WISENET

INTUITIVE
SOFTWARE

WISENET
Wave

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Hanwha Techwin

CYBER
ESSENTIALS

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WINNER
Video Surveillance (Hardware)
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# 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.

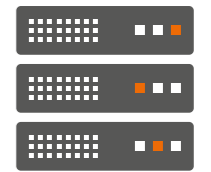| Cloud | Desktop | Mobile | Server |
|---|---|---|---|
| A cloud-based service that enables simple, centralised remote access and insight into any Wisenet WAVE system. | A rich media player designed to view and manage a single Wisenet WAVE system from a desktop or laptop PC. | A mobile app designed for viewing Wisenet WAVE system video and events while on-the-go. | 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.



powered by
**amazon** web services

### 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 | | |

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# 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 |

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# 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 OSX

| 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 | 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 |
| Mac | 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<br>RAM: 2GB<br>CPU: Quad Core Intel Celeron CPU or higher<br>Graphics: Intel HD Graphics 3000<br>w/ OpenGL2.1 support<br>Networking: 1GB NIC |
| Performance Specs | Hard Drive: Performance SSD<br>RAM: 16 GB RAM<br>CPU: Intel Core i5<br>Graphics: NVIDIA GeForce GTX 1050<br>(OpenGL2.1 support is required)<br>Networking: 10 GB NIC |

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# 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.

### Browser UI
View Live or Recorded Video
Real Time Health Monitoring
Built-in SDK and API Docs

### Server Hive

Connect to any Server w/ any Client
- Instant synchronisation
- No single point of failure
- Automatic Failover
- One Click Upgrades

## 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 |

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# 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 |

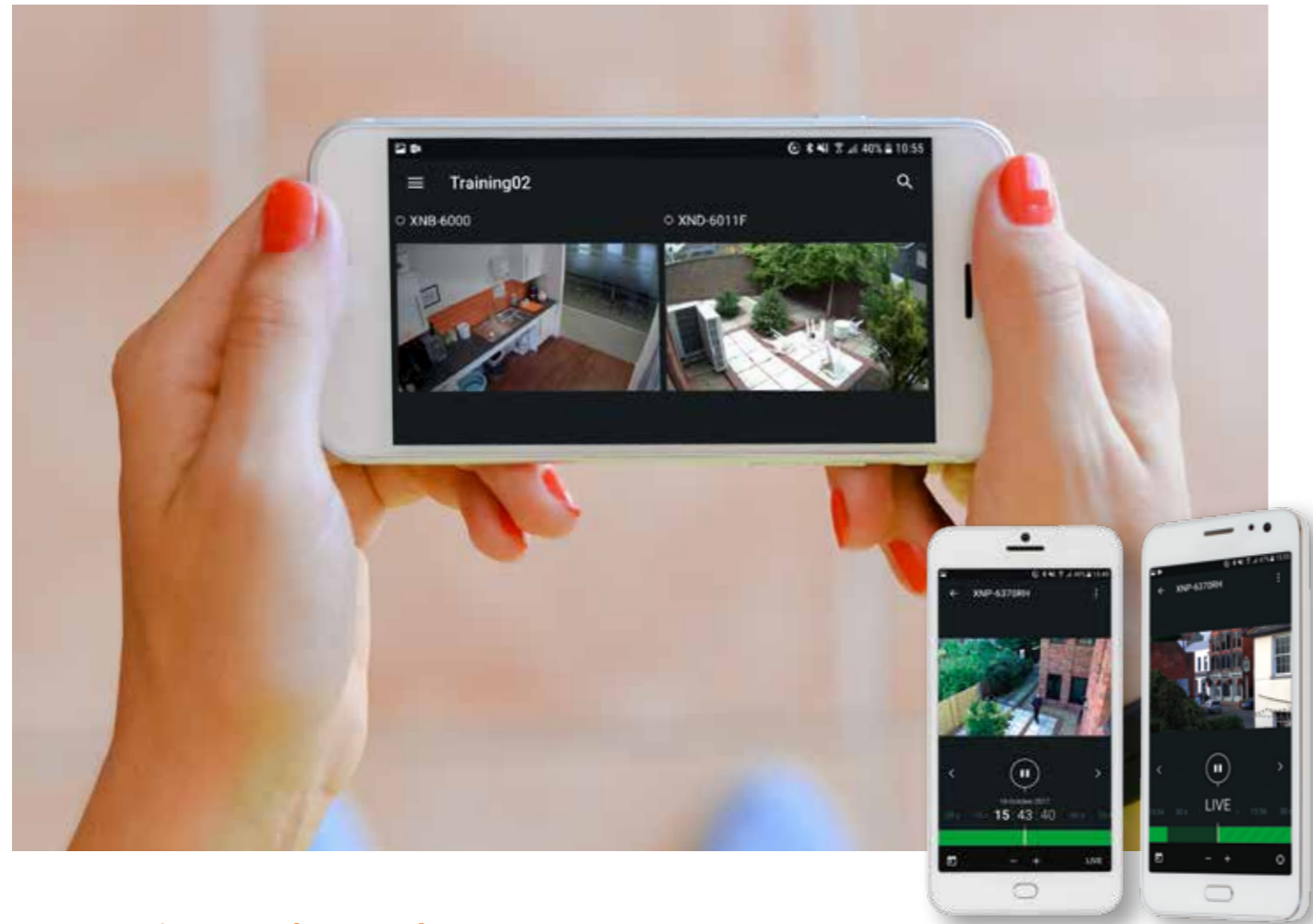| Supported Media Streaming | |
|---|---|
| Live Streams (Viewed on Desktop) | Video: H.265 H.264 MJPEG |
| | Audio: AAC PCM (Mu-Law, A-law) g726 MP3 |
| Live Streams (Available to pull from Server to 3rd Party) | Video: H.265 H.264 MJPEG WebM |
| | Audio: AAC PCM (Mu-Law, A-law) g726 MP3 |
| | Protocols: 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** | |

