

HIKVISION pStor V1.3.1

User Manual

TABLE OF CONTENTS

Chapter 1 Preface	5
1.1 Product Introduction	5
1.2 Purpose	5
1.3 Notice	5
1.3.1 Personnel Quality Requirements	5
1.3.2 Notice	5
1.4 Software Preparation	6
1.4.1 Operating System	6
1.4.2 Product Version Description	6
1.5 Environment Preparation	6
1.5.1 Hardware Environment	6
1.5.2 Network Environment	7
1.5.3 Power Supply Environment	7
1.5.4 Machine Room Environment	7
1.5.5 Port	8
1.5.6 System Firewall	8
Chapter 2 Software Installation	9
Chapter 3 Software Operation	14
3.1 Browser Requirement	14
3.2 Login	14
3.2.1 Modify Default Password	15
3.2.2 Login	15
3.3 Home Page	16
3.3.1 Modify Admin Password	16
3.3.2 About	
3.3.3 Logout	
3.4 Wizard	19
3.4.1 Add Storage Space	19
3.4.2 Add Resource Pool	
3.5 Storage Management	
3.5.1 Storage Space	
3.5.2 Resource Pool	
3.5.3 NAS	
3.6 Recording Schedule	
3.6.1 Live Stream Recording Schedule	
3.6.2 Historical Stream Recording Schedule	
3.6.3 Video Inspection	
3.7 Log	
3.7.1 Display Log	
3.7.2 Download Log	
3.7.3 Clear Log	34
-	

40
42
43
44
45
46
46
60
for a Long
62
63
63
63
64
64
64

<u>User Manual</u>

COPYRIGHT ©2019 Hangzhou Hikvision Digital Technology Co., Ltd.

ALL RIGHTS RESERVED.

Any and all information, including, among others, wordings, pictures, graphs are the properties of Hangzhou Hikvision Digital Technology Co., Ltd. or its subsidiaries (hereinafter referred to be "Hikvision"). This user manual (hereinafter referred to be "the Manual") cannot be reproduced, changed, translated, or distributed, partially or wholly, by any means, without the prior written permission of Hikvision. Unless otherwise stipulated, Hikvision does not make any warranties, guarantees or representations, express or implied, regarding to the Manual.

About this Manual

This Manual is applicable to HIKVISION pStor.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website (http://overseas.hikvision.com/en/). Please use this user manual under the guidance of professionals.

Trademarks Acknowledgement

HIKVISION and other Hikvision's trademarks and logos are the properties of Hikvision in various jurisdictions. Other trademarks and logos mentioned below are the properties of their respective owners.

Legal Disclaimer

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE PRODUCT DESCRIBED, WITH ITS HARDWARE, SOFTWARE AND FIRMWARE, IS PROVIDED "AS IS", WITH ALL FAULTS AND ERRORS, AND HIKVISION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF THIRD PARTY. IN NO EVENT WILL HIKVISION, ITS DIRECTORS, OFFICERS, EMPLOYEES, OR AGENTS BE LIABLE TO YOU FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, AMONG OTHERS, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR LOSS OF DATA OR DOCUMENTATION, IN CONNECTION WITH THE USE OF THIS PRODUCT, EVEN IF HIKVISION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

REGARDING TO THE PRODUCT WITH INTERNET ACCESS, THE USE OF PRODUCT SHALL BE WHOLLY AT YOUR OWN RISKS. HIKVISION SHALL NOT TAKE ANY RESPONSIBILITES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, HIKVISION WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

SURVEILLANCE LAWS VARY BY JURISDICTION. PLEASE CHECK ALL RELEVANT LAWS IN YOUR JURISDICTION BEFORE USING THIS PRODUCT IN ORDER TO ENSURE THAT YOUR USE CONFORMS THE APPLICABLE LAW. HIKVISION SHALL NOT BE LIABLE IN THE EVENT THAT THIS PRODUCT IS USED WITH ILLEGITIMATE PURPOSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description	
	Provides additional information to emphasize or supplement important points of the main text.	
	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.	
	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.	

Chapter 1 Preface

1.1 Product Introduction

HIKVISION pStor is the storage access service software developed by Hangzhou Hikvision Digital Technology Co., Ltd. You can set the server local HDD to be the storage room, or set the logical HDD (standard iSCSI/CIFS) mounted by the server to be the storage room via the software. It provides efficient and compatible storage access management service for Hikvision video surveillance management platform.

HIKVISION pStor can be deployed flexibly, supporting centralized deployment with Hikvision surveillance platform and internal deployment in server independently. It provides basic video storage, picture storage, and system management.

1.2 Purpose

The purpose of the user manual is to guide you to install the software correctly and master the operation, avoiding unnecessary risks or property damage caused by misoperation.

The applicable targets of the user manual are the system maintenance personnel and daily operation personnel.

Before using the product, read the user manual carefully, and keep it properly for reference.

1.3 Notice

1.3.1 Personnel Quality Requirements

As the installation and maintenance personnel, you should have the qualification certificates or experiences of being engaged in video surveillance system installation and maintenance. Besides, you must master the following knowledge and skills.

- Basic knowledge and installation skills of video surveillance system and components.
- Basic network security skills and the capacity of understanding the user manual.

1.3.2 Notice

• The system may face network security risk after it is accessed to Internet. Strengthen your personal information and data security protection. When you find that the system may in the hidden danger of network security, contact us in time. • You shall acknowledge that you have the responsibility to configure all the passwords, server security settings, and other security settings of the system reasonably, and keep your user name and password properly.

1.4 Software Preparation

Check if the hardware is working normally, if the operating system is installed, and the version information.

1.4.1 Operating System

The following operating systems are recommended:

- 64-bit Windows Server 2012R2
- 64-bit Windows Server 2008R2
- 64-bit Windows Server 2016
- 64-bit Win10
- 64-bit Win7

1.4.2 Product Version Description

The installation package is named as *Product Line-Product Series-Vx.x.x-buildyymmdd-R<n>*. The detailed description of the name is shown as below.

- **Product Line**: HikCentral
- Product Series: pStor
- Vx.x.x: Baseline version information
- **buildyymmdd**: Delivered date
- R<n>: R stands for the delivered system test version. n stands for the times of system test. E.g., *HIKVISION pStor-V1.1.0-build180118-R2.exe* means the product is delivered as V1.1.0 at January 18th, 2018, and has passed 2 cycles of system tests.

1.5 Environment Preparation

1.5.1 Hardware Environment

HIKVISION pStor can be deployed both with Hikvision platform and by itself. If deployed with Hikvision platform, the server hardware environment is subject to the platform. If by itself, the hardware environment configuration requirement of HIKVISION pStor is shown below. The configurations below are recommended to be

Model	Material No.	Configuration
DS-VE1104A-BBC/HW1	306000866	E3-1220 V5 (quad-core 3.0 GHz) × 1; 16 G DDR4× 1; 1 T SATA × 2; 1 GbE × 2; 1U (The configuration is subject to the actual hardware.)
DS-VE2208A-BBC/HW1	306001005	E5-2620 V4 (quad-core 2.1 GHz) × 1; 16 GB × 1; 1 TB SATA × 2; 1 GbE × 4; redundancy power supply; 2U; H330_Raid 1; DVD; 2012 Full Language OS (The configuration is subject to the actual hardware.)

applied. You can contact pre-sales or platform personnel for corresponding parameters.

1.5.2 Network Environment

HIKVISION pStor product supports multiple NICs binding. If the video data for storage are too large, you need to bind multiple NICs of the storage device to increase network bandwidth.

If Intel NIC is used for the server, you need to configure NIC parameters to enhance NIC transmission performance.

1.5.3 Power Supply Environment

HIKVISION pStor product is strict in the stability of power supply. It is recommended to equip the machine room with two independent power lines to provide dual power supply, with independent UPS, and with generator.

1.5.4 Machine Room Environment

As the temperature, humidity, and dust have a great influence on the service life of disks and device, it is recommended to locate the machine room in a relatively closed environment and equip it with independent environment control device to guarantee all the devices are in the environment with constant temperature, constant humidity, and no dust.

1.5.5 Port

The following ports are used for the regular transmission of the signaling and data in pStor. You may need to forward these ports on routers for WAN access or allow them for firewalls according to your software deployment or network structure.

Port	Function and Description	Solution if Conflicted
6060	Used for Web management in HTTP protocol	Cannot be changed.
6021	VMS & pStor data exchange port.	Cannot be changed
6120	Restful images download port	Cannot be changed
6011	Restful images storage protocol port	Cannot be changed
6026	Streaming data port	Cannot be changed
6027	KMS & PSS images storage and download port	Cannot be changed
6022	VMS sending recording plan information port	Cannot be changed
6036	pStor SDK signal port	Cannot be changed
6037	pStor SDK data port	Cannot be changed
6038	Video data download and playback signal port	Cannot be changed
6039	Video data download and playback data port	Cannot be changed
6040	Restful images download protocol redirection port	Cannot be changed
6041	Restful images storage protocol redirection port	Cannot be changed

1.5.6 System Firewall

After HIKVISION pStor is installed successfully, Windows firewall will be enabled automatically, and port 2188, port 554, port 6120, port segment from 34000 to 36000, and port segment from 6021 to 6100 will be enabled.

Chapter 2 Software Installation

Step 1 Double click *HIKVISION pStor-xxx.exe* to start installation, as shown in figure below.

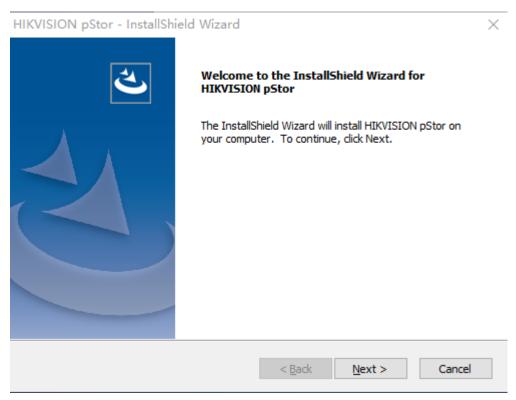


Figure 2-1 Start Installation

Step 2 Click **Next** to go to license agreement interface. See figure below.

L icense Agreement Please read the following license agreement carefully.	
[Revised: April 2017]	
© 2001 Hangzhou Hikvision Digital Technology Co., subsidiaries.	Ltd. with its all
ALL RIGHTS RESERVED.	
	~
	-
ALL RIGHTS RESERVED.	Print
ALL RIGHTS RESERVED.	Print
ALL RIGHTS RESERVED. I accept the terms of the license agreement I do not accept the terms of the license agreement tallShield	Print Cancel

Figure 2-2 License Agreement

Step 3 Click **Next** to select installation directory, as shown in figure below.

HIKVISION	NpStor - InstallShield Wizard			\times
	Destination Location older where setup will install files.			Z
-	Install HIKVISION pStor to: C:\SurveillanceSystem\ASW			Change
InstallShield ·		< Back	Next >	Cancel

Figure 2-3 Select Installation Directory

Step 4 Click **Next** to enter the installation preparation interface, as shown in figure below.

HIKVISION pStor - InstallShield Wizard		×
Ready to Install the Program The wizard is ready to begin installation.		Z
Click Install to begin the installation.		
If you want to review or change any of your ir exit the wizard.	nstallation settings, click Back. C	lick Cancel to
InstallShield		
	< Back Install	Cancel

Figure 2-4 Prepare to Install

Step 5 Click Install to install the software as shown in figure below.

