HikCentral Professional

System Requirements & Performance

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Chapter 1 System Requirements

OS for Server*	Microsoft® Windows 11 64-bit Microsoft® Windows 10 64-bit Microsoft® Windows 8.1 64-bit Microsoft® Windows 7 SP1 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 **For Windows 8.1 and 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 8.1 64-bit Microsoft® Windows 7 SP1 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 **For Windows 8.1 and 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 above Android 6.0 and above
Database	PostgreSQL V14.8
Browser	Google Chrome® 110 and above Firefox® 100 and above Safari® 13 and above Microsoft® Edge 110 and above Internet Explorer® 11 and above
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 Microsoft® Windows Server 2008 R2 SP1 64-bit RoseReplicatorPlus_5.1.0_175-x64

*Server refers to SYS (System Management Server).

Chapter 2 Server Performance

2.1 System Management Server (SYS)

SYS Configurations			
Feature	**Configuration 1**	**Configuration 2**	**Configuration 3**
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 orSSD	SATA 7200 RPM Enterprise Class HDD or SSD
HDD for Picture Storage	Video security-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.
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 above		Microsoft® Windows Server 2019 STD 64-bit or above
Virtual Machine	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB Storage: EBS	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB Storage: EBS	**Amazon AWS EC2** Instance: c5.4xlarge vCPU Count: 16 RAM: 32 GB Storage: HDD

	NIC: 10 Gbps	NIC: 10 Gbps	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
Maximum Performance			
Feature		**Configuration 1**	**Configuration 2**	**Configuration 3**
Manageable Resources	**Encoding Devices**	256 in Total ***Note:*** No more than 128 elevator control devices are allowed.	1,024 in Total	2,048 in Total ***Note:*** *No more than 1,024 access control devices or elevator devices are allowed.*
	Encoding Devices Added by ONVIF Protocol			
	Access Control Devices			
	Elevator Control Devices			
	Guidance Terminals			
	IP Speaker			
	Security Radar			
	Radar PTZ Cameras	30	30	30
	Fire Protection Devices	256	1,024	2,048
	Guidance Screens	-	512	512
	Video Intercom Devices	32	5,000	5,000
	Indoor Stations	32	5,000	5,000
	Visitor Terminals	8	32	5,000
	DS-5600 Series Face Recognition Terminals **Applied with Hikvision Turnstiles*	32	32	32

	**If DS-5600 series devices are applied with third-party turnstiles, they are regarded as access control devices.*			
	Display Screens (including digital signage terminals and interactive flat panels)	256	2,048	2,048
	Network Transmission Devices	16	128	128
	UVSS	2	4	4
	On-Board Devices	300	500	1,000
	Entrance/Exit Stations	40	40	40
	Query Terminals	16	16	16
	Cameras	512	3,000	Central System: 10,000 RSM: 100,000
	Alarm Inputs ** Excluding security control panels and panic alarm devices*	512	5,000	5,000
	Partitions (Areas)	64	2,048	2,048
	Alarm Inputs of Security Control Devices	512	10,000	10,000
	Security Control Panels and Panic Alarm Devices	256	1,024	2,048
	Alarm Outputs	512	3,000	3,000
	ANPR Cameras	256	1,024	3,000
	Access Points (Doors + Floors) **For scenarios only needing doors or floors, 1,024 doors or floors can be added.*	128	1,024	1,024

	Doors	128	1,024	Central System: 1,024 RSM: 3,000
	Floors	128	1,024	1,024
	Enrollment Station	8	8	8
	Recording Servers **Including pStor, Hybird SAN, NVR, and cloud storage*	64	64	64
	Streaming Servers	64	64	64
	Intelligent Analysis Servers	64	64	64
	Remote Sites	-	1,024	1,024
	Resources on Remote Sites	-	100,000	100,000
Area	**Areas**	512	3,000	3,000
	Area Hierarchies	5	5	5
	Cameras in One Area	256	256	256
	Alarm Inputs in One Area	256	256	256
	Alarm Outputs in One Area	256	256	256
Event & Alarm	**Alarm Priorities**	255	255	255
	Alarm Categories	25	25	25
	Event and Alarm Rules	1,500	3,000	10,000
	User-Defined Event Rules	1,0000	1,0000	1,0000
	Event or Alarm Rules in One Event/Alarm Report	32	32	32
	Arming Schedule Templates	200	200	200

