer to the [DR365V-HA RAID Expansion Array Models](#) section.

Hardware Specification - StoneFly DR365V-HA Backup Controller Appliance Models: XD-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|--|--|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processors | Dual 10-Core Xeon Processors per Node (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors per Node (Optional) | | | |
| System Memory | 64GB per Node (Standard) / Up to 3TB per Node (Optional) | | 64GB per Node (Standard) / Up to 2TB per Node (Optional) | |
| SSD for OS | 240GB SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) | | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | |
| Fast Storage | N/A | | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage per Node (Optional) | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 5328 Drives with HA RAID/EBOD Expansion (2664 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Six Bonded 10Gb RJ-45 (Backwards Compatible with 1Gb) or Four Bonded 10Gb SFP+ Ethernet Connections per Cluster | | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 5 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 750W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 29.7" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Hardware Specification - StoneFly DR365V-HA High-Availability RAID Array Appliance Models

Note: The following HA RAID expansion arrays are supported by D-Series, XS-Series, and XD-Series DR365V-HA appliances.

| | 24 x 2.5" 2U HA RAID Array | 12 x 3.5" 2U HA RAID Array | 16 x 3.5" 3U HA RAID Array | 24 x 3.5" 4U HA RAID Array |
|---------------------------------|--|--|--|--|
| Host Interface | 12Gb SAS or 16Gb FC (depending on DR365V-HA model selected) | | | |
| RAID | Built-in Dual Active-Active Hot-Swappable RAID Controllers with Transparent Failover/Failback | | | |
| Supported RAID Levels | 0, 1, 0+1, 3, 5, 6, 10, 30, 50 and 60 and Global Spares with RAID Cache Backup Module on Each Controller | | | |
| Drive Bays | 24 x 2.5" | 12 x 3.5" (or 2.5") | 16 x 3.5" (or 2.5") | 24 x 3.5" (or 2.5") |
| Supported Storage Drives | 12Gb SAS drives: SSD | 12Gb SAS drives: 7.2k, SSD | | |
| Expansion | Supports up to 444 Drives with HA EBOD Expansion | Supports up to 432 Drives with HA EBOD Expansion | Supports up to 436 Drives with HA EBOD Expansion | Supports up to 444 Drives with HA EBOD Expansion |
| Power Supplies | Redundant 80-PLUS® Certified Hot-Swappable Power Supplies | | | |
| Power Output/Input | 460W (100-240Vac) | | | |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount |
| Dimensions (H x W x D)* | 3.5" x 17.7" x 19.7" | 3.5" x 17.7" x 19.7" | 5.2" x 17.7" x 19.7" | 7" x 17.7" x 19.7" |

* Excluding chassis ears and protrusions.

Please refer to chapter 2 for more details about supported storage drives ([2.2](#)), raw storage capacities ([2.2.1](#)), network port upgrades ([2.3](#)), processor upgrades ([2.4.1](#)), system memory upgrades ([2.4.2](#)), and SSD for OS upgrades ([2.4.3](#)).

Note: Customers can choose their Veeam license or purchase Veeam Availability Suite licenses from StoneFly.

4.3 DR365U Universal Backup & DR Appliances

StoneFly DR365U is a robust enterprise-grade backup & DR solution designed to be universally compatible with mainstream backup software suites. This unified storage and server is built to store terabytes or petabytes of mission-critical enterprise NAS and SAN data.

Brief List of Compatible User-Supplied Backup Software

- Acronis
- Arcserve
- Commvault
- EMC NetWorker
- IBM Spectrum Protect
- Micro Focus Data Protector
- Oracle Recovery Manager (RMAN)
- Quest
- Red Gate SQL Backup Pro
- StorageCraft ShadowProtect
- Veritas

Available DR365U Hardware Architectures

The DR365U appliance series is available in enterprise and value-tier appliance models. Following is a list of available DR365U enterprise and value-tier hardware architectures:

Enterprise Appliances:

- Integrated DR365U Appliances: D-Series, XS-Series, & XD-Series
 - ❖ Dual-Node Shared Nothing Appliances
 - ❖ Scale Out Appliances
- DR365U-HA™ Disaggregated HA Cluster Appliances: D-Series, XS-Series, & XD-Series

More than Just a Backup Appliance

- Consolidate your datacenter - migrate existing physical servers into VMs on the DR365U.
- Restore Backups of Physical Machines as a Virtual Machine Directly on the DR365U Appliance for Instant Recovery (if supported by third-party backup software suite).
- Quickly spin up new VMs directly on the DR365U, at a DR365U mirror or remote DR365U.
- Utilize the DR365U appliance's integrated SAN storage for physical machines, for VMs running on the DR365U, and for other hyperconverged appliances on your network.
- Asynchronously replicate all of your VMs and storage to the Cloud or a StoneFly DR365U at a remote site for disaster recovery.
- Perform bare metal recovery of the primary appliance from a mirror or remote appliance.

StoneFly SCVM Virtual Storage Appliance Features:

All StoneFly DR365U appliances come preconfigured with our patented storage OS enabling our customers to leverage the enterprise-grade features of the virtual storage appliance.

Following is a brief list of standard and advanced features of StoneFly SCVM:

Standard Features:

- Logical Volume Creation and Patented Advanced Storage Virtualization Services
- 200 iSCSI Volumes Supported with 1022 Concurrent Host iSCSI Sessions
- iSCSI Port Teaming, Failover and Load-Balancing
- Volume-Level Access Control and Dynamic Volume Management
- Support for iSCSI, SNMP Traps, UPS, Nagios, RAID Monitoring, Call Home, VMware VAAI
- Real-Time Graphical Performance Monitoring with Tracking, Monitoring & Utilization Reporting
- Automated Online Volume / Storage Expansion
- Supports up to 200 iSCSI Hosts

Advanced Features:

