HikCentral Professional V2.6.1

System Requirements and Performance

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Contents

Chapter 1 System Requirements

Table 1-1 System Requirements

OS for Server[1]	• Microsoft® Windows 11 64-bit • Microsoft® Windows 10 64-bit • Microsoft® Windows Server 2019 64-bit • Microsoft® Windows Server 2016 64-bit • Microsoft® Windows Server 2012 R2 64-bit • Microsoft® Windows Server 2012 64-bit • Microsoft® Windows Server 2022 **Note** For Windows Server 2012 R2, make sure it is installed with the rollup (KB2919355) updated in April, 2014.
OS for Control Client	• Microsoft® Windows 11 64-bit • Microsoft® Windows 10 64-bit • Microsoft® Windows Server 2019 64-bit • Microsoft® Windows Server 2016 64-bit • Microsoft® Windows Server 2012 R2 64-bit • Microsoft® Windows Server 2012 64-bit • Microsoft® Windows Server 2022 **Note** For Windows Server 2012 R2, make sure it is installed with the rollup (KB2919355) updated in April, 2014.
OS for Mobile Client	• iOS 12.0 and later • Android 6.0 and later
Database	PostgreSQL V16.1
Browser	• Google Chrome® 114 and later • Firefox® 114 and later • Safari® 16.6 and later • Microsoft® Edge 114 and later • Internet Explorer® 11 and later
Virtual Machine	• VMware® ESXi™ 6.x, ESXi™ 7.x • Microsoft® Hyper-V with Windows Server 2012/2012 R2/2016 (64-bit)

	Note • The Control Client cannot run on the virtual machine. • The Virtual machine in cluster mode is not supported. • The migration of virtual machine will cause the failure of License verification.
Failover Cluster	• Microsoft® Windows Server 2019 64-bit • Microsoft® Windows Server 2016 64-bit • Microsoft® Windows Server 2012 64-bit • RoseReplicatorPlus_for_oversea-5.8.0-1784.230526 -Windows-x64

Chapter 2 System Management Server (SYS)

Note

The values in this document are tested based on Seagate SATA 1.0TB 7200RPM. The values vary by the running conditions and environment, such as HikCentral Professional version, environment temperature, and hard disk brand.

2.1 SYS Configurations

Table 2-1 SYS Configurations

Feature	Configuration 1	Configuration 2	Configuration 3
Suggested Hikvision Model	DS-VP41D-C/HW5L	DS-VE11D-C/HW01(C)	DS-VD22D-C/HW2
CPU	Intel® Core™ i5-12500	• Intel® Xeon® E-2324G • Intel® Xeon® E-2314	Intel® Xeon® E-2378 **Note** If other servers are installed with SYS, Intel® Xeon® Silver 4309Y is recommended.
RAM	8 GB	16 GB	32 GB
NIC	GbE Network Interface Card	GbE Network Interface Card	GbE Network Interface Card
HDD for OS	SATA 7200 RPM Enterprise Class HDD or SSD	SATA 7200 RPM Enterprise Class HDD or SSD	SATA 7200 RPM Enterprise Class HDD or SSD
HDD for Picture Storage	Enterprise-class HDD or high performance network HDD. It should support writing or reading of 10 MB/s.	Enterprise-class HDD or high performance network HDD. It should support writing or reading of 20 MB/s.	Enterprise-class HDD or high performance network HDD. It should support writing or reading of 20 MB/s. **Note** An exclusive HDD is recommended for picture storage.

Feature	Configuration 1	Configuration 2	Configuration 3
HDD Capacity for Database	At least 650 GB	At least 650 GB	At least 650 GB **Note** An exclusive HDD is recommended for database.
OS	Microsoft® Windows Server 2019 STD 64-bit or later		Microsoft® Windows Server 2019 STD 64-bit or later
Virtual Machine	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB Storage: EBS NIC: 10 Gbps	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB Storage: EBS NIC: 10 Gbps	**Amazon AWS EC2** Instance: c5.4xlarge vCPU Count: 16 RAM: 32 GB Storage: HDD NIC: 10 Gbps
	Microsoft Azure Instance: F8s_v2 vCPU Count: 8 RAM: 16 GB NIC: 10 Gbps	**Microsoft Azure** Instance: F8s_v2 vCPU Count: 8 RAM: 16 GB NIC: 10 Gbps	**Microsoft Azure** Instance: F16s_v2 vCPU Count:16 RAM: 32 GB NIC: 10 Gbps

2.2 General System Performance

This chapter includes the following sections:

- ***Manageable Resources***
- ***Area***
- ***Remote Site Management***
- ***Event***
- ***Video Security***
- ***Data Storage***
- ***User & Role***
- ***Person***
- ***Map***

