NAS Management System User Manual

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1 System Introduction

The desktop Network Attached Storage (NAS) is a powerful storage device with high-capacity file storage and data protection.

You can log in to the NAS management system from a computer to configure and manage your NAS device.

1.1 System Login

Follow the steps to log in to the NAS management system:

- 1. Make sure the computer and the NAS device are connected via network. If the IP address of the NAS device and that of the computer are on different networks, you need to use a router to connect them.
- 2. Use a browser to visit http://NAS IP. The login page appears.





3. Enter the username and password, and then click Login.



NOTE!

- The default username/password: nas/nas •
- For data security please change the default username/password after your first login. A strong password is recommended: at least nine characters including uppercase and lowercase letters, digits, and special characters. See Personalization.
- For first-time use, follow the steps to change the NAS device IP to the actual IP on the LAN.
 - (1) Connect one end of the network cable to the network interface on the NAS, and connect the other end to your computer.
 - (2) Use a browser to visit the NAS device IP (http://192.168.0.1) to access the NAS management system.
 - (3) Go to Control Panel > System Settings > Network, change the IP address. See Network.
 - (4) Connect the NAS device to the networking device (switch, router) using a network cable.

1.2 Home Page



Switch layout style

Taskbar

Functional Module	Description		
System applications	Click an icon to open the application page.		
Switch layout style	Click at the bottom to switch the layout style: landscape or portrait.		
Taskbar	Shows icons of running applications.		
Search	Type keywords in the field and then click \bigcirc to search for a function, and then click to open the application page.		
System message	Click \overline{r} to see system errors, warnings, and alerts.		
User settings	Click $\stackrel{2}{\sim}$ to view user information, to personalize, restart, turn off, or log out of the NAS device.		

1.3 Quick Guide

For first-time use, follow the steps to configure the NAS device before using it to store your files.

- 1. <u>Create storage pool and cache</u>: Add hard disks to a storage pool to create storage space; use SSD to create cache space.
- 2. <u>Configure shared folder and service</u>: Create shared folders to store files and manage subfolders; configure sharing service to allow data access from other clients.
- <u>Create groups/users</u>: Create accounts for family or enterprise members, set permissions, and assign storage space.
- 4. <u>Use NAS to store files</u>: Upload files to the NAS device, view, download, and share files on the NAS device.
- 5. <u>Use NAS as local disk</u>: Allocate storage space, so the local host (e.g., computer) can use the allocated space as a local disk.

2 Personalization

View personal information and storage quota, and personalize settings such as email, password, and UI style.

1. Click \underline{A} in the upper right corner.



2. Click Personalization.

3. View or edit settings as described below.

ltem	Description	
Basic Information	Basic information	

	Personalization	×
	Basic Information	
	Personalization	Username : admin
	1 Cryonanización	Description : System default user
		Email: Please enter
		Password: Last Time Modified:2023-05-06 16:58:30
		Change Password
		OK Cancel
	Descriptio	n: Type a personal description.
		but your personal email address to receive system messages and retrieve
		in case you forget it.
	-	: Click Change Password to set a new password. After changing the
		, you need to log in with the new password.
		vileged user can allow or forbid other users to change password (Control Iser , see <u>User</u>).
	Fallel > 0	Set , See <u>Oser</u>).
Personalization	Personalize the	ne system according to your preferences.
	Personalization	×
	Davis Information	
	Basic Information	Date and Time
	Personalization	
		Date Format : YYYY-MM-DD(System Setting) V
		Time Format : 24H Time(System Setting)
		Language
		· zangargo
		System Language : English \lor
		Desktop Background
		Select Image
		Image Position: Fill V
		OK Cancel
	Data and	Time: Choose the date and time format.
		: Choose the system language.
		Background: Click Select Image , and choose an image from your computer,
		from default images in the system.
	Image Pos	sition: Set how the image will be displayed (fill or tile).

Select Image X
My Images System Default
Select:
+ Upload Image
Recent Images:
OK Cancel



On the Control Panel page, click a menu to enter the corresponding configuration page.

Control Panel	×			
💼 Account Manager				
User Group You can configure user groups her User You can configure user groups her You can configure users here Domain You can configure the domain here				
System Settings				

3.1 Account Manager

3.1.1 User Group

If the NAS device is used by multiple users, it is recommended to create user groups and manage user attributes in batches by setting group attributes.

Go to Control Panel > Account Manager > User Group.

		— — ×
User Group List(2) Add De	lete	Please enter Q
User Group Name	Description	Action
administrators	System default admin group	2 🗐 🖓
everyone	System default group	
	User Group Name administrators	User Group Name Description administrators System default admin group

NOTE!

The system includes two default user groups:

- administrators: This group includes the default administrators (nas and admin) in the system.
- everyone: This group includes the common users in the system.

Add a Group

- 1. Click Add.
- 2. Follow on-screen instructions to complete the group information. Click **Next** to proceed, or click **Back** to return to the previous step.

ltem	Description					
Basic	Input the group name and description.					
Information	Add Group					
	1 (2 (3 (4					
	BasicSelectShared FolderApplicationInformationMembersPermissionProgramPermissionPermissionPermission					
	User Group Name: Please enter the groupname					
	Description: Please enter the description					
	Next Cancel					
	 User Group Name: Input the group name. The name contains 4-16 characters and allows letters, digits, and underscore (_). Description: Input a description of the group for differentiation. 					
Select	Add users to the group. (To add users, see <u>User</u>).					
Members	 Select users you want to add to the group. 					
	 If you haven't created any user, you may skip this step and add later. 					

	Add Group							
		\sim		\frown	\frown			
					(4)			
		Basic Information	Select Members	Shared Folder Permission	Application Program Permission			
					1 61111351011			
	User Name	Dese	ription		Add To			
	admin	Syst	em default user					
	guest	Gue	st					
	nas	Syst	em default user					
			Back Nex	t Cancel				
Shared Folder	Set permission	for group memb	ers to access th	ne shared folder.				
Permission	Priority of perm	ission from high	to low: Deny >	Read/Write > Rea	ad Only. For example, if user			
	permission is R	ead/Write and g	roup permissior		e final permission of the user			
	is Deny (as Der	ny overrides Rea	ad/Write).					
	Add Group				X			
		3	(4)					
		Basic	Select	Shared Folder	Application			
		Information	Members	Permission	Program Permission			
	Priority of permission from high to low: Deny > Read/Write > Read Only. For example, if the member's permission is Read/Write and the							
	group's permission is Deny, then the final permission of the member is Deny (as Deny overrides Read/Write).							
	Shared Folder	Deny		Read/Write	Read Only			
	lkklk							
	SSSS							
			Back Next	Cancel				
Application	Set permission	for group memb	ers to access th	ne application pro	gram.			
Program	 Set permission for group members to access the application program. Priority of permission from high to low: Deny > Allow. For example, if user permission is a 							
Permission	and group permission is Deny, then the final permission of the user is Deny (as Deny overrides							

Allow). Add Group		>
Basic Information	Select Shared Folder Members Permission	4 Application Program Permission
	w: Deny > Allow. For example, if the member's permissi member is Deny (as Deny overrides Read/Write).	ion is Allow and the group's permission is
Application Program	Allow	Deny
Storage Manager		
Sharing Manager Block Sharing		
System Maintenance		
File Manager		
	Back Complete Cancel	

3. Click **Complete** to save the settings.

Edit a Group

In the user group list, click \swarrow for the group you want to edit. You may change the group description, group members, and group permission.

Delete a Group

In the user group list, click in for the group you want to delete and then confirm the deletion.

\diamond
1
1

NOTE!

Default system groups cannot be deleted.

Generate an Invitation

Generate an invitation for a group, so other users can join the group through the link.

1. Generate an invitation link and share it with other users.

(1) In the user group list, click the correspon	nding $^{\bigcirc}$ to generate an invitation link
Invitation link	×
20.222.37.238/#/nas/v1/account/invite/s/2OAE8rrcMmKTF	RoH 🛞
Copy link	Cancel

- (2) Click **Copy link**, and send the link to other users.
- 2. Other users join the group through the link.
 - (1) Use a browser to open the link and enter the user registration page.

▲ 不安全 1022257239/#/nas/v1/account/invite/s/2OAE	8rrcMmKTR0H			
	1	DX - NAS		
		Meet more beautiful things		
	* Username:	Please enter the username		
	Company Name:	Please enter the company name		
	* Password :	Please enter the password	Ø	
	* Confirm Passwor	Confirm Password	Ø	
		Register		

- (2) Enter the username, password, company information, and then click Register.
- (3) After completing the registration, the user automatically joins the group and logs in to the NAS management system.

3.1.2 User

Create a user account for each family or enterprise member, set permission for each member, for example, set access to shared folders and a limit for storage/shared folder.

Go to Control Panel > Account Manager > User.

🤠 Account Manager \land	User List	: (3) Add	Delete			Please enter
User Group User		Username	Email	Description	Status	Action
Domain		admin		System default user	Normal	
🔉 System Settings 🗸 🗸		guest		Guest	Normal	2 🔟
🔰 Task Manager 🗸 🗸		nas		System default user	Normal	2 1

NOTE!

The system has 3 default users:

- nas: System administrator with maximum permissions. The default password is "nas".
- admin: System administrator with maximum permissions. The default password is "admin".
- guest: Guest user with only the file management permission (see File Manager). The default password is "guest".

1. Click Add.

2. Follow on-screen instructions to complete user information. Click **Next** to proceed, or click **Back** to return to the previous step.

Parameter	Description						
Basic	Enter the username, password, etc.						
Information	Add User ×						
	1 (2 (3 (4						
	Basic Information Add to User Shared Folder Application Group Permission Program Permission						
	* Username :						
	Description :						
	Email:						
	* Password: Ø						
	Forbid the User to Change Password						
	Next Cancel						
	 Username: Set a unique username. The username must be 4-16 characters long and 						
	include letters, digits, and underscores (_).						
	 Description: Input a description of the user. E-mail: Used to receive account information. 						
	 Password: Enter a password for the user and then enter again to confirm. 						
	 Forbid the User to Change Password: If selected, the user cannot change his/her own password. 						
Add to User	Add the user to a user group (see <u>User Group</u>).						
Group	 If the user group already exists, choose it to add the user. Or alking this stop, and add later. 						
	Or skip this step and add later. Add User						
	Basic Information Add to User Shared Folder Application Group Permission Program						
	Permission						
	User Group Name Description Add To						
	administrators System default admin group						
	everyone System default group						
	Mygroup 🔽						
	Back Next Cancel						
Shared Folder Permission	Set permission for the user to access shared folders.						
1 61111991011	Priority of permission from high to low: Deny > Read/Write > Read Only. For example, if user permission is Read/Write and group permission is Deny, then the final permission of the user						
	is Deny (as Deny overrides Read/Write).						

	Add User					×
				•	(4)	
		Basic Information	Add to User	Shared Folder	Applicatio	on
			Group	Permission	Program Permissio	1
		ission from high to low: Deny inal permission of the member		. For example, if the member's p s Read/Write).	permission is Read/Write a	nd the group's permission is
	Shared Folder	Final Permission	Group Final Permission	Deny	Read/Write	Read Only
	DOC_File	Read/Write	-			
			Back	Next Cancel		
Application	Set permissio	on for the user to	access applic	ation programs.		
Program	-				ample, if user p	permission is Allow
Permission	and group pe Allow).	rmission is Deny,	, then the final	permission of the	e user is Deny	(as Deny overrides
	Add User					×
			\frown	\frown		
		Pasia Information		Shared Falder	4	
		Basic Information	Add to User Group	Shared Folder Permission	Applicatio Program Permissio	1
	Application Progra	m Final Pe	rmission	Allow	Deny	
	Storage Manageme	nt Allow				
	Sharing Manageme	nt Allow				
	Block Sharing	Allow				
	System Maintenano	e Allow				
	File Manager	Deny				
			Back	Complete Cancel		

3. Click **Complete** to save the settings.

Edit a User

In the user list, click a for the user you want to edit. You may change the user description, email, password, group, and permission.

Delete a User

In the user list, click $\overline{10}$ for the user you want to delete and then confirm the deletion.



NOTE!

The default system users (nas, admin, guest) cannot be deleted.

3.1.3 **Domain**

Add NAS to directory service. When your NAS becomes a directory client, you can manage AD domain user's access to files, folders, and services on the NAS. You can also assign administrative privileges and home directories to domain users.

Control Panel	
💼 Account Manager 🗸	
User Group	
User	
Domain	
🔅 System Settings 🐳	
🔁 Task Manager 🕓	
🦁 Security Manager 🕚	
	Add Domain

Go to **Control Panel > Account Manager > Domain**.

Add a Domain

1. Click Add Domain.

2. Follow on-screen instructions to complete the information. Click Next to proceed, or click Back to return to the previous step.

ltem	Description			
Server information	Add Domain			×
	1 Ser	ver information	2 Enter AD information	
	* Server address :	Please enter		
	Server Type:	AD Domain		\vee
	* DNS Server:	Please enter		
		Next	Cancel	
	Server address	s: Domain name of the A	AD domain server, for example, XXX.com.	
	 Server Type: (servers). 	Choose AD Domain (Ad	ctive Directory is a directory service for M	icrosoft
	 DNS Server: E 	nter the IP address of th	ne DNS server used to resolve domain nam	es.