| | Streams | RAM | NIC | CPU* |
|---|---|---|---|---|
| Recommended based on # of streams | 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 |

*CPUs data correct at time of print.

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# 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.

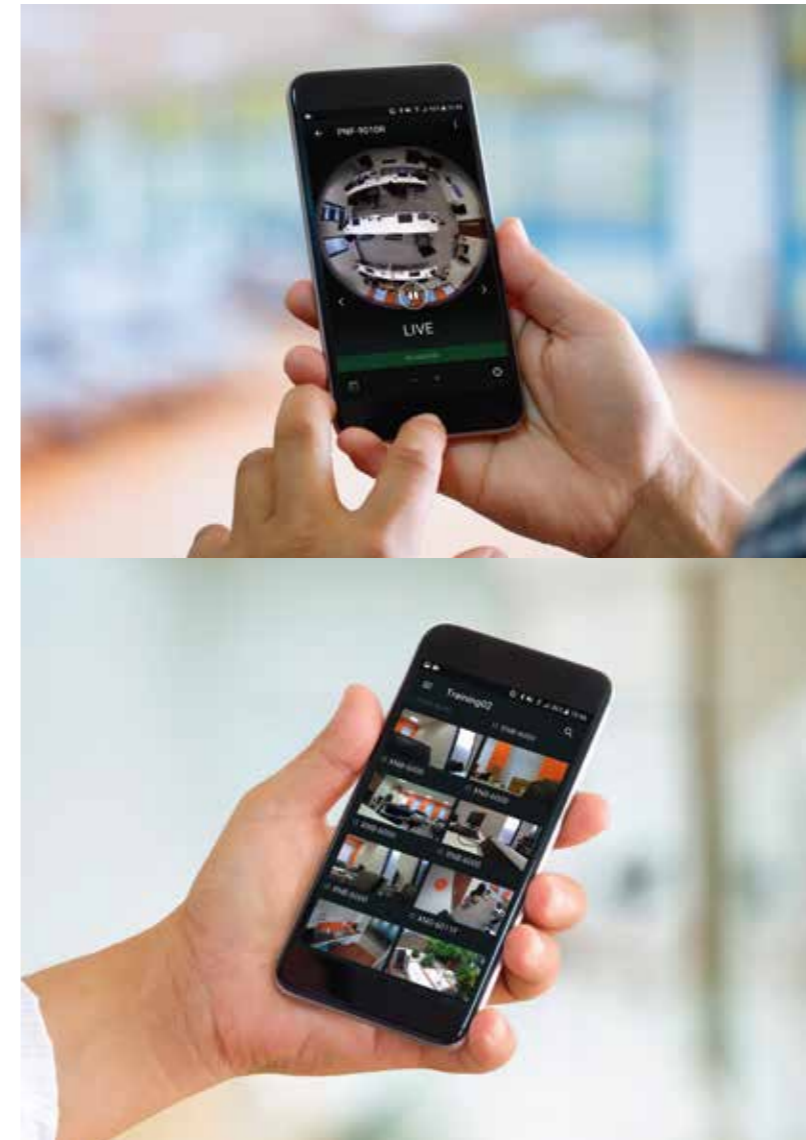**Supported Operating Systems:**    Google Android        Apple iOS

| 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 | | |

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# MOBILE



### Supported Operating Systems

| Android | 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 |
| Apple | 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 |