2.2.1 Manageable Resources

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-2 Manageable Resources

Resource Type	Configuration 1	Configuration 2	Configuration 3
• Encoding Devices • Encoding Devices Added by ONVIF Protocol • Access Control Devices • Elevator Control Devices • Video Intercom Devices • Visitor Terminals • On-Board Devices • Query Terminals • Entrance and Exit Stations • Guidance Terminals • Parking Lot Screens • UVSSs • Security Control Panels and Panic Alarm Devices • Fire Protection Devices • Body Cameras • Dock Stations • Digital Signage Terminals • Interactive Flat Panels • LED Controllers • BACnet Devices • Modbus Devices • Decoding Devices • Security Inspection Devices • Network Transmission Devices • IP Speakers • Payment Terminals • Portable Code Scanners • Scanning Devices (including Hikvision	256 in Total[1] **Note** No more than 128 elevator control devices, 32 security radars, 32 video intercom devices, 8 visitor terminals, 300 body cameras, 16 dock stations, 16 network transmission devices, 4 UVSSs, 40 entrances&exits, 300 on-board devices, 100 payment terminals, and 32 IP speakers are allowed.	1,024 in Total[2] **Note** No more than 32 visitor terminals, 200 dock stations, 1,000 body cameras, 128 security radars, 128 network transmission devices, 4 UVSSs, 40 entrances&exits, 500 on-board devices, 100 payment terminals, and 64 IP speakers are allowed.	5,000 in Total[3] **Note** No more than 2,048 encoding devices added by ONVIF protocol, 128 security radars, 32 visitor terminals, 2,048 alarm devices (security control panels and panic alarm devices), 1,000 dock stations, 128 network transmission devices, 40 entrances&exits, 2,048 guidance terminals, 4 UVSSs, 2,048 digital signages, 2,048 interactive flat panels, 2,048 LED controllers, 2,048 fire protection devices, 1,000 scanning devices, 256 portable code scanners, 100 payment terminals, and 128 IP speakers are allowed.

Resource Type	Configuration 1	Configuration 2	Configuration 3
smart code readers, Hikvision barcode readers, and third-party scanning devices)			
Radar PTZ Cameras	30	30	30
DS-5600 Series Face Recognition Terminals[4]	32	32	32
Cameras	512	3,000	Central System: 10,000 RSM: 100,000
Cameras for Face Picture Comparison and Human Body Recognition	256	1,024	3,000
ANPR Cameras	256	1,024	3,000
People Counting Cameras	256	1,024	3,000
Queue Management Cameras	256	1,024	3,000
Heat Map Cameras	128	1,024 (recommended max. value)	1,024 (recommended max. value)
Thermal Cameras	5 (recommended max. value)	20 (recommended max. value)	20 (recommended max. value)
Alarm Inputs (Excluding security control panels and panic alarm devices)	512	5,000	5,000
Alarm Inputs of Security Control Devices	512	10,000	10,000
Partitions (Areas)	64	2,048	2,048
Alarm Outputs	512	3,000	3,000
Access Points (Doors + Floors)[5]	128	1,024	Central System: 5,000 RSM: 10,000
Enrollment Stations	8	8	8
Recording Servers (Including pStor, Hybird	64	64	64

Resource Type	Configuration 1	Configuration 2	Configuration 3
SAN, NVR, and cloud storage)			
Streaming Servers	64	64	64
Intelligent Analysis Servers	64	64	64

Note

1. - If the Save Picture function is enabled, no more than 45 Hikvision smart code readers are allowed.
   - If you add Hikvision smart code readers to CodePlatform, and set Device Type to Code Platform, you can go to **Area → Scanning Channel** , select no more than 50 Hikvision smart code readers, and enable **Picture Storage** to save pictures.
2. - If the Save Picture function is enabled, no more than 45 Hikvision smart code readers are allowed.
   - If you add Hikvision smart code readers to CodePlatform, and set Device Type to Code Platform, you can go to **Area → Scanning Channel** ,select no more than 50 Hikvision smart code readers, and enable **Picture Storage** to save pictures.
3. - If the Save Picture function is enabled, no more than 45 Hikvision smart code readers are allowed.
   - If you add Hikvision smart code readers to CodePlatform, and set Device Type to Code Platform, you can go to **Area → Scanning Channel** ,select no more than 50 Hikvision smart code readers, and enable **Picture Storage** to save pictures.
4. DS-5600 series devices should be applied with Hikvision Turnstiles. If they are applied with third-party turnstiles, they are regarded as access control devices.
5. If more than 2,500 access points are added, SSD for OS is recommended.

2.2.2 Area

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-3 Area

Parameter	Configuration 1	Configuration 2	Configuration 3
Areas	512	3,000	6,000
Area Hierarchies	5	5	5
Cameras in One Area	256	256	256

Parameter	Configuration 1	Configuration 2	Configuration 3
Alarm Inputs in One Area	256	256	256
Alarm Outputs in One Area	256	256	256

2.2.3 Remote Site Management

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-4 Remote Site Management

Feature	Configuration 1	Configuration 2	Configuration 3
Remote Sites	N/A	N/A	1,024
Resources on Remote Sites	N/A	N/A	100,000

2.2.4 Event

This chapter introduces the configuration, receiving & delivery, and storage of events.

Note

For details about the configurations, see ***SYS Configurations*** .

