HikCentral Professional V3.1.1

HikCentral Professional is Hikvision's enterprise-grade security management platform, providing unified control over multi-system integration including video, access control, alarm detection, and more. Featuring an enhanced clustering architecture, HikCentral Professional delivers scalable high-performance solutions for large-scale deployments, ensuring operational continuity aligned with organizational growth.

Key Feature

Light and Efficient

- Lightweight architecture features reduce consumption of system resources
- Capable of managing multiple systems of varying sizes with consistent efficiency

Unified and Flexible

- Supports combining various application plug-ins under a unified, on-demand architecture for collaboration across business segments
- New plug-ins can be continuously developed to meet new business needs

Integrated and Open

- Compatible with virtually all Hikvision products and their abundance of applications, including deep-learning-based analytics and statistics
- Open architecture permits easy integration with third-party systems and hardware

• Features of Main Modules

Module	Features
Video	● Efficient and comprehensive video security ● Quick incident search and location, convenient event search, and quick run-through of video ● Video export as evidence ● Low bandwidth network adaptability ● Reliable and flexible storage
AcuSeek	● Effortless natural language search experience powered by large-scale AI models ● Classified target types including person, vehicle, object, and animal ● Multimodal business integration
Access Control	● Comprehensive and flexible access management methods ● Advanced access strategies for sensitive areas ● Convenient employee badge design and printing ● Clear step-by-step guidance ● Remote personnel registration ● Automatically lock or unlock doors ● Keep doors in a remain unlocked status during an emergency ● Easily count and verify everyone's safety ● Opening door via Bluetooth and NFC
Visitor	● Digitalized visitor management ● Visitor registration in advance ● Pre-defined access permissions (including parking lot permission) and traceable records ● A Watchlist function along with personalized design and printing of badges
Vehicle	● Flexible and efficient entrance & exit management ● Improved parking experience for drivers ● Self-service parking query ● Flexible billing ● Intuitive and efficient parking operation analysis and transaction analysis reports
On-Board Monitoring	● Efficient vehicle monitoring for quick response ● Reliable archive management ● Customized reports for enhanced operational efficiency
Alarm Detection	● Centrally manage various alarm sources ● Real-time display of all kinds of alarms ● Flexible linkage ● Automatic audio alarms
Intelligent Analysis	● The video-based intelligent analysis dashboard enables flexible and extensible digital applications ● Smart commercial analyses
Commercial Display	● Manage and configure content for digital signage in an intuitive manner ● Pre-installed program templates ● All programs are created visually
Time & Attendance	● Flexible attendance rule-setting ● Diverse attendance reports and customizable templates ● Easy integration with third-party payroll systems ● Supports employees searching for attendance results and submitting applications for correction ● Vehicle attendance with lanes as check points
Portable Enforcement	● Quick retrieval of important recordings, long-term backups, and file-level permission management ● Automatic detection and addition of portable devices through dock stations, and detailed statistical logs for personnel and equipment use
Smart Wall	● Display videos on the wall ● Video auto-switch and scheduled playback

