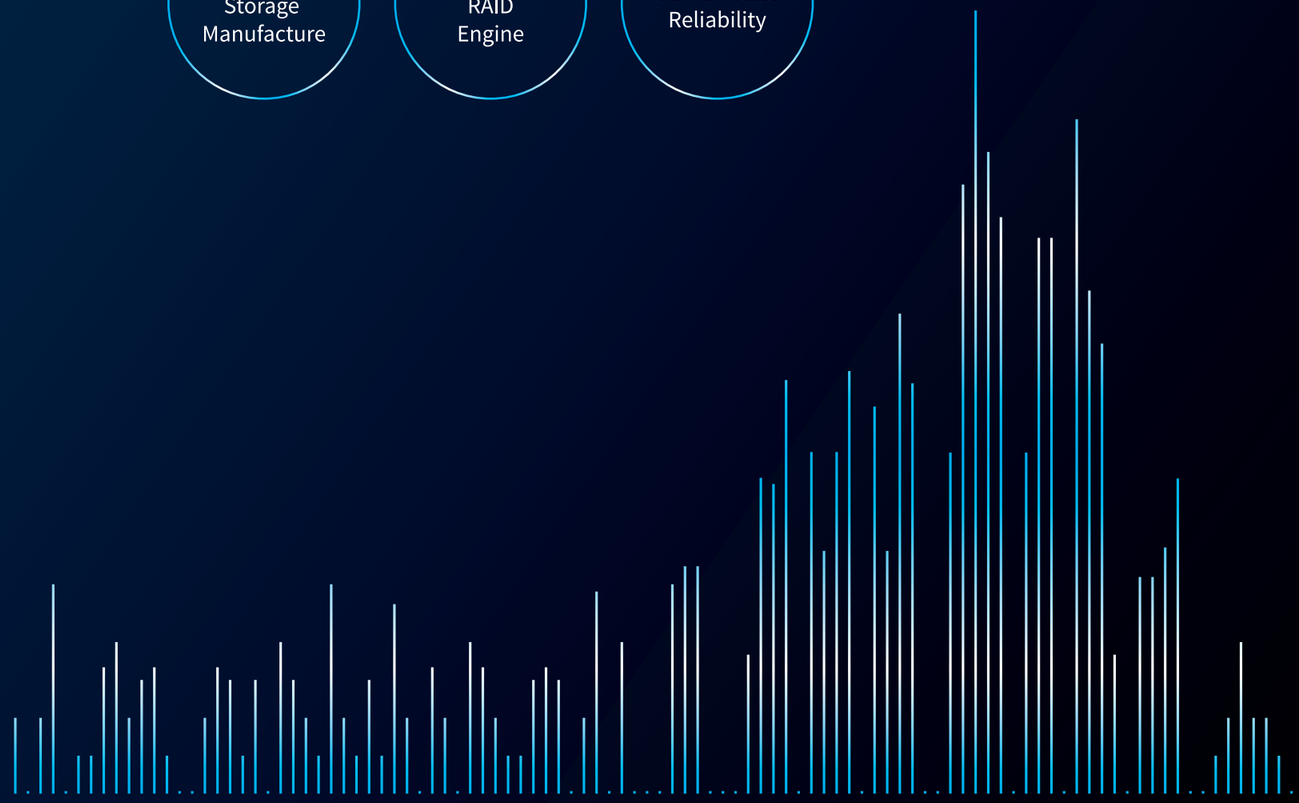
Better Security, Better World.

IP storage
NEBULA

Turn Data to Insight

- Professional Storage Manufacture
- Powerful RAID Engine
- Carrier-Class Reliability



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2020.01 OM - 200101-SD-V1.0

About Uniview

Uniview is the pioneer and leader of IP video surveillance. Firstly introduced IP video surveillance to China, Uniview now is the third largest player in video surveillance in China. In 2019 Uniview has the 4th largest global market share.

Uniview has more than 16 years' experience in independent research and development of network storage for video surveillance industry, has delivered thousands of petabytes of storage to customers in a great many of projects, most of which are high-end industry, such as airports, safe cities, metro lines and etc.

Uniview has complete storage product lines named as Nebula with different capacity and performance, which are designed and manufactured with the following principles:

Stay Efficient

Nebula selects high-performance hardware. With a variety of cache optimization technologies for video surveillance storage, the equipment can work continuously and stably with high performance.

Stay Reliable

Reliability is the most important element for a storage system, because a robust storage system ensures the access to video record all the time.

Kinds of carrier-class hardware design ensure high reliability and ability of 7*24 hours' continuous work. Powerful RAID engine and ways of data security technology make a great improvement on data reliability, Nebula never lose a second of video footage.

Stay Cost-effective

Nebula has high density, intelligent frequency modulation CPU, multistage fan speed control technology, and easy maintenance, all the features help customers to stay cost-effective.

Contents

Milestone

16 years R&D experience

2019-

More than **3000 Petabyte** capacity of storage has been delivered

Only 0.3% HDD failure rate

2018

213 Technical patents for IP Storage products

2017

UNV IP Storage was introduced **into international market**

2013

No.1 Chinese market share of iSCSI storage for 20 quarters

2011

No. 1 IP SAN revenue in Chinese market for 17 quarters continuously

2005

Released **1st generation IP SAN** product line

2004

Established storage department

Product Family

VX1600-C Series

VX1616-C
3U / 16 bays
Single Controller

VX1624-C
4U / 24 bays
Single Controller

VX1800-V2 Series

VX1824-V2
4U / 24 bays
Single Controller

VX1848-V2
4U / 48 bays
Single Controller

VX3000-V2 Series

VX3024-V2
4U / 24 bays
Dual Controller

VX3048-V2
4U / 48 bays
Dual Controller

VX3060-V2
4U / 60 bays
Dual Controller

VX3060-V2@S
4U / 60 bays
Single Controller

Expansion Unit

DE1824-V2
4U / 24 bays

DE1848-V2
4U / 48 bays

DE3124-V2
4U / 24 bays

DE3148-V2
4U / 48 bays

DE3160-V2
4U / 60 bays

DE3160-V2@S
4U / 60 bays

Hardware & Software Architecture

Hardware Architecture

Specially Designed Front Panel

Dust-proof screen and sulfide alarm module at front panel, HDD status indicator light.

