DSS Express

Pay-as-you-go Sofware for SMB

Introduction

DSS Express can be used with 64 cameras for free and supports up to 256 cameras with license. In addition, it is easy to be integrated with access control, video intercoms and AI features such as facial recognition, ANPR, and video metadata.

It is suitable for retail stores, vehicle entrance management, and office buildings.

Running Environments

Operating System

- OS for Server:
- · Windows 7 (32-bit)
  Windows 7 (64-bit)
  Windows 10 20H2 (64-bit)
  Windows 10 20H2 (32-bit)
- PC Client:
- · Windows 7 (32-bit)
  Windows 7 (64-bit)
  Windows 10 20H2 (64-bit)
  Windows 10 20H2 (32-bit)
- OS for DSS Mobile Client:
- · iOS: iOS 10.0 or later
- · Android: Android 5.0 or later

Languages

- · Arabic, Bulgarian, Czech, Danish, English (United States), Finnish,French, German, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese,

Turkish, Ukrainian, Vietnamese.

Hardware

- Hardware for Server

Recommended

CPU	Intel® Core(TM) I7-9700K CPU@3.60GHZ
Memory	8GB
System Disk	7200 RPM Enterprise Class HDD 1TB, 500G free space for DSS
Storage Disk	7200 RPM Enterprise Class HDD
Ethernet Port	Ethernet ports@1000Mbps

Minimum

CPU	Intel® Core(TM) I5-9400 CPU@2.90GHZ
Memory	8GB
System Disk	7200 RPM Enterprise Class HDD 1TB, 200G free space for DSS
Storage Disk	7200 RPM Enterprise Class HDD
Ethernet Port	Ethernet ports@1000Mbps

- Hardware for Client

Recommended

CPU	I7-6500@3.20GHz
Memory	8 GB
Graphics Card	GeForce GTX 1060 3GB (Discrete Graphics Card)
Hard Drive Capacity	100 GB Free
Ethernet Port	1,000 Mbps

Minimum

CPU	I3-2120@3.20GHz
Memory	4 GB
Graphics Card	Intel (R) HD Graphics 530 (Integrated Graphics)
Hard Drive Capacity	50 GB Free
Ethernet Port	1,000 Mbps

- Hardware for DSS Mobile Client

iPhone	iPhone 5S or later

| Android | Resolution: 1280 × 720 or higher |
| | RAM: 2 GB and above |

Features

Lower investment

· Free for 64 cameras.

· Purchase other licenses on demand.

· Low hardware performance requirements.

Pay-as-you-go

· With license, it is an easily scalable product with up to 256 cameras, 64 doors, and 256 video intercoms.

Easy upgrade

· For more features and capacity, simply upgrade your license to DSS Pro.

Unified platform

· Integrates applications, such as video monitoring, access control, video intercoms, face recognition, and ANPR, to achieve a unified and easy-to-use solution.

Main Functions

1.PC Client

1.1 System Configuration

 • *License*

· Online and offline activation.

· Online and offline update.

· Online and offline deactivation.

 • *System Parameters*

· Configure the data storage duration of logs, alarms, face recognition and vehicle records, etc.

· Time synchronization: Timed synchronization and device connection synchronization.

· Email server configuration.

· Supports importing HTTPS certificate.

· Set device login mode.

· Record remote logs.

 • *Backup and Restore*

· Automatically back up system database by day, week, or month.

· Manually back up system database.

· Restore system database from server or local files.

1.2 Basic Configuration

 • *Device Management*

· Device initialization: Initialize Dahua devices.

· Add devices by auto search, IPV4, IPV6, Domain, IP segment, auto registration (for 3G, 4G and DHCP devices), or P2P.

· Manage Dahua devices such as network camera, network PTZ camera, NVR, DVR, access controller, video intercom, alarm controller, and decoder.

· Add third-party devices via ONVIF protocol.

· Import devices in batches by template.

· Bind associated cameras: Link cameras for alarm video display.

· Configure encoder parameters including image, video, snapshot, OSD and audio.

· Restart access controllers.

· Configure intelligence settings for intelligent channels such as IVS, face detection, people counting, and heat maps.

· Configure door parameters, such as reader direction, door status, unlock length, and method.

 • *Role and User*

· Three types of roles: Super administrator, administrator, common role.

· Manage the user's permissions by role (device permissions, control permissions, and menu permissions).

· User can be assigned with roles to obtain corresponding permissions.

· Log in to different clients with the same account at the same time.

