HikCentral Professional V1.7.1
System Requirements & Performance

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Contents

Chapter 1 System Requirements

OS for Server*	Microsoft® Windows 7 SP1 64-bit Microsoft® Windows 8.1 64-bit Microsoft® Windows 10 64-bit Microsoft® Windows Server 2008 R2 SP1 64-bit Microsoft® Windows Server 2012 64-bit Microsoft® Windows Server 2012 R2 64-bit Microsoft® Windows Server 2016 64-bit Microsoft® Windows Server 2019 64-bit *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 7 SP1 32-bit/64-bit Microsoft® Windows 8.1 32-bit/64-bit Microsoft® Windows 10 64-bit Microsoft® Windows Server 2008 R2 SP1 64-bit Microsoft® Windows Server 2012 64-bit Microsoft® Windows Server 2012 R2 64-bit Microsoft® Windows Server 2016 64-bit Microsoft® Windows Server 2019 64-bit *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 10.0 and later Android 5.0 and later
OS for Visitor Terminal	Android 7.1 and later
Database	PostgreSQL V 9.6.13
Browsers	Internet Explorer 10/11 and above Chrome 61 and above Firefox 57 and above Safari 11 and above (running on Mac OS X 10.3/10.4)
Virtual Machine	VMware® ESXi™ 6.x Microsoft® Hyper-V with Windows Server 2012/2012 R2/2016 (64-bit) *Note:* The Streaming Server and 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 2008 R2 SP1 64-bit Microsoft® Windows Server 2012 64-bit RoseReplicatorPlus_5.1.0_175-x64

*Server refers to SYS server in centralized deployment, and SYS as well as ADS server in distributed deployment.

Chapter 2 Server Performance

2.1 SYS Server (without RSM)

Notes:
The following table shows:
- Performance of SYS server if the system is centralized deployed.
- Performance of SYS server together with ADS server if the system is distributed deployed.

SYS Configurations		
Feature	**Low-End**	**High-End**
CPU	Intel® Core™ i5-4590 @ 3.30 GHz 3.30 GHz	Intel® Xeon® E3-1220 V5 @ 3.00 GHz 3.00 GHz
RAM	8 GB	16 GB
NIC	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
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.
HDD Capacity	At least 650 GB	At least 650 GB
OS	Microsoft® Windows 8.1 64-bit	Microsoft® Windows Server 2012 (R2) 64-bit
Maximum Performance		
	Feature	**Low-End**	**High-End**
Manageable Resources	**Managed Device IP Addresses** *Including Encoding Devices, Access Control Devices, and Security Control Devices*	128	1,024
	Encoding Devices	128	Centralized Deployment: 1,024 Distributed Deployment: 2,048
	Cameras	512	Centralized Deployment: 3,000 Distributed Deployment: 1,0000

Alarm Inputs *Including Alarm Inputs of Security Control Devices*	512	3,000
Alarm Outputs	512	3,000
Recording Servers	64	
Streaming Servers	64	
ANPR Cameras	512	3,000
People Counting Cameras	60 (recommended max. value)	300 (recommended max. value)
Facial Recognition Server	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 Control Devices	128	1,024
Elevator Control Devices	128	1,024
Access Points (Doors + Floors)	128	1,024
Doors	128	1,024
Floors	128	1,024
Enrollment Station	8	
Video Intercom Device	1,024	
DS-5600 Series Face Recognition Terminals *Applied with Hikvision Turnstiles*	32 *If DS-5600 series devices are applied with third-party turnstiles, they are regarded as access control devices.	
Radars and Radar PTZ Cameras	30	
Alarm Inputs of Security Control Devices	512	2,048
DeepinMind Servers	64	

	Security Audit Servers	8	
	Dock Stations	16	1,500
	Resource Groups	1,000	
	Resources in One Resource Group	64	
	Security Control Partitions in One Resource Group	256	
Area	Areas	512	3,000
	Area Hierarchies	5	
	Cameras in Each Area	256	
	Alarm Inputs in Each Area	256	
	Alarm Outputs in Each Area	256	
Event & Alarm	Alarm Priorities	255	
	Alarm Categories	25	
	Event and Alarm Rules	1,500	Centralized Deployment: 3,000 Distributed Deployment: 10,000
	User-Defined Event Rules	400	
	Arming Schedule Templates	200	
	Events or Alarms Storage	• 30 events or alarms without picture per second. • 5 events or alarms with pictures (500 KB each, stored in SYS server) per second. • 20 events or alarms with pictures (500 KB each, stored in Recording Server) per second.	• 100 events or alarms without picture per second in centralized deployment. • 1,000 events or alarms without picture per second in distributed deployment. • 20 events or alarms with pictures (500 KB each, stored in SYS server) per second. • 80 events or alarms with pictures (500 KB each, stored in Recording Server) per second.