Anti-Vibration HDD Module

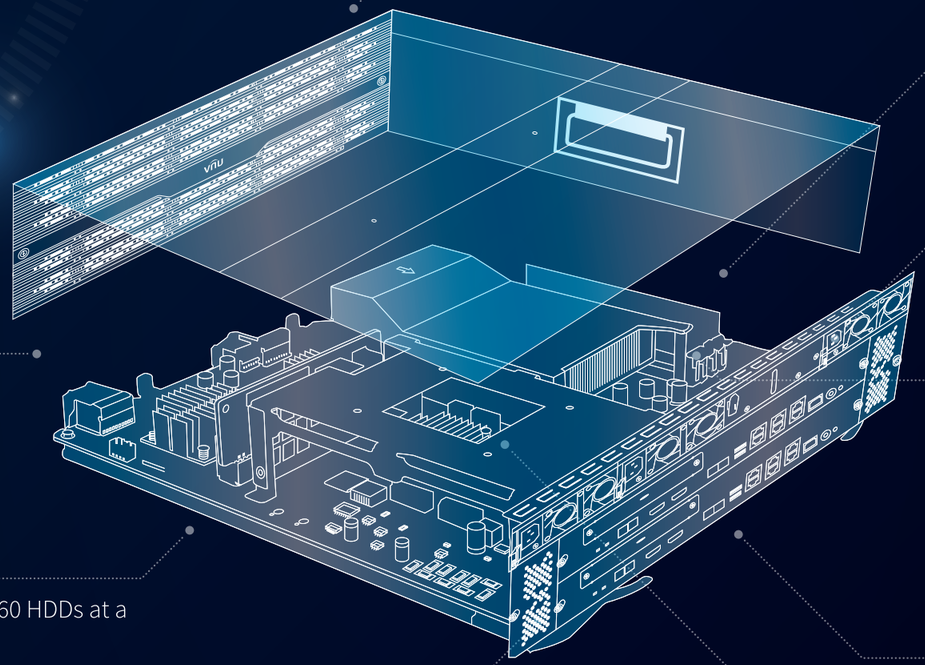
Aseismic design and damping gasket of hard disk bracket.

Ultra-High Density

The unique hardware structure supports 60 HDDs at a height of 4U.

Multiple Interface Module Optional

4 ports GE Interface or 4 ports 10GE Interface or 2 ports 10GE Interface.



Easy to Maintain

Draw-out design, front panel HDD hot swappable.

High Speed PCI-Express 3.0 Bus

Single channel bandwidth is 8Gbps.

Mini SAS Ports

Single port supports 12Gbps.

Cache Data Safe Box

Built-in battery module ensures the write cache data is rescued by data reset safe box in case of sudden power failure.

Redundant Modular Design

Replace failed modules with online device, redundant fans, redundant power, and redundant batteries.

Intelligent CPU

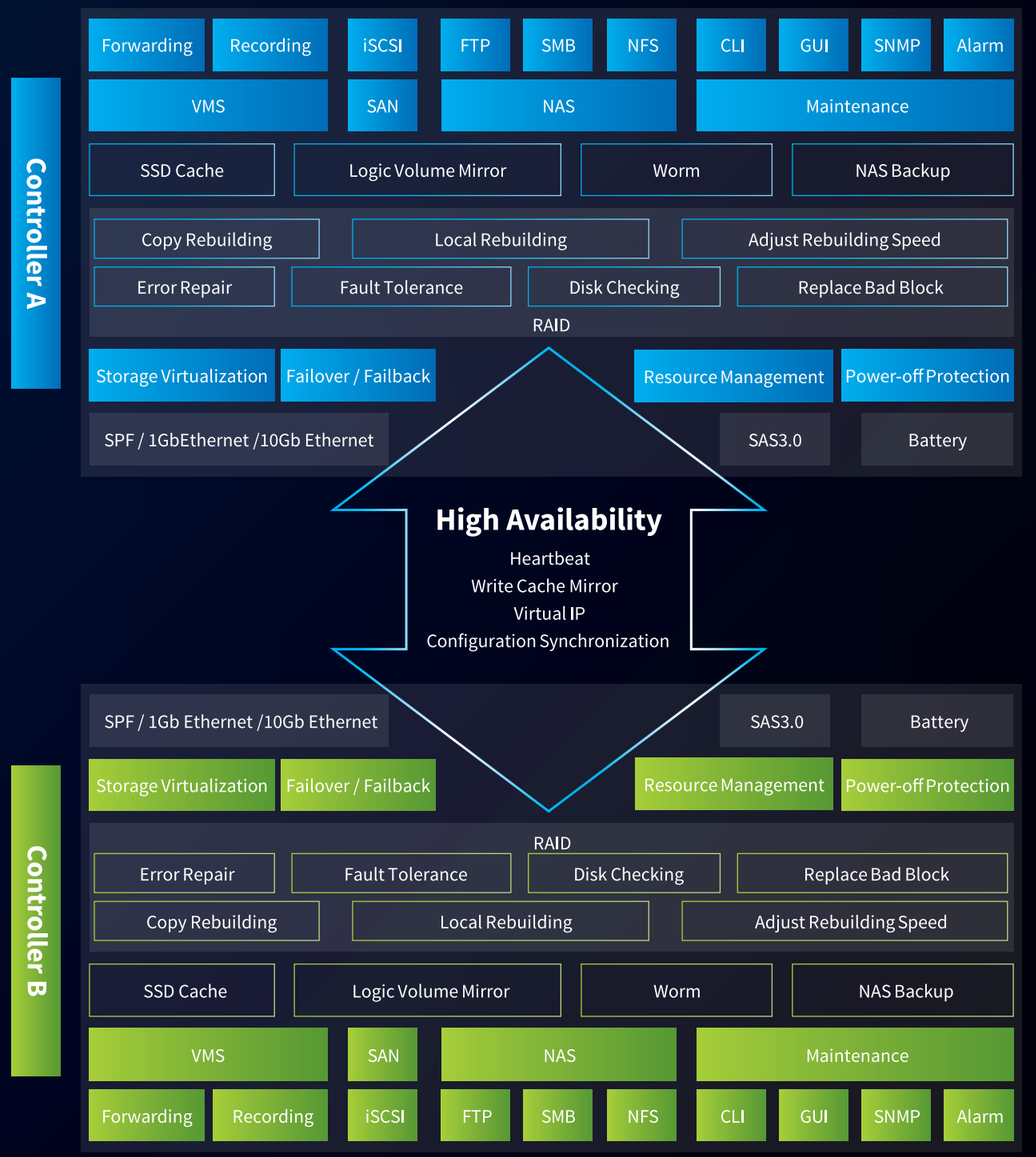
64-bit Multi-Core Processor, intelligent frequency modulation CPU saves energy.

Software Architecture

Nebula, with high performance, high reliability, high availability, high density, high scalability and high usability, is a new-generation unified network storage developed especially for video surveillance.

One of the Nebula which we called VX30 series, as a dual controller storage, when the main controller detects the fault of the other controller, it takes over the work of the fault controller automatically. Between the two controllers, write caches switch data by ×16 PCIe3.0, to ensure the integrity of the user data after failover. When the hot standby controller takes over the fault controller, the virtual IP of fault controller will migrate to the hot standby controller to ensure the continuity of the service.

Integrating a range of features such as iSCSI storage, RAID processing, failover protection, permanent data protection and cutting-edge disk management technology, this device offers concurrent block access performance (iSCSI), thus becoming a comprehensive solution for video surveillance storage.

