# HIKVISION

HikCentral Professional System Requirements & Performance

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### **Contents**

Chapter 1 System Requirements	1
Chapter 2 Server Performance	
2.1 System Management Server (SYS)	
2.3 Streaming Server	
Chapter 3 Client Performance	
3.1 Decoding Performance	
3.2 Control Client Performance	20

# **Chapter 1 System Requirements**

	Microsoft <sup>®</sup> Windows 11 64-bit
	Microsoft <sup>®</sup> Windows 10 64-bit
	Microsoft <sup>®</sup> Windows 8.1 64-bit
	Microsoft <sup>®</sup> Windows 7 SP1 64-bit
	Microsoft <sup>®</sup> Windows Server 2019 64-bit
OS for Server*	Microsoft <sup>®</sup> Windows Server 2016 64-bit
OS IOI SEIVEI	Microsoft <sup>®</sup> Windows Server 2012 R2 64-bit
	Microsoft <sup>®</sup> Windows Server 2012 64-bit
	Microsoft <sup>®</sup> Windows Server 2008 R2 SP1 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.
	Microsoft <sup>®</sup> Windows 11 64-bit
	Microsoft <sup>®</sup> Windows 10 64-bit
	Microsoft <sup>®</sup> Windows 8.1 64-bit
	Microsoft <sup>®</sup> Windows 7 SP1 64-bit
	Microsoft <sup>®</sup> Windows Server 2019 64-bit
	Microsoft <sup>®</sup> Windows Server 2016 64-bit
OS for Control Client	Microsoft <sup>®</sup> Windows Server 2012 R2 64-bit
	Microsoft <sup>®</sup> Windows Server 2012 64-bit
	Microsoft <sup>®</sup> Windows Server 2008 R2 SP1 64-bit
	Microsoft <sup>®</sup> 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 faraballa Oliana	iOS 10.0 and above
OS for Mobile Client	Android 6.0 and above
Database	PostgreSQL V11.8
	Google Chrome® 84 and above
	Firefox® 84 and above
Browser	Safari <sup>®</sup> 11 and above
	Microsoft <sup>®</sup> Edge 89 and above
	Internet Explorer® 11 and above
	VMware® ESXi™ 6.x, ESXi™ 7.x
	Microsoft <sup>®</sup> Hyper-V with Windows Server 2012/2012 R2/2016 (64-bit)
Virtual Machine	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.
	Microsoft <sup>®</sup> Windows Server 2012 64-bit
Failover Cluster	Microsoft <sup>®</sup> Windows Server 2008 R2 SP1 64-bit
	RoseReplicatorPlus_5.1.0_175-x64
	ı

\*Server refers to SYS (System Management Server).

# **Chapter 2 Server Performance**

### 2.1 System Management Server (SYS)

	SYS Configurations			
Feature	Low-End	High-End		
CPU	Intel <sup>®</sup> Core™ i5-8500 @ 3.00 GHz	Intel® Xeon® E-2124 @ 3.30 GHz	Intel® Xeon® Silver 4110 @ 2.10 GHz	
RAM	8 GB	16 GB	16 GB	
NIC	GbE Network Interface Card	GbE Network Interface Card	GbE Network Interface Card	
HDD for OS	SATA-II 7200 RPM Enterprise Class HDD	SATA-II 7200 RPM Enterprise Class HDD	SATA-II 7200 RPM Enterprise Class HDD	
HDD for Picture Storage	Surveillance-class HDD or high performance network HDD.  It should support 10 MB/s writing and 10 MB/s reading.	Enterprise-class HDD or high performance network HDD.  It should support 20 MB/s writing and 20 MB/s reading.	Enterprise-class HDD or high performance network HDD It should support 20 MB/s writing and 20 MB/s reading.	
HDD Capacity	At least 650 GB	At least 650 GB	At least 650 GB	
os	Microsoft <sup>®</sup> Windows 8.1 64-bit	Microsoft <sup>®</sup> Windows Server 2012 (R2) 64-bit	Microsoft <sup>®</sup> Windows Server 2012 (R2) 64-bit	
	Amazon AWS EC2	Amazon AWS EC2	Amazon AWS EC2	
Virtual Machine	Instance: c5.xlarge CPU: Intel® Xeon® Cascade Lake @3.60 GHz vCPU Count: 4 RAM: 8 GB Storage: EBS NIC: 10 Gbps	Instance: m5.xlarge CPU: Intel® Xeon® Platinum 8175M @3.10 GHz vCPU Count: 4 RAM: 16 GB Storage: EBS NIC: 10 Gbps	Instance: c5.2xlarge CPU: Intel® Xeon® Platinum 800 @3.40 GHz vCPU Count: 8 RAM: 16 GB Storage: HDD NIC: 10 Gbps	

