alhua
TECHNOLOGY

Pursuing Excellence is a non-stop journey

DSS

Dahua DSS Products

2017 Ver.1

CONTENTS

Overview

Dahua Security Software(DSS), is a platform developed by Dahua using Client Server(C/S) architecture. The DSS is based on a modular design which enables flexible deployment of each service module according to customer needs. The DSS is a powerful central management system with flexibility, scalability and high reliability. Beyond its basic application as a CCTV management system, DSS can be used in many vertical industries, such as retail, banking, parking lots, transportation, and residential areas through extending functionality with add-ons.

|	DSS Clients			Software Development Kit		Video Wall
Applications	Phone Client	DSS Control Client	DSS Web Client	SDK	RTSP	Display
	Center Management	**Video Device Control**	**Stream Media Control**	**ANPR Control**	**Alarm Management**	**Data Center**
Services Cluster	Web Service	Device Management Service	Media Transmission Service	Picture Control Service	Alarm Dispatch Service	Database
	Center Management Service	Auto Register Service	Storage Service	Picture Transfer Service	Alarm Apply Service	Cloud Storage
						Computing Center
	Protocol Convert Proxy Service	Video Matrix Service	Enhanced Analysis Service			Video Content Analysis
Protocal Layer	Dahua Protocal				ONVIF	PSIA
Devices Layer	DVR	NVR	IPC	MDVR	Access Control Alarm Controller	Third-party Devices

Main Services Introduction

- CMS(Centre Management Service): Manage other service registration and command distribution.
- DMS(Device Management Service): Manage devices, and receive/send/forward alarms.
- MTS(Media Transmission Service): Receive Audio/Video streams from devices and forward to SS(Storage Service), client and decoding devices.
- SS(Storage Service): Management/Search/playback of Audio/Video records.

DSS Family

The Dahua DSS family consists of DSS Premium Products and DSS Compact Products.

DSS Premium is a pure software based product. Its capacity and add-ons can be flexibly adapted to different projects. It is generally targeted at large and medium-sized applications.

The DSS Compact Products are hardware based series with Plug & Play which enable users to use the product with minimal initial configuration and management.
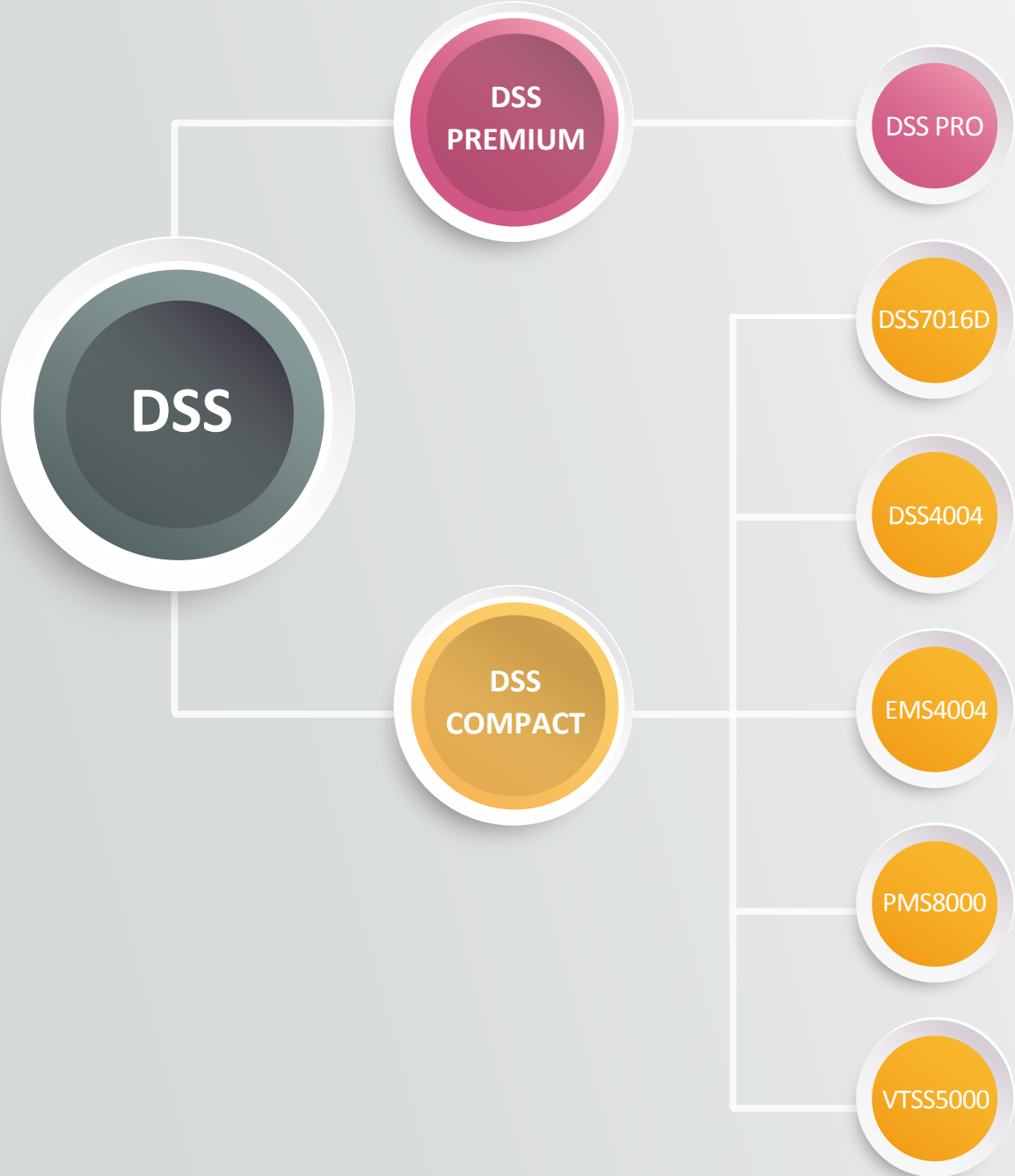
Features

Embrace Openness

DSS is designed for 3rd party device integration by standard ONVIF or PSIA protocol.
DSS SDK for 3rd party VSS integration supports Windows, IOS, and Android.

Software Development Kit

SDK   RTSP

DSS

CCTV

ONVIF   PSIA

Easy Expansion

Easy performance upgrade via distributed hardware extension.
Easy function upgrade via add-ons.
Easy capacity expansion via license. Scale-as-you-go.

High Reliability

DSS supports hot standby which ensures system reliability for critical applications.
When abnormal behavior is detected on the server, the detection service will auto-restart the server to ensure the service stability.

