

# **NVMS Storage Server**

## **User Manual**



16-disk storage server



24-disk storage server

## Notes

There may be several technically incorrect places or printing errors in this manual. The updates will be added into the new version of this manual. The contents of this manual are subject to change without notice.

This manual is suitable for 16/24-disk storage servers. All the pictures used in this manual are based on the 16-disk storage server. Please refer to the real servers as the pictures may be different from the real servers.

The storage server is mainly used with NVMS. This manual only introduces its system setup. Please refer to the storage server chapter in the NVMS user manual for detailed use.

# Contents







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# 1 Installation

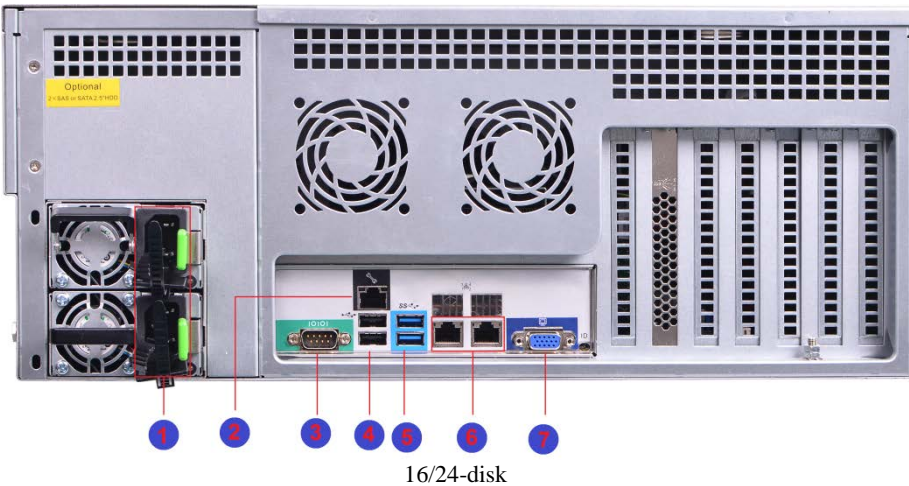
## 1.1 Interfaces and Indicators

The icons below are for reference only. Please refer to the interfaces and indicators of the real server.

Icon	Description	Icon	Description
	Power Key		System disk running indicator; flashing green light indicators the disk works normally.
	Reset		Error Alarm indicator (including system/fan/power error alarm)
	USB interface		Network connection indicator. Green light indicators the network connection is normal.

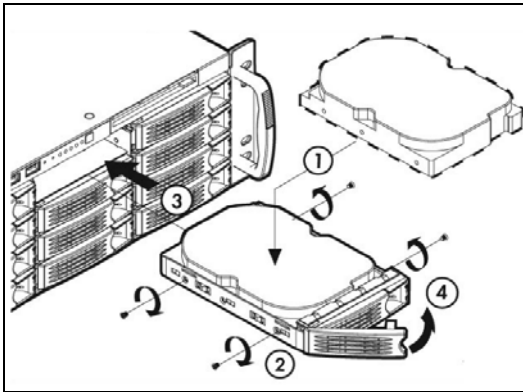
## 1.2 Rear Panel Instruction

The following picture of rear panel is for reference only.



No.	Description	No.	Description
1	Redundant Power Connector	5	USB3.0 interface
2	Management interface	6	RJ45 interface
3	RS232 interface	7	VGA interface
4	USB2.0 interface		

## 1.3 HDD Installation



- ① Press the blue button, hold the pull rod to pull out the HDD case and then install the HDD into the case.
- ② Fix the HDD by tightening the screws on both side of the case.
- ③ Push the case with the HDD into the slot.
- ④ Fasten the pull rod.

## 2 Default System Configuration

The default network configurations of the server are as follows:

IP Address: [192.168.0.10](#)

Http Port: [8000](#)

To avoid IP conflict you should configure one at a time as these storage servers have the same default network configuration.

The default web management page: <http://192.168.0.10:8000>.

The default username is [admin](#) and the default password is also [123456](#).

