

WiseNET

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WiseNET

INTUITIVE SOFTWARE



OPEN VIDEO PLATFORM

Intuitive and easy to use

- An intuitive ‘drag & drop’ tool makes it extremely easy for operators to set up a display of live and recorded images on a single screen or video wall, with customisable layouts and sizes.
- A virtual PTZ which, with just simple clicks of a mouse, enables operators to zoom in to see close up detail of any suspicious activity.
- Motion detection and video analytics support can be configured to generate alerts when user defined incidents occur.
- A wide range of smart, keyword, calendar and time-slice search options facilitate rapid retrieval of recorded video.

Hanwha Techwin offers an entry level VMS called SSM and for sophisticated Enterprise level VMS projects, the company integrates with leading technology partners. Wisenet WAVE has been launched to answer the needs of projects in the middle ground with an emphasis on simplified user experience.

SUNAPI 2.0 INTEGRATION

Hanwha Techwin has launched Wisenet WAVE with full SUNAPI 2.0 integration for WISENET cameras and recorders.

Full SUNAPI 2.0 driver has been rigorously tested with Wisenet P, X, and Q series cameras resulting in:

- Video/Audio Streaming
- PTZ
- Event – MD, Alarm
- Edge recording

Hanwha Techwin specific features

NVR monitoring, search & playback;
and deep camera integration with:

- H.265
- Wisestream
- All triggering Events including sound classification, loitering and queue management
- Simple focus setting
- Multi directional camera support
- Hallway view
- HTTPS
- Time Settings
- Camera profile / Image configuration
- PTZ preset sync



Simple. Reliable. Customisable.

Wisenet WAVE VMS makes it almost effortless to display up to 64 high definition video streams. It is an endlessly customisable IP Video Management platform that gives users the ability to create tailored networked video solutions for any type of project, for use by anyone, on any device.



An operating system to suit your needs.

Wisenet WAVE has applications for all major operating systems so our 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.



Cloud

A cloud-based service that enables simple, centralised remote access and insight into any Wisenet WAVE system.



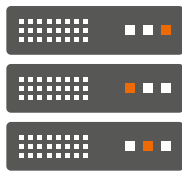
Desktop

A rich media player designed to view and manage a single Wisenet WAVE system from a desktop or laptop PC.



Mobile

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



Server

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

Supported Browsers	Desktop OS Support	Mobile OS Support	Server OS Support
Google Chrome	Microsoft Windows	Google Android	Microsoft Windows
Mozilla Firefox	Ubuntu Linux	Apple iOS	Ubuntu Linux
Opera / Opera Neon	Apple / Mac OSX		ARM Devices
Microsoft Edge			
Apple Safari			

CLOUD

Wisenet WAVE SYNC Simplifies Everything.

A cloud-based service which can be remotely accessed by an unlimited number of authorised users from anywhere in the world.

Setup in Seconds

- Step 1: Create Wisenet WAVE SYNC Account
- Step 2: Link your System to Wisenet WAVE SYNC
- Step 3: Connect, View, and Manage from anywhere.



Browser Based UI

View Live or Recorded Video

Manage Users

Quickly Connect to any System

Connect. View. Manage. Scale.

Wisenet WAVE SYNC is a public cloud application hosted on Amazon AWS that enables simple remote connectivity, streaming and management of one or an unlimited number of Wisenet WAVE Systems.

Supported Operating Systems:

 Google Chrome

 Mozilla Firefox

 Opera / Opera Neon

 Microsoft Edge

 Apple Safari

View	Manage	Scalability / Integration
Live Video (adaptive)	System Settings	Unlimited# of Systems
Recorded Video (adaptive)	User Permissions	Unlimited # of Users
Camera Details	Cloud Connections	Unlimited # of Devices
Keyword Search	Email Notifications	Cloud API
Calendar Search		
Flex Timeline		

WISENET WAVE SYNC BROWSER & DEVICES INTERFACE



Cloud Systems	
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 Roles to quickly assign access to multiple Wisenet WAVE SYNC connected Systems.
How it 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).