	Events or Alarms Receiving (with pictures, taking each picture as 500 KB)	● 5/s (stored in SYS). ● 20/s (stored in Recording Server). ● For access events stored in SYS, 50/s with each picture being 50 KB.	● 20/s (stored in SYS). ***Note:*** For pictures triggered by an alarm linkage action, the receiving performance varies by the number of pictures: ■ If only one picture is captured by the linkage action, the performance is 20/s. ■ If 3 pictures are captured by the linkage action, the performance is 6/s. ● 80/s (stored in Recording Server). ● 80/s (stored in Recording Server). ● For access events stored in SYS, 100/s with each picture being 50 KB.	● 20/s (stored in SYS). ***Note:*** For pictures triggered by an alarm linkage action, the receiving performance varies by the number of pictures: ■ If only one picture is captured by the linkage action, the performance is 20/s. ■ If 3 pictures are captured by the linkage action, the performance is 6/s. ● 80/s (stored in Recording Server). ● For access events stored in SYS, 200/s with each picture being 50KB.
	Events or Alarms Receiving (Without Pictures)	● Generally, 30/s within 24 hours. ● (Recommended) No more than 100/s within 10 minutes.	● Generally, 50/s within 24 hours. ● (Recommended) No more than 200/s within 10 minutes.	● Generally, 100/s within 24 hours. ● (Recommended) No more than 1,000/s within 10 minutes.
	Events or Alarms Sent to Clients	● 38 events or alarm/s. ● 30 Clients/s (Web	● **Web Client**: 20 events or alarms with picture per second; 40 events or	● **Web Client**: 20 events or alarms with picture per second; 40 events or alarms without picture

		Client, Mobile Clients, and Control Clients)	alarms without picture per second; 100 access events/s. ● **Control Client**: 120 events or alarm/s. ● 100 Clients/s (Web Client, Mobile Clients, and Control Clients)	per second; 100 access events/s. ● **Control Client**: 120 events or alarm/s. ● 100 Clients/s (Web Client, Mobile Clients, and Control Clients)
	Event Triggered Capturing	20 pictures of 500 KB can be captured concurrently per second.	20 pictures of 500 KB can be captured concurrently per second.	20 pictures of 500 KB can be captured concurrently per second.
	Alarm Triggered Recording	30 cameras can be triggered to record video concurrently per second.	128 cameras can be triggered to record video concurrently per second. **If the recorded videos are stored in CVR, only 30 cameras can be triggered to record video concurrently per second.*	128 cameras can be triggered to record video concurrently per second. **If the recorded videos are stored in CVR, only 30 cameras can be triggered to record video concurrently per second.*
	Alarm Triggered Actions (Excluding Recording)	152 actions (excluding recording) can be triggered concurrently by alarms per second.	512 actions (excluding recording) can be triggered concurrently by alarms per second.	512 actions (excluding recording) can be triggered concurrently by alarms per second.
	Combined Alarms	10 alarms per second	10 alarms per second	10 alarms per second
	Optimus Alarms	30 alarms per second (for up to 1 minute)	100 alarms per second (within 1 minute)	500 alarms per second (within 1 minute)
	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

Events and Alarms Receiving of Platform			● 30/s within 24 hours ● No more than 100/s within 10 minutes	● 50/s within 24 hours ● No more than 200/s within 10 minutes	● 100/s within 24 hours ● No more than 1,000/s within 10 minutes
Recording	**Recording Schedules**		512	3,000	30,000
	Recording Schedule Templates		200	200	200
Map	**Map**	**Maps Linked to One Area**	64	64	64
		Resolution	8192×8192	8192×8192	8192×8192
		Size for One Map	64 MB	64 MB	64 MB
		Total Size for Maps	2 GB	15 GB	15 GB
		Maps	128	1,024	1,024
		Alarm Inputs on One Map	16	128	128
		Alarm Outputs on One Map	16	128	128
		Labels on One Map	16	128	128
		UVSS on One Map	4	4	4
		Access Points on One Map	16	128	128
		Hot Regions on One Map	8	64	64
		Cameras on One Map	16	128	128
		Cameras on Maps in Total	512	3,000	10,000
		Alarm Inputs on Maps in Total	32	3,000	3,000
		Alarm Outputs on Maps in Total	32	3,000	3,000
		Labels on Maps in Total	128	3,000	3,000
		UVSS on Maps in Total	4	4	4
		Access Points on Maps in Total	128	1,024	1,024
		Hot Regions on Maps in	128	1,024	1,024

		Total			
	GIS Map	**Elements in Total**	3,000	3,000	3,000
		Hot Regions in Total	128	1,024	1,024
		Cameras in Total	512	3,000	10,000
		Alarm Inputs in Total	512	3,000	3,000
		Alarm Outputs in Total	512	3,000	3,000
		UVSSs in Total	4	4	4
		Access Points in Total	32	128	1,024
		Labels in Total	512	3,000	3,000
AR Monitoring	**AR Map**	**AR Scenes**	100	100	100
		Plans ***Note:*** *Up to 100 scenes are allowed for each plan.*	512	512	512
		Tags for Each Scene	200	200	200
		Tag Groups for Each Scene	100	100	100
User & Role	**Roles**		400	3,000	3,000
	Users		100	3,000	3,000
	Roles Assigned to One User		● 100 roles can be assigned to one user (Resources linked to one role < 170); ● 50 roles can be assigned to one user (Resources linked to one role < 514).	● 100 roles can be assigned to one user (Resources linked to one role < 1,000); ● 50 roles can be assigned to one user (Resources linked to one role < 3,000).	● 100 roles can be assigned to one user (Resources linked to one role < 1,000); ● 50 roles can be assigned to one user (Resources linked to one role < 3,000).
	Concurrent Accesses via Client		● 30 Control Clients and Web Clients	● 100 Control Clients and Web Clients access the	● 100 Control Clients and Web Clients access the system

