DSS Pro

Comprehensive and Expandable Dahua VMS

Introduction

DSS Pro, Comprehensive and Expandable Dahua VMS, is a flexible, scalable, high reliable and powerful central management system. With client-server architecture, DSS Pro provides the central management, information sharing, convenient connection, and multi-service cooperation. It can provide basic functions like user permission management, device management, alarm management, central storage, video wall, map and AI functions such as face recognition, ANPR, people counting, it also integrates add-ons like business intelligence, traffic. DSS Pro can be applied to many security surveillance solutions.

Key Components

Service
· Central Management Service (CMS)
· Device Management Service(DMS)
· Storage Service (SS)
· Media Transmission Service (MTS)
· Auto Register Service (ARS)
· Alarm Dispatch Service(ADS)
· Picture Transfer Service (PTS)

Client
· PC Client
. DSS Mobile Client

Running Environments

Operating System
• OS for Server:
· Windows 7 (64-bit)/Windows 10 (64-bit) / Windows Server 2008 R2 Standard/Windows Server 2012

• OS for Control Client:
· Windows 7 / Windows 10 /Windows Server 2012
• OS for DSS Mobile Client:
· IOS: IOS8.0 and above
· Android: Android 4.4 and above

Hardware

• Hardware for Server

Recommended

CPU	Intel Xeon Silver 4114@ 2.2GHz
Memory	16GB
System Disk	1TB, 500G free for DSS
Ethernet port	4 Ports@1000Mbps

Minimum

CPU	E3-1220 v5@2.60GHz 4 Core Processor
Memory	8GB
System Disk	1TB, 500G free for DSS
Ethernet port	2 Ports@1000Mbps

• Hardware for Control Client

Recommended

CPU	Intel Core i5, 64 bits 4 Core Processor
Memory	8GB
Graphics Card	NVIDIA® GeForce®GT 730
Hard Drive Capacity	200G free for DSS Control Client
Ethernet port	1000Mbps

Minimum

CPU	Intel Core i3, 64 bits 4 Core Processor
Memory	4GB
Graphics Card	Intel® HD Graphics 4400
Hard Drive Capacity	100G free for DSS Control Client
Ethernet port	1000Mbps

• Hardware for Control Client

iPhone	iPhone5S and above
Android	Resolution: 1280X720 and above RAM: 3GB and above

Browser Version

· Internet Explorer: 9 and above.

· Chrome: 52 and above

· Firefox: 51 and above

Virtual Machine

· VMware ESXi 6.0

Features

Easy Expansion

· Easy performance upgrade via distributed hardware extension.

· Easy function upgrade via add-ons.

High Reliability

· Backup and restore database.

· Supports hot standby for master server.

High Compatibility

· Dahua's devices included: network camera, network speed dome, decoder, NVR, DVR, ANPR, IVS-F, IVS-T, etc.

· Connects third-party devices via standard ONVIF protocol.

· DSS Pro SDK for third-party platform or mobile development.

Main Functions

· Supports hot standby for master server.

· Supports distributed deployment

· Supports LAN and WAN deployment

1. DSS Pro Web Manager

•*Business Configuration*

Organization Management

· Achieves device group management via organization.

Device Management

· Device initialization: Initialize Dahua's device

· Add devices via auto search, IP, Domain, IP Segment, auto register(for 3G, 4G, DHCP device).

· Manage Dahua's devices such as network camera, network speed dome, NVR, DVR, MDVR, etc.

· Add third-party devices via ONVIF protocol.

· Modify Dahua device's IP address.

· Modify the added Dahua devices' password.

· Bind the associated camera: it's very convenient for alarm config to link the bound cameras, and you can bind POS channel and camera for POS transaction

Role and User Management

· Manage the user's permission via role(device permission, control permissions).

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

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

· Setting PTZ permission for user.

· User can be locked.

· Supports import domain user and assign roles to the user.

Event Management

· Alarm type: device, video channel, alarm input, IVS alarm, thermal, vehicle blacklist, face arming.

· Alarm Scheme: All day template, Weekday template, Weekend template and custom template.

· Alarm Priority: Low, Medium, High.

· Linkage: record, snapshot, live video, alarm output, PTZ, video wall, E-mail, User.

Storage

· Supports edge storage and central storage.

· Central storage: Extend storage via iSCSI.

