

# **Frequently Asked Questions**

#### What is FreeStor?

FreeStor gives customers the ability to move workloads to the right destination, on-premise or in the cloud, with real insight for the right price. By eliminating outdated licensing models and shifting to a new, all-inclusive, primary copy only subscription pricing model, we believe our technology will allow customers to choose the right storage medium, for the right service-level to meet their business objectives, with the right performance and economic benefit for their organization, and break the cycle of vendor lockin.

## How does FreeStor help customers get to the cloud?

We believe the Intelligent Approach to the Cloud requires four areas of "INTELLIGENT" focus from a business perspective:

- Intelligent Abstraction
- Intelligent Predictive Analytics
- Intelligent Action
- Intelligent Pricing

# So what do we mean by Intelligent?

We mean a smart approach that provides the appropriate insight, context, and control to allow users to make informed decisions.

#### What type of industry or customer is the main target user of FreeStor?

Enterprises that are looking to: consolidate their storage environment to gain more efficient use of storage and/or eliminate management silos and complexity, modernize legacy environments without ripping and replacing current hardware, or looking to move to a hybrid or private cloud environment. Service Providers (MSP or CSP) needing to embed a data mover and data services into their offerings to address the heterogeneous variety of hardware across their customers and their own infrastructure.

FreeStor FAQ 1

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## How does FreeStor licensing differ from my other FalconStor licensing?

FreeStor is based on a term use, annual, primary copy only subscription model that is "pay as you go". Our existing point-products are based on a perpetual use license that must be purchased "up front" with annual maintenance contracts. Now, customers will purchase a single license per FreeStor Management Server (FMS) based on the capacity to be managed by that FMS for an agreed-upon contractual term. All software updates, enhancements, all data services and 24 x 7 support are included with the subscription at no additional cost to the customer for as long as an active contract is in place.

## How many license keys will I need to run FreeStor?

With FreeStor, customers only need one license for each FreeStor Management Server (FMS). They can have up to 128 FreeStor Storage Servers (FSS) or FreeStor Dedupe Repositories (FDR) behind each FMS. As FSS are added, no new licenses are required; Storage arrays and capacity can be added or removed at any time without additional licenses.

## What does subscription pricing mean?

Subscription pricing is defined as purchasing FreeStor for a contractual term at a fixed \$/TB rate. This will be billed annually based on capacity being managed by FreeStor. Each year, customers will go through a "True-Up" process to determine the capacity being managed going forward for the following year. The term can be from one year to as many years the customer would like to put under contract to lock-in pricing. Terms of three to five years are typical, but contracts can be longer or shorter depending on the needs of the customer.

# What does "managed capacity" mean?

Customers will only be charged for the primary copy capacity managed by FreeStor. This is separate from the raw capacity of the underlying physical storage, as not all of that storage capacity must be managed by FreeStor. On The Primary copy is defined as the initial or "master copy" o the data. Snapshots and replicated copies are no longer considered as "chargeable" capacity. As a result, customers have the flexibility to use any of the FreeStor data services and add or remove storage capacity at any time without having to stop and get any additional licenses or pay additional fees.



# Do I need to pay for multiple copies of my data?

For the benefit of our customers, FreeStor has created a new pricing policy based upon:

- Pay only for the Primary or Master Copy
- True-Cloud simplicity, flexibility, and economic benefit

This new policy is a true disruption for the storage industry pricing policy. "Pay once" is part of the subscription capacity pricing model where customers only pay for the primary copy of the data and do not have to pay based on "resident data". FalconStor offers its software-defined storage platform with a single price. Customers pay for one license for all future and existing use of the product including copies needed to migrate or to manage Disaster recovery, backup or analytics.

## What is an annual "True-Up" and how does it work?

At the end of each contract year (not calendar year), FalconStor will do a "True-Up" with the customer to see how much capacity is now being managed using a built-in utility called an "X-Ray". Based on the contractual \$/TB rate, the customer will be billed for the coming year based on the capacity being managed at that end of the previous contract year. For example, let's say a customer has a three-year contract with a starting capacity of 200TB. They would initially be charged for 200 TB at the agreed upon \$/TB rate.

At the end of each contract year, an "X-Ray" will be taken to determine how much capacity is being managed by FreeStor. If capacity goes up to 225 TBs at the end of year 1, for year 2 they would pay for 225TB at the same fixed \$/TB rate. If the capacity went down to 175 TB, they would only be charged for that amount in year 2. This annual "True-Up" process will continue annually until the contract ends or is renewed. Once the contract is in place, FalconStor can bill the customer monthly, quarterly or annually, whichever way is best for the customer.

# Is there a migration or upgrade path from FalconStor legacy products into FreeStor?

FreeStor encompasses Storage Virtualization and SDS on one platform to provide all the data services and management through a single pane of glass. As such, there is no upgrade path from any of our existing products. Customers who wish to purchase FreeStor as a new implementation may contact us to discuss how our professional services organization can help.

# Is charge-back reporting available with FreeStor?

FreeStor itself does not do charge-back reporting. However, all the information needed to report on usage, services, bandwidth, throughput, data consumption, performance and much more is available for anyone needing to do charge-backs.