	Events or Alarms Sent to Clients		• 30 events or alarms/s • 30 Clients/s (Mobile Clients and Control Clients)	• 120 events or alarms/s • 100 Clients/s (Mobile Clients and Control Clients)
	Event Triggered Capturing		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.
	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.
Recording	**Recording Schedules**		512	Centralized Deployment: 3,000 Distributed Deployment: 10,000
	Recording Schedule Templates		200	
Map	**Map**	**Maps Linked to Each Area**	64	
		Resolution	8192×8192	
		Size for Each Map	10 MB	
		Total Size for Maps	2 GB	15 GB
		Maps	128	1,024
		Cameras on Each Map	16	128
		Alarm Inputs on Each Map	16	128
		Alarm Outputs on Each Map	16	128
		Labels on Each Map	16	128
		UVSS on Each Map	4	4
		Access Points on Each Map	16	128
		Hot Regions on Each Map	8	64
		Cameras on Maps in Total	512	Centralized Deployment: 3,000 Distributed Deployment: 10,000
		Alarm Inputs on Maps in Total	512	3,000
		Alarm Outputs on Maps in Total	512	3,000
		Labels on Maps in Total	512	3,000

		UVSS on Maps in Total	4	4
		Access Points on Maps in Total	32	512
		Hot Regions on Maps in Total	128	1,024
	GIS Map	**Elements in Total**	3,000	
		Sites	3,000	
		Hot Regions	128	1,024
		Cameras	512	Centralized Deployment: 3,000 Distributed Deployment: 10,000
		Alarm Inputs	512	3,000
		Alarm Outputs	512	3,000
		UVSS	4	4
		Access Points	32	512
		Tags	512	3,000
User & Role	**Roles**		400	3,000
	Users		1,250	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).
	Concurrent Accesses via Client		● 30 Control Clients, Web Clients, or OpenAPI Clients access the system concurrently; ● 30 Mobile Clients or OpenAPI Clients access the system concurrently.	● 100 Control Clients, Web Clients, or OpenAPI Clients access the system concurrently; ● 100 Mobile Clients or OpenAPI Clients access the system concurrently
Data Storage (BI Data and Data Recorded in System)	**Data Retention Period**		5,000,000 per Month and Stored for 3 Years	
	People Counting		5 million	
	Heat Map		0.25 million	
	ANPR		60 million	
	Events		60 million	

	Alarms	60 million	
	Access Records	1.4 billion	
	Attendance Records	55 million	
	Visitor Records	10 million	
	Operation Logs	5 million	
	Service Information Logs	5 million	
	Service Error Logs	5 million	
	Recording Tags	60 million	
Person	**Persons**	2,000	1,000,000
	Profiles	2,000	1,000,000
	Cards	10,000	250,000
	Fingerprints	8,000	100,000
	Credentials (Cards + Fingerprints)	10,000	250,000
	Size of Each Profile	Recommended: 300 KB	
	Total Size of Profiles	500 MB	300 GB
	Persons to Be Reviewed	10,000	
Access Control	**Persons for Access Control**	2,000	50,000
	Visitors	10,000	
	Anti-Passback Rules	32	128
	Access Points in One Anti-Passback Rule	16	
	Access Groups	16	512
	Persons in One Access Group	10,000	50,000
	Access Levels	32	512
	Access Points in One Access Level	32	512
	Access Levels Assigned to One Access Group	8	
	Access Schedules	32	
	Speed of Applying Persons' Credentials to Device	● Card: 50ms for one card ● Fingerprint: 1.5s for one fingerprint ● Face credential: 1s for one face picture	

