



**DCIG Product Review
Article**

A Product Review of StorageCraft OneXafe

**StorageCraft OneXafe Delivers on Its Promise of Easy
Setup and Configuration**

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StorageCraft OneXafe Product Review

StorageCraft OneXafe Delivers on Its Promise of Easy Setup and Configuration

Final Draft

Backup and disaster recovery represent universal IT needs for almost every small or midsize enterprise. To address them, many acquire and implement backup and recovery solutions themselves. Others engage managed service providers (MSPs) for this service.

Whether organizations perform these tasks themselves or use an MSP, they require a solution to deliver these functions. StorageCraft's OneXafe represents an integrated, converged solution that provides scale-out storage as well as backup and recovery for midsize enterprises.

OneXafe's Feature Offerings Pass Muster

On a feature-by-feature basis, the OneXafe appliance provides the ones midsize enterprises typically expect. It ships as a single integrated solution. It protects applications and data hosted on Windows operating systems. It protects virtual machines (VMs) hosted on VMware vSphere and Microsoft HyperV. It offers fast, non-disruptive recoveries. It provides these features at an attractive price point.

The deeper question becomes, "*How well does StorageCraft translate its features into real-world deliverables?*" I recently completed a product review on the StorageCraft OneXafe to assess how well it delivers on the following:

- Setting up its hardware and software
- Adding more capacity
- Auto discovering virtual machines (VMs)
- Protecting VMs using its immutable continuous data protection (CDP)
- Virtualboot recovery of VMs
- Protection against ransomware

OneXafe Hardware Configuration and Setup

I remotely reviewed two OneXafe appliances running in the StorageCraft labs, its HDD-based 4417 and all-flash 5410 models. This review was done with the help of StorageCraft staff.

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OneXafe 4417



OneXafe 5410

I began by reviewing the setup of each OneXafe appliance. Each appliance follows the same setup process. StorageCraft provides a **Quick Start** guide that walks users through the initial setup. Exactly following the steps in this document is **critical** to quickly and easily set up OneXafe for the first time.

Each OneXafe appliance, optionally, ships with its disk drives installed. StorageCraft does give organizations the option to purchase their own HDDs or SSDs from a qualification list. One may add more drives during the initial install or at any time in the future. This frees organizations to obtain higher capacity drives as they become available and better manage their costs.

Each OneXafe model has redundant power supplies and 4 x 10GbE network ports (optionally configured with six (6) network ports). One may plug in and use from one to six networks ports on the OneXafe. We left all six ports in the single, default port group instead of subdividing them into multiple port groups.

OneXafe Initial Software Configuration and Setup

After installing and powering on OneXafe, we connected to and managed its network interface via a web browser. By default, OneXafe preconfigures all network interfaces into a single port group. It assigns them all the same dynamic IP address with a standard maximum frame size of 1500. One may assign static IP addresses at any time.

OneXafe can use the Dynamic Host Control Protocol (DHCP) if available on a network. DHCP was available and we used it to assign an IP address to OneXafe. This freed us to immediately move to setup and use StorageCraft's OneSystem single pane of management to manage OneXafe.

Setting up OneSystem requires the following 4-step process:

Step 1 – OneSystem Setup

One can set up and manage OneSystem in two ways:

- A hosted application

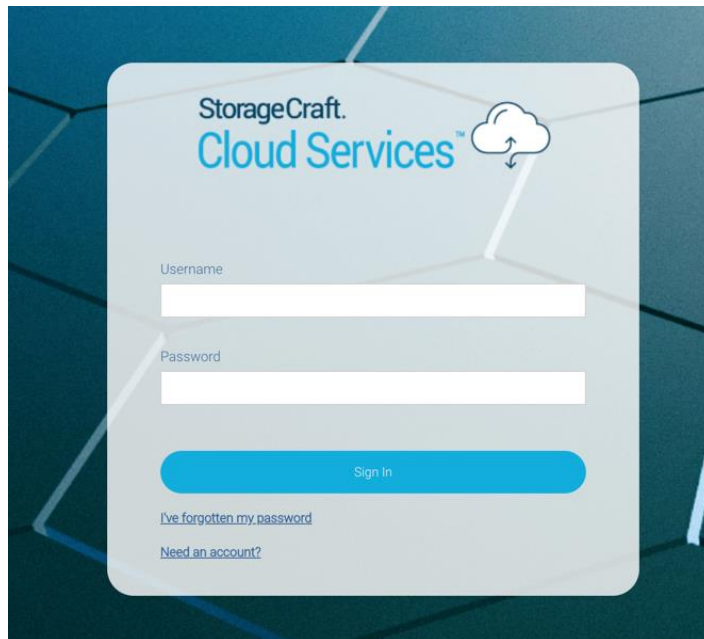
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- An on-premises VM