٦

Enter AD	Add Domain				×
information	Server information		2 Enter	r AD informatio	n
	* NetBIOS Domain Name :	Please enter			
	* Domain administrator name :	Please enter			
	* Domain administrator password :	Please enter			
		Complete	Back	Cancel	
	 NetBIOS Domain Name: Entra address is XXX.com, then en 		ne of the do	main server.	If the server
	• Domain administrator name:	Enter the administrator			
	 Domain administrator passwo 	ord: Enter the administra	ator passwo	ord of the AD	domain.

3. Click **Complete** to save the settings, then you can use the AD domain service.

🚻 Control Panel					- @ ×
💼 Account Manager 🔺	AD domain	AD User Update AD Domain Data			Please enter Q
User Group User	STORAGE2.COM Online	User Name Description	mailbox	Status	Action
Domain		STORAGE2/administrator		Normal	12
ᅌ System Settings 🗸		STORAGE2/guest		Normal	2
🔋 Task Manager 🗸 🗸		STORAGE2/krbtgt		Normal	L
🂙 Security Manager 🗸	NetBIOS Name: STORAGE2 DNS: 200 200 1 52 Domain Controller: STORAGE2.COM	STORAGE2/7ft	< 1 2 > 10/page *	Normal	ß
		AD Update AD Domain Data Group			Please enter Q
		User Group Name	Description		Action
		STORAGE2/domain computers	STORAGE2/domain computers		2
		STORAGE2/domain controllers	STORAGE2/domain controllers		L
	Leave AD domain	STORAGE2/schema admins	STORAGE2/schema admins		Ĺ
			< 1 2 3 > 10/page -		

Set Permission for AD Domain User or User Group

1. Click for the AD domain user/group to edit the access of the user/group to specified shared folders or application programs, etc.

escription User G	roup Shared Folder P	ermission Applicatio	on Program Permissio	n
	sion from high to low: De n is Deny, then the final p		, ,	
Application Program	Final Permission	Group Final Permission	Allow	Deny
Storage Manager	Allow	-		
Sharing Manager	Allow	-		
Block Sharing	Allow	-		
System Maintenance	Allow	-		
ile Manager	Allow	-		

2. Log in to the NAS device as an AD domain user. The user has access to permitted shared folders and application programs.

Update AD Domain Data

If any AD domain user or user group has changed, click **Update AD domain data** to update the data.

Leave AD Domain

1. Click Leave AD domain and confirm. A dialog box as shown below appears.

Enter p	oassword		×
0	Please ente	r the domain manager account password to continue	
	Password:	Please enter	
		OK Cancel	

2. Enter the administrator password, and then click OK to leave the AD domain.

3.2 System Settings

3.2.1 Network

Configure the IP, route, and DNS server information so the NAS device can connect to network. Go to **Control Panel > System Settings > Network**.

14

Control Panel									- 0 ×
📴 Account Manager 🔺	Network	Interface Bonding							
User Group	Network Inte	rface Information Route M	anager						
User	Interface	IP Assignment Mode	Network Protocol Type	IP Address	Netmask	MTU	Speed	Connection Status	Enable WC
Domain		-							
🔉 System Settings 🛛 🧄	enps1	Auto	IPv4	10.222.57.234	255.255.252.0	1500	1000	Connected	
Network	enps0	Manual	IPv4	208.208.3.222	255.255.255.0	1500	1000	Connected	
NTP									
External Access									
Hardware & Power	DNS Informa	tion ① Delete							
🗧 Task Manager 🗸 🗸		NS Address	Action						
Security Manager 🗸	. 2	08.208.3.52	20						
	. 1	0.220.3.54	20						

Network Interface Information

View the number of network interfaces, IP address, and connection status of the NAS device.

- To change a network interface IP, follow the steps below:
- 1. Click \sim for the network interface.

Network Protocol Type		X
Interface:	enps0	
IP Assignment Mode:	Assign Manually \vee	
IP Address :	208.208.3.222	
Netmask:	255.255.255.0	
MTU:	1500	
	OK Cancel	

- 2. Choose the IP assignment mode (Assign Manually or Assign Automatically). If Assign Manually, set IP address, netmask, and MTU. The recommended MTU is 1500.
- 3. Click **OK** to save the settings.
- Wake On LAN (WOL)
- 1. When Wake On LAN is enabled, you can wake the NAS and restore its running status or switch it to standby mode from shutdown by sending a command to its IP via the Ethernet, even if it is sleeping or powered off.
- 2. Enable or disable this function as needed. C means "enabled", means "disabled".

Route Manager

Configure a route for the NAS device so it can communicate with other network devices.

1. Click Route Manager.

Route Manager	Route Manager						
Route Configuration	Add Delete	Refresh					
Network De	stination	Netmask	Gateway	Interface	Action		
2107.207.010		255.255.255.0	208.208.3.1	enps1			
		I	No data				
l Default Gateway							
IPv4 Addres: 10.222.5	56.1		Interface:	enps1	\ \	′	
		ОК	Cancel				

2. If a route already exists and you want to edit it, click \swarrow . To add a new route, click Add.

Add Route		×
Network Protocol Type :	IPv4	~
Network Destination:	Please enter the destination network address	
Netmask:	Please enter the netmask.	
Gateway:	Please enter the gateway address	
Interface:		\sim
	OK Cancel	

3. Click **OK** to save the settings.

DNS Information

The DNS translates a domain name into a digital address for a networking device. To use DNS, you need to configure a DNS server first.

1. Click Add, input the DNS server IP address.

Add DNS			×
DNS Address:	10.220.3.53		
	ОК	Cancel	

3.2.2 Interface Bonding

Configure interface bonding to increase bandwidth and achieve link redundancy.

Go to Control Panel > System Settings > Network> Interface Bonding.

🕕 Control Panel									×
💼 Account Manager \land	Network	Inte	erface Bonding						
User Group	Interface	e Bonding	Cancel Bonding						
User Domain		nterface	Network Protocol Type	IP Address	Netmask	Bonding Mode	MTU	Members	Action
👶 System Settings 🛛 🥎	🔽 t	bond0	IPv4			active-backup	1500		G –
Network		bond1	IPv4			active-backup	1500		G –
NTP									

Set Bonding

1. Click ^[] in the **Action** column. A page as shown below appears.

Set Bonding		
* Interface :	bond0	
Network Protocol Type	IPv4 V	
* IP Address :	Please enter the IP address	
* Netmask:	Please enter the netmask.	
* Select Bonding Mode:	active-backup \lor	
Interface	IP Address	
enps1	10.222.57,234	
enps0	208.208.3.222	

OK Cancel

- 2. Complete the required information, and choose member interfaces.
- 3. Click **OK** to save the settings.

Bonding Mode	Description	Pros	Cons
Active-backup	One interface is active, and the other interface is standby. Traffic is processed on the active link. If the active interface fails, the standby interface takes over.	Provides fault tolerance.	Low resource utilization (1/N).
Balance-RR	Transmits packets in sequential order (that is, transmits the first packet through eth0, the second through eth1, the third through eth0,, till the last packet is transmitted).	Provides load balancing and fault tolerance.	Packets sent from different interfaces may arrive out of order and may require resending, causing decreased throughput.
Balance-XOR	Transmits packets based on the selected transmit hash policy.	Provides load balancing and fault tolerance.	-
Broadcast	Transmits the same packets on both interfaces to ensure successful transmission.	High availability.	Wasting resources.
802.3ad	Creates link aggregation using all the interfaces according to 802.3ad specification.	Provides load balancing.	It is required to enable IEEE 802.3ad on the switch. All the interfaces share the same speed and duplex settings.
Balance-TLB Adaptive transmit load balancing.	Chooses an interface to transmit packets according to the current load on each interface.	Provides load balancing and fault tolerance.	The interface driver needs to allow ethtool to get speed status.
Balance-ALB Adaptive transmit load balancing.	Includes Balance-TLB mode, supports receive-load balancing for IPv4 traffic and does not require any special switch support.	Provides load balancing and fault tolerance.	The interface driver needs to allow ethtool to get speed status.

Interface bonding modes are described in the table below:

Cancel Bonding

Select the bonding you want to cancel, click **Cancel Bonding**, and then confirm.

3.2.3 **NTP**

Set time for the NAS device to ensure correct time of the stored data.

Go to **Control Panel** > **System Settings** > **NTP**. You can set time manually or use an NTP server (if configured).

Control Panel			
💼 Account Manager \land			
User Group	Time Zone :	Etc/UTC	\vee
User	Time:	2023-07-17 09:08:15	
Domain	NTP Server:	10.22.57.234	
🤤 System Settings 🗠	NTP Sync Interval:	10	
Network		Minute(1-10080)	
NTP	Save	Reset	
External Access	Jave	Negel	

Set Time Manually

- 1. Configure time zone and time.
 - > Time Zone: Choose a time zone according to the geographic location of the NAS device.
 - \succ Time: Click \square and set the current time.
- 2. Click Save to save the settings.

Sync Time with an NFT Server

- 3. Set the NTP server IP and a time synchronization interval.
- 4. Click **Save** to save the settings.



CAUTION!

Make sure the time zone and time settings of your computer are consistent with those of the NAS; otherwise, records such as snapshots and logs will have inconsistent timestamps between the computer and NAS.

3.2.4 External Access

If you have Internet access, you can add the NAS device to EZCloud and then access the NAS device from the Internet.



Control Panel		
💼 Account Manager \land		
User Group	Enable Cloud :	● Enable 🔵 Disable
User Domain	Online Status:	Offline
🤹 System Settings 🛛 ^	Cloud Address:	en.ezcloud.uniview.com
Network	Serial Number:	2102 Copy
NTP	Activation Code:	5008P0110151205000P01D1512 Copy
External Access		
Hardware & Power	Save Reset	

- 1. Click Enable, then click Save.
- 2. Click **Copy** behind the Activation Code to copy the activation code of the NAS device.

- Go to <u>https://en.ezcloud.uniview.com/</u> using a web browser and log in. If you do not have an EZCloud account, click **Register** and then follow on-screen instructions to sign up for an account.
- 4. On the **My Cloud Devices** page in EZCloud, Click **Add**. A page as shown below appears. Paste the activation code you just copied in the **Register Code** field, complete other required information, and then click **OK**. The NAS device is added to EZCloud.

Add 🔟 Delet	e Ø Refresh		(Online Device 2	Total Number 8	Please enter keywords.
IP Address 💠	Device Name 💠	Model 🗢	Organization ≑	Latest Online Time	Status \$	Operation
Add						×
Please enter	device information below.	-		-	e? of the device, and then	i click Network >
* Register Co	ide :	<i></i>	Option	2: Find the register co	de sticker on the devid	ce.
* Organizatio	n : root					

5. After the NAS status changes to **Online**, you can click the [€] icon to access the NAS device via EZCloud.

My Clo	ud Devices Device	es Shared to Me					
+ A	dd 🔟 Delete	Ø Refresh			Online Device 2 To	tal Number 8	Please enter keywords. Q
	IP Address ≑	Device Name 🌲	Model 🌲	Organization ≑	Latest Online Time 🌲	Status ≑	Operation
	205/2:00.47	nas-1	DX204	root	1:52:04	Online	a 🗴 🖉 🤞 🖉
	208.2.23.18	nas-2	DX208	root	3010/01/021 14:52:18	Online	🖉 🗇 🖉 ሩ е

3.2.5 Hardware and Power

Go to Control Panel > System Settings > Hardware and Power

1. Device details

View the device name. To change the device name, enter the new name and then click **Save**. The device name displayed on the login page and in the system's upper left corner will update automatically.

			Fan Normal Silent mode			Power UPS connected UPS is enabled	
Device details	Fan	LED	Disk	Power	Power On/Off		
Device Name :	DX204						
				Save	Reset		

2. **Fan**

Choose an operation mode for the fan according to the on-screen instructions. Click **Save** to save the settings.

Device details	Fan	LED	Disk	Power	Power On/Off	
Please selec	ct a mode					
	6				O	0
		eed. It can quick but may also ma	-	The fan works at a	perature mode a high speed to keep the stem cool	Silent mode The fan works at a slow speed to decrease noises
Note: If the	system tempe	erature rises, the	system w	ill still raise fan spe	ed automatically even in low	w-temperature or silent mode.
				Save	Reset	

3. **LED**

Adjust the brightness of LED indicators on the NAS device.

- 1. Drag the slider to adjust brightness.
- 2. Click **Save** to save the settings.

Device details	Fan	LED	Disk	Power	Power On/Off
Drag the slid	er to adjust LE	D brightness	. The current b	rightness level i	s 7

÷Ċ	0	1	2	3	4	5	6	7	-;ò́;-
									Save Reset

4. **Disk**

Set the length of idle time before the HDD enters sleep mode. In sleep mode, the HDD stops operation to save power and lifetime.

- 1. Set an idle time for internal HDD, external SATA HDD, and USB HDD. The NAS device does not sleep if **Never** is selected.
- 2. Click **Save** to save the settings.

Device details	Fan	LED	Disk	Power	Powe	r On/Off		
Internal HDDs v	will enter slee	p mode after l	being idle for	a certain leng	gth of time	Never	~	
				Save	Reset			

5. **Power**

Use UPS to prevent losing data due to a power outage.

To enable UPS, follow the steps:

- 1. Connect the UPS device to the USB port on the NAS device.
- 2. Select the **Enable UPS** checkbox. Set the NAS device to perform a secure shutdown when the UPS battery level drops below a certain threshold.