HIKVISION pStor - In	stallShield Wizard	×
Setup Status		
The InstallShield Wiza	ard is installing HIKVISION pStor	
	Installing the prerequisites	
InstallShield		
		Cancel

Figure 2-5 Install Software

Step 6 During the installation process, you may need to install JDK, JRE, and Microsoft Visual C++ 2013 Redistributable. Follow the wizard to install them. Then continue to install HIKVISION pStor.

 If exception occurs in Microsoft Visual C++ 2013 Redistributable installation, see 4.5 Failed Installation of Windows Runtime Library for resolution.

Step 7 When PosrgreSQL database installation starts, the interface pops up as shown in figure below. Create a password and confirm.

HIKVISION pStor - InstallShield Wizard	×
Customer Information Please enter your information.	Z
Please enter database password and the comfirmed password.	
User name: postgres	
password:	
•••••	
Confirm password:	
•••••	
InstallShield	
< Back Next >	Cancel

Figure 2-6 Create Password

Step 8 Click **Next** and the interface pops up as shown in figure below when the installation finishes.

HIKVISION pStor - InstallShield Wizard		
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed HIKVISION pStor. Click Finish to exit the wizard. The computer will reboot now.	
	< Back Finish Cancel	

Figure 2-7 Finish Installation

Step 9 Click **Finish** to finish the software installation.

Result: The server will reboot automatically after the installation finishes.

Chapter 3 Software Operation

3.1 Browser Requirement

You can configure the system via web browser. The supported web browsers include IE10, IE11, Firefox, and Chrome. The supported resolution includes 1280*768, 1366*768, 1440*900, and 1920*1080.

3.2 Login

Step 1 Open the supported web browser.

Step 2 Input the server IP address and port No. (6060) in the address bar. E.g., https://***.***.***.6060. Press Enter key to enter the login interface, as shown in figure below.

HIKVISION pStor System ^{@Windows}	English $$
User Login	
© 2018 Hangzhou Hikvision Digital Technology Co., Ltd. All Rights Reserved.	

Figure 3-1 Login

Step 3 Input the user name and password.

The default user name is admin, and the default password is HIK88075998. You need to modify the password after login for the first time. Refer to *Chapter 3.2.1* for details.

Step 4 Click Login.

3.2.1 Modify Default Password

You need to modify the default password after login for the first time.

Step 1 On the Login interface, click **Login**, and the **Modify Password** message box pops up as shown in figure below.

Modify Password	Please enter a password with a minimum length of 8 bits, and cannot be the same as the old password.	×
* New Passwor	d	-
* Confirm		
	Risk	
	Modif	y Close

Figure 3-2 Modify Password

Step 2 Input new password and confirm.

Step 3 Click **Modify**, and the message box pops up as shown in figure below.

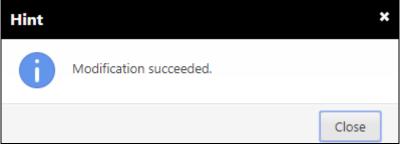


Figure 3-3 Successful Modification

Step 4 Click **Close** to finish the modification.

3.2.2 Login

After default password modification, input the server IP address and port No. (6060) in the address bar. Press Enter key to enter the login interface. Input the user name and modified password to log in to the system.

3.3 Home Page

After login, enter the home page, on which you can view the system storage capacity, system time, recording schedule information, service status, etc., as shown in figure below.

HIK	//SION pStor System ^{@Windows}		English \sim	License Validity Period2019-06-28(Trial Period)	💄 admin 🗸
ŵ	Running Information				
\bigcirc		System Time General Information	2019-05-30T15:56:14+08:00 (Unconfigured NTP)	
	Available Capacity:0(GB)		Total Recording Schedules Historical Stream Recordin	0 (Live Stream Recording Sch 0 / 0)	
Po			Total Accessible Cameras	8	
			Total Storage Pools	0	
			Uninitialized Storage Space	OGB	
ŝ	Used Capacity Available Capacity				
	Service Status				
	Storage Management Service	Acces	I Management Service	Video Access Service	

Figure 3-4 Home Page

- **Pie chart**: It shows storage total capacity, used capacity, and available capacity.
- **General information**: It shows total recording schedules, live stream recording schedule, historical stream recording schedule, total accessible cameras, total storage pools, and uninitialized storage space.
- Service status: It shows storage management service status, data storage service status, access management service storage, and video access service status.
- **System time**: It shows the current time of storage accessing to server, and the time is changing all the time.

3.3.1 Modify Admin Password

You can modify the admin password.

Step 1 Click admin on the upper right corner of the home page, as shown in figure below.

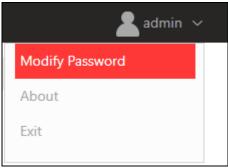


Figure 3-5 Menu

Step 2 Click Modify Password to enter the interface as shown in figure below.

Modify Password	Please input 8 to 64 characters.	×
*Current Password		
*New Password		
*Confirm		
		Modify Cancel

Figure 3-6 Modify Password

Step 3 Input current password, new password, and confirm the new password.

Step 4 Click **Modify**, and the message box pops up as shown in figure below. It hints if the password modification is successful or not.

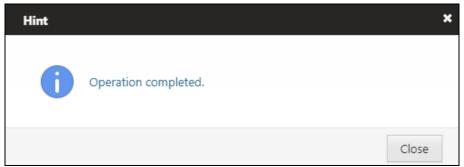


Figure 3-7 Successful Modification

Step 5 Click **Close** to finish the modification.



After modifying the password, when you log out of the system and log in again, you need to input the new password.

3.3.2 About

You can view the version information of the system.

Step 1 Click on the upper right corner of the home page, as shown in figure below.

🙎 admin 🗸
Modify Password
About
Exit
Figure 2.9 Monu

Figure 3-8 Menu

Step 2 Click About, and the interface pops up as shown in figure below.



Figure 3-9 About

3.3.3 Logout		
Step 1 Click admin sin figure below.	on the upper right corner of the	e home page, as shown
	🙎 admin 🗸	
	Modify Password	
	About	
	Exit	

Figure 3-10 Menu

Step 2 Click Exit to log out of the system.

3.4 Wizard

You can follow the wizard to configure the main functions of the system quickly. Then you can use the system normally.

Click **Wizard** on the left menu to enter the wizard interface, which provides quick configuration, including adding storage space, and adding resource pool, as shown in figure below.

НІК	VISION pStor System ^{@Windows}	English 🗸 License Validity Period2019-06-28(Trial Period) 🔒 admin 🗸
ŵ		
Θ		
Fð		
ŝ		
	Storage Space	Resource Pool
	Add Storage Space	Add Resource Pool

Figure 3-11 Wizard

3.4.1 Add Storage Space

Step 1 On the wizard interface, click **Add Storage Space** of **Storage Space** to enter the interface as shown in figure below.

HIKVI.	SION pStor System ^{@Windows}			English 🗸 License	Validity Period2019-06-28(Trial Period)	💄 admin 🗸
â	🕞 Add Storage Space					
\odot	Select Storage Space		Selected total storage space 0 GB	Initialize		
	æ ﷺ D∧[37/39(GB)]					
F						
ŝ		>>				
		«				

Figure 3-12 Add Storage Space

Step 2 Add storage space. Refer to *Chapter 3.5.1* for details.

Step 3 Click \bigcirc to return to wizard interface.

3.4.2 Add Resource Pool

Step 1 On the wizard interface, click **Add Resource Pool** of **Resource Pool** to enter the interface as shown in figure below.

HIK	//SION pStor System®W	Vindows	English 🗸 License Validity Period2019-06-28(Trial Period) 🔒 admin 🗸
	Add Resource F	Pool	
\heartsuit	*Resource Pool Name		
	Overwrite Mode	Capacity Overwrite Cycle Overwrite Not Overwrite	
	*Resource Pool Capacity	GB	
Þ	•Max. Locking up Attempts	Maximum distributable capacity:0GB 15 %	
		Add Cancel	
ŝ		Land Contract	
~~~			

Figure 3-13 Add Resource Pool

Step 2 Add resource pool. Refer to 3.5.2 Resource Pool for details.

Step 3 Click  $\bigcirc$  to return to wizard interface.

- Up to 20 different resource pools are allowed in system.
- The max. locking up attempts refers to the proportion of data can be locked in resource pool.
- The resource pool name only allows letters, digits and underscores.

## 3.5 Storage Management

## 3.5.1 Storage Space

The system supports local disk, iSCSI input device and RAID (RAID equipped in Windows or hardware RAID card). The disk installed in storage device must be formatted to NTFS file system.

Storage Space mainly manages file folders in storage device, and includes information such as Saving Path, Device Type, Status, Progress, Space Usage, and Remaining/Total Space. You can add, delete, initialize, and restore storage space, as shown in figure below.

	Saving Path	Device Type	Status	Progress	Space Usage	Remaining/Total Space (GB)	Operation
1	D:\storData	Unknown Device	⊘ Normal	100%	0%	9.88 / 9.88	5 5 ×

Figure 3-14 Storage Space

#### Add Storage Space

Click + Add to go to Add Storage Space page, as shown in figure below.

ISION pStor System ^{@Win}	dows		English 🗸 License Validity Period2019	-06-28(Trial Period)
Storage Space	🔶 Add Storage Space			
Resource Pool	Select Storage Space		Selected total storage space 5 GB	Initialize
NAS	G ∰ D4(27/39(GB)) → torObat(9(88(GB)) → torObat(1) 200 5 5 G8		◎ 國D(122/39(GB)) └── またつAss(1)(5(GB))	
		»		
		«		

Figure 3-15 Add Storage Space

- Existed folders: When you go to Add Storage Space page, the system will read all the information of folders, except for folders in C drive (C drive is the system drive, not for data storage).
- Add folders: Go to Add Storage Space page, move to the parent folder
   <u>E:\[1755/2047(GB)]</u>
   , and click 
   to creat a new child folder
   <u>storData(1)</u>
   The new folder will be created on the server at the same time.
- Rename folders: Move to or click the child folder, click b to rename the folder. The folder will be renamed on the server at the same time.
- Delete folders: Move to or click the child folder, click like to delete the folder. The folder will be deleted on the server at the same time.
- Select folders: before folders means these folders can not be selected, because they have already been initialized to storage space. before folders means the folders can be selected.
- Configure storage space (GB): When the child folder is selected, a text box such as <u>StorData(1)</u> GB will appear at the end of the folder.

You can configure appropriate storage space according to your need (at least 5GB).

- Move to the right: Select folders and configure their storage spaces, and then click 
   All the selected folders in the left and their configured storage spaces will be copied to the right.
- Move to the left: Select one or more folders with Shift key pressed and held down, and then click 
   All the selected folders in the right will be removed. You can also double click one folder to remove it.
- Total storage space: The system can automatically calculate the total storage space of the selected folders in the right.
- Initialize: Click Initialize to initialize all the folders in the right at the same time. The page will jump to Storage Space when the operation finished.

#### Initialize Storage Space

On the Storage Space page, choose the storage space you want to initialize, and click in the same line, and then a confirmation message box pops up as shown in figure below.

Confirm	×
?	Initialization will delete all data in the [D:\D_1]. Continue?
	OK Cancel

Figure 3-16 Initialize Storage Space

## 

- Initialization will delete all the data in the selected saving path. Please be careful.
- Initialization time is subject to storage space size and disk performance. For example, for 1 TB storage space, initialization time is 1 min and for 4 TB, 3 min is required.

#### **Delete Storage Space**

On the Storage Space page, choose the storage space you want to delete, and click in the same line, and then a confirmation message box pops up as shown in figure below.

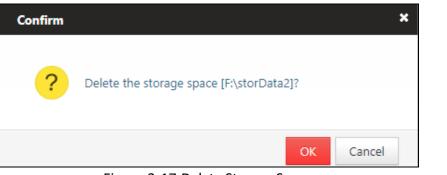


Figure 3-17 Delete Storage Space

### 

As deletion is dangerous, you can only delete the storage space in Lost status.

#### **Restore Storage Space**

After reinstalling HIKVISION pStor software, you can see the previous storage space on the Storage Space page, as shown in figure below.

-	- Add 🛛 🛱 Refresh						
	Saving Path	Device Type	Status	Progress	Space Usage	Remaining/Total Space (GB)	Operation
1	D:\storData	Unknown Device	Waiting for recovery	0%	100.00%	0 / 9.88	5 5 X

Figure 3-18 Restore Storage Space

Click 🕥 to restore the storage space (invalid in the trial version), and a confirmation message box pops up as shown in figure below.



Figure 3-19 Restore Storage Space

Click OK and the recovery results will show in the Status column, as shown in figure below.

	Saving Path	Device Type	Status	Progress	Space Usage	Remaining/Total Space (GB)	Operation
1	D(storData	Unknown Device	A Restoring	0%	100.00%	0 / 9.88	

Figure 3-20 Restore Storage Space—Restoring

The status changes from  $\triangle$  Restoring to  $\triangle$  Scanning, and you can see the progress to know how huch has been done. When the status turns to  $\bigcirc$  Normal, the recovery is finished, as shown in figure below.

Saving Path	Device Type	Status	Progress	Space Usage	Remaining/Total Space (GB)	Operation
1 D:\storData	Unknown Device	⊘ Normal	100%	0%	9.88 / 9.88	S S ×

Figure 3-21 Restore Storage Space—Recovery Finished

#### 3.5.2 Resource Pool

The resource pool is a basic unit of system data storage. With enough storage space, you can create up to 20 resource pools. After created, resource pool ID need to be configured on Hikvision platform. When configuring recording schedule, you need to link resource pool ID to recording pool ID, and the corresponding recording data will be saved into the configured resource pool.

Choose Storage Management → Resource Pool, and go to the resource pool management page. The resource list mainly includes: ID, Name, Overwrite Strategy, Cycle (days), Status, Max. Locking up Attempts (%), Free Space/Total Capacity (GB), Transcoding Type, Original Data Cycle (days), etc., as shown in figure below.

	ID	Name	Overwrite Strategy	Cycle (days)	Status	Free Space/Total Capacity (GB)	Operation
1	977036817	test_pstor	Cycle Overwrite	2	Ø Normal	4.00/4.00	Z ×

Figure 3-22 Resource Pool

#### 

- You can add, delete, edit and view resource pools.
- You can create up to 20 resource pools.

When configuring recording, you need to choose resource pool ID to get linked. After configuration, you can view recording schedule in Live Stream Recording Schedule. The recording schedule contains resource pool ID information, and the recording data will be saved into the corresponding resource pool.

#### Add Resource Pool

Click + Add to go to Add Resource Pool page, as shown in figure below.

НІК	/ISION pStor System ^{@Windows}			
ŵ	Storage Space	⊖ Add Resource Poo	I	
	Resource Pool	<u> </u>		_
$\bigcirc$	NAS	*Resource Pool Name		
		Overwrite Mode	Capacity Overwrite     Cycle Over	write 🔘 Not Overwrite
		*Resource Pool Capacity		GB
Þø			Maximum distributable capacity:5GB	
		*Max. Locking up Attempts	15	96
			Add	Consul
~~~			Auu	Cancel
ŝ				