The disks installed in one storage server used for RAID should be of the same brand, capacity, rotate speed and buffer. The production batch should also try to be the same.

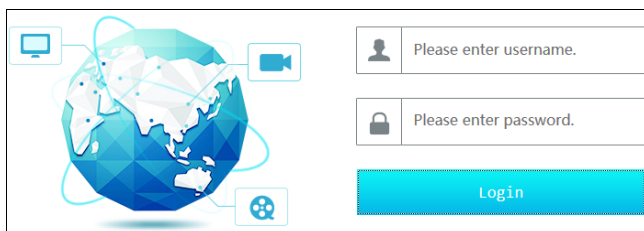
## 3 Web Client Configuration



### 3.1 Login

The storage server is configured through web browser. It is recommended to use IE9 or above, Firefox 51 or lower or Google Chrome 44 or lower or Opera 35 or lower (Here we take IE browser for example).

Make sure the IP address of the computer is in the same local area network with the storage server before accessing the storage server, or you will have to modify the IP address of the computer. For instance, change the computer's IP address to 192.168.0.100 and the gateway to 192.168.0.1.

Enter <http://192.168.0.100:8000> in the IE address bar and then press enter to go to the login interface as shown below.



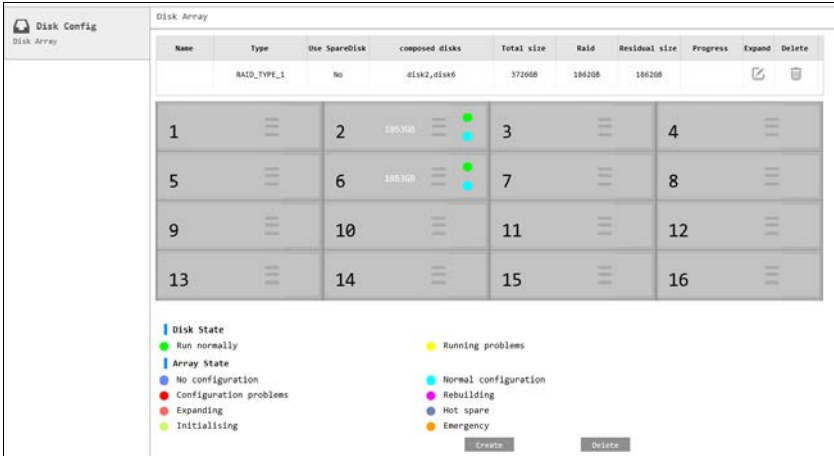
	Please enter username.
	Please enter password.
<a href="#">Login</a>	

Enter the username [admin](#) and password [123456](#) and then click “Login” button to go to the main interface.


### 3.2 Disk RAID

Click “Disk Config” tab to go to Disk Configuration interface. Please click “Create” button to create a disk RAID if you use the storage server for the first time.

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Tips: It is recommended to create Raid5 and check hotspare disk for data security.

You can expand the created disk array by clicking . The expansion time depends on the disk size and quantities. Generally, it takes from a dozen of hours to a couple of days.

Click “Delete” button to pop up a confirmation dialog box. The created RAID will be deleted if you click “Yes” button. Please be careful to delete the RAID because the record data stored in the RAID will not be recovered once you delete the RAID.

## 3.3 Network Configuration

Click “Network Config” tab to go to the interface as shown below. The IP address, subnet mask and gateway of the storage server can be set in the interface.

You will get a virtual IP address if the IP group is enabled. As to the access of the virtual IP address, the operation system of the storage server will judge and transfer the access to eth0 or eth1 automatically.

For instance, if you disconnect the network cable of eth1 when testing “ping 192.168.0.10 -t”, you will probably get a “Request Timeout” tip if you ping 192.168.0.10; and then you can probably ping it successfully after a few seconds.



