16 HDD Enterprise Video Storage

RAID Support

- High-performance Intel Processor
- 320 Channels at 2 Mbps Video Recording plus 160 Channels Video Transfer, maximum (Dahua Protocol)
- 640 Mbps Incoming/Recording Bandwidth, maximum
- 16 HDDs, SAS/SATA, Hot-Swap
- Supports RAID 0/1/3/4/5/6/10/50/60/JBOD, Hotspare
- Supports Standard iSCSI Protocol for Expanded Storage Space
- Modular Design
- Redundant Power
- Five-year Warranty*

System Overview

The EVS5016S-R Enterprise Video Storage device offers unparalleled storage technology. It is designed and developed to meet the needs of medium-range to high-end IP video surveillance applications; and supports 320 IP camera channels with 640 Mbps incoming/recording/forwarding bandwidth.

Combined with hot-swap power supplies, fans, and hard disk drives, the EVS offers Enterprise Class availability. This EVS is ideal for a wide range of applicatons including Retail, Agriculture, Gaming, Healthcare. and commercial that demand flexibility, reliability and centralized storage management.

This EVS is compatible with numerous third-party devices making it the perfect soluton for security systems with or without a video management system (VMS). Its open architecture supports multi-user access and is compatible with ONVIF 2.4.

Functions

Modular Design

The Enterprise Video Storage is rack mountable and designed to manage up to 320 channels of digital video for scalability. Powered by Intel® technology, the unit features dual redundant power supplies and a hot-swappable configuration to ensure stability.

Storage Extension Capacity

Local extension, connect to ESS extension storage by mini SAS interface. Extension storage support redundant power and RAID.

RAID Support

The Enterprise Video Storage device provides the processor and RAID enclosure in one chassis, resulting in both space and cost savings. RAID 0/1/3/4/5/6/10/50/60 support is available through a hardware-based RAID controller that removes the loading on the processor that software RAID can bring. A convenient web browser interface is used to manage the RAID controller.

Video Recording Capability

The Enterprise Video Storage device not only stores video data but is capable of simultaneous record, playback, live view and transmission of IP video. The device records 320 channels at 2 Mbps plus 160 channels of video transfer

N+M Hot Standby

The highly reliable redundancy N+M Hot Standby design provides a secure, failover technique ensuring immediate backup. In the event of a system failure, the slave instantly takes over the master ensuring no data is lost.

Automatic Network Replenishment (ANR) Technology

Video storage devices with the ANR function automatically store video data on an IP camera SD card when the network is disconnected. After recovery of the network, the NVR automatically retrieves the video data stored on the camera.

Interoperability

The EVS conforms to the ONVIF (Open Network Video Interface Forum) and to the CGI specifications, ensuring interoperability between network video products regardless of manufacturer.

Environmental

The storage device features a wide operating temperature range of 0° C to +40° C (+32° F to +104° F) and a working altitude range of 60 m below sea level to 5000 m above (196.85 ft to 16,404.20 ft).

*Warranty applies to products sold through an authorized Dahua Dealer.

Technical Specification

System

Main Processor	64-bit High-performance Intel Processor
Controller	Single Controller
Memory	4 GB by default
Operating System	Embedded LINUX
User Interface	Web-based

Working Mode

Video Stream Mode	320 Channels, maximum 640 Mbps for incoming and recording 160-channel (320 Mbps) forwarding 32-channel (64 Mbps) playback
Transfer Mode	Front-end Connection: 4096 Mbps Network Transfer: 4096 Mbps
IP SAN Mode	Storage bandwidth shall not be less than 2.4 Gbps

Storage

HDD Capacity	16 HDDs, Up to 10 TB capacity for each HDD SATA HDD composite connection
Mini-SAS	One (1) Port, for storage extension
HDD Installation	Additional HDD Bracket, HDD Hot-swap, HDD Online Replacement
HDD Mode	Single, RAID 0/1/3/4/5/6/10/50/60 (Enterprise-level HDDs are recommended), JBOD, Hotspare