Figure 3-23 Add Resource Pool

Enter needed information, and click Add to finish adding resource pool.

Three overwrite modes can be selected as required:

- 1. Capacity overwrite: when capacity reaches the preset threshold, capacity overwrite strategy will be enabled to replace old data.
- 2. Cycle overwrite: when data storage period reaches the preset threshold, cycle overwrite strategy will be enabled to replace old data.
- 3. Not overwrite: when not overwrite strategy is selected, new data cannot be written to resource pool after the pool is full.

When cycle overwrite is selected and the resource pool capacity allocation is inappropriate, there may be circumstances that capacity reaches threshold before period reaches, and capacity overwrite will be enabled automatically before cycle overwrite.

Edit Resource Pool

On the Resource Pool page, choose the resource pool you want to modify, and click in the same line to go to Edit Resource Pool page, as shown in figure below.

HIK	Stor System ^{@Windows}			
ŵ	Storage Space	😔 Edit Resource Pool		
\bigcirc	Resource Pool	*Resource Pool Name	pool2	
	NAS	Overwrite Mode	Capacity Overwrite Cycle Overw	vrite 🔍 Not Overwrite
		*Resource Pool Capacity	53	GB
Þ		*Resource Pool Cycle	Maximum distributable capacity:58GB	day(s)
		*Transcoding Type	Untranscoded •]
ŝ		*Max. Locking up Attempts	2	%
			Save	Frank
			Save	Cancel

Figure 3-24 Edit Resource Pool

Enter needed information, and click	Save	to finish editing resource pool.
,		0 1

Normally, untranscoded is selected for transcoding type. When other transcoding types are selected, the stream before will be overwritten.

Expand Resource Pool

 When storage space is enough, select resource pool to be expanded, click in the same line to enter editing resource pool interface. The max. distributable capacity will be shown. And you can configure resource pool capacity accordingly. See figures below.

	ID	Name	Overwrite Strategy	Cycle (days)	Status	Free Space/Total Capacity (GB)	Operation
1	977036817	test_pstor	Cycle Overwrite	2	⊘ Normal	4.00/4.00	Ľ ×

Figure 3-25 Expand Resource Pool

HIK	VISION pStor System ^{@Windows}		
নি	Storage Space	🔶 Edit Resource I	Pool
\bigcirc	Resource Pool NAS	*Resource Pool Name	test_pstor
		Overwrite Mode	©Capacity Overwrite
		*Resource Pool Capacity	4 GB
Þ		*Resource Pool Cycle	Maximum distributable capacity:8GB 2 day(s)
		*Transcoding Type	Untranscoded •
ţŷ		•Max. Locking up Attempts	15 %
			Save Cancel

Figure 3-26 Expand Reouse Pool

• When storage space is not enough and adding hardware device is required, add storage space according to **3.5.1 Storage Space.** And edit resource pool in the same way as above.

Delete Resource Pool

On the Resource Pool page, choose the resource pool you want to delete, and click in the same line, and then a confirmation message box pops up as shown in figure below.

Confirm		×
?	Deleting the resource pool will result in all data loss in the pool. Continue?	
	OK Cancel	

Figure 3-27 Delete Resource Pool

Click OK to delete resource pool.

View Resource Pool

On the Resource Pool page, choose the resource pool you want to view, and click

corresponding ID in the same line such as		ID	, to see details, as shown in	
corresponding ID in the same line, such as		801395611	, to see details, as shown in	
figure below.				

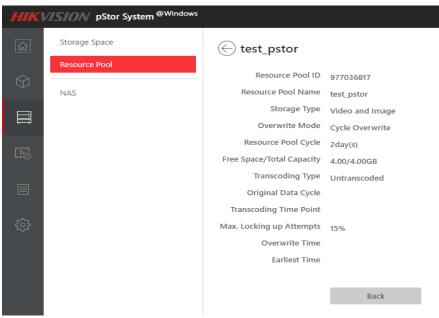


Figure 3-28 Detailed Information of Resource Pool

3.5.3 NAS

Network-attached storage (NAS) is a file-level computer data storage server connected to a computer network providing data access clients. The system supports to add NAS device, and after added, it can be used in Add Storage Space page.

At present, window server 2012 and window server 2016 support NAS, while window server 2016 does not. Other operation systems have not been verified.

Add NAS

Click + Add to go to Add NAS page, as shown in figure below.

HIK	HIKVISION pStor System ^{@Windows}						
ŵ	Storage Space	⊖ Add NAS					
~	Resource Pool						
\bigcirc	NAS	-UNC Path					
		User Name					
		Password					
Þ							
		Add Cancel					
ŝ							

Figure 3-29 Add NAS

Enter UNC Path, User Name, Password, and then click Add. Add. After addition, you can check NAS information including UNC Path, User Name, Status, Mapping Driver, etc., as shown in figure below.

	KV/S/ON p5lor System ^{4Windows}					🙎 admin 🕚
â	Storage Space	+ Add 🛛 🖉 Refresh				
Ŷ	Resource Pool	UNC Path	User Name	Status	Mapping Driver	Operation
		1 \\\10.192.71.199\wwy_test	wwy_test	Online	Z:	×
R						
⊟						
123						

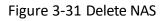
Figure 3-30 NAS Information

After NAS is added, refer to **3.5.1 Storage Space** and **3.5.2 Resource Pool** to create storage space and add resource pool

Delete NAS

Click \times on NAS page, and a confirmation message box pops up as shown in figure below. Click **OK** to delete NAS.

Confirm	×
?	NAS devices that are in use cannot be deleted. Continue?
	OK Cancel



3.6 Recording Schedule

The system supports to view recording schedules and recording status, meanwhile inspect videos, but does not support to add, edit or delete recording schedules. Recording status includes normal, streaming error, and recording error.



- Streaming error means streaming from front-end device failed, which may be caused by network error.
- Recording error means writing recording data to system failed, caused by not enough resource pool capacity.
- Please contact technical personnel if necessary.

3.6.1 Live Stream Recording Schedule

Live Stream Recording Schedule mainly includes Camera ID, Camera Name, IP Address, Port No, Device Type, Channel No, Resource Pool ID, Recording, Stream, Pre-Recording Duration (s), Post-record (s), Recording Status, Arming Status.

You can search the recording schedule according to camera name or camera IP address, as shown in figure below.

HIK	VISION pStor System ^{@Windows}									English	✓ 🙎 admin ∨
۵	Live Stream Recording Schedule	All	All		earch Reset						
	Historical Stream Recording Sched										
\bigcirc	Video Inspection		Camera ID	Camera Name	Stream Mode	IP Address	Port No	Stream	Connection Status	Recording Status	Arming Status
_		1	101926618101	101926618601	Device	10.192.66.186	8000	Main Stream	Connected	Normal	O Disarmed

Figure 3-32 Live Stream Recording Schedule

View Recording Schedule

Click camera ID to view recording schedule, as shown in figure below.

⊖ 101926618601										
General Information										
Camera ID	101926618101									
Camera Name	101926618601									
IP Address	.192.66.186									
Stream Protocol	IKVISION									
Port No	8000									
Channel No	1									
Resource Pool ID	977036817									
Overwrite Mode	2 day(s)									
Recording	Yes									
Stream	Main Stream									
Stream Mode	evice									
Pre-Recording Duration (s))									
Post-record (s)	0									
Recording Status	Ø Normal									
Arming Status	⊘ Disarmed									
Recording Schedule Template										
Recordi	ng Type Scheduled Event									
	00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00									
Monday	24:00									
Tuesday										
Wednesd	ау									
Thursda										
Friday										
Saturda										
Sunday										

Figure 3-33 View Recording Schedule

3.6.2 Historical Stream Recording Schedule

Historical Stream Recording Schedule mainly includes Camera ID, Camera Name, IP Address, Port No, Device Type, Channel No, Post-record Start Date, Resource Pool ID, Connection Status, Video Type, Upload Speed (KB/s), Stream Type.

You can search the recording schedule according to camera name or camera IP address, as shown in figure below.