Event Configuration

Table 2-5 Event Configuration

Parameters	Configuration 1	Configuration 2	Configuration 3
Alarm Priorities	255	255	255
Alarm Categories	25	25	25
Events	1,500	3,000	10,000
User-Defined Event Rules	1,500	3,000	10,000

Parameters	Configuration 1	Configuration 2	Configuration 3
Event Rules in One Event Report	32	32	32
Arming Schedule Templates	200	200	200

Event Receiving

Table 2-6 Event Receiving

Parameters	Configuration 1	Configuration 2	Configuration 3
Events with Pictures	• When pictures are directly transmitted from devices to Recording Servers or NVRs: ◦ Average Value: 30/s ◦ Peak Value: 100/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS[1], and then SYS transmits them to Recording Servers: Peak Value: 20/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS for storage: Peak Value: 20/s[2] (This value last for no more than 10 minutes.)	• When pictures are directly transmitted from devices to Recording Servers or NVRs: ◦ Average Value: 50/s ◦ Peak Value: 200/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS[1], and then SYS transmits them to Recording Servers: Peak Value: 80/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS for storage: Peak Value: 20/s[2] (This value last for no more than 10 minutes.)	• When pictures are directly transmitted from devices to Recording Servers or NVRs: ◦ Average Value: 100/s ◦ Peak Value: 1,000/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS[1], and then SYS transmits them to Recording Servers: Peak Value: 100/s (This value last for no more than 10 minutes.) • When devices send pictures to SYS for storage: Peak Value: 20/s[2] (This value last for no more than 10 minutes.)
Events Without Pictures	• Average Value: 30/s • Peak Value: 100/s (This value last for no more than 10 minutes.)	• Average Value: 50/s • Peak Value: 100/s (This value last for no more than 10 minutes.)	• Average Value: 100/s • Peak Value: 1,000/s (This value last for no more than 10 minutes.)

Parameters	Configuration 1	Configuration 2	Configuration 3
Combined Alarms	10/s	10/s	10/s
Optimus Alarms	30/s	50/s	100/s

Note

1. The numbers of received events are measured with each picture as 500 KB. For pictures triggered by the alarm linkage action, the receiving performance varies by the number of pictures.
   Pictures will be forwarded to the Recording Server from the SYS when pictures cannot be stored in the device, and the Recording Server is not configured on the device's Web page.
2. For access events stored in SYS, each picture is 50 KB, and the receiving performance is 200/s.

Event Delivery

Table 2-7 Event Delivery

Parameters	Configuration 1	Configuration 2	Configuration 3
Events Sent to Clients	30 clients * 38 events/s	100 clients * 50 events/s	100 clients * 100 events/s

2.2.5 Video Security

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-8 Video Security

Parameter	Configuration 1	Configuration 2	Configuration 3
Capture Triggered by Event (Directly Stored in Recording Servers)	10/s	20/s	• Average Value: 100/s • Peak Value: 1,000/s (This value last for no more than 10 minutes.)
Capture Triggered by Event (Stored in SYS, or transmitted to recording servers from SYS)	10/s	20/s	• Average Value: 20/s • Peak Value: 100/s (This value last for no more than 10 minutes.)

Parameter	Configuration 1	Configuration 2	Configuration 3
Recording Schedules	512	3,000	30,000
Recording Schedule Templates	200	200	200
Double Authentications	32 users	50 users	50 users

2.2.6 Data Storage

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-9 Data Storage

Parameter	Configuration 1	Configuration 2	Configuration 3
Data Retention Period	Data Retention Period: 3 Years	Data Retention Period: 3 Years	Data Retention Period: 3 Years
Operation Logs	5 million each year	5 million each year	5 million each year
Service Information Logs			
Service Error Logs			
Recording Tags	60 million	60 million	60 million
Event Storage	60 million each year	60 million each year	60 million each year
Alarm Storage	60 million each year	60 million each year	60 million each year
Storage of Visitor Records	10 million each year	10 million each year	10 million each year
Storage of ANPR Records	60 million each year	60 million each year	60 million each year
Driving Event Storage	50 million each month	50 million each month	50 million each month
Data Storage of People Counting	5 million each year	5 million each year	5 million each year
Data Storage of Heat Map	0.25 million each year	0.25 million each year	0.25 million each year

Parameter	Configuration 1	Configuration 2	Configuration 3
Data Storage of Queue Analysis	5 million each year	5 million each year	5 million each year
Storage of Face Matched/ Mismatched Events	• 120/s without pictures • 20/s with pictures (each picture 500 KB, stored in Recording Server)	• 400/s without pictures • 100/s with pictures (each picture 500 KB, stored in Recording Server)	• 400/s without pictures • 100/s with pictures (each picture 500 KB, stored in Recording Server)
Storage of Access Records	1.4 billion each year	1.4 billion each year	1.4 billion each year
Storage of Attendance Records	55 million each year	55 million each year	55 million each year

Note

- The maximum data retention period for on-board monitoring is one year.
- The maximum data retention period for dock records is two years.
- The maximum data retention period for parcel tracking records is three months.

2.2.7 User & Role

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-10 User & Role

Parameter	Configuration 1	Configuration 2	Configuration 3
Roles	400	3,000	3,000
Users	100	3,000	10,000
Roles Assigned to One User	100[1]	100[2]	100
Total Online Users and Persons **Note** The persons refers to employees who are allowed to login to Self-Service, searching for attendance results, check in&out via the	500[3]	500[4]	5,000[5]

Parameter	Configuration 1	Configuration 2	Configuration 3
Mobile Client, and opening door via bluetooth.			