Wisenet WAVE Cloud Features	
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/ Disconnect System
	View: Use Wisenet WAVE SYNC Client To View Live Or Recorded Video
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

DESKTOP

The ultimate flexibility.

Wisenet WAVE offers a wide range of options to allow users to choose how and where they wish to manage their video surveillance systems with minimal hardware requirements.

Wisenet WAVE is offered as software which can be installed onto a user’s desktop running Windows, Linux or Apple/Mac. 24 to 64 live high definition video streams can be managed on 32 and 64-bit.



One App. Many Features.

Wisenet WAVE Desktop combines performance, ease-of-use, and a ‘let the user decide how best to use the software’ approach into a single cross-platform lightweight app capable of running on everything from Atom based tablets to Xeon based servers.

Supported Operating Systems:  Microsoft Windows  Ubuntu Linux  Apple / Mac OS X

Usability	Media	Configuration	Search
Drag & Drop Everything	IP Cameras / Encoders / DVRs	Events & Rules Engine	Smart 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

DESKTOP APPLICATION



Supported Operating Systems	
	Windows 7
	Windows 8
	Windows 8.1
	Windows 10
	Windows Server 2008
	Windows Server 2008 R2
	Windows Server 2012
	Windows Server 2012 R2
	Windows 10 Enterprise
	Ubuntu Linux 14.04 LTS
	Ubuntu Linux 16.04 LTS
	OSX 10.11
	OSX 10.12

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	View, configure, and manage any Wisenet WAVE system
Videowall	Put Desktop into VideoWall mode to control remotely
Showreel	Fully customisable timed viewing tour of any GRID media
Maximum # Of Grid Items	
64 Bit OS	64 Items (e.g. 64 live streams)
32 Bit OS	24 Items (e.g. 24 live streams)
Hardware Requirements	
Minimum Supported Specs	Hard Drive: HDD/SSD/mSATA RAM: 2GB CPU: Quad Core Intel Celeron CPU or higher Graphics: Intel HD Graphics 3000 w/ OpenGL2.1 support Networking: 1GB NIC
Performance Specs	Hard Drive: Performance SSD RAM: 16 GB RAM CPU: Intel Core i5 Graphics: NVIDIA GeForce GTX 1050 (OpenGL2.1 support is required) Networking: 10 GB NIC

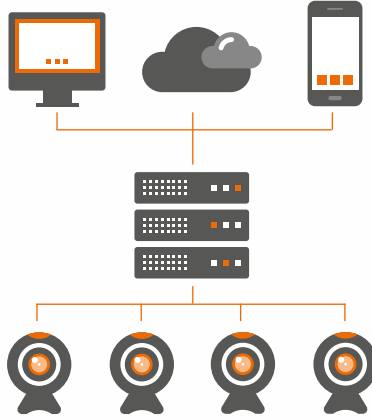
SERVER

Lightweight. Powerful. Server Hive.

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

Wisenet WAVE is available as a downloadable software application from the Hanwha Techwin website which enables operators to view up to 64 high definition streams of live video.

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. The application also provides an audit trail, real-time health monitoring and camera failover support, as well as reports on server health and storage status.



Server Hive

Connect to any Server w/ any Client

- Instant synchronisation
- No single point of failure
- Automatic Failover
- One Click Upgrades



Browser UI

View Live or Recorded Video

Real Time Health Monitoring

Built-in SDK and API Docs

Discover. Manage. View. Integrate.

The Wisenet WAVE server application is a lightweight, powerful media server responsible for discovering, connecting to, and managing Wisenet WAVE system devices and data.