- StoneFly Snapshot Services with 2520 Delta-Based Snapshots per Subsystem
- Mountable Read-Write Snapshot Volumes
- Snapshot Schedule Utility, Command Line Interface Utility
- StoneFly Real-Time Synchronous Mirroring of iSCSI Volumes and Nodes (Campus Mirroring)
- Multi-Site/Multi-Appliance Replication and Unified Central Management System
- Tiered Storage Architecture with Hardware and Software Support
- Thin Provisioning with Space Reclamation
- Available Upgrade Options (Not Included Standard): Asynchronous Replication (One-to-Many & Many-to-One), Hardware-Enabled Volume Encryption, Fibre Channel SAN Target Bundle, NAS (Support for CIFS/SMB and NFS Protocols), Block-Level Data Deduplication, Flash Cache SSD Caching, VSS Support

Additional Features with Optional NAS Volumes Upgrade:

- Support for NAS Volumes (CIFS/SMB & NFS Protocols) and Unlimited NAS Clients
- StoneFly Snapshot Services with 945 Delta-Based Snapshots per Subsystem of NAS Volumes Creating Read-Only Snapshot Volumes
- Scale Out NAS using a Single Name Space to Scale Capacity & Performance
- StoneFly Synchronous Replication of NAS Volumes (Failover Cluster Only)
- NAS Segment AES256 Data Encryption
- WORM (Write-Once, Read-Many) Compliant Policy-Based NAS Storage Support Protects Data from Deletion, Modification, Viruses & Ransomware
- Built-In Virus, Malware and Ransomware Detection and Removal for NAS Volumes
- NAS Tiering, Tiered Storage Architecture with Hardware and Software Support

For more information about StoneFly SCVM, please refer to [Chapter 3](#).

Built-in Cloud Connect

StoneFly DR365U backup & DR appliances come preconfigured with StoneFly SCVM. Users can leverage the patented storage OS (SCVM) to integrate cloud storage tiers such as Azure, AWS, StoneFly private cloud or any other S3-compatible cloud to set up data protection strategies such as the 3-2-1 rule.

Integrated cloud storage repositories can also be leveraged for long term backup data storage, archiving, or storage capacity expansion.

Highly Scalable Backup & DR Appliances

DR365U backup & DR appliances are capable of storing hundreds of terabytes of backup data when fully populated and are also capable of scaling up (vertically scaling) and scaling out (horizontal scaling).

Integrated DR365U appliances 12-bays and larger can support up to a total of 256 drives (including the internal drives) with expansion units (also applicable to dual-node shared nothing and scale out systems).

The maximum number of drives supported by DR365U-HA cluster appliances vary depending on model and configuration. See hardware specifications for further details.

Unified Storage & Server for SAN or NAS Backend Storage

The DR365U appliance series is a hyperconverged unified storage and server capable of storing SAN or optional NAS volumes as back-end storage. Users can also deploy their VMs directly on the DR365U appliances for a variety of use-cases.

To learn more about StoneFly DR365U appliances, visit StoneFly website:

<https://stonefly.com/backup/universal-backup-and-disaster-recovery-appliance>

Hardware Specification - StoneFly DR365U Integrated Appliance Models: D-Series

| | 4-bay Gen 1 | 6-bay Gen 1 | 8-bay Gen 2 | 12-bay Gen 2 | 16-bay Gen 2 | 24-bay (3.5") Gen 2 | 36-bay Gen 2 | 24-bay (2.5") Gen 2 |
|---|--|-------------------------|--|---|---|---------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix | | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 8-Core Xeon Processor | | 4-Core Xeon Processor (Standard) / 8-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 128GB (Optional) | | 32GB (Standard) / Up to 256GB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | | | |
| RAID Controller | High-Performance 6Gb SATA Hardware RAID Controller | | High Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup | | | | | |
| Supported RAID Levels | RAID 0, 1, 5, 6, 10 | RAID 0, 1, 5, 6, 10, 50 | RAID 0, 1, 3, 5, 6, 10, 30, 50, 60 | | | | | |
| Drive Bays | 4 x 3.5" | 6 x 3.5" | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 6Gb SATA: 7.2k, SSD | | 12Gb SAS: 7.2k, SSD | | | | 12Gb SAS: SSD | |
| Expansion | No External Expansion | | | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ports | | Dual Bonded 10Gb RJ-45, Dual 10Gb SFP+ and Triple 1Gb RJ-45 Ports | | | | | |
| Available Slots for Additional Network Ports | No additional slots | | Up to 1 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | | | |
| Power Supplies | 80-PLUS Bronze PS | High Efficiency PS | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 250W (100-240Vac) | 500W (100-240Vac) | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | Mini-Tower | 2U Rackmount | | | 3U Rackmount | 4U Rackmount | | 2U Rackmount |
| Dimensions (H x W x D) | 9.5" x 8.3" x 11" | 3.5" x 16.9" x 26" | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365U Integrated Appliance Models: XS-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|--|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processor | 10-Core Xeon Processor (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor (Optional) | | | | | |
| System Memory | 32GB (Standard) / Up to 1TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 2 PCI-E Slots Can Be Used For Optional Network Card or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specification - StoneFly DR365U Integrated Appliance Models: XD-Series

| | 8-bay | 12-bay | 16-bay | 24-bay (3.5") | 36-bay | 24-bay (2.5") |
|---|---|---|---|------------------|--------------------|---|
| Hypervisor | Supports VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | | | |
| Processors | Dual 10-Core Xeon Processors (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors (Optional) | | | | | |
| System Memory | 64GB (Standard) / Up to 2TB (Optional) | | | | | |
| NVMe SSD for OS | 256GB (Standard) / Up to 3.8TB (Optional) | | | | | |
| Fast Storage | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage (Optional) | | | | | |
| RAID Controller | High-Performance 12Gb SAS Hardware RAID Controller with RAID Cache Battery Backup Supports RAID Levels 0, 1, 3, 5, 6, 10, 30, 50 and 60 | | | | | |
| Drive Bays | 8 x 3.5" | 12 x 3.5" | 16 x 3.5" | 24 x 3.5" | 36 x 3.5" | 24 x 2.5" |
| Supported Storage Drives | 12Gb SAS drives: 7.2k, SSD | | | | | 12Gb SAS drives: SSD |
| Expansion | No Ext. Expansion | Supports up to 256 Total Drives via EBODs (4PB) | | | | |
| Network Ports | Dual Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | | | | | |
| Available Slots for Additional Network Ports | Up to 4 PCI-E Slots Can Be Used For Optional Network Card(s) or FC SAN Target Upgrades Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+ | | | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | | | | | |
| Power Supplies | Redundant 80-PLUS Titanium Hot-Swappable PS | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS | | | Redundant 80-PLUS Platinum Hot-Swappable PS |
| Power Output/Input | 800W (100-127Vac) / 1000W (200-240Vac) | 920W (100-240Vac) | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | | 920W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 5.2" x 17.2" x 25.5" | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 3.5" x 17.2" x 24.8" |

Hardware Specifications of StoneFly Enterprise DR365U-HA Cluster Appliances

The StoneFly DR365U-HA is a disaggregated and modular HCI cluster backup & DR appliance series for mainstream third-party backup software packages. The DR365U-HA supports 12Gb SAS or 16Gb Fibre Channel-attached HA RAID arrays depending on the model purchased.

