Setup 1 – Using hardware RAID cards and installing Windows 10 + Milestone directly on the Storinator.

The major hardware difference between using the Storinator as a NAS and this is the LSI cards are being removed and replaced with hardware RAID cards. This scenario will see no virtualization, just a single install of the Xprotect software on Windows running on the 45Drives Storinator storage server.

A Not secure | https://192.168.69.20/cgi/url_redirect.cgi?ur Identification Server: 192.168.069.020 User: ADMIN SUPERMICR Normal Configura llaneous Help System 📓 Java iKVM Viewer v1.69.37 [192.168.69.20] - Resolu 1024 X 768 - FPS 3 System tual Media Record Macro Options User List Capture Pow Firmware Revision : 03.72 Firmware Build Time : 05/10/2018 BIOS Version: 3.1 BIOS Build Time: 05/07/2018 Redfish Version : 1.0.1 CPLD Version: 01.82.01 FRU Reading 192,168,069,020 IP Address: 192.105.009.020 BMC MAC Address: ac: 1f.6b.77.92:e1 System LAN1 MAC address: ac-1f-6b-77 Soctem LAN2 MAC address: ac-1f-6b-77 Hardware Information Refresh Preview Image - Windows Install now - Power Contro Power On Power Down Reset

First, use the IPMI address to install Windows Server 2016 remotely.

After windows is installed, configure the hardware RAID cards. For this setup we are using 2 RAID cards that have 15 HDDs attached to each. We will configure each RAID inside their BIOS to build a RAID6, then once in Windows - we will stripe these to configure a RAID60.

➡ ☶ 🛛 🗄	New Striped Volume Select Disks You can select the disks and set the disk size f	for this volume.	Free
System Reserved	Select the disks you want to use, and then clic	k Add.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Available: Add > < Remov	Selected: Disk 0 5334318 MB Disk 1 5334318 MB	
Disk 0 sic 09.30 GB 5	Total volume size in megabytes (MB): Maximum available space in MB: Select the amount of space in MB:	10668636 5334318 5334318	
Disk 1 Sic 29.30 GB 52	09.30 GB	< Back Next > Cancel	

Dynamic 5209.30 GB Online	New Volume (S:) 5209.29 GB NTFS Healthy	
Disk 1 Dynamic 5209.30 GB Online	New Volume (S:) 5209.29 GB NTFS Healthy	
Unallocated	Primary partition Striped volume	,

Now it's time to begin installation of Xprotect software.



The recordings will be saved on the local RAID60 disk S:\

Mile					
XProte	Specify recording ser	ver settings			
	Recording server name:				
	XPROTECT				
	Management server address:				
	localhost80				
	Examples: localhost, managementserv	er.domain.com and ma	inagementserver.do	main.com:81	
	you save your video recordings on a d select the installation location in the n	rive different from whe ext step.	ere you install the p	Rrowse	
on 4	Free disk space on drive: 10 TB			Browse	
01-1	Retention time for video recordings:				
	v uays				
		Previous	Continue	Cancel	
					-

Once install is complete, configuration will begin. The recording drive is showing as working.

Name 🔺 Device
Local default
Recording and archiving configuration
Recording
10.0 TB (750 bytes used) S:\MediaDatabase
10.0 TB (750 bytes used) S:\MediaDatabase Delete when recordings are 7 day(s) old

Finally, the user will configure their cameras. This will be different for each user – Refer to Milestone's tutorials for this.

Setup 2 – Using the Storinator as NAS (Network Attached Storage) target which will be seen as a local drive to Milestone.

This can be done in a few different ways. The Storinator will be running FreeNAS for its operating system, the underlying storage pool will be using ZFS, and the storage can be shared out via SMB, NFS or iSCSI – You can choose which method via FreeNAS GUI. This guide will use SMB.