· Set PTZ permissions, password expiry date, password validity and e-mail linkage for user.

· Forced password change at first login.

· User can be restricted by the MAC and expiry information.

· User can be locked.

1.3 Application Configuration and Functions

 • *Storage Management and Record Plan*

· Supports edge storage and central storage.

· Configure recording plans for channels.

· Configure storage destination: Center, device (device recording supports only main stream).

· Configure recording stream type.

· Create recording plan by time template: All-day template, weekday template, weekend template and custom template.

· Configure center recording storage duration.

 • *Personnel and Vehicle Information*

   Personnel List

· Add, edit and delete the personnel and the personnel list.

- Import personnel information (ID, card, fingerprint, face) from devices.
- Import personnel information by template.
- Issue the card, fingerprint via USB reader or devices.
- Card, password, fingerprint and face authentications.
- Add vehicle information.
- Grant door access by door group; arm persons by face comparison goup; grant entrance and exit access by entrance and exit vehicle group.

  Vehicle List
- Manage owners and vehicles.
- Add, edit, and delete vehicle information.
- Arm vehicles by vehicle arming group; grant entrance and exit access by entrance and exit vehicle group.
- Export vehicle information.
- *Watch List*

  Face Watch List
- Face watch list management.
- Send face watch list to face recognition devices, and configure similarity.

  Vehicle Watch List
- Vehicle watch list management.
- Add vehicles one by one.
- Import vehicles from vehicle list in batches.
- Set start time and end time for vehicles.
- *Monitoring Center*

  Live View
- View real-time video.
- Common layout (1, 4, 6, 8, 9, 13, 16, 20, 25, 36, 64) and customized layout.
- PTZ control.
- Electric focus.
- Operate barrier remotely.
- Operate door channel: Open, close and recover.
- Call video intercom devices.
- Manual recording (store on PC or central storage).
- Digital zoom.
- Fisheye dewarping.
- Fisheye-PTZ smart track.
- Smart track for panoramic camera.
- Fisheye VR mode
- Bullet-PTZ smart track.
- Audio talk.
- Supports selecting audio input: aduio1, audio 2 and audio mix.

- Set alarm window.
- Turn on/off the IVS display in live view.
- Restore face image from face privacy masking.
- Region of interest: Divides one window into 4 or 6 parts, one for whole image, others for the details.
- Displays map in live view.
- Save the current monitoring image as a view.
- Up to 4 live view tabs.
- Video tour by device, organization, favorites, and view.
- Supports NKB1000 to control camera in live view.
- Adjust the video image.
- Adjust the display mode (full screen and original).
- Live video quick positioning on map.
- Resource tree: Video channel, face recognition channel, metadata channel, ANPR channel, entrance device channel, access control channel, and map.
- Displays event snapshots over live video.
- Real-time monitoring of face recognition events, metadata events, ANPR events, entrance snapshot events, and access control events.
- Pause refresh, and clear event list.

  Playback
- Play back video recordings from devices or central storage.
- Video filter: Normal, motion, alarm.
- Synchronous play.
- Reverse playback of central and device video.
- Digital zoom.
- Slow and fast forward (up to 64X and 1/64X).
- Play back video recordings frame by frame.
- Lock or mark important recordings for central storage.
- Download the video in avi, dav, mp4 and asf formats.
- Turn on/off the IVS display in playback.
- Decode the video to video wall.
- Fisheye dewarping.
- Fisheye VR mode.
- Adjust the video image.
- Common layout (1/4/6/8/9/13/16/20/25/36 /64) and custom layout.
- Supports smart search.
- Supports thumbnail search.

  Video Wall
- Create different video wall tasks.
- View the real-time video.
- Decode the real-time video to wall.
- Manually/automatically decode to wall.

- · Manage the video wall split.
- · Change the stream type of video channel.
- · Turn on/off audio.
- · Turn on/off screen and get the video stream to PC client.
- · Tour the video channels in one screen.
- · Schedule plan: Set the running task on timeline.
- · Tour plan: Different tasks loop display, and each task has a duration time.
- · Supports NKB1000 to control video wall.