Supported Operating Systems:  Microsoft Windows  Ubuntu Linux  ARM Devices			
Discover	Manage	View	Integrate
IP Cameras (ONVIF, 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
3rd Party DVR / NVRs	Events & Rules Engine	Log Files	Storage SDK
Servers / Systems	Failover	Audit Trail	Video Source SDK
SAMBA NAS	Transcoding	Storage Status	Any Device or System

SERVER WEB ADMIN



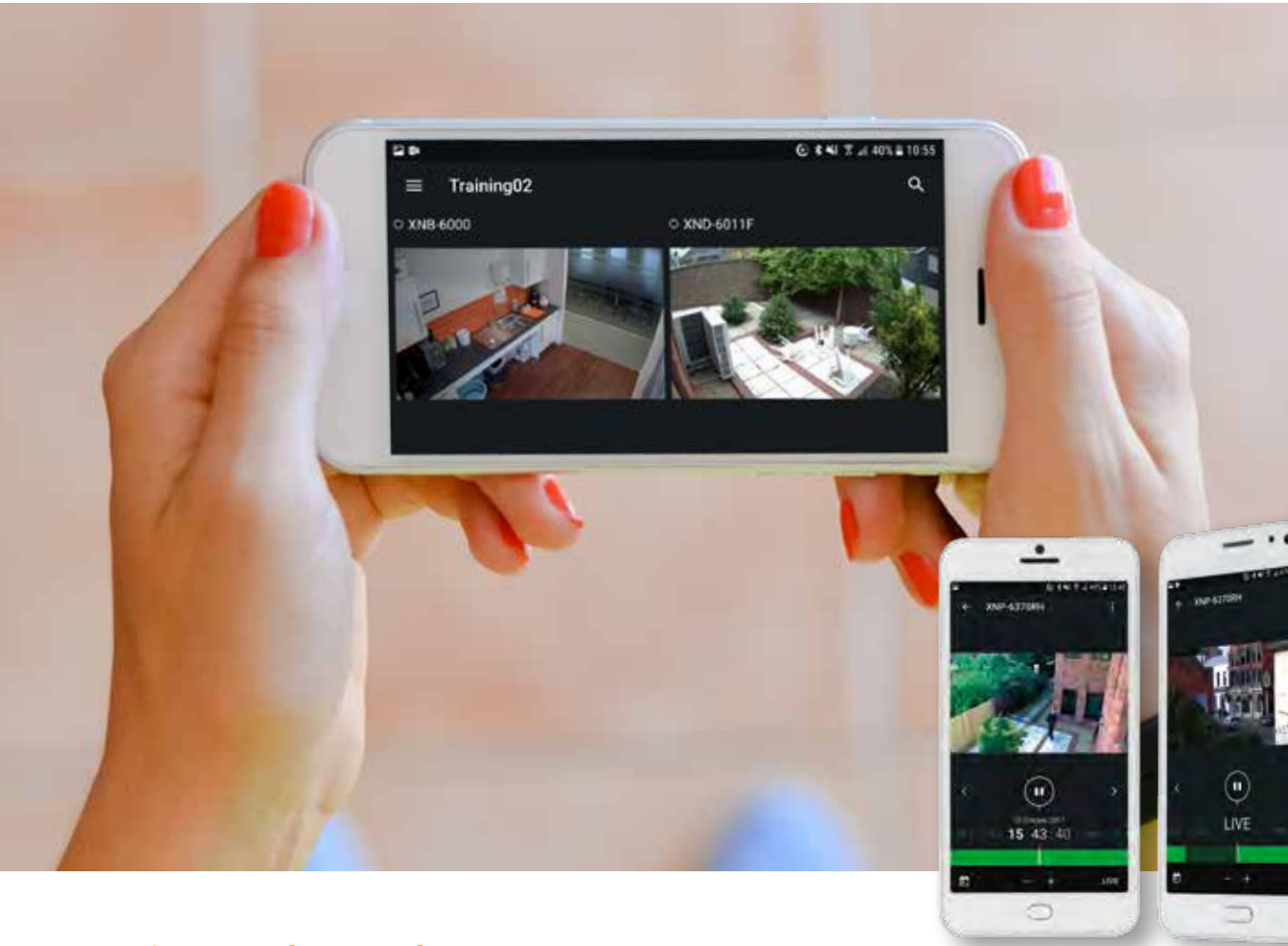
Supported Operating Systems	
Windows	Windows 7 Windows 8 Windows 8.1 Windows 10 Windows Server 2008 Windows Server 2008 R2 Windows Server 2012 Windows Server 2012 R2 Windows 10 Enterprise
Linux	Ubuntu Linux 14.04 LTS Ubuntu Linux 16.04 LTS
ARM	Raspbian Bananian