This section details the hardware specifications of the backup controllers and the HA RAID arrays (HA RAID storage expansion arrays) of the DR365U-HA appliances. For more information about StoneFly’s disaggregated HA cluster hardware architectures, refer to section [2.1.4](#) in Chapter 2.

Hardware Specification - StoneFly DR365U-HA Backup Controller Appliance Models: D-Series

| | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support |
|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis |
| Processor | 4-Core Xeon Processor per Node (Standard) / 8-Core Xeon Processor per Node (Optional) |
| System Memory | 32GB per Node (Standard) / Up to 256GB per Node (Optional) |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Array(s) |
| Maximum Supported Storage Drives | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) |
| Network Ports | Dual 10Gb RJ-45, Dual 10Gb SFP+ (Transceiver Modules Not Included), and Triple 1Gb RJ-45 Ethernet Connectivity on Each Node [Total of 14 Network Ports per Cluster for Data Access] |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node |
| Power Supply | 600W (100-240Vac) 80-PLUS Platinum PS per Node |
| Form Factor | Two 2U Rackmounts |
| Dimensions (H x W x D) | 3.5” x 17.2” x 25.5” per Node (7” Total Rack Height for Two-Node Cluster) |

Hardware Specification - StoneFly DR365U-HA Backup Controller Appliance Models: XS-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processor | 10-Core Xeon Processor per Node (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor per Node (Optional) | | | |
| System Memory | 32GB per Node (Standard) / Up to 768GB per Node (Optional) | | 32GB per Node (Standard) / Up to 1TB per Node (Optional) | |
| NVMe SSD for OS | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | | | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 8 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 3552 Drives with HA RAID/EBOD Expansion (1776 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | | | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 3 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 500W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 25.6" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Note: For the hardware specifications of supported XS-Series HA RAID arrays, please refer to the [DR365U-HA RAID Expansion Array Models](#) section.

Hardware Specification - StoneFly DR365U-HA Backup Controller Appliance Models: XD-Series

| | Dual 1U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 1U Rackmounts with 16Gb FC Storage Expansion Support | Dual 2U Rackmounts with 12Gb SAS Storage Expansion Support | Dual 2U Rackmounts with 16Gb FC Storage Expansion Support |
|---|---|---|--|--|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | | | |
| Processors | Dual 10-Core Xeon Processors per Node (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors per Node (Optional) | | | |
| System Memory | 64GB per Node (Standard) / Up to 3TB per Node (Optional) | | 64GB per Node (Standard) / Up to 2TB per Node (Optional) | |
| SSD for OS | 240GB SSD for OS per Node (Standard) / Up to 3.8TB SSD for OS per Node (Optional) | | 256GB NVMe SSD for OS per Node / Up to 3.8TB NVMe SSD for OS per Node (Optional) | |
| Fast Storage | N/A | | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage per Node (Optional) | |
| Expansion Array Connections | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 4 x 16Gb FC Ports on Each Node | 2 x 12Gb SAS Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 12Gb SAS Ports on Each Node | 2 x 16Gb FC Ports on Each Cluster Node for Connection to HA RAID Arrays Optional Upgrade to 12 x 16Gb FC Ports on Each Node |
| Max. Supported Storage Drives* | Supports up to 1776 Drives with HA RAID/EBOD Expansion (888 Drive Maximum with Multipathing Upgrade Option) | | Supports up to 5328 Drives with HA RAID/EBOD Expansion (2664 Drive Maximum with Multipathing Upgrade Option) | |
| Network Ports | Six Bonded 10Gb RJ-45 (Backwards Compatible with 1Gb) or Four Bonded 10Gb SFP+ Ethernet Connections per Cluster | | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | |
| Available Slots for Additional Cards | Up to 1 PCI-E Slot per Node Can Be Used For Optional Network Card, FC SAN Target or HBA for HA Expansion Upgrades | | Up to 5 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target and/or HBA for HA Expansion Upgrades | |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | | | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | | | |
| Power Supplies | 750W (100-240Vac) Redundant 80-PLUS Platinum Hot-Swappable PS per Node | | 800W (100-127Vac) / 1000W (200-240Vac) Redundant 80-PLUS Titanium Hot-Swappable PS per Node | |
| Form Factor | Two 1U Rackmounts | | Two 2U Rackmounts | |
| Dimensions (H x W x D) | 1.7" x 17.2" x 29.7" per Node (3.5" Total Rack Height for Two-Node Cluster) | | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) | |

* Cluster Nodes with 16Gb FC Storage Expansion support a nearly unlimited number of drives with addition of FC switch(es).