· Creates record plan by time template: All day template, Weekday template, Weekend template and custom template.

· Backup the video from the edge storage, like EVS, NVR, DVR and etc. by schedule

· Backup the video from MDVR by WiFi.

· Disk Quota: Group the disk, and cameras can be allocated to different disk groups.

Map

· Google online map, Google offline map, raster map

· Up to 8-level submap.

· Config the hot spots(camera, alarm input, intelligent channel) and sub maps on the map

Video Wall

· Display/hide the screen ID.

· Supports screens combination.

· Bind the decode channel with the corresponding screen.

Face Database

· Face library management.

· Adding face one by one

· Import faces in batches

· Set person type for face, you can add person type by yourself.

· Send face library to face recognition devices, and config the similarity.

Vehicle Blacklist

· Vehicle blacklist management

· Vehicle blacklist arming and disarming
· Import and export vehicle blacklist

Average Speed
· Location configuration
· Region configuration(Start location, end location, length, minimum speed, max speed)

Store Management
· Config store layout
· Config the resources to the store
· Config the store location to get weather information.

•*System Maintenance*

Backup and Restore
· Automatically backup system database (daily, week, month).
· Manually backup system database.
· Restore system database from server or local file.

System Dashboard
· Overview and detail system information.
· Running Status: CPU, storage, bandwidth.
· Service, device and user online information, device health report.
· Event Information Statistics: total events and processed
· Source Information: Video channel, alarm channel.

Log
· System, admin, client log.
· Search and export log.

Other Functions
· Supports https
· Device time calibration
· Setting log, alarm info, POS data, heatmap storage time

Service Management
· Delete the slave server
· Enable and disable slave server

2. DSS Pro Control Client

Live View
· Displays device tree. Show/hide offline device.
· Displays the device IP address or device name on the device tree
· View real-time video.
· Common layout (1,4,6,8,9,13,16,20,25,36,64) and customized layout.
· PTZ control
· Electric focus
· Manual recording(store on PC or central storage)
· Snapshot
· Instant playback
· Digital zoom

· Fisheye dewarping
· Fisheye and speed dome smart tracking
· Smart tracking for panoramic camera.
· Audio talk
· Set alarm window
· Quickly decode the video to video wall.
· Turn on/off the audio in live view
· Region of interest: Divide one window into 4 or 6 parts, one shows whole image, others show the detail.
· Display map in Live View
· Save the current live view as a view.
· Up to 4 Live View tabs.
· Supports adding channel to favorite
· Video tour by device, Org, Favorite, View.
· Quickly switch to playback.
· Supports NKB1000 to control camera on Live View
· POS transaction overlay
· Set POS overlay style
· Adjust the video image
· Adjust the display mode(full screen and original)

Playback
· Replay from the front-end devices or central storage
· Video filter: normal, motion, alarm
· Sync play
· Reverse playback
· Slow and fast forward (up to 64X and 1/64X)
· Playback frame-by-frame
· Lock or mark the important record for central storage.
· Download the video, supports avi, dav, flv, mp4, asf.
· Decode the video to video wall.
· Fisheye dewarping
· Adjust the video image
· Snapshot
· Quickly switch to live view
· Adjust the display mode(full screen and original)
· Common layout (1,4,6,8,9,13,16,20,25,36) and custom layout
· Supports thumbnail search.

Download Center
· Download record from central storage or device, supports avi, dav, flv, mp4, asf.
· Download record by timeline, files or tags.
· Supports multi-task download.

Event
· Real-time and history alarm info.
· Alarm detail info, like live video, record and pictures from related camera, alarm source location on the map.
· Acknowledge the alarm.

· Arming control for alarm source
· Forwards the alarm to relevant user
· Manually send alarm email to relevant person
· Search alarm by alarm source, alarm time, status, handle user, priority.
· Search alarm events and export the alarm list.

Video Wall
· Decode the real-time video to wall
· Manually/automatically decode to wall.
· Manage the video wall split
· Change the stream type of video channel.
· Adding box, turning on/off screen and getting the video stream to control client
· Tour the video channel in one screen.
· Schedule plan: Setting the running task on timeline.
· Tour plan: looping different tasks, and each task has duration time.
· Supports NKB1000 to control video wall.

Map
· View the live video and playback on the map
· Supports the area or length calculating for GIS map
· Supports visible range and initial angle(only available for part PTZ model).
· Alarm source turns red and flickers on the map when alarm occurs.

