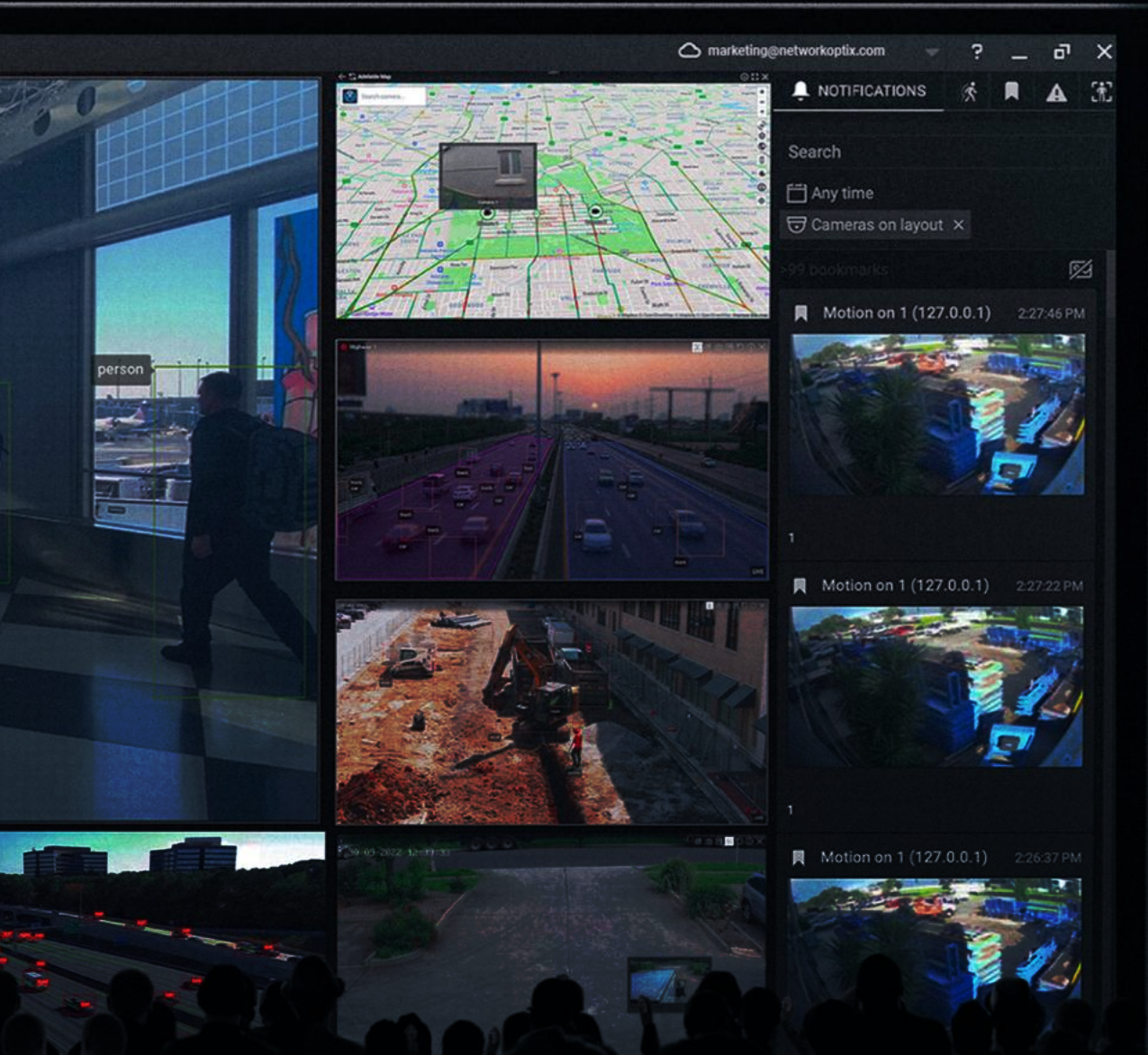




# Nx Witness





# Nx Witness



Nx Witness VMS is a lightning-fast, easy-to-use, cross-platform IP video management system (VMS) / video surveillance software designed to discover, view, record, and manage IP video cameras so you can monitor, analyze, and react to critical events in real-time. Nx Witness is open and extensible with Cloud, Server, Desktop Client, and Mobile applications.

## Cloud

A cloud-based service that enables simple, centralized remote access and insight into any Nx Witness system.

### Browsers

- Google Chrome
- Mozilla Firefox
- Microsoft Edge
- Safari
- Opera

## Server

A powerful, lightweight media server designed to discover, add, and manage system devices and resources.

### Operating Systems

- Windows
- Ubuntu Linux
- Arm / Raspberry Pi OS

## Client

A rich media player with a flexible GRID interface designed for connecting to and managing an Nx Witness system.