Hardware Specification - StoneFly DR365U-HA High-Availability RAID Array Appliance Models

Note: The following HA RAID expansion arrays are supported by D-Series, XS-Series, and XD-Series DR365U-HA appliances.

| | 24 x 2.5" 2U HA RAID Array | 12 x 3.5" 2U HA RAID Array | 16 x 3.5" 3U HA RAID Array | 24 x 3.5" 4U HA RAID Array |
|---------------------------------|--|--|--|--|
| Host Interface | 12Gb SAS or 16Gb FC (depending on DR365U-HA model selected) | | | |
| RAID | Built-in Dual Active-Active Hot-Swappable RAID Controllers with Transparent Failover/Failback | | | |
| Supported RAID Levels | 0, 1, 0+1, 3, 5, 6, 10, 30, 50 and 60 and Global Spares with RAID Cache Backup Module on Each Controller | | | |
| Drive Bays | 24 x 2.5" | 12 x 3.5" (or 2.5") | 16 x 3.5" (or 2.5") | 24 x 3.5" (or 2.5") |
| Supported Storage Drives | 12Gb SAS drives: SSD | 12Gb SAS drives: 7.2k, SSD | | |
| Expansion | Supports up to 444 Drives with HA EBOD Expansion | Supports up to 432 Drives with HA EBOD Expansion | Supports up to 436 Drives with HA EBOD Expansion | Supports up to 444 Drives with HA EBOD Expansion |
| Power Supplies | Redundant 80-PLUS® Certified Hot-Swappable Power Supplies | | | |
| Power Output/Input | 460W (100-240Vac) | | | |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount |
| Dimensions (H x W x D)* | 3.5" x 17.7" x 19.7" | 3.5" x 17.7" x 19.7" | 5.2" x 17.7" x 19.7" | 7" x 17.7" x 19.7" |

* Excluding chassis ears and protrusions.

Please refer to chapter 2 for more details about supported storage drives ([2.2](#)), raw storage capacities ([2.2.1](#)), network port upgrades ([2.3](#)), processor upgrades ([2.4.1](#)), system memory upgrades ([2.4.2](#)), and SSD for OS upgrades ([2.4.3](#)).

Note: Customers can choose to bring their own backup licenses or purchase select backup software licenses from StoneFly.

4.4 Backup Gateway Appliances

For data center owners and large organizations with unused storage infrastructure, StoneFly offers the BG365 backup and DR gateway appliance. The BG365 gateway supports a number of mainstream backup software and leverages existing iSCSI target storage resources to build a cost-effective backup & DR solution.

Equipped with StoneFly's patented storage OS, the BG365 gateway appliances optimize the user's backup & DR experience and ensures maximum utilization of available storage infrastructure.

Available BG365 Gateway Appliances

- BG365V™ - Backup & DR Gateway Appliance with Veeam
- BG365C™ - Backup & DR Gateway Appliance with Commvault
- BG365A™ - Backup & DR Gateway Appliance with Acronis
- BG365U™ - Universal Backup & DR Gateway Appliance

Available BG365 Hardware Architectures

- Single-Node Gateway Appliances: XS-Series & XD-Series
- Disaggregated HA Gateway Appliances (BG365-HA): XS-Series & XD-Series

What can BG365 Gateway Appliances backup?

BG365 gateway appliances support different backup software giving them different backup & DR capabilities depending on the installed backup software.

Generally, the BG365 gateway appliances can be configured to back up physical servers and Virtual Machines, NAS volumes (unstructured file-level data such as files, videos, images, etc.) and SAN volumes (structured block-level data such as databases).

Built-in Cloud Connect

All BG365 appliances come preconfigured with SCVM. SCVM enables users to integrate public cloud storage repositories, such as Microsoft Azure, Amazon AWS, any other S3 compatible cloud, or StoneFly's private cloud with their existing backup infrastructure.

Set up data redundancy, data protection strategies such as the 3-2-1 rule, or simply expand the storage capacities of the BG365 appliances by leveraging this built-in feature.

To learn more about StoneFly BG365 backup gateway appliances, visit StoneFly website: <https://stonefly.com/backup-gateway>

Enterprise-Grade Features of the BG365 Gateway Appliances

All StoneFly BG365 appliances come preconfigured with our patented storage OS enabling our customers to leverage the enterprise-grade features of the virtual storage appliance.

Following is a brief list of standard and advanced features of StoneFly SCVM:

Standard Features:

- Logical Volume Creation and Patented Advanced Storage Virtualization Services
- 200 iSCSI Volumes Supported with 1022 Concurrent Host iSCSI Sessions
- iSCSI Port Teaming, Failover and Load-Balancing
- Volume-Level Access Control and Dynamic Volume Management
- Support for iSCSI, SNMP Traps, UPS, Nagios, RAID Monitoring, Call Home, VMware VAAI
- Real-Time Graphical Performance Monitoring with Tracking, Monitoring & Utilization Reporting
- Automated Online Volume / Storage Expansion
- Supports up to 200 iSCSI Hosts

Advanced Features:

- StoneFly Snapshot Services with 2520 Delta-Based Snapshots per Subsystem
- Mountable Read-Write Snapshot Volumes
- Snapshot Schedule Utility, Command Line Interface Utility
- StoneFly Real-Time Synchronous Mirroring of iSCSI Volumes and Nodes (Campus Mirroring)
- Multi-Site/Multi-Appliance Replication and Unified Central Management System
- Tiered Storage Architecture with Hardware and Software Support
- Thin Provisioning with Space Reclamation
- Available Upgrade Options (Not Included Standard): Asynchronous Replication (One-to-Many & Many-to-One), Hardware-Enabled Volume Encryption, Fibre Channel SAN Target Bundle, NAS (Support for CIFS/SMB and NFS Protocols), Block-Level Data Deduplication, Flash Cache SSD Caching, VSS Support

Additional Features with Optional NAS Volumes Upgrade:

- Support for NAS Volumes (CIFS/SMB & NFS Protocols) and Unlimited NAS Clients
- StoneFly Snapshot Services with 945 Delta-Based Snapshots per Subsystem of NAS Volumes Creating Read-Only Snapshot Volumes
- Scale Out NAS using a Single Name Space to Scale Capacity & Performance
- StoneFly Synchronous Replication of NAS Volumes (Failover Cluster Only)
- NAS Segment AES256 Data Encryption
- WORM (Write-Once, Read-Many) Compliant Policy-Based NAS Storage Support Protects Data from Deletion, Modification, Viruses & Ransomware
- Built-In Virus, Malware and Ransomware Detection and Removal for NAS Volumes
- NAS Tiering, Tiered Storage Architecture with Hardware and Software Support

For more information about StoneFly SCVM, please refer to [Chapter 3](#).