Device details	Fan	LED	Disk	Power	Power On/Off			
Using UPS can p	prevent losing	data in case o	f power outage	e				
UPS Type:	Auxil conn	USB UPS USB UPS iary power supp ected to the USI the NAS device						
When the battery level is below 5% $$ $$ NAS device performs secure shutdown								
				Save Re	set			

3. Click **Save** to save the settings.

6. Power On/Off

Set a power-on/off schedule to automatically turn on or off the NAS device at a specified time. If another scheduled task is running at the time of a scheduled shutdown, the scheduled power-off task will be cancelled.

Device	details	Fan	LED	Disk	Power	Power On/Off	_	
	Add	Delete	Schedule Over	view				
		Trigger Time		Туре	State	IS	Action	
		Every Day 08	:30:00	Power On		C		
						Save Res	set	

- Add a power-on/off schedule
- 1. Click Add.
- 2. Set a schedule.

Add		\times
Type :	Power On Power Off	
Date :	● Every Day ○ Every Week ○ Specified Date	
Time:	Select time ()	
	OK Cancel	

- > Type: Choose **Power On** or **Power Off**.
- Date and Time: Set if the task will repeat every day (power-on/off occurs at the same time every day), every week (power-on/off occurs at the same time on the same day every week), or on a specified date (according to the date and repetition cycle you set).
- 3. Click **OK**. New schedules are enabled by default.

Enable/disable Schedule	Click / to enable or disable the schedule.
Edit Schedule	Click Z to edit the schedule.
Delete Schedule	 Delete: Click to delete a schedule. Batch delete: Select the schedules you want to delete and then click Delete.
Schedule Overview	Click Schedule Overview to view all the exiting schedules.

• Schedule management operations

3.3 Task Manager

3.3.1 **S.M.A.R.T.**

Create a S.M.A.R.T. test task to check HDD health regularly. If an exception is detected, the system will alert you through LED indicators and system messages and automatically repair to ensure data safety.

Go to Control Panel > Task Manager > S.M.A.R.T..

Control Panel		- Idol(II					- 0
💼 Account Manager 🗸	S.M.	A.R.T. Test Task	Add Delete				Please enter C
🔱 System Settings 🗸 🗸	0	Disk	Туре	Description	Schedule	Status	Action
뉱 Task Manager 🛛 🔨	(1	Short Test		Run at 00:00 ever…		2
S.M.A.R.T. Rsync		2	Long Test		Every Week 1Run…		2 🗓
Data Scrubbing							
Add a Task							
I. Click Add.							
Add Task					×		
* Disk:							
* Type:	Short	Test			\sim		
Description:							
Schedule							
	Ever	y Day 🔿 E	very Week 🛛 Specified	Date			
* First Run Time	00:00	0					
* Task Frequenc	Every	Day			~		
* Last Run Time	00:00				~		



2. Complete the settings. See the table below for descriptions.

Parameter		Description
Disk		Choose the HDD you want to test.
Туре		 Short Test: The test only tests key items and takes a short time. Long Test: The test tests all items and takes a long time.
Schedule	Task Schedule	 Choose a repetition mode for the schedule. Every Day: The task will be run at the same time every day. Every Week: The task will be run at the same time on the same day every week. Specified Date: You need to specify a date and the repetition cycle, so the task will be run at the same time on the same day according to the set cycle.

First Running Time	The first time when the task will be run.
Task Frequency	How often to run the task.
Last Running Time	The last time when the task will be run. Options are determined by "First Run Time + Task Frequency * Number of tasks".

3.3.2 **Rsync**

Create a Rsync task so the NAS device can automatically back up data to a remote host or download data from a remote host according to a schedule.



NOTE!

You need to enable rsync under **Control Panel** > **Security Manager** > **Service** first. See Service.

Go to Control Panel > Task Manager > Rsync.

🚻 Control Panel									-	o ×
💼 Account Manager 🗸	Rsync Task Add	Delete						Please	enter	Q
ᅌ System Settings 🗸	Shared Folder	Remote Host	Remote Module Name	Username	Direction	Description	Schedule	Enable/Disable	Action	
🔋 Task Manager 🛛 🔨	lkklk	10.222.57.110	111	admin	Push		Run at 00:00 ···		之前	
S.M.A.R.T.										
Rsync										
Data Scrubbing										
Snanchot										

Add a Task

1. Click Add.

Add Task		×
Source		
* Shared Folder:		
* User:	✓	?
Direction:	Push Pull	
Description:		
Remote		
* Remote Host:		?
* Rsync Mode:	Module \lor	
* Remote Module Name:		?
* Password:	Ø	
Schedule		
* Task Schedule:	● Every Day ○ Every Week ○ Specified Date	
* First Running Time:	00:00	
* Task Frequency:	Every Day 🗸	
* Last Running Time:	00:00 ~	
	OK Cancel	

Paramet	er	Description
Source	Shared Folder	Choose the shared folder containing the data you want to back up.
	User	Choose the user that will perform the Rsync task. Note : The user must have permission to write data to the specified folder on the remote host.
	Direction	 Push: Back up data on the NAS device to the remote host. Pull: Download data from the remote host to the NAS device.
	Description	Input a description of the task.
Remote	Remote Host	Input the IP or name of the remote host.
	Rsync Mode	 Module: After choosing this option, you need to configure the remote module name. SSH: After choosing this option, you need to configure the port and path for the remote host.
	Password	Input the password of the remote host.
Schedule	Task Schedule	 Choose a repetition mode for the task. Every Day: The task will be run at the same time every day. Every Week: The task will be run at the same time on the same day every week.

		• Specified Date: You need to specify a date and the repetition cycle, so the task will be run at the same time on the same day according to the set cycle.
First Ru Time	unning	The first time when the task will be run.
Task Freque	ency	How often to run the task.
Last Ru Time	unning	The last time when the task will be run. Options are determined by "First Run Time + Task Frequency * Number of tasks.

3.3.3 Data Scrubbing

Data scrubbing is a maintenance function that deletes or repairs data in incorrect or incomplete storage pools. It is recommended to perform data scrubbing regularly to ensure data consistency and avoid losing data due to a disk failure.

Go to Control Panel > Task Manager > Data Scrubbing.

Account Manager 👻 🛛	ata Scrubbing Task Add	Delete				Please enter
System Settings ~	Storage Pool	Threshold Days	Description	Schedule	Status	Action
Task Manager 🔨	pool	36		Run at 00:00 ever…		∥ ₪
S.M.A.R.T.						
Rsync						
Data Scrubbing						
Snapshot						
d a Task						
Click Add.						
ld Task				×		
* Storage Pool:				\sim		
* Threshold Days:	36					
* Threshold Days.	50			0		
Description:						
Schedule						
* Task Schedule:	💿 Every Day 🔵 Ev	very Week 🔿 Speci	fied Date			
* First Pupping Time	00:00					
* First Running Time:	00:00					
	Every Day			~		
* Task Frequency:						
* Task Frequency: * Last Running Time:	00:00			~		

2. Complete the settings. See the table below for descriptions.

Parameter	Description
Storage Pool	Choose the target storage pool.

Threshold Days	Time interval between two data scrubbing tasks. After completing a data scrubbing task, the system continues checking the storage pool and performs the next data scrubbing task after the set threshold days is over.
Description	Input a description of the task.
Task Schedule	 Choose a repetition mode: Every Day: The task will be run at the same time every day. Every Week: The task will be run at the same time on the same day every week. Specified Date: You need to specify a date and the repetition cycle, so the task will be run at the same time on the same day according to the set cycle.
First Running Time	The first time when the detection task will be run.
Task Frequency	How often to run a detection task.
Last Running Time	The last time when the detection task will be run. Options are determined by "First Running Time + Task Frequency * Number of tasks".

3.3.4 Snapshot

The snapshot is the data state of the NAS system at a certain point in time. You can create a snapshot of a shared folder or a LUN, and use the snapshot to restore data if the data is lost accidentally. Snapshots use a small storage space compared to backups.

It is recommended to add a schedule to create snapshots regularly in case you need to restore data to an earlier version.

Go to Control Panel > Task Manager > Snapshot.

Add a Task

1.	Click Add.
----	------------

d Task	
* Snapshot Task Name:	
	Please enter 1-63 characters, which may include digits, uppercase and lowercase letters, and special characters
Snapshot Target Type:	● LUN ○ Shared Folder
* Snapshot Target:	V
Schedule	
* Task Schedule:	Every Day Every Week Specified Date
* First Running Time:	00:00 (3)
* Task Frequency:	Every Day 🗸
* Last Running Time:	00:00 ~
	OK Cancel

2. Complete the settings. See the table below for descriptions.

Parameter	Description
Snapshot Task Name	Input a task name that is easy to recognize.
Snapshot Target Type	Choose the snapshot target type: LUN or Shared Folder.
Snapshot Target	Choose the target for the snapshot target type.
Task Schedule	 Choose a repetition mode for the schedule: Every Day: The task will be run at the same time every day. Every Week: The task will be run at the same time on the same day every week. Specified Date: You need to specify a date and the repetition cycle, so the task will be run at the same time on the same day according to the set cycle.
First Running Time	The first time when the snapshot task will be run.
Task Frequency	How often to run a snapshot task.
Last Running Time	The last time when the snapshot task will be run. Options are determined by "First Running Time + Task Frequency * Number of tasks".

3.4 Security Manager

3.4.1 Service

You can enable or disable services and automatic service startup.

Go to Control Panel > Security Manager > Service.

🚻 Control Panel		
💼 Account Manager 🗸	Service List	Port: 22
ᅌ System Settings 🗸 🗸	ssh	
峎 Task Manager 🔷 🗠	Run Service Auto Start	Save Reset
S.M.A.R.T.	iscsi	
Rsync	Run Service Auto Start	
Data Scrubbing		
Snapshot	rsync	
Security Manager 🔺	Run Service Auto Start	
Service	docker	
Firewall	Run Service Auto Start	
Certificate		



NOTE!

The service functions are described below:

- The ssh service is used to improve data transmission security.
- The iscsi service is used to provide efficient data storage.
- The rsync service is used to back up data on the NAS device to a remote host, or download data from a remote host to the NAS device.
- The docker service is used to containerize other applications on the NAS device as needed.
- 1. Flip the toggle switch to enable or disable a service.

- > After enabling ssh/iscsi/rsync service, configure a port for the service.
- After enabling the docker service, choose the root path (storage pool), set mirrored repository address and enable Portainer as the visual management tool for the service. You can access Portainer by clicking the website http://NAS IP:9000 on the interface, install docker image and manage the docker container.

Service List	Please choose the root path for Docker:
ssh	pools v
Run Service Auto Start	Please set the mirrored repository address for Docker:
iscsi Run Service Auto Start	https://hub.daocloud.io
	Start Portainer as the visual management tool for Docker
Run Service Auto Start	Please click 10.222.57.234:9000 to visit this website
docker Run Service Auto Start	Save Reset

- 2. To enable a service to restart automatically after the NAS device restarts, turn on **Auto Start** for the service.
- 3. Click **Save** to save the settings.

3.4.2 Firewall

Enable firewall to prevent unauthorized login and control service access. You may also allow or deny access to certain network interfaces from specified IP addresses.

Go to Control Panel > Security Manager > Firewall.

Control Panel	— — ×
💼 Account Manager 🗸	✓ Enable Firewall
ᅌ System Settings 🗸 🗸	Enable Note: When enabled, the system will notify me when an application or service is blocked by firewall, and will meanwhile provide options for Firewall unlocking the application or service.
뉯 Task Manager 🔷 🗠	Notification
S.M.A.R.T.	Firewall Configuration File
Rsync	Configuration File: Please select the configuration file V Manager Configuration File
Data Scrubbing	
Snapshot	
🂡 Security Manager \land	Save Reset
Service	
Firewall	
Certificate	

1. Complete the settings. Refer to the table below for parameter descriptions.

Parameter	Description
Enable Firewall	To enable firewall, select the checkbox.

Enable Firewall Notification	To enable firewall notification, select the checkbox. If enabled, the system will notify user when an application or service is blocked by firewall and provide unlock options.				
Firewall Configuration File	 You can set different configuration files to quickly apply different firewall rules according to security needs. If the configuration file is already created, choose it from the drop-down list. Otherwise, follow the steps to add one: Click Manage Configuration File. 				
	Manage Configuration File				
	Configuration File List (1) Add Delete				
	Configuration File Name Action				
	all_conf				
	2. Click Add. On the page as shown below, input the file name, and choose a firewall rule from the list. Add Configuration File × Configuration File × I Firewall Rules				
	All Interfaces V Add Delete Communi Enable/Dis				
	Port cation Source IP Action able Enable/Dis Action Protocol				
	5060(Source Port) ICMP All Allow 🚺 🖄				
	Comparison of rules will be made on All Pages first and then on other pages. You can drag to change the order of rules. The higher the order, the higher the priority OK Cancel If the firewall rule is not created, click Add to create it.				
	Add Firewall Rules ×				
	Port				
	All V Select				
	Source IP				
	All V Select				
	 Action Allow O Deny 				
	 Add Cancel Port: All (default), Custom (you need to specify a port or a port range). 				

×	Source IP: All (default), Specified IP (you need to specify an IP address or an address range).
	Action: Allow (allow access from specified port and IP), Deny (deny access from specified port and IP).
3. C	lick OK to save settings on the pop-up windows one by one.

3.4.3 Certificate

Certificates are used by SSL to protect the NAS, for example, webpage (all HTTPS service), email, or FTP. Certificates can verify server and admin identity before user sends confidential messages. Go to **Control Panel > Security Manager > Certificate**.