FreeNAS"					
count System Tasks Netwo	rk Storage Director	y Sharing Services	Plugins Jails	VMs Reporting Wizard	
and all collapse all	Account				
Account	Groups Users				
System	Add Group				
👩 Tasks					
Network					
Slobal Configuration	Group ID		Group Nam	ie	Built-in Group
Interfaces	1000		ncftp		false
iqb0	1001		TestGroup		false
ix1	0		wheel		true
Add Interface	1		daemon	Add Group	22
View Interfaces	2		kmem		_
TOM	3		sys		
	4		tty	Group ID: 1002	
	5		operator		
Network Summary	7		mail	Group Name: Milesto	one
+ Static Routes	·		Dim		
VLANS	0		man	Permit Sudo:	
Storage	13		names	Allow assessed CIDer	
🛛 🔳 Volumes	14		fto	Anow repeated GIDs:	
🔄 🎚 /mnt/Test_Pool	20		staff	OK Cancel	
📧 🚊 /mnt/Test_Pool/LinuxDatas	22		sshd		
📧 🚆 /mnt/Test_Pool/Milestone	25		smmsp		true
+ + /mnt/Test_Pool/TestDataset	26		maileull		true

To begin, first set up a user/group for FreeNAS to take ownership of the share.

Next, add a user to the newly created group.

FreeNAS							
Account System Tasks Network	Storage Dire	Ectory Sharing	Services Plu	gins Jails VMs Reporting	T Wizard		
expand all collapse all	Account		6	Add Hore			-
SIL Account	Groups Use	rs		Add User			
System	Add liser						
Tasks				User ID:	1002		
Network				Ucomamo	Milestone		
Storage	User ID	Username	Primary (osemane.	miescone		Disable pass
Directory Service	1000	ncftp	1000	Create a new primary group for the user:	100		false
Sharing	1001	testboy	1001				false
Services	0	root	0	Primary Group:	Milestone		false
- Plugins	1	daemon	1				raise
) III Jails	2	operator	5	Create Home Directory In:	/nonexistent	Browse	false
O VMs	3	bin	7	Shell	csh ×		false
Reporting	4	****	65522	Shell			false
Guide	5	kmem	2	Full Name:	Xprotect		falce
T Wizard	7	games	13				false
Display System Processes	8	news	8	E-mail:			false
Shell	9	man	9				false
Log Out	14	ftp	14	Password:			false
2 Reboot	22	sshd	22	Password confirmation:		٦	false
Shutdown	25	smmsp	25				false
	26	mailnull	26	Disable password login:	1		false
	53	bind	53				false
	62	ргоху	62	Lock user:			false
				Provide Contra	-		in the second
	64	_pflogd	64	Permit Sudo:			false
	65	_dhcp	65	Microsoft Account:	(m)		false
	55	uucp	66				faise
	79	pop	77	SSH Public Key:			false
	70	auditaista	.,				Talse
	79	ladvd	78	v enveringen (v environmenter	agan tears east		false

Next, add a new dataset on the storage volume. Click the pool, and then at the bottom click "create dataset" and then configure settings as required.

ccount System Tasks Network	Storage Directory Shari	ng Services Plugin	s Jails VMs Reporting Wizard	
pand all collapse all	Storage		Create Dataset	
Account System	Volumes Periodic Snapshot Tas Volume Manager Import Disk	ks Replication Tasks Resil	Create ZFS dataset in Test_Pool	
😴 Network			Dataset Name:	Xprotect
Storage	A Test Pool	665.3 MiB (0%)	Comments:	Dataset to test Xprotect
Sharing	∡ Test_Pool	556.5 MiB (0%)	Sync:	Inherit (standard)
@ Services	LinuxDataset	255.9 KiB (0%)		
R Plugins	TestDataset	148.2 KiB (0%)	Compression level:	Inherit (lz4)
Jails			Share type:	Windows
VMs Reporting			Enable atime:	- (a) Inharit (an)
Cuide				• On
🖀 Wizard				• 💿 Off
Display System Processes			Quota for this dataset:	0
Shell			Quete for this determined all shildrens	
-le Reboot			Quota for this dataset and all children:	0
Shutdown			Reserved space for this dataset:	0
			Reserved space for this dataset and all childre	n: 0 (1)
			ZFS Deduplication:	Enabling dedup can drastically reduce performance and affect the ability to access data. Compression usually offers similar space savings with much lower performance impact and overhead.
				Inherit (off)
			Read-Only:	Inherit (off)
			Exec:	Inherit (on)

Next, click on the newly created dataset, and go to the bottom once again and click "change permissions."