Hardware Specification - StoneFly BG365 Single-Node Appliance Models: XS-Series

| | 1U Rackmount | 2U Rackmount |
|-------------------------------|--|--|
| Hypervisor | VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | |
| Processor | 10-Core Xeon Processor (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor (Optional) | |
| System Memory | 32GB (Standard) / Up to 768GB (Optional) | 32GB (Standard) / Up to 1TB (Optional) |
| NVMe SSD for OS | 256GB NVMe SSD for OS / Up to 3.8TB NVMe SSD for OS (Optional) | |
| Network Ports | Two Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) | |
| Available Slots | Up to 2 PCI-E Slots Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage | Up to 4 PCI-E Slots Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | |
| Power Supplies | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS |
| Power Output/Input | 500W (100-240Vac) | 800W (100-127Vac) / 1000W (200-240Vac) |
| Form Factor | 1U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 1.7" x 17.2" x 25.6" | 3.5" x 17.2" x 25.5" |

Hardware Specification - StoneFly BG365 Single-Node Appliance Models: XD-Series

| | 1U Rackmount | 2U Rackmount |
|-------------------------------|--|--|
| Hypervisor | VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | |
| Processors | Dual 10-Core Xeon Processors (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors (Optional) | |
| System Memory | 64GB (Standard) / Up to 3TB (Optional) | 64GB (Standard) / Up to 2TB (Optional) |
| SSD for OS | 240GB SSD for OS (Standard) / Up to 3.8TB SSD for OS (Optional) | 256GB NVMe SSD for OS / Up to 3.8TB NVMe SSD for OS (Optional) |
| Fast Storage | N/A | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage (Optional) |
| Network Ports | Three Bonded 10Gb RJ-45 (Backwards Compatible with 1Gb) or Two Bonded 10Gb SFP+ Ethernet Connections | Two Bonded 10Gb RJ-45 Ethernet Connections (Backwards Compatible with 1Gb) |
| Available Slots | Up to 2 PCI-E Slots Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage | Up to 6 PCI-E Slots Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN | |
| Power Supplies | Redundant 80-PLUS Platinum Hot-Swappable PS | Redundant 80-PLUS Titanium Hot-Swappable PS |
| Power Output/Input | 750W (100-240Vac) | 800W (100-127Vac) / 1000W (200-240Vac) |
| Form Factor | 1U Rackmount | 2U Rackmount |
| Dimensions (H x W x D) | 1.7" x 17.2" x 29.7" | 3.5" x 17.2" x 25.5" |

Hardware Specification - StoneFly BG365-HA Disaggregated Cluster Backup Gateway Appliance Models: XS-Series

| | Dual 1U Rackmounts | Dual 2U Rackmounts |
|-------------------------------|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | |
| Processor | 10-Core Xeon Processor in Each Node (Standard) / 12, 16, 18, 20, 24 or 28-Core Xeon Processor in Each Node (Optional) | |
| System Memory | 32GB per Node (Standard) / Up to 768GB per Node (Optional) | 32GB per Node (Standard) / Up to 1TB per Node (Optional) |
| NVMe SSD for OS | 256GB NVMe SSD for OS in Each Node / Up to 3.8TB NVMe SSD for OS in Each Node (Optional) | |
| Network Ports | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) | |
| Available Slots | Up to 2 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage | Up to 4 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | |
| Power Supplies | Redundant 80-PLUS Platinum Hot-Swappable PS per Node | Redundant 80-PLUS Titanium Hot-Swappable PS per Node |
| Power Output/Input | 500W (100-240Vac) per Node | 800W (100-127Vac) / 1000W (200-240Vac) per Node |
| Form Factor | Two 1U Rackmounts | Two 2U Rackmounts |
| Dimensions (H x W x D) | 1.7" x 17.2" x 25.6" per Node (3.5" Total Rack Height for Two-Node Cluster) | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) |

Hardware Specification - StoneFly BG365-HA Disaggregated Cluster Backup Gateway Appliance Models: XD-Series

| | Dual 1U Rackmounts | Dual 2U Rackmounts |
|-------------------------------|---|---|
| Hypervisor | Supports Cluster-Enabled High-Availability Hypervisor: VMware vSphere, Microsoft Hyper-V, Citrix, KVM, StoneFly Persepolis | |
| Processors | Dual 10-Core Xeon Processors in Each Node (Standard) / Dual 12, 16, 18, 20, 24 or 28-Core Xeon Processors in Each Node (Optional) | |
| System Memory | 64GB per Node (Standard) / Up to 3TB per Node (Optional) | 64GB per Node (Standard) / Up to 2TB per Node (Optional) |
| SSD for OS | 240GB SSD for OS in Each Node (Standard) / Up to 3.8TB SSD for OS in Each Node (Optional) | 256GB NVMe SSD for OS in Each Node / Up to 3.8TB NVMe SSD for OS in Each Node (Optional) |
| Fast Storage | N/A | 256GB up to 3.8TB PCI-E Based NVMe SSD for Fast Data Storage per Node (Optional) |
| Network Ports | Six Bonded 10Gb RJ-45 (Backwards Compatible with 1Gb) or Four Bonded 10Gb SFP+ Ethernet Connections per Cluster | Four Bonded 10Gb RJ-45 Ethernet Connections per Cluster (Backwards Compatible with 1Gb) |
| Available Slots | Up to 2 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage | Up to 6 PCI-E Slots per Node Can Be Used For Optional Network Card, FC SAN Target or SAS/FC Storage Expansion Kits to Easily Convert Your Existing Storage Appliances into Advanced iSCSI Storage |
| Interface Options | Optional Support for 1Gb RJ-45, 10Gb RJ-45, SFP+, CX4, SR Optical, LR Optical, 40Gb QSFP+, 12Gb SAS, 16Gb FC | |
| Management | Gigabit Management Port and Intelligent Platform Management Interface (IPMI) with KVM-Over-LAN per Node | |
| Power Supplies | Redundant 80-PLUS Platinum Hot-Swappable PS per Node | Redundant 80-PLUS Titanium Hot-Swappable PS per Node |
| Power Output/Input | 750W (100-240Vac) per Node | 800W (100-127Vac) / 1000W (200-240Vac) per Node |
| Form Factor | Two 1U Rackmounts | Two 2U Rackmounts |
| Dimensions (H x W x D) | 1.7" x 17.2" x 29.7" per Node (3.5" Total Rack Height for Two-Node Cluster) | 3.5" x 17.2" x 25.5" per Node (7" Total Rack Height for Two-Node Cluster) |

Note: Customers can choose to bring their own backup licenses or purchase select backup software licenses from StoneFly.

