HikCentral Professional

HikCentral Professional is a software platform provided by Hikvision for integrating and managing security systems. It is designed to meet a variety of security challenges on a single platform. With HikCentral Professional, you can manage multiple individual systems with ease, such as video security, access control, security alarms, and more, as well as explore cross-system functionalities.

Daily operations become more efficient while protection of people and property improve all around. Users of all kinds are making smarter decisions.

Key Feature

Light and Efficient
● Lightweight architecture features reduced 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 Audio	● Efficient and comprehensive video security ● Quick incident search and location, convenient event search, and quick run-through of video ● Video export as evidence ● Compression format MJPEG, H.264, H.264+, H.265, H.265+ ● Low bandwidth network adaptability ● Reliable and flexible storage ● Supports server type recording systems, CVR, NVR, DVR, third party, etc. ● Automatic management of free disk space, deleting recordings older than the set number of days when a minimum disk space threshold is exceeded. ● Scalable recording system. ● Two-way Audio ● Audio recording through different media such as speakers, microphones, headset, etc. ● Export video files in AVI, MP4, proprietary and other formats.
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 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
Event	● Management of events of all equipment connected to the System. ● Managing client and server application events ● Administration of zone or area events ● Alarm event management ● Management of intrusion events ● Management of events from third-party integrated systems by Open Api
Alarm Detection	● Centrally manage various alarm sources ● Real-time display of all kinds of alarms ● Flexible linkage ● Automatic audio alarms ● Creation and modification of user-defined alarms ● Definition of time periods in an alarm. ● Alarm priority level. ● Reactivation threshold level. ● Assignment of alarm operation protocols. ● Creation and sending of notifications through email addresses due to alarm activation ● Export of event logs.

Intelligent Analysis	● The video-based intelligent analysis dashboard enables flexible and extensible digital applications
	● Smart commercial analyses
	● Integration analytics alerts from Hikvision and other manufacturers via Plug-in or Open Api
	● Integration of analytics from Hikvision and other manufacturers
	● Processing of forensic search requests
	● Processing stored videos
	● Generation of video content metadata for search, quantification and processing through software modules
	● Detection of all foreground objects
	● Processing of forensic search requests
	● Generation of Metadata of video content which can be searched, quantified and processed through the modules in the software
	● Object extraction in video processing:
	  • Detection of all foreground objects
	  • Extraction of object information. Identification of the three-dimensional geometry of the scene over time. File analysis for:
	    • Detection, classification and recognition of classes, attributes, behaviors, faces of people and objects.
	    • Filters based on Two-wheeled Vehicles: Bicycles, motorcycles, cars, vans, buses, trucks, SUVs.
	    • Filters based on license plate number, car color. (for LPR cameras).
	    • Viewer to analyze the scene, allowing the review of hours of video in less time.
	    • Video summaries include timestamps, object bounding boxes, simultaneous object density control, type control, and video played at 32X speed.
	    • The search criteria and object filters will be:
	      ▪ Metadata filters: Based on Source, People attributes, color, speed.
	      ▪ Similarity of appearance: Similarity of characteristics and similarity of behaviors.
	● Alerts based on real-time video streaming content analysis.
	● Visual, quantitative and statistical analyzes to obtain actionable classes for protection, security and information-based operational decision making.
	● AI and Deep Learning technology to achieve highly accurate and fast video content analysis:
	  • Detailed classification of objects.
	  • Motion analysis
	  • Size analysis
	  • Color analysis
	● Management integrated with the VMS, allowing you to manage alerts, events, reports and searches

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
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
Maps	• Intuitive navigation • Creation of maps with hierarchies and levels • Definition and fixation of favorite positions. Favorite positions public or restricted by user • Linkage between maps • Advanced functions through the Open Api or SDK
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 • Creation of cases, which allow the collection, management and sharing of case evidence •
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
Reports	• Video reports, video content analysis (VCA), vehicle plates (LPR), Facial Recognition, Audit, etc, full user access through role authorized access authentication.
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
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 • Record of events related to the status of the System. • Statistical calculations • Generation of reports of current and historical events. • Installation package for more than 15 languages, including English, Spanish, Danish, Russian, Chinese, Portuguese, etc. Client and Web. • Generation of audit records. • Tracking changes made within specific time periods • Inquiries about specific users, changes, affected entities and time periods

Integration	● Integration of third-party video and analytics systems through the Device Application module ● Processing of third party metadata through the Device Application module and Open Api application ● Interoperability through ONVIF profile S integration.

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*.