Database Sync

DSS

DSS Hot Standby

Local

Remote
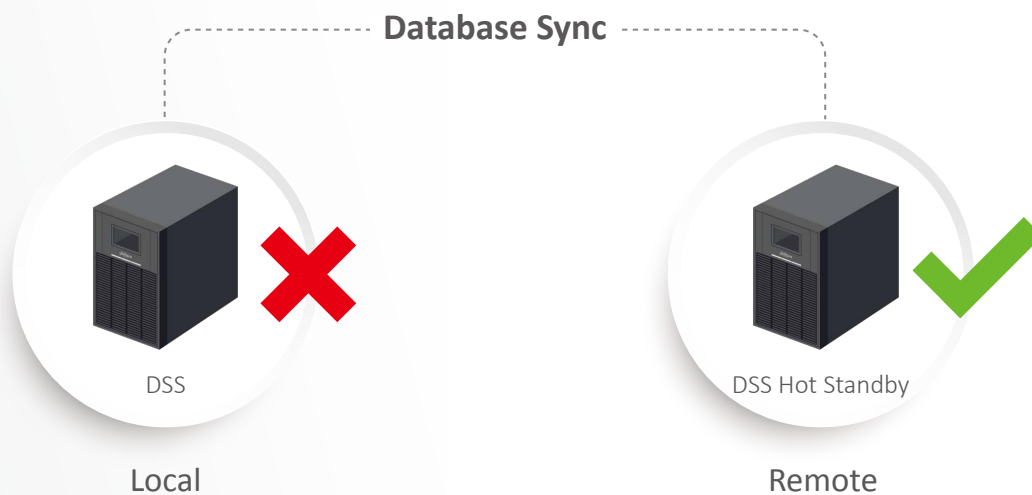
System Backup and Restore

Backup
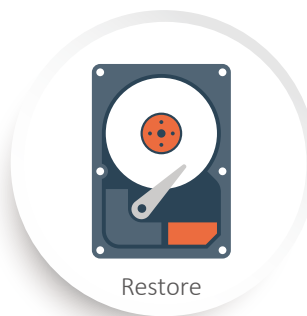
Restore

DSS provides database backups so that your system config data can be well protected and recovered when accidents occur.

Central Management

Advanced group management concepts grant different access rights to different users.

Active Directory support enables the system to synchronize with Windows Active Directory to quickly import a large number of users.

Dahua Device   Dahua Device   Dahua Device

DSS

User A   User B   User C
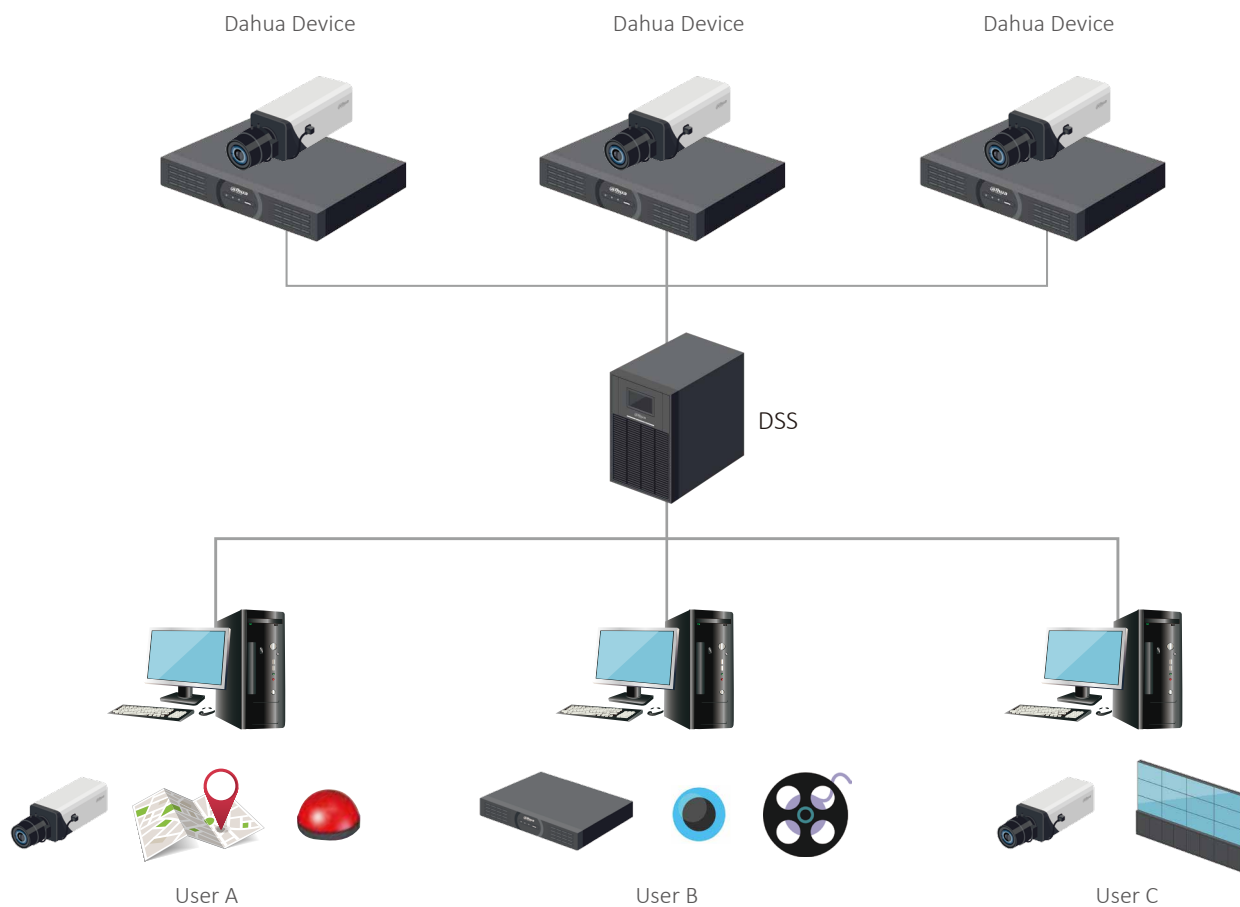
Stream Media Management

Allow a large quantity of users in various locations to view a video simultaneously without overloading the device itself by using the Media Transmission Service (MTS) to distribute the video streams.

MTS

User A   User B   User C
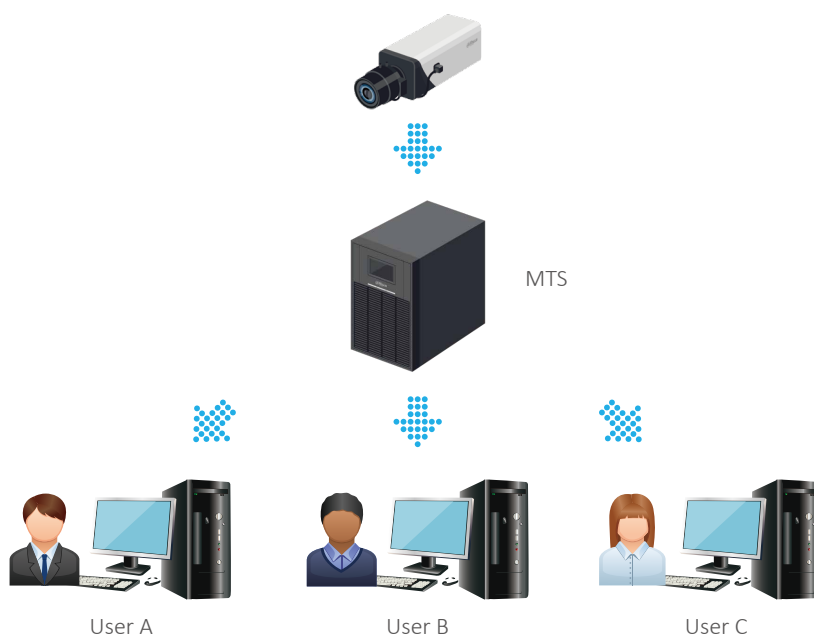
Storage Management

• Recordings are retrieved from camera and NVR storage based on schedules and events to reduce the risk of missing evidence.
• Edge Storage is an additional redundancy option to ensure the continuous recording of video.
• More storage capacity is allocated to important cameras according to user needs.

