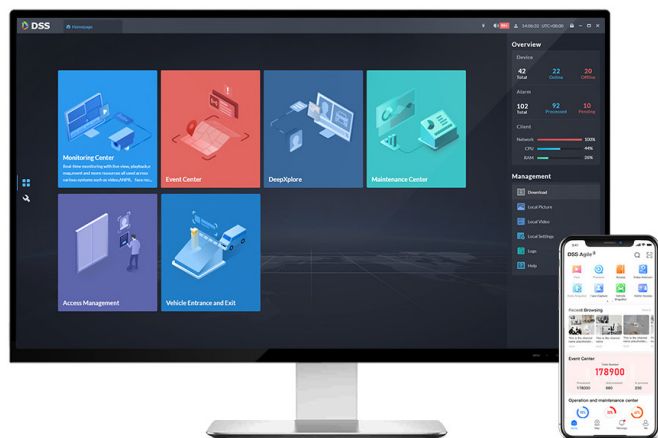**DAHUA** TECHNOLOGY

Digital Surveillance System
DSS Pro V8 Video Management System

- Integrates All Management Functions into One Client
- Allows Device Initialization and Management
- Live Video Playback from Edge Device
- Supports Access Control and Video Intercom Integration
- Configure Video Wall Layout and Scheme
- Offers Fisheye Camera Dewarping on Live View

System Overview

DSS Pro is a comprehensive and expandable Dahua VMS for flexible, scalable, reliable and powerful central management. With client-server architecture, DSS Pro provides central management, information sharing, convenient connections, and multi-service cooperation. The software provides basic functions such as user permission management, device management, alarm management, and central storage, but also delivers advanced features of video wall and map configuration, access control features, video intercom, and analytic functions such as face detection and object detection. It also integrates add-ons such as business intelligence and traffic surveillance.

Functions

Compatibility
DSS Pro is compatible with all Dahua IP-enabled devices: network cameras, NVRs, DVRs, video intercom devices, and access control devices.

Fisheye Camera Support
The software features full support for Dahua Fisheye cameras. The software supports options for the Fisheye camera installation and offers dewarp modes. Dewarping solves the problem of distortion in the circular panoramic view in both live or playback modes.

Access Control and Video Intercom
DSS Pro offers full support and integration for access control and video intercom products to support a complete security and surveillance system. The server monitors door status and events, manages access rights, and support advanced rules management. In addition to access controls, the server supports two-way communication between intercom and control center.

Video Wall
Offers settings to configure all aspects of a video wall application. The application supports video wall layout, live preview, scheme configuration, and tour setup. In addition, the application supports video wall splicing and roaming.

Management Operations
The software manages the devices and the user accounts for an entire organization. Operators can assign different camera ranges, active use periods, and business roles for each user. The server also supports different schemes for various events, including IVS, to record and view all event history information.

System Features

Business Configuration

Device Management
- Bind cameras for alarm configuration
- Initialize Dahua devices
- Add devices via auto search, IP, IP Segment, Domain, Auto-register (for 3G, 4G, DHCP)
- Manage Dahua devices
- Add third-party devices via ONVIF
- Modify Dahua device IP address and password
- Import Intercom Devices

Role and User Management*
- Manage user permissions and roles for devices and control
- Assign user to defined roles
- Assign appropriate permissions to specific users
- Restrict user access by MAC and expiration dates
- Set user PTZ permissions
- Lock users
- Import domain user and assign roles to the user

Event Management
- Set alarm type: device, video channel, alarm input, IVS alarm, thermal, vehicle block list
- Set alarm scheme: all day, weekday, weekend, or custom template
- Set alarm priority: Low, Medium, High
- Link recordings, snapshots, live video, alarm output, PTZ actions, or e-mail

Storage
- Set edge storage and central storage
- Extend central storage via iSCSI
- Create recording plan by time template: all day template, weekday template, weekend template, and custom template
- Backup video from edge storage devices (EVS, NVR, DVR, etc.) by schedule
- Backup video from MDVR, NVR, EVS, DVR via Wi-Fi
- Allocate disks and cameras to different groups to main disk quotas

NOTE: Video and image recordings cannot be on the same physical hard drive. Separate physical drives are required for video and image storage. System hard drives are only for DSS software installation.

Map
- Use Google online or offline maps, or raster maps
- Supports 8-level sub-map
- Configure camera, alarm input, and intelligent channel, and sub-map hot spots.