	Microsoft Azure		Microsoft Azure
	Instance: B4MS	Instance: F8s_v2	
	CPU: Intel Xeon® E5-2673 v4 @ 2.30	) GHz	CPU: Intel Xeon® Platinum 8272CL CPU @2.60GHz
	vCPU Count: 4		vCPU Count: 8
	RAM: 16 GB		RAM: 16 GB
	NIC: 10 Gbps		NIC: 10 Gbps
		Maximum Performance	
	Feature	Low-End	High-End
			E-2124: 1,024 (Total in Sharing Mode: 1,024)
		256 (Total in Sharing Mode:	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
	<b>Encoding Devices</b>	256) (Total III Sharing Mode.	*The platform supports accessing encoding devices via
		230)	Hikvision Private Protocol, Hikvision ISUP Protocol, and ONVIF
			protocol.
	Access Control Devices	256 (Total in Sharing Mode:	E-2124: 1,024 (Total in Sharing Mode: 1,024)
	Access Control Devices	256)	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
	Elevator Control Devices	128 (Total in Sharing Mode:	E-2124: 1,024 (Total in Sharing Mode: 1,024)
	Elevator Control Devices	256)	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
Manageable	Security Control Devices	256 (Total in Sharing Mode:	E-2124: 1,024 (Total in Sharing Mode: 1,024)
Resources	Security Control Devices	256)	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
nesources	Fire Protection Devices	256 (Total in Sharing Mode:	E-2124: 1,024 (Total in Sharing Mode: 1,024)
	File Protection Devices	256)	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
	IP Speakers		E-2124: 128 (Total in Sharing Mode: 1,024)
	IP Speakers	-	Silver 4110: 128 (Total in Sharing Mode: 2,048)
	Guidance Terminals		E-2124: 1,024 (Total in Sharing Mode: 1,024)
	Guidance Terminais	-	Silver 4110: 2,048 (Total in Sharing Mode: 2,048)
	<b>Guidance Screens</b>	-	512
	Video Intercom Devices	32	5000
	Indoor Stations	32	5000

Visitor Terminals	8	32	
DS-5600 Series Face Recognition	32		
Terminals	*If DS-5600 series devices are applied with third-party turnstiles, they are regarded as access		
*Applied with Hikvision Turnstiles	control devices.		
Radars and Radar PTZ Cameras	30		
Digital Signage Terminals	128	1,024	
Interactive Flat Panels	128	1,024	
<b>Network Transmission Devices</b>	-	128	
Under Vehicle Surveillance Systems (UVSS)	2	4	
Mobile Devices	300	E-2124: 500 Silver 4110: 1000	
Entrance/Exit Stations	40	40	
Query Terminals	16	16	
Cameras (Expanded)	512	E-2124: 3,000 Silver 4110: 10,000	
*Including Alarm Inputs of Security Control Devices	512	5,000	
Alarm Inputs of Security Control Devices	512	2,048	
Alarm Outputs	512	3,000	
ANPR Cameras	512	3,000	
People Counting Cameras	60 (recommended max. value)	300 (recommended max. value)	
Facial Recognition Servers	16	64	
Heat Map Cameras	-	70 (recommended max. value)	
•		·	

	Thermal Cameras	5 (recommended max. value)	20 (recommended max. value)
	Queue Management Cameras	60 (recommended max. value)	300 (recommended max. value)
	Access Points (Doors + Floors)	128	1,024
	Doors	128	1,024
	Floors	128	1,024
	<b>Enrollment Station</b>	8	
	Recording Servers *Including pStor, Hybird SAN, NVR, and cloud storage	64	
	Streaming Servers	64	
	DeepinMind Servers	64	
	Security Audit Servers	8	
	Dock Stations	-	1,500
	Resources in One Analysis Group	64	
	Partitions (Areas)	64	256
	Remote Sites	-	1,024
	Resources on Remote Sites	-	100,000
	Areas	512	3,000
	Area Hierarchies	5	
Area	Cameras in One Area	256	
	Alarm Inputs in One Area	256	
	Alarm Outputs in One Area	256	
Front 8 Alores	Alarm Priorities	255	
Event & Alarm	Alarm Categories	25	

	T	
<b>Event and Alarm Rules</b>	1,500	E-2124: 3,000 Silver 4110: 10,000
User-Defined Event Rules	1,0000	
Arming Schedule Templates	200	
Events or Alarms Storage	<ul> <li>30 events or alarms without picture per second.</li> <li>5 events or alarms with pictures (500 KB each, stored in SYS server) per second.</li> <li>20 events or alarms with pictures (500 KB each, stored in Recording Server) per second.</li> </ul>	<ul> <li>100 (E-2124) or 1,000 (Silver 4110) events or alarms without picture per second (for up to 3 minutes).</li> <li>20 events or alarms with pictures (500 KB each, stored in SYS server) per second.</li> <li>80 events or alarms with pictures (500 KB each, stored in Recording Server) per second.</li> </ul>
Events or Alarms Sent to Clients	<ul> <li>38 events or alarms/s</li> <li>30 Clients/s (Mobile Clients and Control Clients)</li> </ul>	<ul> <li>120 events or alarms/s</li> <li>100 Clients/s (Web Clients, Mobile Clients and Control Clients)</li> </ul>
<b>Event Triggered Capturing</b>	20 cameras can be triggered to	capture pictures 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.
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.
Combined Alarms	10 alarms per second	