	● Alarm pop-up on smart wall. The alarm video will be automatically played in a pop-up window on the video wall to notify the operator
Parking Lot Management	● Efficient entrance & exit management with access rules for vehicles, integration with ANPR cameras, and touch-free, non-stop vehicle authentication to help reduce rush hour congestion ● Improved parking experience with guidance screens and displays to find vacant spaces ● Flexible charging options including manual charge and prepayment
Evidence Management	● Convenient information collection with multi-clients (Mobile Client, Web Client, Control Client) for uploading files ● Unified management of cross-service evidence files, including videos, pictures, audios, and documents uploading in the daily operation ● Long-term backup, efficient retrieval: evidence classification, archiving, retrieval, export, one-stop management
AR	● Easily access key cameras without losing the global view ● Quick resource location through simple "Click" and "Filter" actions ● Efficient process for quick event handling from notification to acknowledgment
Patrol Management	● Design patrol schedules and routes effortlessly using an intuitive e-map interface ● Security staff check in using access control devices with all data automatically uploaded to the software ● Report anomalies during the patrol to the center via the Mobile Client ● Trigger alarms instantly if unauthorized individuals attempt to conduct patrol ● Comprehensive patrol reports enable managers to assess performance effectively
Security Inspection	● Identify a wide range of prohibited items timely and accurately, reducing labor costs and security threats ● Simplify centralized management with real-time detection results, alarm information, and live view
Emergency Mustering	● Instant response to emergencies with a click to trigger the emergency automatically or manually ● Enhanced evacuation experience with cycled broadcast of evacuation messages through IP speakers and remaining doors open along the escape route for quick assembly at muster points ● Efficient confirmation of personnel safety status at muster points, including counting and verification of everyone's presence and checking the most recent locations of missing individuals
Remote Site Management (RSM)	● Manage multi-site systems in one place, providing a unified view of different resources, and all related events and alarms across sites. ● Multi-site solutions in terms of the number of devices, remote sites and concurrent events to be handled by the system ● Site group management ● Sharing of newly added resources (persons/faces/vehicles / access levels) with the central system ● Batch assign resources (persons/vehicle lists / face picture libraries) to multiple remote sites, with automatic synchronization upon assignment
Central Management	● Build a scalable resource server cluster to achieve centralized management of large-scale resources on demand ● Hot standby for taking over a failed sub server to ensure uninterrupted operation and prevent data loss in a cluster ● Clustering of streaming servers to ensure high-concurrency streaming ● Large-scale data storage ● Visual server management with real-time monitoring of the Main Server, Resource Server clusters, Streaming Server clusters, and more
Maintenance	● Visualized network and device topology and alarm notifications ● Logs are available for event trackback and evidence

	● Check all health status with one click or according to a preset schedule ● Clearly see the risks and exceptions
Traffic Incident Monitoring	● Multi-dimensional traffic incident analysis for visualizing data by time, camera, and event type ● Flexible traffic incident search with filtering by time, camera, event type, license plate, etc

Software Specification

The following table shows the maximum performance of the SYS (System Management Server). For other detailed data and performance, refer to *Software Requirements and Performance*.

Multiple Servers (Cluster Mode)	
Type	Value
Resource Server Cluster	1
Sub Servers in a Resource Server Cluster	5
Standby Servers in a Resource Server Cluster	5
Streaming Server Cluster	1
Servers in a Streaming Server Cluster	64

Manageable Devices		
Type	Single Server	Multiple Servers
Encoding Devices	10,000 in Total ***Note:*** No more than 10,000 are allowed for the following device types. See details below: ● 2,048 encoding devices added by Hik-Partner Pro and third-party protocols ● 5,000 on-board devices ● 5,000 portable devices ● 1,000 dock stations ● 16 query terminals ● 40 entrance/exit control devices ● 2,048 guidance terminals ● 512 parking lot screens ● 5,000 access control devices ● 5,000 elevator control devices ● 5,000 video intercom devices ● 32 visitor terminals ● 100 security radars ● 2,048 alarm devices (security control panels and panic alarm devices) ● 128 network transmission devices ● 4 UVSSs ● 2,048 commercial display devices (including digital signages, interactive flat panels, digital signage boxes, and LED controllers) ● 32 network keyboards ● 32 decoding devices ● 1,000 IP speakers / amplifier zones ● 1,024 fire protection devices ● 100 optical fiber sensors ● 100 payment terminals ● 16 automatic payment machines ● 1,000 Modbus devices ● 1,000 Bacnet devices	55,000 in Total ***Note:*** *1. Supports up to 50,000 encoding devices (third-party devices excluded) on sub servers and 5,000 other devices on the main server.* *2. The performance of multi-server is tested with a 5-sub server cluster.*
Encoding Devices Added by Hik-Partner Pro and Third-Party Protocols		
Access Control Devices		
Elevator Control Devices		
Video Intercom Devices		
Visitor Terminals		
Security Control Panels and Panic Alarm Devices		
IP Speakers / Amplifier zones		
Query Terminals		
Guidance Terminals		
Parking Lot Screens		
Entrance/Exit Stations		
On-Board Devices		
Security Inspection Devices		
UVSSs		
Portable Devices		
Dock Stations		
Network Transmission Devices		
Commercial Display Devices (including digital signages, interactive flat panels, digital signage box, and LED controllers)		
Fire Protection Devices		
Optical Fiber Sensors		
Decoding Devices		
BACnet Devices		
Modbus Devices		
Payment Terminals		
Automatic Payment Machines		
Portable Code Scanners		
Scanning Devices (including Hikvision smart code readers, Hikvision barcode readers, and third-party scanning devices)		
Recording Servers (Including pStor, Hybird SAN, NVR, and cloud storage)	64	64
Streaming Servers	64	64
Intelligent Analysis Servers	64	64