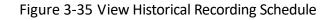
VISION pStor System ^{@Windows}	English 🗸 🤱										🙎 admin 🗸
Live Stream Recording Schedule	All			Searc	h Reset						
Historical Stream Recording Sched											
Video Inspection		Camera ID	Camera Name	Stream Mode	IP Address	Port No	Post-record Start Date	Connection Status	Video Type	Upload Speed (KB/s)	Stream Type
	1	181029000013102	vagtest01	Device	10.192.81.50	7288	20190524	Connected	All		Main Stream
I											

Figure 3-34 Historical Stream Recording Schedule

View Historical Recording Schedule

Click camera ID to view historical recording information, as shown in figure below.

🔶 vagtest01										
General Information										
	18102900001310230134									
Camera Name	vagtest01									
IP Address	10.192.81.50									
Stream Protocol	HIKVISION									
Port No	7288									
Channel No										
Resource Pool ID	977036817									
Overwrite Mode	2 day(s)									
	Main Stream									
Stream Mode	Device									
Post-record Start Date	20190524									
Upload Speed (KB/s)	-									
Recording Schedule Templa	ate									
Rec	cording Type Scheduled Event All									
	00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00									
	onday									
	esday									
	Inesday Jirsday									
Er										
	iday									
Sat	iiday urday									
Sat	iday									
Sat Su	riday turday inday									
Sat	riday turday inday									
Sat Su Execution Schedule Templa	riday turday inday									
Sat Su Execution Schedule Templa	niday nurday Inday									
Sati Su Execution Schedule Templa	iday furday inday inday inte iccution Time									
Execution Schedule Templa	nday nday nday nte scution Time 00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00 onday esday									
Execution Schedule Templa	niday nurday									
Execution Schedule Templa Execution Schedule Templa Execution Tue Wed Thu	niday nurday inday inday inte ite iccution Time 00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00 onday esday inesday inesday									
Execution Schedule Templa Execution Schedule Templa Exec Mo Tue Wed Thu Fr	riday furday inday ste ste cution Time 00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00 ponday esday inesday inesday inesday inday									
Execution Schedule Templa Execution Schedule Templa Exec Mo Tue Wed Thu Fr Sat	niday nurday inday inday inte ite iccution Time 00:00 03:00 06:00 09:00 12:00 15:00 18:00 21:00 24:00 onday esday inesday inesday									



3.6.3 Video Inspection

For live stream recording schedule, you can use video inspection to analyze all the recording data in schedule.

Check Videos by Day

Choose the date you want to check in Time: 2018-07-12 , and then click

Search . You can check camera ID\name\IP, channel No, exception hour(s) and recording status of the whole day, as shown in figure below.

	Camera ID	Camera Name	Camera IP	Channel No	Exception Hour(s)	No video plan video normal video exception [Unit: minutes] Event video plan Unchecked 2019-05-30	Check for
1	101926618101	101926618601	10.192.66.186	1	17	60 60 60 60 60 60 60 60 60 60 60 60 60 6	2019-05-30T17:07:5

Figure 3-36 Check Videos by Day

You can filter the videos by camera ID\name\IP or channel No to check what you want to view.

Click the red block, such as 50, to check the recording status in this one hour, as shown in figure below.

	Camera ID	Camera Name	Camera IP	Channel No	Exception Hour(s)			al video exception [Unit: minutes] Event video plan – Unchecked 10 11 12 13 14 15 16 17 18 19 20 21 22 23	2019-05-30	Check for
1	101926618101	101926618601	10.192.66.186	-	4.7		X	60 60 60 60 60 60		2019-05-30T17:07:58
				0 10 20 30 40 50	2019-05-30 10:00 Video lost f 1 2 3 4 11 12 13 14 21 22 23 24 31 32 33 84 41 42 43 44 51 52 53 54	Status 5 6 7 15 16 17 25 26 27 35 36 37 45 46 47 55 56 57	8 9 18 19 28 29 38 39 48 49 58 59			

Figure 3-37 Detailed Information of Video Exception

You cannot inspect today's video and only the videos of the day before today can be inspected.

Check Videos by Month

Select This month, and click Search to check recording status by month. You can check Camera ID\Name\IP, Channel No, Exception Hour(s), and Recording Status, as shown in figure below.



Figure 3-38 Check Videos by Month

Click **2** or **b** to check the recording status in this one hour, as shown in figure below.



Figure 3-39 Detailed Information of Video Inspection

Check Today's Video

Click Check Today's Video at the top right corner to check today's video, as shown in figure below.

Can	era Camera ID\Name\IP Ch	annel No	Search	Reset	Back to Video Ir	spection	
	Camera ID	Camera Name	Camera IP	Channel No	Exception Hour(s)	No video plan video o normal video exception (Unit: minutes) fevent video plan - Unchecked 2019-05-30 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Check for
1	101926618101	101926618601	10.192.66.186	1	17	60 60 60 60 60 60 60 60 60 60 60 60 60 6	2019-05-30T17:12:28

Figure 3-40 Check Today's Video

You can filter the videos by camera ID\name\IP or channel No to check what you want to view. Click 60 to check the recording status in this one hour, as shown in figure below.

Camer	a Camera ID\Name\IP Ch	annel No	Search	Reset	Back to Video Ir	spection	
	Camera ID	Camera Name	Camera IP	Channel No	Exception Hour(s)	No video plan 📲 video normat 📑 video exception [Unit: minutes] 🦉 Event video plan – Unchecked 2019-03-30 00 [01 [02 [03] 04 [05] 06 [07] 08 [09] 10 [11] 12 [13] 14 [15] 16 [17] 18 [19] 20 [21] 22] 23	Check for
1	101926618101	101926618601	10.192.66.186	1	17	60 60 60 60 60 60 60 60 60 60 60 60 60 6	2019-05-30T17:12:28
					0 1 10 1 20 2 30 3 40 4 50 5	2019 65 16 10 10 10 2 8 4 5 6 97 10 97 2 8 4 5 6 97 10 15 2 8 4 5 6 97 10 15 2 3 7 5 65 97 10 15 2 3 7 5 97 97 10 15 2 3 7 5 97 97 97 97 3 7 8 97 97 97 97 97 3 7 97 97 97 97 97 97 3 7 97 97 97 97 97 97 3 7 97 97 97 97 97 97 4 97 97 97 97 97 97	

Figure 3-41 Detailed Information of Video Inspection

3.7 Log

3.7.1 Display Log

Log displays IP, time, level, content, etc.

Select the number of log displayed per page in the lower left corner, as shown in figure below.

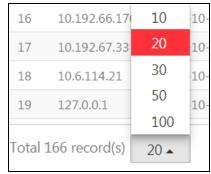


Figure 3-42 Log

In the lower right corner, it displays the current page and total page number.

Clic	ck	<	or i	to swit	ch to the previous or next page.
Clic	ck	<<	or >>	you c	an jump to the first or last page.
Ent bel		-	nber in	2	2 / 290 , click GO to the specific page, as shown in figure
HIK	ISIO	√ pStor Sys	tem ^{@Windows}		English 🗸
ଜ	↓ (Download Log	🗙 Clear Log		
\odot		IP	Time	Level	Content
	1	127.0.0.1	2019-05-30T17:07:51+08:00	0 Normal	Recording schedule of real-time stream recovered to normal or ended. (Camera ID: 101926618101, camera name: 10.192.66.186, channel No: 1, camera IP: 10.192.66.186)
	2	127.0.0.1	2019-05-30T17:05:51+08:00	0 Normal	Recording schedule of real-time stream recovered to normal or ended. (Camera ID: 101926618101, camera name: 10.192.66186, channel No: 1, camera IP: 10.192.66186)
	3	10.199.104.2	2019-05-30T17:04:33+08:00	0 Normal	NAS device deleted (UNC path:\\10.199.104.207\test).
Pð		10.199.104.2	2019-05-30T17:03:58+08:00		NAS device added (UNC path: \\10.199.104.207\Jest).
	5	10.199.104.2	2019-05-30T16:58:10+08:00		Resource pool modified (ID: 977036817, name: test_pstor, storage type: Video and Image, overwrite strategy: Cycle Overwrite, capacity: 4G8, cycle: 2, transcoding type: Untranscoded, original data cycle: 0, locking limit: 15).
		10.199.104.2	2019-05-30T16:57:57+08:00		Resource pool added (ID: 977038817, nume: test_pstor, storage type: Video and image, overwrite strategy: Capacity Overwrite, capacity: 468, cycle: 0).
	7	10.199.104.2	2019-05-30T16:55:57+08:00	0 Normal	Storage space restored (storage path: D\storData).

Figure 3-43 Log

3.7.2 Download Log

 \downarrow Download Log Click in the upper left to download log to local.

Up to 1 million log entries can be downloaded.

3.7.3 Clear Log

Step 1 Click X Clear Log in the upper left.

Step 2 Click **OK** to confirm the operation, as shown in figure below.

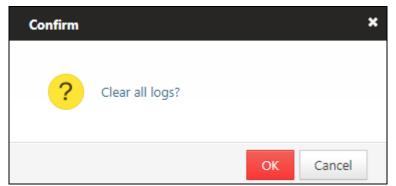


Figure 3-44 Clear Log

3.7.4 Search Log

Click \checkmark in the upper right, and search log according to type, time, level, IP or content, as shown in figure below.

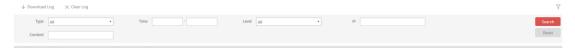


Figure 3-45 Search Log

3.8 System Management

3.8.1 Configure NTP

Set the time sever for linked storage service system.

Step 1 Click > NTP Settings to enter the NTP settings interface as shown in figure below.

Time sync is OFF by default.

HIK	VISION pStor System ^{@Windows}	
	NTP Settings	NTP Settings
	Stream Certification	Enable Time Sync Disable
	Key Management	Save
	Stream Media Line Configuration	
	Address Mapping	
	Time Zone Database Restore	
ŝ	KMS Resource Pool	
	PSS Resource Pool	
	Picture Download Authentication	
	License	



Step 2 Click to turn on time sync function, as shown in figure below.					
HIK	VISION pStor System ^{@Windows}				
ŵ	NTP Settings	NTP Settings			
~	Stream Certification	Enable Time Sync	Enable		
\bigcirc	ANR			-	
	Key Management	*NTP Server Address			
·,	Stream Media Line Configuration	*NTP Port	123		
	Address Mapping	*NTP Interval	1439	min.	
	Time Zone				
	Database Restore		Save		
ŝ	KMS Resource Pool				
	PSS Resource Pool				
	Picture Download Authentication				
	License				

Figure 3-47 NTP Settings

Step 3 Enter the parameters accordingly, and click **Save**.

The default NTP port is 123; the default NTP interval is 1439.

The storage access service management system will make the first correction, and

the result can be viewed through the home page. The storage access service management system will regularly update the time according to the set interval.

3.8.2 Configure Stream Certification

When adding pStor, some platforms may verify whether streaming parameter of pStor is valid. If external stream media is used, the media requires the verification of pStor streaming parameter. When stream certification is required, follow the steps below.

Step 1 Click > Stream Certification to enter the stream certification settings interface as shown in figure below.

Step 2 Click OFF to enable the function.

ΗΙΚ	/ISION pStor System ^{@Windows}		
Â	NTP Settings	Stream Certificatio	n
	Stream Certification		After stream authentication, the service will reboot automatically, which may cause data loss.
\bigcirc	ANR	Enable Encryption	Disable
	Key Management		
	Stream Media Line Configuration		Save
Þ	Address Mapping		
	Time Zone		
	Database Restore		
ŝ	KMS Resource Pool		
	PSS Resource Pool		
	Picture Download Authentication		
	License		

Figure 3-48 Disabled Stream Certification

Step 3 Enter the parameter value accordingly, and click **Save**, as shown in figure below.