Note

1. Resources linked to one role should be less than 170.
2. Resources linked to one role should be less than 1,000.
3. - Max. online users on Control Clients and Web Clients: 30
   - Max. online users on Mobile Clients: 30
   - Max. online store managers (for Intelligent Analysis module): 500
   - Max. online persons: 500
4. - Max. online users on Control Clients and Web Clients: 100
   - Max. online users on Mobile Clients: 100
   - Max. online store managers (for Intelligent Analysis module): 500
   - Max. online persons: 500
5. - Max. online users on Control Clients and Web Clients: 100
   - Max. online users on Mobile Clients: 100
   - Max. online store managers (for Intelligent Analysis module): 1,000
   - Max. online persons: 5,000

2.2.8 Person

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-11 Person

Parameter	Configuration 1	Configuration 2	Configuration 3
Persons **Note** The persons include persons for Access Control and Time&Attendance.	2,000	50,000	100,000
Departments	3,000	3,000	3,000
Department Hierarchies	10	10	10
Profile Pictures	2,000	100,000	100,000
Cards	10,000	250,000	500,000

Parameter	Configuration 1	Configuration 2	Configuration 3
Fingerprints	8,000	200,000	400,000
Irises	4,000	100,000	200,000
Recommended Size of One Profile Picture	300 KB	300 KB	300 KB
Total Size of Profile Pictures	500 MB	300 GB	300 GB
Persons to Be Reviewed	10,000	10,000	10,000
Resigned Persons	100,000	100,000	100,000
Resignation Types	100	100	100

2.2.9 Map

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-12 Map

Parameter	Configuration 1	Configuration 2	Configuration 3
E-Maps Linked to One Area	64	64	64
E-Map Resolution	8192×8192	8192×8192	8192×8192
Recommended Size for Each E-Map	64 MB	64 MB	64 MB
Total Size for E-Maps	2 GB	15 GB	15 GB
Total E-Maps	128	1,024	1,024
Alarm Inputs on Each E-Map	16	128	128
Alarm Outputs on Each E-Map	16	128	128
Labels on Each E-Map	16	128	128
UVSS on Each E-Map	4	4	4
Access Points on Each E-Map	16	128	128
Hot Regions on Each E-Map	8	64	64
Cameras on Each E-Map	16	128	128
Cameras on Maps in Total	E-Map: 512 GIS Map: 512	E-Map: 3,000 GIS Map: 3,000	E-Map: 10,000 GIS Map: 10,000

Parameter	Configuration 1	Configuration 2	Configuration 3
Alarm Inputs on Maps in Total	E-Map: 512 GIS Map: 512	E-Map: 5,000 GIS Map: 5,000	E-Map: 5,000 GIS Map: 5,000
Alarm Outputs on Maps in Total	E-Map: 32 GIS Map: 512	E-Map: 3,000 GIS Map: 3,000	E-Map: 3,000 GIS Map: 3,000
Labels on Maps in Total	E-Map: 128 GIS Map: 512	E-Map: 3,000 GIS Map: 3,000	E-Map: 3,000 GIS Map: 3,000
UVSS on Maps in Total	E-Map: 4 GIS Map: 4	E-Map: 4 GIS Map: 4	E-Map: 4 GIS Map: 4
Access Points on Maps in Total	E-Map: 128 GIS Map: 32	E-Map: 1,024 GIS Map: 128	E-Map: 1,024 GIS Map: 1,024
Hot Regions on Maps in Total	E-Map: 128 GIS Map: 128	E-Map: 1,024 GIS Map: 1,024	E-Map: 1,024 GIS Map: 1,024

2.3 Module Performance

This chapter includes the following sections:

2.3.1 AR Monitoring

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-13 AR Monitoring

Parameter	Configuration 1	Configuration 2	Configuration 3
AR Scenes	100	100	100
Plans	512	512	512
Tags for Each Scene	200	200	200
Tag Groups for Each Scene	100	100	100

Note

Up to 100 scenes are allowed for each plan.

2.3.2 Evidence Management

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-14 Evidence Management

Parameter	Configuration 1	Configuration 2	Configuration 3
Cases	100,000	100,000	100,000
Files	100,000	100,000	100,000

2.3.3 Access Control

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-15 Access Control

Parameter	Configuration 1	Configuration 2	Configuration 3
Anti-Passback Rules	32	128	128
Access Points in One Anti-Passback Rule	16	16	16
Access Levels	32	512	1,024
Access Points in One Access Level	32	1,024	1,024
Access Group	16	512	1,024
Access Levels in One Access Group	8	8	8
Access Schedules	32	32	32
Card Printing Templates	32	32	32
Speed of Applying Access Level Settings to Devices	• Card: 4.2/s • Fingerprint: 1.7/s • Face credential: 1.7/s • Iris: 100/s	• Card: 4.2/s • Fingerprint: 1.7/s • Face credential: 1.7/s • Iris: 100/s	• Card: 4.2/s • Fingerprint: 1.7/s • Face credential: 1.7/s • Iris: 100/s

2.3.4 Visitor

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-16 Visitor

Parameter	Configuration 1	Configuration 2	Configuration 3
Visitors	5,000	100,000	100,000
Visitor Registration/Reservation Records	100,000	100,000	100,000
Visitor Reservation Records to Be Approved	5,000	10,000	100,000
Visitor Email Templates	20	20	20
Visitors in Block List	5,000	10,000	10,000
Entities in Watch List	5,000	10,000	10,000

Parameter	Configuration 1	Configuration 2	Configuration 3
Hosts to Be Applied	10,000	50,000	50,000
Card Templates	20	20	20
WhatsApp Template	20	20	20

2.3.5 Vehicle and Parking Management

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-17 Vehicle and Parking Management