Camera A   Camera B

Storage Group A   Storage Group B
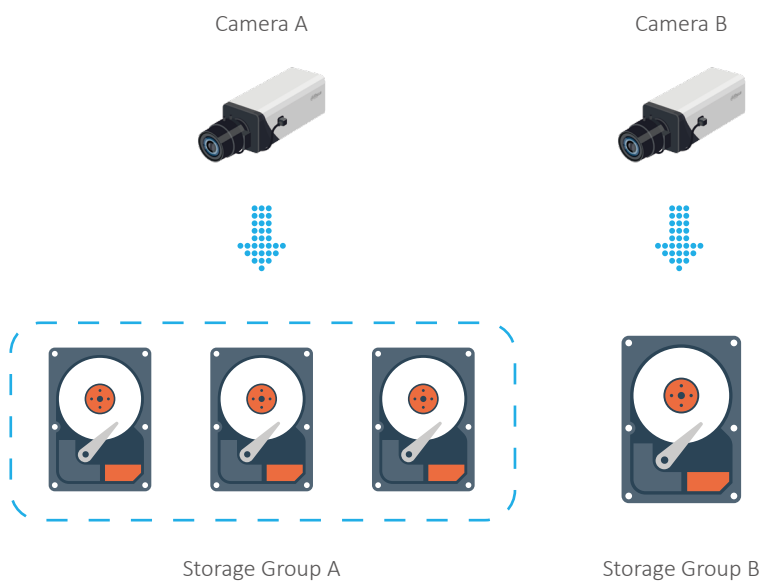
DSS CLIENTS

The DSS Control Client, DSS Web Client, and DSS Mobile application provide instant, around-the-clock access to video surveillance, giving users a choice of viewing interfaces to best suit their needs.

DSS Control Client


DSS
Server

DSS Web Client

DSS Mobile

DSS Control Client

The DSS Control Client provides powerful functions for daily operation and surveillance tasks handling. GPU decoding and multi-screen support allow the simultaneous display of multiple types of content.

Alarm Management

- Alarm acknowledgement mechanism prevents duplicate tasks.
- Disarm alarms for a period of time if detection device becomes defect.
- Assign alarms to other users

| Acknowledge | Forward to other user user 1 ▾ | ⏱ OFF |

User A   User B   User C
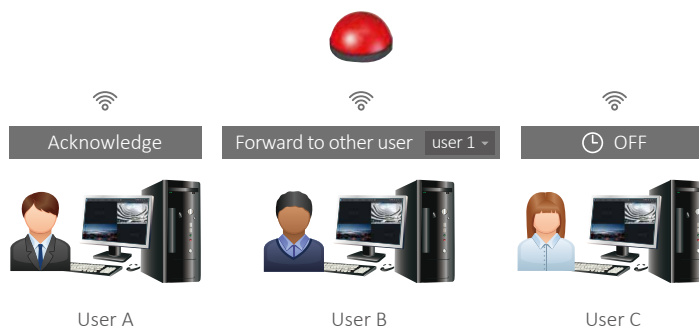
E-Map

DSS provides a multi-layer, hierarchical E-Map interface that enables easy monitoring and control of the whole system. Alarms can be shown on the map when an event occurs.
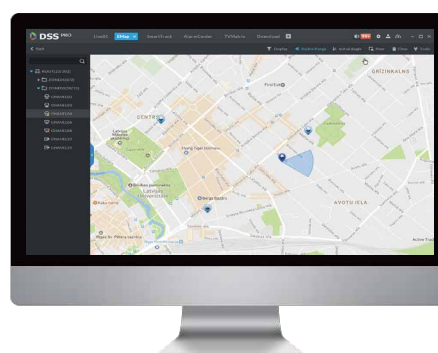
DSS Web Client

DSS Web Client is an internet-based access method offering convenient DSS access from any Internet-enabled PC browser. It is easy to learn and operate for users of all skill levels. It offers high-scalability and is optimized for a superior user experience.
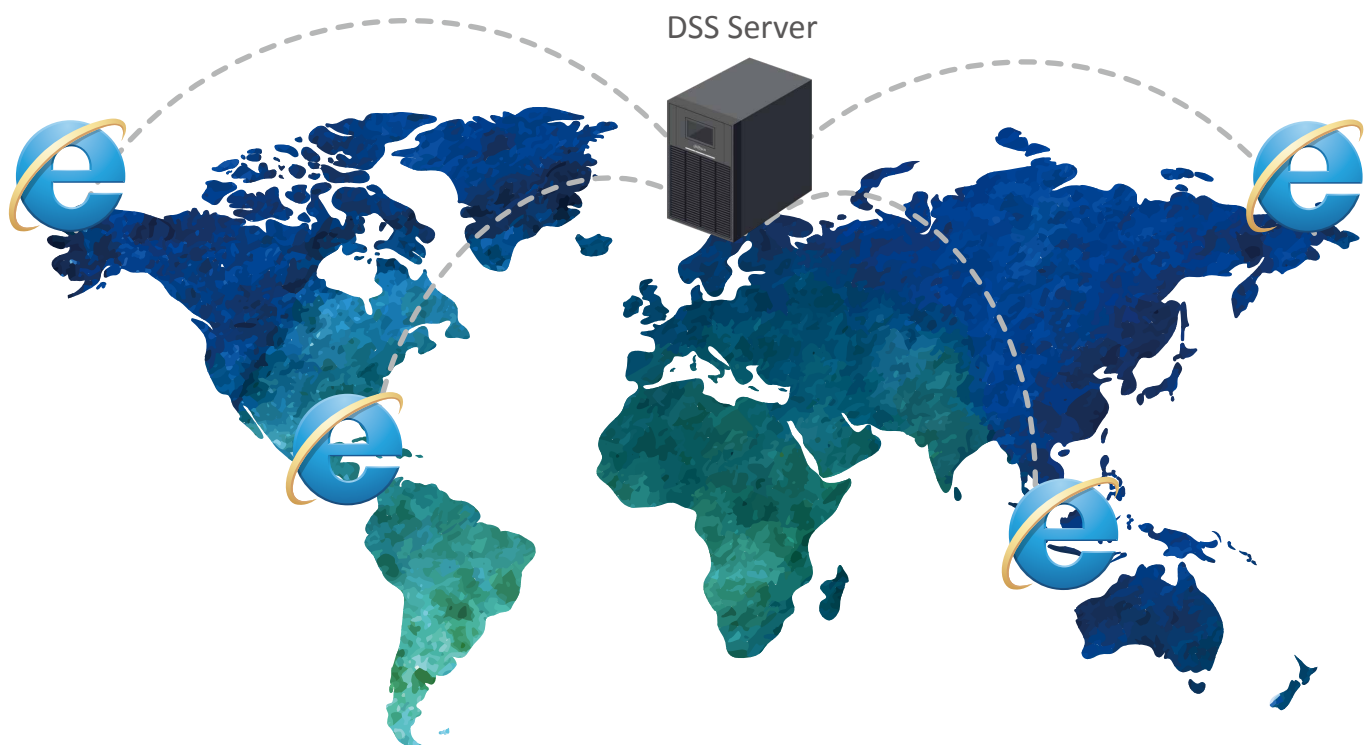

Easy to Learn

DSS Web Client runs on any internet-enabled computer. It provides an easy to use interface that requires zero training.