FreeNAS					
Account Surtam Tarks Natural	Storana Diractory Sharin			Reporting Withard	
expand all collapse all	Storage	g ourrieus riagno .		is hepoteng means	
+ III Account	Volumes Periodic Snapshot Tasks	s Replication Tasks Resilver Priori	ity Scrubs	Snapshots VMware-Snapshot	
System Tasks	Volume Manager Import Disk	Import Volume View Disks		Change Permissions	X
Network	Name	Used	Available	Change permission	
Storage	▲ Test_Pool	665.9 MiB (0%)	11.6 TiB	Change permission on /mnt/Test	Pool/Xprotect to:
Artive Directory	∡ Test_Pool	556.8 MiB (0%)	9.4 TiB		
kerberos principals	LinuxDataset	255.9 KiB (0%)	9.4 TiB	Apply Owner (user):	
	TestDataset	148.2 KiB (0%)	9.4 TiB		
10 NIS	Xprotect	148.2 KiB (0%)	9.4 TiB	Owner (user):	Milestone
🐂 Kerberos Realms				Apply Owner (group):	
🎇 Kerberos Keytabs					
🔧 Kerberos Settings				Owner (group):	Milestone
🗄 👩 Sharing				Apply Mode:	
Services					Ourses Course Others
Plugins				Mode:	Read Given Group Other
					Write
Reporting					Execute
Guide				Permission Type:	• 🗇 Unix
🖀 Wizard					• 🔘 Mac
Display System Processes					• Windows
Shell				Set permission recursively	
🗶 Log Out				Set permission recursively	
÷¦€ Reboot				Change Cancel	
Shutdown					

The Datset is ready to be added to the server. In this instance SMB will be used for sharing. Go to the Sharing tab and click on Windows (SMB). From here, click Add Windows (SMB) Share. For Path, navigate to the Dataset created in the previous section.

FreeNAS				
Account System Tasks Network	Storage Directory Sharing Services Pluging	Jails VMs Reporting	T Wizard	
expand all collapse all	Sharing Apple (AFP) UNIX (NFS) WebDAV Windows (SMB) Bloc	Add Windows (SMB) Share		<u> </u>
G Tasks Network	Add Windows (SMB) Share	Path:	/mnt/Test_Pool/Xprotect	Close
Corrage Corrage Correctory Service Active Directory Active Directory Kerberos principals Active Directory NIS Kerberos Realms Kerberos Keytabs	ratin /mt/Test_Pool/LinuxDataset /mnt/Test_Pool/TestDataset TestShare		Comparison of the second	
Construction Section 45 Construction Construction Construction Construction Construction Construction		Use as home share:		
		Name:	XprotectFootage	
Reporting Guide		Comment: Apply Default Permissions:	i	
Display System Processes		Export Read Only:		
Log Out * Reboot		Browsable to Network Clients:		
		Show Hidden Files:		

Once the share is created and ready to be connected to, it is now time to move on to the Xprotect server where we will connect to it by mapping a network drive.



Next, sign in with the credentials created in the previous steps which should also be the windows user.

File Computer Viev			- U	~
$\leftarrow \rightarrow \cdot \uparrow \blacksquare$ This	PC ~ ð	Search	This PC	P
★ Quick access Desktop ★	Windows Security Enter network credentials	×		
 Downloads # Documents # Pictures # 	Enter your credentials to connect to: 192.168.100.20			
This PC	Milestone		connect to:	
Desktop	•••••			
Downloads	Domain:		Browse	
Music Pictures	Remember my credentials			
🖵 r (192.168.3.46) 🎆 Videos	Access is denied.		nents and pictures.	
Local Disk (C:) CD Drive (D:) SS!	OK Cancel			
Atwork			1	
E2PACKAGINGA			Finish	Car
B3-LAR01				



The Network drive is now ready to be used as a storage target for the Xprotect Server.