	Ontimo	us Alaums	30 alarms per second (for up	E-2124: 100 alarms per second (for up to 1 minute)
	Optimi	us Alarms	to 1 minute)	Silver 4110: 500 alarms per second (for up to 1 minute)
	Recording Schedules	ling Schodulos	F12	E-2124: 3,000
Recording	Record	rding Schedules 512	312	Silver 4110: 30,000
	Record	ling Schedule Templates	200	
		Maps Linked to One Area	64	
		Resolution	8192×8192	
		Size for One Map	10 MB	
		Total Size for Maps	2 GB	15 GB
		Maps	128	1,024
		Cameras on One Map	16	128
		Alarm Inputs on One Map	16	128
		Alarm Outputs on One Map	16	128
		Labels on One Map	16	128
		UVSS on One Map	4	4
Мар	Мар	Access Points on One Map	16	128
iviap	IVIAP	Hot Regions on One Map	8	64
		Cameras on Maps in Total	512	E-2124: 3,000
	Car	Carrier as on waps in Total	312	Silver 4110: 10,000
		Alarm Inputs on Maps in Total	32	3,000
		Alarm Outputs on Maps in Total	32	3,000
		Labels on Maps in Total	128	3,000
		UVSS on Maps in Total	4	4
		Access Points on Maps in	22	E-2124: 128
		Total	32	Silver 4110: 512
		Hot Regions on Maps in	128	1,024

		Total		
		Elements in Total	3,000	
		Hot Regions in Total	128	1,024
		Cameras in Total	512	E-2124: 3,000 Silver 4110: 10,000
	GIS	Alarm Inputs in Total	512	3,000
	Мар	Alarm Outputs in Total	512	3,000
		UVSS in Total	4	4
		Access Points in Total	32	E-2124: 128
		Access Follits III Total	32	Silver 4110: 1024
		Labels in Total	512	3,000
	Roles		400	3,000
	Users		100	3,000
User & Role	Roles Assigned to One User		<ul> <li>100 roles can be assigned to one user (Resources linked to one role &lt; 170);</li> <li>50 roles can be assigned to one user (Resources linked to one role &lt; 514).</li> </ul>	<ul> <li>100 roles can be assigned to one user (Resources linked to one role &lt; 1,000);</li> <li>50 roles can be assigned to one user (Resources linked to one role &lt; 3,000).</li> </ul>
		rent Accesses via Client	<ul> <li>30 Control Clients and Web Clients access the system concurrently;</li> <li>30 Mobile Clients access the system concurrently.</li> <li>32 users</li> </ul>	<ul> <li>100 Control Clients and Web Clients access the system concurrently;</li> <li>100 Mobile Clients access the system concurrently</li> <li>50 users</li> </ul>
Data Storage		etention Period	5,000,000 per Month and Stored for 3 Years	
(BI Data and	-	Counting	5 million each year	
Data Recorded	Heat N	Тар	0.25 million each year	
in System)	ANPR		60 million each year	

	Events			
	Alarms			
	Access Records	1.4 billion each year		
	Attendance Records	55 million each year		
	Visitor Records	10 million each year		
	Operation Logs			
	Service Information Logs	5 million each year		
	Service Error Logs			
	Recording Tags	60 million		
	Persons	2,000	1,000,000	
	Person Groups	3,000		
	Person Group Hierarchies	10		
Person	Profile Pictures	2,000	1,000,000	
	Size of One Profile Picture	Recommended: 300 KB		
	Total Size of Profile Pictures	500 MB	300 GB	
	Persons to Be Reviewed	10,000		
	Persons for Access Control	2,000	50,000	
	Cards	10,000	250,000	
	Fingerprints	8,000	200,000	
	Credentials (Cards + Fingerprints)	10,000	250,000	
	Irises	4,000	100,000	
	Anti-Passback Rules	32	128	
Access Control	Access Points in One Anti-Passback	16		
	Rule	10		
	Access Levels	32	512	
	Access Points in One Access Level	32	1024	
	Access Schedules	32		
	Card Templates	32		
	Device Polling Rate	3 minutes		

	Speed of Applying Persons' Access Level Settings to Device	<ul> <li>Card: 4.2 cards per second</li> <li>Fingerprint: 1.7 fingerprints per second</li> <li>Face credential: 1.7 face pictures per second</li> <li>Iris: 100 irises per second</li> </ul>	
	Speed of Reporting Access Records	10 records per second	E-2124: 100 records per second Silver 4110: 1,000 records per second
	Visitors	5,000	100,000
	Visitors to Be Approved	5,000	10,000
	Visitor Registration/Reservation Records	100,000	
Visitor	Visitor Reservation Records to Be Approved	5,000	10,000
	Visitor Email Templates	20	
	Visit Purposes	20	
	Persons in Blocklist	5,000	10,000
	Entities in Watch List	5,000	10,000
	Hosts to Be Applied	10,000	50,000
	Persons for Time and Attendance	5,000	10,000
	Shifts	32	128
	Break Timetables	128	
Time and	Break Timetables in One Timetable	4	
Attendance	Custom Reports	128	
Attendance	Major Leave Type	64	
	Minor Leave Type in One Major Type	128	
	Holidays	32	
Intelligent	Persons for Intelligent Analysis	2,000	1,000,000
Analysis	Intelligent Analysis Groups	32	1,000
Allalysis	Face Comparison Groups	16	64