Manageable Channels

Type	Single Server	Multiple Servers
Cameras	● Central System: 20,000 ***Note:*** This is not applicable to the following camera types, and their upper limits are as follows: ■ Radar PTZ cameras: 30 ■ Cameras for face picture comparison and human body recognition: 3,000 ■ ANPR cameras: 3,000 ■ Thermal cameras: 200 (with 20 measurement points for each camera) ● RSM: 100,000 (total in all sites)	50,000 ***Note:*** This is not applicable to the following camera types, and their upper limits are as follows: ■ Radar PTZ cameras: 30 ■ Cameras for face picture comparison and human body recognition: 3,000 ■ ANPR cameras: 3,000 ■ Thermal cameras: 200 (with 20 measurement points for each camera)
DS-5600 Series Face Recognition Terminals	32	N/A
Access Points (Doors + Floors)	● Central System: 5,000 ● RSM: 10,000 (total in all sites)	N/A
Enrollment Stations	8	N/A
Alarm Inputs (Excluding security control panels and panic alarm devices)	5,000	5,000
Alarm Inputs of Security Control Devices	10,000	15,000
Partitions (Areas)	2,048	N/A
Alarm Outputs	3,000	3,000
Intelligent Traffic Cameras	1,000	1,000
Modbus Resources	1,000 (up to 20 resources per device)	1,000 (up to 20 resources per device)
Speaker Unit	1,000	N/A

Event		
Type	Single Server	Multiple Servers
Events	20,000	100,000
Events with Pictures (When pictures are directly transmitted from devices to Recording Servers or NVRs)	● Average Value: 300/s ● Peak Value: 1,000/s (This value last for no more than 1 hour.)	● Average Value: 1,500/s ● Peak Value: 3,000/s (This value last for no more than 1 hour.)
Events with Pictures (When devices send pictures to SYS, and then SYS transmits them to Recording Servers)	● Average Value: 150/s ● Peak Value: 150/s (This value last for no more than 1 hour.)	● Average Value: 750/s ● Peak Value: 750/s (This value last for no more than 1 hour.)
Events with Pictures (When devices send pictures to SYS for storage)	● Average Value: 20/s ● Peak Value: 20/s (This value last for no more than 1 hour.)	● Average Value: 20/s ● Peak Value: 20/s (This value last for no more than 1 hour.)
Events Without Pictures	● Average Value: 300/s ● Peak Value: 1,000/s (This value last for no more than 1 hour.)	● Average Value: 1,500/s ● Peak Value: 5,000/s (This value last for no more than 1 hour.)
Combined Alarms	10/s	10/s
Optimus Alarms	100/s	100/s
Events Sent to Clients	100 clients * 100 events/s	100 clients * 100 events/s

User and Role	
Type	Value
Total Online Users and Persons **The persons refers to employees who are allowed to login to Self-Service,*	5,000

searching for attendance results, check in&out via the Mobile Client, and opening door via Bluetooth.	
Users	10,000
Roles	3,000
User Groups	10,000

Person		
Type	Single Server	Multiple Servers
Persons ***Note:*** The persons include persons for Access Control and & Attendance.	100,000	100,000
Departments	3,000	3,000
Department Hierarchies	10	10
Cards	500,000	500,000
Fingerprints	400,000	400,000
Irises	200,000	200,000
Palm Prints/Veins	200,000	200,000
Keyfob Serial Numbers	100,000	100,000

