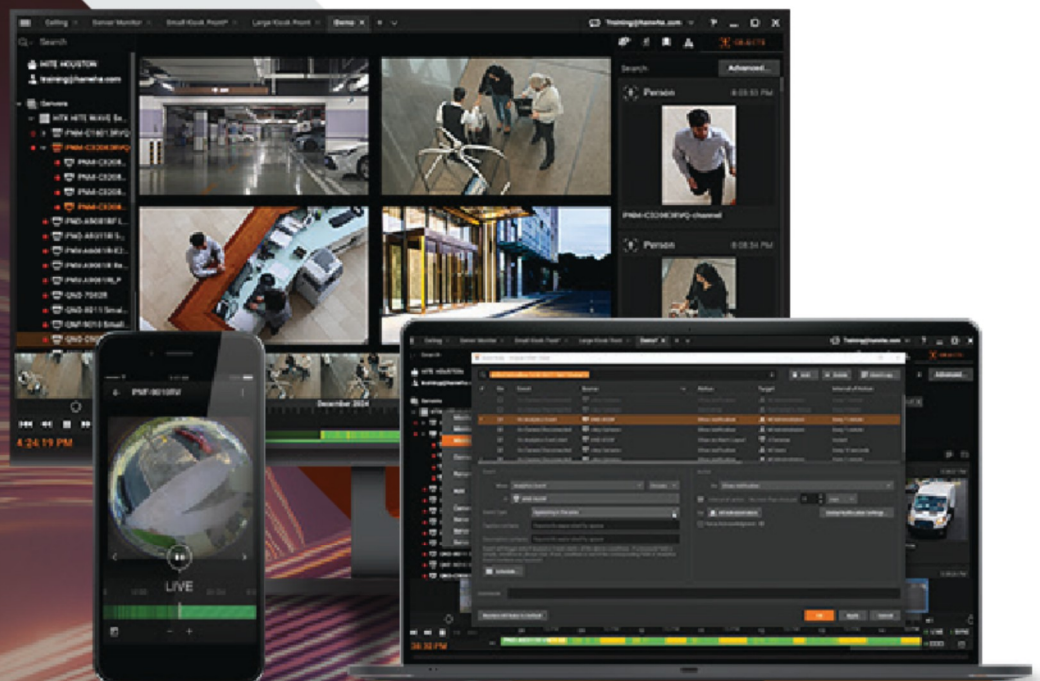




WISENET WAVE

Video Management System



Wisenet WAVE Video Management System

Simple. Reliable. Customizable.

Wisenet WAVE VMS features a very unique adaptive scaling technology that dynamically switches between the high resolution and low resolution images depending on the CPU usage of the client PC resulting in an endlessly customizable IP video management platform for users and platforms of all sizes and devices.



Intuitive and Easy to Use

- ✓ Design and create your own custom live and recorded camera viewing workspaces with an intuitive drag and drop tool.
- ✓ Quick access to on demand zoom windows to see close up details of live and recorded activity.
- ✓ Generate alerts and alarm notifications when specific motion detection or analytic triggered incidents occur.
- ✓ Locate important video with ease with interactive flex timeline and powerful range of analytic based search tools for recorded video.
- ✓ Nested search based navigation menu to identify connected cameras and layouts.
- ✓ Bird's eye view of all cameras using built in background map imagery.
- ✓ Consolidated notification panel for dedicated alarm management.

Hanwha Vision Specific Features

Deep camera integrations and NVR monitoring, search & playback

- H.265
- WiseStream
- All triggering events including sound classification and loitering
- Simple Focus / Initialize Focus / Lens Control settings
- Multi-directional camera support
- Hallway view
- Camera profile / Image configuration
- PTZ preset Sync
- Imagery Settings
- Auto & HTTP discovery
- Digital I/O

SUNAPI 2.0 Native Integration

WAVE utilizes the latest SUNAPI 2.0 driver for seamless interaction with Wisenet cameras and recorders. Rigorously tested with Wisenet P, X and Q series and supports:

- Video/Audio streaming
- Event - advanced analytics, MD, alarm
- PTZ
- Device configurations



Optimized for the operating system of your choice

Wisenet WAVE has applications for all major operating systems so users are not limited by what device or operating system they choose to use on their desktops, mobile devices, rack mount servers, or even low-powered embedded devices. (For embedded devices, please contact Hanwha Vision support)



Server

A cloud-based service that enables simple, centralized remote access and insight into any Wisenet WAVE system. Merge systems, transfer ownership and view cameras on demand included.