	Storage of Face Matched/Mismatched Events	<ul> <li>120/s without pictures</li> <li>20/s with pictures (each picture 500 KB, stored in Recording Server)</li> </ul>	<ul> <li>400/s without pictures</li> <li>100/s with pictures (each picture 500 KB, stored in Recording Server)</li> </ul>
	Vehicle Lists	13	100
	Vehicles	60,000	500,000
	Undercarriage Pictures (Each 10 MB)	512	3,000
	Storage of License Plate Matched/Mismatched Events	<ul> <li>5/s with pictures (each picture 500 KB, stored in SYS server)</li> <li>20/s with pictures (each picture 500 KB, stored in Recording Server)</li> </ul>	<ul> <li>400/s without pictures</li> <li>20/s with pictures (each picture 500 KB, stored in SYS server)</li> <li>100/s with pictures (each picture 500 KB, stored in Recording Server)</li> </ul>
	Parking Lots	-	10
Vehicle and	Total Lanes	-	40
Parking	Lanes in One Parking Lot	-	32
Management	Vehicle Lists	-	100
	Vehicles in One List	-	5,000
	Vehicles in Blocklist	-	5,000
	Total Floors of Parking Lot	1	128
	Parking Spaces on One Floor	1	1,024
	<b>Customized Vehicle Types</b>	-	10
	Vehicles	-	500,000
	Vehicles' Cards	-	250,000
	Temporary Cards of One Parking Lot	-	10,000
	Passing Frequency of Lanes	-	1 vehicle per second for single lane
Report	Regular Report Rules	100	

	Event or Alarm Rules in One Event/Alarm Report	32
	Records in One Sent Report	10,000 or 10 MB
		<ul> <li>20 people counting cameras searched for one people counting report</li> <li>20 ANPR cameras searched for one vehicle analysis report</li> <li>20 queues searched for one queue analysis report</li> </ul>
	Resources Selected for One Report	<ul> <li>20 presets searched for one temperature report</li> <li>*With this limitation, you can generate a neat and clear report via the Control Client and it costs less time.</li> </ul>
	<b>Decoding Devices</b>	32
	Smart Walls	32
	Views	1,000
	Cameras in One View	256
	View Groups	100
	Views in One View Group	10
	Cameras in One Window of Auto- Switch	20
	Windows of an Auto-Switch	16
	View Group of an Auto-Switch	1
Smart Wall	Concurrent Accesses via Control Client	5
	Operation Logs Storage	500,000
	Alarms Displayed on Smart Wall as Actions	5 alarms per second (each alarm has 16 related cameras).
	LED Smart Walls Linked to a	69 decoder: 1
	Decoder	C10ST: 1
	LCD Smart Walls Linked to a	69 decoder: 3
	Decoder	C10ST: 3
	Maximum Output Ports Linked to a LCD Smart Wall	6 × 10

	Maximum Ou LED Smart Wa	tput Ports Linked to a	16 × 20	
		Materials	-	10,000
		Material Size	-	4 GB
	Contents	Programs	-	2,000
	Release	Schedules	-	1,000
		Release Records	1	1,000
		Video Walls	512	
		Materials Uploading	1	1,024
		<b>Schedules Applying</b>	1	100
Disital Cianasa		<b>Programs Applying</b>	1	100
Digital Signage	Concurrent Operation	Combined Operations (material uploading, schedule applying, and program applying)	-	100
	Program	Linked Windows of One Page Media Files in Each	-	16
		Window	-	256
Interactive Flat	Applications		1,000	
Panel	Applications U	Iploaded for One Time	100	
	IP Speakers		1024	2048
	Speaker Unit		128	
	Broadcast Gro	ups	-	128
Broadcast	IP Speakers in One Broadcast Group		-	128
	Media Libraries		-	100
	Audio Files in	One Media Library	-	100
	Broadcast Sch	edules	-	100

			5.0404.0	
	Security Analyzers	-	E-2124: 8	
Security	Jeeunty / manyzers		Silver 4110: 8	
Inspection	Mally Through Madel Detectors		E-2124: 64	
	Walk-Through Metal Detectors	-	Silver 4110: 64	
	Fence Rules for One Vehicle	4		
	Vehicles Can Be Located in One Client	50	64	
Mobile	Retention Period of GPS Data	6 Months		
Monitoring	Retention Period of Statistics Data	3 Years		
	Driving Event Storage	Store 5,000,000 Events per Month Retention Period: 3 Years		
	Speed of Handling Driving Events	300 events per second (last 1 minute)	E-2124: 500 events per second (last 1 minute) Silver 4110: 1000 events per second (last 1 minute)	
Evidence	Evidences	100,000		
Management	Evidence Files	5,000,000		
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	
	Time Consumed to Export Devices	10 seconds	E-2124: 10 seconds	
	and Sites	TO Secolius	Silver 4110: 19 seconds	

Ī	Number of Messages Sent from	iOS/HUAWEI: 30 per second
	SYS to Mobile Clients on Different	Firebase Cloud Messaging (FCM): 26 per second
	Smart Phone Systems	Filebase Cloud Messaging (FCM). 20 per second