Video Wall
- Display/Hide the screen ID
- Supports screen combinations
- Bind the decode channel with the corresponding screen

Vehicle Block List
- Manage vehicle block lists
- Arm and disarm vehicle block lists
- Import and export vehicle block lists

Video Intercom
- Manage communication between intercom devices via SIP protocol or command center.
- Release text information to VTH, release address book to VTO
- View, delete, and freeze DSS Mobile users

System Maintenance

Backup and Restore
- Automatically backup system database (daily, weekly monthly)
- Manually backup system database
- Restore system database from a server or a local file

System Dashboard
- View overview and detailed system information
- Check CPU, storage, and bandwidth running status
- View device health report for service, device, and user online information
- View event information statistics: total and processed events
- View video and alarm channel source information

Logs
- View system, administrator, and client logs
- Search and export logs
- Set log, alarm information

Other Functions
- Supports HTTPS
- Set device time calibration

Service Management
- Delete the sub server
- Enable/Disable the sub server
- Balance server load

Control Client

Live View
- Display device tree; show/hide offline devices.
- Display device IP address or device name on the device tree
- View real-time video
- Apply a common layout (1, 4,6, 8, 9, 13, 16, 20, 25, 36, 64) or a customized layout
- Control PTZ cameras
- Set manual recording (PC or central storage)
- Take Snapshots
- Perform instant playback and digital zoom
- Apply Fisheye dewarping
- Control smart tracking for fisheye, speed dome, and panoramic cameras
- Audio talk
- Decode to a video wall
- Turn on/off the audio in live view
- Set Region of Interest: divide one window into 4 or 6 parts, one shows whole image and others show details
- Display map in Live View and save current split as a view
- Switch to Playback mode
- Supports NKB1000 keyboard to control cameras in the Live View
- Adjust the video image and the display mode (full screen or original)
- Electronic focus

Playback
- Playback recording from front-end devices or from central storage
- Apply video filters: normal, motion, alarm, video loss, video tampering
- Sync play
- Reverse playback
- Supports up to 64x fast play and 1/64x slow play
- Playback frame-by-frame
- Lock or mark important recording segments for central storage
- Supports .avi, .dav, .flv, .mp4, and .asf video output
- Decode to a video wall
- Apply Fisheye dewarping
- Take a snapshot
- Switch to the Live View
- Apply a common layout (1, 4,6, 8, 9, 13, 16, 20, 25, 36) or a customized layout
- Adjust the video image and the display mode (full screen or original)

Event
- View real-time and historical alarm information
- View detailed alarm information (live video, record and pictures from related camera, alarm source location on the map)
- Acknowledge alarms
- Arm control for alarm source
- Forward alarms to relevant users
- Manually send alarm email to a relevant user
- Search by alarm source, alarm time, status, handle user, and priority
- Search alarm events and export the alarm list

Video Wall
- Manually/Automatically decode real-time video to a video wall
- Manage video wall split
- Change the video channel stream type
- Add box, turn screen on/off, and deliver video stream to control client
- Tour the video channel in one screen
- Set running task on the timeline for schedule plan
- Loop different tasks and set duration time for tour plan
- Supports NKB1000 keyboard to control the video wall.

Map
- View live video or playback video on the map
- Calculate area or length of a GIS map
- Supports visible range and initial angle (for PTZ cameras only)
- Displays visible alarm trigger on the map

Other Functions
- Decode GPU
- Connect NKB via USB

Personnel Management
- Add, edit, and delete personnel and departments
- Program card or fingerprint via USB or other readers
- Authorize access by door or by door group
- Set private passwords
- Manage guest, VIP, and employee access

Access Control
- Monitor door status and events
- Set door groups and door levels
- Manage access rights
- Use one key to lock/unlock doors
- Link to fire control system
- Set advanced door rules (passback, first card unlock, for example)

Video Intercom
- Manage communication between intercom devices via SIP protocol or command center.
- Release text information to VTH, release address book to VTO

Object Detection
- Take real-time snapshots and record information about human, motorized, and non-motorized vehicles.
- Extract attributes from snapshots
- Search targets in database by criteria searching
- Generate daily, weekly, or monthly attribute reports

Thermal
- Supports monocular and binocular thermal imaging devices
- Reads temperature values from video frame

Vehicle Entry
- Edit parking lot information, including total and available spaces and parking lot name
- Manage vehicles, owners, and cards
- Bind LED screen with ITC or spot detector device
- Open barriers via VTO with card or remotely
- Force vehicles to leave parking lot
- Search historical pass records and export data
- Generate daily, weekly, monthly, and annual vehicle entry statistics

Traffic
- Search violations by time, license plate number, violation type.
- Supports daily, weekly, monthly, and annual traffic flow statistics
- Query data for vehicle data based on location, time period, license plate number, color, average speed.