Please refer to chapter 2 for more details about supported storage drives ([2.2](#)), raw storage capacities ([2.2.1](#)), network port upgrades ([2.3](#)), processor upgrades ([2.4.1](#)), system memory upgrades ([2.4.2](#)), and SSD for OS upgrades ([2.4.3](#)).

4.5 Integrated Appliance Expansion Units

StoneFly integrated appliance storage expansion units or EBODs (Expandable Bunch of Drives) are used to add more storage capacity to integrated backup & DR appliances. StoneFly integrated appliance expansion units are capable of supporting 12Gb 3.5” SAS drives and 2.5” SSD and SAS drives to increase storage capacities from a few terabytes to several petabytes.

All StoneFly D-Series, XS-Series and XD-Series integrated backup & DR appliances with 12 or more internal drive bays can support up to 256 drives (including internal bays) by utilizing the following EBODs:

| | 24 x 2.5” 2U Expansion Unit | 12 x 3.5” 2U Expansion Unit | 16 x 3.5” 3U Expansion Unit | 24 x 3.5” 4U Expansion Unit | 44 x 3.5” 4U Expansion Unit | 60 x 3.5” 4U Expansion Unit |
|---|--|-------------------------------|---|-----------------------------|---|---|
| Host Interface & Cascading Ports | 12Gbps SAS Host Port and 12Gbps SAS Port for Cascading Expansion | | | | | |
| Drive Bays | 24 x 2.5” | 12 x 3.5” | 16 x 3.5” | 24 x 3.5” | 44 x 3.5” | 60 x 3.5” |
| Supported Storage Drives | 12Gb SAS drives: SSD | 12Gb SAS drives: 7.2k, SSD | | | | |
| Power Supplies | Redundant 80-PLUS Platinum Hot-Swappable PS | | Redundant 80-PLUS Titanium Hot-Swappable PS | | Redundant 80-PLUS Platinum Hot-Swappable PS | |
| Power Output/Input | 920W (100-240Vac) | | 1000W (100 – 127Vac) / 1200W (200 – 240Vac) | | 1000W (100-140Vac) / 1280W (180-240Vac) | 1000W (100-127Vac) / 1600W (200-240Vac) |
| Form Factor | 2U Rackmount | | 3U Rackmount | 4U Rackmount | | |
| Dimensions (H x W x D) | 3.5” x 17.2” x 24.8” | 3.5” x 17.2” x 25.5” | 5.2” x 17.2” x 25.5” | 7” x 17.2” x 26” | 7” x 17.2” x 27.5” | 7” x 17.2” x 30.2” |

For more information about maximum supported storage capacities of StoneFly integrated appliances, [contact StoneFly pre-sales engineers.](#)

4.6 HA Cluster Appliance Expansion Units

Similar in function to the integrated appliance expansion units, the HA expansion units are used to add storage capacity to disaggregated cluster appliances. StoneFly HA cluster appliance expansion units are capable of supporting 12Gb SAS SSD and hard disk drives to increase storage capacities from a few terabytes to several petabytes. All StoneFly enterprise HA cluster appliances are compatible with the storage expansion units described in this section.

| | 24 x 2.5" 2U HA Expansion Unit | 12 x 3.5" 2U HA Expansion Unit | 16 x 3.5" 3U HA Expansion Unit | 60 x 3.5" 4U HA Expansion Unit (Single-Drawer) | 60 x 3.5" 4U HA Expansion Unit (Three-Drawer) |
|---|---|---------------------------------------|---------------------------------------|---|--|
| Host Interface & Cascading Ports | 12Gbps SAS Host Port and 12Gbps SAS Port for Cascading Expansion on Each Controller | | | | |
| Drive Bays | 24 x 2.5" | 12 x 3.5" (or 2.5") | 16 x 3.5" (or 2.5") | 60 x 3.5" | 60 x 3.5" |
| Supported Drives | 12Gb SAS drives: SSD | 12Gb SAS drives: 7.2k, SSD | | | |
| Controllers | Dual Redundant EBOD Expander Controllers for Dual RAID Controller Configurations | | | | |
| Power Supplies | Redundant 80-PLUS Certified Hot-Swappable Power Supplies | | | | |
| Power Output/Input | 530W (100-240Vac) | 460W (100-240Vac) | 530W (100-240Vac) | 1200W (100-240Vac) | 1600W (100-240Vac) |
| Form Factor | 2U Rackmount | 2U Rackmount | 3U Rackmount | 4U Rackmount | 4U Rackmount |
| Dimensions (H x W x D)* | 3.5" x 17.7" x 19.7" | 3.5" x 17.7" x 19.7" | 5.2" x 17.7" x 19.7" | 7" x 17.7" x 33.1" | 7" x 17.7" x 34.8" |

* Excluding chassis ears and protrusions.

For more information about maximum supported storage capacities of StoneFly integrated appliances, [contact StoneFly pre-sales engineers](#).

Chapter 5:

Enterprise Cloud Backup & Replication Solutions

In this chapter, we explore StoneFly's enterprise-grade cloud backup and replication solutions. As a technology alliance partner and a cloud service provider for Veeam, StoneFly offers a number of solutions that enable users to integrate their preferred backup software with the cloud of their choice.

Our solutions are built for everyone. Veeam users can leverage their existing licenses whereas new users can purchase or rent new licenses from StoneFly to set up reliable backup & DR for their mission-critical workloads.

Our range of enterprise cloud backup & replication solutions include:

- Veeam Cloud Connect Backup & Spin Up to Azure
- Veeam Cloud Connect Backup & Spin Up to Amazon S3
- Veeam Cloud Connect Backup, Replication, & Spin Up to StoneFly Private Cloud
- Veeam Microsoft 365 Backup (formerly Office 365)
- StoneFly CDR365 Cloud Backup & DR Software

5.1 Veeam Cloud Connect Backup & Spin Up to Azure

This cloud backup solution enables our customers to leverage Veeam's reliable software and combine it with StoneFly's reliable and cost-effective cloud storage in Azure to set up data protection strategies such as the 3-2-1 rule.

