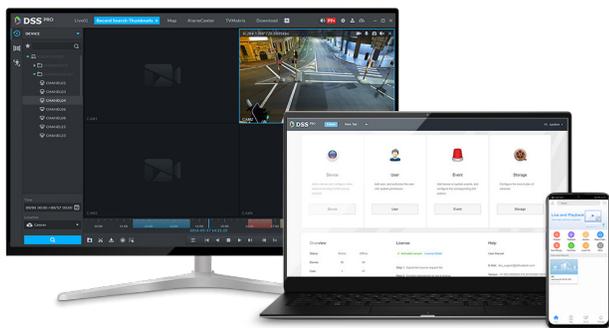


Digital Surveillance System

DSS Pro 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
- Offers Facial Recognition and Search 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, central storage, video wall and map configuration, access control features (such as personnel management), video intercom, attendance, and access control, and analytic functions such as face recognition, people counting, and object detection. It also integrates add-ons such as business intelligence and traffic. DSS Pro can be applied to many security surveillance solutions.

Functions

Compatibility

DSS Pro is compatible with all Dahua IP-enabled devices: network cameras, NVRs, DVRs, video intercom devices, and access control devices. The server is also compatible with the ONVIF protocol, so it can connect to ONVIF-enabled third-party 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.

Real-time Face Recognition

The Pro performs real-time facial recognition on up to 100 channels simultaneously. The software captures and analyzes facial features to determine gender, age, expression, glasses, moustache, and mask, and then can record the faces and store the associated structured data. The server also filters incoming video to display faces that match target features.

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

- 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
- Bind cameras for alarm configuration and POS transactions

Role and User Management¹

- 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

Face Database

- Manage face libraries
- Add faces one by one or import faces in batches to the library
- Send face library to a facial recognition device and configure similarities

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

Other Functions

- Supports HTTPS
- Set device time calibration
- Set log, alarm information, POS data, and heat map storage time

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
- Electric focus
- 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
- Overlay POS transaction data and set POS overlay style
- Adjust the video image and the display mode (full screen or original)

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

People Counting

- Generate daily, weekly, monthly, and yearly reports
- Generate a Heat Map based on the people counting statistics
- Export people counting and Heat Map data

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

Face Recognition

- Automatically captures faces in the camera's field of view
- Extracts face attribute information from captured face
- Real-time face comparison
- Registers face to face library
- Search for a face via face attribute, via uploading a face image, via records comparison
- Generate the track for the specific face
- Generate daily, weekly, monthly attribute report based on gender and age

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

- 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

Attendance

- Set access control devices as attendance stations
- Manage attendance time periods
- Manage and arrange shift time periods
- Generate attendance reports, including attendance record, abnormality, card-swipe

Flow Analysis

- Generate daily, weekly, monthly, and yearly people counting reports
- Generate heatmaps
- Export people counting and heatmap data
- Generate dwell time reports

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
- Acquire timed heatmap
- Supports box selection, circle selection, and linear analysis, temperature curve on heatmap.
- Save, import, and analyze heatmap

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

Business Intelligence

- Provide daily, weekly, and monthly reports
- Track customer flow, entrance/exit monitoring
- Create custom demographics based on customer age, gender, attributes

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.

Alarm Controller

- Use custom alarm types and update alarm status
- Globally arm/disarm specific zones or subsystems
- Control zone status
- Cancel alarms

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 10, 64-bit; Windows Server 2008; Windows Server 2012; Windows Server 2016; Windows Server 2019
CPU	Recommended	Intel® Xeon® Silver 4114 @ 2.2 GHz 10 Core Processor
	Minimum	E3-1220 v 5 @ 3.00 GHz, 3.00 GHz 4 Core
Memory		16 GB
Storage		1 TB, 500 GB free for DSS
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, 64-bit; Windows Server 2008; Windows Server 2012; Windows Server 2016 Windows Server 2019
	Macintosh	Mac OS 10.13.4 and higher
CPU	Recommended	Intel® Core™ i5 64-bit 4 Core Processor
	Minimum	Intel® Core™ i3 64-bit 4 Core Processor
Memory	Recommended	8 GB
	Minimum	4 GB
Graphics Card	Recommended	NVIDIA® GeForce®GT 730
	Minimum	Intel® HD Graphics 4400
Storage	Recommended	200 GB free space
	Minimum	100 GB free space
Network Connection		One (1) 1000 Mbps Ethernet Port