System Features

Mobile Client

History Record
- Show recently viewed channels, open live video or playback via history recordings
- Saves up to 20 history recordings before replacing the oldest recording

Live View
- Open more than one channel at the same time, up to 16 channels
- Supports high-definition (HD), standard-definition (SD), and Fluency (FL)stream types
- Supports PTZ control
- Supports horizontal screen play
- One-key switch to playback
- Take snapshots, record locally, and talk

Playback
- Replay device recordings and center recordings (up to 8x and as slow as 1/8x)
- Marks the calendar to indicate whether there is a video on a particular day
- Supports snapshot
- Manually record to local device
- Supports 1x, 2x, 3x, 4x, 1/2x, 1/4x, and 1/8x playback speeds

Alarm Center
- Subscribe to an alarm
- Process alarms
- View alarm video and picture
- Search alarms

Map
- Supports Google Maps
- Displays the video channel on the map
- View video and perform playback

Other Functions
- View video from a channel and add channel as a favorite
- View picture and video via a local file.

Technical Specification

Hardware – Server

Operating System		Windows Server 2012 (64-bit) Windows Server 2016 (64-bit) Windows Server 2019 (64-bit) Windows 10 20H2(64 bit)
CPU	Recommended	Intel® Xeon® Silver 4114 @ 2.2 GHz 10 Core Processor
	Minimum	Intel® Xeon® E-2224 3.4GHz, 8M cache
Memory	Recommended	16 GB
	Minimum	8 GB
System Disk		7200 RPM Enterprise Class HDD 1 TB 500 GB free for DSS
Storage Disk		7200 RPM Enterprise Class HDD
Network Connection	Recommended	Four (4) 1000 Mbps Ethernet Ports
	Minimum	Two (2) 1000 Mbps Ethernet Ports

Hardware – Control Client

Operating System	Windows	Windows 7 (32-bit) Windows 7 (64-bit) Windows 10 20H2 (32-bit) Windows 10 20H2 (64-bit) Windows Server 2008 (64-bit) Windows Server 2012 (64-bit) Windows Server 2016 (64-bit) Windows Server 2019 (64-bit)
CPU	Recommended	Intel® Core™ i7-6700 CPU @ 3.20 GHz
	Minimum	Intel® Core™ i3-4160 CPU @ 3.60 GHz
Memory	Recommended	16 GB
	Minimum	8 GB
Graphics Card	Recommended	GeForce® GTX 1060 3 GB (Discrete Graphics Card)
	Minimum	Intel® HD Graphics 530 (Integrated Graphics)
Storage	Recommended	200 GB free space
	Minimum	100 GB free space
Network Connection		One (1) 1000 Mbps Ethernet Port

Hardware – DSS Agile 8 Mobile Client

iPhone	iPhone 5S or later iOS 10.0 or later
Android	Android 5.0 or later Resolution: 1280 x 720 or higher RAM: 5 GB or more

Total System Management Functions

Organization, User, Roles*	Organization	10 Hierarchies, 999 organizations per hierarchy
	Roles	100 Users Permissions
	Users	200 Online Users 2500 Total Users
	Video Intercom Mobile App	500 Online Users 5,000 Total Users
Record and Event Plan	Central Recording	Up to 3,000 video channels
	Event Rules	Up to 3,000 event sources
Map	Hierarchies	Eight (8)
	Offline GIS Map Package	500 MB
	Raster Maps	Up to 256
	Submaps per Map	Up to 32
	Raster Map Size	15 MB
	Raster Map Resolution	8100 x 8100
	Resources per GIS Map	Up to 300
	Resources per Raster Map	Up to 300
Personnel Management	Persons	300,000
	Cards	600,000
	Faces	300,000
	Fingerprints	600,000
	Vehicles	50,000
Vehicle Watch List		32
Access Control	Total People	30,000
	Access Permission Groups	50
Entrance/Exit Management	Vehicles	50,000
	Vehicle Groups	32
	Parking Lots	16
	Entrance/Exit Points	60
	Total Entrances	30
	Total Exits	30
Data Records	Alarms	20,000,000
	Number Plates	5,000,000
	Access Control	5,000,000
	Attendance	5,000,000
	Video Intercom	5,000,000
	Visitors	5,000,000
	Entrances	5,000,000
	Exits	5,000,000
	Forced Exits	5,000,000
	Operator Logs	5,000,000
	Service Logs	5,000,000