		access the system concurrently; ● 30 Mobile Clients access the system concurrently.	system concurrently; ● 100 Mobile Clients access the system concurrently;	concurrently; ● 100 Mobile Clients access the system concurrently;
	Double Authentications	32 users	50 users	50 users
Data Storage Data Recorded in System	**Data Retention Period**	5,000,000 per Month and Stored for 3 Years	5,000,000 per Month and Stored for 3 Years	5,000,000 per Month and Stored for 3 Years
	ANPR	60 million each year	60 million each year	60 million each year
	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
Person	**Persons**	2,000	1,000,000	1,000,000
	Departments	3,000	3,000	3,000
	Department Hierarchies	10	10	10
	Profile Pictures	2,000	1,000,000	1,000,000
	Size of One Profile Picture	Recommended: 300 KB	Recommended: 300 KB	Recommended: 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
Access Control	**Persons for Access Control**	2,000	50,000	50,000
	Cards	10,000	250,000	250,000
	Fingerprints	8,000	200,000	200,000
	Irises	4,000	100,000	100,000
	Anti-Passback Rules	32	128	128
	Access Points in One Anti-	16	16	16

	Passback Rule			
	Access Levels	32	512	512
	Access Points in One Access Level	32	1,024	1,024
	Access Schedules	32	32	32
	Card Templates	32	32	32
	Speed of Applying Persons' Access Level Settings to Device	● Card: 4.2 cards per second ● Fingerprint: 1.7 fingerprints per second ● Face credential: 1.7 face pictures per second ● Iris: 100 irises per second	● Card: 4.2 cards per second ● Fingerprint: 1.7 fingerprints per second ● Face credential: 1.7 face pictures per second ● Iris: 100 irises per second	● Card: 4.2 cards per second ● Fingerprint: 1.7 fingerprints per second ● Face credential: 1.7 face pictures per second ● Iris: 100 irises per second
	Speed of Reporting Access Records	● 10/s within 10 minutes; ● 5/s with pictures (stored on SYS, and each no more than 50 KB) per second within 10 minutes	● 300/s within 10 minutes; ● 100/s with pictures (stored on SYS, and each no more than 50 KB) per second within 10 minutes	● 1,000/s within 10 minutes; ● 200/s with pictures (stored on SYS, and each no more than 50 KB) per second within 10 minutes
	Storage of Access Records	1.4 billion each year	1.4 billion each year	1.4 billion each year
Visitor	**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

	Visit Purposes	20	20	20
	Visitors in Blocklist	5,000	10,000	10,000
	Entities in Watch List	5,000	10,000	10,000
	Hosts to Be Applied	10,000	50,000	50,000
	Card Templates	20	20	20
	Storage of Visitor Records	10 million each year	10 million each year	10 million each year
Time and Attendance	**Persons for Time and Attendance**	5,000	50,000	50,000
	Shifts	32	128	128
	Break Timetables	128	128	128
	Break Timetables in One Timetable	4	4	4
	Custom Reports	128	128	128
	Holidays	32	32	32
	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
	Concurrent Login of Employees via Client	500	500	500
	Storage of Attendance Records	55 million each year	55 million each year	55 million each year
Intelligent Recognition	**Persons for Intelligent Analysis**	5000	1,000,000	1,000,000
	Intelligent Analysis Groups	32	1,000	1,000
	Face Comparison Groups	16	64	64
	Storage of Face	● 120/s without	● 400/s without pictures	● 400/s without pictures

	Matched/Mismatched Events	pictures ● 20/s with pictures (each picture 500 KB, stored in Recording Server)	● 100/s with pictures (each picture 500 KB, stored in Recording Server)	● 100/s with pictures (each picture 500 KB, stored in Recording Server)
Intelligent Analysis (Retail/Supermarket Scenario)	**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)
	Resources in One Analysis Group	64	64	64
	Total Stores	64	200	1,000
	Total Floors			
	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
	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
	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
	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
	Data Storage of Queue Analysis	5 million each year	5 million each year	5 million each year
Intelligent Analysis (Public Scenario)	**Total Analysis Group**	64	200	1,000
	Cameras of Each Analysis Group	64	64	64
Vehicle and Parking Management	**Vehicle Lists**	100	100	100
	Vehicles	60,000	500,000	500,000
	Undercarriage Pictures (Each 10 MB)	512	3,000	3,000
	Storage of License Plate Matched/Mismatched Events	● 5/s with pictures (each picture 500 KB, stored in SYS server) ● 20/s with pictures (each picture 500 KB, stored in Recording Server)	● 400/s without pictures ● 20/s with pictures (each picture 500 KB, stored in SYS server)	100/s with pictures (each picture 500 KB, stored in Recording Server)
	Parking Lots	-	10	10
	Total Lanes	-	40	40
	Lanes in One Parking Lot	-	32	32
	Vehicles in One List	-	5,000	5,000
	Vehicles in Blocklist	-	5,000	5,000
	Total Floors of Parking Lot	-	128	128
	Parking Spaces on One Floor	-	1,024	1,024
	Customized Vehicle Types	-	10	10
	Vehicles' Cards	-	250,000	250,000