HIK	VISION pStor System® ^{Windows}			
Â	NTP Settings	Stream Certification		
	Stream Certification	After stream authentication, the service will reboot automatically, which may cause data loss.		
\bigcirc	ANR	Enable Encryption Enable		
	Key Management	Digest Algorithm • sha256 sha384 sha512		
ر <u></u>	Stream Media Line Configuration	Digest Algorithm 💿 sha256 🔘 sha384 🔍 sha512		
Þ	Address Mapping	•Root Keys Salt		
	Time Zone	•Keys Component		
	Database Restore	Keys Security Level 🛛 🖲 High 🔘 Medium 🔘 Low		
ŝ	KMS Resource Pool			
	PSS Resource Pool	Save		
	Picture Download Authentication			
	License			

Figure 3-49 Stream Certification Settings

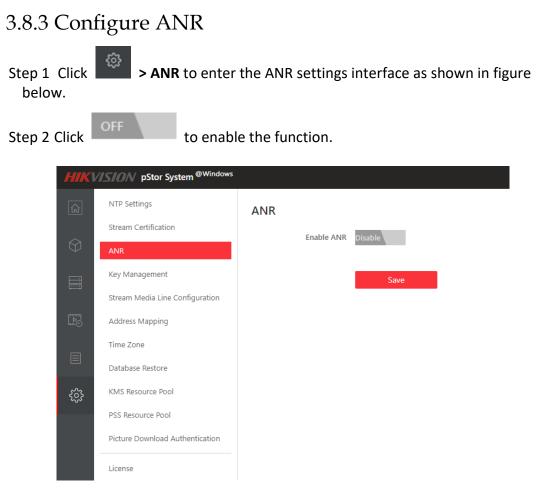


Figure 3-50 ANR Settings

Once configured, the storage access service takes the real-time flow from the camera for storage. When streaming is interrupted, the storage access service generates the recording task for the interrupted time period to make up the missing video data from the camera.

3.8.4 Manage Key

The system provides access key and encryption key, which are mainly used in Restful image storage protocols.

Step 1 Click **Key Management** to enter the key management settings interface as shown in figure below.

HIKV	ISION pStor System ^{@Windows}			
	NTP Settings	Key Management		
	Stream Certification			
\bigcirc	ANR	Download	Key Download	
	Key Management	Key Reset		
	Stream Media Line Configuration	key keset	*Login password	
Þ	Address Mapping			
	Time Zone		Save	
	Database Restore			
ૼૢૼ૱	KMS Resource Pool			
	PSS Resource Pool			
	Picture Download Authentication			
	License			

Figure 3-51 Key Management Settings

Step 2 Click to download and save the key files.

(Optional) Enter login password to reset the password, click Save.

3.8.5 Configure Stream Media Line

Stream media line configuration is mainly applied in multi-network cards storage server environment.

Click **Server NIC** to enter the server NIC settings interface as shown in Figure 3-53.

HIK	HIKVISION pStor System ^{@Windows}			
ŵ	NTP Settings	Stream Media Line	Configuration	
	Stream Certification	NIC IP Address	10.102.90.120	
\bigcirc	ANR	NIC IP Address	10.192.89.130	
	Key Management	NIC Description	Red Hat VirtIO Ethernet Adapter	
<u>جــــ</u>	Stream Media Line Configuration	NIC MAC Address	fa-16-3e-e7-f6-c9	
<u> </u>	Address Mapping			
	Time Zone		Save	
	Database Restore			
ŝ	KMS Resource Pool			
	PSS Resource Pool			
	Picture Download Authentication			
	License			

Figure 3-52 Server NIC Settings

When there are multiple network cards available, the first network card will be considered by default as the current network card. If you need modify the NIC Settings, select a network card from the drop down box.

Click **Save**, and the page will prompt "The NIC has been changed. Restart the computer to take effect.", and restart the server.

If the NIC IP is not modified, you can't click **Save**.

3.8.6 Configure Address Mapping

Address mapping function is mainly applied in multi-domain scenario, that is, pStor system and platform are in different network environments.

Address mapping includes address mapping information and client authorization IP segment configuration.

Step 1 Click Step 2 Click + Add to configure address mapping. Step 2 Click + Add to configure address mapping.



Figure 3-53 Configure Address Mapping

Step 3 Enter the LAN IP Address, WAN IP Address and external network port and click **Add**, as shown in figure below.

← Address Mapping

Address Mapping Table				
*Line IP Address	10.192.72.181			
*Port Function Description	🕑 Video 🗌 Picture 🗌 Obj	ect File		
*Internal Network Port An	6011 - 6011 6022 -	6022 6036 - 60	6037 - 6037	6038 - 6038
	6039 - 6039 6041 -	6041 6042 - 60	6044 - 6044	6021 - 6021
	6111 - 6111 6112 -	6112		
Line Whitelist				
	Add			
	Start IP Address	End IP Address	Operation	
	1 127.0.0.1	127.0.0.2	×	
	Save			

Figure 3-54 Address Mapping (Enabled)

Step 4 Enter the start and end IP address, and click Save, as shown in figure below.

Start IP and End IP should belong to the same IP segment.

Add	
Start IP Address End IP Address Opera	tion
1 127.0.0.1 💙 127.0.0.2 🔮 🎦 🗡	<
Save	

Figure 3-55 IP Segment Interface

After address mapping is saved, the figure is shown below.

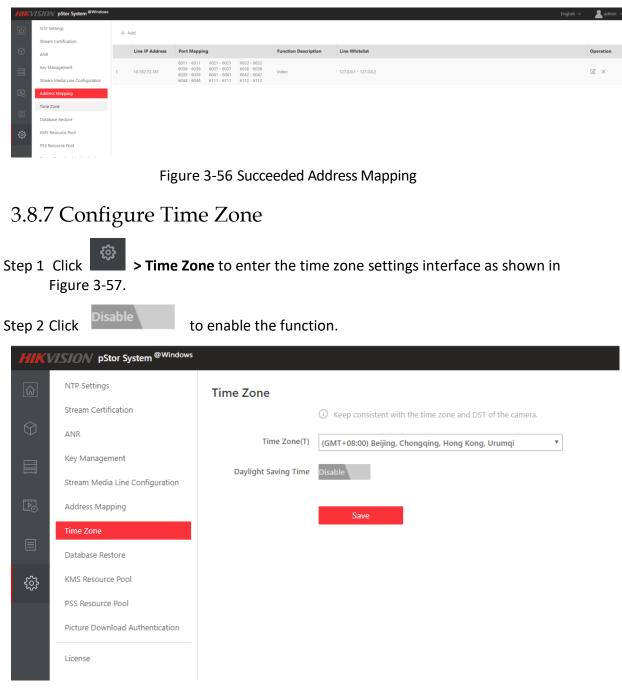


Figure 3-57 Disabled Daylight Saving Time

Step 3 Select time zone, saving time period, and time offset accordingly.

(V	Stor System ^{@Windows}		
]	NTP Settings	Time Zone	
	Stream Certification		() Keep consistent with the time zone and DST of the camera.
)	ANR	Time Zone(T)	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi 🔻
	Key Management	Daylight Saving Time	Enable
	Stream Media Line Configuration		chaple
Ð	Address Mapping	*Into Daylight Saving Time	April • Last • Friday • 02
1	Time Zone	*End of Daylight Saving Ti	Octorber V Second V Friday V 02
J	Database Restore	Time Offset	60min. •
3	KMS Resource Pool		
	PSS Resource Pool		Save
	Picture Download Authentication		
	License		

Figure 3-58 Enabled Daylight Saving Time

Step 4 Click Save.

3.8.8 Restore Database

<u>ن</u>

System supports database automatic backup. System will backup important data information automatically and regularly. When the system encounters an unrecoverable failure, the original system can be restored by reinstalling the system and by restoring the backup database. Due to the delay of database backup, the backup data may have some error.

Step 1	Click	> Restore Data	base to enter the	> Restore Database to enter the restore database interface.		
	HIKV	/ISION pStor System ^{@Windows}				
	ŵ	NTP Settings	Restore Database			
		Stream Certification	Rackun Time	2019-05-30 17:19:41		
	\bigcirc	ANR	backup nine	2019 05 30 17.19.41		
		Key Management		Restore		
	,,	Stream Media Line Configuration				
	Þ	Address Mapping				
		Time Zone				
		Database Restore				
	ŝ	KMS Resource Pool				
		PSS Resource Pool				
		Picture Download Authentication				
		License				

Figure 3-59 Data Restoration

Step 2 Click **Restore** to start restoring the database, and the message box pops up as shown in figure below.

Users should be careful when performing database restoration to avoid data loss.

Confirm		×
?	It takes about 20s to restore database, and current data will be lost. Continue?	
	OK Cancel	

Figure 3-60 Confirm to Restore the Database

Step 3 Click **OK** to continue.

After the system runs for a period of time, if the user reloads the system, a prompt box will pop up when the user enters the web page for the first time. It indicates whether to restore the database to the state of saved by the system before reloading, as shown in figure below.

Confirm		×
?	Database backup file detected (backup time: 2018-07-13 09:25:52). It takes about 20s to restore database. Continue?	
	OK Cancel	

Figure 3-61 Restore the Database Prompt Window

Step 4 Click **OK**.

3.8.9 KMS Resource Pool

Step 1 Click **KMS Resource Pool** to enter the settings interface as shown in figure below.

HIKV	ISION pStor System ^{@Windows}			
۵	NTP Settings	KMS Resource Pool		
	Stream Certification	Resource Pool		•
\bigcirc	ANR	Resource Poor		•
	Key Management		Save	
ليستنيا	Stream Media Line Configuration			
	Address Mapping			
	Time Zone			
	Database Restore			
ξ ^ζ ε	KMS Resource Pool			
	PSS Resource Pool			
	Picture Download Authentication			
	License			

Figure 3-62 Setting KMS Resource Pool

Step 2 Select resource pool in drop-down box and click Save.

3.8.10 PSS Resource Pool

Step 1 Click **> PSS Resource Pool** to enter the settings interface as shown in figure below.

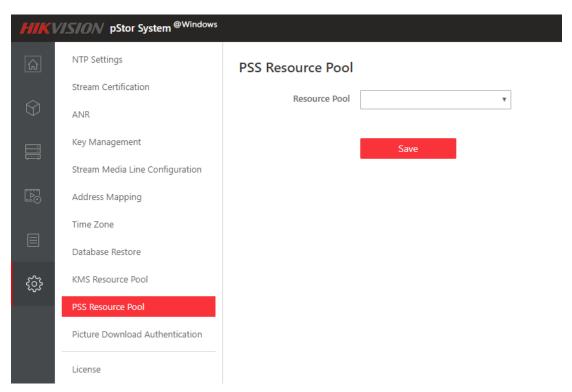


Figure 3-63 Setting PSS Resource Pool

Step 2 Select resource pool in drop-down box and click Save.

3.8.11 Configure Picture Download Authentication

Step 1 Click **Picture Download Authentication** to enter the settings interface as shown in figure below.

Step 2 Click the switch to enable/disable the function, click **Save**.

ΗΙΚ	/ISION pStor System ^{@Windows}	
Â	NTP Settings	Picture Download Authentication
	Stream Certification	Enable Authentication Enable
\bigcirc	ANR	
	Key Management	Save
	Stream Media Line Configuration	
<u></u>	Address Mapping	
	Time Zone	
	Database Restore	
ŝ	KMS Resource Pool	
	PSS Resource Pool	
	Picture Download Authentication	
	License	

Figure 3-64 Picture Download Authentication Settings

Picture download authentication is enabled by default. It needs authentication when downloading picture via Restful. If you turned off the function, no authentication is needed when downloading picture via Restful. You can check the picture via web browser.