Parameter	Configuration 1	Configuration 2	Configuration 3
Vehicle Lists	• Vehicle Lists: 100 • Vehicles in One List: N/A • Vehicles in Block List: N/A	• Vehicle Lists: 100 • Vehicles in One List: 5,000 • Vehicles in Block List: 5,000	• Vehicle Lists: 100 • Vehicles in One List: 5,000 • Vehicles in Block List: 5,000
Total Vehicles	60,000	500,000	500,000
Parking Lots	• Parking Lots: N/A • Total Lanes: N/A • Lanes in One Parking Lot: N/A • Total Floors of Parking Lot: N/A	• Parking Lots: 10 • Total Lanes: 40 • Lanes in One Parking Lot: 32 • Total Floors of Parking Lot: 128	• Parking Lots: 10 • Total Lanes: 40 • Lanes in One Parking Lot: 32 • Total Floors of Parking Lot: 128
Parking Spaces	• Total Parking Spaces: 3,000 • Parking Spaces on One Floor: 1,500	• Total Parking Spaces: 3,000 • Parking Spaces on One Floor: 1,500	• Total Parking Spaces: 5,000 • Parking Spaces on One Floor: 1,500
Vehicles' Cards	N/A	250,000	250,000
Temporary Cards of One Parking Lot	N/A	10,000	10,000
Undercarriage Pictures	512	3,000	3,000

Note

The Undercarriage Pictures are tested with each picture being 10 MB.

2.3.6 Security Inspection

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-18 Security Inspection

Parameter	Configuration 1	Configuration 2	Configuration 3
Security Analyzers	N/A	8	8
Walk-Through Metal Detectors	N/A	64	64

2.3.7 On-Board Monitoring

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-19 On-Board Monitoring

Parameter	Configuration 1	Configuration 2	Configuration 3
GPS Information Report	Each device reports a GPS information to the platform every 5 seconds, and totally 60 GPS information can be sent to the platform per second.	Each device reports a GPS information to the platform every 5 seconds, and totally 200 GPS information can be sent to the platform per second.	Each device reports a GPS information to the platform every 5 seconds, and totally 200 GPS information can be sent to the platform per second.[1]
Fence Rules for One Vehicle	4	4	4
Deviation Rules for One Vehicle	4	4	4
Deviation Rules in Total	1,200	2,000	2,000

Parameter	Configuration 1	Configuration 2	Configuration 3
Vehicles Can Be Located in One Client	50	64	64
Maximum Number of Drivers	10,000	10,000	10,000

Note

1. If more than 200 GPS information can be sent to the platform per second, SSD is recommended.

2.3.8 Portable Enforcement

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-20 Portable Enforcement

Parameter	Configuration 1	Configuration 2	Configuration 3
Intercom Groups	10	128	128
Persons in One Intercom Group	100	100	100

2.3.9 Intelligent Analysis

Note

For details about the configurations, see ***SYS Configurations*** .

Retail/Supermarket Scenario

Table 2-21 Retail/Supermarket Scenario

Parameter	Configuration 1	Configuration 2	Configuration 3
Resources in One Analysis Group	64	64	64
Total Stores	64	200	1,000
Total Floors			

Parameter	Configuration 1	Configuration 2	Configuration 3
Total Entries and Exits			
Total Analytic Areas			
Total Cameras for People Counting	Subject to the specifications in Manageable Resources.		
Total Cameras for Queue Analysis			
Total Cameras for Heat Analysis			
Promotion Days	Total Days of a Promotion Day: 30 Total Promotion Days: 100	Total Days of a Promotion Day: 30 Total Promotion Days: 100	Total Days of a Promotion Day: 30 Total Promotion Days: 100
Floors of One Store	10	10	10
Entries and Exits of One Store	64	100	100
Cameras Installed at One Entry and Exit	5	5	5

Public Scenario

Table 2-22 Public Scenario

Parameter	Configuration 1	Configuration 2	Configuration 3
Total Analysis Group	64	200	1,000
Cameras of Each Analysis Group	64	64	64

2.3.10 Report

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-23 Report

Parameter	Configuration 1	Configuration 2	Configuration 3
Scheduled Reports	Total Scheduled Reports: 100 Total Data in One Scheduled Report: 32,000	Total Scheduled Reports: 100 Total Data in One Scheduled Report: 32,000	Total Scheduled Reports: 100 Total Data in One Scheduled Report: 32,000
Custom Reports in Time and Attendance Module	128	128	128
GPS Report	N/A	250/s	250/s

Note

The GPS Report is measured when 2,500 body cameras online.

2.3.11 Intelligent Recognition

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-24 Intelligent Recognition

Parameter	Configuration 1	Configuration 2	Configuration 3
Face Pictures for Intelligent Recognition	5000	1,000,000	1,000,000
Intelligent Analysis Groups	32	1,000	1,000
Face Picture Libraries	16	64	64

2.3.12 Time and Attendance

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-25 Time and Attendance

Parameter	Configuration 1	Configuration 2	Configuration 3
Schedules	32	128	128
Break Timetables	128	128	128
Break Timetables in One Timetable	4	4	4
Pay Codes (including overtime types and leave types)	128	128	128
Approval Roles	100	100	100
Approval Flows	1,000	1,000	1,000
Nodes in One Application Flow	100	100	100
Persons Allowed in One Approval Role	500	500	500
Persons Contained in All Approval Roles in Each Nodes	500	500	500

2.3.13 Patrol

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-26 Patrol

Parameter	Configuration 1	Configuration 2	Configuration 3
Patrol Points	1,024	1,024	1,024
Patrol Person Groups	300	300	300
Schedule Templates	1,000	1,000	1,000
Shifts of a Patrol Route	8	8	8