	Temporary Cards of One Parking Lot	-	10,000	10,000
	Passing Frequency of Lanes	-	1 vehicle per second for single lane	1 vehicle per second for single lane
Report	**Regular Report Rules**	100	100	100
	Records in One Sent Report	10,000 or 10 MB	10,000 or 10 MB	10,000 or 10 MB
	Resources Selected for One Report	● 20 people counting cameras searched for one people counting report ● 20 ANPR cameras searched for one vehicle analysis report ● 20 queues searched for one queue analysis report ● 20 presets searched for one temperature report **With this limitation, you can generate a neat and clear report via the Control Client and it costs less time.*		
Smart Wall	**Decoding Devices**	4	32	32
	Smart Walls	8	32	32
	Views	100	1,000	1,000
	Cameras in One View	128	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.*	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	4	4	4

	Mode)			
	Camera Groups Auto-Switched on a Smart Wall (In Multi-Window Mode)	1	1	1
	Alarms Displayed on Smart Wall as Actions	1 alarm per second (lasts for 10 min). 1 alarm every 15 seconds (7*24)	1 alarm per second (lasts for 10 min). 1 alarm every 15 seconds (7*24)	1 alarm per second (lasts for 10 min). 1 alarm every 15 seconds (7*24)
	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	2	8	8
Commercial Display	**Materials**	-	10,000	10,000
	Materials Uploaded Simultaneously	-	50	50
	Material Size	-	4 GB	4 GB
	Content Number	-	2,000	2,000
	Schedules	-	1,000	1,000
	Materials Released Each Time	-	64	64
	Program Cut-In	10,000	10,000	10,000
	Text Cut-In	10,000	10,000	10,000
	Release Records	-	20,000	20,000
	Content Review Records	-	20,000	20,000
	Video Walls	512	512	512

	Applications	512	512	512
	Combined Control Command	500	500	500
	Windows On One Page	-	16	16
	Media Files in Each Window	-	256	256
Audio Broadcast	**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
Security Inspection	**Security Analyzers**	-	8	8
	Walk-Through Metal Detectors	-	64	64
On-Board Monitoring	**GPS Information Report**	Report a GPS information to the platform every 5 seconds, totally 60 GPS information can be sent to the platform per second.	Report a GPS information to the platform every 5 seconds, totally 200 GPS information can be sent to the platform per second.	Report a GPS information to the platform every 5 seconds, totally 200 GPS information can be sent to the platform per second.
	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
	Vehicles Can Be Located in One Client	50	64	64
	Retention Period of GPS Data	1 Year	1 Year	1 Year
	Retention Period of Statistics Data	3 Years	3 Years	3 Years

	Driving Event Storage	● Store 5,000,000 Events per Month ● Retention Period: 3 Years	● Store 5,000,000 Events per Month ● Retention Period: 3 Years	● Store 5,000,000 Events per Month ● Retention Period: 3 Years
	Speed of Handling Driving Events	300/s (within 1 minute)	500/s (within 1 minute)	1000/s (within 1 minute)
	Maximum Number of Drivers	10,000	10,000	10,000
Evidence Management	**Evidences**	100,000	100,000	100,000
	Evidence Files	100,000	100,000	100,000
Patrol	**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
Portable Enforcement	**Dock Stations**	-	1,000	1,000
	Body Cameras	-	5,000	5,000
	GPS Report	-	● 200/s when 1,000 body cameras online ● 250/s when 2,500 body cameras online	● 200/s when 1,000 body cameras online ● 250/s when 2,500 body cameras online
	Alarm Receiving	-	● Generally 100/s ● No more than 1,000/s within 1 hour	● Generally 100/s ● No more than 1,000/s within 1 hour
Workbench	**Default Preset Workbenches**	3	3	3
	Customized Preset Workbenches	32	128	128
	Preset Workbenches Allocated to Each User	4	8	8
	Personal Workbenches Created by Each User	4	8	8

Others	**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 Firebase Cloud Messaging (FCM): 26/s	iOS/HUAWEI: 30/s Firebase Cloud Messaging (FCM): 26/s	iOS/HUAWEI: 30/s Firebase Cloud Messaging (FCM): 26/s

2.3 Streaming Server

Configurations		
Feature	**Configuration 1**	**Configuration 2**
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		
Input and Output	200 streams × 2 Mbps input and 200 streams × 2 Mbps output	300 streams × 2 Mbps input and 300 streams × 2 Mbps output

2.3 pStor Server

OS Requirements
● Microsoft® Windows 11 64-bit ● Microsoft® Windows 10 64-bit ● Microsoft® Windows 8.1 64-bit ● Microsoft® Windows 7 SP1 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 **For Windows 8.1 and Windows Server 2012 R2, make sure it is installed with the rollup (KB2919355) updated in April, 2014.*

Hardware Requirements		
Feature	**Configuration 1**	**Configuration 2**
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	512GB for pStor system installation 2 or more physical drives for recording[1]	512GB for pStor system installation 2 or more standalone drives for recording[1]

Note :

1: The recording drives MUST NOT be the same with the system installation drive.