## 2.3 Streaming Server

Configurations						
Feature	Low-End	High-End				
CPU	Intel <sup>®</sup> Core™ i5-4590 @ 3.30 GHz	Intel® Xeon® E-2124 @ 3.30 GHz				
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				

### **Chapter 3 Client Performance**

### **3.1 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 <sup>®</sup> Core™	i5-9400/F		Intel <sup>®</sup> Core™ i3-8100 @ 3.60 GHz	Intel <sup>®</sup> Core™ i	7-8700k @ 3.70 GHz	
RAM	8 GB			8 GB	16 GB		
NIC	GbE Network Interface Card		GbE Network Interface Card	GbE Network Interface Card			
<b>Graphics Card</b>	NVIDIA <sup>®</sup> GeForce GTX 1050Ti		Intel® UHD Graphics 630+GT1030	NVIDIA <sup>®</sup> GeFo	rce RTX 2080		
OS	Microsoft® Windows 10 (64-bit)		l-bit)	Microsoft® Windows 10 (64-bit)	Microsoft <sup>®</sup> W	Microsoft® Windows 10 (64-bit)	
				Performance in Software Decoding			
Encoding	Frame	Bit Rate	Resolution	N	laximum Live View Channe	ls	
Format	Rate (fps)	(Mbps)	Resolution	Configuration 1	Configuration 2	Configuration 3	
11.264	30	0.5	CIF	163	97	193	
H.264	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
	30	1	720p	40	21	38
H.264+	30	3	1080p	16	8	25
	30	4	3 MP	13	6	14
	30	1	720p	29	14	47
	30	3	1080p	12	5	20
H.265	30	4	3 MP	8	3	13
	30	6	8 MP	2	1	4
	25	16	32 MP	/	/	1
	30	0.5	720p	40	16	56
U 265.	30	1	1080р	16	6	28
H.265+	30	2	3 MP	9	4	17
	30	3	8 MP	3	1	5
			Per	formance in Hardware Decoding		
Encoding	Frame	Bit Rate	Resolution	M	aximum Live View Channels	

Format	Rate (fps)	(Mbps)		Configuration 1	Configuration 2	Configuration 3
	30	0.5	CIF	102	57	94
	30	1	4CIF	73	30	76
	30	3	720p	36	16	41
H.264	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
	30	1	720p	38	14	41
H.264+	30	3	1080p	18	7	20
	30	4	3 MP	12	5	14
	30	1	720p	33	16	45
	30	3	1080p	17	8	29
H.265	30	4	3 MP	12	6	21
	30	6	8 MP	4	2	8
	25	16	32 MP	/	/	3
	30	0.5	720p	32	17	50
	30	1	1080p	17	9	28
H.265+	30	2	3 MP	11	6	22
	30	3	8 MP	4	2	8

#### **3.2 Control Client Performance**

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

the real the following	Control Client Configurations.				
CPU	Intel® Core™ i7-9700k @ 3.60 GHz				
RAM	16 GB				
NIC	GbE Network Interface Card				
OS	Microsoft® Windows 10 64-bit				
<b>Graphics Card</b>	NVIDIA® GeForce GTX 970				
	Maximum Performance				
	Control Panels Can Be Configured	5			
	Windows on One Control Panel	12			
	Displayed Alarms	20			
<b>Control Panel</b>	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			
	Public Views	100			
	Private Views	100 views can be added for			
	Fillvate views	one user			
View	Public View Groups	100			
	Private View Groups	100 views per user			
	Cameras in One View	64			
	View Hierarchies	5			
	Favorites	100 Favorites can be added for			
		one user (the number of users			
Favorites	Barrana in One Francisco	cannot be larger than 100)			
	Resources in One Favorites	64			
	Favorites Hierarchies	5			
	Channels in Live View	256			
	Windows of Zooming Area in Fisheye Dewarping Live View	8			
	Windows of Zooming Area in Live View	5			
Live View and Playback	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	64 (four auxiliary screens are			
	Screen	supported)			
Event and	Max. Frequency of Alarm and Event	100 alarms per second (last for			
Alarm	Receiving (Face, Access Control, and	12 seconds), including 20			
, adilli	Entrance & Exit)	alarms with pictures (500 KB			