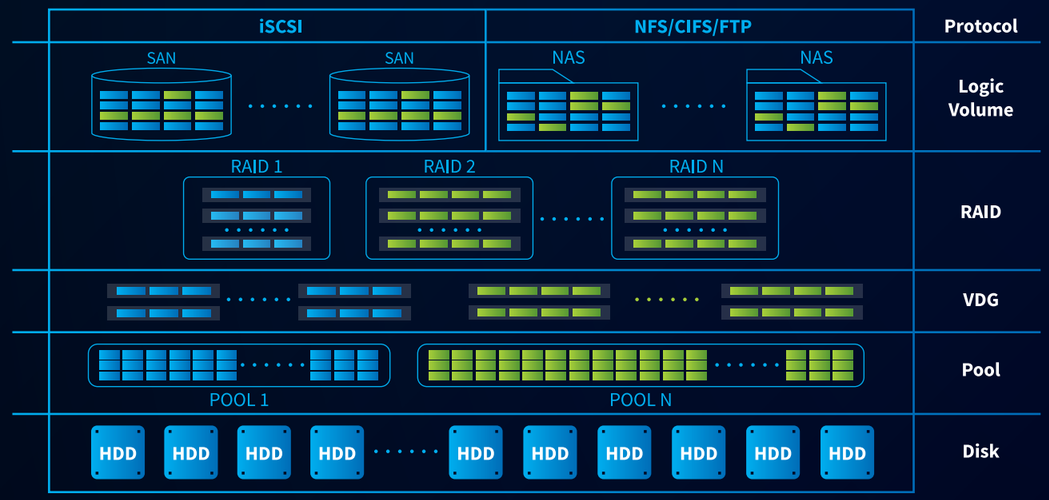


Product Features

Application Mode

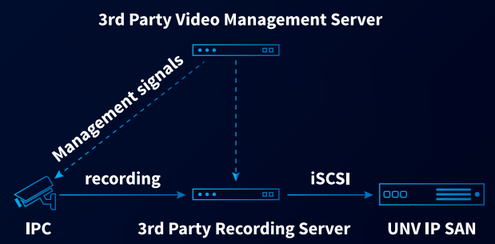
NAS and SAN Supported

UNV IP storage supports NAS and SAN mode, which belongs to the LV layer of UNV IP storage software platform. NAS has its own file system and provides external file access services through NFS or CIFS, FTP network sharing protocol and file transfer protocol, while SAN provides external data access to data blocks through iSCSI protocol.

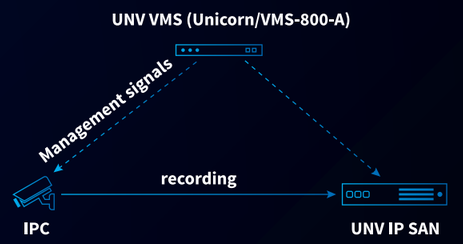


UNV IP Storage Software Structure

UNV VMS mode and 3rd-party VMS mode



Compatible with 3rd-party VMS through iSCSI protocol.

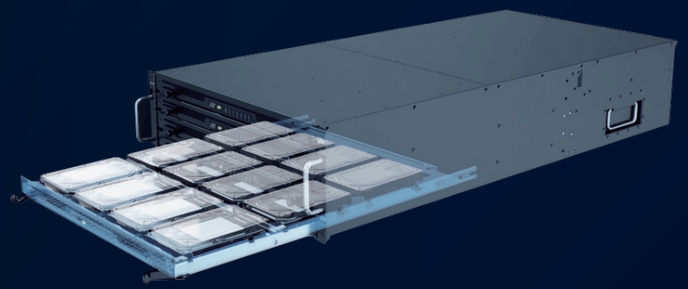


Support direct storage and N+M storage when working with UNV VMS.

Hardware Features

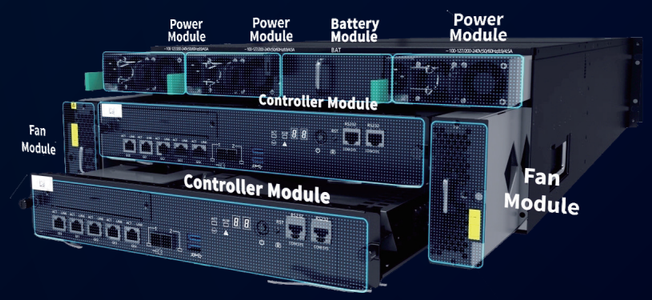
High Density Design

UNV VX3060 is one of Nebula's products, adopts 60 bays with 4U height high density design to save room space. For ease of maintenance and safety, when replacing the hard disk, only the drawer corresponding to the disk needs to be pulled out, not the whole equipment, which avoids the risk of the cabinet overturning and interruption during the recording process.



Fully Modular Redundant Design

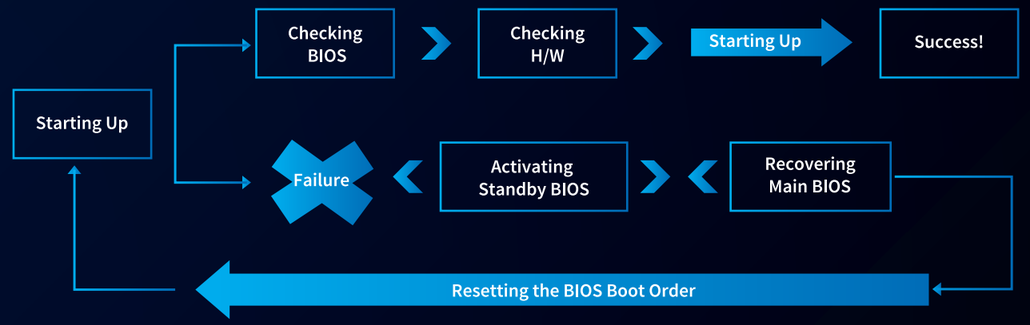
Controller, power supply, fan, battery, host interface board and other main components adopt modular redundant design, and Nebula support single component to be hot-swapped and replaced online.



Dual BIOS

Nebula's host uses dual BIOS design to ensure more reliable host system startup and safer BIOS online upgrade.

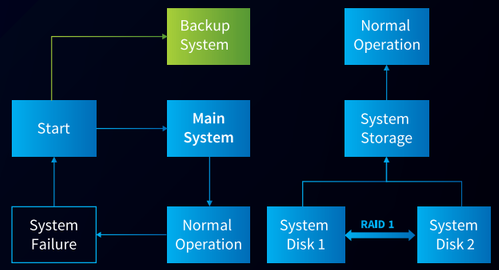
In the case of BIOS chip hardware failure or BIOS program is rewritten, the host will automatically detect the fault at startup, once the fault is found, the host will automatically switch to standby BIOS boot, and will automatically alarm to prompt the current system running in standby BIOS.



More Reliable System

Dual System: Nebula support dual system, provide main system and backup system. If one system disk fails, it starts with another system disk.