Network Config	
IP Group	<input checked="" type="checkbox"/> Open
IP Address	<input type="text" value="192.168.0.10"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="192.168.0.1"/>
Type	<input type="text" value="Adaptive Load Balancing"/> ▾
eth0	<input checked="" type="checkbox"/> Static IP
MAC Address	<input type="text" value="EC:D6:8A:06:11:CD"/>
eth1(Offline)	<input checked="" type="checkbox"/> Static IP
MAC Address	<input type="text" value="EC:D6:8A:06:11:CE"/>
Primary DNS	<input type="text" value="114.114.114.114"/>
Secondary DNS	<input type="text" value="8.8.8.8"/>
<input type="button" value="Commit"/> <input type="button" value="Reset"/>	

## 3.4 Server Port Configuration

Click “Port Config” tab to go to the interface as shown below.

Port Config	
<b>Transfer Server</b>	
Port	<input type="text" value="6006"/> <input checked="" type="checkbox"/> Open
Auto Report Port	<input type="text" value="2009"/>
<b>Storage Server</b>	
Port	<input type="text" value="6009"/> <input checked="" type="checkbox"/> Open
<input type="button" value="Apply"/>	

Media Transfer Server port: the default number is 6006.

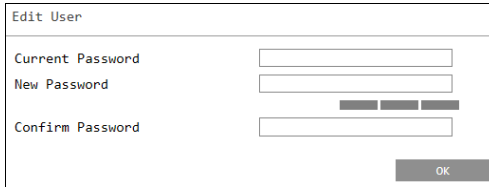
Auto Report Port: the default number is 2009.

Storage server port: the default number is 6009.

The above-mentioned ports can be modified and enabled as needed.

## 3.5 Change Password

For safety consideration, it's strongly recommended to modify the default administrator's username and password if you access the storage server for the first time. Click "User Config" tab to go to the interface as shown below. You can modify the username. Please set a strong password.



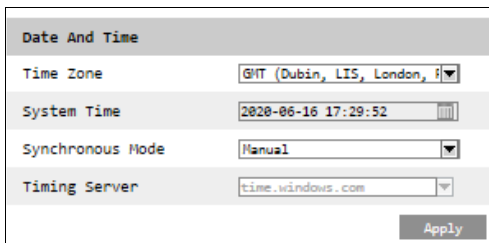
The screenshot shows a web interface titled "Edit User". It contains three input fields for password management: "Current Password", "New Password", and "Confirm Password". The "New Password" field has a strength indicator consisting of four grey bars. An "OK" button is located at the bottom right of the form.

## 3.6 Basic Information

Click "System Maintenance" → "Device Basic Information" to view the basic information of the storage server (like product mode, firmware version, software version, etc).

## 3.7 Date & Time

It is recommended to set date and time first if you set the storage server for the first time. Click "Date and Time" tab to go to the interface as shown below.



The screenshot shows a configuration window titled "Date And Time". It features four rows of settings, each with a label and a dropdown or input field: "Time Zone" (set to GMT (Dubin, LIS, London, i)), "System Time" (set to 2020-06-16 17:29:52), "Synchronous Mode" (set to Manual), and "Timing Server" (set to time.windows.com). An "Apply" button is positioned at the bottom right.

Select the time zone according to the region. For example, if you are in London, select GMT. Synchronous Mode: auto or manual can be selected. Please set the system time manually or automatically.

### 3.8 Upgrade

You can upgrade the storage server when there is a new software version. Get the upgrade software from you dealer; click System Maintenance →Device Upgrade to go to the interface as shown blow. Click “Browse” button to select the upgrade file and then click “Upgrade” button to start upgrading.

Please select upgrade file:

Delete the database when upgrading, please check carefully  Please check carefully to delete Intelligent Server data when upgrading

Note:The upgrade will take about a few minutes and the service will be restarted automatically after completing the upgrade. Please make sure the power on during the upgrading.

### 3.9 Device Reboot

Click System Maintenance →Device Reboot to go to the device reboot interface. Click “Device Reboot” to reboot the device.

## 4 Q&A

**Q1. When the storage server is being started it shows “A discovery error has occurred, please power cycle the system and all the enclosures attached to this system”.**

A1. It indicates that the RAID card could not finish searching in 120 seconds. The system’s SAS cable may be wrong connected. Please check the cable connection and repair the problems. Then restart the system later.