People Counting
· People counting: Provides daily, weekly, monthly, yearly reports.
· Heatmap
· Exports the people counting and heatmap data.

Face Recognition
· Automatically captures faces in the camera field of view
· Extracts face attribute information from captured face.
· Real-time face comparison
· Quickly register face to face library
· Searching face via face attribute
· Searching face via uploading a face image
· Searching comparsion records.
· Generate the track for the specific face
· Generate daily, weekly, monthly attribute report based on the gender and age

ANPR
· Real-time license plate recognition
· Vehicle passed record
· Generates vehicle trajectory based on license plate and time info.
· Search arming record

Business Intelligence (Add on)
· Provides daily weekly and monthly report.
· Store Overview: Provides orders, sales, customer flow, per customer transaction, look to buy rate, entering rate info and store layout.
· Customer flow analysis: entrance analysis, customer demographic, indoor analysis, Panoramic heat map
· POS data: commodity analysis, sale analysis, order analysis.
· Provides POS data and people counting data.

Other functions
· GPU decoding
· Connect NKB via USB

2. DSS Pro Mobile Client

History Record
· Show recently viewed channels, you can open live video or playback via history records.
· Up to 20 history records, then replace the oldest operation record.

Live View
· Open more than one channel at same time, up to 16 channels
· Three stream type: HD(high definition), SD(standard definition), FL(Fluency)
· Supports PTZ control
· Supports horizontal screen play
· One-key switch to playback
· Snapshot, local record, audio talk

Playback
· Replay device record and center record(Up to 8X and 1/8X)
· The calendar shows whether there is a video on that day
· Supports Snapshot
· Manually do local record
· Supports 1X, 2X, 3X, 4X, 1/2X, 1/4X, 1/8X playback

Alarm Center
· Subscribe the alarm
· Alarm processing
· Alarm video and alarm picture
· Alarm search

Map
· Supports Google map
· Displays the video channel on the map
· View video and do playback.

Favorite
· Quickly view video of channel added to the favorite

Files Management
· View picture and video via local file

Performance Specification

	E3-1220 V5	Intel Xeon Silver 4114

Org, User and Role

Organization	10 hierarchies, 999 organizations per hierarchy
Role(User Permission)	100
User	200 online users

Device and Channel

Total video device and channel	600devices, 1200 channels	1000devices, 2000 channels
Auto-Register	120 devices, 300 video channels	200 devices, 500 video channels
ANPR device	120 Channel	200 Channel
Face Recognition Channel	32 Channel	64 Channel
ONVIF	120 devices 480 channels	200 devices 800 channels
People Counting Camera	60 Channel	100 Channel
Heatmap Camera	60 Channel	100 Channel
POS	60 POS channels (30 POS data per second)	100 POS channels (30 POS data per second)

Media Transmission Server

Video input per server	600 Mbps
Video output per server	600 Mbps

Playback, Storage and Download

Playback bandwidth per server	100 Mbps
Video storage bandwidth per server	600 Mbps
Maximum capacity per storage server	200TB
Maximum storage device number per server	5
Download task	5
Maximum Record Plan	100

Alarm

Event Rules	200
Number of alarm reception without pic	200
Number of alarm reception without pic(Peak)	300
Number of alarm reception with pic	15
Alarm Records	5,000,000*

Map

Hierarchy	8 Hierarchies
Submap	32 per hierarchy
Map size of raster map	15MB
Spots per Map(Camera Alarm Input and etc.)	Up to 200(GIS and Raster)

Face Recognition

Face Library	50
Persons per face library	5000
Captured Face Pictures Record	5,000,000*
Face Pictures	15Pic per second

ANPR

Vehicle blacklist	100
License Plate Recognition Record	5,000,000*
ANPR Picture	15 pic per second
Section Number	100
Violation Record	5,000,000*
Average Speed Record	5,000,000*

Data info

People Counting Records	5,000,000*
Log	5,000,000*

Store Management

Max store number	50

Distributed System

Server Number

Number of slave server	Up to 20

Device and Channel

Total device and video channel for distribution	5000 devices 20000 channels
ANPR device	800 devices
Auto-Register	4000devices, 10000 channels
ONVIF	500 devices 2000channels
POS	800 devices

* The record number depends on the disk capcity, the maximum record quantity is 5,000,000