Univie	W/De	fault Certifica	te	In
Issuer:	UNV	Systems,Inc.		
Entity Alias:				
Certificate Exp	oi 203	32-04-03		
		ertificate		

Import a Certificate

1. Click Import Certificate. A page as shown below appears.

port Certificate		
 After the new certificate is certificate. 	imported, it will replace the current certificate; you may also restore t	he default
* Certificate:		Select
* Private Key :		Select
Intermediate Certificate :		Select

- 2. Click **Select** and choose a certificate, a private key, and an intermediate certificate from your computer.
- 3. Click **OK** to save the settings.

Export a Certificate

Click Export Certificate.
4 Storage Manager

Manage the HDDs, storage pool, and cache of the NAS device.

4.1 Overview

Go to **Storage Manager** > **Overview** to view hard disk slots, disk status (normal, abnormal, no disk), and usage of storage space.

Click to select a storage pool to view the disks in the pool (identified by a white box on the device diagram).



4.2 Storage

A storage pool is one or several sets of RAID-protected HDDs used to store data. Different RAID types provide different levels of data protection.

Go to Storage Manager > Storage.

4.2.1 Storage Pool Information

After creating a storage pool, you can view its overall status, space utilization, and disk information on the **Storage** page.

Overview	Storage Pool(1) Create					
Storage	✓ pool Normal	20.05GB/1.74TB 1.12%				Manager Mo
Cache	Basic Information		Space Usage			
Disk	RAID Level: RAID1	RAID status: Normal		0%		
	Data Scrubbing				 Shared Folder 6.39MB LUN 20.04GB 	
	Status: Scrubbing not started	Completion Time: Scrubbing not started			Others 240KB	
					Free Space 1.72TB	
				98.88%		
	I Disk Information			98.88%		
	I Disk Information	Туре	Capacity	98.88% Status	Vendor	Model
		Type HDD	Capacity 1.82TB		Vendor WD	Model WDC WD20PURX-64EH2Y0
				Status		

4.2.2 Create Storage Pool

Follow the steps to create a storage pool:

1. Click Create.

		ise enter 1-63 ch ers. Do not enter	-		nd may include	digits, uppercase and lowercase
AID Level	RAID0			\sim		
ease seleo	ct HDD :	Selected1				
✓	HDD ID	Туре	Capacity	Status	Vendor	Model
	1	HDD	3.64TB	 Normal 	WD	WDC WD4000FYYZ-01UL1B2



2. Input a name for the storage pool.

3. Choose a RAID level. Refer to the table below for RAID descriptions.

Level	Min. Number of Disks (N)	Data Storage Mode	Storage Capacity Provided
RAID0	≥1	Stripes data across multiple disks without redundancy.	=Total disk capacity
RAID1	2	Stores two identical copies of data on two disks for redundancy.	=Capacity of the smallest disk
RAID5	≥3	Stripes data across multiple disks with parity and provides redundancy.	= (N-1) * Capacity of the smallest disk
RAID6	≥4	Performs dual parity and uses the capacity of two disks to store parity data.	= (N-2) * Capacity of the smallest disk

RAID10	≥4 (must be even)	Provides the performance of RAID0 and the protection of RAID1. Uses two identical RAID0 arrays to store two identical copies of data.	= (N/2) * Capacity of the smallest disk
RAID50	≥6	Provides the performance of RAID0 and the protection of RAID5. Stripes data across two disk groups with parity. The number of disks in each group must be the same and \geq 3.	= (N-2) * Capacity of the smallest disk
RAID60	≥8	Provides the performance of RAID0 and the protection of RAID6. Stripes data across 2 disk groups with dual parity. The number of disks in each group must be the same and \geq 3.	= (N-4) * Capacity of the smallest disk
RAIDTP	≥5	Performs triple parity and uses the capacity of three disks to store parity data.	= (N-3) * Capacity of the smallest disk

4. Select the required number of HDDs according to the RAID level.

CAUTION!

Before creating a storage pool, be sure to back up data stored on the HDDs that are used to create the storage pool. All the data on the HDDs will be erased during the creation of the storage pool.

5. Click **OK** to save the settings.

4.2.3 Manage Storage Pool

Rebuild, expand, and scrub a storage pool.

On the **Storage** page, click **Manager** for the storage pool. A page as shown below appears.

Manage							
Rebuild Expand Scrubbing							
Groupl \lor	Groupl ∨						
HDD ID	Туре	Capacity	Status	Vendor	Model		
1	HDD	465.76GB	• Normal	SEAGATE	ST500DM009-2F110A		

1. Rebuild

Rebuild the RAID if any HDD in it is damaged. Select the faulty HDD and then click **Rebuild**.

2. Expand

Add HDDs to a storage pool to expand the capacity.



NOTE!

Expansion rules for different RAID levels:

- **RAID0**: Supports expansion with any number of HDDs (1-n). RAID level does not change after expansion.
- **RAID1**: The number of HDDs used for expansion must be the same as the current HDD number (2, in this case). RAID level changes to RAID10 after expansion.
- **RAID5**: The number of HDDs used for expansion must be the same as the current HDD number. RAID level changes to RAID50 after expansion.
- **RAID6**: The number of HDDs used for expansion must be the same as the current HDD number. RAID level changes to RAID60 after expansion.
- RAIDTP: Expansion is not available due to system capacity.
- RAID50/RAID60: Expansion is not available due to system capacity.
- **RAID10**: Supports expansion with 2 HDDs only.

Follow the steps to expand the storage pool:

- 1. Install expansion HDDs on the NAS device.
- 2. Click Expand.
- 3. Select the HDDs to be added to the storage pool.
- 4. Click **OK** to save the settings.
- 3. Scrubbing

Scrubbing can delete or repair corrupted or incomplete data in the storage pool to ensure data consistency.

Click Scrubbing.

4.2.4 Rename Storage Pool

- 1. On the Storage page, click More for the storage pool, and then choose Rename.
- 2. Change the storage pool name.
- 3. Click **OK** to save the settings.

4.2.5 Delete Storage Pool



CAUTION!

The stored data may be lost after the storage pool is deleted.

- 1. On the **Storage** page, click **More** for the storage pool, and then choose **Delete**.
- 2. A dialog box appears. Click **OK** to confirm the deletion.

4.3 Cache

Create cache using the SSD installed on the NAS device. SSD cache can improve read and write speed when the NAS device handles many random read and write operations (such as re-reading previously accessed files).

Go to Storage Manager > Cache.

Add Cache Device

1. Click Add Cache Device. A page as shown below appears.

Create Ca	iche						×
		1 select SDD			2 Configure	Cache Storage	
I On	ily SSD can b	e used to create cache.					
Select S	SD	Selected0 ,estimated capacity:0					
	HDD ID	Туре	Capacity	Status	Vendor	Model	

- 2. Choose SSDs, and then click Next.
- 3. Configure cache storage.
- 4. Click OK.

4.4 **Disk**

View information about HDDs installed on the NAS device, including the type, capacity, status, home storage pool, usage, manufacturer, model, and whether is a hot spare disk.

Go to Storage Manager > Disk.

Storage Manager									- 0
Overview	Disk Manager (4)								
Storage	Disk ID	Туре	Capacity	Status	Home Storage Pool	Purpose	Vendor	Model	Action
Cache	1	HDD	1.82TB	• Normal	z10995test	Data	SEAGATE	ST2000NM0055	E ¢
Disk Disk	2	HDD	3.64TB	• Normal	shen	Data	TOSHIBA	TOSHIBA MG04A	長 幸
	3	HDD	1.82TB	• Normal	z10995test	Data	SEAGATE	ST2000NM0055	Ę¢
	4	HDD	1.82TB	 Normal 		Idle	TOSHIBA	TOSHIBA MG04#	8

• Set as a hot spare disk:

A hot spare disk offers extra protection by functioning as a backup and replacing the damaged HDD in the RAID.

Flip the toggle switch for an HDD to set it as a hot spare disk.

• View HDD details:

Click 🗟 for the HDD.

Disk1 Information

Basic	Info	ormation
-------	------	----------

Disk ID	1	Temperature	36°C
Storage Pool	pool	Serial No.	WD-WX81A1981KVF
Health Status	Normal	Firmware Version	X2.00AX2
Purpose	Data		

SMART Detection

	ormal st test result: Detection comp	pleted withou	t errors (Short T	est) Short Te	st Long Test
SMART Attr	ibute				
No.	Attribute	Value	Worst	Threshold	Raw Value
1	Raw_Read_Error_Rate	200	200	51	0
3	Spin_Up_Time	174	171	21	2275
4	Start_Stop_Count	100	100	0	62

• Configure a S.M.A.R.T. test task:

Click ⁽²⁾ to configure a S.M.A.R.T. test task for an HDD. See S.M.A.R.T. Test Task for more information.

Configure S.M.A.R.T. test			×
* Detection Type:		~	
* Task Schedule:	● Every Day ◯ Every Week ◯ Specified Date		
* First Running Time:	00:00		
* Task Frequency:	Every Day	\vee	
* Last Running Time:	00:00	\sim	
	OK Cancel		

5 Sharing Manager

Sharing Manager allows you to configure shared folders and sharing services to turn the NAS device into an accessible and safe file sharing center.

5.1 Shared Folder

The shared folder is the basic directory for storing files and folders. You need to create at least one shared folder to store data on the NAS device. You can set different access permissions for the shared folder, for example, set it as "private" or accessible only to certain users or user groups.

Go to **Share Manager** > **Shared Folder** to view shared folders, including folder information and space usage.

😫 Sharing Manager	yc2 18:38, 48:EA:63:73:98:BE, hzyc2 18:3	8,48:EA:63:	73-08-00
📄 Shared Folder	Shared Folder (9) Add	Please enter	0
Sharing Configuration	> the comparison of the compar	Snapshot \bigtriangledown	More 🗸
	✓ ∞ Document1 Ready 152.0KB/3.5TB 0% Properties	Snapshot \bigtriangledown	More 🗸
	I Basic Information Home Storage Pool: z10995test		
	Description : Enable Recycle Bin: No Enable Encryption: No Enable Quota: No Enable File Compression: No Ena	ble File Deduplicat	ion: No

5.1.1 Add Shared Folder

- 1. Click Add.
- 2. Complete the basic information and then click Next.

Add Shared Folder				
1 Basic	Configuration	(2 Permission Confi	guration
* Folder Name:				
* Home Storage Pool :				~
Description:				0/64
Others:	✓ Enable Recycle Bin			
	Only Accessible	to Admin		
	 Encrypt This Shared I 	Folder		
	* Encryption Key :		Ø	
	* Confirm Key :		Ø	
	✔ Enable Quota for Sha	red Folder		
	Enter Quota :		GB V	
	✓ Compress			
	Deduplicate(requires	a minimum of 16GB memory, c	urrent memory: 4GB)	
		Next Cancel		

ltem	Description
Folder Name	Input a name for the shared folder. Only letters and digits are allowed.
Home Storage Pool	Select a storage pool for the folder.
Description	Input a description of the folder, for example, its usage.
Others	Select the items you want to use.
	• Enable Recycle Bin: When enabled, the deleted files will be kept in the recycle bin until being restored or permanently deleted. To allow only admin to access the recycle bin, select the Only Accessible to Admin checkbox.
	• Encrypt This Shared Folder: When enabled, you need to set a private key to encrypt the shared folder. Other users must decrypt the folder using the private key before they can view the folder contents.
	 Enable Quota for Shared Folder: When enabled, you need to set a space limit for the shared folder.
	 Compress: When enabled, the system automatically compresses data in the shared folder to save space. Compressed data will be extracted automatically when you search or use them.
	 Deduplicate: When enabled, the system will check for duplicate data and keep one copy only by deduplication.

3. Configure access permission for users and user groups. Permission includes Deny, Read/Write, Read Only. Select the checkbox(es) to assign permission.

Add Shared Folder		(1)	•		
Bas	sic Configuration ——		— 2 Perm	nission Configuration	on
User Permission	Group Permission				
Username	Final Permission	Group Permission	Deny	Read/Write	Read Only
admin	Read/Write	-			
guest	Read/Write	-			
nas	Deny	-	~		
chain	Read Only	-			~
Bob	Read/Write	-			
	С	omplete Ca	ncel		

4. Click **Complete**. The shared folder is added.

5.1.2 Properties Manager

Edit the basic configuration and read/write permission for a shared folder, and set NFS permissions to share the folder with Linux clients.

1. Edit Configuration and Permission

1. Click **Properties Manager** for the shared folder you want to edit.

Properties Manager			×
Basic Configuration	Permission Setup NFS Permissions		
* Folder Name:	Document		
* Home Storage Pool:	z10995test	\sim	
Description:	Please enter	0/64	
Others:	Enable Recycle Bin		
	Enable Quota for Shared Folder		
	Compress		
	Deduplicate(requires a minimum of 16GB memory, current memory: 4GB)		
	18: 45: 48: EA: 63: 73: 98: BE, hzyc2 ОК Сапсе!		

- 2. On the **Basic Configuration** tab, edit the basic settings for the shared folder. On the **Permission Setup** tab, set read/write permissions for the shared folder. For parameter descriptions, see Add Shared Folder.
- 3. Click **OK** to save the settings.

2. Configure NFS Permissions

Configure NFS permissions to allow Linux clients to access the shared folder.



NOTE!

You need to enable NFS service first. See Share with Linux.

