DSS Professional 8.4

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
- Provides Fisheye Camera Dewarping in Live View or Playback
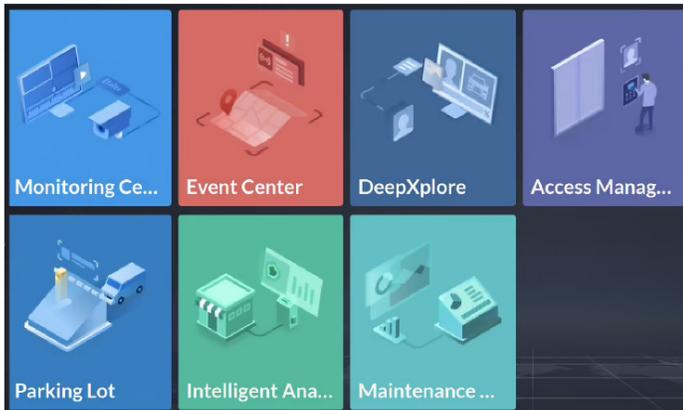
System Overview

DSS Professional (Pro) is an intelligent multiplier that provides security professionals with better insights and scalability. DSS Pro fully leverages the power of a video security system and helps individuals make informed decisions with greater efficiency, lower cost, and increased profitability. 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 permissions, device and alarm management, and central storage. DSS Pro also provides advanced features of video wall, map configuration, access control features, video intercom, and analytic functions such as face/object detection. It also integrates add-ons such as business intelligence and traffic monitoring.

Functions

Compatability

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.

Scalability and Interoperability

DSS Professional can be used in various applications such as parks, chain stores, and logistics and scale to future needs. The software supports up to 2,000 channels, 1,000 doors and 400 TB storage capacity per server but can expand up to 20,000 channels and 4 PB storage capacity through a more distributed architecture.

For enterprise applications, its architecture supports hot standby and N + M redundancy enabling failover servers if the primary server goes offline. DSS Pro supports customized integration of other systems and devices such as SDK and API as well as ONVIF for integration with other 3rd party cameras on the market

Access Control and Video Intercom

DSS Pro offers full support and integration for access control and video intercom products to support a complete security 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

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

Management Operations and Applications

DSS Pro manages the devices and users 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.

DSS Pro has seven applications for managing your security system: Monitoring Center for live viewing and playback; Event Center for real-time and historical events; DeepXplore for faster data searching; Access Management for access control, video intercom, and visitor and attendance management; Maintenance Center for checking the health of the platform; Parking Lot Management for monitoring and controlling entrance and exit of vehicles; and Intelligent Analysis for business related needs such as people counting and crowd gathering.

System Features

Business Configuration

Device Management
- Bind cameras for alarm configuration
- Initialize Dahua devices
- Add devices via auto search, IP, IP Segment, P2P, Domain, and auto-register
- Turn push notifications on and off
- Manage Dahua devices
- Add third-party devices via ONVIF
- Modify Dahua device IP address and password
- Import Intercom Devices

Role and User Management[1]
- Manage user permissions and roles for devices and control
- Assign user to defined roles
- Assign appropriate permissions to specific users
- Set user PTZ permissions
- Lock users
- Import domain user and assign roles

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-mapI
- Configure camera, alarm input, and intelligent channel, and sub-map hot spots

Video Wall
- Display/Hide the screen ID
- Display alarm output channels
- Display all alarms in a list
- Click an alarm to locate the alarm source
- 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 VTOI
- 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
- Look for devices logs from IPCs, NVRs, and controllers
- Search and export logsView event information statistics: total and processed events

Other Functions
- Support HTTPS
- Supports TLS1.2 email servers
- Set device time calibration
- Set log and alarm information

Service Management
- Delete the subserver
- Release text information to VTH, release address book to VTO
- View, delete, and freeze DSS Mobile user

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
- Frame-by-frame Playback
- 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 and face authentication
- Manage guest, VIP, and employee access

Access Control
- 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 and face authentication
- Manage guest, VIP, and employee access

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1. A remote client login to a DSS server is supported only via an IP address. DSS does not support remote login via DDNS.

System Features

Control Client (Cont.)