Desktop

A lightweight rich media player with enterprise level features to view and manage a single Wisenet WAVE system from desktop or laptop PC.



WAVE Sync

A media server responsible for discovering, connecting to, and managing system devices and data.



Mobile

A mobile app designed for viewing Wisenet WAVE system video and archives while on-the-go.

Server OS Support		Desktop OS Support		Supported Browsers		Mobile OS Support	
	Microsoft Windows		Microsoft Windows		Google Chrome		Google Android
	Ubuntu Linux		Ubuntu Linux		Mozilla Firefox		Apple iOS
			Apple macOS		Opera / Opera Noon		
					Microsoft Edge		
					Apple Safari		



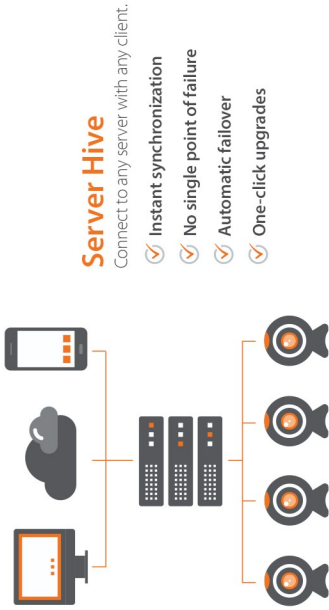
Server

Lightweight. Powerful. Server Hive.

The Wisenet WAVE server application is the foundation of the entire platform - with the ability to operate independently or as one part of a hive.

It's available as a downloadable software application from the Hanwha Vision website which enables installers to quickly download, install and configure the full solution in minutes.

The server application also provides a detail user audit trail including viewing and exporting as well as real-time health and storage monitoring and camera failover support. The supporting web-based application enables each Wisenet WAVE platform to be managed as a stand alone system or as part of a larger, scalable video management solution.



Features

Discover	Manage	View	Integrate
IP Cameras (ONVIE Custom)	IP Cameras / NVRs / DVRs	Live Video (adaptive)	HTTP Generic Events
RTSP/HTTP Streams	Advanced Routing	Recorded Video (adaptive)	HTTP Request-as-an-Action
I/O Devices	Storage (HDD/NAS/DAS)	Server Health	Server API
Servers / Systems	Events & Rules Engine	Log Files	Storage SDK
SAMBA NAS	Failover	Audit Trail	Video Source SDK
	Transcoding	Storage Status	Any Device or System
	HTTPS & Encrypted video traffic		Metadata SDK & Plugins
	Server synchronized system data real time		

Supported Operating Systems



Windows 10, Windows 11, Windows Server 2016 (Long-term Service Channel) 1607, Windows Server 2019, Windows Server 2022



Ubuntu Linux 18.04 LTS, Ubuntu Linux 20.04 LTS, Ubuntu Linux 22.04 LTS, Ubuntu Linux 24.04 LTS

Specifications

Supported Media Streaming			
Live Streams		Video: H.265, H.264, MJPEG	
		Audio: AAC PCM (Mu-Law, A-Law) g726 MP3	
Live Streams (Available to pull from Server to 3rd Party)		Video: H.265, H.264, MJPEG, WebM	
		Audio: AAC PCM (Mu-Law, A-Law) g726 MP3	
		Protocols: RTSP MJPEG WebM HLS	
Other			
Automatic Camera Failover		~1 Min. Configurable	
Transcoding		Supported (For Web Client, Mobile, API)	
Database		SOLITE + Proprietary Archive Index	
Centralized Authentication		LDAP / Active Directory	
Security		Open SSL Salted MD5 Hash TLS/SSL-HTTPS	
Dev tools		Server API (HTTP) / Video source SDK / Storage SDK / Metadata SDK	
NAS		SAMBA (Authenticated, Unauthenticated)	
Scalability			
# of Resources per System:		10,000	
# of Clients per System:		Unlimited	
# of Streams per Server:		256 for 60 and up (only 2U servers S202, S204, A200, A201, S206, S206S1 and all others are limited to 128	
# of Servers in a Server Hive:		10. Contact technical support for more info.	
# of Users in a System:		1,000	
Hardware Recommendations			
Recommended based on # of Streams	Streams	RAM	CPU*
	Up to 16	8 GB	12th Gen Atom Dual Core
	Up to 32	8 GB	12th Gen Atom Quad Core
	Up to 64	8 GB	14th Gen Core i3
	Up to 128	16 GB	Intel Xeon E-Series
	Up to 256	16 GB	Intel Xeon Silver Scalable Series
*CPUs data correct at time of print.			