Features		Maximum Performance
General		
Manageable Resource	Encoding Devices	2,048 **Note:** No more than 1,024 access control devices or elevator control devices are allowed.
	Encoding Devices Supporting ONVIF Protocol	
	Access Control Devices	
	Elevator Control Devices	
	Security Radars	
	Guidance Terminals	
	IP Speakers	
	Video Intercom Devices	5,000
	Guidance Screens	512
	Visitor Terminals	32
	Body Cameras	5,000
	Dock Stations	1,000
	Network Transmission Devices	128
	On-Board Devices	1,000
	Fire Protection Devices	2,048
	Entrance/Exit Stations	40
	Query Terminals	16
	Intelligent Analysis Server	64
	Recording Servers	64
	Streaming Servers	64
	Cameras	10,000 With RSM: 100,000
	Maximum Number of Fisheye Cameras	10,000
	Maximum Number of Cameras for People Counting	
	Security Control Panels and Panic Alarm Devices	2,048
	Alarm Inputs (excluding security control panels and panic alarm devices)	5,000
	Alarm Inputs of Security Control Devices	10,000
	Security Control Partitions (Areas)	2,048
	Security Control Panels and Panic Alarm Devices	2,048
	Alarm Outputs	3,000
	Security Radars and Radar PTZ Cameras	30
	DS-5600 Series Face Recognition Terminals When Applied with Hikvision Turnstiles	32
	ANPR Cameras	3,000
	People Counting Cameras	Recommended: 3,000
	Heat Map Cameras	Recommended: 1,024
	Queue Management Cameras	Recommended: 3,000
	Thermal Cameras	Recommended: 20[1]
	Cameras per Area	256
	Alarm Inputs per Area	
	Alarm Outputs per Area	
Event & Alarm	Event and Alarm Rules	10,000
	Storage of Events or Alarms Without Pictures	● Generally, 100/s within 24 hours. ● (Recommended) No more than 1,000/s within 10 minutes. (For access events, no more than 300/s within 10 minutes.)

	Storage of Events or Alarms with Pictures	• 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, 200/s with each picture being 50KB.
	Events or Alarms Sent to Clients *The clients include Web Client, Control Clients and Mobile 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
	Combined Alarm	10/s
	User-Defined Events	10,000
User and Role	Concurrent Accesses via Web Clients and Control Clients	100 (By Operating System)
	Concurrent Accesses via Mobile Clients	100
	Users	3,000
	Roles	3,000
	Users for Double Authentications	50
Person	Persons	1,000,000
	Departments	3,000
	Department Hierarchies	10
	Size of a Profile Picture	300 KB
	Total Size of Profile Pictures	300 GB
	Resigned Persons	100,000
	Resignation Types	100
Data Storage	Data Retention Period	Stored for 3 Years
	People Counting	5 million each year
	Heat Map	0.25 million each year
	ANPR Records	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	5 million each year
	Service Information Logs	
	Service Error Logs	
	Recording Tags	60 million each year
Report	Scheduled Report Rules of Event and Alarm	100
	Event or Alarm Rules in One Event/Alarm Report Rule	32
	Records in One Sent Report	10,000 or 10 MB
	Resources Selected in One Report *With this limitation, you can generate a neat and*	32

	clear report via the Control Client and it costs less time.	
	Maximum Number of Stores	1,000
Video & Intelligent Analysis		
Recording	Recording Schedule	30,000
	Recording Schedule Template	200
Intelligent Recognition	Face Pictures for Comparison	1,000,000
	Face Comparison Groups	64
	Persons in One Face Comparison Group	1,000,000
	Storage of Face Comparison Events Without Pictures	1,000/s
	Storage of Face Comparison Events with Pictures	100/s (Stored in Recording Server)
	Intelligent Analysis Groups	1,000
	Resources in One Group	64
	Persons for Intelligent Recognition	1000,000
Intelligent Analysis	Total Stores	1,000
	Total Analysis Group	1000
AR Monitoring	AR Scenes	100
	Plans	512 **Note:** *Up to 100 scenes are allowed for each plan.*
	Tags for Each Scene	200
	Tag Groups for Each Scene	100
Evidence Management	Evidences	100,000
	Evidence Files	100,000
Smart Wall	Decoding Devices	32
	Smart Walls	32
	Network Keyboard	8
	Views	1,000
	View Groups	100
	Views in One View Group	10
	Cameras in One View	256
	Cameras in One Window of Auto-Switch	20
	Windows of an Auto-Switch	16
	View Group of an Auto-Switch	1
Streaming Server	Video Input Bandwidth per Streaming Server	200 × 2 Mbps
	Video Output Bandwidth per Streaming Server	200 × 2 Mbps
Access Control & Time and Attendance & Visitor		
Access Control	Persons with Credentials for Access Control	50,000
	Total Credentials (Card + Fingerprint)	250,000
	Cards	250,000
	Fingerprints	200,000
	Irises	100,000
	Profiles	50,000
	Access Points (Doors + Floors)	1,024
	Access Levels	512
	Access Schedules	32
	Templates for Card Printing	32
Time and Attendance	Persons for Time and Attendance	50,000
	Schedules	128
	Holidays	32
	Break Timetable	128
	Custom Rules for T&A Status on Device	128
	Pay Code (including overtime types and leave types)	128
	Approval Roles	100
	Approval Flows	1,000
	Concurrent Login of Employees via Client	500
Visitor Management	Visitors	100,000