Average Frequency of Alarm and Receiving (Face, Access Control, and Entrance & Exit)  Alarms Displayed in Alarm Center  Unacknowledged Alarms Displayed  Alarms to Be Batch Acknowledged for Once  Alarms in One Export  Events Displayed in Event List  Displayed Face Comparison Records/Access Records/Vehicle Passing Records  Face Comparison Groups Subscribed  Comparison Records of One Person  Displayed Person-Related Events  Displayed VcA Search Results  Face Capture Records  Vehicle Capture Records  Vehicle Matched Events  Evidence Management  Video Intercom  Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Powelland  Necords in One Export  Powelland  Powelland  Tesks Downloading Completed  Popounload  Tasks Downloading Completed  Tool  Complayed Intercom  Tasks Downloading Completed  Tasks Downloadi			each) and 80 without pictures.
Entrance & Exit)   pictures		Average Frequency of Alarm and	•
Alarms Displayed in Alarm Center 2,000 Unacknowledged Alarms Displayed 5,00 Alarms to De Batch Acknowledged for Once Alarms in One Export 700 ppf: 5,000 Events Displayed in Event List 500 Displayed Face Comparison Records/Access Records/Vehicle Passing Records 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 Vehicle Matched Events 20 Vehicle Matched Events 20 Vehicle Matched Events 20 Face and Human Body Pictures Search Results of Matched Face Picture Matched Events 20 Search Results of Matched Face Picture Search Results of Frequently and Rarely Appeared Persons Evidence Management Video Intercom 100 Two-Way Audio Channels for Video Intercom 1 Two-Way Audio Devices in One Evidence 100 Broadcast IP Speakers in One Broadcast 128 Intelligent Analysis Vehicle Passing Records in One Export 5,000 Device Logs in One Export 5,000 Device Logs in One Export 5,000 Device Logs in One Export 5,000 Donline/Offline Logs and Recording Logs in One Export 10,000 (20 per page) 10,000		Receiving (Face, Access Control, and	KB each) and 20 without
Unacknowledged Alarms Displayed Alarms to Be Batch Acknowledged for Once Alarms in One Export Displayed Face Comparison Records/Access Records/Vehicle Passing Records Face Comparison Groups Subscribed Comparison Groups Subscribed Displayed Person-Related Events Displayed Person-Related Events Displayed Vehicle-Related Events Displayed Vehicle-Related Events Displayed Video Search Results Displayed VCA Search Results Sono Vehicle Capture Records Vehicle Capture Records Recognition Face and Human Body Recognition Evidence Management Video Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking  Alexand Device Logs in One Export Displayed Cops and Recording Logs in One Export Device Logs and Recording Logs in One Export Done Device Logs and Recording Logs in One Export DISPLAYER SONO DISPLA		Entrance & Exit)	pictures
Alarms to Be Batch Acknowledged for Once  Alarms in One Export   100  Alarms in One Export   200  Events Displayed in Event List   500  Displayed Face Comparison   200  Records/Access Records/Vehicle   200  Face Comparison Groups Subscribed   10  Comparison Records of One Person   20  Displayed Person-Related Events   20  Events in User-Defined Event List   500  Displayed Video Search Results   5,000  Face Capture Records   200  Vehicle Capture Records   200  Vehicle Matched Events   200  Face Picture Matched Events   200  Vehicle Matched Events   200  Face Picture Matched Events   200  Face Picture Search Results of Matched Face Pictures   70tal: 10,000 (20 per page)  Files Linked to One Evidence   100  Two-Way Audio   1  Two-Way Audio   1  Devices in One Broadcast   512  Intelligent Analysis   7  Personal Face Picture Problem   128  Records in One Export   320,000  Vehicle Passing Records in One Export   5,000  Device Logs in One Export   5,000  Online/Offline Logs and Recording Logs in One Export   2,000  Online/Offline Logs and Recording Logs in One Export   10,000		Alarms Displayed in Alarm Center	2,000
Once Alarms in One Export PDF: 5,000  Events Displayed in Event List Displayed Face Comparison Records/Access Records/Vehicle Passing Records Face Comparison Groups Subscribed Comparison Records of One Person Displayed Person-Related Events Displayed Vehicle-Related Events Displayed Vehicle-Related Events Displayed Vehicle-Related Event List Displayed Video Search Results Displayed Video Search Results Face Capture Records Vehicle Capture Records Vehicle Capture Records Vehicle Matched Events Displayed Video Search Results Face Picture Matched Events Search Results of Matched Face Pictures Face Picture Matched Events Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Intercom Two-Way Audio Devices in One Broadcast IP Speakers in One Broadcast IP Speakers in One Broadcast Vehicle Passing Records in One Export PDF: 500 Server Logs in One Export Online/Offline Logs and Recording Logs in One Export DINDOW Todo Todo Todo Todo Todo Todo Todo Tod		Unacknowledged Alarms Displayed	5,00
Events Displayed in Event List   500			100
Displayed Face Comparison Records/Access Records/Vehicle Passing Records Face Comparison Groups Subscribed Comparison Records of One Person Displayed Person-Related Events 20 Displayed Vehicle-Related Events Displayed Video Search Results Displayed VCA Search Results Face Capture Records Vehicle Capture Records Recognition Face Picture Matched Events Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking Server Logs in One Export Online/Offline Logs and Recording Logs in One Export		Alarms in One Export	I