Chapter 3 Server Performance of Light Version

SYS Configurations			
Feature	**Configuration 1**	**Configuration 2**	**Configuration 3**
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 orSSD	SATA 7200 RPM Enterprise Class HDD or SSD
HDD for Picture Storage	Video security-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. An exclusive HDD is recommended for picture storage.
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 above		Microsoft® Windows Server 2019 STD 64-bit or above
Virtual Machine	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB	**Amazon AWS EC2** Instance: c5.2xlarge vCPU Count: 8 RAM: 16 GB	**Amazon AWS EC2** Instance: c5.4xlarge vCPU Count: 16 RAM: 32 GB

	Storage: EBS NIC: 10 Gbps	Storage: EBS NIC: 10 Gbps	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

Maximum Performance				
Feature		**Configuration 1**	**Configuration 2**	**Configuration 3**
Manageable Resources	**Encoding Devices**	256 in Total	1,024	2,048 ***Note:*** *No more than 1,024 access control devices or elevator devices are allowed.*
	Access Control Devices			
	Cameras	512	3,000	10,000
	Alarm Inputs **Excluding security control panels and panic alarm devices*	512	5,000	5,000
	Security Control Panels and Panic Alarm Devices	256	1,024	2,048
	Alarm Outputs	512	3,000	3,000
	ANPR Cameras	256	1,024	3,000
	Doors	128	1,024	1,024
	Enrollment Station	8	8	8
Area	**Areas**	512	3,000	3,000
	Area Hierarchies	5	5	5

	Cameras in One Area	256	256	256
	Alarm Inputs in One Area	256	256	256
	Alarm Outputs in One Area	256	256	256
Event & Alarm	**Alarm Priorities**	255	255	255
	Alarm Categories	25	25	25
	Event and Alarm Rules	1,500	3,000	10,000
	Arming Schedule Templates	200	200	200
	Events or Alarms (with Pictures each smaller than 500 KB**) Receiving**	● 5/s (stored in SYS). ● 20/s (stored in Recording Server). ● For access events stored in SYS, 50/s with each picture being 50 KB.	● 20/s (stored in SYS). ***Note:*** *For pictures triggered by an alarm linkage action, the receiving performance varies by the number of pictures:* ■ *If only one picture is captured by the linkage action, the performance is 20/s.* ■ *If 3 pictures are captured by the linkage action, the performance is 6/s.* ● 80/s (stored in Recording Server). ● 80/s (stored in Recording Server). ● For access events stored in	● 20/s (stored in SYS). ***Note:*** *For pictures triggered by an alarm linkage action, the receiving performance varies by the number of pictures:* ■ *If only one picture is captured by the linkage action, the performance is 20/s.* ■ *If 3 pictures are captured by the linkage action, the performance is 6/s.* ● 80/s (stored in Recording Server). ● For access events stored in SYS, 200/s with each picture being 50KB.

			SYS, 100/s with each picture being 50 KB.	
	Events or Alarms (Without Pictures) Receiving	● Generally, 30/s within 24 hours. ● (Recommended) No more than 100/s within 10 minutes.	● Generally, 50/s within 24 hours. ● (Recommended) No more than 200/s within 10 minutes.	● Generally, 100/s within 24 hours. ● (Recommended) No more than 1,000/s within 10 minutes.
	Events or Alarms Sent to Clients	● 38 events or alarm/s. ● 30 Clients/s (Web Client, Mobile Clients, and Control Clients)	● **Web Client**: 20 events or alarms with picture per second; 40 events or alarms without picture per second; 100 access events/s. ● **Control Client**: 120 events or alarm/s. ● 100 Clients/s (Web Client, Mobile Clients, and Control Clients)	● **Web Client**: 20 events or alarms with picture per second; 40 events or alarms without picture per second; 100 access events/s. ● **Control Client**: 120 events or alarm/s. ● 100 Clients/s (Web Client, Mobile Clients, and Control Clients)
	Event Triggered Capturing	20 pictures of 500 KB can be captured concurrently per second.	20 pictures of 500 KB can be captured concurrently per second.	20 pictures of 500 KB can be captured concurrently per second.
	Alarm Triggered Recording	30 cameras can be triggered to record video concurrently per second.	128 cameras can be triggered to record video concurrently per second. **If the recorded videos are stored in CVR, only 30 cameras can be triggered to record video concurrently per*	128 cameras can be triggered to record video concurrently per second. **If the recorded videos are stored in CVR, only 30 cameras can be triggered to record video concurrently per second.*