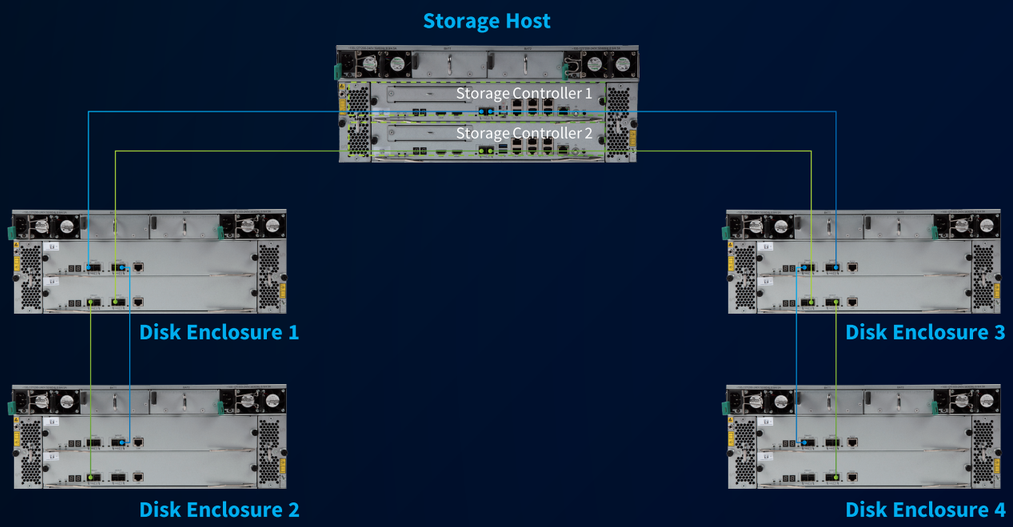
Nebula also supports system disk RAID1. During the operation of the equipment, if one system disk fails, the other system disk continues to work. The equipment continues to run without interruption.



Easy to Expand Storage Capacity

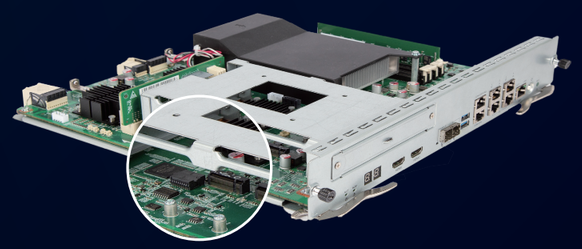
For UNV VX1800 and VX3000 series storage, each controller supports 2 mini-SAS ports, one storage host can connect to maximum 4 disk enclosures for storage expansion. Each mini-SAS port is recommended to connect 2 disk enclosures.

For UNV dual controller storage, the actual wiring mode is shown in the picture. Both main and backup controllers connect with the 4 disk enclosures by mini-SAS ports. Even if the wiring or one of the mini-SAS ports has malfunction, the system works smoothly.



Cable-free Structure

Reduced the electromagnetic interference between devices connected on the storage internal circuit board, improved the stable application of the equipment



Anti-dust Design

In order to prevent the high failure rate of disk caused by severe dust, the dust prevention measures of Nebula are designed with replaceable dust-proof net at the air inlet panel. When the dust prevention net is seriously blocked, the system detects the high temperature of disk and warns you to clean the dust-proof net . It is recommended to clean the dust-proof net regularly, because the accumulation of dust in the dust-proof net will lead to serious decline of ventilation effect.

Anti-sulfide Alarm Design

Sulfide corrosion is a common serious problem. Due to air pollution, especially in industrial areas (coal-fired power plants, steel mills, etc.), the air contains high sulfur, and the exposed PCBA connection and welding disk vulcanization in such environments are more severely sulfurized, thus making the disk more easy to fail. In order to prevent the disk sulfidation and corrosion, Nebula has the anti-sulfide warning module. Once the sulfide in the air exceed the standard, the anti-sulfide warning device on the panel will remind the customer of the air pollution exceeding the standard, and the room environment needs to be improved.

Anti-vibration Design

Vibration is an important inducement of disk failure, it may occur by other disks or other rack equipments. Nebula anti-vibration technology has the following three advantages:

1 Shock absorption on the disk module

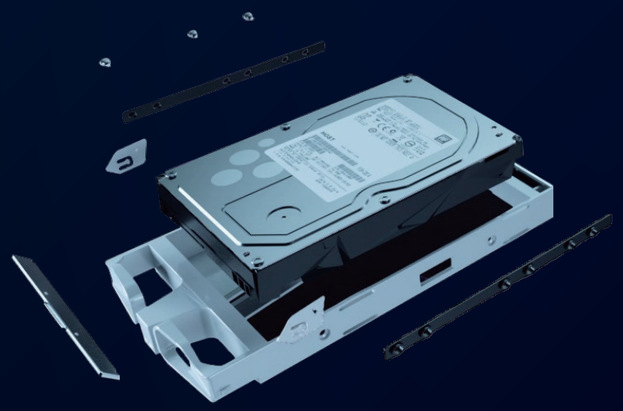
As shown in the figure, there is a buffer between the handle bar and the disk, which is called the damping gasket. The damping gasket is made of an elastomer material that absorbs shock and vibration and blocks the vibration from the handle to the disk.

2 Optimize the way of disk reading and writing to avoid resonance

Disk resonance would be caused when all disks are reading and writing at the same time, resulting in longer disk response time or other disk problems. For monitoring applications, resources are deployed in recommended configurations to avoid resonance in a disk cabinet.

3 Shock absorption on other vibration sources

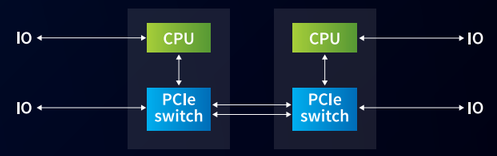
There is also a damping gasket between the PCB fixing bracket and the fan box base bracket. The vibration of the fan is transmitted to the base bracket. With the help of the damping gasket, the vibration cannot be transmitted to PCB bracket, PCB and back panel, so it will not affect the disk and hence realize shock-proof.



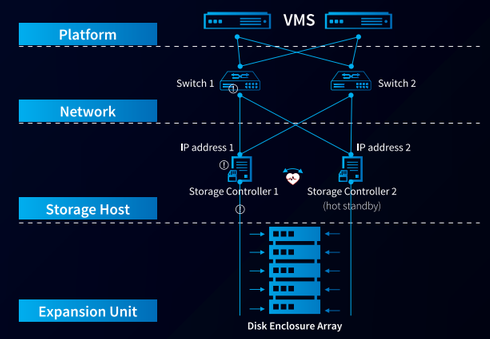
Dual Controller

The dual controllers realize high-speed mirroring cache, which mirrors the data between controllers. When the controller fails to switch over, the mirroring cache automatically goes online to support the service, ensuring the data security and consistency of the system at all times.

The storage dual-control software realizes the active-active mode fault protection between dual-storage controllers. No matter which controller is down, the terminal controller will take over the service of the fault controller. After the fault machine is restored, automatic fault recovery will be conducted to ensure the continuity of service.