Besides Veeam's enterprise-grade features, the user also benefits from StoneFly's numerous data services as well.

Enterprise-Grade Backup & DR Features:

- VMware vCloud Director
 - Delta-based Snapshots
 - Advanced Data Encryption at Rest & Transit
 - Highly Scalable Azure Cloud Storage Repository
 - Centralized Cloud Backup Management
 - Geo-Replication for High-Availability
 - VM Backup in Azure (Hyper-V and VMware Hypervisors Supported)
 - Automated Tiering for Simplified Management
 - Direct Restore to Azure
 - 1-Click Direct Spin Up in Azure
 - Data Deduplication
-

Back Up & Spin Up Virtual Machines (VMs) in Azure

Configure backups for VMs running on VMware and Hyper-V hypervisors and store them using StoneFly storage in the Microsoft Azure cloud.

With StoneFly gateway technology, the process of storing Veeam backups in Azure cloud is effortless and simple. Our solution also enables users to spin up VM backups in Azure cloud for instant disaster recovery and business continuity.

Full Package with Veeam & Azure Cloud Storage

Simplify your cloud backup & DR experience by letting StoneFly take care of the complexities. For new Veeam users, StoneFly offers the full package with Veeam license, StoneFly virtual storage appliance configured as a gateway and StoneFly storage in the Microsoft Azure cloud. Our technical team helps with the deployment process making the entire experience seamless.

We also facilitate users with Veeam licenses and Azure cloud accounts by offering cloud gateway as a service. For more information about the different deployment options, please contact StoneFly technical support.

Available Licensing Options

Following are the licensing options for StoneFly storage in Microsoft Azure:

- Bring Your Own License (BYOL)
- NAS License
- iSCSI License
- Unified (NAS + SAN) License

| License Features | Unified (SAN + NAS) | SAN (iSCSI) | NAS |
|--|---------------------|-------------|-----------|
| iSCSI Storage | Supported | Supported | |
| NAS – NFS | Supported | | Supported |
| NAS – CIFS/SMB | Supported | | Supported |
| Delta-Based Snapshots | Supported | Supported | Supported |
| Thin Provisioning | Supported | Supported | |
| Synchronous Replication (Campus Mirroring) | Supported | Supported | Supported |
| Asynchronous Replication | Supported | Supported | Supported |
| Volume Encryption | Supported | Supported | Supported |
| Data Deduplication | Supported | Supported | Supported |
| Easy Active Directory | Supported | | Supported |

| | | | |
|-----------------------------|-----------|-----------|-----------|
| Integration | | | |
| Scale Out Storage | Supported | Supported | Supported |
| Unlimited Hosts | Supported | Up to 200 | Supported |
| Storage Tiering | Supported | | Supported |
| Storage Cache | Supported | Supported | |
| WORM Volumes | Supported | | Supported |
| Antivirus / Anti-ransomware | Supported | | Supported |

Microsoft Azure Government Cloud

StoneFly is an authorized Azure Government cloud service provider. We can also help government departments and contractors move their data to the Microsoft Azure government cloud. Comply with applicable industry regulations and store your Veeam backups in the Azure government cloud with StoneFly gateway technology and our storage in Azure government cloud.

For more information, [contact StoneFly pre-sales engineers](#).

To learn more about Veeam cloud connect to Azure, visit StoneFly website:

<https://stonefly.com/veeam-cloud-connect-backup-to-azure>

5.2 Veeam Cloud Connect Backup & Spin Up in Amazon S3

StoneFly also helps organizations looking to integrate Amazon S3 cloud with their Veeam backup software. This solution is also available for users who don't already have Veeam licenses and an Amazon storage account.

Enterprise-Grade Backup & DR Features:

- Delta-based Snapshots
- Advanced Data Encryption at Rest & Transit
- Highly Scalable Azure Cloud Storage Repository
- Centralized Cloud Backup Management
- Geo-Replication for High-Availability
- VM Backup in Azure (Hyper-V and VMware)
- Automated Tiering for Simplified Management
- Direct Restore to Azure
- 1-Click Direct Spin Up in Amazon S3
- Data Deduplication

Back Up & Spin Up Virtual Machines in Amazon S3

Our cloud backup solution enables users to back up VMs running on VMware and Hyper-V hypervisors. Users can spin up backed up VMs in Amazon S3 directly for instant disaster recovery.

The ability to spin up VMs directly in AWS greatly reduces Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs) for mission-critical workloads.

Full Package with Veeam & Amazon S3 Cloud Storage

StoneFly offers the full package comprised of Veeam licenses, cloud storage gateway and Amazon S3 cloud storage in a single package.

For users who already have Veeam licenses and Amazon S3 cloud storage, StoneFly offers cloud gateway as a service. For more information about our gateway solutions, refer to the StoneFly Storage Product Catalog or contact StoneFly pre-sales technical support.

Available Licensing Options

Following are the licensing options for StoneFly storage in Amazon S3:

- Bring Your Own License (BYOL)
- NAS License
- iSCSI License
- Unified (NAS + SAN) License

| License Features | Unified (SAN + NAS) | SAN (iSCSI) | NAS |
|--|---------------------|-------------|-----------|
| iSCSI Storage | Supported | Supported | |
| NAS – NFS | Supported | | Supported |
| NAS – CIFS/SMB | Supported | | Supported |
| Delta-Based Snapshots | Supported | Supported | Supported |
| Thin Provisioning | Supported | Supported | |
| Synchronous Replication (Campus Mirroring) | Supported | Supported | Supported |
| Asynchronous Replication | Supported | Supported | Supported |
| Volume Encryption | Supported | Supported | Supported |
| Data Deduplication | Supported | Supported | Supported |
| Easy Active Directory | Supported | | Supported |

| | | | |
|-----------------------------|-----------|-----------|-----------|
| Integration | | | |
| Scale Out Storage | Supported | Supported | Supported |
| Unlimited Hosts | Supported | Up to 200 | Supported |
| Storage Tiering | Supported | | Supported |
| Storage Cache | Supported | Supported | |
| WORM Volumes | Supported | | Supported |
| Antivirus / Anti-ransomware | Supported | | Supported |

To learn more about Veeam cloud connect to AWS S3, visit StoneFly website:

<https://stonefly.com/veeam-cloud-connect-backup-in-aws-amazon>

5.3 Veeam Cloud Connect Backup, Replication & Spin Up in StoneFly Private Cloud

For organizations looking to configure backup on a customized, secure, and private storage space, StoneFly offers Veeam integration with the StoneFly private cloud. Besides being a private storage space, the StoneFly private cloud also enables users to replicate their NAS, SAN and hyperconverged workloads directly to StoneFly cloud storage repositories.