### Operating Systems

- Windows
- Ubuntu Linux
- macOS

## Mobile

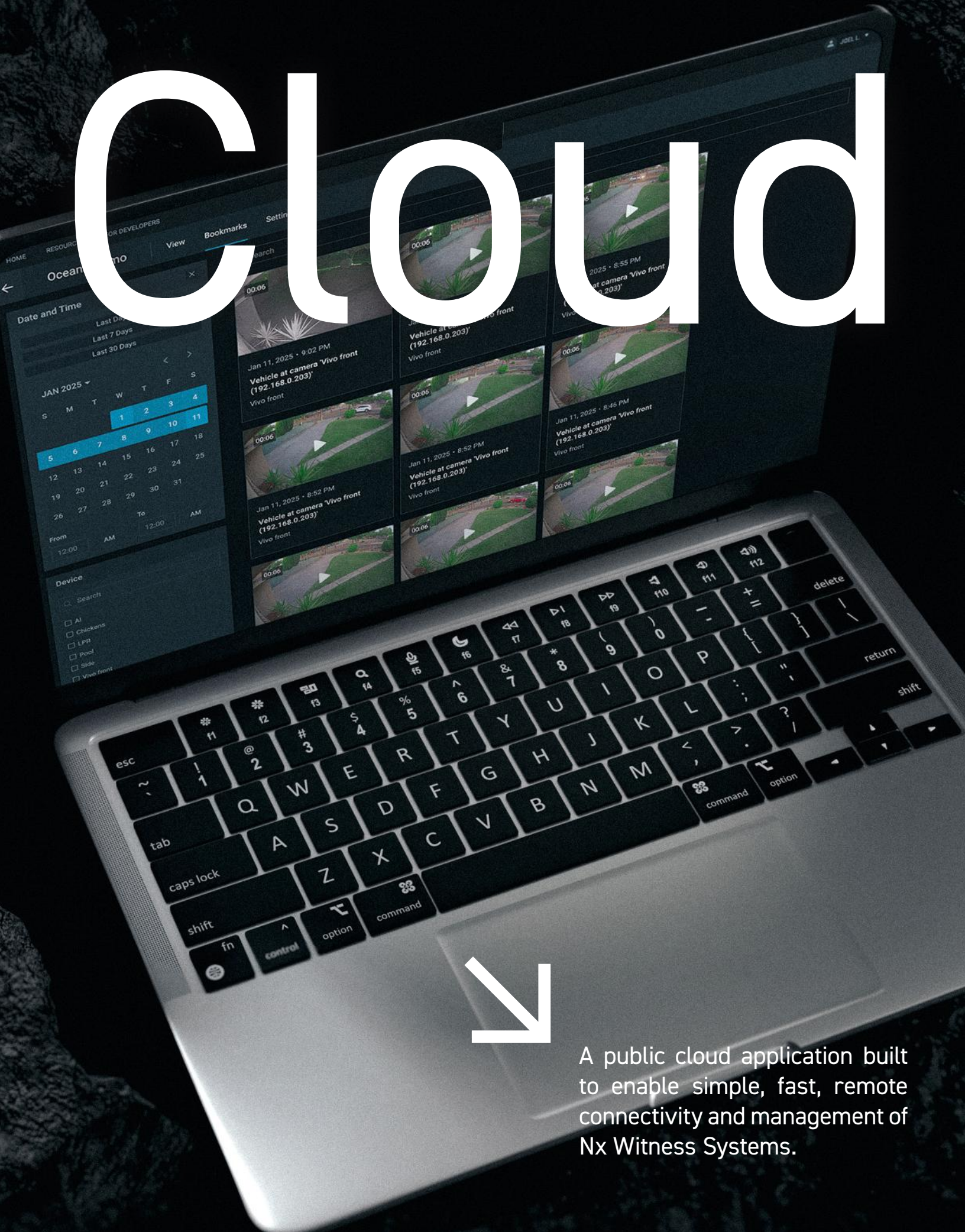
A mobile application for iOS and Android devices designed for remote viewing and control of Nx Witness systems.

### Operating Systems

- Android
- iOS



# Cloud



A public cloud application built to enable simple, fast, remote connectivity and management of Nx Witness Systems.