3.8.12 Configure License

You can check the system authorization information and import authorization files through the license interface. Contact corresponding platform product manager for detailed license.

For non-authorized users, the system can be used for 1 month by default and supports up to 10 channels of video recording. When exceeding 1 month, please contact us to obtain authorization documents.

2
~

Click **License** to enter the license settings interface as shown in figure below. You can check the license related information.

НІК	/ISION pStor System ^{@Windows}					
ŵ	NTP Settings	License				
	Stream Certification		Please properly I	keep your activation code. Yo	u need to deactivate device	before uninstalling pStor, or the activation code \
\bigcirc	ANR	General Information				
	Key Management		Expiration D	2020-12-31		
لتستنيا	Stream Media Line Configuration		License Details	License List		
Þð	Address Mapping		Capacity (TB)	200	Video	Enabled
	Time Zone		Recording Sch			Enabled
	Database Restore		Video Storage Object	Enabled Enabled	Smart Search	Enabled
ŝ	KMS Resource Pool	Update License				
~~	PSS Resource Pool		Upgrade License	Deactivate License		
	Picture Download Authentication		Online Activati	on (Network is available.)		
	License		Offline Activatio	on (Network is not available.)	>	
	license					

Figure 3-65 License Settings

To update the license, follow steps below:

- Step 1 Click *Export License Request File documents to relevant personnel for obtaining new license documents.*
- Step 2 Click , select the license file in the pop-up window, and click Save

Deactivating license is required when pStor device should be changed. If deactivation is not carried out, the pStor deployed on new device cannot be activated.

- When device is connected to network, deactivation can be carried out online.
- When device cannot be connected to network, use other network-connected device to log in <u>https://www.hikvision.com/en/VMS/Support/License-Management</u> and follow steps on website to deactivate license.

Chapter 4 Appendix

4.1 Mount iSCSI to Windows System

4.1.1 Map IPSAN to iSCSI initiator

Take Hikvision IPSAN as an example.

Step 1 Enter Hikvision IPSAN management interface (2004), and click **Enable iSCSI Service**.

) 海康威视 - Windows Intern	et Explorer		Name That we have	the state of the local lines.		
🖉 🗢 🔁 https://10.1	92.71.199:2004/web/	main.php	-		 ♥ 证书错误 50 × 	D 四个火念什么 A
て件(F) 编辑(E) 查看(V)	收藏夹(A) 工具(T)	帮助(H)				
🛛 收藏夫 🛛 🕄 🔹 📿 智能	法存储管理平台	🥏 iSCSI Seagate			👌 🕶 🗟 👻 🗆	」 🖶 ▼ 页面(P) ▼ 安全(S) ▼ 工具(O) ▼ 🔞
海康) 或初	DS-AS8	· · · · · · · · · · · · · · · · · · ·				-\V- xxxxm
维护系统	SAN管理 -> iS	rest管理				
存储管理						
SAN管理	开启ISCSI服务					
·iSCSI管理	■ iSCSI配置信息					
** FC管理	搜索:		「素」			
>> 设置管理		iSCSI存储ID	LUN卷名称	客户服务器IP	访问模式	Chap授权
NAS管理		1	xwj_test	10.192.74.41	读写	没有Chap授权
系统管理		2	test	10.192.74.41	读写	没有Chap授权
		3	КАК	10.192.72.101	读写	没有Chap授权
日志系统		4	hupj	10.192.75.46	读写	没有Chap授权
? 使用帮助	["	5	KAK2	10.192.72.101	读写	没有Chap授权
💫 退出系统		7	lzh_01	10.192.71.128	读写	没有Chap授权
		8	lzh_02	10.192.71.128	读写	没有Chap授权
		9	hupjadd	10.192.74.44	读写	没有Chap授权

Step 2 Enter server IP address which can access iSCSI target (e.g. IP address of pStor server), and iSCSI storage ID.

Step 3 Select available logical volume.

Step 4 If iSCSI target of third-party manufacturer can be accessed by all IP addresses, mapping is not required. Click **OK**.

		地址: 10.192	.67.65	例回 092.168.40	.60	
	iSCSI存住	aID: 122		例100(取值范	围:[1,1024])	
	Chap用户	授权: 没有Ch	ap授权 💌]		
	LUN的访问	模式: 读写	•]		
可用道	日本					
选择	名称	块大小 <mark>(</mark> B)	容量(MB)	物理卷	使用状	兄
0	jiangwen	512	10,240	pv_ted5	iSCSI	*
\bigcirc	jiangwen2	512	1,024	pv_ted5	空闲	
\bigcirc	zss07	512	102,400	pv_tef4	iSCSI	
0	yf	512	4,096	pv_tef4	iSCSI	- -
•						- F

Step 5 If Chap is not enabled in iSCSI target, **Advanced** is not required to click in **Step 8** in **4.1.2 Connect iSCSI initiator to iSCSI target**, and **Step 9** can be skipped.

дізс	CSI服务					
	客户服务器IP	也址: 10.19	2.67.65	例如 192.168.40	.60	
	iSCSI存储	ID: 122		例如 100 (取值范	围:[1,1024])	
	Chap用户	受权: 没有C	hap授权 💽	\supset		
	LUN的访问		•			
可用〕 选择	逻辑卷	块大小(B)	容量(MB)	物理卷	使用状	泉.
0	lun_test1	512	2,334,976	pv_tef2	iSCSI	
\bigcirc	lun_test2	512	1,465,984	pv_tef4	iSCSI	
0	lun_test2 hy_test	512 512	1,465,984 102,400	pv_tef4 pv_tef4	iSCSI iSCSI	
~	-					

4.1.2 Connect iSCSI initiator to iSCSI target

- Step 1 Enter Windows system of pStor server, and click Start.
- Step 2 Enter iSCSI. System will search iSCSI initiator automatically.
- Step 3 Open the initiator and enter iSCSI control interface. See the picture below.

Targets Discovery Favorite Targets Volumes and Devices RADIUS Quick Connect To discover and log on to a target using a basic connection, type the IP DNS name of the target and then click Quick Connect. Iarget: Quick Connect Quick Connect Discovered targets Discovered targets	Configuration address or aick Connect
	uick Connect
Discovered targets	
	<u>R</u> efresh
Name Status	
To connect using advanced options, select a target and then dick Connect. To completely disconnect a target, select the target and then dick Disconnect. For target properties, including configuration of sessions,	Connect Disconnect
select the target and click Properties.	Properties
For configuration of devices associated with a target, select the target and then dick Devices.	Devices
OK Cancel	Apply

Step 4 Enter discovery interface, and click **Discover Portal**.

	iSCSI Ini	tiator Properties	s x
Target portals		Volumes and Devices	RADIUS Configuration
The system will look Address	for Targets on fol Port	lowing portals: Adapter	IP address
To add a target port To remove a target (then dick Remove.	-		Discover Portal Remove
iSNS servers The system is registe Name	ered on the follow	ing iSNS servers:	Refresh
To add an iSNS serve To remove an iSNS s then dick Remove.			Add Server Remove
		ОК	Cancel Apply

Step 5 Enter IP address of managed iSCSI target server, and click **OK**.

Discover Tar <u>c</u>	jet Portal 🛛 🗙
Enter the IP address or DNS name and p want to add.	port number of the portal you
To change the default settings of the dis the Advanced button.	covery of the target portal, dick
IP address or DNS name:	Port: (Default is 3260.)
10.192.85.237	3260
Advanced	OK Cancel

Step 6 Enter target interface, and all available targets will be shown automatically.

If not, click **Refresh** or set the IP address of test device which can access iSCSI target, and refresh (target status: inactive, connected, connecting).

				iSCS	I In	itiator	Prope	erties	;			<u> </u>
Targets	Discov	ery	Favori	ite Targe	ets	Volume	s and De	vices	RAD	IUS	Configuration	1
To disc				a target id then o				tion, t	ype th	ne IP	address or	
Target	: [Qu	iick Connect	
Discove	ered tar	gets								_		5
											Refresh	\supset
Name									Statu	JS		
ign, 13	321-05.9	storos	.t-95						Inact	tive		
	nect usi	ng ad	vance	d options	s, se	lect a ta	arget and	d then			Connect	
click Co To com	nnect.	disco	nnect a		1		arget and				Connect	
click Co To com then cl For tar	onnect. pletely ick Disco get prop	disco onnec pertie	nnect a t. s, inclu	target,	sele	ect the t	-	d				
click Co To com then cl For tar select i For cor	onnect. pletely ick Disco get proj the targ	discon onnec pertie let an	nnect a t. s, inclu d click I	a target, Iding cor Propertie	, sele nfigu es,	ect the t ration o	arget an	d ns,			Disconnect	
click Co To com then cl For tar select i For cor	nnect. pletely ick Disco get prop the targ	discon onnec pertie let an	nnect a t. s, inclu d click I	a target, Iding cor Propertie	, sele nfigu es,	ect the t ration o	arget an	d ns,			Disconnect Properties	

Step 7 Select a target in the list and click **Connect**. See the picture below.

iSCSI Initiator Properties	x
Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration Quick Connect To discover and log on to a target using a basic connection, type the IP address or DNS name of the target and then click Quick Connect. IP address or DNS name of the target and then click Quick Connect.	
Target: Quick Connect Discovered targets Refresh	
Name Status ign. 1321-05.storos.t-95 Inactive	
To connect using advanced options, select a target and then Connect)
To completely disconnect a target, select the target and then dick Disconnect. Disconnect For target properties, including configuration of sessions, select the target and dick Properties. Properties	
For configuration of devices associated with a target, select Devices The target and then dick Devices.	
OK Cancel Apply	

Step 8 Click **OK**. If CHAP is not enabled in iSCSI target, **Advanced** is not required to click.

Connect To Target	x
Target name: iqn.1321-05.storos.t-95	
Add this connection to the list of Favorite Targets. This will make the system automatically attempt to restore the connection every time this computer restarts.	
Enable multi-path	
Advanced OK	Cancel

Step 9 Check **Enable CHAP log on**, and enter name and password of iSCSI target. If CHAP is not enabled, you can skip this step.