This cloud backup & DR solutions supports Hyper-V and VMware hypervisors.

Enterprise-Grade Backup & DR Features:

- Delta-based Snapshots
- Synchronous & Asynchronous Replication
- Advanced Data Encryption at Rest & Transit
- Highly Scalable Azure Cloud Storage Repository
- Centralized Cloud Backup Management
- Geo-Replication for High-Availability
- VM Backup in Azure (Hyper-V and VMware Hypervisors Supported)
- Automated Tiering for Simplified Management
- 1-Click Direct Spin Up in StoneFly Private Cloud
- Data Deduplication

Replicate NAS Volumes, SAN Volumes & VMs to StoneFly Private Cloud

Leverage our patented storage OS and replicate NAS (unstructured file-level data such as images, files, folders, etc.), SAN (structured block-level data such as MySQL, NoSQL, PostgreSQL databases or applications like SAP HANA, etc.), and VMs directly to StoneFly private cloud.

By replicating mission-critical workloads, users can reduce RTOs and RPOs and set up instant disaster recovery thereby ensuring high-availability and business continuity.

Direct Spin Up in StoneFly Private Cloud

By replicating workloads and VMs to StoneFly private cloud storage, users also gain the ability to instantly spin up VMs for instant recovery. This delivers RTPOs of less than 15 minutes and saves businesses from downtime.

Full Package with Veeam & StoneFly Private Cloud Storage

Simplify your cloud backup & DR experience with our full package offer that bundles Veeam licenses, StoneFly cloud storage gateway and StoneFly private cloud storage into a simple package.

This cloud backup & DR package also provides users with Veeam rental or subscription licenses.

For more information about our bundled offers, contact StoneFly pre-sales engineers.

Available Licensing Options

Following are the licensing options for StoneFly storage in StoneFly Private Cloud:

- Bring Your Own License (BYOL)
- NAS License
- iSCSI License
- Unified (NAS + SAN) License

| License Features | Unified (SAN + NAS) | SAN (iSCSI) | NAS |
|--|---------------------|-------------|-----------|
| iSCSI Storage | Supported | Supported | |
| NAS – NFS | Supported | | Supported |
| NAS – CIFS/SMB | Supported | | Supported |
| Delta-Based Snapshots | Supported | Supported | Supported |
| Thin Provisioning | Supported | Supported | |
| Synchronous Replication (Campus Mirroring) | Supported | Supported | Supported |
| Asynchronous Replication | Supported | Supported | Supported |
| Volume Encryption | Supported | Supported | Supported |
| Data Deduplication | Supported | Supported | Supported |
| Easy Active Directory Integration | Supported | | Supported |

| | | | |
|-----------------------------|-----------|-----------|-----------|
| Scale Out Storage | Supported | Supported | Supported |
| Unlimited Hosts | Supported | Up to 200 | Supported |
| Storage Tiering | Supported | | Supported |
| Storage Cache | Supported | Supported | |
| WORM Volumes | Supported | | Supported |
| Antivirus / Anti-ransomware | Supported | | Supported |

To learn more about Veeam cloud connect to StoneFly cloud, visit StoneFly website:
<https://stonefly.com/cloud/stonefly-private-cloud-storage>

5.4 Veeam Backup for Microsoft 365 (formerly Office 365)

Veeam Backup for Microsoft 365 is a standalone backup and DR solution purpose-built to back up Microsoft 365 documents and emails. This backup solution is fast and easy to deploy and supports backup for Microsoft SharePoint, Exchange Online, and One drive data.

StoneFly gateway technology enables users to put their backup files in Azure, AWS, StoneFly private cloud or any other S3-compatible cloud.

Users can also configure the Veeam Backup for Microsoft 365 solution to store files on an on-premises or off-site server.

Standard Veeam Backup for Microsoft 365 License includes:

- Veeam Backup for Microsoft 365
- Veeam Backup for Microsoft Exchange
- Veeam Backup for Microsoft SharePoint

Supported Deployments:

- Virtual Environments (VMware, Hyper-V)
- Physical Servers
- Directly in the Cloud (Azure, AWS, etc.)

To learn more about Veeam Backup for Microsoft 365, visit StoneFly website:
<https://stonefly.com/cloud/veeam-backup-for-microsoft-office-365>

5.5 CDR365 Cloud Backup & DR Solution

CDR365 is a standalone online backup solution that enables users to create backups for servers and Virtual Machines (VMs).

CDR365 users can store their backup data in Azure, Amazon S3 or the StoneFly private cloud. We offer a simple per server or per VM based payment model to simplify the user experience.

What can CDR365 backup?

CDR365 can be used to back up Windows, Linux, and macOS physical machines, VMware and Hyper-V Virtual Machines, as well as Microsoft Exchange or SQL Servers to on-premises servers, Microsoft Azure or the Amazon AWS cloud.

Enterprise-Grade Backup & DR Features:

- Image-based Snapshots
- Scheduled Backup Jobs
- Built-in Ransomware Protection
- Synthetic Full Backup
- Compression
- Block-level Backup
- Email Notifications

To learn more about StoneFly CDR365 software, visit StoneFly website:

<https://stonefly.com/backup/cdr365-disaster-recovery-cloud>

Chapter 6:

Contacting StoneFly

We'd love to hear from you about your projects and your Backup & Disaster Recovery needs. You can contact us via email, call us, or schedule a demo directly on the StoneFly website.

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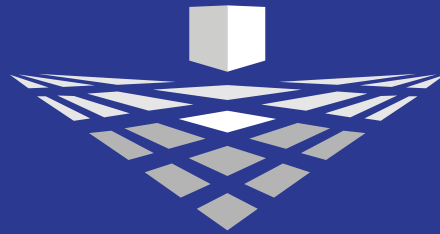
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