We used StorageCraft's hosted OneSystem application for management that we accessed at onesystem.storagecraft.com.

Step 2 – Create StorageCraft OneSystem User Account

Whether installing OneSystem on-premises or using StorageCraft's hosted OneSystem application, one must create a StorageCraft Cloud Services account to replicate and failover to StorageCraft's Cloud Services. I registered at the following [link](#).

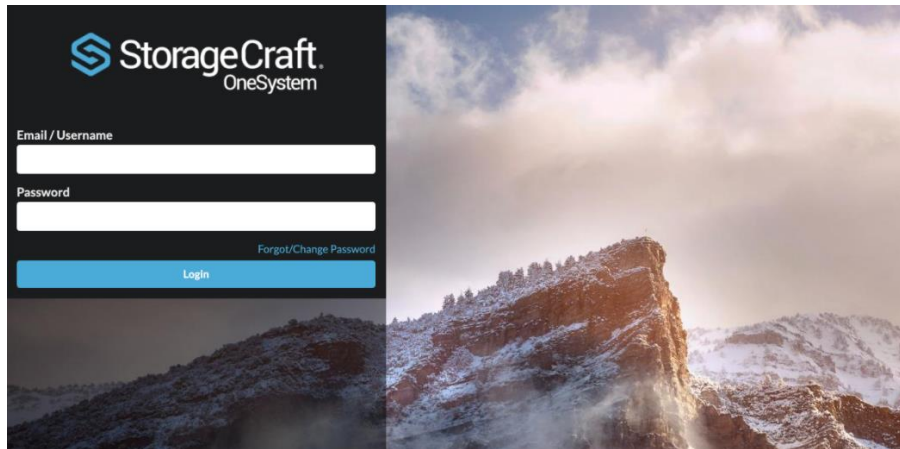


The registration and initial login were straightforward. It required filling out a few fields and supplying a code that was emailed to me.

Step 3 –Register OneXafe with OneSystem

Once we logged into the hosted OneSystem, we clicked on the **View Clusters** button from the Welcome Screen.

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After accepting the OneXafe warranty, EULA, and software and hardware agreements, we came to the **Discover OneXafe** tab. Since we had the IP address for each OneXafe, we entered them.

Register OneXafe

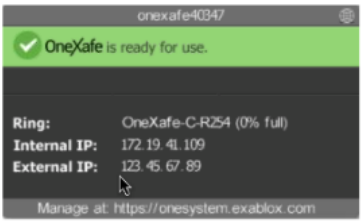
Get Started > Terms and Conditions > **Discover OneXafe** > Registration

Discover OneXafe
 I need to locate my OneXafe using the external IP address

Find OneXafe by External IP Address
We weren't able to detect your rings. Help us out by typing in the IP address located on one of the OneXafe Web Console displays.

Please enter the external IP address displayed on the Web Console of your OneXafe

External IP Address



The screenshot shows a terminal window titled 'onexafe40347'. It displays a green checkmark and the text 'OneXafe is ready for use.' Below this, it lists the following information:
Ring: OneXafe-C-R254 (0% full)
Internal IP: 172.19.41.109
External IP: 123.45.67.89
At the bottom, it says 'Manage at: https://onesystem.exablox.com'

Cancel Back **Next** ✓


OneSystem prompted us for a challenge code generated by each OneXafe appliance. We entered the challenge codes to complete the registration of the two OneXafe appliances.