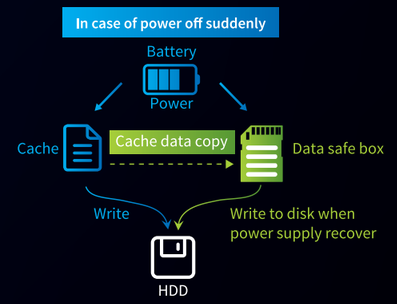
The two storage controllers communicate and synchronize the configuration information and state information of the controller. When one of the storage controller fails to operate, the IP (FC Target port) changed to the other storage controller from the failed controller, and take over all of the operations. Before switching the controller, it must be tested, including front-end ports state, the state of each business module, storage configuration library status and more.



Cache Data Safe Box

When confronting power failure, if the cache data is not protected, the data will be lost, resulting in inconsistent data, so we provide a protection measure.

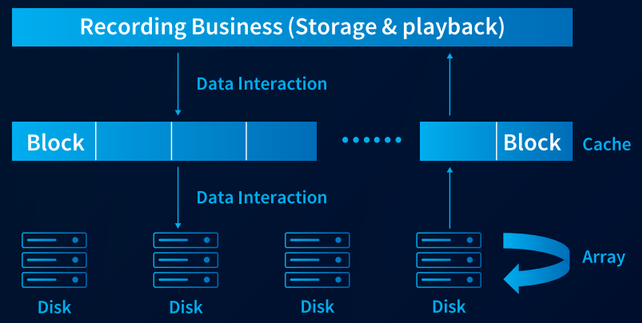
Nebula are equipped with batteries. When the system is abnormally powered down, the battery can supply power. At this time, the write cache will automatically load the data to the data safe box to ensure data safety.



Software Features

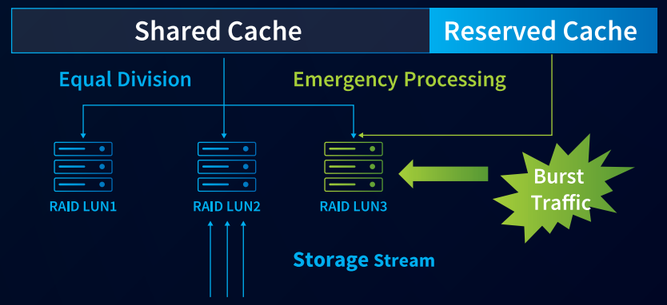
Optimized Cache Algorithm

Caching is based on RAID LUN, both read and write caches are used in blocks, that means caches are divided into lots of blocks of the same size. Optimized cache algorithm is specially designed for video surveillance industry. It is beneficial to dispose the data interaction between surveillance business and the lower disk array. At the same time, it can improve read/write performance.



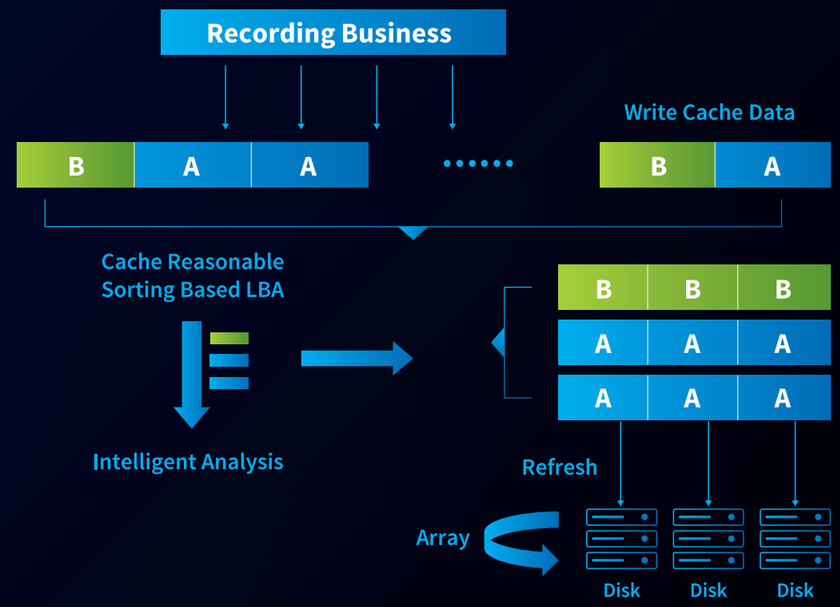
Cache Partition

Storage cache is divided into two parts. One part is the shared cache, which is dedicated for different RAID. Another part is called the reserved cache, which is prepared for the RAID LUN which is getting busy suddenly. Cache partition increases the utilization and the storage servers can reach a better performance with fewer caches.



Cache Reasonable Sorting

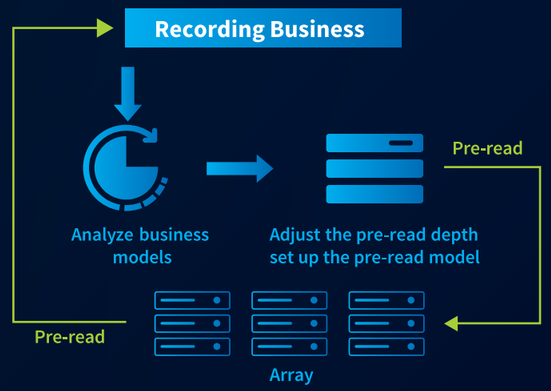
Cache refresh means the data which has been written to the cache need to be written to the back-end storage according to certain rules. Cache refresh algorithm uses LBA to perform intelligent analysis and sorting. Both random and sequential writes can integrate data in the cache efficiently and intelligently, enhancing cache performance.



Cache Pre-read

The cache can automatically recognize the sequential reads of the current IO, and according to the business model to start/stop pre-read function dynamically. Besides that, cache pre-read can set a suitable pre-read model automatically. Both the two functions can improve the read performance of the system.

For video surveillance business, the cache technologies of Nebula have many outstanding advantages in terms of high performance and high security. The main advantages are as follows.



1 Read/write cache size is adjusted according to the actual situation. The physical space of read/write cache is separated. According to the characteristics of video surveillance service, the size of read/write cache is adjusted to achieve the optimal allocation.

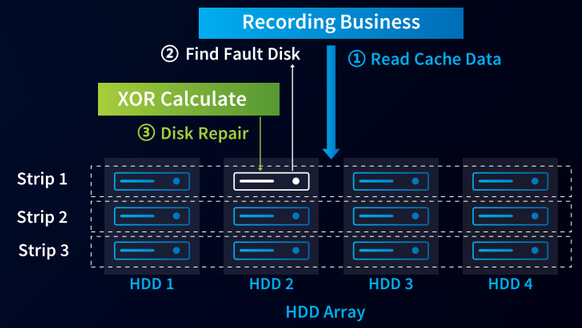
2 An efficient cache dispatch is used to automatically adjust the cache according to the array's pressure. There is no performance bottleneck in a single array, and the using ratio of cache is high in the whole system.

3 The high performance optimized cache algorithm, cache pre-read, cache reasonable sorting and cache partition can improve the I/O performance of the whole system.

4 High security, which means the cache data will be saved in the “cache safe box” automatically when power supply broke down. High-speed mirroring cache is supported to ensure high reliability and security of data at all times.