1. Click **Property > Properties Manager > NFS Permissions** for the shared folder you want to edit.

Basic (Configuration	Permission Setup	NFS Permissions	8:BE, hzyc2		
Add	Delete					
	Client	Access Permission	Squash	Asynchronou s	Non-Privileged Port	Action
	17 <u>7.12.100.2</u> 3	Read Only	Do Not Map Root	Not Allow	Not Allow	21
	ath: /share/Do					

2. Click Add Sharing. A page as shown below appears.

Add Sharing	×
* Server Name or IP:	
Permission :	Read Only V
Squash:	Do Not Map Root \vee
Security:	AUTH_SYS V
	Enable Asynchronous
	Allow Connections from Non-privileged Ports (ports greater than 1024)
	OK Cancel

- 3. Enter the Linux server's name or IP address, and set other configurations as needed.
- 4. Click OK.

5.1.3 Snapshot

Create a snapshot to make a duplicate of a shared folder at a given time in case you need to restore data after data is lost accidentally. Snapshots use a small storage space compared to backups.

On the **Shared Folder** page, click **Snapshot** of the shared folder and then choose options as you need.

> 🌫 Document 🛛 Ready	152.0KB/3.5TB 0%	Properties	Snapshot 🗸 Mo	re 🗸
✓ ≥ Document1 Ready	152.0KB/3.5TB 0%	Properties	Create Snapshot Create Task	∍ ~
Basic Information			Import Snapshot	
Home Storage Pool: z10995test		l	Snapshot Manager	

1. Create Snapshot

Input the snapshot name (the current time by default), and then click **OK**. A snapshot of the shared folder at the current time is created.

Create Snapshot		×
* Snapshot Name :	GMT08_2023-05-08_150718	7
	Please enter 1-63 characters, which may include digits, uppercase and lowercase letters, and special characters	
	OK Cancel	

2. Create Task

It is recommended to create a periodical snapshot task to automatically save the snapshot at a given time to improve security

Create Snapshot Task		×
* Snapshot Task Name :		
	Please enter 1-63 characters, which may include digits, uppercase and lowercase letters, and special characters	
* Task Schedule:	Every Day Every Week Specified Date	
* First Running Time :	00:00	
* Task Frequency :	Every Day V	
* Last Running Time :	00:00 ~	

Cancel

1. Complete the settings. See the table below for descriptions.

Parameter	Description
Snapshot Task Name	Input a task name that is easy to recognize.
Task Schedule	 Choose a repetition mode for the schedule: Every Day: The task will be run at the same time every day. Every Week: The task will be run at the same time on the same day every week. Specified Date: You need to specify a date and the repetition cycle, so the task will be run at the same time on the same day according to the set cycle.
First Running Time	The first time when the snapshot task will be run.
Task Frequency	How often to run a snapshot task.

Last Running Time	The last time when the snapshot task will be run. Options are determined by "First Running Time + Task Frequency * Number of tasks".
-------------------	--

2. Click **OK** to save the settings.

3. Snapshot Manager

View the snapshots created for the shared folder.

Snapshot Management				
Delete				
Snapshot Name	Space Used by Snapshots	Creation Time	Action	
GMT08_2023-05-12_192120	OB	2023-05-12 19:20:14		
GMT08_2023-05-12_192125	OB	2023-05-12 19:20:19	ŵ ⊥ ∂ ∃	

The following operations are supported:

- Copy: Copy the shared folder at the time of the snapshot, that is to create a copy of the shard folder, which will not affect the current shared folder.
 - (1) Click 🖳
 - (2) Select the destination storage pool, and input the name for the copy of the shared folder.

	Please select the destination storage pool.
*	Please enter a name for the copy of the shared folder
	Please enter a name for the copy of the shared folder

(3) Click OK to copy the shared folder. You can view the copy of the shared folder on the Shared Folder page.



NOTE!

The copy of the shared folder has no user permissions by default. You need to set permission first, then you can access the shared folder.

• **PRollback**: Restore the data to the previous version at the time of the snapshot.



WARNING!

After rollback, the data from the time of the snapshot to the current time will be lost.

- (1) Click ⁽¹⁾.
- (2) Click **OK** on the pop-up interface to rollback the data.

Message	X
0	After rollback, the data at the time of the snapshot will be restored, but data from the time of the snapshot to the current time will be lost. Are you sure you want to continue?
	OK Cancel
1 Export	:: Export the snapshot to the shared folder.
(1) Click	<u>^</u>
Snapshot e	xported ×
* Please set	lect the destination folder
Please se	lect the destination folder
· ·	OK Cancel the destination folder. OK to export the snapshot.
· /	in view the exported snapshot from the shared folder on
Delete	: Delete the snapshot.
(1) Click Ī	

Message				×
0	The snapshot cann Continue?	not be recovered a	fter being deleted.	
		OK	Cancel	

4. Import Snapshot

Import a snapshot to make a duplicate of a shared folder at a given time.

File Manager page.

Snapshots can be imported to the current device or other devices.

Import a snapshot to the current device

Snapshot of Shared	Export	Any Shared Folder	Import	Copy of Shared
Folder A		Any Shareu Folder		Folder A

• Import a snapshot to other devices

Device A	Device B
Snapshot of Shared Export Folder A Any Shared Folder	Any Shared Folder Folder A
Download	Upload
Local S	Storage

Follows the steps to import the snapshot:

1. Click Import Snapshot.

Import Snapshot	×
* Please select the destination shared folder	
Please select the destination shared folder	
* Please select the image file.	
Please select the image file.	
* Please select the destination storage pool.	
Please select the destination storage pool.	
* Please enter the name of the folder created after the import	
Please enter the name of the folder created after the import	
OK Cancel	

- 2. Select the destination shared folder, image file and destination storage pool, and input the name of the folder created after the import.
- 3. Click OK to import the snapshot. You can view the created folder on the Shared Folder page.

NOTE!

The imported shared folder copy has no user permissions by default. You need to set permission first so authorized users can access the shared folder.

5.1.4 Lock/Unlock

You can lock a shared folder if you have enabled encryption and set a private key for the shared folder. Users need to enter a key in order to access the shared folder.

Lock

1. Click More for the folder you want to lock and then choose Lock.

> 惑 Picture	Ready	220.0KB/3.5TB 0%	Properties	Snapshot \bigtriangledown	More 🗸
> 😒 quota	Ready	20.0GB/100.0GB 20%	Properties	Snapshot \bigtriangledown	Delete

- 2. After the shared folder is locked, users cannot edit, upload or download files, or create a snapshot for the shared folder.
- Unlock
- 1. Click More for the folder you want to unlock and then choose Unlock.

> 😋 Picture	1	272.0KB/3.5TB 0%	Properties	Snapshot 🗸	More 🗸
> 📚 quota 🛛 Read	y —	20.0GB/100.0GB 20%	Properties	Snapshot \bigtriangledown	Delete Unlock

2. Enter the key, click **OK**, and then the folder will be unlocked after the key is verified.

ssage		
* Please enter the key :		
ssage * Please enter the key : Please enter OK Cancel		
01		
OK	Cancel	

5.1.5 Delete Shared Folder

Follow the steps to delete a shared folder:



CAUTION!

A shared folder will be permanently deleted if recycle bin is disabled. If recycle bin is enabled, the deleted folder will be kept in the recycle bin until you delete it permanently.

- 1. Click More for the shared folder you want to delete and then choose Delete.
- 2. Click **OK** to confirm the deletion.

5.2 Sharing Configuration

Go to **Sharing Manager** > **Sharing Configuration** and configure sharing service parameters for different sharing modes, so users can access files on the NAS device from different types of clients, including Windows, Linux, Mac, WebDAV, and FTP clients.

5.2.1 Share with Windows

Windows users can use File Explorer to access shared files on the NAS device or mount a shared folder on the NAS as a network disk.

1. Enable SMB

💽 Sharing Manager						
늘 Shared Folder	Windows	Linux	Mac	WebDAV	FTP	
Sharing Configuration	🔽 Enable SMI	8 Service(to all	ow access fron	n Windows client)		
	Service De	scription :	nas			
	Workgroup	:	workgro	up		
	 Active 	Directory Servi	erver(USR Mode) ry Service(AD Domain) 🎲 To enable this option, please configure fi nable this option, please configure first			onfigure first
	✓ Advanced Settings					

You need to enable SMB to allow access from a Windows client.

See the table below for descriptions.

ltem	Description			
Enable SMB	Select the checkbox to enable the Server Message Block (SMB) service.			
Service Description	Service name of the NAS device on the LAN, for example, nas.			
Workgroup	Workgroup that the NAS device belongs to on the LAN, for example, workgroup.			
Stand-alone Server (USR Mode)	Choose this option if the Windows computer functions as a stand-alone server. Users can access the NAS device as a current NAS user.			
Active Directory Service (AD Domain)	AD users can access the NAS device when AD domain is enabled. To enable this option, add AD domain in Control Panel > Account Manager > Domain .			
LDAP	LDAP users can access the NAS device when LDAP domain is enabled. To enable this option, add AD domain in Control Panel > Account Manager > Domain .			

If you have higher security and performance requirements on the sharing, click **Advanced Settings** to expand it. Refer to the table below for more information.

ltem	Description	
Enable WINS Server	The WINS server is used for domain name resolution.	
	This option is required when your network doesn't have a WINS server and some computers are in different subdomains. Make sure there's only one WINS server on the network and all the computers on the network are set to use this WINS server.	
Use Specified WINS Server	Input the IP address of the specified WINS server.	

Domain Name Resolution Order	Choose the name resolution order: WINS First, or DNS First.		
Set as Domain Master Browser	When enabled, the NAS device can be used as the local master browser. The local master browser is responsible for maintaining the device list in the network workgroup.		
Allow NTLMSSP Authentication Only	When enabled, only NTLMSSP authentication will be allowed. Make sure all the computers on the network support NTLMSSP authentication. When disabled, NTLM authentication will be applied and provide lower security.		
Alternative Login Method	When enabled, users can access the NAS device through Domain\Username instead of Domain+Username.		
Enable DNS Auto Update	This option is available when AD Domain is enabled. When enabled, the NAS device can be registered on the DNS server, so the NAS device will automatically update its IP on the DNS server after the NAS device IP is changed.		
Enable Trusted Domain	This option is available when AD Domain is enabled. When enabled, trusted users from AD domains can be added.		
Enable Asynchronous IO Mode			
Enable WS-Discovery	When enabled, Web Services Dynamic Discovery is available, and the NAS device will appear in File Explorer on the Windows 10 computer.		
Highest SMB Version Lowest SMB Version	Choose the highest and lowest SMB protocol versions used on your network. Note : SMB3 is supported since Windows 8 and Windows Server 2012; and SMB2 is supported since Windows Vista.		
Allow Symbolic Link in Shared Folder	When enabled, a link (path) to shared file B can be included in shared file A, so Windows users can visit shared file B when visiting shared file A.		
Restrict Anonymous Access to SMB Shared Folder			
Hide Files	When enabled, the system can hide files from users accessing the NAS device via SMB. Files with the name matching the configured rules will be hidden from the user. Select the checkbox and then input the rules.		

2. Access NAS from a Windows Computer

• Option 1: On Windows File Explorer, input **\\NAS IP**, press **Enter**, and then input the NAS username and password to access folders on the NAS device.

💣 🕑 📙 🖛 207.129.130.45		
File Network View		
← → × ↑ 💣 > Network > 207.12 NA	1.750.45 → \S IP	
🗸 🛄 This PC	vedio	Document
> 📃 Desktop		 bocament
> 🗄 Documents		
> 🕂 Downloads		
N Music		

 Option 2: (Take Win10 as an example). Right-click This PC, click Map network drive. Input \\NAS IP\Shared Folder, click Finish. Input the NAS username/password to connect to the NAS device. Open This PC, and you can see the shared folder has been mapped to the computer as a network drive.

Pin to Quick access Manage Pin to Start	 Map Network Drive What network folder would you like to map? 	File Computer View	
TortoiseSVN Map network drive Disconnect network drive Create shortcut Delete Rename Properties	Specify the drive letter for the connection and the folder that you want to connect to: Drive: Example: Example: Connect ta sign-in Connect using different credentials Connect to a Web site that you can use to store your documents and pictures.	 ← → ◆ ↑ ● → This PC ♥ ● This PC > ● Desktop > ● Documents > ● Downloads > ▶ Music 	 > Folders (7) > Devices and drives (5) > Network (1) 3 test001 (\\\$07.124.43) (2) 4508 free of 4508
		ancel	

5.2.2 Share with Linux

Linux users can use NFS to mount shared folders on the NAS device and access the shared folders from the Linux client like local folder.

1. Enable NFS

Select the Enable NFS Services checkbox to allow access from a Linux client.



2. Configure Linux Client

Configure the Linux client that is allowed to access the shared folder. See <u>Configure NFS</u> Permissions.

3. Access NAS from a Linux Client

Log in to the Linux client as the root user, and then run the following command to mount the shared folder on the NAS device.

mount -t nfs [NAS IP]:/[shared folder][space][target folder]



NOTE!

For example, NAS IP is 192.168.0.1. To mount a shared folder named **Public** on the NAS device to the **/mnt** directory on the Linux client, run this command: **mount –t nfs 192.168.0.1:/Public /mnt**

To unmount the shared folder, use this command:

umount /[shared folder]

5.2.3 Share with Mac

Mac users can use Finder to browse shared files on the NAS device or mount a shared folder on the NAS as a network disk.

1. Enable AFP

Select the Enable AFP checkbox to allow access from a Mac computer.

Sharing Manager			
📄 Shared Folder	Windows	Linux	Mac 8:54. WebDAV 63:73 FTP 88.1
Sharing Configuration	🔽 Enable AF	P (to allow acce	ss from Mac client)

2. Access NAS from a Mac Computer

On the Mac computer, go to Finder > Go > Connect to Server, type afp://NAS IP in the Server Address field and then click Connect.