Flexible Access

DSS Web Client enables instant access to the DSS server anywhere via any internet-enabled computer. Users can instantly verify whether areas under surveillance are safe and secure.

DSS Server

DSS Mobile

DSS Mobile enables users to view up to 4 cameras simultaneously. It supports remote viewing of recorded footage from selected cameras and control of PTZ cameras.

Flexible Access

DSS Mobile enables instant access to the DSS server from anywhere, at any time, via any internet-enabled mobile device. Users can instantly verify whether areas under surveillance are safe and secure.

E-Map

E-Map features provide an intuitive management experience. When mobile DVR is paired with DSS, users can instantly monitor the location and speed of buses or cars in real-time.
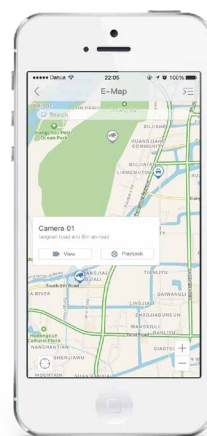
Fast Event Response

Push notifications notify users immediately through the DSS Mobile App once defined events occur.

ADD-ONS

DSS add-ons are separate software components installed on the top of existing DSS video surveillance system, providing users with extra and powerful functionality. Add-Ons are license based and customers can pay-as-you-go to save initial investment.

ADD-ONS

Business Intelligence

Alongside of surveillance capabilities, DSS also provides intelligent analytics features. It helps businesses improve customer satisfaction, secures the shopping environment, and optimizes business results to guide them to growth.

Subbranch A

Subbranch B

Subbranch C

User

Multiple store management support allows the DSS to improve management efficiency for chain stores.
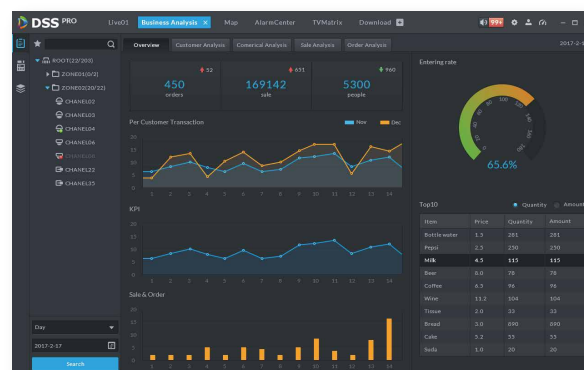
Based on structured data gathering from front-end devices, DSS creates four-dimensional analysis reports for your reference, including customer analysis, sale analysis, and order analysis, which can help with critical business decisions.
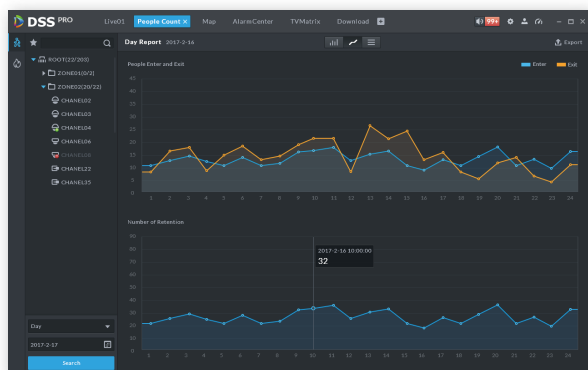
People counting provides management with traffic flow data throughout a shop, mall, or any other region. It also supports daily, monthly, and annual reports.
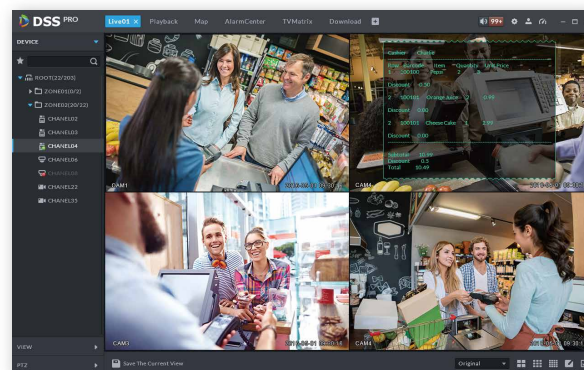
Point-of-Sale (POS) video integration provides useful business analytics. Text search is supported to retrieve specific order and associated video recording data.
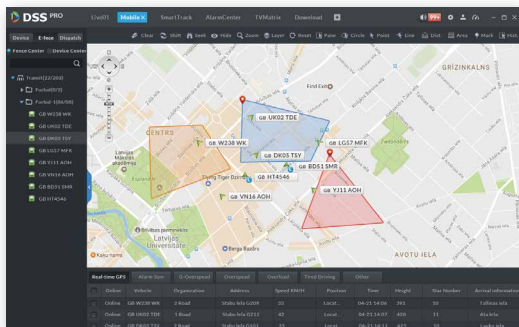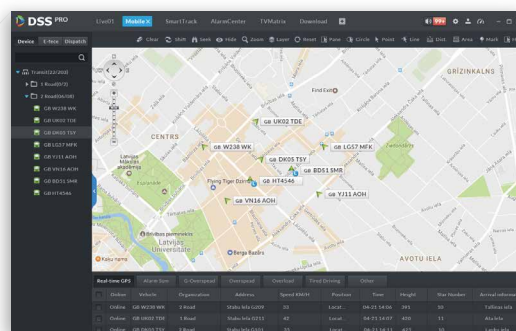
Mobile

The safety of public transportation systems is a global concern, especially in guarding against potential terrorists entering transportation facilities and responding quickly to traffic accidents.
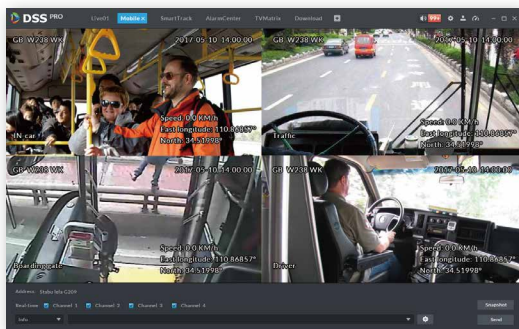

Through the DSS control panel, managers can view live video feeds, as well as the real-time location and speed of vehicles with GPS data received from mobile DVR systems.

Dispatch control can communicate with drivers immediately through real-time or two-way calls, ensuring an instant response to emergencies.