Sector Repair

When a read failure occurs on array, the fault data can be repaired by XOR calculation through other data in the same stripe as long as the fault is logical, not physical. This repair also takes effect if we set a periodical inspection.

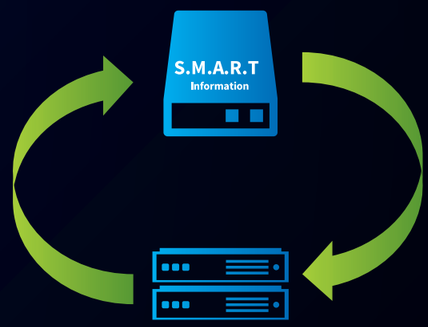


S.M.A.R.T Pre-copy

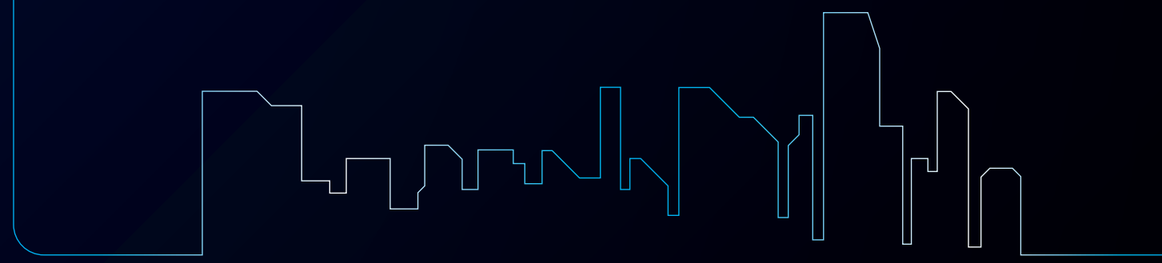
Hard disk pre-copying technology is to obtain the first hand hard disk state information through hard disk prediction technology. The full name of S.M.A.R.T is Self-Monitoring Analysis and Reporting Technology.

The intelligent pre-copying algorithm judges these running status to analyze the expiration of hard disk, and copy the hard disk data with high risk to the hot spare disk in advance.

Get Self-Monitoring，Analysis and Reporting Technology Information



When S.M.A.R.T. information indicates that a disk is about to fail, the data in this disk will be copied to the hot spare disk in advance.



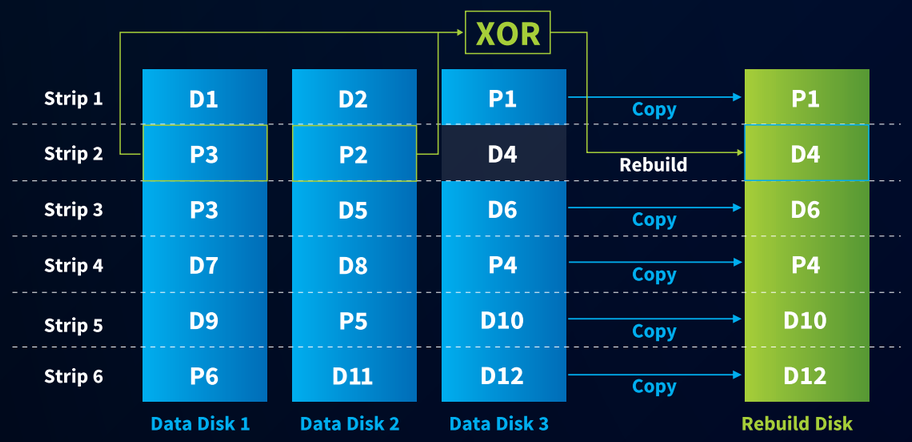
Multiple Rebuild Methods

Quick Rebuild

A quick rebuild would be triggered when a block in the data disk fails to be repaired due to media error or other factors. During the rebuilding process, the correct block data is copied directly from the disk where the writing error occurred to the rebuild disk; writing error block data can be calculated from other disk block data without errors and written to the rebuild disk.

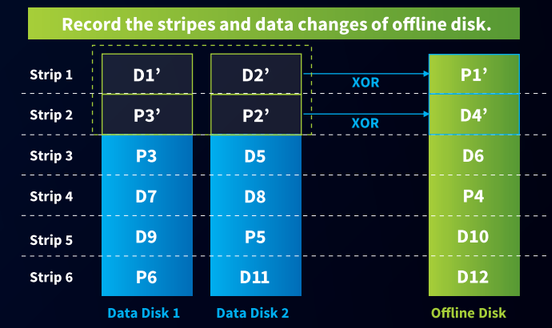
Advantages:

- Compared with the traditional rebuilding, the rebuilding efficiency is significantly improved by reducing the number of I/O reads and calculations.
- It reduces the risk of user data loss and improves the data protection ability.
- Effectively ensures the security and continuity of user business.



Unperceived Partial Rebuild

When a data disk in a RAID array is temporarily powered down, it will be kicked out in traditional RAID array, taking a long time to rebuild the data of retire disk. Nebula provides “unperceived partial rebuild technology,” which records the stripes and data changes of offline disk. After the disk is back online, only the strips with changed data will be rebuilt and the rebuilding time can be shortened to seconds.

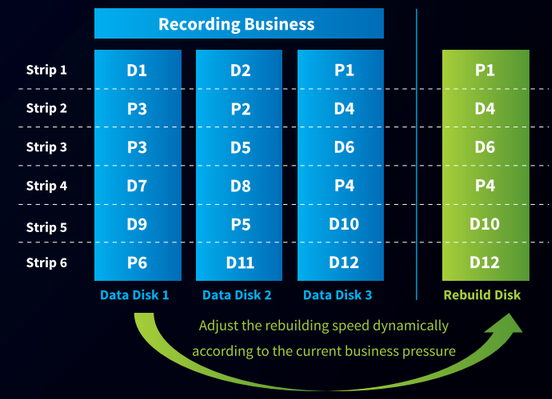


Advantages:

- Only the stripes whose data has changed are rebuilt, and the rebuilding time is reduced to seconds.
- It reduces the disk failure rate, improves disk utilization rate and saves hardware cost.
- It reduces the risk of user data loss and improves the data protection ability.
- Effectively ensures the security and continuity of user business, upper business will not be interrupted.

Dynamically Adjust the Rebuild Speed

Nebula can adjust the rebuilding speed dynamically according to the current business pressure; when the business is very busy, storage servers will reduce the rebuilding speed of RAID automatically, and reduce the impact of reconstruction on business performance, to ensure the daily business operation; when the business is not busy, storage servers will improve the rebuilding speed, effectively improve the utilization of system resources.



Advantages:

- It improves system resource utilization without affecting business.
- Intelligent scheduling, convenient management, effectively reduce the cost of operation and maintenance.