Time and Attendance	**Persons for Time and Attendance**	2,000	10,000
	Attendance Groups	16	256
	Persons in One Attendance Group	10,000	
	Shift Schedules	32	128
	Major Leave Type	64	
	Minor Leave Type in One Major Type	128	
	Holidays	16	
Face Comparison	**Persons for Face Comparison**	2,000	1,000,000
	Face Comparison Groups	16	64
	Storage of Face Matched/Mismatched Events	● 120/s without pictures ● 20/s with pictures (each picture 500 KB, stored in Recording Server)	● 1000/s without pictures (distributed deployment) ● 400/s without pictures (centralized deployment ● 100/s with pictures (each picture 500 KB, stored in Recording Server)
Vehicle (ANPR)	**UVSS (Under Vehicle Surveillance Systems)**	2	4
	Vehicle Lists	13	100
	Vehicles	60,000	500,000
	Undercarriage Pictures (Each 10 MB)	512	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)	● 20/s with pictures (each picture 500 KB, stored in SYS server) ● 100/s with pictures (each picture 500 KB, stored in Recording Server)
Entrance & Exit	**Lanes**	8	
	Vehicle Lists	100	
	Vehicles	500,000	
	Vehicles' Cards	250,000	
	Passing Frequency of Lanes	1 vehicle/1s 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
	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**	32
	Smart Walls	32
	Views	1,000
	Cameras in One View	256
	View Groups	100
	Views in One View Group	10
	Views Auto-Switched Simultaneously	1,000
	Concurrent Accesses via Control Client	5 Control Clients access the system concurrently.
	Operation Logs Storage	500,000
	Alarms Displayed on Smart Wall as Actions	5 alarms per second (each alarm has 16 related cameras).
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

2.2 SYS Server (with RSM)

	SYS Configurations	
Feature	**Low-End**	**High-End**
CPU	Intel® Xeon® E3-1220 V5 @ 3.00 GHz 3.00 GHz	Intel® Xeon® E5-2620 V4 @ 2.40 GHz 2.40 GHz
RAM	16 GB	16 GB
NIC	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
HDD for Picture Storage	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
OS	Microsoft® Windows Server 2012 (R2) 64-bit	Microsoft® Windows Server 2012 (R2) 64-bit

	Maximum Performance		
	Feature	**Low-End**	**High-End**
Manageable Resources	**Current Site**	**Cameras**	512	3,000
		Encoding Devices	128	1,024
		Alarm Inputs *Including Alarm Inputs of Security Control Devices*	512	3,000
		Alarm Outputs	512	3,000
		Recording Servers	64	
		Streaming Servers	64	
		ANPR Cameras	512	3,000
		People Counting Cameras	60 (recommended max. value)	300 (recommended max. value)
		Facial Recognition Server	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 Control Devices	128	1,024
		Elevator Control Devices	128	1,024
		Access Points (Doors + Floors)	128	1,024
		Doors	128	1,024
		Floors	128	1,024
		Enrollment Station	8	
		Video Intercom Device	1,024	
		DS-5600 Series Face Recognition Terminals *Applied with Hikvision Turnstiles*	32 *If DS-5600 series devices are applied with third-party turnstiles, they are regarded as access control devices.	
		Radars and Radar PTZ Cameras	30	
		Alarm Inputs of Security Control Devices	512	2,048
		DeepinMind Servers	64	
		Security Audit Servers	8	
		Dock Stations	16	128
		Resource Groups	1,000	
		Resources in One Resource Group	64	
		Security Control Partitions in One Resource Group	256	
	Central System	Managed Device IP Addresses *Including Encoding Devices, Access Control Devices, Security Control Devices, and Remote Sites*	128	1,024

		Cameras	18,000	100,000
Area	**Current Site**	**Areas**	512	3,000
		Area Hierarchies	5	
		Cameras in Each Area	256	
		Alarm Inputs in Each Area	256	
		Alarm Outputs in Each Area	256	
	Central System	**Areas from Remote Sites**	18,000	100,000
Event & Alarm	**Alarm Priorities**		255	
	Alarm Categories		25	
	Event or Alarm Rules		• 1,500 (Current Site) • 5,000 (Current Site and Remote Sites)	• 3,000 (Current Site) • 10,000 (Current Site and Remote Sites)
	User-Defined Event Rules		400	
	Arming Schedule Templates		200	
	Events or Alarms Storage		• 30 events or alarms without picture per second. • 5 events or alarms with pictures (500 KB each, stored in SYS server) per second. • 20 events or alarms with pictures (500 KB each, stored in Recording Server) per second.	• 100 events or alarms without picture per second. • 20 events or alarms with pictures (500 KB each, stored in SYS server) per second. • 80 events or alarms with pictures (500 KB each, stored in Recording Server) per second.
	Events or Alarms Sent to Clients		• 30 events or alarms/s • 30 Clients/s (Mobile Clients and Control Clients)	• 120 events or alarms/s • 100 Clients/s (Mobile Clients and Control Clients)
	Event Triggered Capturing		20 cameras can be triggered to capture pictures concurrently per second.	
	Alarm Triggered Recording		30 cameras can be triggered to record	128 cameras can be triggered to record