DSS supports setting location boundary alerts. Administrators are notified immediately once a vehicle breaks defined rules, such as speeding above the set speed limit within a boundary.
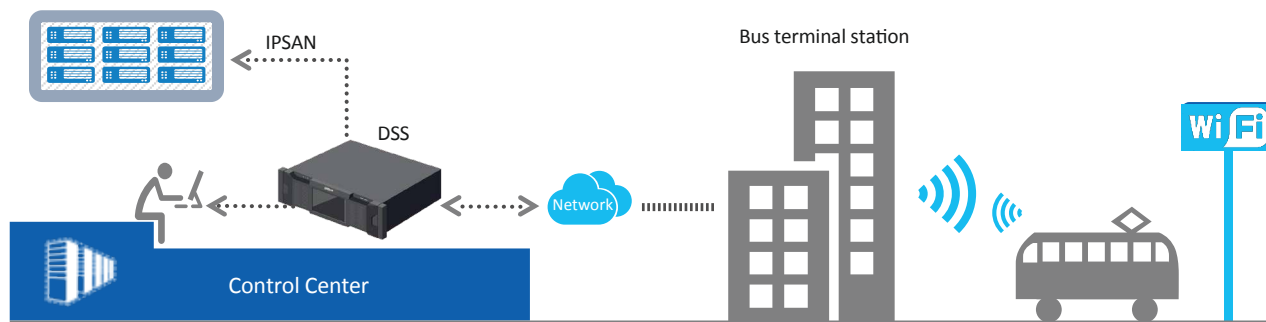

Mobile DVR can switch from 3G to Wi-Fi if it detects the Wi-Fi signal once reaching the bus station. Video backup from DVR to DSS can then be triggered via Wi-Fi .

LPR

The LPR module features automatic license plate number recognition, vehicle image capture, vehicle database management and more.
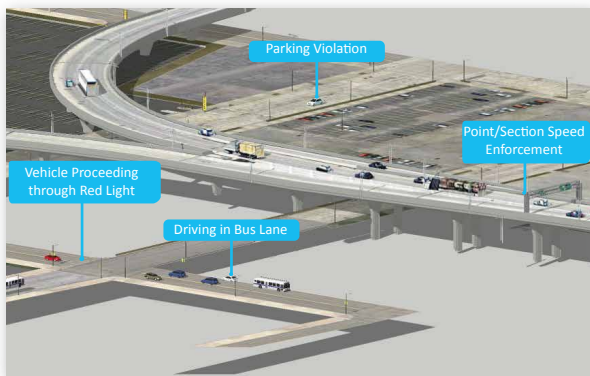

DSS integrates typical traffic enforcement features, including red light enforcement, speeding enforcement, parking violations, and driving in the bus lane.
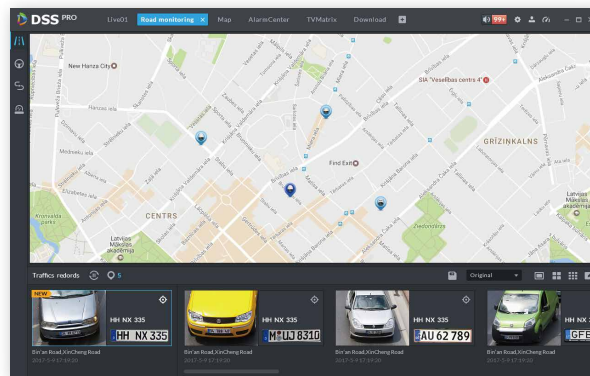
DSS logs all vehicles that pass through a specified zone. It records an image of the car, plate number, registration time, and violation information.
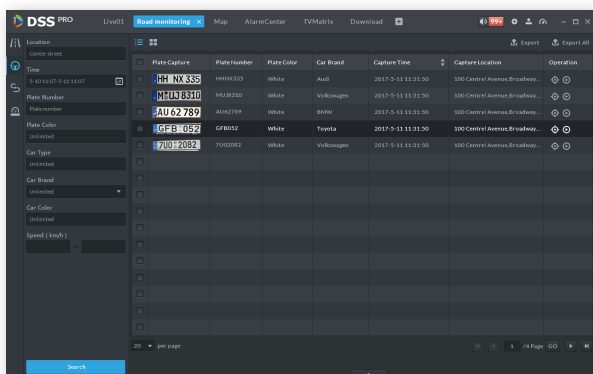

DSS can send instant notifications and alert administrators when a defined license plated is detected, allowing immediate action such as printing out a ticket.
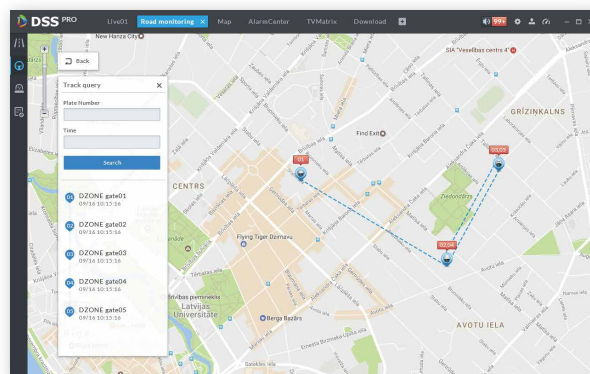
DSS is able to map the routes of individual vehicles by license plate number and time.
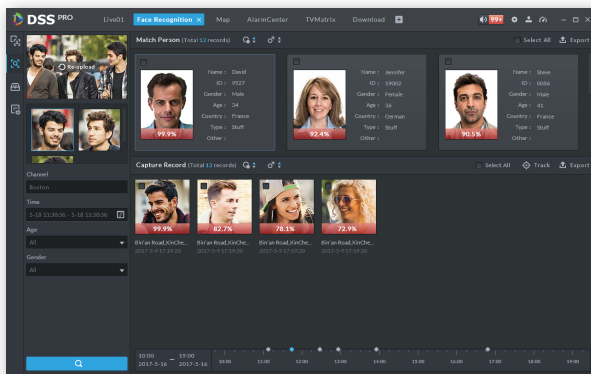
Face Recognition

Face recognition can be used in a broad spectrum of applications, such as the entrances and exits of railway and metro stations or airport terminals, commercial buildings, seaports, schools, factories, offices, etc.
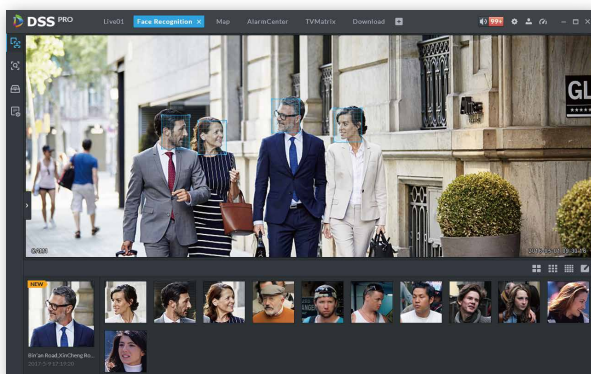

The Face Recognition module supports facial data collection, recognition, and comparison.
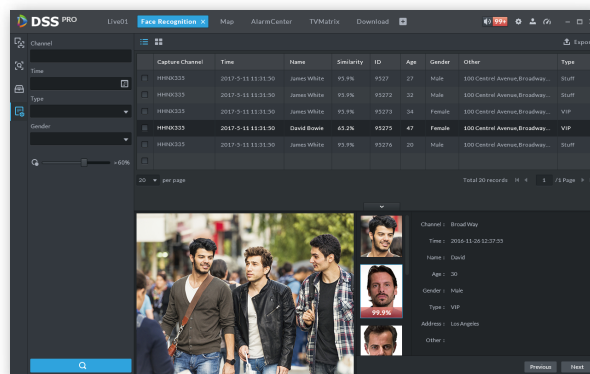
The Face Recognition module logs all persons that pass through a specified zone by recording an image of their face and time of capture.