	Visitor Check-In or Reservation Records	100,000	
	Visitor Email Templates	20	
	Entities in Watch List	10,000	
	Card Template	20	

Vehicle and Parking Management	
Vehicles per List	5,000
Vehicles	500,000
Custom Vehicle Types	10
UVSSs	4
Vehicle Undercarriage Pictures	3,000
Storage of ANPR Alarm Without Pictures	1,000/s
Storage of ANPR Alarm with Picture	20/s (Stored in SYS) 100/s (Stored in Recording Server)
Parking Lots	10
Lanes	Total: 40 In One Parking Lot: 32
Parking Spaces	Total: 3,000 In One Floor: 1,024
Floors in All Parking Lots	128
Cards Linked with Vehicles	250,000
Temporary Cards in One Parking Lot	10,000
Vehicle Passing Frequency in Each Lane	1 Vehicle/s
On-Board Monitoring	
GPS Information Report	Report a GPS information to the platform every 5s, totally 200 GPS information can be sent to the platform per second.
Fence Rules for One Vehicle	4
Deviation Rules for One Vehicle	4
Vehicles Can Be Located in One Client	64
Retention Period of GPS Data	1 Year
Retention Period of Statistics Data	3 Years
Maximum Number of Drivers	10,000
Maximum Number of Driving Routes	1,000
Portable Enforcement	
GPS Report	● 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
Commercial Display	
Materials	10,000
Programs	2,000
Schedules	1,000
Materials Released Each Time	64
Release Records	1,000
Video Walls	512
Applications for Interactive Flat Panel	1,000
Security Inspection	
Analyzers	8
Walk-Through Metal Detectors	64
Security Inspection Channels	1,000
Broadcast	
IP Speakers	2048

Speaker Unit	128
Broadcast Group	128
Media Libraries	100
Patrol	
Maximum Number of Shifts of a Single Route	8

①: This recommended value refers to the number of thermal cameras connected to the system directly. It depends on the maximum performance (data processing and storage) in the situation when the managed thermal cameras uploading temperature data to the system. For thermal cameras connected to the system via NVR, there is no such limit.

System Requirement

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

OS for HikCentral Professional 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.*
Browser Version	Google Chrome® 110 and above Firefox® 100 and above Safari® 13 and above Microsoft® Edge 110 and above Internet Explorer® 11 and above
Database	PostgreSQL V14.8
OS for Mobile Client	iOS 12.0 and above Android 6.0 and above
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

Processor	E-2324G(4Cores/8MB/4T/ 3.1-4.6GHz/65W)
Memory	1 × 16GB up to 2666 MT/s DDR4 UDIMM
Storage Controllers	Internal Controllers: SAS_H355
Drive Bays	1T 7.2K SATA×2
Power Supplies	Single 450W (Bronze) power supply
Dimensions	Form Factor: Rack (1U) Chassis Width: 434.00mm (17.08 in) Chassis Depth: 595.63mm (23.45 in) (3.5"HHD) *Note:* These dimensions do not include: bezel, redundant PSU
Dimensions with Package (W × D × H)	750 mm × 614 mm × 259 mm (29.53" × 24.17" × 10.2")
Net Weight	12.2 kg
Weight with Package	18.5 kg
Embedded NIC	2 x 1GbE LOM Network Interface Controller (NIC) ports
Device Access	Front Ports: 1x USB 2.0, 1 x IDRAC micro USB 2.0 management port Rear Ports: 2 x USB 3.0, VGA, serial connector
Embedded Management	iDRAC9 with Lifecycle Controller iDRAC Direct DRAC RESTful API with Redfish
Integrations and Connections	Integrations: Microsoft® System Center VMware® vCenter™ BMC Truesight (available from BMC) Red Hat Ansible	Connections: Nagios Core & Nagios XI Micro Focus Operations Manager i (OMi) IBM Tivoli Netcool/OMNIbus
Operating Systems	Certify XenServer Citrix® XenServer® Microsoft Windows Server® with Hyper-V Red Hat® Enterprise Linux Ubuntu Server This model is installed with Microsoft Windows Server® 2019 multilingual operating system.	SUSE® Linux Enterprise Server VMware® ESXi

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