Data Storage			
Data Type	Retention Period	Total Numbers During Retention Period	Space for Per Million of Data (MB)
Server Logs (including Operations, Information, and Errors)	3 Years	15 million	1200
Events		1 billion	500
Alarms		1 billion	300
Recording Tags		60 million	110
ANPR Records		1 billion	600
Access Records		1 billion	150
Visitor Reservation and Check-In Records		30 million	270
Attendance Records		55 million	250
People Counting Data		15 million	360
Heat Map Records		0.75 million	610
Queuing Records		15 million	440
On-Board GPS Records	1 Year	1 billion	220
Portable Device GPS Records		1 billion	370

Video Security		
Type	Single Server	Multiple Servers
Recording Schedules	300,000	300,000
Face Pictures	1,000,000	1,000,000
Vehicle Lists	100	100

Intelligent Recognition	
Type	Value
Face Pictures for Intelligent Recognition	1,000,000
Face Picture Libraries	64

Intelligent Analysis for Retail/Supermarket Scenario		
Type	Single Server	Multiple Servers
Resources in One Analysis Group	64	64
Total Stores	3,000	3,000
Total Floors	3,000	3,000

Total Entries and Exits	3,000	3,000
Total Analytic Areas	3,000	3,000
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 Scheduled Reports	100	100
Floors of One Store	10	10
Entries and Exits of One Store	100	100
Cameras Installed at One Entry and Exit	5	5
Dwell Areas of a Camera	5	5
Stores That Can be Selected for Generating a Multi-Store Report	100	100
Stores That Can be Selected for Generating a Comparison Report	2	2
Stores That Can be Selected for Generating a Store Promotion Day Report	100	100
Intelligent Analysis for Public Scenario		
Type	Single Server	Multiple Servers
Total Analysis Groups	3,000	3,000
Cameras of Each Analysis Group	64	64
Analysis Groups That Can be Selected for Generating a People Counting / Person Feature Analysis Report	20	20
Analysis Groups That Can be Selected for Generating a Heat Analysis / Pathway Analysis Report	1	1

AR Monitoring	
Type	Value
Plans	512 100 Scenes for Each Plan
Tags for Each Scene	200
Tag Groups for Each Scene	200

Evidence Management	
Type	Value
Cases	100,000
Files	100,000

Smart Wall	
Type	Value
Smart Wall Devices (Decoder & Video Wall Controller & KVM)	32
Smart Walls	32
Views	1,000

Streaming Server	
Type	Value
Video Input Bandwidth per Streaming Server	Up to 600 channels, and no more than 600 Mbps for bandwidth
Video Output Bandwidth per Streaming Server	Up to 600 channels, and no more than 600 Mbps for bandwidth

Access Control & Attendance & Visitor		
Module	Type	Value
Access Control	Anti-Passback Rules	128
	Access Points in One Anti-Passback Rule	16
	Access Levels	1,024
	Access Points in One Access Level	1,024

	Access Group	512
	Access Levels in One Access Group	8
	Access Schedules	32
	Card Printing Templates	32
	Speed of Applying Credentials to Devices	• Card: 4.2/s • Fingerprint: 1.7/s • Face credential: 1.7/s • Iris: 100/s • Palm prints/veins: 1.5/s
Attendance	Schedules	128
	Break Timetables	128
	Break Timetables in One Timetable	4
	Pay Codes (including overtime types and leave types)	128
	Approval Roles	100
	Approval Flows	1,000
	Nodes in One Application Flow	100
	Persons Allowed in One Approval Role	500
	Persons Contained in All Approval Roles in Each Nodes	500
	Custom Reports in Time and Attendance Module	128
Visitor Management	Visitors	100,000
	Visitor Registration/Reservation Records	100,000
	Visitor Reservation Records to Be Approved	10,000
	Visitor Email Templates	20
	Visitors in Block List	10,000
	Entities in Watch List	10,000
	Hosts to Be Applied	100,000
	Card Templates	20
	WhatsApp Templates	20