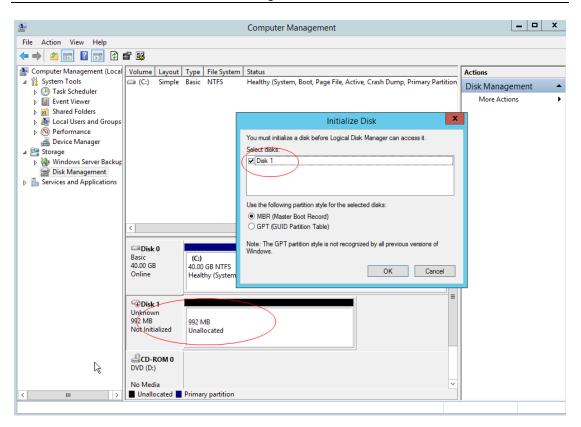
HIKVISION pStor User Manual

	Advanced Settings	?	x	
General IPsec				
Connect using				
Local adapter:	Default	~		
Initiator IP:	Default	~		
Target portal IP:	Default	¥		
CRC / Checksum				
Data digest	Header digest			
Enable CHAP log on CHAP Log on informat CHAP helps ensure con an initiator.	ion nection security by providing authentication between a target an	d		
	e name and CHAP secret that was configured on the target for t default to the Initiator Name of the system unless another name			
Name:	ign.1991-05.com.microsoft:win-5rh7ssef7ma			
Target secret:	•••••			
Perform mutual authentication To use mutual CHAP, either specify an initiator secret on the Configuration page or use RADIUS. Use RADIUS to generate user authentication credentials Use RADIUS to authenticate target credentials				
	OK Cancel	Ap	ply	

Step 10 If connection succeeded, you can view the status in target interface.

iSCSI Initiator Properties				
Targets Discovery Favorite Targets Volumes and Device	es RADIUS Configuration			
To discover and log on to a target using a basic connection DNS name of the target and then click Quick Connect.	, type the IP address or			
Target:	Quick Connect			
Discovered targets	Refresh			
Name	Status			
(ign.1321-05.storos.t-95	Connected			
To connect using advanced options, select a target and th dick Connect.	en Connect			
To completely disconnect a target, select the target and then click Disconnect.	Disconnect			
For target properties, including configuration of sessions, select the target and click Properties.	Properties			
For configuration of devices associated with a target, sele- the target and then click Devices.	Devices			
ОК	Cancel Apply			

Step 11 Enter diskmgmt.msc in **Run** to open disk management. You can view added IP SAN storage and format partition. The picture below shows that iSCSI protocol is supported by IP SAN.



4.2 Windows NIC Teaming

4.2.1 Introduction

Any available Gigabit Ethernet cards can be configured as part of TEAM. Teaming can group multiple Gigabit Ethernet cards into one virtual NIC. Load balancing can be achieved through selecting available Gigabit Ethernet cards and adding them to the group for creating TEAM and sharing data stream. For user and application, only a virtual NIC can be viewed.

Any Gigabit Ethernet cards in the group can be assigned as the main card for controlling data stream. If the main card controlling failed, backup card can replace. If one of the main cards restores, it will continue to control the data.

4.2.2 Environment

Hardware: Hikvision server (NIC: Intel(R) 82574L Gigabit Network Connection)

Software: Windows server 2008 R2

4.2.3 Configuration

Step 1 Check NIC property. If the driver is too old, and no options are selected in advanced interface, drivers of intel NIC card should be downloaded.

▲网络注报		
	・ 网络连接・ ・ (2) 総索 网络连接	1 2
组织 • 慧用此网络设备 诊断这个连接	重命名此连接 查看此连接的状态 更改此连接的设置	S • 🗐 0
ADAY DATASAN DATAS	▲ 本地连接 4 「 「 「 「 」 「 」 「 」 「 」 「 」 」 「 」 」 「 」 」 」	000 PT Dual Po
	即载(0) 即数据动程序(图码)。	

Step 2 After driver is updated, check **Team this adapter with other adapters** under Teaming interface, and click **New Team**.

2 网络首根			and the second state of th					-IDIX
G O-1	💡 • 控制面板 •	网络和 Internet	- 网络连接 -		* 60 授索	网络连接		
组织 -	某用此网络设备	诊断这个连接	重命名此连接	查看此连接的状态	更改此连接的设置		5 7 - 1	
	和的直接 hetterlifecar com Intel (R) PRO/1000	PT Dual Po	bette	连接 2 erlifecar.com 1 (R) PRO/1000 PT De		C地连接 3 张电缆被挑出 roadcom BCM5708	C NetItrem	• 376
Part P	本地注接 4 可格电流神状出 iroadcom BC₩5708C	Net∑treme	VLAN 常規 (intel で 将生 (同) () () () () () () () () () () () () ()	引导选项 封接速度 7) 适配器分组) 适配器与其他适配器 (7): 语可闻 直器分组 省定网络连接是否参加	新组(上 」	详细道理 分组 90		

Step 3 Name the new group as "Team 1#".



Step 4 Check NIC cards to team.



Step 5 Select teaming type (adaptive load balancing combined with advantages of fault tolerance and link aggregation).



Step 6 Go to **Properties** > **Settings**, click **Edit**, and set two NICs as main adapter and backup adapter.

臺网络在推	_IO X
G ● · 控制面板 - 网络和 Internet - 网络连接 -	• 🔐 操業 网络连接
组织 • 某用此网络设备 诊断这个连接 重命名此连接 查看的	G主接的状态 更改此连接的设置 📁 🐨 🛄 👀
本地主接 日白用 组: Team 1# - Intel (R) FED/1 学校主接 2 白白用 组: Team 1# - Intel (R) FED/1 本地主接 4 岡谷电域接後出 Broadcom SUBSTORC NetXtrees 第1000000000000000000000000000000000000	本地连接 3 网络电缆被挑出 Broadcom BCM5708C NetXtreme wr.com
	Tatel 00) 780/1000 P7 Baul Fast Server Adapter 101 × Team 18 注記器 克型 名称
(intel) 組类型: 适应性负载平衡	法指要包括在此但中的话配器: ✓ Intel (8) PRO/1000 FT Dual Port Server 主适配器 ✓ Intel (8) PRO/1000 FT Dual Port Server 法运配器
组中通配器 状态 Intel (R) PED/1000 PT Dual Fort Server Ada. 活动 Intel (R) FED/1000 PT Dual Fort Server Ada. 活动	↓ ↓ 设置主适款器 (P)
◆ ◆ ●	经营次活配器(5) 此列表显示对高级网络服务(Advanced Networking Services, ANS)分组可用的适配器。列表中不包含不支持 ANS 分组的适配器。已是另一个组的成员的适配器,或因其 他原因而无法影响组的适配器。

Step 7 Configure IP address for new NIC (Team 1#). IP addresses of the two NICs in teaming cannot be configured.



4.3 Edit 10 Gigabit Ethernet Card Parameters

For better throughput and lower CPU usage in 10 Gigabit Ethernet environment with mass data input and output, number of receive side scaling (RSS) queues should be set as 2.

Step 1 Click the network icon and open network and sharing center.



Step 2 Click connection of the NIC to be edited, and click **Properties**.



Step 3 Select NIC and click **Configure**.

≞本地连接 4 属性 🛛 🗙 🗙	♀ 本地连接 4 状态	X
网络 共享	常规	
连接时使用:		
🔮 Intel (R) 82576 Gigabit Dual Port Network Conne	IPv4 连接: 无 Internet 访问权限	f
, 配置 (c)	IPv6 连接: 无 Internet 访问权限	·
此连接使用下列项目(0):	媒体状态: 已启用	·
	持续时间: 00:40:13	-
■ ■ Microsoft 网络客户端	速度: 1.0 Gbp	5
✓ 県 VMware Bridge Protocol ✓ 県QoS 数据包计划程序	详细信息(E)	
☑ 및 Microsoft 网络的文件和打印机共享		
✓ ▲ Internet 协议版本 6 (TCP/IPv6)	N	
🗹 🔺 Internet 协议版本 4 (TCP/IPv4)	/ 活动	-
	\	
		3
允许您的计算机访问 Microsoft 网络上的资源。	● 属性 (P) ┃	
	关闭	(C)
确定		

Step 4 Set number of receive side scaling (RSS) queues as 2 or the max. value in **Advanced**, and click **OK**.

Intel(R) 82576 Gigabit Dual Port Ne	twork Connectio 🗙			
VLAN 驱动程序 常規 链接速度 高级	详细信息 电源管理 分组			
道雷器高级设置				
	[(V): 2 个队列 ▼			
巨帧数据包 千兆位主从模式	使用默认值 (D)			
接收方调整队列				
 配置接收方调整(RSS)队列的数目: 1个队列在要求低 CPU 使用量的情况下使用。 2个队列在要求良好的吞吐里和低 CPU 使用量的情况下使用。 4个或更多队列用于要求高传输速率的应用程序,如基于Web 服务器的应用程序。使用 4个或更多队列时,CPU使用里可能较高。 				

4.4 Failed to Write to Video Caused by SlowOverwrite of Recording Pool After pStorShutdown for a Long Time and Running Again

4.4.1 Environment

pStor version is 1.0.0, and multiple recording schedules are being executed.

4.4.2 Description

After writing to video, pStor shuts down for a long time (e.g. 30 days), and runs again. Continuing to write data to the original data block will cause that video time span is too large. When pStor capacity is overwritten, the earliest time of recording pool exception occurs, which causes slow overwrite and writing failure.

4.4.3 Cause

- 1. When pStor stores video data, data is written to the original data block without checking video time span, which causes large time span of single data block.
- 2. Large time span of single data block with time-consuming overwrite will cause overwrite time exception, and insufficient data block.

4.4.4 Resolution

- 1. When pStor stores video, picture, and auxiliary, check whether time span of single data block exceeded limit which can be set in configuration file. If exceeded the limit, set the data block status as full to avoid writing data to data block and large time span of single data block.
- 2. When pStor overwriting, shorten overwrite strategy time and increase data overwrite speed (4-hour will be cost for overwriting data block with 30-day time span).

4.4.5 Evaluation

- 1. Set the status of data block with space as full will cause waste of storage space.
- 2. pStor with insufficient space or too many channels will also cause failed to write. See **4.4.6 Capacity Calculation**.

4.4.6 Capacity Calculation

Formula is shown below.

Parameters	Symbol	Unit
Stream	A	Mbps
Number of channels	В	
Max. storage time span of data block (overwrite time)	Т	second
Capacity overwrite threshold ((e.g. 0.9))	E	

Min. space for capacity overwrite: Z = (A*B*T)/(1-E) MB

For example: Overwriting one-hour video costs 20 seconds, and max. storage time span of single data block is 30 days. pStor overwriting data block with 30-day time span will cost

T = 30 * 24 * 20 s = 4 H

Recording 300-ch video stream at 2 Mbps for 4 hours will cost

300 * 2 * (4 * 3600) / 8 = 1080 G (8 as denominator means converting Mbps to MB/s)

Set the threshold as 10%. Storing 300-ch video stream at 2 Mbps will take

Z=1080 G / (1- 10%) = 10.8 TB

4.5 Failed Installation of Windows Runtime Library

4.5.1 Description

vs2013 runtime library should be installed when you install HIKVISION pStor. Failed installation of vs2013 runtime library occurs in Windows server 2008. "A certificate chain could not be built to a trusted root authority" will be prompted. See the picture below.

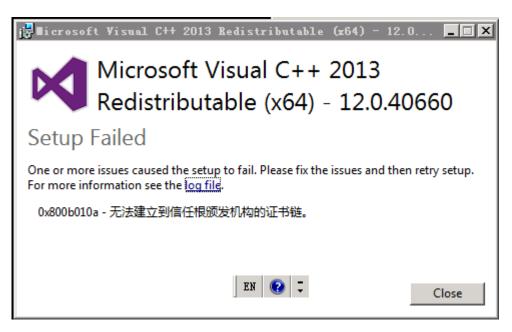


Figure 4.1 Installation Failed

4.5.2 Cause and Resolution

This problem occurs because vs 2013 runtime library is signed by Microsoft, which should be authenticated by certificate for software tamper-proofing, such as virus.

The resolution is to find and install missing certificate of windows server 2008.

Two certificate manager tools are provided by Microsoft: certmgr.exe and certmgr.msc. Enter certmgr in Run or double-click certmgr.msc in C:\Windows\System32 or C:\Windows\SysWOW64 to open the certificate manager tool. See the picture below.

🧧 C6	ertmgr - [Certificates - Current User]
File Action View Help Image: Second Sec	 Interprise Trust Intermediate Certification Authorities Active Directory User Object Trusted Publishers Untrusted Certificates Third-Party Root Certification Authorities Trusted People Client Authentication Issuers Smart Card Trusted Roots
< III >	

Figure 4.2 certmgr Interface

You can view logical storage path of all certificates, such as personal, trusted root certification authorities.