## Connect

- NAT Traversal
- Data Proxy via AWS
- LDAP Credentials
- Encrypted Connections
- WiFi/LAN/WAN
- 4G/LTE/Data

## View

- Live Video [adaptive]
- Recorded Video [adaptive]
- Camera Details
- Keyword Search
- Calendar Search
- Scalable Timeline

## Manage

- System Settings
- User Permissions
- Cloud Connections
- Email Notifications
- Push Notifications
- Health Monitoring

## Scale

- Unlimited # of Systems
- Unlimited # of Users
- Unlimited # of Devices
- Cloud API

## SCALABILITY

Maximum # Of Connected Systems  
Unlimited

Maximum # Of Users  
Unlimited

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## Nx CLOUD SERVICES

### Cloud Connect

Connect any Nx Witness System to Nx Cloud for simple remote connectivity from anywhere using Network Optix's NAT Traversal and Cloud Data Proxy technology.

### Manage Users

Add an unlimited number of users to a single Nx Cloud System. Share access to your Nx Witness System in seconds using only email addresses. Create Custom Roles to quickly assign access to multiple Nx Cloud connected Systems.

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## UNIQUE CAPABILITIES

### Connectivity

**Cloud Data Proxy:** Connect via Nx Cloud to view System data and video.  
**NAT Traversal [DEFAULT]:** Connect directly to System via Cloud addressing

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## SECURE COMMUNICATIONS

### Security

**Password Recovery:** Reset password via email.  
**Two Factor Authentication:** Combine password with Authenticator  
**Encrypted Connections:** HTTPS OpenSSL  
**Encrypted Video:** Encrypt transmitted and stored video archives

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## INTERFACE

### Cloud Interface

**Systems:** View connected System tiles in Cloud WebAdmin  
**Settings:** View users, rename systems, disconnect systems  
**View:** View live or recorded video from connected cameras & streams  
**Information:** Integrated Health Monitoring for the last 24 hours  
**Monitoring:** Real-time Server monitoring and Logs

### Supported Browsers

**Mobile & Tablet:** Chrome, Safari, Firefox, Edge [and others]  
**Computers:** Chrome, Safari, Firefox, Edge [and others]

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## INTEGRATION TOOLS

### For Developers

**Cloud API:** Integrate with 3rd party applications and devices

### For Admins

**Zapier:** Create connections to other Cloud apps with Zapier.com



## Discover

- 99% of IP Cameras & Webcams
- I/O Devices
- Encoders
- RTSP/HTTP/UDP Streams
- SAMBA NAS Devices
- Nx Systems & Servers

## Manage

- Device Configurations
- System Rules
- Failover/Redundancy
- Connections [HTTP, HTTPS]
- Archived Video
- Flexible Archive Backup

## View

- Server Health
- Live/Recorded Video
- System Configuration
- Log Files
- Audit Trail
- Storage Status

## Integrate

- HTTP Events & Actions
- Server API
- Metadata SDK
- Video Source SDK
- Storage SDK
- Server via Cloud API

## RECOMMENDED BASED ON # OF STREAMS

### Maximums

# of Resources Per Organization: Unlimited  
# of Resources Per Site: 2560  
# of Clients per Site: 3333  
# of Dual Recording Streams per Server: 256  
# of Servers in a Server Hive: 10

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## SUPPORTED OS

**Windows:** 10, 11, Server 2016, Server 2019, Server 2022  
**Ubuntu Linux:** 18.04 LTS, 20.04 LTS, 22.04 LTS, 24.04 LTS  
**Arm Devices:** Raspberry Pi, NVIDIA Jetson Devices

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## UNIQUE CAPABILITIES

### Server Hive

**Synchronization:** Servers synchronize system data in real time.  
**Failover:** Automatic camera failover when server fails.

### Archive Integrity

**Integrity Check:** Notification when files manual modified.  
**Backup:** Real-time [concurrent] or scheduled.

### No Prerequisite Software Required

**Database:** SQLite+ Proprietary archive index.  
**Lightweight:** 123mb Install file.

### Storage

**LAN/WAN:** HDD, SSD, NAS [SAMBA].  
**Storage SDK:** Integrate new storage mediums [e.g. FTP, Cloud].

### Security

**User Rights:** LDAP/Active Directory, secure password recovery.  
**Technologies:** HTTPS, OpenSSL, Salted MD5 Hash, TLS/SSL.  
**Encryption:** Secure connections, encrypted video.

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## SUPPORTED MEDIA STREAMING

### Live Streaming [via Server API]

**Video:** H.265, H.264, MJPEG.  
**Audio:** AAC, PCM (Mu-Law, A-law), G711, G726, MP3.  
**Protocols:** RTSP, WebM, HLS.  
**Transcoding:** Supported [for web client, mobile, API].

### Other Media

**Videos:** AVI, MKV, MP4, MOV, TS, M2TS, MPEG, MPG, FLV, WMV, 3GP.  
**Images:** PNG, JPG, GIF, BMP, TIFF.  
**Virtual Camera:** Upload footage from offline cameras [e.g. wearable cameras].