Desktop

Feature-rich flexibility

Wisenet WAVE Desktop is a cross-platform lightweight app capable of running seamlessly on a variety of devices, ranging from Atom-based tablets to Xeon-based servers. Designed exclusively for video-centric and investigative users, it offers a rich feature set that caters to their specific needs. With its user-friendly interface, reliability, and impressive performance, Wisenet WAVE Desktop provides an optimal solution for efficient and effective video management.



Features

Usability	Media	Configuration	Search
Drag & Drop Everything	IP Cameras / Encoders / DVRs	Events & Rules Engine	Motion Search
Consolidated Notifications	RTSP/HTTP Streams	User Management	Keyword Search
Flex Timeline	I/O Devices	IP Cameras / Encoders	Calendar Search
Customizable Layouts	Web Pages	Server Management	Time-Slice Search
Digital Maps	Videos	I/O Device Management	Bookmarks
Adaptive Scaling	Images	Storage Management	Audit Trail
Synchronized recorded playback across systems		Easy Camera Replacement	Thumbnail Scrub Searching
Quick video exporting in AVI, MP4 or embedded EXE formats		Remote Log Retrieval	

Supported Operating Systems



Windows 10, Windows 11



Ubuntu Linux 18.04 LTS, Ubuntu Linux 20.04 LTS,
Ubuntu Linux 22.04 LTS, Ubuntu Linux 24.04 LTS



macOS Mojave 10.14, macOS Catalina 10.15,
macOS Big Sur 11, macOS Monterey 12,
macOS 13 Ventura, macOS 14 Sonoma

Specifications

Supported Media Playback On Grid	
Live Streams	Codecs: H.265 H.264 MJPEG
Offline Media	Videos: AVI MKV MP4 MOV TS M2TS MPEG MPG FLV WMV 3GP Images: JPG PNG GIF BMP TIFF
Connected Devices	I/O Devices: Status and Triggers Servers: Server Health Monitoring
Browser	Web Pages: Responsive Websites / Progressive Web Apps
Viewing Modes	
Media Player	View, edit, and export offline videos and images
Connected	Authorized and connected WAVE System
VideoWall	Put Desktop into VideoWall mode to control remotely
Showreel	Cycle tour any camera view or layout in a fully customizable timed viewing
Maximum # of Grid Items	
64 Bit OS	64 Items (e.g. 64 live streams)
Hardware Requirements	
Minimum Supported Specs	Hard Drive: HDD/SSD/mSATA, RAM: 8GB, CPU: Intel 14 th Gen Core i3, Graphics: Intel HD Graphics 730 w/ Open GL2.1 support, Networking: 1GB NIC
Performance Specs	Performance Specs: Hard Drive: Performance SSD, RAM: 16GB RAM, CPU: Intel Core i5, Graphics: NVIDIA GeForce RTX A400 OpenGL 2.1 support, Networking: 10 GB NIC
Multi Language Support	Languages Supported: English (US), English (UK), French, Czech, German, Finnish, Russian, Spanish, Italian, Japanese, Korean, Turkish, Chinese (Simplified), Chinese (Traditional), Hebrew, Hungarian, Dutch (Belgium) or Flemish, Dutch (Netherlands), Norwegian, Polish, Portuguese (Brazil), Portuguese (Portugal), Ukrainian, Vietnamese, Thai, Swedish



Simply connect, view, manage and scale.

WAVE Sync makes it easy to connect and view cameras across systems, merge sites, transfer ownership and configure Systems for easy to use enterprise level management. It is a public cloud-based application hosted by Amazon AWS which enables remote access by an unlimited number of authorized users from anywhere in the world.

Wisenet WAVE Sync Browser & Devices Interface



✔ Cloud Connect

- Connect any Wisenet WAVE System for simple remote connectivity from anywhere using NAT Traversal and Cloud Data Proxy technology.

✔ User Management

- Add an unlimited number of users to a single Wisenet WAVE Sync System.
- Share access to your Wisenet WAVE system in seconds using only email addresses.
- Create custom user groups and permission to quickly assign access to multiple Wisenet WAVE Sync connected systems.

Features

View	Manage	Scalability / Integration	Licensing
Live Video (adaptive)	System Settings	Unlimited # of Systems	Online activation for any license type
Recorded Video (adaptive)	User Permissions	Unlimited # of Users	
Camera Details	Cloud Connections	Unlimited # of Devices	
Keyword Search	Email Notifications	Cloud API	
Calendar Search	Cloud System Merge		
Flex Timeline			
Full Screen Functionality			

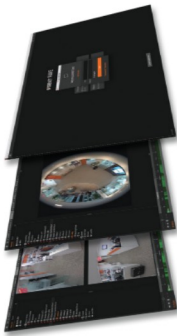
The technical framework. How it all works.