Storage Management

HDD Manager	Non-working HDD hibernation guarantees sound ventilation, reduced power consumption, and enhanced HDD life HDD bad track mapping to enhance HDD life span
RAID Rebuild	Dynamically adjust RAID rebuild speed to guarantee system load balance
Logic Volume Manager	iSCSI Volume Management, NAS (SMB/NFS/FTP) Volume Management
Snapshot	Snapshot function creates user volume to back data
Extract Frame	Extracting P-frame function Customized extracting period and frame rate setup
Cluster Service	N+M cluster service
Automatic Network Replenishment	After disconnection, system downloads record file from the SD card on the network camera to maintain the full record file
Shortcut RAID Creation	One-button RAID creation

Playback and Backup

Search Mode	Time/Date, Channel, Alarm, MD and Exact Search (accurate to one second)
Playback Function	Play, Pause, Stop, Fast play, Slow play, Full screen, Backup selection, Digital zoom
Backup Mode	USB Device, Network, eSATA Device

Third-party Support

Third-party Support	Dahua, AEBell, Arecont, AXIS, Dynacolor, HIKVISION, LG, Panasonic, PSIA, Samsung, Sony, Vivotec

Recording

IP Camera Input	320 Channels
Record Rate	640 Mbps
Video Recording Performance	
Dahua Protocol	320 ch at 2 Mbps plus 160 ch video transfer
ONVIF Protocol	200 ch at 2 Mbps plus 50 ch video transfer
Image Recording Performance	150 ch (image size 500 kb), no video recording
Record Mode	Manual, Schedule (Regular, Continuous), Motion Detection, Alarm
Record Interval	1 min to 120 min (default 60 min) Pre-record 1 s to 30 s, Post-record 10 s to 300 s, I-frame storage by period.

Auxiliary Interface

USB	One (1) USB 3.0
Multiplex Interface	One (1) USB 2.0 plus eSATA multiplex interface
RS232	One (1) Port, for PC communication and keyboard

Network

Interface	Two (2) Data Ports, RJ-45 (10/100/1000 Mbps)
Network Mode	Multi-address, Fault-tolerance, Load balance, Link aggregation
Network Function	HTTP, HTTPs, TCP/IP, IPv4/IPv6, UPnP, RTP, RTCP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE,DDNS, iSCSI, SMB, NFS, FTP, Alarm Server, IP Search
Max. User Access	128 Users
Smart Phone	IOS, Android
Interoperability	ONVIF 2.4, CGI Conformant

Electrical

Power Supply	100 VAC to 240 VAC, 47 to 63 Hz 1 + 1 Redundant Power
Power Consumption	< 200 W (with HDD)

Environmental

Working Conditions	0° C to +40° C (+32° F to +104° F), 10% to 80% RH
Storage Conditions	–20° C to +70° C (–4° F to +158° F), 5% to 90% RH
Working Altitude	–60.0 m to 3000.0 m (196.85 ft to 9842.52 ft)

Construction

Chassis	1.20 mm extra-thick, hot-dip galvanized steel, High accuracy aluminum alloy slider, Self-developed, patented, removable HDD bracket
Dimensions (W x D x H)	3U, 484.60 mm x 473.60 mm x 133.20 mm (19.1 in. x 18.65 in. x 5.24 in.)
Net Weight	11.0 kg (24.30 lb), without HDD
Gross Weight	16.0 kg (35.30 lb)
Installation	Standard 19-in. rack installation

Certifications

CE	EN55022, EN55024, EN50130-4, EN60950-1
Electromagnetic Compatibility	FCC CFR 47 Part 15 Subpart B ANSI C63.4-2009
UL	UL 60950-1 CAN/CSA C22.2 No.60950-1

Ordering Information

Type	Part Number	Description
16-HDD Video Storage Device	DHI-EVS5016S-R	16-HDD Enterprise Video Storage