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 nonmotorized vehicles.
- Extract attributes from snapshots
- Search targets in database by criteria
- 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, and license plate number

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 System²		• Microsoft® Windows Server 2019 Standard (64-bit) • Microsoft® Windows Server 2022 Standard (64-bit) • Microsoft® Windows 10 20H2 Pro (64-bit) • Microsoft® Windows 11 21H2 Pro (64-bit) • VMware®ESXi™ 7.x • Microsoft® Hyper-V with Windows Server 2019
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
Storage Disk		7200 RPM Enterprise Class HDD 1 TB, 500 GB free space for DSS
Network Connection	Recommended	Four (4) 1000 Mbps Ethernet Port
	Minimum	Two (2) 1000 Mbps Ethernet Port
Languages		English (United States), Simplified Chinese

Hardware — Control Client

Operating System		• Microsoft® Windows 10 20H2 Pro (32-bit) • Microsoft® Windows 10 20H2 Pro (64-bit) • Microsoft® Windows 11 21H2 Pro (64-bit) • Microsoft® Windows Server 2019 Standard (64-bit) • Microsoft® Windows Server 2022 Standard (64-bit) • VMware®ESXi™ 7.x • Microsoft® Hyper-V with Windows Server 2019
CPU	Recommended	Intel® Core i7-11700 at 2.50 GHz
	Minimum	Intel® Core i5-9500 at 3.00 GHz
Memory	Recommended	16 GB
	Minimum	16 GB
Graphics Card	Recommended	NVIDIA® GeForce® RTX 3060
	Minimum	Intel® UHD Graphics 630
Storage	Recommended	200 GB Free Space
	Minimum	100 GB Free Space
Languages		Arabic, Bulgarian, Czech, Danish, English (United States), Finnish, French, German, Hebrew, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Brazilian Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese

Hardware — DSS Mobile Client

iPhone	Model	iPhone 5S or later
	OS	iOS 10.0 or later
Android	Resolution	1280 x 720 or higher
	RAM	2 GB or more
	OS	Android 5.0 or later
Language		Arabic, English (United States), French, Russian, Simplified Chinese

Total System Management Functions

Organization, User, Roles	Organization	10 Hierarchies; 999 Organization Total
	Roles	500 User Permissions
	Roles per User	32
	Users	200 Online Users; 2,500 Total Users

Organization, User, Roles (Cont.)	Users for VDP Mobile App	500 Online Users; 5,000 Total Users
Record and Event Plan	General Recording Plans	3,000
	Motion Detection Recording Plan	3,000
	Video Retrieval Plans	3,000
	File Retrieval Plans	3,000
	Event Rules	3,000
	Combined Event Rules	3,000
	Combined Events	3,000
Map	Person and Vehicle Groups	999
	Sub Groups per Level	10
	Hierarchies	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	8,100 x 8,100
	Resources per GIS Map	Reduced from 2,000 to 300 after merging
	Resources per Raster Map	Reduced from 2,000 to 300 after merging
Faces per Watch Lists		50
Faces per Watch List		50,000
Vehicle Watch List		32
Vehicles per Watch List		50,000
Intelligent Analysis	People Counting Groups	30
	People Counting Rules per Group	20
Access Control	Persons for Door Access Rules	100,000 (1 password, 2 face images, 3 fingerprints, and 5 cards for each person)
	Zones	256
	Door Access Rules	500
	Public Passwords	1,500
	Elevator Access Rules	300
	Persons for Elevator Access Rules	100,000
Visitor	Registrations and Appointments	10,000
Video Intercom	Rooms	10,000
	Persons per Room	10
	VDP Accounts	5
Entrance/Exit Management	Vehicle Groups	32
	Numbers of Entrances and Exits	60
	Parking Lots	16
	Entrance/Exit Points	60
	License Plates per Reserved Parking Space	10,000
	Parking Space Detectors per Parking Lot	500
	Parking Space per Parking Lot	1,500
	Parking Available Displays per Parking Lot	30
	Image Size per Layer	15 MB
	Resolution per Layer	8,100 x 8,100
	Total Layers	128
	Layers per Parking Lot	16
	Resources per Layer	600
	Parking Spaces per Layer	1,000
Data Records	Alarms	2,000,000
	Number Plates	2,000,000
	ANPR	2,000,000
	Metadata	2,000,000

Data Records (Cont.)	Access Control	2,000,000
	Video Intercom	2,000,000
	Visitors	2,000,000
	Entrances	2,000,000
	Exits	2,000,000
	Forced Exits	2,000,000
	Historical Count	20,000,000
	In-Area Statistical	20,000,000
	Heat Map	5,000,000
	Operator Logs	20,000,000
	Service Logs	20,000,000
Synthesis	Event Synchronization Projects	5
	Event Triggers per Project	300
	Integration Project Count	5
	Event Types per Integration Project	300
Inspection	Inspection Records	5,000,000
	Inspection Point Records	5,000,000
	Intelligent Inspection	1,000
	Inspection Organizations	10
	Levels of Inspection Organizations	10,000
	Inspection Objects	10,000
	Inspection Points	10,000
	Inspection Points per Organization	1,000
	Inspection Plans	1,000
	Inspection Pointers per Inspection Plan	100
Notification Center Messages		1,000