5.2.4 Share by WebDAV

WebDAV stands for Web Distributed Authoring and Versioning and can enable a Web server to function as a standard network driver.

1. Enable HTTP/HTTPS

Select the **Enable HTTP** or **Enable HTTPS** checkbox and input the corresponding service port to allow access by WebDav.

Sharing Manager			
Shared Folder	Windows	Linux	Mac 8:54, WebDAV 63:73 FTP 8
Sharing Configuration	🔽 Enable HTTP		
	HTTP Port:	8080	
	🔽 Enable HTTPS	i	
	HTTPS Port:	8081	
	Save Res	et	

2. Access NAS by WebDAV

Use a Web browser or a WebDAV client to access the NAS device at http://NAS IP:port or https://NAS IP:port.

5.2.5 Share by FTP

File Transfer Protocol (FTP) is used to upload and download files. When FTP is enabled, users can upload data to or download data from the NAS device via FTP.

1. Enable FTP

Select the Enable FTP checkbox to allow access to the NAS device via FTP.

Sharing Manager			
📄 Shared Folder	Windows Linux Mac	3:55, WebDAV 63:73 FTP :BE, hzyc2	
Sharing Configuration	✓ Enable FTP		
	Protocol Type :	FTP (standard) Image: FTP (external SSL/TSL)	
	Port:	21	
	Unicode Supported :	• Yes O No (choose this option if FTP does not support Unicode)	
	Allow Anonymous Access :	Yes No	
	I Connection Settings		
	Max Total FTP Connections :	30	
	Max FTP Connections per Account :	21, 48 · EA : 63 : 73 : 98 · BE, hzyc2	
ltem	Description		
Enable FTP	Select the checkbox to enable the FTP service.		
Protocol Type	 Choose an FTP protocol type. FTP (standard): Standard network protocol used to transfer files. This option does not provide encryption for session information but offers a faster transmission speed and consumes less system resources. 		

	• FTP (external): An extension of the standard FTP which supports TLS and SSL. This option provides session information encryption but offers slower transmission speed and consumes more system resources.		
Port	Input the FTP service port. The default is 21.		
Unicode Supported	Set whether Unicode is supported. This setting helps the FTP client correctly display characters in files.		
	 The default is Yes. Choose No if the FTP client does not support Unicode. 		
Allow Anonymous Access	Set whether to allow anonymous users to access the NAS device.		
Max Total FTP Connections	Set the maximum number of users that can access the FTP server simultaneously.		
Max FTP Set the maximum number of connections per user. Connections per Account			
Max. Upload Speed	Set the highest speed for uploading files from the FTP client to the NAS device.		
Max. Download Speed	Set the highest speed for downloading files from the NAS device to the FTP client.		

2. Access NAS via FTP

- Method 1: Use an FTP client program (such as FileZilla) to connect the NAS IP and configured port to access the shared folder.
- Method 2: Use a Web browser to visit the NAS device at **ftp://NAP IP** to access the shared folder.
- Method 3: Use a Linux client to connect **ftp NAS IP** to access the shared folder.

6 Block Sharing

Block sharing allocates storage space on the NAS device to other hosts, for example, to a computer as its local disk.



NOTE!

To use this function, enable iscsi service in **Control Panel > Security Manager > Service** first.

6.1 Overview

View the created resources. Click a resource card to view resource details.

Block Sharing			18:56,48:EA:63:73:98 🕁 🗖 🖉
🕒 Overview			
🔚 Target		Block share is normal.	
📒 LUN			
Host		Mapped LUN 0 Unmapped LUN 3	Linked Target 0 Unlinked Target 0
	lu	ntest001 Normal	
	41	5 Normal	
	hzyc2 as	d Normal 18:56, 48:EA:63:73:98:BE, hzyc2	

6.2 Host

A host is a device that uses storage resources on the NAS device and supports VMware ESXi (e.g., virtual machine), Windows (e.g., personal computer) or Linux (e.g., server).

Block Sharing hzyc2		
🕒 Overview	Host (2) Add	
📑 Target	host VMware ESXi	hostWinin
🛢 LUN	Description:	Description:
Host	Initiators: 0	Initiators: 1
	Edit View Initiators Delete	Edit View Initiators Delete

6.2.1 Add Host

1. Click Add.

Add Host			×
* Host Name :	Please ente	er the name.	
Operating System :	VMware E	SXi	\vee
Description:			
			1
Select Initiator :	Add		
		Initiator(IQN/WWPN)	Action
		Example:iqn.2022-08.com.test	×

ОК	Cancel
----	--------

2. Complete the required settings. See the table below for descriptions.

ltem	Description
Host Name	Give a name that is easy to recognize. The device name (computer name) is recommended.
Operating System	Choose the host's operating system: VMWare ESXi, Windows, or Linux.
Select Initiator	 Click Add, add an initiator (IQN), and then select it. Standard format: iqn.[date].[domain].[device identifier]. Follow the steps to get the initiator name. The figures below are for reference only. Windows (1) Type iSCSI Initiator in the search field and open the app.
	iSCSI Initiator → Desktop app
	 (2) On the iSCSI Properties page, find the initiator name on the Configuration tab. iSCSI Initiator Properties ×
	Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration Configuration settings here are global and will affect any future connections made with the initiator. Any existing connections may continue to work, but can fail if the system restarts or the initiator otherwise tries to reconnect to a target. When connecting to a target, advanced connection features allow specific control of a particular connection.
	Initiator Name:
	To modify the initiator name, dick Change. Change

_				
•	VMware ESXi			
	· / ·	rowser, type the VI SXi management		n the address bar to open
	•	• •	se the iSCSI adapter CSI name and Alias	r, click Configure iSCSI ,
	vmware" Esxi"			
	Navigator	localhost.localdomain - Storage		
	+ 🗐 Host	Data Storage Adapter Device P	ermanent Memory	
	Virtual machine	Configure ISCSI	Rescan 📔 🤁 Refresh 🛛 🏠 Operation	
	🕞 📃 naa.60014052a808e71b	Name		∨ Туре
	More	vmhba0		Cougar Point 6 port SATA AHCI Controller
	1 Network	🔯 vmhba64		iSCSI Software Adapter
		Configure iSCSI - vmhba64		
		ISCSI Enabled	ODisable 💿 Enable	
		▶ Name and Alias	iqn.1998-01.com.vmware:63a1f1b3-6357-7e0	-fae6-48ea634b5d31-2120761d
•	Linux			
	(1) Use an SSH t	ool to loa in to the	management portal	of the Linux host.
	()	0	et the initiator name:	
	()	0 0		
	iscsiadm –m	discovery –t st –	p [IP address]	

3. Click **O**K. The host is added.

6.2.2 Edit Host

Follow the steps to edit host information:

1. Click **Edit** on the card.

host01	VMware ESXi
Description: Initiators: 1个	
Edit View Initiat	ors Delete

- 2. Edit the host.
- 3. Click **OK** to save the settings.

6.2.3 View Initiator

Click View Initiators on the card to view the added initiators.

6.2.4 Delete Host

NOTE! Before deleting a host, you need to remove the link with the target first. See Remove Link.

Click **Delete** on the card, and then confirm the deletion.

6.3 LUN

An iSCSI LUN is a logical unit of storage.

Block Sharing hzycz		
🕒 Overview	LUN (2) Add	
🔚 Target	LUN01 Normal	LUN02 Normal
🛢 LUN	Location z10995test	Location shen
🖥 Host	Total Capacity 102GB / Block Size 128KB	Total Capacity 10GB / Block Size 128KB
	Edit Snapshot v Delete	Edit Snapshot v Delete

6.3.1 Add LUN

Add LUN		2
* LUN Name :	Please enter the name.	
* Home Storage Pool:		\vee
Provision Type :	Thin Provision Thick Provision ?	
Total Capacity :	GB v Max: 1PB	
	128KB	~
Block Size:		

See the table below for descriptions.

Item	Description
LUN Name	Set a LUN name as needed.
Home Storage Pool	Choose a storage pool and allocate space to the LUN.
Provision Type	 Thin Provision: The system allocates pool space on demand when writing data to the LUN. It may cause corrupted file system if the LUN space is insufficient. Think Provision: The system allocates pool space when creating the shared folder to ensure availability of space.
Total Capacity	Set the LUN's storage capacity. The valid range is 1GB to 1PB.
Block Size	Choose the block size. The default value 128K is recommended.

Cancel

2. Click **O**K. The LUN is added.

6.3.2 Edit LUN

Follow the steps to edit LUN:

1. Click Edit on the card.

LUN01	Normal
Locationpools Total Capacity 1GB / Block Size 128KB	
Edit Snapshot v	Delete

2. After you complete the modification, click **OK**.

6.3.3 Snapshot

Create a snapshot to make a duplicate of a LUN at a given time in case you need to restore data after data is lost accidentally. Snapshots use a small storage space compared to backups.

Click **Snapshot** on the LUN card, and then choose options as needed.



The operations are similar to the snapshot management of the shared folder. See <u>Snapshot</u> for details.

6.3.4 Delete LUN



NOTE!

Before deleting a LUN, you need to delete its mapping with the target first. See Remove Link.

Click **Delete** on the card, and then confirm the deletion.

6.4 Target

Create a Target and link it to the host.

Block Sharing hzycz					×
🕒 Overview	Target(1) Add			Please enter	Q
🚍 Target	v iqn.2022-08.r.com Connected	Initial LUN No: 1 IP: 172.20.142.111 🖲	D	Edit	Delete
	LUN Host Add mapping	g Delete mapping			
- Host	LUN Name	Home Storage Pool	Total Capacity	Action	
	LUN01	zitesst	102GB		

6.4.1 Add Target

- 1. Click Add.
- 2. Complete the basic information.
 - Target Name: Set as needed. Standard format: iqn.[date].[domain].[device identifier]. The name must be unique.
 - > Initial LUN No.: Choose a LUN number. The default is 1.
 - IP Address: Choose the NAS IP address. If no IP address is selected, all the listed IP addresses will be used to provide sharing service.

Add Target		×
1	Basic Information 2 Map LUN 3 Link Host	
* Target Name :	Example:iqn.2022-08.com.test	
Initial LUN No:	1	\sim
IP:	Selected0/2	
	2000-2000-3-222 10.2222.97-234	
	Next Cancel	

3. Click **Next**. Choose the LUN that the Target maps to (for information about creating a LUN, see <u>LUN</u>).

Ado	l Target				×
		Basic Information	2 Map LUN	J Link Host	
	LUN Name	Add			
		LUN Name	Home Storage Pool	Total Capacity	
		asdadasd	pools	2GB	
		LUN01	pools	1GB	



4. Click **Next**, choose the host that the target links to, and set read/write permission for the host to access the storage resource.

Add	Target				×
		Basic Information	🗸 Map L1	JN 3	Link Host
	Host Name	Add			
		Host Name	Operating System	Number of Initiators	Permission
		host01	VMware ESXi	1	Read Only 🗸 🗸
		host02	VMware ESXi	0	Read/Write v

ack Cancel



NOTE!

Disk partitioning requires read/write permission. So usually it is recommended to set read/write permission to allow disk configuration.

5. Click **Complete**. The Target is added.

6.4.2 Edit Target

To change the IP address of the Target, follow the steps below:

1. Click Edit for the Target.



2. After you complete the modification, click OK.

6.4.3 Delete LUN Mapping

Follow the steps to delete the mapping between the LUN and the Target:

1. Select the LUN, and then click **Delete Mapping**; or click the \square for the LUN.



2. Confirm to delete the mapping.

6.4.4 Delete Link

Follow the steps to delete the link between a host and a LUN.

1. Select the host, click **Delete Link**, or click [&] for the host.

LUN re	esources Host	Add Link Delete Link			
	Host Name	Operating System	Number of Initiators	Permission	Action
	host02	VMware ESXi	0	Read Only	X

2. Confirm to delete the link.



NOTE!

If the host is already linked with the Target, you need to remove the link on the host first (see Use NAS Resource on the Host) before you can remove the link on this page.

6.4.5 Delete Target



NOTE!

When deleting a target, you need to delete the mapping between the LUN and the target and remove the link between the host and the target.

Click **Delete** for the target and then confirm the deletion.

6.5 Use NAS Resource on the Host

After a link is established between the host and the Target, the host has access to LUN resource that the Target is mapped to and can use the LUN as a local disk.

6.5.1 Windows Host

Follow the steps to create a local disk using NAS resource on a Windows host:

1. Type iSCSI Initiator in the search field and open the app.



 In the Properties dialog box, click the Targets tab. Enter the NAS IP in the Target filed, and then click Quick Connect. When the status is changed to "connected", the NAS device is connected successfully.

iSCSI Initi	iator Proper	ties				×
Targets	Discovery	Favorite Targets	Volumes and Device	s RADIUS	Configuration	
To disc		on to a target usir arget and then click	ng a basic connection, Quick Connect.	type the IP	address or	
Target	: 18.3	11,020,12		Q	uick Connect	
Discove	ered targets				Refresh	
Name				Status	-	
i gn. 1	992-05. com	.microsoft:(). ca. cn-univ	connecte	d 2	

- 3. Take a Win10 computer as an example. Right-click **This PC**, click **Manage**. The **Computer Management** page appears. You may also type **compmgmt.msc** in the **Run** field to open this page.
- 4. Choose **Storage** > **Disk Management** to view the storage space (unallocated status) from the NAS device, and then initialize the disk in accordance with Windows system rules.