Specifications

Model	VX1616-C	VX1624-C
Appearance		
Controller	Single	Single
Video Input	Up to 320 channels /640Mbps	Up to 320 channels /640Mbps
Front-end Service Interface	3-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional)	3-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional)
Back-end Expansion Interface	N/A	N/A
RAID	JBOD and RAID 0,1, 5, 6 Dedicated hot-spare disk and global hot-spare disk	JBOD and RAID 0,1, 5, 6 Dedicated hot-spare disk and global hot-spare disk
Protocol	iSCSI	iSCSI
Processor	Intel 64-bit multi-core processor	Intel 64-bit multi-core processor
Memory	4GB	4GB
HDD	16 SATA interfaces	24 SATA interfaces
Features	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box
Power Supply	1 Default, 1 Optional	1 Default, 1 Optional
Fan	1+1 Redundant	1+1 Redundant
Consumption	Controller enclosure: <200 W (fully configured)	Controller enclosure: <280 W (fully configured)
Weight	Controller enclosure: Fully configured: <24 kg	Controller enclosure: Fully configured: <32 kg
Dimensions (H×W×D)	Controller enclosure: 131mm×481.6mm×583mm	Controller enclosure: 175.0mm×481.6mm×583.0mm
Disk Enclosure	N/A	N/A

Model	VX1824-V2	VX1848-V2
Appearance		
Controller	Single	Single
Video Input	Up to 512 channels /1024Mbps	Up to 512channels /1024Mbps
Front-end Service Interface	5-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP＋interface module(optional) 4-port 10 GE SFP＋interface module(optional)	5-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP＋interface module(optional) 4-port 10 GE SFP＋interface module(optional)
Back-end Expansion Interface	2-port 4×12 Gbps Mini SAS HD	2-port 4×12 Gbps Mini SAS HD
RAID	JBOD and RAID 0,1, 10, 5, 50, 6 Dedicated hot-spare disk and global hot-spare disk	JBOD and RAID 0,1, 10, 5, 50, 6 Dedicated hot-spare disk and global hot-spare disk
Protocol	iSCSI	iSCSI
Processor	Intel 64-bit multi-core processor	Intel 64-bit multi-core processor
Memory	8 GB, up to 64 GB	8 GB, up to 64 GB
HDD	24 SATA interfaces	48 SATA interfaces
Features	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box
Power Supply	1 Default, 1 Optional	1 Default, 1 Optional
Fan	1+1 Redundant	1+1 Redundant
Consumption	Controller enclosure: <350 W (fully configured)	Controller enclosure: <600 W (fully configured)
Weight	Controller enclosure: Fully configured： < 43 kg	Controller enclosure: Fully configured: <60 kg
Dimensions (H×W×D)	Controller enclosure: 175.0mm×481.6mm×589.0mm	Controller enclosure: 178mm×481.6mm×801mm
Disk Enclosure	DE1824-V2	DE1848-V2

Model	VX3024-V2	VX3048-V2
Appearance		
Controller	Dual	Dual
Video Input	Up to 512 channels /1024Mbps	Up to 512 channels /1024Mbps
Front-end Service Interface	10-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP+ interface module(optional) 4-port 10 GE SFP+ interface module(optional)	10-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP+ interface module(optional) 4-port 10 GE SFP+ interface module(optional)
Back-end Expansion Interface	4-port 4*12 Gbps Mini SAS HD	4-port 4*12 Gbps Mini SAS HD
RAID	JBOD and RAID 0,1,10, 5, 50,6 Dedicated hot-spare disk and global hot-spare disk	JBOD and RAID 0,1,10, 5, 50,6 Dedicated hot-spare disk and global hot-spare disk
Protocol	iSCSI	iSCSI
Processor	Intel 64-bit multi-core processor	Intel 64-bit multi-core processor
Memory	Default 16 GB (Up to 128 GB optional)	Default 16 GB (Up to 128 GB optional)
HDD	24 SATA/SAS/NL SAS interfaces	48 SATA/SAS/NL SAS interfaces
Features	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box
Power Supply	1 Default, 1 Optional	1 Default, 1 Optional
Fan	1+1 Redundant	1+1 Redundant
Consumption	Controller enclosure: <550W (fully configured)	Controller enclosure: <700W (fully configured)
Weight	Controller enclosure: Fully configured: <45kg	Controller enclosure: Fully configured: <68 kg
Dimensions (H×W×D)	Controller enclosure: 175mm×482mm×589mm	Controller enclosure: 178mm×482mm×801mm
Disk Enclosure	DE3124-V2	DE3148-V2

Model	VX3060-V2	VX3060-V2@S
Appearance		
Controller	Dual	Single
Video Input	Up to 512 channels /1024Mbps	Up to 512channels /1024Mbps
Front-end Service Interface	10-port 10/100/1000 Mbps Ethernet interface 4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP+ interface module(optional) 4-port 10 GE SFP+ interface module(optional)	4-port 10/100/1000 Mbps Ethernet interface module(optional) 2-port 10 GE SFP+ interface module(optional) 4-port 10 GE SFP+ interface module(optional)
Back-end Expansion Interface	4-port 4*12 Gbps Mini SAS HD	2-port 4×12 Gbps Mini SAS HD
RAID	JBOD and RAID 0,1,10, 5, 50,6 Dedicated hot-spare disk and global hot-spare disk	JBOD and RAID 0,1, 10, 5, 50, 6 Dedicated hot-spare disk and global hot-spare disk
Protocol	iSCSI	iSCSI
Processor	Intel 64-bit multi-core processor	Intel 64-bit multi-core processor
Memory	Default 16 GB (Up to 128 GB optional)	8 GB, up to 64 GB
HDD	60 SATA/SAS/NL SAS interfaces	60 SATA interfaces
Features	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box	Optimized Cache Algorithm Redundant Modular Design Anti-Dust & Sulfide Alarm Anti-Vibration HDD Module Fault Sector Repair Two Level of Remap S.M.A.R.T. Pre-Copy Tech No Sense Partial Rebuild Copy Rebuild Cache Data Safe Box
Power Supply	2 Default, 1 Optional	2 Default, 1 Optional
Fan	1+1 Redundant	1+1 Redundant
Consumption	Controller enclosure: <1000W (fully configured)	Controller enclosure: <900W (fully configured)
Weight	Controller enclosure: Fully configured: <96kg	Controller enclosure: Fully configured: <93kg
Dimensions (H×W×D)	Controller enclosure: 178mm×482mm×981mm	Controller enclosure: 178mm×482mm×981mm
Disk Enclosure	DE3160-V2	DE3160-V2@S