2.3.14 Dock Management

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-27 Dock Management

Parameter	Configuration 1	Configuration 2	Configuration 3
Docks	256	500	500

2.3.15 Parcel Tracking

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-28 Parcel Tracking

Parameter	Configuration 1	Configuration 2	Configuration 3
Check Points	256	1,000	1,000

2.3.16 Commercial Display

Feature	Configuration 1	Configuration 2	Configuration 3
Materials	10,000	10,000	10,000
Material Size	4 GB	4 GB	4 GB
Materials Uploading Concurrently	50	50	50
Programs	2,000	2,000	2,000
Pages of One Program Content	32	32	32
Windows of One Program Content	64	512	1,024
Windows on One Page	32	64	128
Picture Windows	32	32	32
Document Windows	16	16	16
Video / Live Video Windows	4	4	4
Audio Windows	1	1	1
Webpage Windows	2	2	2

Feature	Configuration 1	Configuration 2	Configuration 3
Text Windows	128	128	128
Clock	1	1	1
Countdown Timer	1	1	1
Materials in One Window	256 (Picture/Video/ Text, etc.)	256 (Picture/Video/ Text, etc.)	256 (Picture/Video/ Text, etc.)
Schedules	1,000	1,000	1,000
Cut-In Schedules	Cut-In Programs: 10,000 Cut-In Text Messages: 10,000	Cut-In Programs: 10,000 Cut-In Text Messages: 10,000	Cut-In Programs: 10,000 Cut-In Text Messages: 10,000
Content Review Records	5,000	10,000	20,000
Quickly Released Contents	64 Materials (Picture/ Video) for a Single Release	64 Materials (Picture/ Video) for a Single Release	64 Materials (Picture/ Video) for a Single Release
Released Records	2,000	20,000	20,000
Concurrent Content Release	10	10	10
Applications	512	512	512
Flat Panels Usage Statistics	Devices: 128	Devices: 2,048	Devices: 2,048
Combined Control Command	500	500	500
Device Playing Statistics	128	512	2,048

2.3.17 Smart Wall

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-29 Smart Wall

Parameter	Configuration 1	Configuration 2	Configuration 3
Decoding Devices	4	32	32
Smart Walls	8	32	32
Views	100	1,000	1,000
Cameras in One View	128	320[20]	320 **Note** If multiple decoders are linked with one smart wall, it will be 320; if only one decoder is linked with a smart wall, it will be 256.
View Groups	100	100	100
Views in One View Group	10	10	10
Cameras in One Window of Auto-Switch	256	256	256
Windows of an Auto-Switch	16	16	16
View Groups Displayed on a Smart Wall in Auto-Switch Mode	1	1	1
Windows for Auto-Switch on a Smart Wall (In Single Window Mode)	4	4	4
Camera Groups Auto-Switched on a Smart Wall (In Multi-Window Mode)	1	1	1
Alarms Displayed on Smart Wall as Actions	1 alarm every 15 seconds	1 alarm every 15 seconds	1 alarm every 15 seconds

Parameter	Configuration 1	Configuration 2	Configuration 3
LED Smart Walls Linked to a Decoder	Each wall can be linked with only one decoding device (except the situation of cascade). The Max. allowed wall number is subject to decoding device's capability.		
LCD Smart Walls Linked to a Decoder	Supports linking multiple decoding devices with a wall, and linking one decoding device with multiple walls. A decoding device can be linked with no more than 3 walls.		
Maximum Output Ports Linked to a LCD Smart Wall	6 × 10	6 × 10	6 × 10
Maximum Output Ports Linked to a LED Smart Wall	16 × 20	16 × 20	16 × 20
Network Keyboard	1	32	32

2.3.18 Audio Broadcast

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-30 Audio Broadcast

Parameter	Configuration 1	Configuration 2	Configuration 3
Speaker Unit	128	128	128
Broadcast Groups	16	128	128
IP Speakers in One Broadcast Group	16	128	128
Media Libraries	100	100	100
Audio Files in One Media Library	100	100	100
Broadcast Schedules	100	100	100

2.3.19 Canteen Consumption

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-31 Canteen Consumption

Parameter	Configuration 1	Configuration 2	Configuration 3
Number of Merchants	100	100	100
Payment Groups	512	512	512
Payment Rules	128	128	128
Meal Types	8	8	8

2.3.20 Intelligent Inspection

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-32 Intelligent Inspection

Parameter	Configuration 1	Configuration 2	Configuration 3
Inspection Templates	100	100	100
Response Types	20	20	20
Inspection Items of One Category	50	50	50
Inspection Schedules	100	100	100
Attributes of One Asset	10	10	10
Asset Types	50	50	50
Assets Under One Asset Type	50	50	50
Linked Parts of One Asset Type	10	10	10
Linked Cameras of One Asset Part	4	4	4

2.3.21 Others

Note

For details about the configurations, see ***SYS Configurations*** .