Total System Management Functions

Organization and User ¹	Organization	10 Hierarchies, 999 organizations per hierarchy
	Roles	100 Users
	Users	200 Online Users 2500 Total Users
Devices (single-point performance)	Video Intercom Mobile App	500 Online Users 5,000 Total Users
	Total Devices	2000
	Video	1000 Devices 2000 Channels
	Auto-Register	500 Devices 2000 Channels
	ONVIF	200 Devices 800 Channels
	Face Recognition	100 Channels
	Object Detection	20 Channels
	Heatmap	64 Channels
	People Counting	100 Channels
	Thermal	20 Channels
Access Control and Intercom	POS	100 POS Channels (20 POS data per second)
	Access Control	200 Devices 1000 Doors
Access Control and Intercom	Video Intercom	1000 Devices (including no more than 64 VTO devices)
	Alarm Controller	50 Devices 500 Channels
Media Transmission Server	Video Input, per server	600 Mbps
	Video Output, per sever	600 Mbps
Event	Alarm without Pictures	300/s
	Alarm with Pictures	50/s
	Alarm Controller	50/s
	Access Control	20/s
	Face Capture	150/s
	Object Detection	50/s
Map	Hierarchies	Eight (8)
	Submaps	32 per Hierarchy
	Spots per Map	300 (GIS and Raster)
	Raster Map Size	14.7 MB
Face Recognition	Database	50, 300,000 total faces
	Import per Time	10,000
Personnel Management	Persons	50,000
	Cards	50,000
	Faces	50,000
	Fingerprints	80,000
Total Records		5,000,000 (dependant on disk capacity)

Distributed System – Per Additional Server

Management Functions

Total Sub Servers		20
Devices (single-point performance)	Total Devices	5000
	Video	5000 Devices 20,000 Channels
	Auto-Register	1000 Devices 4000 Channels
	ONVIF	500 Devices 2000 Channels
	Face Recognition	500 Channels
	Object Detection	100 Channels
	Heatmap	320 Channels
	People Counting	500 Channels
	Thermal	100 Channels
	POS	500 POS Channels (100 POS data per second)
Access Control		600 Devices 3000 Doors
Alarm Controller		50 Devices 500 Channels
Event ²	Total Events	600/s
	Alarm without Pictures	600/s
	Alarm with Pictures	150/s
	Alarm Controller	50/s
	Access Control	120/s
	Face Capture	350/s
	Object Detection	100/s

2. The sum of events of each type cannot exceed the total number of events. One access controller event is equivalent to three general alarms without pictures; one alarm controller event is equivalent to a general alarm without picture; one alarm with picture or one object detection is equivalent to three face detection events.

Cascade System

Management Functions

Number of Cascade Levels		3
Number of Cascade Servers		20
Total Devices and Channels		5000 Devices 20,000 Channels
Auto-Register		1000 Devices 4000 Channels
ONVIF		500 Devices 2000 Channels

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		<ul style="list-style-type: none"> • Online License Activation • Picture Storage/Snapshot • Record/Playback • Human Body Temperature Alarm • Blackbody Error Alarm • Retrieve Body Temperature Alarm and Blackbody Alarm from IVSS7008 and NVR5216 • Human Body Temperature Preview • Preview Daily Human Body Temperature Report • Export Report of Total Detection Results • Search and Export Human Body Temperature Alarm Report • Face Mask Detection

SafetyTemp Thermal Temperature Station Functions

Kiosks	Per Server	200
	In Total	600
Images	Per Server	150 pictures per second
	In Total	350 pictures per second
Face Capture Access Control		16
Supported Functions		<ul style="list-style-type: none"> • Online License Activation • Personnel Management (stores up to two pictures per individual) • Access Control Device Authorization • Human Body Temperature Preview • Real-time Human Body Temperature Display in Live View • Search and Export Human Body Temperature Alarm Report • Face Mask Detection

Flow Control Functions

People Counting Cameras	Per Server	100
	In Total	500
Supported Functions		<ul style="list-style-type: none"> • Online License Activation • People Flow Control Preview • Provide URL for Display Devices • People Flow Control Preview • Multi-store Management

Ordering Information		
License Name	Description	Number of Channels per License
B-Base	Video	64
	LPC	2
	Face Recognition	2
	Access Control	64
	POS	2
	Video Intercom	128
	Attendance	4
B-Cascade2	DSS Pro Base Package	2 Subsites
A-Video1	Video License	1
A-Door1	Access Control	1
A-Atten1	Attendance Station	1
A-VDP1	VDP License	1
A-LPR1	LPC License	1
A-FR1	Face Recognition	1
A-POS1	Point of Service	1
A-Cascade1	Cascade	1 Subsite
A-BI Module	Business Analysis Module (Transaction Data, Counting, Retail Traffic)	N/A
A-Traffic Module	Traffic Module (Speeding, Red Light Violation, Illegal Parking, Illegal Lane Change, Bus Lane Violation, False License Plate, Traffic Flow Statistics, and Search)	N/A
A-Hot Standby	1+1 Server Backup, use for local backup of servers, 3-year warranty and upgrade support	N/A