The error mentioned above is caused by missing certificate in trusted root certification authorities. Expand the path. See the picture below.

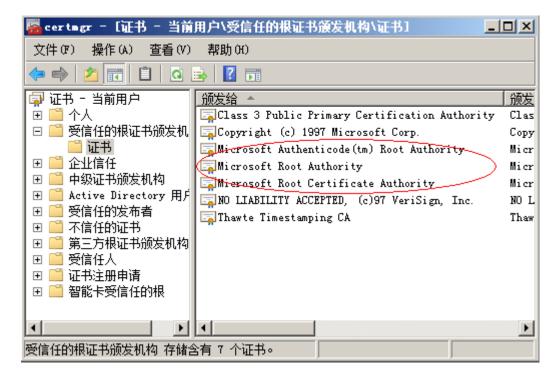


Figure 4.3 Windows Server 2008 Trusted Root Certificate

Three Microsoft certificates are shown in Figure 4.3. Open another certmgr.msc which can install other systems of vs2013 runtime library normally. See the picture below.

 certmgr - [Certificates - Current User\Trusted Root Certification Authorities\Certificates] File Action View Help Non-Action Content in the second secon					
 Certificates - Current User Personal Trusted Root Certification Au Certificates Enterprise Trust Intermediate Certification Au Active Directory User Object Trusted Publishers Untrusted Certificates Trusted People Client Authentication Issuers Smart Card Trusted Roots 	Issued To Class 3 Public Primary Certification Author Copyright (c) 1997 Microsoft Corp. Microsoft Authenticode(tm) Root Authority Microsoft Root Authority Microsoft Root Certificate Authority 2010 Microsoft Root Certificate Authority 2010 Microsoft Root Certificate Authority 2011 NO LIABILITY ACCEPTED, (c)97 VeriSign, Inc. Thawte Timestamping CA VeriSign Class 3 Public Primary Certificatio	Copyright (c) 1997 Microsoft Corp. Microsoft Authenticode(tm) Root Microsoft Root Authority Microsoft Root Certificate Authori Microsoft Root Certificate Authori Microsoft Root Certificate Authori NO LIABILITY ACCEPTED, (c)97 V Thawte Timestamping CA	Expiration Date I 8/2/2028 S 12/31/1999 1 12/31/2020 S 5/10/2021 6 6/24/2035 3 1/8/2004 1 1/1/2021 5 1/8/2004 1 1/1/2021 5		
< III >	<		>		
Trusted Root Certification Authorities	store contains 10 certificates.				

Figure 4.4 Windows 7 System Trusted Root Certificate

You can check and export the missing certificates (Microsoft Root Certificate Authority 2010/2011) after comparing two pictures above (Figure 4.3 and Figure 4.4).

Right-click Certificates, and select Import in All Tasks. See the picture below.

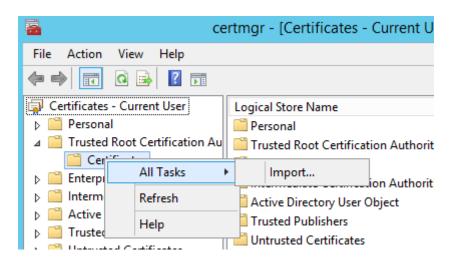


Figure 4.5 Certificate Import

Enter certificate import wizard interface. See the picture below.

💿 🍠 Certificate Import Wizard	X
Welcome to the Certificate	e Import Wizard
This wizard helps you copy certificates, ce lists from your disk to a certificate store.	rtificate trust lists, and certificate revocation
A certificate, which is issued by a certificat and contains information used to protect o connections. A certificate store is the syst	
Store Location	
To continue, click Next.	
	Next Cancel

Figure 4.6 Certificate Import Wizard

Click **Next**, and select path of certificate to be imported. See the picture below.

	X
📀 🛃 Certificate Import Wizard	
File to Import	
Specify the file you want to import.	
File name:	
C:\Users\denglei9\Desktop\2011.cer Browse	
Note: More than one certificate can be stored in a single file in the following formats:	
Personal Information Exchange-PKCS #12 (.PFX,.P12)	
Cryptographic Message Syntax Standard- PKCS #7 Certificates (.P7B)	
Microsoft Serialized Certificate Store (.SST)	
Next Ca	ncel

Figure 4.7 Certificate File Path

Click **Next**, and select **Trusted Root Certification Authorities** as certificate store. See the picture below.

) Ertificate Import Wizard	
Certificate Store Certificate stores are system areas where certificates are kept.	
Windows can automatically select a certificate store, or you can specify a location for the certificate.	
\bigcirc Automatically select the certificate store based on the type of certificate	
Place all certificates in the following store	
Certificate store:	
Trusted Root Certification Authorities Browse	
Next Cancel	

Figure 4.8 Select Certificate Store

Click **Next** and **OK**. Succeeded message will be prompted after certificate imported. See the picture below.

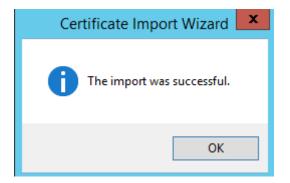


Figure 4.9 Certificate Imported

Install HIKVISION pStor again.

4.6 Mount NAS Drive to Windows System

Take Hikvision NAS as an example.

4.6.1 Create NAS Drive

Enter Hikvision NAS management interface and create a user in user and group management. Create NAS volume in NAS drive interface. Click Add NAS Drive, select an available NAS volume, input name, and select Windows (CIFS) protocol. Select the created user, reading and writing permission, and enter IP segment with accessing permission. Click **Yes**. The figure is shown below.

系统					
¥	NAS管理 -> NAS网络盘				
,	添加NA S网络盘				
ι I I I I I I I I I I I I I I I I I I I	■ NAS网络盘信息 (总裁	(: 2)			i de la companya de l
	搜索 :	被索			
1组管理		名称		所属NAS卷	使用协议
(1) (1)		nas126		nas_lun	cifs
护配置		nvr		nas_lun	cifs
	× <u>++8*</u>				
*	创建NAS卷			的NAS网络盘	×
	回 MAS卷信息 (总数:3)	`		MILLING MIST III	
帮助	· · · · · · · · · · · · · · · · · · ·	按索		可用NAS袋: nas_hy v	
系統	336777	名称	â		闲容 量(MB)
		nas_lun(NAS)	H	名称: nas_hy	998892
		bobo(NAS)	1	使用协议: 🗹 Windows(CIFS) 💿 只读 💿 读写	499953
				Unix(NFS)	
<		nas_hy(NAS)		E FTP	102365
	× 11 88	@ <u>挂载</u>			
				Mac OS(AFP)	
				Web(HTTP)	
2011					
见数字技术股份有限					
公司 				确定	关闭
				NH AL	

Figure 4.10 Add NAS Drive

4.6.2 Map Network Driver in Windows Operating System (Not for pStor Mounting)

Log in pStor service. Right click **My Computer** or **Network** and select **Map Network Drive** to pop up the wizard. Disconnecting to shared space can also be achieved by this function. See figure below.

Recycle Bir		
	- _	
Thi	Open	
	Manage	
	Pin to Start	
(Map network drive	
	Disconnect network drive	
	Create shortcut	
	Delete	
	Rename	
	Properties	

Figure 4.11 Map Network Drive

4.6.3 Create Map in Windows Operating System (Not for pStor Mounting)

Input IP address and NAS drive name of storage device. For example,

<u>\\10.192.77.9\nas_hy</u>. And click **Finish** to go to user login interface. If connecting to shared space when startup is required, please check **Reconnect at sign-in**. See figure below.

💿 🤏 Map I	Xetwork Drive
	twork folder would you like to map? drive letter for the connection and the folder that you want to connect to:
Drive:	Z: •
Folder:	\\10.199.104.207\nas
	Example: \\server\share
	Reconnect at sign-in
	Connect using different credentials
	Connect to a Web site that you can use to store your documents and pictures.
	Finish Cancel

Figure 4.12 Map Network Drive

The shared space will be shown as figure below after completing configuration.

💻 l ⊋ 🔝 = l		This PC			_ 🗆 🗙
File Computer V	iew				× 🕐
🔄 💿 🔻 🕇 🌉 🕨 TI	his PC 🕨		~ ¢	Search This PC	م
 ★ Favorites ■ Desktop Downloads 3 Recent places 1 This PC 1 Network 	 Folders (6) Desktop Downloads Pictures 		Documents Music Videos		
	 A Devices and drives (3) Floppy Disk Drive (A:) DVD Drive (D:) A Network locations (1) 	200	Local Disk (C:) 31.2 GB free of 39.9 GB		
	nas (\\10.199.104.207) (Z:)				
10 items					:== 🛋

Figure 4.13 Map Network Drive Result

4.6.4 Mount NAS to pStor

See **3.5.3 NAS** for mounting NAS to pStor.

4.7 Configure Address Mapping of LAN and WAN Address

LAN address: IP address of pStor service; WAN address: Gateway IP address;

WAN port: the same as the gateway port;

WAN client authorized IP segment: the IP of accessing pStor to store data through network.

A single IP can be set (start IP address and end IP address should be the same, for example, 192.168.23.2 to 192.168.23.2), and an IP segment can also be set (for example, 192.168.23.1 to 192.168.23.254).

HIKV	/ISION pStor System @Windows							🚨 admin 🗸
â	NTP Settings	+	Add					
\odot	Stream Certification							
	ANR		Line IP Address	Port Mapping	Function Description	Line Whitelist		Operation
	Key Management					No matching records found		
	Stream Media Line Configuration							
B	Address Mapping							
	Time Zone							
	Database Restore							
¢3	KMS Resource Pool							
	PSS Resource Pool							
	Picture Download Authentication							
	License							

Figure 4.14 Address Mapping

Gateway configuration port mapping reference:

Writing and downloading port of picture restful protocol: 6011, 6040, 6041, 6120;

Recording port: 6021, 6022, 6036, 6037, 6038, 6039, 6042;

Object file port: 6044, 6045, 6046, 6201. Reserved ports (The address mapping of Object file interface is not available now.)

The set value example is shown below.

\bigcirc	Address Mapp	ing														
A	ddress Mapping Table															
	*Line IP Ad	Idress	10.192.72.	181		0										
	*Port Function Descri	iption	✓ Video	🗌 Pictu	e 🗌 Ob	oject File										
	*Internal Network Port	t An	6011 - 6	011	6022	- 6022	6036 -	6036	6037	6037	,	6038 -	6038]		
			6039 - 6	039	6041	- 6041	6042 -	6042	6044	6044	L	6021 -	6021]		
			6111 - 6	111	6112	- 6112										
Li	ine Whitelist															
			Add													
			Start	IP Address		End IP Add	tress	Opera	tion							
			1 127.0			127.0.0.2		×								
			1 127.0	.0.1		127.0.0.2		^								
			S	ave												
	SION pStor System ^{@Windows}														English 🗸	
<u>م</u>	NTP Settings														Ligisi V	💄 admin 🗸
	Stream Certification	+ Add														
\bigcirc	ANR Key Management		ine IP Address	Port Mapping	6021 - 6021	6022 - 6022	unction Description		/hitelist							Operation
	Stream Media Line Configuration	1 10	0.192.72.181	6036 - 6036 6039 - 6039 6044 - 6044	6041 - 6041	0042 - 0042	ideo	127.0.0	1 - 127.0.0.2							
F	Address Mapping															
	Time Zone Database Restore															
ŝ	KMS Resource Pool															