Table 2-33 Others

Parameter	Configuration 1	Configuration 2	Configuration 3
Streaming Gateway	50 cameras×2 Mbps input and 50 cameras×2 Mbps output	200 cameras×2 Mbps input and 200 cameras×2 Mbps output	200 cameras×2 Mbps input and 200 cameras×2 Mbps output
Time Consumed to Export Devices and Sites	10 seconds	10 seconds	19 seconds
Number of Messages Sent from SYS to Mobile Clients on Different Smart Phone Systems	iOS/HUAWEI: 30/s Android: 26/s	iOS/HUAWEI: 30/s Android: 26/s	iOS/HUAWEI: 30/s Android: 26/s

Chapter 3 Streaming Server

Configurations

Table 3-1 Configurations

Feature	Configuration 1	Configuration 2
Suggested Hikvision Model	DS-VP41D-C/HW5L	DS-VE11D-C/HW01(C)
CPU	Intel® Core™ i5-12500	Intel Xeon® E-2124
RAM	8 GB	16 GB
NIC	GbE Network Interface Card	GbE Network Interface Card
HDD Type	SATA-II 7200 RPM Enterprise Class Hard Drives	SATA-II 7200 RPM Enterprise Class Hard Drives
HDD Capacity	10 GB for Streaming Server Log Files	10 GB for Streaming Server Log Files

Maximum Performance

Table 3-2 Maximum Performance

Parameter	Configuration 1	Configuration 2
Input and Output	200 streams × 2 Mbps input and 200 streams × 2 Mbps output[1]	300 streams × 2 Mbps input and 300 streams × 2 Mbps output[2]

Note

1. In the Portable Enforcement module, persons performing group intercom via the streaming server of HikCentral Professional simultaneously is 200; persons performing group intercom simultaneously via a third-party streaming server is 300.
2. In the Portable Enforcement module, persons performing group intercom via the streaming server of HikCentral Professional simultaneously is 400.

Chapter 4 pStor Server

OS Requirements

- Microsoft® Windows 11 64-bit
- Microsoft® Windows 10 64-bit
- Microsoft® Windows Server 2019 64-bit
- Microsoft® Windows Server 2016 64-bit
- Microsoft® Windows Server 2012 R2 64-bit
- Microsoft® Windows Server 2012 64-bit
- Microsoft® Windows Server 2022

Note

For Windows Server 2012 R2, make sure it is installed with the rollup (KB2919355) updated in April, 2014.

Hardware Requirements

Table 4-1 Hardware Requirements

Feature	Configuration 1	Configuration 2
Suggested Hikvision Model	DS-VE11D-C/HW01(C)	DS-VE11D-D/HW05
CPU	Intel® Xeon® E-2324G	Intel® Xeon® E-2378
RAM	16 GB	16 GB
NIC	1 GbE x 2 Network Interface Card	1 GbE x 4 Network Interface Card
HDD Type	SATA 7200 RPM Enterprise Class Hard Drives	SATA 7200 RPM Enterprise Class Hard Drives
HDD Capacity	512 GB for pStor system installation 2 or more physical drives for recording1	512 GB for pStor system installation 2 or more standalone drives for recording. **Note** The recording drives MUST NOT be the same with the system installation drive.

Chapter 5 Control Client Performance

5.1 Decoding Performance of Control Client

Note

- The performance refers to maximum live view channels within up to 80% of CPU consumption (software decoding) or up to 80% of video engine load/decoding value (hardware decoding).
- You can switch to hardware decoding on the System page. If the OS of your PC is Windows 7, make sure DirectX (D3DX9_43.dll and D3DCompiler_43.dll) have been installed, or the hardware decoding will fail and it will switch to software decoding. To realize hardware decoding and reach the following maximum decoding performance, click ***here*** to download and install DirectX.

Table 5-1 Configurations

Feature	Configuration 1	Configuration 2	Configuration 3
Suggested Hikvision Model	DS-VP41D-C/HW3	DS-VP41D-C/HW5L	DS-VP41D-C/HW7L
CPU	Intel® Core™ i3-12100	Intel® Core™ i5-12500	Intel® Core™ i7-12700
RAM	8 GB	8 GB	16 GB
NIC	GbE Network Interface Card	GbE Network Interface Card	GbE Network Interface Card
Graphics Card	Intel®UHD Graphics 730	Intel® HD Graphics 770	Intel® HD Graphics 770
OS	Microsoft® Windows 10 (64-bit)	Microsoft® Windows 10 (64-bit)	Microsoft® Windows 10 (64-bit)

5.1.1 Performance in Software Decoding

This topic introduces the software decoding performance of different encoding formats including H.264, H.264+, H.265, and H.265+.

Note

For details about the configurations, see ***Decoding Performance of Control Client*** .

H.264

Table 5-2 Performance of H.264

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	0.5	CIF	64	128	148
30	1	4CIF	39	128	136
30	3	720p	18	44	55
30	6	1080p	9	23	31
30	8	3 MP	6	15	21
30	12	8 MP	3	7	9
25	16	32 MP	1	3	4

H.264+

Table 5-3 Performance of H.264+

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	1	720p	17	54	57
30	3	1080p	10	30	32
30	4	3 MP	7	15	18

H.265

Table 5-4 Performance of H.265

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	1	720p	17	38	43
30	3	1080p	7	17	22
30	4	3 MP	5	10	12

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	6	8 MP	2	4	5
25	16	32 MP	1	2	2

H.265+

Table 5-5 Performance of H.265+

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	0.5	720p	18	43	47
30	1	1080p	8	15	18
30	2	3 MP	5	11	14
30	3	8 MP	2	4	5

5.1.2 Performance in Hardware Decoding

This topic introduces the hardware decoding performance of different encoding formats including H.264, H.264+, H.265, and H.265+.