Wisenet WAVE applications (Server, Desktop, Mobile) connect via an active internet connection to the Wisenet WAVE Sync (Cloud) and are automatically connected together using a combination of NAT Traversal (direct connection) and data proxy technologies (connected via Wisenet WAVE Sync).

step 1 Create **Wisenet WAVE Sync Account**

step 2 Follow the on screen prompts to connect your account to an existing Wisenet WAVE System.

step 3 View & Manage all connected system from anywhere.



Supported Web Browsers



Specifications

SPECS	
Connectivity	NAT Traversal: Connect directly to proxied Wisenet WAVE servers Cloud Data Proxy: Connect via AWS cloud proxy service
Interface Tabs	Systems: View connected system tiles Settings: View users / rename system / merge system / disconnect system View: Use Wisenet WAVE sync client to view live or recorded video
	Monitoring: Active monitoring of CPU, RAM, Storage and network resource activity Information: View system health alerts including server statistics, camera connectivity, recording status, event availability, storage status and network traffic
Security	
Secure Password Recovery:	Via email
HTTPS:	Open SSL encrypted server / client / cloud connections
Email:	TLS (Transport Layer Security)
Passwords:	Complex multi-level hash
Developer Tools	
Cloud API	Available upon request
Scalability	
# of Connected Systems	Unlimited
# of Users	Unlimited



Mobile

Smart Phone. Smart Video.

Wisenet WAVE Mobile is a user-friendly mobile application available for both iOS and Android devices. With a custom-developed media player, this low-latency app allows users to seamlessly connect to, view, search, and control IP cameras over Wi-Fi or data networks. Whether you're on-site or on the move, Wisenet WAVE Mobile provides the convenience of remotely accessing key functions of Wisenet WAVE from your smart device. Stay informed and take prompt action by viewing and responding to incidents captured by Wisenet cameras, empowering you to effectively manage surveillance operations while on the go.



Features

Connect	View	Search	Control
Wifi	Live Video (adaptive)	Keyword	Advanced PTZ / Standard PTZ
Data 4G/LTE	Recorded Video (adaptive)	Calendar	Fisheye Dewarping
NAT Traversal	Layouts	Flex Timeline	2 Way Audio
Data Proxy via Cloud	Available Systems	Motion Search	Push Notifications
Encrypted Connections	Camera Status		
Encrypted Video	Adjustable Resolutions		
	Portrait & Landscape Viewing Modes		
Features			
Remote Connect	Login using local or Wisenet WAVE Sync credentials		
Live Thumbnails	Thumbnails refresh in real time		
Keyword Search	Search for cameras or layouts by name		
Calendar Search	Search by date and time		
Motion Search	Search motion events within the entire video or specific region		
Advanced PTZ	Point pan, zoom, tilt controls, PTZ presets		
Fisheye Dewarping	Dewarp fisheye images		
Adaptive Scaling	Hi / Low resolution switching transcoding		
Layouts	View thumbnails of System Layouts		
Quick System Switch	Quickly switch between multiple Wisenet WAVE systems		
Push Notification	Receive customizable push notifications using WAVE VMS rules		
Bookmarks	View existing bookmarks from WAVE VMS		

Wisenet Mobile
Connect. View. Search. Control.



Supported Operating Systems

	Android 10	10.0		iOS 16	16.0
	Android 11	11.0		iOS 17	17.0
	Android 12	12.0		iPadOS 16	16.0
	Android 13	13.0		iPadOS 17	17.0
	Android 14	14.0			

AVAILABLE AT:



Specifications

Supported Media Playback

Streams

Codecs: H.265, H.264, HLS

For more information visit us at
HanwhaVisionAmerica.com



Hanwha Vision America
500 Frank W. Burr Blvd. Suite 43 Teaneck, NJ 07666
Toll Free: +1.877.213.1222
Direct: +1.201.325.6920
Fax: +1.201.373.0124
www.HanwhaVisionAmerica.com

© 2025 Hanwha Vision Co., Ltd. All rights reserved.

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Under no circumstances, this document shall be reproduced, distributed or changed, partially or wholly, without formal authorization of Hanwha Vision Co., Ltd.

* Wisenet is the proprietary brand of Hanwha Vision, formerly known as Hanwha Techwin.