Supported Media Streaming																												
Live Streams (Viewed on Desktop)	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	SQLITE + Proprietary Archive Index																											
Single Sign On	LDAP / Active Directory																											
Security	Open SSL Salted MD5 Hash TLS/SSL HTTPS																											
Dev tools	Server API (HTTP) Video source SDK Storage SDK																											
NAS	SAMBA (Authenticated, Unauthenticated)																											
Scalability																												
# Of Clients Per Server:	Thousands																											
# Of Clients Per System:	Unlimited																											
# Of Streams Per Server:	128																											
# Of Servers In A Server Hite	50 (50 is a recommended maximum. Contact support for more info).																											
Hardware Recommendations																												
Recommended based on # of streams	<table><tr><th>Streams</th><th>RAM</th><th>NIC</th><th>CPU*</th></tr><tr><td>Up to 8</td><td>1 GB</td><td>1 GB</td><td>Dual Core ARM</td></tr><tr><td>Up to 16</td><td>2 GB</td><td>1 GB</td><td>Dual Core Atom</td></tr><tr><td>Up to 32</td><td>4 GB</td><td>1 GB</td><td>Dual Core Atom</td></tr><tr><td>Up to 64</td><td>8 GB</td><td>1 GB</td><td>Core i3</td></tr><tr><td>Up to 128</td><td>16 GB</td><td>1 GB</td><td>Core i3</td></tr></table>				Streams	RAM	NIC	CPU*	Up to 8	1 GB	1 GB	Dual Core ARM	Up to 16	2 GB	1 GB	Dual Core Atom	Up to 32	4 GB	1 GB	Dual Core Atom	Up to 64	8 GB	1 GB	Core i3	Up to 128	16 GB	1 GB	Core i3
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*CPUs data correct at time of print.																												

MOBILE

Smart Phone. Smart Video.

A mobile app provides the opportunity to remotely access the key functions of Wisenet WAVE from a smart device to enable ‘on-the-road’ users to view and respond to any incidents captured by Wisenet cameras.



Connect. View. Search. Control.

Wisenet WAVE Mobile - with a custom developed media player - is a low-latency, user-friendly mobile application for iOS and Android devices that allows users to connect to, view, search, and control IP cameras over Wifi or Data networks.

Supported Operating Systems:  Google Android  Apple iOS

Connect	View	Search	Control
Wifi	Live Video (adaptive)	Keyword	Advanced PTZ / Standard PTZ
Data 4G/LTE	Recorded Video (adaptive)	Calendar	Fisheye Dewarping (soon)
	Layouts	Flex Timeline	2 Way Audio (soon)
	Available Systems		



MOBILE



Supported Operating Systems

	Jelly Bean	4.1 - 4.3.1
	Kit-Kat	4.4 - 4.4.4
	Lollipop	5.0 - 5.1.1
	Marshmallow	6.0 - 6.0.1
	Nougat	7.0 - 7.1.2
	Oreo	8.0
	iOS 5	5.0 - 5.1.1
	iOS 6	6.0 - 6.1.6
	iOS 7	7.0 - 7.1.2
	iOS 8	8.0 - 8.4.2
	iOS 9	9.0 - 9.3.5
	iOS 10	10.0 - 10.3.3
	iOS 11	11.0

Compatible Devices

Smart Phones	64 Items (e.g. 64 Live Streams)
iOS	24 Items (e.g. 24 Live Streams)



Supported Media Playback	
Streams	Codecs: H.265 H.264 HLS
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
Advanced PTZ	Point Pan, Zoom, Tilt Controls
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