  Map
- · Raster map.
- · Up to 8-level sub map.
- · Configure hot spots (camera, alarm input, access control channel) and sub maps on the map.
- · View the live or recorded video on the map.
- · Alarm source turns red and flickers on the map when alarm occurs.
- · Remote door opening and closing.
- • *Event Management*
- · Event type: Device, video channel, alarm input channel, access control,and more.
- · Event scheme: All-day template, weekday template, weekend template and custom template.
- · Event Priority: Low, medium, high.
- · Linkage: Record, snapshot, live video, alarm output, audio and light,PTZ, video wall, HTTP URL command, E-mail, door and user.
- · Real-time and history event information.
- · Acknowledge the event.
- · Arming control for event sources.
- · Forward the event to relevant user.
- • *DeepXplore*
- · Quickly retrieve historical records and locate targets.
- · Search for face and human body by feature or image.
- · Search for person and vehicle archives.
- • *Access Management*

  Access Control
- · Add, edit, and delete door groups, Grant door access by associating access permission groups with door groups.
- · Supports setting public passwords for access control devices.
- · Door status and door events monitoring.
- · View related videos.
- · Lock or unlock the doors with one key.
- · Global operation of opening or closing doors.

- · Log information and extract records from devices.

  Video Intercom
- · Call management: Configuration of device group, management group and group relation.
- · Residence configuration: Set whether to enable Building No. and Unit No.
- · Issue VTH contact list to VTO.
- · Set VTH private password for unlocking VTO.
- · View, delete and freeze users of DSS Agile VDP.
- · Video intercom between VDP based on SIP protocol.
- · Video intercom between VDP with command center.
- · Release text information to VTH.
- · Search for and export video intercom records.

  Visitor
- · Visitor registration.
- · Supports issuing access permissions by card or face recognition.
- · Enable auto visit and auto leave.
- · Supports card-swiping records.
- · Supports visitor records.
- · Configuration of default visitor permission.
- · Email template of auto visit and auto leave.
- · Visitor pass remark.
- • *Entrance*
- · Edit parking-lot, includes total and available spaces, parking name, and more.
- · Supports configuration of barrier control rules.
- · Bind parking space available display screen and information display screen.
- · Overview of entrance and exit information: Number of parking spaces, parking spaces available, and more.
- · View real-time license plate recognition.
- · Open the barriers via VTO with cards or remotely.
- · Force existing vehicles to leave.
- · Supports searching for vehicle records, on-site vehicles, and ANPR details.
- · Search for and export the vehicle records.
- • *Intelligent Analysis*
- · View real-time count.
- · View historical count: provide daily, weekly, monthly and yearly reports.
- · Heat maps
- · Supports exporting in area people counting analysis report.

2. DSS Agile
- • *History Records*

- · Show recently viewed channels. You can open live video or playback via history records.
- · Displays up to 20 latest history records.

- **Live View**
- · Open more than one channel at the same time. Up to 16 channels are supported.
- · Three stream types: HD (high definition), SD (standard definition) and FL (fluency).
- · Supports PTZ control.
- · Supports horizontal screen play.
- · One-key switch to playback.
- · Snapshot, local records, and audio talk.
- · Supports fisheye dewarp.

- **Playback**
- · Play back device records and center records (up to 8X and 1/8X).
- · The calendar shows whether there is a video on that day.
- · Supports snapshot.
- · Manually start recording for local storage.
- · Supports 1X, 2X, 3X, 4X, 1/2X, 1/4X, 1/8X playback.

- **Map**
- · Supports raster map.
- · Displays the video channels on the map.
- · View live and recorded videos.

- **Access Control**
- · Displays access control information: Device name, organization, and online/offline status.
- · Open or close doors remotely.
- · Always open and always closed.
- · Recover to always open/closed.

- **Face Recognition**
- · Supports searching the face database or snapshot records for target faces by uploading a face iamge.
- · Supports face database management.

- **Video Metadata**
- · Search for targets classified by people, vehicle and non-motor vehicle.

- **Video Intercom**
- · Displays video intercom information: Device name, type, and number.
- · Call VTS, VTH, and 2nd VTO.
- · Offline call.
- · Displays call history: Incoming call, outgoing call, answered, not answered, time and number.

- **Alarm Center**
- · Alarm subscription.
- · Offline notification push.
- · Search for alarm messages by category.
- · Claim and handle alarm messages.
- · Search for history alarm message.

- **Favorite**
- · Search for history alarm message.
- · Quickly view video of channels added to favorites.

- **Files Management**
- · View picture and video via local file.
- · Export videos and pictures saved locally to mobile phone albums.
- · Delete pictures and videos.

3. DSS Agile VDP

- **Call Records**
- · View the incoming and outgoing call records.

- **Visitor**
- · Supports visitor registration and generating visitor pass.
- · Supports searching for visitor records.