Model	DE1824-V2	DE1848-V2	DE3124-V2
Appearance			
Cooperate With	VX1824-V2	VX1848-V2	VX3024-V2
Management Interface	2 Serial port	2 Serial port	2 Serial port
Back-end Expansion Interface	2-port 4*12 Gbps Mini SAS HD	2-port 4*12 Gbps Mini SAS HD	4-port 4*12Gbps Mini SAS HD
HDD	24 SATA Interfaces	48 SATA Interfaces	24 SATA/SAS/NL SAS Interfaces
Disk Capacity	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB
Dimension(W x D x H)	482mm X589mm X 175mm	482mm X801mm X 178mm	482.0mm × 589.0mm × 175.0 mm
Power Consumption	250W (fully loaded)	410W (fully loaded)	270W (fully loaded)
Power Supply	100V – 127V/200V – 240V AC ; 60Hz/50Hz	100V – 127V/200V – 240V AC ; 60Hz/50Hz	100V – 127V/200V – 240V AC ; 60Hz/50Hz
Weight	Fully loaded： < 38kg	Fully loaded： 60< kg	Fully loaded： < 40kg
Authentication certificate	CE, FCC, UL	CE, FCC, UL	CE, FCC, UL
Operating temperature	5°C ~ 40°C / 41°F ~ 104°F	5°C ~ 40°C / 41°F ~ 104°F	5°C ~ 40°C / 41°F ~ 104°F
Recommended temperature	10 °C~ 35 °C / 50°F ~ 95°F	10 °C~ 35 °C / 50°F ~ 95°F	10 °C~ 35 °C / 50°F ~ 95°F
Humidity	20%~80% RH (non-condensing)	20%~80% RH (non-condensing)	20%~80% RH (non-condensing)

Model	FB-IN4GA-NB	NI-BCBB-NB	PWR-AC300W-NB
Appearance			
Brief Description	4 Port Gigabit Ethernet Interface Module	Battery Module	300W Power Module of Network Storage
Used for	All Series Storage Server	VX1600-C Series	VX1600-C Series

Model	DE3148-V2	DE3160-V2	DE3160-V2@S
Appearance			
Cooperate With	VX3048-V2	VX3060-V2	VX3060-V2@S
Management Interface	2 Serial port	2 Serial port	2 Serial port
Back-end Expansion Interface	4-port 4*12Gbps Mini SAS HD	4-port 4*12Gbps Mini SAS HD	2-port 4*12Gbps Mini SAS HD
HDD	48 SATA/SAS/NL SAS Interfaces	60 SATA/SAS/NL SAS Interfaces	60 SATA/SAS/NL SAS Interfaces
Disk Capacity	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB	1 TB, 2 TB, 3 TB, 4 TB , 5 TB, 6 TB,8TB,10TB, 12TB,14TB
Dimension(W x D x H)	482.0mm × 801.0mm × 178.0 mm	480.6mm× 981.0mm × 178.0 mm	
Power Consumption	450W (fully loaded)	700W (fully loaded)	700W (fully loaded)
Power Supply	100V – 127V/200V – 240V AC ; 60Hz/50Hz	100V – 127V/200V – 240V AC ; 60Hz/50Hz	100V – 127V/200V – 240V AC ; 60Hz/50Hz
Weight	Fully loaded： < 61 kg	Fully loaded： < 92 kg	Fully loaded： <90 kg
Authentication certificate	CE, FCC, UL	CE, FCC, UL	CE, FCC, UL
Operating temperature	5°C ~ 40°C / 41°F ~ 104°F	5°C ~ 40°C / 41°F ~ 104°F	5°C ~ 40°C / 41°F ~ 104°F
Recommended temperature	10 °C~ 35 °C / 50°F ~ 95°F	10 °C~ 35 °C / 50°F ~ 95°F	10 °C~ 35 °C / 50°F ~ 95°F
Humidity	20%~80% RH (non-condensing)	20%~80% RH (non-condensing)	20%~80% RH (non-condensing)

Model	BAT-LA5800-NB	NI0M1DPS700
Appearance		
Brief Description	Battery Module	700W Power Module of Network Storage
Used for	VX1800/VX3000 Series	VX1800/VX3000 Series

Successful Cases

Beijing Capital International Airport, Beijing, China

Background

Beijing Capital International Airport is the most important, largest and busiest international aviation hub with the state-the-art facilities.

Solution

The project “Terminal building renovation and expansion project”, chose UNV Airport Surveillance Solution. It used 1080P outdoor PTZ Dome, HD camera, HD encoder & decoder and IP SAN&VMS to protect airport’s security. The capacity was over 3 PB. It was the first time that the HD surveillance is used in capital international airport.

Highlight:

PTZ dome cameras help to monitor the parking lot, enabling quick trace, positioning and analysis.

UNV delivered the total solution, which ensures the safe operation of the airport and improves operational management.

Tsinghua University, Beijing, China

Background

As one of China’s most prestigious and influential universities, Tsinghua is committed to cultivating global citizens who will thrive in today’s world and become tomorrow’s leaders.

Solution

This surveillance project was divided into two parts, one was logistics group, and the other was safe campus. Both used UNV video surveillance solution and products.

Highlight

The Tsinghua University project adopted UNV end-to-end solution.

More than 1800 UNV IP Cameras and ITS cameras kept no blind spot surveillance.

Over 5 PB professional IP Storage made recording efficient and reliable.

VMS platform realized the unified management and scheduling.

Alibaba Enterprise Park, Hangzhou, China

Background

Alibaba is one of the largest e-commerce platforms in the world. UNV provided surveillance solution in Alibaba Binjiang enterprise park, Alibaba Xixi enterprise park, Alibaba Shoukai enterprise park.

Solution

The total solution used 2000+ channels HD IPC, high definition images improved user experience. All of the videos were recorded in professional network storage, with total capacity over 7 PB. At the same time this surveillance platform integrated the access control system of Alibaba enterprise park, and the platform interface was standard, stable and easy to use, which reduced the development and operation costs of partners.

Highlight

UNV IP SANs direct storage technology is safe and reliable, and this system could be retrieved in seconds, so as to ensure playback quickly in case of emergencies and improved the response speed.

Affordable Housing Surveillance, Qatar

Background

In order to meet the needs of 2022 World Cup venues and other infrastructure as well as improving living conditions for more than one million foreign workers, Qatar built affordable housing. This affordable housing covers an area of 994,567 square meters and includes 3,170 building units, shops and mosques. Uniview provided total surveillance solution, the devices covered infrastructure and private courtyards.

Solution

To ensure the 24/7 surveillance under the low light, large-scale and complicated conditions, Uniview used 7120 channels IPC, and 4U-48 bays professional IP Storage (over 14PB storage capacity), VMS, and provided total end-to-end solution. Besides that, VMS 1+1 function and IP Storage N+1 function, which ensured the high redundancy, high reliability, high stability.

Highlight

IP67 protection grade, effectively resists bad weather, especially dust weather.

VMS has strong management performance that accessing up to 30000 IPCs, provides strong scalability for the later stage of the project.

Hilton Hotel and Spa Resort RAK, UAE

Background

Hilton Hotel and Spa Resort RAK, Hilton Al Hamra Beach & Golf Resort, Hilton Residence and Village.

Solution

Hilton Hotels and Resorts surveillance project, Uniview provided 1000 channels IPC and professional IP Storage. Not only IPC, but also 3PB’s IP Storage, were integrated by 3rd party VMS, and this structure was used to solve out the long time surveillance recording problem.

Highlight

All-weather adopted video surveillance: corridor mode, WDR, anti-corrosion.
High level data safety: RAID NVR.
High density mass data storage: 90 days 7/24 uninterrupted storage.
Management ability: Up to 1000 cameras connection.