				second.	
Events and Alarms Receiving of Platform			● 30/s within 24 hours ● No more than 100/s within 10 minutes	● 50/s within 24 hours ● No more than 200/s within 10 minutes	● 100/s within 24 hours ● No more than 1,000/s within 10 minutes
Recording	**Recording Schedules**		512	3,000	30,000
Map	**Map**	**Maps**	128	1,024	1,024
		Alarm Inputs on One Map	16	128	128
		Alarm Outputs on One Map	16	128	128
		Labels on One Map	16	128	128
		Access Points on One Map	16	128	128
		Hot Regions on One Map	8	64	64
		Cameras on One Map	16	128	128
		Cameras on Maps in Total	512	3,000	10,000
		Alarm Inputs on Maps in Total	32	3,000	3,000
		Alarm Outputs on Maps in Total	32	3,000	3,000
		Labels on Maps in Total	128	3,000	3,000
		Access Points on Maps in	128	1,024	1,024

		Total			
		Hot Regions on Maps in Total	128	1,024	1,024
User & Role	**Roles**		400	3,000	3,000
	Users		100	3,000	3,000
	Roles Assigned to One User		● 100 roles can be assigned to one user (Resources linked to one role < 170); ● 50 roles can be assigned to one user (Resources linked to one role < 514).	● 100 roles can be assigned to one user (Resources linked to one role < 1,000); ● 50 roles can be assigned to one user (Resources linked to one role < 3,000).	● 100 roles can be assigned to one user (Resources linked to one role < 1,000); ● 50 roles can be assigned to one user (Resources linked to one role < 3,000).
	Concurrent Accesses via Client		● 30 Control Clients and Web Clients access the system concurrently; ● 30 Mobile Clients access the system concurrently.	● 100 Control Clients and Web Clients access the system concurrently; ● 100 Mobile Clients access the system concurrently;	● 100 Control Clients and Web Clients access the system concurrently; ● 100 Mobile Clients access the system concurrently;
Person	**Persons**		2,000	1,000,000	1,000,000
	Departments		3,000	3,000	3,000
	Department Hierarchies		10	10	10
	Profile Pictures		2,000	1,000,000	1,000,000
	Size of One Profile Picture		Recommended: 300 KB	Recommended: 300 KB	Recommended: 300 KB
	Total Size of Profile Pictures		500 MBs	300 GB	300 GB
	Persons to Be Reviewed		10,000	10,000	10,000
Access Control	**Persons for Access Control**		2,000	50,000	50,000
	Cards		10,000	250,000	250,000

	Fingerprints	8,000	200,000	200,000
	Irises	4,000	100,000	100,000
	Anti-Passback Rules	32	128	128
	Access Points in One Anti-Passback Rule	16	16	16
	Access Levels	32	512	512
	Access Points in One Access Level	32	1,024	1,024
	Access Schedules	32	32	32
	Card Templates	32	32	32
Intelligent Recognition	**Persons for Intelligent Analysis**	5000	1,000,000	1,000,000
	Intelligent Analysis Groups	32	1,000	1,000
	Face Comparison Groups	16	64	64
	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)
Vehicle	**Vehicle Lists**	100	100	100
	Vehicles	60,000	500,000	500,000
Audio Broadcast	**Speaker Unit**	128	128	128
	Broadcast Groups	16	128	128
	IP Speakers in One Broadcast Group	16	1s28	128
	Media Libraries	100	100	100
	Audio Files in One Media Library	100	100	100

	Broadcast Schedules	100	100	100
Evidence Management	**Evidence Files**	100,000	100,000	100,000
Workbench	**Default Preset Workbenches**	3	3	3
	Customized Preset Workbenches	32	128	128
	Preset Workbenches Allocated to Each User	4	8	8
	Personal Workbenches Created by Each User	4	8	8
Others	**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
	Number of Messages Sent from SYS to Mobile Clients on Different Smart Phone Systems	iOS/HUAWEI: 30/s Firebase Cloud Messaging (FCM): 26/s	iOS/HUAWEI: 30/s Firebase Cloud Messaging (FCM): 26/s	iOS/HUAWEI: 30/s Firebase Cloud Messaging (FCM): 26/s

Chapter 4 Control Client Performance

4.1 Decoding Performance

Notes:

- 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.

Configurations						
Feature	**Configuration 1**		**Configuration 2**		**Configuration 3**	
CPU	Intel® Core™ i5-9400/F		Intel® Core™ i3-8100		Intel® Core™ i7-8700k	
RAM	8 GB		8 GB		16 GB	
NIC	GbE Network Interface Card		GbE Network Interface Card		GbE Network Interface Card	
Graphics Card	NVIDIA® GeForce GTX 1050Ti		Intel® UHD Graphics 630+GT1030		NVIDIA® GeForce RTX 2080	
OS	Microsoft® Windows 10 (64-bit)		Microsoft® Windows 10 (64-bit)		Microsoft® Windows 10 (64-bit)	
Performance in Software Decoding						
Encoding Format	**Frame Rate (fps)**	**Bit Rate (Mbps)**	**Resolution**	**Maximum Live View Channels**		
				Configuration 1	**Configuration 2**	**Configuration 3**
H.264	30	0.5	CIF	163	97	193
	30	1	4CIF	81	38	80
	30	3	720p	33	14	43
	30	6	1080p	16	7	22
	30	8	3 MP	12	4	17
	30	12	8 MP	4	1	7
	25	16	32 MP	/	/	2