Vehicle and Parking Management	
Type	Value
Vehicle Lists	• Vehicle Lists: 100 • Vehicles in One List: 5,000 • Vehicles in Block List: 5,000
Total Vehicles	500,000
Parking Lots	• Parking Lots: 10 • Total Lanes: 40 • Lanes in One Parking Lot: 32 • Total Floors of Parking Lot: 128
Parking Spaces	• Total Parking Spaces: 10,000 • Parking Spaces on One Floor: 5,000
Parking Fee Rules of One Parking Lot	• Parking Fee Rules for Abnormal Pass: 32 • Parking Pass Rules: 32 • Discount Rules: 32
Vehicles' Cards	250,000
Temporary Cards of One Parking Lot	10,000
Undercarriage Pictures	3,000

On-Board Monitoring		
Type	Single Server	Multiple Servers
GPS Information Sent to Platform Per Second	Peak Value: 1000 Average Value: 200	Peak Value: 1000 Average Value: 334
GPS Information Sent to Platform Every Day	N/A	15 Million
Fence Rules for One Vehicle	4	4

Deviation Rules for One Vehicle	4	4
Deviation Rules in Total	2,000	2,000
Vehicles Can Be Located in One Client	500	500
Sites	3,000	3,000
Routes	1,000	1,000
Drivers	10,000	10,000
Site Event Rules	1,000	1,000

Portable Enforcement	
Type	Value
Intercom Groups	128
Persons in One Intercom Group	100
Pieces of GPS Information Sent to Platform per Second	250
Concurrent Intercom(Built-in Streaming Server)	400 persons
Concurrent Intercom(External Streaming Server)	600 persons

Commercial Display	
Type	Value
Materials	10,000
Material Size	4 GB
Materials Uploading Concurrently	50
Programs	2,000
Pages of One Program Content	32
Windows of One Program Content	1,024
Windows on One Page	128
Picture Windows	32
Document Windows	16
Video and Live Video Windows	4
Audio	1
Webpage Windows	2
Text Windows	128
Clock	1
Countdown Timer	1
Signal Sources	1
Custom Fonts	1
Materials in One Window	256 (Picture/Video/Text, etc.)
Schedules	1,000
Cut-In Schedules	● Cut-In Programs: 10,000 ● Cut-In Text Messages: 10,000
Content Review Records	20,000
Quickly Released Contents	64 materials (picture/video) for a single release
Released Records	20,000
Concurrent Content Release	10
Applications	512
Combined Control Command	500

Security Inspection	
Type	Value
Security Analyzers	8
Walk-Through Metal Detectors	64

Security Inspection Channels	64

Broadcast	
Type	Value
Broadcast Groups	100
IP Speakers in One Broadcast Group	128
Media Libraries	100
Audio Files in One Media Library	100
Broadcast Schedules	100
Number of Speaker Units When Select Speak as Broadcast Mode in Live Broadcast	256
Number of Speaker Units When Select Audio File as Broadcast Mode in Live Broadcast	256
Number of Speaker Units When Select Custom Broadcast Content as Broadcast Mode in Live Broadcast	256 (Set Broadcast Delay Time as 4 sec)
Number of Speaker Units When Select Speaker Unit as Alarm Linkage Action and Select Audio File as Broadcast Mode	64
Number of Speaker Units When Select Speaker Unit as Alarm Linkage Action and Select Custom Broadcast Content as Broadcast Mode	64 (Set Broadcast Delay Time as 4 sec)
Number of Speaker Units Linked with SIP Phones When Select Speak as Broadcast Mode in Live Broadcast	256
Number of Speaker Units Linked with SIP Phones When Select Audio File as Broadcast Mode in Live Broadcast	256 (Set Broadcast Delay Time as 2 sec)

Optical Fiber Sensor		
Type	Single Server	Multiple Servers
Optical Fiber Sensors	100	100
Optical Fiber Unit	20,000	20,000
DeepinMind Intelligent Analysis of Events Triggered by Optical Fiber Sensors	1 event per second	1 event per second

Patrol	
Type	Value
Patrol Points	1,024
Patrol Person Groups	300
Schedule Templates	1,000
Shifts of a Patrol Route	8

Patrol	
Type	Value
Patrol Points	1,024
Patrol Person Groups	300
Schedule Templates	1,000
Shifts of a Patrol Route	8

