DSS | DSS Pro V8

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.

*Warranty applies to products sold through an authorized Dahua Dealer.
### 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 NK81000 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 NK81000 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

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* A remote client login to a DSS server is supported only via an IP address. DSS does not support remote login via DNS.
## 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 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

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

### Management Functions

<table>
<thead>
<tr>
<th>Total Devices¹</th>
<th>2000</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Devices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Video²</td>
<td>1000 Devices</td>
</tr>
<tr>
<td>P2P</td>
<td>2000 Channels</td>
</tr>
<tr>
<td>ANPR</td>
<td>32 Devices</td>
</tr>
</tbody>
</table>

| Access Control       | 500 Controllers with a maximum of 1000 Doors |

| Video Intercom       | 2000 Devices |

<table>
<thead>
<tr>
<th>Media Transmission Server</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Incoming Bandwidth per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Incoming Video per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Incoming Picture per Server</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>Total Outgoing Bandwidth per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Outgoing Video per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Outgoing Picture per Server</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>Total Storage Bandwidth per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Video Storage per Server</td>
<td>600 Mbps</td>
</tr>
<tr>
<td>Picture Storage per Server</td>
<td>200 Mbps</td>
</tr>
</tbody>
</table>

| Playback, Storage, Download Capacity | 200 TB per server |

<table>
<thead>
<tr>
<th>Events⁵</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Events⁴</td>
<td>300/s</td>
</tr>
<tr>
<td>Events without Pictures</td>
<td>300/s</td>
</tr>
<tr>
<td>Access Control Events</td>
<td>300/s</td>
</tr>
<tr>
<td>Total Events with Pictures³</td>
<td>300/s (200 Mbps)</td>
</tr>
<tr>
<td>ANPR Events</td>
<td>50/s (50 per 3 sec for entrance and exit) (500 KB per picture)</td>
</tr>
<tr>
<td>Events with Pictures</td>
<td>50/s (500 KB per picture)</td>
</tr>
<tr>
<td>Face Capture</td>
<td>50/s (500 KB per picture)</td>
</tr>
<tr>
<td>Object Detection</td>
<td>25/s (100 KB per picture)</td>
</tr>
</tbody>
</table>

## Multiple Servers

### Management Functions

<table>
<thead>
<tr>
<th>Total Sub Servers</th>
<th>Up to 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Devices</td>
<td>20,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Devices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Video¹</td>
<td>10,000 Devices</td>
</tr>
<tr>
<td>P2P</td>
<td>20,000 Channels</td>
</tr>
<tr>
<td>ANPR</td>
<td>32 Devices</td>
</tr>
</tbody>
</table>

| Access Control       | 5000 Devices (60 for entrance) |
| Video Intercom       | 3000 Doors |

<table>
<thead>
<tr>
<th>Events⁴</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Events⁴</td>
<td>600/s</td>
</tr>
<tr>
<td>Events without Pictures</td>
<td>600/s</td>
</tr>
<tr>
<td>Access Control Events</td>
<td>600/s</td>
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<tr>
<td>Total Events with Pictures³</td>
<td>600/s (200 Mbps)</td>
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<tr>
<td>ANPR Events</td>
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<td>50/s (500 KB per picture)</td>
</tr>
<tr>
<td>Face Capture</td>
<td>50/s (500 KB per picture)</td>
</tr>
<tr>
<td>Object Detection</td>
<td>25/s (1002 KB per picture)</td>
</tr>
</tbody>
</table>

## 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

<table>
<thead>
<tr>
<th>(available via the Apple App Store and Google Play Store)</th>
<th>DSS Agile 8</th>
<th>DSS Agile VDP</th>
</tr>
</thead>
</table>

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.