Records/Access Records/Vehicle Passing Records Face Comparison Groups Subscribed Comparison Records of One Person Displayed Person-Related Events Displayed Vehicle-Related Events Displayed Video Search Results Displayed VCA Search Results Face Capture Records Vehicle Capture Records Recognition Face Picture Matched Events Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking Health Monitoring Records Face Comparison Groups Subscribed 10 Displayed VCA Search Results 20 Displayed VCA Search Results 5,000 200 200 200 200 200 200 200 200 200		Events Displayed in Event List	500
Monitoring  Comparison Records of One Person Displayed Person-Related Events Displayed Vehicle-Related Events Events in User-Defined Event List Displayed Video Search Results Displayed Video Search Results Face Capture Records Vehicle Capture Records Pace Picture Matched Events Evidence Management Video Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking  Monitoring  Comparison Records of 200 Displayed Vehicle-Related Events 5,000 Events in User-Defined Event List 500 Displayed Video Search Results 5,000 Displayed Video Search Results 5,000 Evont Records 200 Vehicle Capture Records 200 Vehicle Capture Records 200 Vehicle Matched Events 20 Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Evidence Management Video Intercom Two-Way Audio Devices in One Evidence 100 Channels for Video Intercom 1 Intelligent Analysis Vehicle and Parking  Server Logs in One Export 2,000 Device Logs in One Export 5,000 Device Logs in One Export 2,000 Online/Offline Logs and Recording Logs in One Export 10,000		Records/Access Records/Vehicle	200
Monitoring  Displayed Person-Related Events 20  Events in User-Defined Event List 500  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 Picture Matched Events 20  Search Results of Matched Face Pictures Search Results of Matched Face Pictures  Evidence Management Video Intercom 100  Two-Way Audio Broadcast IP Speakers in One Broadcast IP Speakers in One Export Parking IP Server Logs in One Export 2,000  Mental Parking Intelligent Records Intercord Intercord Intelligent Analysis Server Logs in One Export 5,000  Displayed Vehicle-Related Events 500  Evolution Speakers of Face Hesults of Food Export 5,000  Policy Intelligent Analysis Server Logs in One Export 5,000  Device Logs in One Export 5,000  Device Logs in One Export 5,000  Online/Offline Logs and Recording Logs in One Export 10,000  Displayed Vehicle Passing Records in One Export 5,000  Device Logs in One Export 5,000  Device Logs in One Export 2,000  Online/Offline Logs and Recording Logs in One Export 10,000		Face Comparison Groups Subscribed	10
Monitoring  Displayed Vehicle-Related Events 500  Events in User-Defined Event List 500  Displayed Video Search Results 5,000  Pace Capture Records 200  Vehicle Capture Records 200  Vehicle Matched Events 20  Face and Human Body Recognition 5earch Results of Matched Face Picture Search Results of Matched Face Pictures 5earch Results of Frequently and Rarely Appeared Persons 100 per page 100 p		Comparison Records of One Person	20
Events in User-Defined Event List 500 Displayed Video Search Results 5,000 Face Capture Records 200 Vehicle Capture Records 200 Vehicle Matched Events 20 Face and Human Body Recognition Search Results of Matched Face Pictures Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Management Video Intercom Channels for Video Intercom 1  Two-Way Audio Devices in One Broadcast IP Speakers in One Broadcast IP Speakers in One Export 320,000  Intelligent Analysis Vehicle and Parking Server Logs in One Export 5,000 Device Logs in One Export 2,000  Eviden Intelligent 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		Displayed Person-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 Search Results of Matched Face Pictures Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Management Video Intercom Channels for Video Intercom Two-Way Audio Channels for Two-Way Audio Devices in One Broadcast 128  Intelligent Analysis Vehicle and Parking Server Logs in One Export 5,000  Health Monitoring Siever Search Results 5,000  Device Logs in One Export 2,000  Online/Offline Logs and Recording Logs in One Export 10,000	Monitoring	Displayed Vehicle-Related Events	20
Displayed VCA Search Results 5,000  Face Capture Records 200  Vehicle Capture Records 200  Vehicle Matched Events 20  Face and Human Body Recognition Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Files Linked to One Evidence Intercom Channels for Video Intercom Two-Way Audio Channels for Two-Way Audio Devices in One Broadcast 128  Intelligent Analysis Vehicle and Parking Files Linked to De Export Server Logs in One Export 10,000  Device Logs in One Export 5,000  Device Logs in One Export 2,000  Online/Offline Logs and Recording Logs in One Export 10,000		Events in User-Defined Event List	500
Face Capture Records Vehicle Capture Records Vehicle Matched Events 20 Face and Human Body Recognition Evidence Management Video Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking Health Monitoring Face Capture Records Vehicle Adactor Records Vehicle Adactor Records Vehicle Adactor Matched Events 20 Face Picture Matched Events 20 Face Pictures Search Results of Matched Face Pictures Fotal: 10,000 (20 per page) 100 per page 100 Total: 10,000 (20 per page) 100 Total: 10,000 (20 per pa		Displayed Video Search Results	5,000
Vehicle Capture Records Vehicle Matched Events 20 Face Picture Matched Events Search Results of Matched Face Pictures Search Results of Frequently and Rarely Appeared Persons Evidence Management Video Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking  Vehicle Capture Records Vehicle Matched Events 20 Total: 10,000 (20 per page) 100 per page 100 per page 100  Channels for Video Intercom 1  Two-Way Audio Devices in One Evidence 100  1  1  1  1  1  1  1  1  1  1  1  1		Displayed VCA Search Results	5,000