- **Monitor**
- · View live video of VTO.
- · Supports remotely unlocking the door.
- · Call management center.
- · Receives and answers calls from intercoms (such as VTO) and the management center.

- **Messages**
- · View the unlocking records and alarm messages.

- **Setting**
- · View account information.
- · Enable event subscription.
- · Enable stream encryption.
- · Set gesture password.

Performance Specification	
Intel® Core(TM) I7-9700K CPU @ 3.60GHZ 8G	

Organization, User and Role

Organizations	10 levels; up to 999 organizations in total
Roles (User Permissions)	20
Users	10 online users and 50 total users
Users for VDP Mobile APP	50 online users and 500 total users

Recording Plan and Event Plan

Central Recording	Up to 256 video channels

DSS Express

Event Rules	Up to 256 event sources

Map

Hierarchies	8 hierarchies
Number of Raster Maps	Up to 32
Number of Submaps per Map	Up to 32
Maximum Size of Raster Map	15 MB
Raster Map Resolution	8100 × 8100
Number of Resources per Raster Map	Up to 300

Personnel and Vehicle Management

Persons	5,000
Cards	10,000
Faces	5,000
Fingerprints	10,000
Vehicles	5,000

Face and Vehicle Watch Lists

Face Watch Lists	50
Total Faces	5,000
Faces per Face Watch List	5,000
Vehicle Watch Lists	8

Access Control

Total Persons	5,000
Access Permision Groups	50

Entrance and Exit

Vehicles	5,000
Vehicle Groups	8
Parking Lots	1
Entrance and Exit Points	4
Number of Entrances	2
Number of Exits	2

Intelligent Analysis

People Counting Groups	4
People Counting Rules	20

Data Info

Alarm Records	2,000,000
Face Recognition Records	2,000,000
Number Plate Recognition Records	2,000,000
Access Control Records	2,000,000
Video Intercom Records	2,000,000
Visitor Records	2,000,000
Entrance Records	2,000,000
Exit Records	2,000,000
Forced Exit Records	2,000,000
Historical Count Records	2,000,000
In Area Statistical Records	2,000,000
Heat Map Records	2,000,000
Video Metadata Records	2,000,000
Operator Logs	2,000,000
Service Logs	2,000,000

Single Server

Devices and Channels

Total Devices

Devices[1]	512
Auto-Registered Devices	32

Video Devices and Channels

Video Devices and Channels[2]	256 devices; 256 channels
P2P Devices	32
ANPR Channels	8 channels (4 channels for entrance)
Face Recognition Channels	8 channels
Video Metadata Channels	8 channels
People Counting Channels	16 channels
Heat Map Channels	16 channels

ACS Devices

Access Control	64 devices; 64 doors
VDP	256

Alarm Devices

Alarm Controller	16 devices

Media Transmission Server

Incoming Bandwidth

Total Incoming Bandwidth per Server	200 Mbps
Incoming Video per Server	200 Mbps
Incoming Picture per Server	50 Mbps

Outgoing Bandwidth

Total Outgoing Bandwidth per Server	200 Mbps
Outgoing Video per Server	200 Mbps

DSS Express

Outgoing Picture per Server	50 Mbps
Storage Bandwidth	
Total Storage Bandwidth per Server	100 Mbps
Video Storage per Server	100 Mbps
Picture Storage per Server	50 Mbps
Playback, Storage and Download	
Maximum Capacity per Storage Server	2TB
Events[3]	
Total Events[4]	60 per second
Events without Pictures	
Events without Pictures	60 per second
Access Control Events	60 per second
Events with Pictures[5]	
Total Events with Pictures	60 per second (50 Mbps)
ANPR Events	12 per second (4 per 3 seconds for entrance and exit) (500 KB per picture)
Events with Pictures	12 per second (500 KB per picture)
Face Capture Events	12 per second (500 KB per picture)
Video Metadata Events	6 per second (1024 KB per picture)

① Total number of devices indicates that the total number of video, access control, and video intercom devices that connected to the platform, which cannot exceed the parameter.

② Total number of video devices and channels indicates that the number of video devices and channels connected to the platform, such as IPC, NVR, and ITC, cannot exceed the parameter.

③ Event concurrency is peak concurrency: 20 minutes of peak concurrency test, 3 times a day, and 30% peak concurrency for 8 hours per day.

④ 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.

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 50 Mbps, so the concurrency of events with pictures is limited by picture write capacity.