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Step 4 – Complete OneXafe Configuration through OneXafe Web Console Console

CONFIGURATION

Network Configuration Save



Available Network Profiles Define Network

Network	Port Group	Method	IP Address	Netmask	Gateway	VLAN Tag
storage	1	DHCP	10.30.15.11	255.255.255.0		 
default	0	DHCP	10.30.14.13	255.255.255.0	10.30.14.1	

Port Groups

Port Group 0 Port Group 1





Enable Port Group for network traffic

MAC Addresses:
24:6e:96:b4:b5:5d



Active MAC:
24:6e:96:b4:b5:5c



Configured Networks:
storage: 10.30.15.11

Bond Mode
Configure which mode is used when aggregating multiple network interfaces into a bonded interface. Please verify your ethernet switch(es) support the selected mode.

- Active-Backup (active-backup) 
- Link Aggregation Control Protocol (LACP) 
- Round-robin policy (RR) 
- XOR source and destination MAC address (XOR) 

Maximum Transmission Unit
Configure the ethernet frame size.

- Standard Frame Size (MTU 1500)
- Jumbo Frame Size (MTU 9000) 
- Custom Frame Size 

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We completed the configuration of all the OneXafe appliances by accepting their default settings. We could have changed the following:

- IP address
- Network profile. A OneXafe supports up to 25 network profiles across 25 different subnets
- Ports groups. A OneXafe supports up to three port groups
- Network bond modes and maximum packet transmission sizes

We accepted the defaults. In about 10 minutes, each OneXafe came online.

Ease of Software Installation and Setup Depends Upon Your Environment

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If your first OneXafe appliance can quickly communicate with StorageCraft's hosted OneSystem application, you could complete setup in under 30 minutes.

Regardless of the time the initial setup takes, subsequent OneXafe deployments in your environment should be easy and straightforward. After physically installing a OneXafe, one may immediately jump to steps 3 and 4 above to complete its registration and configuration.

Adding Capacity is Simple, But Plan Ahead

OneXafe scales storage very granularly but to very high capacities (over 1PB). We found OneXafe makes adding more capacity to a node or nodes to a cluster almost a non-event.

Drive Capacity Discovered Automatically

If one only needs to add a new drive (HDD or SSD), simply install it into an available OneXafe drive slot and you are done. OneXafe automatically discovers the new drive and makes that capacity available in its storage pool.

Join a Cluster with a Click

To grow an existing OneXafe cluster, one adds another node to it. While in the Web Console Configuration tab, we selected a OneXafe appliance and clicked the **Join** button. This joined one OneXafe appliance to the other to create a logical OneXafe cluster. This task completed seamlessly in the background.

Planning a Prerequisite to Adding More Capacity

One needs to consider disk and cluster fault domains when increasing capacity. OneXafe automatically spreads data across multiple drives in an appliance and across multiple appliances in a cluster to maintain data resiliency.

In small deployments with one or two OneXafe appliances, only add drives of the same size and type to each OneXafe appliance. Further, make sure each appliance in a small cluster has the same number of drives in it.

When Thinking OneXafe Data Protection, Think Snap

We now prepared to back up a VM. Having registered OneSystem with vCenter during setup, OneSystem had discovered all the VMs in the environment.

Creating a New Policy

To back up a VM, we navigated to the **Policies** tab on the OneSystem console. This displayed a list of pre-existing policies. To add a new policy, we clicked on the **Add New** button on the Policies tab. This brought up a pop-up window in which we configured the following:

- **Policy name.** This is a name you create
- **Snapshot frequency.** The frequency options ranged from once every 15 minutes to monthly
- **Storage target.** Displayed available folders on the OneXafe appliance to store snapshots

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- **Retention periods.** The length of time for OneXafe to retain the snapshots it takes. It could create 15 minute, daily, weekly and monthly snapshots
- **Replication.** Optionally choose another OneXafe appliance or StorageCraft's Cloud Services as a replication target

Add Policy

Policy name

Jerome

Protection

Take snapshot every

15 min

Destination

Storage

ba_smb

Retention

Days of 15 min recovery points

7

Number of daily recovery points

14

Number of weekly recovery points

6

Number of monthly recovery points

12

Protection Flow



Replication

Replicate to

Target

Replicate interval

Interval



We saved this newly created policy.

Policies Displayed in a Pop-up

After saving the policy, we clicked on the **Protection** tab, which displayed the available VMs and physical machines to protect. We hovered our mouse over an already protected machine to examine its policy. A pop-up window appeared that displayed the machine's RPO, storage target, retention period, and recovery points.