Third-Party Integration	
When adding HikCentral Professional as a device to a third-party system, performances are as the follows.	
Type	Value
BACnet Objects	● Binary Value: 1,000 ● Door: 1,000 ● Binary Output: 1,000 ● Binary Input: 1,000
Event Templates with SIA Protocol	1,000
Zones with SIA Protocol	1,000
Event Templates with Sur-Gard Protocol	1,000
Zones with Sur-Gard Protocol	1,000

System Requirement

** For high stability and good performance, the following system requirements must be met.*

OS for HikCentral Professional Server	Microsoft® Windows Server 2025 Microsoft® Windows Server 2022 Microsoft® Windows Server 2019 64-bit Microsoft® Windows Server 2016 64-bit Microsoft® Windows 11 64-bit (including version 24H2) Microsoft® Windows 10 64-bit
OS for Control Client	Microsoft® Windows Server 2025 Microsoft® Windows Server 2022 Microsoft® Windows Server 2019 64-bit Microsoft® Windows Server 2016 64-bit Microsoft® Windows 11 64-bit Microsoft® Windows 10 64-bit
Browser Version	Google Chrome® 138+ Firefox® 140+ Safari® 16.6+ Microsoft® Edge 138+
Database	PostgreSQL V16.1
OS for Mobile Client	iOS 14.0+ Android 8.0+
Virtual Machine	VMware® ESXi™ 6.x, ESXi™ 7.x Microsoft® Hyper-V with Windows Server 2012/2012 R2/2016 (64-bit) **The Control Client cannot run on the virtual machine.* **Refer to the Deployment Guide of HikCentral Professional on VMware Virtual Machines for how the streaming server running on the virtual machine.* **Virtual server migration is not supported.*

Recommended Hardware Specification

For Single Server

** Configuration 1: Suitable for scenarios with up to 3,000 channels. Configuration 2: Suitable for scenarios with up to 10,000 channels.*

Feature	Configuration 1	Configuration 2
Suggested Hikvision Model	DS-VE11-R/HW1	DS-VH22-R/HW2
CPU	Intel® Xeon® E-2434 Intel® Xeon® E-2324G	Intel® Xeon® E-2468 Intel® Xeon® Silver 4410T Intel® Xeon® E-2378
RAM	16 GB	32 GB
Disk for OS	2 TB 7200 RPM SATA * 2	2 TB 7200 RPM SATA * 2
Power Supply	600W (Dual power)	800W (Dual power)
Dimension (W × H × D)	482.0 mm × 42.8 mm ×598.9 mm (18.97'' × 1.68'' ×23.57'') （1U）	482.0 mm × 86.8 mm × 721.62 mm (18.97'' × 3.41'' × 28.4'') (2U)
NIC	1GbE NIC * 2	1GbE NIC * 2
Operating System	Microsoft Windows Server® 2019 Multilingual Version	Microsoft Windows Server® 2022 Multilingual Version

For Multiple Servers

** Suitable for scenarios with more than 10,000 channels. For sub or standby servers, you can choose Configuration 1 or Configuration 2 in the "For Single Server" table.*

Feature	Main Server	Database Server
Suggested Hikvision Model	DS-VH22-R/HW3E	DS-VH22-R/HW202
CPU	Intel® Xeon® Silver 4410T * 2	
RAM	64 GB	64 GB
Disk for OS	960 GB SATA 7200 RPM Enterprise Class SSD*2	960 GB SATA 7200 RPM Enterprise Class SSD * 2 / 3.84 TB SATA SSD * 4
Power Supply	800W (Dual power)	800W (Dual power)
Dimension (W × H × D)	482.0 mm × 86.8 mm × 721.62 mm (18.97'' × 3.41'' × 28.4'') (2U)	482.0 mm × 86.8 mm × 721.62 mm (18.97'' × 3.41'' × 28.4'') (2U)
NIC	1 GbE NIC * 6	1 GbE NIC * 6 + 10 GB SFP * 2
Operating System	Microsoft Windows Server® 2022	Microsoft Windows Server® 2022

See Far, Go Further

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