	Computer	r Manage	ment				
File	Action	View	Help				
(2 🖈	?	F	🗙 🛃 📑 📴 🗵	3		
	System • • • Tas • • • • • • • • • • • • • • • • • • •	n Tools k Schedu ent Viewe	r	Volume (C:)	Layout Simple		Status Healthy (System, Boot, Page File, Active, Crash Dump, Primary F
	> 🌆 Loc > 🔊 Per 者 Dev	formance /ice Mana	and Groups e				
~ [Storage 🖶 📑	e k Manag	ement				
>	Service	s and Ap	plications				
				<			>
				Disk 0 Basic 465.76 GB Online		GB NTI y (Syste	
				Disk 1 Unknow 122.00GB Not initialized	122.00 Unalk		

6.5.2 VMware ESXi Host

- 1. Open a Web browser, type the VMware ESXi host IP in the address bar to open the VMware ESXi management portal.
- 2. Go to Storage > Adapter, choose the iSCSI adapter, click Configure iSCSI.

vmware' esxi"			
Navigator	Iccalhost.localdomain - Storage		
▶ 🖥 Host	Data Storage Adapter Device Permanent Memory		
▶ 🔂 Virtual machine 1			
🐨 🗐 Storage 📃 2	🔯 Configure iSCSI 💆 Software iSCSI 💻 Rescan 🧧 🕻 Refresh 🛛 🏠 Operation		
🕨 📃 naa.60014052a808e71b	Name	~	Туре
🖻 📠 vmhba64 🛛 🚺	🐖 vmhba0		Cougar Point 6 port SATA AHCI Controller
More	whba64		iSCSI Software Adapter 🛛 🕗
Network 1			

3. Add a static Target including the Target name and NAS IP, and then save the settings.

CHAP Authentication	Without using CHAP	~			
Bidirectional CHAP authentication	Without using CHAP	~			
Advanced Settings	Click to expand				
	http://www.commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/commonstance.com/com/com/com/com/com/com/com/com/com/				
Network Port Binding	VMkernel NIC ~ Port C	Group	✓ IPv4 Add	ress	~
		No Data			
•	Add static target 🖉 Delete static target 🧪 Edit.	Q s	earch	Q Search	
Static Target	Target	✓ Address		Port	`
	iqn.2023-01.com.test:tar001	207.207		3260	
é	iqn.2023-01.com.test:tar9080	207	.80	3260	
•	iqn.2023-01.com.test:tar002	207	130.45	3260	
	iqn.2023-01.com.test:tar001	207	PI.30	3260	
	🔯 Add dynamic target <u>S</u> Delete dynamic targey ^y Edit	Q Se	earch	Q Search	
Dynamic Target	Address	✓ Port			~
	207.207.202.213	3260			
	207.207.80 80	3260			
	207.121.110.45	3260			

4. Choose **Storage** > **Device** to view the allocated space.

vmware [®] Esxi [®]								
🖫 Navigator 🗆	Iccalhost.localdomain - Storage							
≻ 🖥 Host	Data Storage Adapter Device Permanent Memory	Storage Adapter Device Permanent Memory						
▶ ∰ Virtual machine 1 > ■ Storage 2	😫 Add Data Storage 🕮 Add Capacity 🚊 Rescan 🔰 😴 Refresh 💠 Operation							
Network	Name	\sim	Status 🗸	Type 🗸	Capacity			
	Local ATA Disk (t10.ATAST2000NM00552D1V4104		📀 .Normal	HDD	1.82 TB			
	LIO-ORG iSCSI Disk (naa.6001405e97fb85d59b9446698dcc3160)		🔺 Normal, downgraded	SSD	10 GB			
	LIO-ORG iSCSI Disk (naa.600140504e377761dd14a068b7857794)		A Normal, downgraded	SSD	1,024 GB			
	LIO-ORG ISCSI Disk (naa.6001405104e4b28750b4f669a776eecc)		🔥 Normal, downgraded	SSD	1 GB			
	LIO-ORG iSCSI Disk (naa.6001405d3630b8f5a89448c91c76b851)		🔥 Normal, downgraded	SSD)	1 GB			

6.5.3 Linux Host

- 1. Use an SSH tool to log in to the management portal of the Linux host.
- 2. Use the **iscsiadm** command to connect to the Target on the NAS device.

iscsiadm –m node –targetname"[Target name]"-portal"[Target IP:3260]"-login Example:

iscsiadm –m node –targetname"iqn.2023-01.com.test:tar001"-portal"192.168.0.1:3260"login

3. Use the **fdisk** command to create partitions.

fdisk -- I // Searches available disks

fdisk disk path // Creates partitions

7 File Manager

On **File Manager**, you can upload files of different types to the storage space on the NAS device, visit, download, and manage files stored on the NAS device, and share files in a secure way with other users via custom access permissions and temporary links.

7.1 File Manager

On the **File Manager** page, click **File Manager** on the left to view the shared folders on the NAS device and their sub-folders and files.

🔁 File Manager		-	
늘 File Manager	< > C DOC	Please enter	Q
AutoCar123123	New Folder Upload-Ignore Upload-Overwrite Share Download Copy Move Delete		
► 🗟 DOC	Name Size Type	Date Modified	
Picture	Dec cc de Folder	5/8/2023, 3:22:40 PM	
	🗌 🇁 WORK - Folder	5/8/2023, 3:23:06 PM	
			<
🜏 Share Links			
👕 Recycle Bin			

To view files in a folder, expand the left-side tree and select the folder.

7.1.1 New Folder

Folders are used to manage files by type. To achieve quick search, it is recommended to create folders according to the file types you want to store.

- 1. On the File Manager page, click File Manager on the left.
- 2. Select a shared folder, click **New Folder**. A dialog box appears. To create a folder under an existing folder, select the folder and then click **New Folder**.

New Folder			×
Folder Name :	Please enter the folder name		
		ОК	Cancel

3. Enter the folder name, and then click **OK**.

7.1.2 Upload Files

Follow the steps to upload files to the NAS device.

- 1. On the **File Manager** page, click **File Manager** on the left, and then select the destination folder for the files you want to upload.
- 2. Click **Upload-Ignore** or **Upload-Overwrite** in case a file with the same name as the file you want to upload already exists in the destination folder.
 - > Upload-Ignore: Upload will be cancelled.
 - > Upload-Overwrite: The uploaded file will overwrite the existing file in the folder.
- 3. Select the file you want to upload, and then click **OK** to start upload.

7.1.3 Share Files

Share files (including folders) with other users of the NAS system, so they can view or download the shared files.

- 1. On the File Manager page, click File Manager on the left.
- 2. On the file list, select the file or folder you want to share, and then click Share.
- 3. Choose a type (public, password protection, shared by internal account), set the number of accesses allowed, and validity period.

Sharing Type:	Public			\vee				
Number of Acces	sses Allowed	Please enter						
Validity Period	Last 1 Day	Last 3 Day	Last 7 Day	Custom	Start Time	🛁 End Tim	e	
				Create Lin	k			
ck Create Link	to gene	rate a lir						
ick Create Link		rate a lir						
ick Create Link ile(Folder): Total 1 File		rate a lir						
		rate a lir						



5. Click Copy Link to copy the link and then send it to the intended users.

Users who receive the link can paste the link in a web browser to download the shared files.

7.1.4 Download File

NOTE!

Download files (including folders) from the NAS device to your computer.

- 1. On the File Manager page, click File Manager on the left.
- 2. On the file list, select the file or folder you want to download, and then click **Download**.
- 3. You can view the downloaded files on your computer after the download is completed.

7.1.5 File Management Actions

You can copy, move, delete, rename files on the NAS device and save files to favorites folder.

Action	Purpose	Steps
Сору	Copy a file to a different folder for backup.	 On the file list, select the file/folder and then click Copy. Choose the destination folder, and then click OK.
Move	Move a file to a different folder.	 On the file list, select the file/folder and then click Move. Choose the destination folder, and then click OK.
Delete	Delete a file from the NAS device.	 On the file list, select the file/folder and then click Delete. Click OK in the pop-up window to confirm the deletion. Note: The deleted files will be moved to Recycle Bin and can be restored to the previous paths.
Rename	Change the name of a file.	1. On the file list, click open for the file/folder and then choose Rename .
		Input the new name and then click OK.

7.2 Share Links

On the **Share Links** page, you can view the shared files, including the filename, time of sharing, expiration time, and the number of times that the file has been viewed and downloaded. You can also copy links, cancel sharing, and delete expired links.

🔁 File Manager											_	
늘 File Manager	Delete	Invalid Links	Cancel S							Please enter		Q
🜏 Share Links		Name	Å	Path	÷	Time of Sharing	≑ Status	÷	View Count	5 🙏	Action	n
i Recycle Bin		BOOK		/DOC		5/8/2023, 3:24:48 PM	Valid		No limit		j c	°×

Action	Purpose	Steps
Copy Link	Copy and send a link to other users. Users who receive the link can click the link to access the shared file.	 Click I. Paste the link to an app such as file editor, chatting tool, and Web browser.
Cancel Sharing	Stop sharing a file, so other users can no longer access the file.	 On the shared file list, select the file. Click Cancel Sharing.

Delete Links	Invalid	Delete millo of expired sharing.	 On the shared file list, select the file. Click Delete Invalid Links. 	
-----------------	---------	----------------------------------	---	--

7.3 Recycle Bin

The recycle bin is used to retain files that deleted from **File Manager**. You can restore files or permanently delete files from the NAS device.

🔁 File Manager							- 🗆 ×
늘 File Manager	Empty Recycle Bin Res	tore Delete				Please enter	Q
Share Links				Date		Remaining	
TRecycle Bin	Name	Previous Path	Size	Date Deleted	÷	Days	Action
AutoCar123							
C DOC							
Ricture							
			No data				
		Total 0 <	1 > 10 / pa	age 🔻			

- Restore: Restore files to the previous paths.
 - > Batch Restore: Select the files you want to restore and then click **Restore**.
 - \succ Restore: Click \bigcirc to restore a file.
- Delete: Delete files from the recycle bin.

WARNING!

This operation will permanently files from the NAS device. This operation cannot be undone.

- > Empty Recycle Bin: Click **Empty Recycle Bin** to delete all files from the recycle bin.
- > Batch delete: Select the files you want to delete and then click **Delete**.
- > Delete: Click $\overline{\square}$ to delete a file.

8 NVR

 (\mathbf{i})

The NAS can be used as an NVR (Network Video Recorder) to connect cameras for video surveillance and recording storage.

8.1 Log in to the NVR



- 1. Click we on the desktop to go to NVR configuration page.
- 2. Enter the username and password of NVR, then click Login.

บก	v	NVR				Ć
					English	~
Usernam	e					
Password				Forgot F	assword	
		Login	Reset)		



NOTE!

- The default username/password: admin/Admin123-.
- For data security, please change the default username/password after your first login. A strong password is recommended: at least nine characters including uppercase and lowercase letters, digits, and special characters.

8.2 Add a Camera

Add camera(s) to the NVR for management.

1. Go to Setup > Camera > Camera, click the Camera tab.

บทิง		📮 Live View 🥅 Play	/back 🗱 Setup 🎝 Smart
Client	*	Camera	Advanced
System	~		
Camera	*	Auto Switch to H.265	● On ○ Off Note: Effective when first connected
 Camera 	~	Auto Switch to Smart Encoding	g Off Vote: Effective when first connected
Encoding		Refresh Modify	Delete Add Auto Search Search Segment Batch Edit Pass
Audio			
OSD		No. Camera ID	Address Port Remote Camera ID Protocol

- 2. Choose a way to add cameras.
- Add one by one: Click **Add**, enter the exact IP address to add the camera.
- Auto Search: Click **Auto Search**, NVR will automatically search cameras in the network, then select the desired cameras to add.
- Search Segment: Click **Search Segment**, set the network segment to search for cameras, then select the desired cameras to add.

8.3 Storage

Mount the NAS's shared folder in the NVR.

NOTE!

Configure sharing with Linux clients in **Sharing Manager**. Set Linux client IP as 127.0.0.1, and set access permission to Read/Write. See <u>Sharing with Linux</u>.

Properti	es Manager					×	
Basic	Configuration	Permission Setup	NFS Permissions				
Ado	d Delete						
	Client	Access Permission	Squash	Asynchronou s	Non-Privileged Port	Action	
	127.0.0.1	Read/Write	Do Not Map Root	Not Allow	Not Allow	之前	
Mount Path: /share/Myshare shared folder directory							
			ОК	Cancel			

1. Go to Setup > Hard Disk > Hard Disk.

Hard Disk								
Refresh	Add Format							
□ No.	Total(GB)	Free(GB)	Status	Туре	Usage	Property	Configure	Operate
1	0.00	0.00	No Disk	Local Disk	Recording/Snapshot	_	_	_

2. Click Add to add the shared folder.

Hard Disk		
Usage	Recording/Snapshot 🗸	
Disk Type	NAS 🗸	
Server Address		
Directory		

- > Server Address: NAS's IP address.
- > Directory: NAS shared folder directory. Standard format: /share/shared folder name.

3. Click Save.

Hard	Disk								
Refr	Refresh Add Format								
	No.	Total(GB)	Free(GB)	Status	Туре	Usage	Property	Configure	Operate
	1	0.00	0.00	No Disk	Local Disk	Recording/Snapshot	_	-	-
	NAS-1	417.83	0.00	Unformatted	NAS	Recording/Snapshot	Read/Write	Ø	â

4. On the **Hard Disk** page, select the mounted NAS storage space, then click **Format** to create the qualified directory.