Note

For details about the configurations, see ***Decoding Performance of Control Client*** .

H.264

Table 5-6 Performance of H.264

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	0.5	CIF	72	80	94
30	1	4CIF	48	64	72
30	3	720p	18	28	30
30	6	1080p	9	13	18

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	8	3 MP	6	9	10
30	12	8 MP	2	3	4

H.264+

Table 5-7 Performance of H.264+

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	1	720p	17	27	30
30	3	1080p	9	14	17
30	4	3 MP	6	9	12

H.265

Table 5-8 Performance of H.265

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	1	720p	17	27	30
30	3	1080p	12	13	14
30	4	3 MP	6	12	14
30	6	8 MP	3	4	4

H.265+

Table 5-9 Performance of H.265+

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	0.5	720p	17	26	28
30	1	1080p	9	14	14

Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Maximum Live View Channels of Configuration 1	Maximum Live View Channels of Configuration 2	Maximum Live View Channels of Configuration 3
30	2	3 MP	6	9	10
30	3	8 MP	3	4	5

5.2 Control Client Performance

Note

The performance refers to the maximum performance of the Control Client, running on the PC of the following configurations.

Configurations

Table 5-10 Configurations

CPU	Intel® Core™ i7-9700k
RAM	16 GB
NIC	GbE Network Interface Card
OS	Microsoft® Windows 10 64-bit
Graphics Card	NVIDIA® GeForce GTX 970

Maximum Performance of Different Modules

Table 5-11 Maximum Performance of Different Modules

Control Panel	Control Panels Can Be Configured	5
	Windows on One Control Panel	12
	Displayed Alarms	20
	Displayed Face Recognition Records	200
	Displayed Face Picture Comparison Records	20
	Displayed Access Records	20
	Displayed Vehicle Passing Records	20
Resource	Resources in One Area	256

View	Public Views	100
	Private Views	100/user
	Public View Groups	100
	Private View Groups	100/user
	Cameras in One View	64
	View Hierarchies	5
Favorites	Favorites	100/user
	Resources in One Favorites	64
	Favorites Hierarchies	5
Live View and Playback	Channels in Live View	256
	Windows of Zooming Area in Fisheye Dewarping Live View	8
	Windows of Zooming Area in Live View	5
	Channels in Playback	16
	Channels in Synchronous Playback	16
	Channels in Visual Tracking	9
	Channels in Reverse Playback	16
	Auto-Switch Windows on One Auxiliary Screen	64 (four auxiliary screens are supported)
Event and Alarm	Max. Frequency of Alarm and Event Receiving (Face, Access Control, and Entrance & Exit)	100 alarms per second (last for 12 seconds), including 20 alarms with pictures (500 KB each) and 80 without pictures.
	Average Frequency of Alarm and Receiving (Face, Access Control, and Entrance & Exit)	20 alarms with pictures (500 KB each) and 20 without pictures
	Alarms Displayed in Alarm Center	2,000
	Unacknowledged Alarms Displayed	5,00
	Alarms to Be Batch Acknowledged for Once	100
	Alarms in One Export	XLS/CSV: Unlimited

		PDF: 5,000
Monitoring	Events Displayed in Event List	500
	Displayed Face Picture Comparison Records/Access Records/Vehicle Passing Records	200
	Face Picture Libraries Subscribed	10
	Comparison Records of One Person	20
	Displayed Person-Related Events	20
	Displayed Vehicle-Related Events	20
	Displayed Video Search Results	5,000
	Displayed VCA Search Results	5,000
	Face Capture Records	200
	Vehicle Capture Records	200
	Vehicle Matched Events	20
Face and Human Body Recognition	Face Picture Matched Events	20
	Search Results of Matched Face Pictures	Total: 10,000 (20 per page)
	Search Results of Frequently and Rarely Appeared Persons	100 per page
Evidence Management	Files Linked to One Evidence	100
Video Intercom	Channels for Video Intercom	1
Two-Way Audio	Channels for Two-Way Audio	1
Broadcast	Devices in One Broadcast	512
	IP Speakers in One Broadcast	128
Intelligent Analysis	Records in One Report	320,000
Vehicle and Parking	Vehicle Passing Records in One Export	PDF: 500
Health Monitoring	Server Logs in One Export	5,000
	Device Logs in One Export	2,000
	Online/Offline Logs and Recording Logs in One Export	10,000
Task Center	Tasks Downloading Completed	5,000

	Tasks Waiting for Downloading	500
	Tasks Waiting for Uploading	500
	Tasks in Downloading Simultaneously	5
	Tasks in Uploading Simultaneously	5
Smart Wall (Screen Wall)	Times for One Alarm to Be Displayed on Smart Wall	1
	Windows on One Smart Wall	64
Smart Wall (Decoding Device)	Views	1,000
	View Groups	100
	Auto-Switch Cameras in One Window	20
	Auto-Switch Windows on One Smart Wall	16
	Auto-Switch Cameras in Multiple Windows	256
	Maximum Number of Windows Displaying a Program	1
	Maximum Resolution and Frame Rate of Displaying a Program	3840*2160, 30 fps
Vehicle Monitoring	Driving Events in One Export	100
Login and Logout	Login Time Consumed	15 Seconds
	Logout Time Consumed	10 Seconds
	User Switch Time Consumed	22 Seconds
Others	Image Cache	2 GB


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