Once a previously defined face is detected and recognized, the Face Recognition panel can automatically send out a notification, allowing administrators to take immediate action.
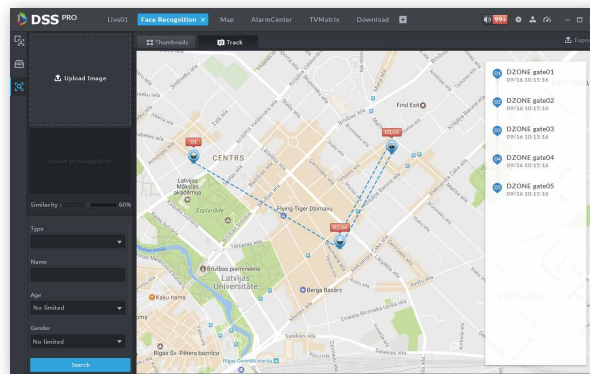
Face Recognition can also create an individual walking path for each person detected according to their face and time information.

DSS PREMIUM

DSS Premium is a software based product. Its capacity and add-ons can be flexibly adapted to different projects. It is suitable for large and medium-sized applications.

DSS PREMIUM

DSS PRO

DSS Pro is a comprehensive software that provides reliable video-based solutions. Its capacity and add-ons can be scaled to adapt to various hardware devices. Add-ons and storage capacity are subscription based, lowering the cost of initial investment, while offering the flexibility to expand features as needed. It is best used in medium and large applications such as transportation and safe city solution.

Easy to Deploy

The DSS wizard makes system configuration and operation a breeze.

Easy Expansion

Easy performance upgrade via distributed hardware extension.
Easy function upgrade via add-ons.
Easy capacity expansion via license subscription. Pay-as-you-go.

High Reliability

DSS supports hot standby which ensures system reliability for critical applications.
When abnormal behavior is detected on the server, the detection service will automatically restart the server to ensure stability.

Database Sync

DSS — Local ✕

DSS Hot Standby — Remote ✓
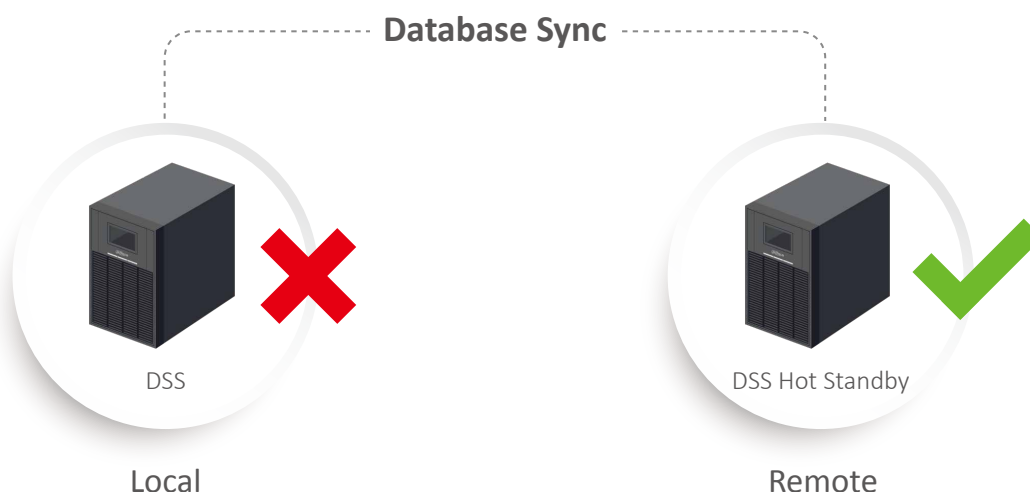
Features

KEY FEATURES	DSS PRO
Performance	
Supported Channels Per Server	1500 ①
Supported Devices Per Server	500 ①
ONVIF	100 ①
Maximum Users	200 simultaneous online users / unlimited users
User Roles	100
Failover	Optional
Storage Server	
Maximum Capacity Per Storage Server	200TB ①
Media Transmission Server	
Maximum Video Input Bandwidth Per Server	600Mbps
Maximum Video Output Bandwidth Per Server	600Mbps
Add-Ons	
Business Intelligence	Optional
LPR	Optional
Face Recognition	Optional

① Hardware dependent(CPU: E3, Memory: 8GB)

DSS COMPACT

DSS Compact is a hardware-based series of products with Plug & Play which enable users to use with minimal configuration and maintenance. They are tailored to meet the demands of various industry surveillance installations, from guarding business entryways to managing complex parking systems.

DSS COMPACT

DSS7016D is an All-in-One DSS server with pre-installed DSS software and Linux OS. It supports one system disk and 15 data disks. It is geared to medium-sized projects.

Beyond its basic application as a CCTV management system, DSS7016D also integrates mobile DVR, an alarm system, access control, video intercom, and entrance control. It can be used in mobile and residential applications.

| DSS Software | Embedded Linux OS | Management Server | Storage |
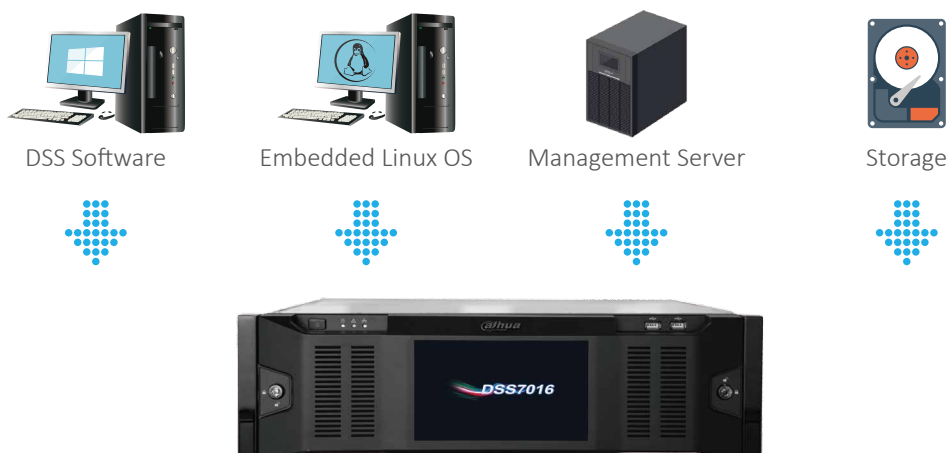
Easy to Deploy and Expand

Plug & Play. No additional actions required except booting up the device.

Multiple DSS7016D can be arranged in a master/slave structure to expand system performance.