Single Server

Management Functions

Total Devices[1]		2000
Devices	Video[2]	1000 Devices 2000 Channels
	P2P	32 Devices
	ANPR	500 channels (60 channels for entrance)
Access Control		500 Controllers with a maximum of 1000 Doors
Video Intercom		2000 Devices
Media Transmission Server	Total Incoming Bandwidth per Server	600 Mbps
	Incoming Video per Server	600 Mbps
	Incoming Picture per Server	200 Mbps
	Total Outgoing Bandwidth per Server	600 Mbps
	Outgoing Video per Server	600 Mbps
	Outgoing Picture per Server	200 Mbps
	Total Storage Bandwidth per Server	600 Mbps
	Video Storage per Server	600 Mbps
	Picture Storage per Server	200 Mbps
Playback, Storage, Download Capacity		200 TB per server
Events[3]	Total Events[4]	300/s
	Events without Pictures	300/s
	Access Control Events	300/s
	Total Events with Pictures[5]	300/s (200 Mbps)
	ANPR Events	50/s (50 per 3 sec for entrance and exit) (500 KB per picture)
	Events with Pictures	50/s (500 KB per picture)
	Face Capture	50/s (500 KB per picture)
	Object Detection	25/s (1000 KB per picture)

Multiple Servers

Management Functions

Total Sub Servers		Up to 10
Total Devices		20,000
Devices	Video[1]	10,000 Devices 20,000 Channels
	P2P	32 Devices
	ANPR	5000 Channels (60 for entrance)
Access Control		1500 Devices 3000 Doors
Video Intercom		2000 Devices
Events[4]	Total Events[4]	600/s
	Events without Pictures	600/s
	Access Control Events	600/s
	Total Events with Pictures[5]	600/s (200 Mbps)
	ANPR Events	500/s (50 per 3 sec for entrance and exit) (500 KB per picture)
	Events with Pictures[5]	500/s (500 KB per picture)
	Face Capture	500/s (500 KB per picture)
	Object Detection	250/s (1024 KB per picture)

Thermal Temperature Monitoring Solution Functions

Thermal Cameras	Per Server	400
	In Total	2000
Images	Per Server	150 pictures per second
	In Total	350 pictures per second
Supported Functions		• Online License Activation • Picture Storage/Snapshot • Record/Playback

Ordering Information

License Name	Description
DSS8PRVB	DSS Pro V8 Video Base License: • Includes 16 video channels (IPC, NVR, FR, LPR). • Required to purchase additional video channel licenses.
DSS8PRDB	DSS Pro V8 Door Base License: • Includes 16 door channels. • Required prior to purchasing a video channel license. • Note: An access control device with video requires one (1) door channel license and one (1) video channel license.
DSS8PRV	One (1) Video Channel License. Use for an additional network camera, NVR, or ANPR channel.
DSS8PRD	One (1) Door Channel License. Note: An access control device with video requires one (1) door channel license and one (1) video channel license.
DSS8PRVDP	One (1) Video Intercom Device License. Use for one (1) VTO or one (1) VTH device.
DSS8PRPOS	One (1) POS Channel License. Note: Customization is required to integrate with third-party POS server or terminal.
DSS8PRRAD	One (1) Radar Device License. For the radar tracking function of specific PTZ cameras.
DSS8PRVEM	Vehicle Entrance Management Module License. This license also requires a video license.
DSS8PRATT	Attendance Management Module License. This license also requires a door license since access control equipment is required.
DSS8PRCAC	Cascade Management License. One remote site managed by superior site per license.

Optional Mobile Applications (available via the Apple App Store and the Google Play Store)	DSS Agile 8		The mobile client app supports DSS version 8 and offers monitoring center, event center, intelligent search and access management.
	DSS Agile VDP		The mobile app is designed for residential video intercom installations. The app allows resident to respond to video calls, unlock a door, call the management center, and review messages.

1. The total number of devices must not exceed the total number of video devices, access control devices, video intercom devices, and other devices.
2. The total number of video devices and channels must not exceed the total number of network cameras, NVRs, ITCs, and other video devices and channels.
3. Event concurrency is peak concurrency: 20 minutes of peak concurrency test, 3 times a day, and 30% peak concurrency for the remaining time of the day. Event concurrency: Event concurrency is in accordance with database concurrent writes. Concurrency of event with pictures must take picture write capacity of the disk into account.
4. Total event concurrency: The ability to write all events to system records concurrently.
5. For concurrency of events with pictures, picture write concurrency should also be taken into consideration. The picture write concurrency of an individual server is up to 200 Mbps, so the concurrency of events with pictures is limited by picture write capacity.

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