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Assign Policy

Name	Site	RPO	Destination	Retention	Protection Flow
Jerome 0 Machines	StorageCraft	15 minutes	nfs_stc 26.72 TB Free / 29.84 TB Total	7 days of 15 minute recovery points 14 daily recovery points 6 weekly recovery points 18 monthly recovery points	
StorageCraft - DONT_TOUCH 0 Machines	StorageCraft	Monthly	ba_nfs 26.72 TB Free / 29.84 TB Total	3 monthly recovery points	

To change the policy, we selected a machine and clicked on the **Assign Policy** button which brought up a pop-up window. We selected the policy we created and clicked **Save**. This assigned the data protection policy to the VM, which took effect immediately.

Built-in Protection Against Ransomware

OneXafe exclusively uses snapshot technology for data protection and natively gives organizations four means to protect against ransomware.

First, it automatically protects any data that organizations store on OneXafe folders or shares. Its continuous data protection (CDP) takes a snapshot once every 90 seconds for the first hour on each folder or share.

Second, OneXafe imposes no limit on the number of snapshots taken.

Third, OneXafe automatically retains snapshots taken on the hour for a day and snapshots taken daily for a month. It retains weekly snapshots indefinitely.

Fourth, OneXafe's file system uses an immutable object store. This immutable object store protects the data from infection by ransomware by freezing the data so it cannot be changed.

No Wait Recovery

Having protected a VM, we tested OneXafe's Virtualboot recovery capabilities.

Pick a Snapshot, Any Snapshot

By again going to its OneSystem Console, we clicked on the **Recover** option. We selected the **System Recovery** tab to do a system level VM recovery. We got a wizard-like experience that walked us through a VM recovery.

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System Recovery File Recovery

Machine SRV-2012R2-VM005 Recovery Point Oct 31, 2019 8:15 AM Target Machine Instant restore with VirtualBoot (vSphere) Summary

Recover

Source Machine	SRV-2012R2-VM005
Recovery Point	Oct 31, 2019 8:15 AM
Restore Type	Instant restore with VirtualBoot (vSphere)
Recover From	Optimal
Name	SRV-2012R2-VM005 - Recovery
vCenter	SE-vCenter.stc.local
Cluster / Host	10.4.1.128
Datastore	PrimaryStorage
Number of CPUs	1
Memory	1,000 GB
Network 1	SE Network
Keep original MAC addresses	No
Power on new VM after restore	Yes

We selected a VM to recover, which took us to the **Recovery Point** tab. This tab displayed all the VMs available snapshots. We selected the snapshot we wanted to use as the recovery point. This selection took us to the **Target Machine** tab. Here, we selected the location to where which we wanted to recover the VM, verified the information on the **Summary** page, and clicked the **Recover** button.

Instant Recovery

The selected VM immediately began to recover. The VM boot process began shortly thereafter.

The VM initially recovers using OneXafe as its source of the VMs data. In the background, StorageCraft migrates all the VMs data from OneXafe to the target machine's storage.

It first moves all data accessed by the application on the VM as quickly as possible. Over time, it migrates the application's remaining data during periods of low activity in the environment.

Full Data Protection, Minimal Human Effort

Anyone with basic IT knowledge can manage and maintain OneXafe with minimal challenges and effort. OneXafe with its OneSystem provides the core set of data protection, data recovery, and storage features that midsize organizations require.

One can easily create and apply data protection policies and simply perform recoveries. OneXafe eliminates the complexities of setup, machine discovery, data protection, and application recovery. One completes these tasks assured that the applications and data are protected. Using OneXafe, one can perform partial or full recoveries of business-critical data if required.

Depending on one's technical experience, one may want to contact StorageCraft support to help setup the first OneXafe appliance and OneSystem management console. Ongoing success with

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OneXafe depends heavily upon successfully setting up and correctly configuring the OneSystem management console.

While OneSystem is not difficult to setup and configure, some steps were not intuitive to me. Since setup represents a one-time task, StorageCraft support can help ensure one completes it quickly and correctly. Once finished, one can move on to using OneXafe and leveraging all its features.

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