Face and Human Body Recognition  Evidence Management Video Intercom Two-Way Audio Broadcast Intelligent Analysis Vehicle and Parking  Health Monitoring  Face Picture Matched Events Face Picture Matched Face Pictures  Search Results of Matched Face Pictures  Search Results of Frequently and Rarely Appeared Persons  Files Linked to One Evidence  100  100  100  100  100  100  100  1		Face Capture Records	200
Face and Human Body Recognition  Evidence Management Video Intercom Two-Way Audio Broadcast IP Speakers in One Broadcast IP Speakers in One Export Analysis Vehicle and Parking  Face Picture Matched Events Search Results of Matched Face Pictures Search Results of Frequently and Rarely 100 per page 100 per page 100 per page 100  1 1  1 1  1 1  1 1  1 1  1 1  1 1		Vehicle Capture Records	200
Face and Human Body Recognition  Search Results of Matched Face Pictures  Search Results of Frequently and Rarely Appeared Persons  Evidence Management  Video Intercom  Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Health Monitoring  Each Results of Matched Face Pictures  Search Results of Frequently and Rarely 100 per page  100  100  100  100  100  100  100  1		Vehicle Matched Events	20
Human Body Recognition  Search Results of Frequently and Rarely Appeared Persons  Evidence Management  Video Intercom  Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Health Monitoring  Fictures  Search Results of Frequently and Rarely 100 per page  100  100  100  100  100  100  100  1		Face Picture Matched Events	20
Recognition  Search Results of Frequently and Rarely Appeared Persons  Evidence Management  Video Intercom  Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Health Monitoring  Files Linked to One Evidence  100  100  100  100  100  100  100  1		Search Results of Matched Face	Total: 10 000 (20 per page)
Evidence Management  Video Intercom  Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Health Monitoring  Evidence Files Linked to One Evidence  Files Linked to One Evidence  100  1  1  1  1  1  1  1  1  1  1  1	-		10tal. 10,000 (20 per page)
ManagementFiles Linked to One Evidence100Video IntercomChannels for Video Intercom1Two-Way Audio11BroadcastDevices in One Broadcast512IP Speakers in One Broadcast128Intelligent AnalysisRecords in One Export320,000Vehicle and ParkingVehicle Passing Records in One ExportPDF: 500Health MonitoringDevice Logs in One Export5,000Online/Offline Logs and Recording Logs in One Export10,000	-		100 per page
Intercom Two-Way Audio  Broadcast  Intelligent Analysis  Vehicle and Parking  Server Logs in One Export  Monitoring  Channels for Video Intercom  1  Channels for Two-Way Audio 1  Devices in One Broadcast 128  Intelligent Analysis  Records in One Export 320,000  PDF: 500  PDF: 500  Server Logs in One Export Device Logs in One Export  Online/Offline Logs and Recording Logs in One Export		Files Linked to One Evidence	100
Audio  Channels for Iwo-Way Audio  Broadcast  Devices in One Broadcast  IP Speakers in One Broadcast  Intelligent Analysis  Vehicle and Parking  Vehicle Passing Records in One Export  Server Logs in One Export  Device Logs in One Export  Online/Offline Logs and Recording Logs in One Export  One Export  128  320,000  PDF: 500  PDF: 500  2,000  Online/Offline Logs and Recording Logs in One Export  One Export  10,000		Channels for Video Intercom	1
IP Speakers in One Broadcast   128	•	Channels for Two-Way Audio	1
Intelligent Analysis  Vehicle and Parking  Server Logs in One Export  Health Monitoring  IP Speakers in One Broadcast  Records in One Export  Vehicle Passing Records in One Export  Server Logs in One Export  Device Logs in One Export  Online/Offline Logs and Recording Logs in One Export  128  320,000  PDF: 500  2,000  10,000	Dunadanat	Devices in One Broadcast	512
Analysis  Vehicle and Parking  Vehicle Passing Records in One Export  Server Logs in One Export  Health Monitoring  Monitoring  Records in One Export  Server Logs in One Export  Device Logs in One Export  Online/Offline Logs and Recording Logs in One Export  10,000	broaucast	IP Speakers in One Broadcast	128
Parking  Vehicle Passing Records in One Export  Server Logs in One Export  PDF: 500  Server Logs in One Export  Device Logs in One Export  Online/Offline Logs and Recording Logs in One Export  10,000	•	Records in One Export	320,000
Health Monitoring Online/Offline Logs and Recording Logs in One Export  Online/Offline Logs and Recording Logs in One Export  10,000		Vehicle Passing Records in One Export	PDF: 500
Monitoring Online/Offline Logs and Recording Logs in One Export  10,000		Server Logs in One Export	5,000
in One Export 10,000		Device Logs in One Export	2,000
Download Tasks Downloading Completed 5 000	Monitoring		10,000
Download 103k3 Downloading Completed 3,000	Download	Tasks Downloading Completed	5,000

Center	Tasks Waiting for Downloading	500
	Tasks Waiting for Uploading	500
	Tasks in Downloading Simultaneously	5
	Tasks in Uploading Simultaneously	5
Smart Wall (Graphic	Times for One Alarm to Be Displayed on Smart Wall	1
Card)	Windows on One Smart Wall	64
	Views	1,000
	View Groups	100
	Auto-Switch Cameras in One Window	20
Smart Wall	Auto-Switch Windows on One Smart Wall	16
(Decoding Device)	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 Time Consumed	15 Seconds
Login and Logout	Logout Time Consumed	10 Seconds
Logout	User Switch Time Consumed	22 Seconds
Others	Image Cache	2 GB