Server Specifications

Parameter		Single Server	Multiple Servers
Numbers of Sub Servers per System	Sub Servers	-	10 Servers
Total Devices[3]	Devices	2,000	20,000
	Auto-Registered Devices	1,000	10,000
Video Devices and Channels[4]	Video[4]	1,000 Devices; 2,000 Channels	10,000 Devices; 20,000 Channels
	EAS Alarm Channels	2,000	20,000
	P2P	32 Devices	
	ANPR	500 Channels (60 Channels for Entrance)	5,000 Channels (60 Channels for Entrance)
	Add Devices via ONVIF	1,000 Devices; 2,000 Channels	10,000 Devices; 20,000 Channels
	Video Metadata Channels	500 Channels	5,000 Channels
	Switches	60 Devices	200 Devices
Access Control Devices	Access Control Devices and Lift Control Devices	500 Devices; 1,000 Channels	1,500 Devices; 3,000 Channels
	Access Control Devices	500 Devices; 1,000 Doors	1,500 Devices; 3,000 Doors
	Lift Control Devices	500 Devices; 1,000 Channels	1,500 Devices; 3,000 Channels
	Video Intercom	2,000 Devices	
Parking Lot Devices	Parking Space Detectors	500 Devices; 1,500 Parking Spaces	2,000 devices; 6,000 parking spaces
	Parking Space Available Displays	150 Displays	600 Displays
Intelligent Analysis	People Counting Channels	100 Channels	300 Channels
	Heat Map Channels	100 Channels	300 Channels
IP Speaker	Add Devices via ONVIF	1,000	10,000
Multi-Site	Sites	100 Sites	
	Devices per Site	10,000 Devices; 20,000 Channels	
	Total Devices	10,000 Devices; 20,000 Channels	
Others	POS Channels	100 Channels	300 Channels
Media Transmission Server	Total Incoming Bandwidth per Server	600 Mbps	6,000 Mbps
	Incoming Video per Server	600 Mbps	6,000 Mbps
	Incoming Picture per Server	200 Mbps	2,000 Mbps
	Total Outgoing Bandwidth per Server	600 Mbps	6,000 Mbps
	Outgoing Video per Server	600 Mbps	6,000 Mbps
	Outgoing Picture per Server	200 Mbps	2,000 Mbps
	Total Storage Bandwidth per Server	600 Mbps	6,000 Mbps
	Video Storage per Server	600 Mbps	6,000 Mbps
	Picture Storage per Server	200 Mbps	2,000 Mbps
Playback, Storage, and Download Capacity	Prerecording Bandwidth for Alarm Recordings	400 Mbps	4,000 Mbps
	Maximum Capacity per Storage Server (Local)	400 TB	4 PB
Events[5]	Total Events[6]	300/s	600/s
	Alarms with Pictures (Stored on Devices)	300/s	600/s
	Access Control Events	300/s	600/s
	Storage of Events and Alarms with Pictures[7]	300/s	600/s (200 Mbps)
	Number of Combined Events	100/s	

5. The total number of devices must not exceed the total number of video devices, access control devices, video intercom devices, and other devices.
6. 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.
7. 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.
8. Total event concurrency: The ability to write all events to system records concurrently.
9. 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.

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.
DSS8PRAPML	DSS Pro V8 AcuPick Module License
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	Parking 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.
DSS8PRMSITE	DSS Multi-site License for DSS Professional V8. Supports to enable PC Clients to access other sites or be accessed by PC Clients of other sites.
DSS8PRLC	One Lift Controller Channel License for DSS Professional V8. No prerequisite required.
DSS8PRSOM	Security operation module license for DSS Professional V8. Supports customer management, alarm processing, and providing customers with alarm operation services.
DSS8PRVDPAPP	DSS Agile VDP App license for DSS Professional V8, One license for one additional user. Supported: Call records, monitor, message, visitor, etc.
DSSHOTSTANDBY	Hot Standby License for DSS Professional V8 Supports 1 main server + 1 hot standby server, with 3 years warranty and upgrade, supports 1 main server + 1 hot standby server
DSS8PRCS1Y	One-year Care Service License for One (1) DSS Channel or Device for DSS Professional V8 Supports bug fixes, patch delivery to the customer, and third-party development assistance.
SFCUSTOMIZATION	Custom Development Service License One license corresponds to one day(8 hours) of one R&D developer development work.
Optional Mobile Application (Available via the Apple App Storeand 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 DSS Agile VDP is designed for community residents, together with your VTH, it can work with DSS platform and enable you to answer VTH calls on your phone anytime, You can also monitor through connected VTO, unlock the door, call management center, and view all records and messages.