**Q2. It takes a very long time to rebuild the RAID.**

A2. RAID rebuilding time depends on RAID size and the rebuilding process may take more than ten hours. Recording and playback will not be affected when rebuilding.

**Q3. How to replace the abnormal disks in the RAID?**

A4. The corresponding disk status indicator will turn red in the disk RAID interface if the disk in the RAID is abnormal. Uninstall the abnormal disk in the storage server case and then refresh the interface; install a new disk after the disk indicator disappears. The RAID will rebuild automatically later.

## 5 Specifications

Model	16-Disk Storage Server
CPU	Intel Xeon Processor E3
Chipset	Intel C232 chipset
OS	Ubuntu20.04
Memory	8GB DDR4 ECC, up to 64GB DDR4-1866/2133MHz ECC memory
HDD	3.5 inch SATA slot × 16 (hot-pluggable); built-in 2.5 inch SATA slot×2
HDD installation	Independent HDD bracket
Capacity	Up to 160TB
RAID	Hardware RAID; support RAID 0,1,5,6
Expansion	1*PCI-E3.0x16(x8);1*PCI-E3.0x8;1*PCE-E3.0x8(x4)
Network Card	Integrated I210-AT dual gigabit network cards, load balancing and if one is offline, the other will replace.
IPMI	ASPEED AST2400 BMC, independent IPMI interface; support iKVM
Monitor Control	Integrated display controller
Protocol	Support to get video or audio streams of IPC by TCP / UDP / RTSP protocol
Search	Built-in index, accurate to second-level
Performance	Up to 700Mbps access, 700Mbps storage and 96Mbps playback Up to 700Mbps access, 700Mbps storage and 96Mbps live view
Way of Management	WEB management, seamless access to NVMS
Capability of Management	RAID management, record management, system log as well as alarm processing
Security	Supply TPM interface, TPM Module installation supported
Interface	1×VGA, 6×USB(4 in the real panel and 2 in the front panel), 2×RJ45, 1×IPMI, 1×RS232
Power Supply	550W 1+1reduandent power supply, 100~240V-7~3.4A/50~60Hz
Operating Environment	Working: 10°C to 35°C; standby: -40°C~+55°C(ambient)
Relative Humidity	Working: < 90% RH(35°C)
Noise	Working: < 50DbA
ESD	Each item conforms to Intel ambient temperature test standard 15KV

## NVMS Storage Server User Manual

Model	24-Disk Storage Server
CPU	Intel Xeon Processor E3
Chipset	Intel C232 chipset
OS	Ubuntu20.04
Memory	8GB DDR4 ECC, up to 64GB DDR4-1866/2133MHz ECC memory
HDD	3.5 inch SATA slot×24(hot-pluggable) ; built-in 2.5 inch SATA slot×2
HDD installation	Independent HDD bracket
Capacity	Up to 240TB
RAID	Hardware RAID; support RAID 0,1,5,6
Expansion	1*PCI-E3.0x16(×8);1*PCI-E3.0*8;1*PCE-E3.0*8(×4)
Network Card	Integrated I210-AT dual gigabit network cards, load balancing and if one is offline, the other will replace.
IPMI	ASPEED AST2400 BMC, independent IPMI interface; support iKVM
Monitor Control	Integrated display controller
Protocol	Support to get video or audio streams of IPC by TCP / UDP / RTSP protocol
Search	Built-in index, accurate to second-level
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Way of Management	WEB management, seamless access to NVMS
Capability of Management	RAID management, record management, system log as well as alarm processing
Security	Supply TPM interface, TPM Module installation supported
Interface	1×VGA、6×USB(4 in the real panel and 2 in the front panel), 2×RJ45, 1×IPMI , 1×RS232
Power Supply	800W 1+1reduandent power supply, 100~240V-10~5A /50~60Hz
Operating Environment	Working: 10°C to 35°C; standby: -40°C~+55°C(ambient)
Relative Humidity	Working: < 90% RH(35°C)
Noise	Working: < 50DbA
ESD	Each item conforms to Intel ambient temperature test standard 15KV

# Appendix Device Installation