Master Server

Slave Server   Slave Server   Slave Server
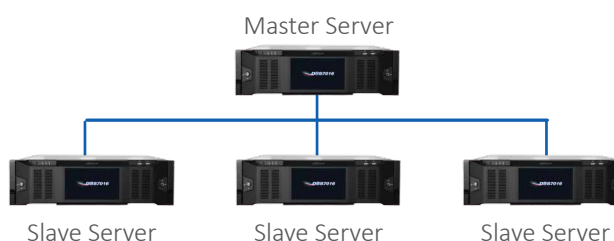
High Stability

A redundant power supply ensures the device always has power, automatically engaging standby power if a power source runs abnormally. DSS7016D also supports hot standby.

Database Sync

DSS

DSS Hot Standby

Local

Remote

DSS COMPACT
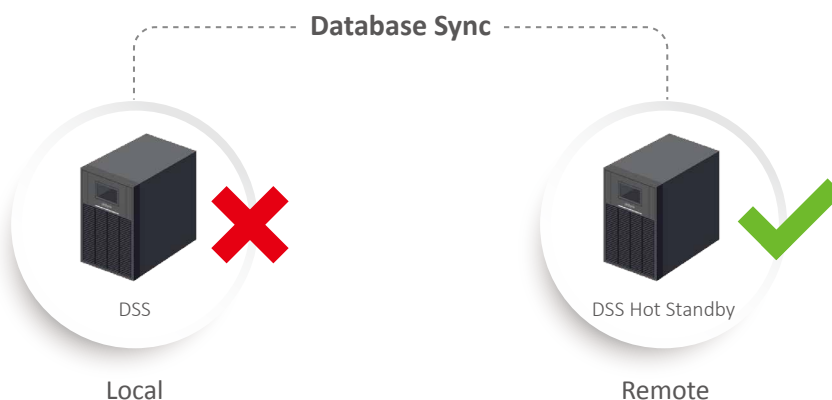
Outstanding Performance

Max support 2,000-ch/500-device input.
700Mbps for storage & 700Mbps for transmit capability.

DSS7016 ——— 700Mbps ——— Clients

DSS7016 ——— 700Mbps ——— IPSAN
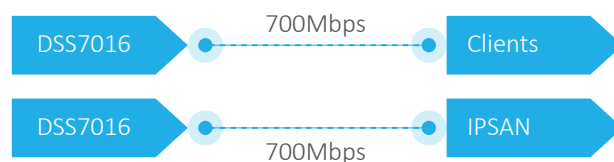
Key Features

KEY FEATURES	DSS7016D	DSS7016DR
Performance		
Supported Channels Per Server	2000	
Supported Devices Per Server	500	
ONVIF	100	
Maximum Users	200 simultaneous online users / unlimited users	
User Roles	100	
Dimensions	3U, 526mmx485mmx135mm	
Power Supply	Single Power Supply	Redundant Power Supply
Storage Server		
Maximum Number of Storage Servers Per Master Server	20	
Maximum Write Bandwidth Per Server	700Mbps	
Maximum Read Bandwidth Per Server	700Mbps	
Maximum Capacity Per Storage Server	200TB	
Media Transmission Server		
Maximum Video Input Bandwidth Per Server	700Mbps	
Maximum Video Output Bandwidth Per Server	700Mbps	
Compatible Devices		
Access Control	√	
Alarm Controller	√	
VDP	√	
Mobile DVR	√	
ITC (For Entrances)	√	

DSS4004

DSS4004 is an All-in-One DSS server with pre-installed DSS software and Linux OS. DSS4004 is geared to small and medium-sized projects. Beyond its basic application as a CCTV management system, DSS4004 also integrates mobile DVR, an alarm system, access control, video intercom, and entrance control. It can be used in mobile and residential applications.

DSS Software   Embedded Linux OS   Management Server

Easy to Deploy

Plug & Play. No actions required except booting up the device.

Cost Effectiveness

For medium-sized projects, DSS4004 offers a perfect solution with rich performance at reasonable cost.

Key Features

| KEY FEATURES	DSS4004
Performance	
Supported Channels Per Server	256
Supported Devices Per Server	256
ONVIF	50
Maximum Users	50 simultaneous online users / unlimited users
User Roles	100
Dimensions	1U, 440mmx43.65mmx398.7mm
Media Transmission Server	
Maximum Video Input Bandwidth Per Server	300Mbps
Maximum Video Output Bandwidth Per Server	300Mbps
Compatible Devices	
Access Control	√
Alarm Controller	√
VDP	√
Mobile DVR	√
ITC (For Entrances)	√

EMS4004

EMS4004 is customized for entrance management. It comes pre-installed with Entrance Management Software and Windows.
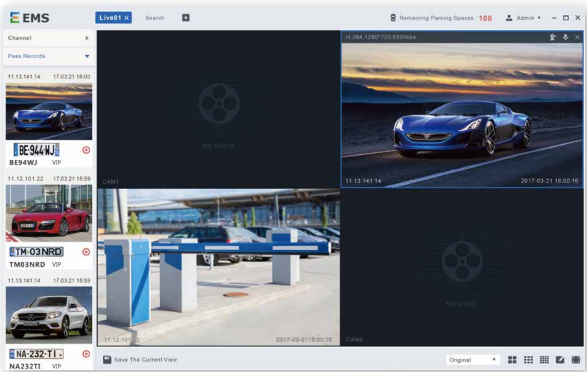
For car entrance, EMS4004 can easily judge if the approaching vehicle's plate is on the white list and open the barrier automatically.
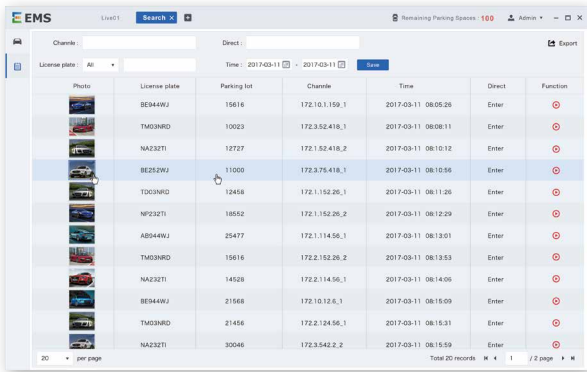
View vehicle entrance/exit data and available spaces remaining. Search through the history and sort by car to view individual trends.
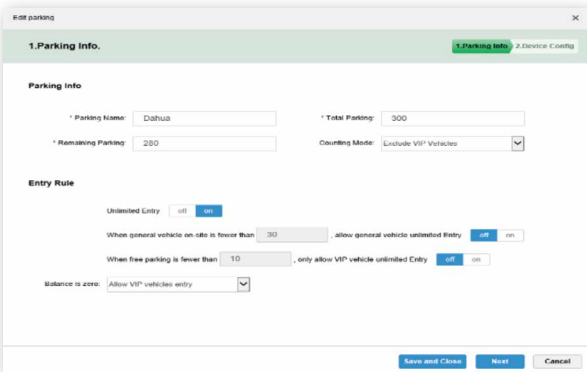
Define alarms for different groups of vehicles. Once an alarm is triggered through license plate detection, the system will automatically send a notification to the administrator, allowing them to take action immediately.