			video concurrently per second.	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.
Recording	**Recording Schedules**		21,000	30,000
	Recording Schedule Templates		200	
Map	**Map**	**Maps Linked to Each Area**	64	
		Resolution	8192×8192	
		Size for Each Map	10 MB	
		Total Size for Maps	2 GB	15 GB
		Maps	128	1,024
		Cameras on Each Map	16	128
		Alarm Inputs on Each Map	16	128
		Alarm Outputs on Each Map	16	128
		Labels on Each Map	16	128
		UVSS on Each Map	2	4
		Access Points on Each Map	16	128
		Hot Regions on Each Map	8	64
		Cameras on Maps in Total	512	3,000
		Alarm Inputs on Maps in Total	512	3,000
		Alarm Outputs on Maps in Total	512	3,000
		Labels on Maps in Total	512	3,000
		UVSS on Maps in Total	2	4
		Access Points on Maps in Total	32	128
		Hot Regions on Maps in Total	128	1,024
	GIS Map	**Elements in Total**	3,000	
		Hot Regions	128	1,024
		Cameras	512	3,000
		Alarm Inputs	512	3,000

		Alarm Outputs	512	3,000
		UVSS	2	4
		Access Points	32	128
		Tags	512	3,000
User & Role	Roles		400	3,000
	Users		1,250	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).
	Concurrent Accesses via Client		● 30 Control Clients, Web Clients, or OpenAPI Clients access the system concurrently; ● 30 Mobile Clients or OpenAPI Clients access the system concurrently.	● 100 Control Clients, Web Clients, or OpenAPI Clients access the system concurrently; ● 100 Mobile Clients or OpenAPI Clients access the system concurrently
Data Storage (BI Data and Data Recorded in System)	Data Retention Period		Stored for 3 Years	
	People Counting		5 million	
	Heat Map		0.25 million	
	ANPR		60 million	
	Events		60 million	
	Alarms		60 million	
	Access Records		1.4 billion	
	Attendance Records		55 million	
	Visitor Records		10 million	
	Operation Logs		5 million	
	Service Information Logs		5 million	

	Service Error Logs	5 million	
	Recording Tags	60 million	
Person	**Persons**	2,000	1,000,000
	Profiles	2,000	1,000,000
	Cards	10,000	250,000
	Fingerprints	8,000	100,000
	Credentials (Cards + Fingerprints)	10,000	250,000
	Size of Each Profile	Recommended: 300 KB	
	Total Size of Profiles	500 MB	300 GB
	Persons to Be Reviewed	10,000	
Access Control	**Persons for Access Control**	2,000	50,000
	Visitors	10,000	
	Anti-Passback Rules	32	128
	Access Points in One Anti-Passback Rule	16	
	Access Groups	16	512
	Persons in One Access Group	10,000	50,000
	Access Levels	32	512
	Access Points in One Access Level	32	512
	Access Levels Assigned to One Access Group	8	
	Access Schedules	32	
	Speed of Applying Persons' Credentials to Device	● Card: 50ms for one card ● Fingerprint: 1.5s for one fingerprint ● Face credential: 1s for one face picture	
Time and Attendance	**Persons for Time and Attendance**	2,000	10,000
	Attendance Groups	16	256
	Persons in One Attendance Group	10,000	
	Shift Schedules	32	128
	Holidays	16	
	Major Leave Type	64	