H.264+	30	1	720p	40	21	38
	30	3	1080p	16	8	25
	30	4	3 MP	13	6	14
H.265	30	1	720p	29	14	47
	30	3	1080p	12	5	20
	30	4	3 MP	8	3	13
	30	6	8 MP	2	1	4
	25	16	32 MP	/	/	1
H.265+	30	0.5	720p	40	16	56
	30	1	1080p	16	6	28
	30	2	3 MP	9	4	17
	30	3	8 MP	3	1	5
Performance in Hardware Decoding						
Encoding Format	**Frame Rate (fps)**	**Bit Rate (Mbps)**	**Resolution**	**Maximum Live View Channels**		
				Configuration 1	**Configuration 2**	**Configuration 3**
H.264	30	0.5	CIF	102	57	94
	30	1	4CIF	73	30	76
	30	3	720p	36	16	41
	30	6	1080p	17	8	20

	30	8	3 MP	12	5	14
	30	12	8 MP	5	2	6
	25	16	32 MP	/	/	2
H.264+	30	1	720p	38	14	41
	30	3	1080p	18	7	20
	30	4	3 MP	12	5	14
H.265	30	1	720p	33	16	45
	30	3	1080p	17	8	29
	30	4	3 MP	12	6	21
	30	6	8 MP	4	2	8
	25	16	32 MP	/	/	3
H.265+	30	0.5	720p	32	17	50
	30	1	1080p	17	9	28
	30	2	3 MP	11	6	22
	30	3	8 MP	4	2	8

4.2 Control Client Performance

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

Control Client Configuration

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		
Control Panel	**Control Panels Can Be Configured**	5
	Windows on One Control Panel	12
	Displayed Alarms	20
	Displayed Face Recognition Records	200
	Displayed Face 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 views can be added for one user
	Public View Groups	100
	Private View Groups	100 views per user
	Cameras in One View	64
	View Hierarchies	5
Favorites	**Favorites**	100 Favorites can be added for one user (the number of users cannot be larger than 100)
	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 Comparison Records/Access Records/Vehicle Passing Records	200
	Face Comparison Groups 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	**Views**	1,000

Device)	**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

Chapter 5 Control Client Performance of Light Version

Control Client Configuration		
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		
Control Panel	**Control Panels Can Be Configured**	5
	Windows on One Control Panel	12
	Displayed Alarms	20

	Displayed Face Recognition Records	200
	Displayed Face 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 views can be added for one user
	Public View Groups	100
	Private View Groups	100 views per user
	Cameras in One View	64
	View Hierarchies	5
Favorites	**Favorites**	100 Favorites can be added for one user (the number of users cannot be larger than 100)
	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)**	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)	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 Comparison Records/Access Records	200
	Face Comparison Groups 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
Two-Way Audio	**Channels for Two-Way Audio**	1
Broadcast	**Devices in One Broadcast**	512

	IP Speakers in One Broadcast	128
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
Login and Logout	**Login Time Consumed**	15 Seconds
	Logout Time Consumed	10 Seconds
	User Switch Time Consumed	22 Seconds
Others	**Image Cache**	2 GB

Chapter 6 Web Client Decoding Performance Without Web Control Installed

Configurations			
Feature	**Configuration 1**	**Configuration 2**	**Configuration 3**
CPU	Intel® Core™ i3-12100	Intel® Core™ i5-12500	Intel® Core™ i7-12700
RAM	8 GB	16 GB	16 GB
NIC	GbE Network Interface Card	GbE Network Interface Card	GbE Network Interface Card
Graphics Card	Intel® UHD Graphics 730	Integrated Intel® HD Graphics 770 or NVIDIA® GeForce GTX 1050Ti	NVIDIA® GeForce RTX 3060Ti

OS	Microsoft® Windows 10 (64-bit)		Microsoft® Windows 10 (64-bit)		Microsoft® Windows 10 (64-bit)	
Decoding Performance with HTTPS Protocol						
Encoding Format	**Frame Rate (fps)**	**Bit Rate (Mbps)**	**Resolution**	**Maximum Live View Channels**		
				Configuration 1	**Configuration 2**	**Configuration 3**
H.264	30	0.5	CIF	16	16	16
	30	1	4CIF	16	16	16
	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
H.264+	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
H.265	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
H.265+	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
Decoding Performance with HTTP Protocol						
Encoding Format	**Frame Rate (fps)**	**Bit Rate (Mbps)**	**Resolution**	**Maximum Live View Channels**		

				Configuration 1	Configuration 2	Configuration 3
H.264	30	0.5	CIF	16	16	16
	30	1	4CIF	16	16	16
	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
H.264+	25	2	720p	8	12	16
	25	4	1080p	3	5	16
	25	5	5 MP	1	2	8
	25	5	12 MP	x	1	3
H.265	25	2	720p	3	12	16
	25	4	1080p	1	5	16
	25	5	5 MP	x	2	8
	25	5	12 MP	x	1	3
H.265+	25	2	720p	3	12	16
	25	4	1080p	1	5	16
	25	5	5 MP	x	2	8
	25	5	12MP	x	1	3

Chapter 7 Performance of Minimum Configurations

Only the basic package is supported for the minimum configuration.