Key Features

KEY FEATURES	EMS4004
Supported Cameras Per Server	10 ITC
Dimensions	1U, 440mmx43.65mmx398.7mm

PMS8000

PMS8000 is customized for parking lot management. Pre-installed Parking Management Software and Windows greatly improves parking management efficiency.
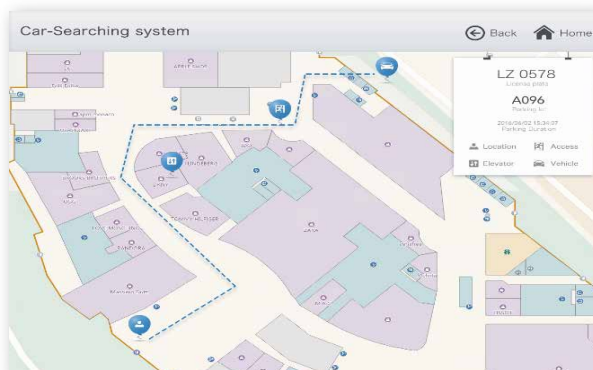

The number of remaining available spaces is displayed by the PMS8000 on the screen at the entrance. Once a vehicle license plate number has been registered, the barrier is opened automatically.
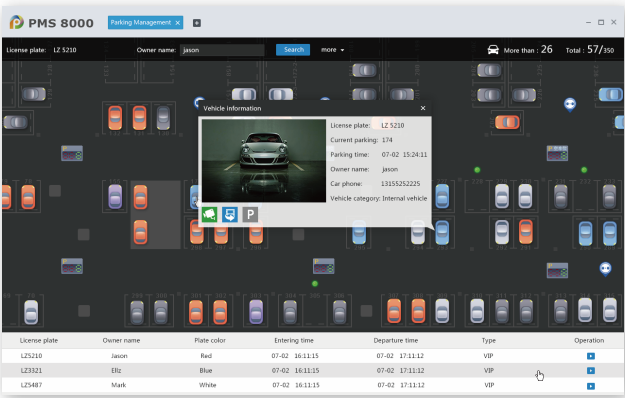
PMS8000 gathers the status of each parking space and calculates the number of available spaces in each direction, conveniently displaying them on indoor screens.

Search through vehicle entry and exit history and view stored video recordings.

PMS8000 supports vehicle location services, enabling drivers to easily find the best path to their cars.

E-Map features allow parking data to be visualized in real-time, simplifying monitoring and management. It supports live video, image preview, and playback.

PMS8000 supports parking space reservations. If a reserved parking space is illegally occupied, a notification will be sent to the administrator.

Key Features

KEY FEATURES	PMS8000
Supported Cameras Per Server	1000
Maximum Users	1000 simultaneous online users / unlimited users
Dimensions	1U, 495mmx42.8mmx434mm

VTSS5000

VTSS5000 is an SIP server that consists of VDP management and video management. It comes pre-installed with management software and Linux, making it easy to deploy and operate.
VTSS Mobile allows operation from mobile devices.

VTSS5000

VTSS Mobile

Two-way video talk between VTO and control center.
Two-way audio call between VTH/SIP phone and control center.
Control center and VTSS Mobile can unlock remotely.
Support issuing card and fingerprint registration.

Key Features

KEY FEATURES	VTSS5000
Supported VDP Channels Per Server	5000
Maximum Video Input Bandwidth Per Server	300Mbps
Maximum Video Output Bandwidth Per Server	300Mbps
Dimensions	1U, 440mmx43.65mmx398.7mm

DSS PRODUCT COMPARISON CHART

FEATURES	DSS PREMIUM		
	DSS PRO	DSS4004	
Deployment			
Hot Standby	√	√	
Distributed deployment	√	√	
Performance			
Supported Channels Per Server	1500①	256	
Supported Devices Per Server	500①	256	
Access Control	√	√	
VDP		√	
Alarm Controller	√	√	
ONVIF	√	√	
Access Rights Control	√	√	
Event Actions (Record, Email, I/O Output, PTZ, Audio Playback, Video Wall)	√	√	
Map	√	√	
Add-Ons			
Business Intelligence	Optional		
Mobile		√	
LPR	Optional		
Face Recognition	Optional		
Service			
Software Upgrade Plan	1 year	3 year	
Customization	√		

① Hardware dependent(CPU: E3, Memory: 8GB)

DSS COMPACT			
DSS7016D	EMS4004	PMS8000	VTSS5000
√			
√			
2000	10 ITC		256
500		1000	
√		√	
√	√	√	5000
√			
√			√
√	√	√	√
√			√
√		√	√
√			
3 year	3 year	3 year	3 year
√		√	

SUCCESS CASES

Paraguay Monitor Centre Project

Project Introduction:
- Project integrates DSS7016D with NKB3000. NKB3000 is used to control the multi-screen operation quickly.
- DSS integrates the video surveillance , Access control and alarm controller together.
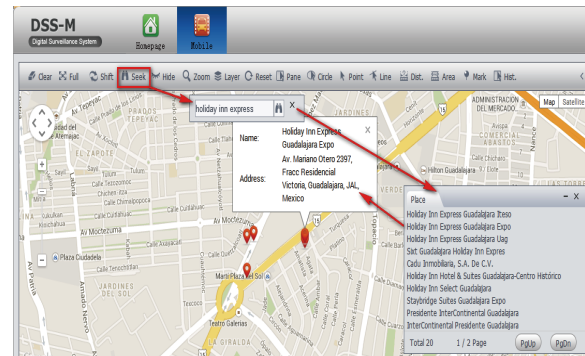
Holland Logistics Project
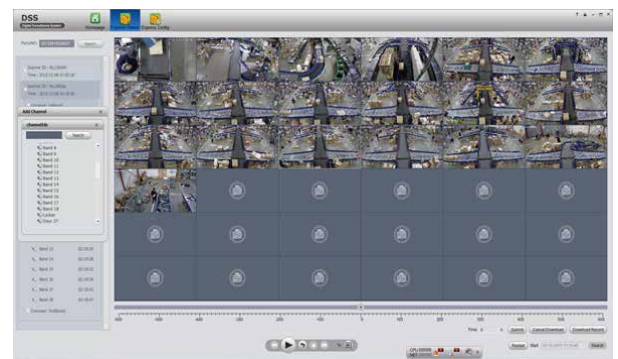
Project Introduction:
- All the video of the parcel are monitored by DSS.
- The relations between the scanner ID, the conveyor ID and the camera are set by DSS.
- Administrator can search and playback the videos through the parcel number.

Mexico Bus Management Project

Project Introduction:

• View the real-time videos of the bus and records the real-time location and speed of the vehicles.

• Integrate traffic accidents detection and emergency button. This is helpful for protecting the public safety once the emergency occurs.

• DSS counts the total amount of the tickets, it offers the bus company the evidence to verify whether the actual income is right. It reduces the loss of income for bus company efficiently.

Mongolia ITS Project

Project Introduction:

• DSS supports the red light enforcement and speed enforcement. It greatly reduces the violations.

• DSS records image of the car, plate number, registration time, and violation information.

• DSS supports printing a ticket.

QUALITY BY DESIGN

www.dahuasecurity.com

DAHUA TECHNOLOGY CO., LTD.
No.1199 Bin'an Road, Binjiang District, Hangzhou, China. 310053
Tel: +86-571-87688883   Fax: +86-571-87688815
Email: overseas@dahuatech.com
www.dahuasecurity.com

alhua
TECHNOLOGY