## Does FreeStor support automated client installation and upgrades?

A typical FalconStor Enterprise customer may have hundreds of client servers each requiring use of one or more FalconStor agents. Since it is not practical to manually install and upgrade agent software on these client servers, FreeStor provides integration with Puppet software, an open source configuration management tool, to facilitate the installation and upgrade of FreeStor agent software.

# Can I install FreeStor myself?

FreeStor requires professional services to install and configure. "Jump Start" remote installation is included with the initial FreeStor purchase, and includes:

- Installation of 1 x FreeStor Management Server (FMS) and up to 4 x FreeStor Storage Servers (FSS)
- Annual Subscription of up to 100TBs of capacity
- 6-month health check
- Online e-learning basic course
- Online Administration course

# Is downtime required to update FreeStor nodes (when applying patches or upgrading between versions)?

FreeStor Storage Servers can be configured to ensure that upgrades are non-disruptive and access to data is continuous. FreeStor Management Servers (FMS) can be updated at any time without impact to data availability. Since the FMS is not in the data path, it can be taken down for maintenance without disrupting the Storage Servers.

### What network protocols does FreeStor support?

FreeStor supports Fibre Channel, iSCSI and Fibre Channel over Ethernet (FCoE) for client connections, 10GbE for FSS node storage cluster interlink and FC and IP for connections between FSS and FDR nodes.

#### What about OS support, is it on current releases?

Yes, FreeStor is supported on Linux 7 with FSS, FMS and DiskSafe agents thereby adding to its security and industry support. Future releases will add Linux 7 support for additional agents.

#### What Hypervisors are supported?

VMware ESXi, Xen, Hyper-V, KVM, and Oracle VM are supported at this time. Refer to the Certification Matrix for the latest support information.

# What host applications does FreeStor support?

All the agents available for NSS and CDP are also available for FreeStor.



## Is FreeStor compatible with OpenStack?

FalconStor has created a FreeStor Cinder driver to make FreeStor available to instances within Open-Stack. The FreeStor OpenStack Cinder Driver is certified and included in the OpenStack Newton distribution as well as RedHat OpenStack 8 distribution.

When the OpenStack instances mount FreeStor virtual LUNs, they can take advantage of the vast array of data services provided by FreeStor within the OpenStack environment. The FreeStor data services include:

- In-line Dedupe
- Replication (continuous & delta)
- Application-aware snapshots
- Clones
- Mirrors
- Backup/Recovery
- Continuous data protection
- Thin Provisioning
- Performance enhancements via SafeCache and HotZone

## Can a FreeStor Storage Server (FSS) be run as a Virtual Appliance (VA)?

Yes. FSS can be deployed as a VA, with a total of up to 128 FSS/FreeStor Deduplication Repository (FDR) nodes per FreeStor Management Server (FMS). These nodes can be a mix and match of physical or virtual instances.

# Can I get the new GUI and management server if I stay on the stand-alone products?

FreeStor is a based on a completely new architecture. It uses metadata and a centralized database unique to FreeStor. Therefore, the FreeStor GUI and management server are not compatible with our existing products.

#### Can I organize resources by business unit?

Yes! There are a number of ways this can be done in FreeStor. By assigning devices to Storage Pools in the FreeStor Portal, users can monitor, manage and report by those groups. Our full set of APIs allow for custom reporting on everything from data usage, IO throughput and performance, network throughput and performance, and all data services used or modified. User permissions can also be granted or restricted by Storage Pool.



# Can a single storage server be attached to multiple deduplication repositories?

FalconStor utilizes a single, global deduplication repository across all storage devices of a storage server. The same deduplication repository can be used by multiple storage servers but each storage server can only use one deduplication repository. The global deduplication repository setup can consist of one or multiple server nodes for redundancy. The multiple node configuration as 1+1, 2+1, or 4+1 ensures high availability.

## Does FreeStor support multi-tenancy?

FreeStor offers secured Multi-tenancy through Data, Network and Management isolation, and integrates with existing in place Active Directory or LDAP implementations.

## What type of analytics are provided for my Infrastructure?

The client management feature provides a global central core to edge visibility of host agents and applications by displaying information about client systems and agents; it also allows managing disk protection policies for multiple host clients.

## Does FreeStor allow backups to the cloud?

Yes, FSS is "cloud enabled", meaning that FreeStor VA can run as an EC2 instance to enable DRaaS and BaaS and cloud to cloud migration. Hypervisors are available to allow backups to an instance in Google AWS, Microsoft Azure, and Alibaba Aliyun.

#### Can I use TimeMark snapshots and replication on deduplicated volumes?

Yes. TimeMark snapshots, TimeViews and replication can all be used with deduplicated volumes.

### Are RecoverTrac and HyperTrac compatible with FreeStor?

Yes. RecoverTrac and HyperTrac technologies are compatible with FreeStor

# Much of my infrastructure is not on your Certification Matrix; does that mean I cannot use your product?

Not necessarily. If you have hardware that is not on our certification matrix, we will work with you and our support organization to understand what hardware you have in place and determine if we can do a field certification.

# Is FreeStor available globally?

Yes. You may reach us for more information by contacting us at one of the offices below:

Corporate headquarters are located in Melville, NY. Contact salesinfo@falconstor.com

Europe headquarters are in Munich, Germany. Contact <a href="mailto:salesemea@falconstor.com">salesemea@falconstor.com</a>

Asia headquarters are in Beijing, China. Contact salesasia@falconstor.com