	Minor Leave Type in One Major Type	128	
Face Comparison	Persons for Face Comparison	2,000	10,000
	Face Comparison Groups	16	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)
Vehicle (ANPR)	UVSS (Under Vehicle Surveillance Systems)	2	4
	Vehicle Lists	13	100
	Vehicles	60,000	500,000
	Undercarriage Pictures (Each 10 MB)	512	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)	• 20/s with pictures (each picture 500 KB, stored in SYS server) • 120/s with pictures (each picture 500 KB, stored in Recording Server)
Entrance & Exit	Lanes	8	
	Vehicle Lists	100	
	Vehicles	500,000	
	Vehicles' Cards	250,000	
	Passing Frequency of Lanes	1 vehicle/1s 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	
	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	32	

	Smart Walls	32	
	Views	1,000	
	Cameras in One View	256	
	View Groups	100	
	Views in One View Group	10	
	Views Auto-Switched Simultaneously	1,000	
	Concurrent Accesses via Control Client	5 Control Clients access the system concurrently.	
	Operation Logs Storage	500,000	
	Alarms Displayed on Smart Wall as Actions	5 alarms per second (each alarm has 16 related cameras).	
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

2.3 Streaming Server

Configurations		
Feature	**Low-End**	**High-End**
CPU	Intel® Core™ i5-4590 @ 3.30 GHz	Intel® Xeon® E3-1220 V5 @ 3.00 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 Control 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 in **System -> Image**. 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™ i3-8100k @ 3.60 GHz	Intel® Core™ i7-8700k @ 3.70 GHz
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 GTX 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

Encoding Format	Frame Rate (fps)	Bit Rate (Mbps)	Resolution	Configuration 1	Configuration 2	Configuration 3
	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
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
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
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
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

3.2 Other Performance

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

Control Client Configuration	
CPU	Intel® Core™ i5-4590 @ 3.30 GHz 3.30 GHz
RAM	8 GB
NIC	GbE Network Interface Card
OS	Microsoft® Windows 8.1 64-bit
Graphics Card	NVIDIA® GeForce GTX 970

Maximum Performance		
Resource	**Areas**	3,000
	Resources in Each Area	256
	Cameras Cached in Total	5,000
	Cameras When Login in Small Scale Display Mode	Less than 512
	Cameras Supported in Small Scale Display Mode	3,000
Event and Alarm	**Max. Frequency of Alarm Receiving (Face and 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 Receiving (Face and Access Control)	20 alarms with pictures (500 KB each) and 20 without pictures.
	Max. Frequency of Event Receiving	100 events per second (last for 12 seconds), including 20 events with pictures (500 KB each) and 80 without pictures.
	Average Frequency of Event and Alarm Receiving	20 events with pictures (500 KB each) and 40 without pictures. 20 alarms with pictures (500 KB each) and 20 without pictures.
	Alarms Displayed in Alarm Center	2,000
	Unacknowledged Alarms Displayed	5,00
	Alarms Displayed on Smart Wall (Decoding Wall and Graphic Wall)	5 alarms per second
	Alarms in One Window on Smart Wall	64 Alarms
View	**Public Views**	100
	Private Views	100 for each user.
	Public View Groups	100
	Private View Groups	100 for each user.
	Cameras in One View	64
Monitoring	**Events Displayed in Event List**	500

	Events in User-Defined Event List	500	
	Radar PTZ Cameras and Radars on Map	Less than 20 radar PTZ cameras and 30 radars recommended.	
	Face Comparison Groups Subscribed	10	
	Channels in Live View	256	
	Channels in People Density Live View	8	
	Windows of Zooming Area in Live View	5	
	Channels in Two-Way Audio	1	
	Channels in Playback	16	
	Channels in Reverse Playback	9	
	Windows of Zooming Area in Playback	5	
	Channels in Synchronous Playback	16	
	Channels in Visual Tracking	1	
Door and Elevator	Doors or Elevators Controlled in a Batch	512	
	Events Displayed in Event List	200 with pictures.	
Video Intercom	Channels for Video Intercom	1	
Entrance and Exit	Lanes	8	
	Live View of One Lane	1	
	Events Displayed in Event List	200 with pictures.	
Health Monitoring	Nodes in Topology	512	
Download Center	Tasks in Total	5,000	
	Tasks Waiting for Downloading	500	
	Tasks Waiting for Uploading	500	
	Tasks in Downloading Simultaneously	3	
	Tasks in Uploading Simultaneously	3	