NOTE!

The formatting operation does not affect data already stored on the NAS.

8.4 Live View



On the Live View page, select the desired camera on the left, then click by to view the live video.

8.5 Playback

On the **Playback** page, select the desired camera and the date on the left, then click **D** to start playback.



9 System Maintenance

9.1 Update and Restore

Upgrade the system to the latest version, or restore it to a previous version using a backup file.

9.1.1 System Update

The system supports automatic version update.

Go to System Maintenance > Update and Restore > System Update to view the current version.

😳 System Maintenance				
☑ Update & Restore	System Update	Backup & Restore		
E Log Center	The current system version only supports manual update.			
	Model:	DX2@44		
	Firmware Version :	DX-B1101.7 10.310210714		
	Status:	Normal		
	Manual Update			

To update the version manually, follow the steps below:

1. Click Manual Update. A page as shown below appears.

Manual Updat	e	>
Please select version.	a local update file. Make sure the selected version is higher than the c	urrent
* File Path :	Please select the file path	Browse
	OK Cancel	

- 2. Click **Browse** and locate the upgrade file on your computer.
- 3. Click OK.

9.1.2 Backup and Restore

It is recommended to enable system backup, so you can restore the system using the backup file when necessary.

Go to System Maintenance >Update and Restore > Backup and Restore.

😨 System Maintenance				
CO Update & Restore	System Update	Backup & Restore		
E Log Center	Auto Backup			
	Enable Auto Backup			
	Export Configurations Ma	nually		
	Export Current Configu	rations Export Backup File		
	Restore Configurations Manually			
	Restore from Local File	Restore from Backup File		

System Backup

- Auto backup: Select the checkbox to enable automatic backup.
- Export Configurations Manually
 - > Click **Export Current Configurations** to export the current backup of the system.
 - > Click **Export Backup File** to export a historical backup of the system.

Restore System

Use a backup file to restore the system to an earlier version.

- Restore from a local file: Click **Restore from Local File**, and then locate the backup file from your computer.
- Restore from a backup file: Click Restore from Backup File, and then locate the backup file on the NAS device.

9.2 Log Center

View system alarm logs and operation logs.

9.2.1 Alarm Logs

Go to System Maintenance > Log Center > Alarm Logs to view alarm records in the system.

😨 System Maintenance				— — ×
System Update and Restore	Alarm Log	s Operation Logs		
E Log Center	Time: Last D	lay Last 3 Day Las	st 7 Day Custom Sta	art Time 🖌 End Time 🛅
	Module: All	∨ Level	: All v	Search Reset Export
	Level	Module	Time	Event
	Error	Sharing Management - AFP Management Module	2023-05-12 09:20:06	Failed to enable UPS service. Failed to enable UPS service, command: systemctl start apcupsd, result: 256
	Warning	O&M Module - Operation and Maintenance	2023-05-12 09:13:14	The system CPU usage exceeds the preset threshold 80%! Current usage is 90%
	Error	O&M Module - Operation and Maintenance	2023-05-12 09:02:37	The system CPU usage exceeds the preset threshold 90%! Current usage is 98%
			Total 3 < 1	> 10 / page ~

Set search criteria including time, alarm level, and module, and then click **Search** to view needed alarm records.

Click Export to export alarm logs to a .csv file.

9.2.2 **Operation Logs**

Go to **System Maintenance** > **Log Center** > **Operation Logs** to view user operation records in the system.

😲 System Maintenance				- • ×	
Bystem Update and Restore	Alarm Log	s Operation Logs			
E Log Center	Time: Last 3 Day Last 7 Day Custom Start Time ~ End Time				
	Username : All	∨ Module:	A11 ~	Search Reset Export	
	Username	Module	Time	Operation Details	
	admin Si	Sharing Management - Sharing Management Module	2023-05-08 15:40:06	Rename shared folder, old share name:AutoCarT, new share name:AutoCarTca, shared pool:pools, result:0	
	admin	Sharing Management - Sharing Management Module	2023-05-08 15:40:06	Edit shared folder, pool name:pools, folder name:AutoCarT, Quota:Enable, result:1	
	admin	Sharing Management - Sharing Management Module	2023-05-08 15:40:05	Edit shared folder description, share name:AutoCarTca, description:ZZZZZZZZZ, result:0	
		Total 0 < 1	2 3 4 5	24 > 10/page - Go to Page	

Set search criteria including time, username, module, and then click **Search** to view specific operation records.

Click **Export** to export operation logs to a **.csv** file.

10 Acronym and Abbreviations

The table below lists some acronyms and abbreviations in this document.

Acronym	Full Name	Description
AD	Active Directory	A directory service created by Microsoft to manage Windows domain networks.
AFP	Apple Filing Protocol	A network protocol used to provide file service for Mac computers.
DNS	Domain Name System	A service that provides domain name-IP address mappings to allow user to visit a website conveniently using its domain name.
FTP	File Transfer Protocol	Used to upload or download files on a network.
IQN	iSCSI Qualified Name	Unique name of each iSCSI Target.
iSCSI	Internet Small Computer Systems Interface	A storage technology based on IP network and SCSI-3 protocol.
LDAP	Lightweight Directory Access Protocol	Enables reading/writing data in the correct location in the information directory.
LUN	Logical Unit Number	An LUN is a logical unit of storage.
MTU	Maximum Transmission Unit	The maximum size of a packet or frame in network transmission, usually in unit of Byte. If the MTU size is too large, packets or frames may be discarded by the router; if the MTU size is too small, the actual size of data transmitted will be too small.

Acronym	Full Name	Description
NAS	Network Attached Storage	Refers to our NAS device.
NFS	Network File System	A network file system protocol based on TCP/IP. Users can use NFS client to access shared resources on the NFS server like accessing a local directory.
NTLM	NT LAN Manager	A standard security protocol in an early version of Windows NT.
NTLMSSP	NT LAN Manager Security Provider	A security support interface protocol provided by Microsoft, which specifies the encryption method for SMB-based sharing.
NTP	Network Time Protocol	A server that provides time source for other devices on the network to keep the time of all the devices synchronized.
RAID	Redundant Arrays of Independent Disks	A data storage technology that combines multiple hard drives into a single storage space with reliable storage.
rsync	remote sync	A data image backup tool for Linux systems, which supports remote data synchronization with other SSH and rsync hosts.
S.M.A.R.T.	Self-Monitoring Analysis and Reporting Technology	An automatic hard disk status monitoring and warning system.
SMB	Server Message Block	A protocol that allows SMB/CIFS-enabled Windows clients to access data stored on NAS.
SSH	Secure Shell	A protocol that provides security for Telnet sessions and other network services.
Target	Target	Storage resource on the iSCSI server.
UPS	Uninterruptible Power Supplies	An uninterruptible power supply device used to provide stable and uninterrupted power in case of power outage.

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- This manual is intended for multiple product models, and the photos, illustrations, descriptions, etc, in this manual may be different from the actual appearances, functions, features, etc, of the product.
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- The product described in this manual is provided on an "as is" basis. Unless required by applicable law, this manual is only for informational purpose, and all statements, information, and recommendations in this manual are presented without warranty of any kind, expressed or implied, including, but not limited to, merchantability, satisfaction with quality, fitness for a particular purpose, and noninfringement.
- Users must assume total responsibility and all risks for connecting the product to the Internet, including, but not limited to, network attack, hacking, and virus. Uniview strongly recommends that users take all necessary measures to enhance the protection of network, device, data and personal information. Uniview disclaims any liability related thereto but will readily provide necessary security related support.
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- To the extent allowed by applicable law, in no event shall Uniview's total liability to you for all damages for the product described in this manual (other than as may be required by applicable law in cases involving personal injury) exceed the amount of money that you have paid for the product.

Network Security

Please take all necessary measures to enhance network security for your device.

The following are necessary measures for the network security of your device:

- Change default password and set strong password: You are strongly recommended to change the default password after your first login and set a strong password of at least nine characters including all three elements: digits, letters and special characters.
- Keep firmware up to date: It is recommended that your device is always upgraded to the latest version for the latest functions and better security. Visit Uniview's official website or contact your local dealer for the latest firmware.
- The following are recommendations for enhancing network security of your device:
- Change password regularly: Change your device password on a regular basis and keep the password safe. Make sure only the authorized user can log in to the device.
- Enable HTTPS/SSL: Use SSL certificate to encrypt HTTP communications and ensure data security.
- Enable IP address filtering: Allow access only from the specified IP addresses.
- Minimum port mapping: Configure your router or firewall to open a minimum set of ports to the WAN and keep only the necessary port mappings. Never set the device as the DMZ host or configure a full cone NAT.
- Disable the automatic login and save password features: If multiple users have access to your computer, it is recommended that you disable these features to prevent unauthorized access.
- Choose username and password discretely: Avoid using the username and password of your social media, bank, email account, etc, as the username and password of your device, in case your social media, bank and email account information is leaked.

- Restrict user permissions: If more than one user needs access to your system, make sure each user is granted only the necessary permissions.
- Disable UPnP: When UPnP is enabled, the router will automatically map internal ports, and the system will automatically forward port data, which results in the risks of data leakage. Therefore, it is recommended to disable UPnP if HTTP and TCP port mapping have been enabled manually on your router.
- SNMP: Disable SNMP if you do not use it. If you do use it, then SNMPv3 is recommended.
- Multicast: Multicast is intended to transmit video to multiple devices. If you do not use this function, it is recommended you disable multicast on your network.
- Check logs: Check your device logs regularly to detect unauthorized access or abnormal operations.
- Physical protection: Keep the device in a locked room or cabinet to prevent unauthorized physical access.
- Isolate video surveillance network: Isolating your video surveillance network with other service networks helps prevent unauthorized access to devices in your security system from other service networks.

Learn More

You may also obtain security information under Security Response Center at Uniview's official website.

Safety Warnings

The device must be installed, serviced and maintained by a trained professional with necessary safety knowledge and skills. Before you start using the device, please read through this guide carefully and make sure all applicable requirements are met to avoid danger and loss of property. Storage, Transportation, and Use

- Store or use the device in a proper environment that meets environmental requirements, including and not limited to, temperature, humidity, dust, corrosive gases, electromagnetic radiation, etc.
- Make sure the device is securely installed or placed on a flat surface to prevent falling.
- Unless otherwise specified, do not stack devices.
- Ensure good ventilation in the operating environment. Do not cover the vents on the device. Allow adequate space for ventilation.
- Protect the device from liquid of any kind.
- Make sure the power supply provides a stable voltage that meets the power requirements of the device. Make sure the power supply's output power exceeds the total maximum power of all the connected devices.
- Verify that the device is properly installed before connecting it to power.
- Do not remove the seal from the device body without consulting Uniview first. Do not attempt to service the product yourself. Contact a trained professional for maintenance.
- Always disconnect the device from power before attempting to move the device.
- Take proper waterproof measures in accordance with requirements before using the device outdoors.

Power Requirements

- Install and use the device in strict accordance with your local electrical safety regulations.
- Use a UL certified power supply that meets LPS requirements if an adapter is used.
- Use the recommended cordset (power cord) in accordance with the specified ratings.
- Only use the power adapter supplied with your device.
- Use a mains socket outlet with a protective earthing (grounding) connection.
- Ground your device properly if the device is intended to be grounded.

Battery Use Caution

• When battery is used, avoid:

- Extremely high or low temperature and air pressure during use, storage and transportation.
 - Battery replacement.
- Use the battery properly. Improper use of the battery such as the following may cause risks of fire, explosion or leakage of flammable liquid or das ≻
 - Replace battery with an incorrect type;
- Dispose of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery;
- Dispose of the used battery according to your local regulations or the battery manufacturer's instructions.

Avertissement de l'utilisation de la batterie

- Lorsque utiliser la batterie, évitez:
- Température et pression d'air extrêmement élevées ou basses pendant l'utilisation, le stockage et le transport.
- Remplacement de la batterie.
- Utilisez la batterie correctement. Mauvaise utilisation de la batterie comme celles mentionnées ici, peut entraîner des risques d'incendie, d'explosion ou de fuite liquide de gaz inflammables.
- Remplacer la batterie par un type incorrect:
- Disposer d'une batterie dans le feu ou un four chaud, écraser mécaniquement ou couper la batterie;
- Disposer la batterie utilisée conformément à vos règlements locaux ou aux instructions du fabricant de la batterie.

Personal safety warnings:

- ⊳ Chemical Burn Hazard. This product contains a coin cell battery. Do NOT ingest the battery. It can cause severe internal burns and lead to death.
- Keep new and used batteries away from children.
- If the battery compartment does not close securely, stop using the product and keep it away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

Avertissements de sécurité personnelle:

- Risque de brûlure chimique. Ce produit contient une batterie de cellules. N'ingérer pas la batterie. Si la batterie de cellule est avalée, elle ≻ peut causer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
- Gardez les batteries nouvelles ou utilisées à l'écart des enfants.
- Si le compartiment de la batterie ne se ferme pas en toute sécurité, cessez d'utiliser le produit et gardez-le à l'écart des enfants.
- Si vous pensez que des piles ont pu être avalées ou placées à l'intérieur d'une partie du corps, consultez immédiatement un médecin.

Regulatory Compliance

FCC Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Visit http://en.uniview.com/Support/Download_Center/Product_Installation/Declaration/ for SDoC

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

WEEE Directive-2012/19/EU



The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Battery Directive-2013/56/EU



Battery in the product complies with the European Battery Directive 2013/56/EU. For proper recycling, return the battery to your supplier or to a designated collection point.