7.1 Maximum Performance of SYS

SYS Configurations		
CPU	Intel® Core™ i3-8100	
RAM	4G	
NIC	GbE Network Interface Card	
HDD for OS	SATA 7200 RPM Enterprise Class HDD	
HDD for Picture Storage	Video security-class HDD or high performance network HDD. It should support writing or reading of 10 MB/s.	
HDD Capacity	At least 650 GB	
OS	Microsoft® Windows 10 64-bit or above	
Maximum Performance		
Manageable Resources	**Encoding Devices**	32
	Access Control Devices	8
	Cameras	32
	Alarm Inputs	32
	Alarm Outputs	32
	ANPR Cameras	4
	Doors	8
	Enrollment Station	8
Area	**Areas**	32
	Area Hierarchies	5
	Cameras in One Area	32
	Alarm Inputs in One Area	32

	Alarm Outputs in One Area	32
Event & Alarm	**Alarm Priorities**	255
	Alarm Categories	25
	Event and Alarm Rules	64
	Arming Schedule Templates	200
	Events or Alarms Receiving	5 events or alarms without pictures per second, 1 event or alarm with pictures per second
	Events or Alarms Sent to Clients	5 events or alarm/s. 4 Clients/s (Web Client, Mobile Clients, and Control Clients)
	Event Triggered Capturing	1 pictures of 500 KB can be captured concurrently per second.
Recording	**Recording Schedules**	32
Map	**Maps**	4
	Cameras on One Map	32
	Alarm Inputs on One Map	32
	Alarm Outputs on One Map	32
	Labels on One Map	32
	Access Points on One Map	8
	Hot Regions on One Map	2
	Cameras on Maps in Total	8
	Alarm Inputs on Maps in Total	32
	Alarm Outputs on Maps in Total	32
	Labels on Maps in Total	32
	Access Points on Maps in Total	8

	Hot Regions on Maps in Total	8
User & Role	**Roles**	4
	Users	4
	Roles Assigned to One User	4
	Concurrent Accesses via Client	4
Person	**Persons**	2000
	Departments	100
	Department Hierarchies	10
	Profile Pictures	2000
	Size of One Profile Picture	Recommended: 300 KB
	Total Size of Profile Pictures	500 MB
	Persons to Be Reviewed	3,000
Access Control	**Persons for Access Control**	2000
	Cards	7500
	Fingerprints	6000
	Irises	4000
	Anti-Passback Rules	8
	Access Points in One Anti-Passback Rule	8
	Access Levels	16
	Access Points in One Access Level	8
	Access Schedules	32
	Card Templates	32
Intelligent Recognition	**Persons for Intelligent Analysis**	5000
	Intelligent Analysis Groups	16
	Face Comparison Groups	16

	Storage of Face Matched/Mismatched Events	5/s
Vehicle	**Vehicle Lists**	50
	Vehicles	5000
	Storage of License Plate Matched/Mismatched Events	5/s
	Vehicles in One List	500
Audio Broadcast	**Speaker Unit**	16
	Broadcast Groups	16
	IP Speakers in One Broadcast Group	16
	Media Libraries	100
	Audio Files in One Media Library	100
	Broadcast Schedules	100
Workbench	**Default Preset Workbenches**	1
	Customized Preset Workbenches	4
	Preset Workbenches Allocated to Each User	2
	Personal Workbenches Created by Each User	2
Others	**Streaming Gateway**	16 cameras×2 Mbps input and 16 cameras×2 Mbps output
	Number of Messages Sent from SYS to Mobile Clients on Different Smart Phone Systems	iOS/HUAWEI: 30 per second Firebase Cloud Messaging (FCM): 26 per second

7.2 Control Client Decoding Performance

Configuration	
CPU	Intel® Core™ i3-8100
RAM	4G

NIC	GbE Network Interface Card
Graphics Card	Integrated Intel® HD Graphics 630
OS	Microsoft® Windows 10 (64-bit)

Decoding Performance

Encoding Format	Resolution	Frame Rate (fps)	Bit Rate (Mbps)	Maximum Hardware Deciding Channels	Maximum Software Deciding Channels
H264	4CIF (704*576)	30	1	16	16
H265	4CIF (704*576)	30	0.5	16	16
H264	1080P (1920 *1080)	30	3	8	8
H265	1080P (1920 *1080)	30	0.5	8	8


See Far, Go Further