# Server



A lightweight media server designed for discovering, adding, and managing system resources and their related metadata.



# Desktop Client

The background of the slide features two laptops on a dark desk. The laptop in the foreground is a silver MacBook-style laptop, open and viewed from a high angle. The laptop behind it is partially obscured. The screens of both laptops display a nature scene with a blue bird perched on a branch. A large, white, stylized arrow points from the bottom right towards the text below.

A rich desktop application with a flexible GRID interface designed for connecting to, viewing, and managing your Nx Witness System.

## Configuration

- Events & Rules Engine
- User Management
- IP Video Devices
- Server Management
- I/O Device Management
- Storage Management

## Search

- Smart Motion Search
- Keyword Search
- Calendar Search
- Object Search
- Bookmarks
- Audit Trail

## Usability

- Drag & Drop Interface
- Consolidated Notifications
- Adaptive Playback
- Customizable Layouts
- Digital Maps
- Adaptive Scaling

## Media

- IP Video Cameras & Devices
- RTSP/HTTP Streams
- I/O Devices
- Web Pages / URLs
- Recorded Video Files
- Static Image Files

## SUPPORTED OS

Windows: 10, 11

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

MacOS: 11 Big Sur, 12 Monterey, 13 Ventura, 14 Sonoma, 15 Sequoia

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## UNIQUE CAPABILITIES

### Desktop Modes

**Connected Client:** Manage any connected Nx Witness System.

**Media Player:** View, edit, and export offline videos and images.

**Video Wall:** Put Nx Desktop into Video Wall mode to control remotely.

### Unique Features

**Multilingual Support:** Support for 20+ languages.

**Showreel:** Fully customizable viewing sequences of any GRID media.

**Customizable Branding:** Customize desktop background.

**Drag & Drop Reassignment:** Move cameras/streams between Servers.

**Nvidia & Intel Quick Sync:** Decoding support.

### Search

**Advanced Object:** Search by detected object and metadata attributes.

**Flex Timeline:** Search by date/time using calendar or mouse movements.

**Events:** Quickly search System event log to find event-driven video.

**Smart Motion:** Select specific pixels to search a year of archive in seconds.

**Bookmarks:** Create bookmarks manually or automatically with Rules Engine.

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## SUPPORTED MEDIA PLAYBACK & CONTROL

### Live Streaming

Codecs: H.265, H.264, MJPEG

### Offline Media Files

Video: AVI, MKV, MP4, MOV, TS, M2TS, MPEG, MPG, FLV, WMV, 3GP

Image: JPG, PNG, GIF, BMP, TIFF

### Control Devices

I/O Devices: Status and Triggers

Servers: Server Health Monitoring

### Built-In Browser

Browser Support: Websites, URL's and IP addresses with built-in Chromium browser



## Connect

- NAT Traversal
- Data Proxy via Cloud
- Encrypted Connections
- WiFi/LAN/WAN
- 4G/LTE/Data

## View

- Live Video [adaptive]
- Recorded Video [adaptive]
- Camera Status
- Layouts
- Adjustable Resolutions
- Portrait/Landscape

## Control

- Fisheye Dewarping
- Pan-Tilt-Zoom [PTZ]
- Soft Triggers
- 2-Way Audio
- Cloud or Local Systems
- Unlimited # of Systems

## Search

- Keyword Camera Search
- Calendar Search
- Thumbnail Search
- Push Notifications
- Flex Timeline
- Smart Motion

## SUPPORTED DEVICES

**Android:** 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0

**iOS:** 16, 17, 18

**iPadOS:** 16, 17, 18

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## VIEWING & PLAYBACK

**Viewing Modes:** Portrait, Landscape

**Adjustable Resolutions:** Highest Speed [secondary stream], Best Quality [primary stream], 1080p, 720p, 480p, 360p

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## KEY FEATURES

### Connect From Anywhere

**LAN/WAN:** Connect to Systems using public IP address or Dynamic DNS

**Via Nx Cloud:** Login to Nx Cloud to view all shared Systems

**Adaptive Connections:** Works well on WiFi or Data [4G, LTE, 3G]

### View Live or Recorded Video

**Live Video:** View live video remotely in real-time

**Archived Video:** Review archived footage remotely

### Control Cameras

**Fisheye Cameras:** Universal dewarping for fisheye cameras

**PTZ:** Control PTZ cameras with Joystick and/or tap to move UX

**Soft Triggers:** Control soft triggers on cameras

**2-Way Audio:** Talk through I/O or IP cameras that support audio in/out

### Search

**Keyword:** Search for cameras or layouts by name

**Calendar:** Search by date and time

**Layouts:** View thumbnails of System layouts

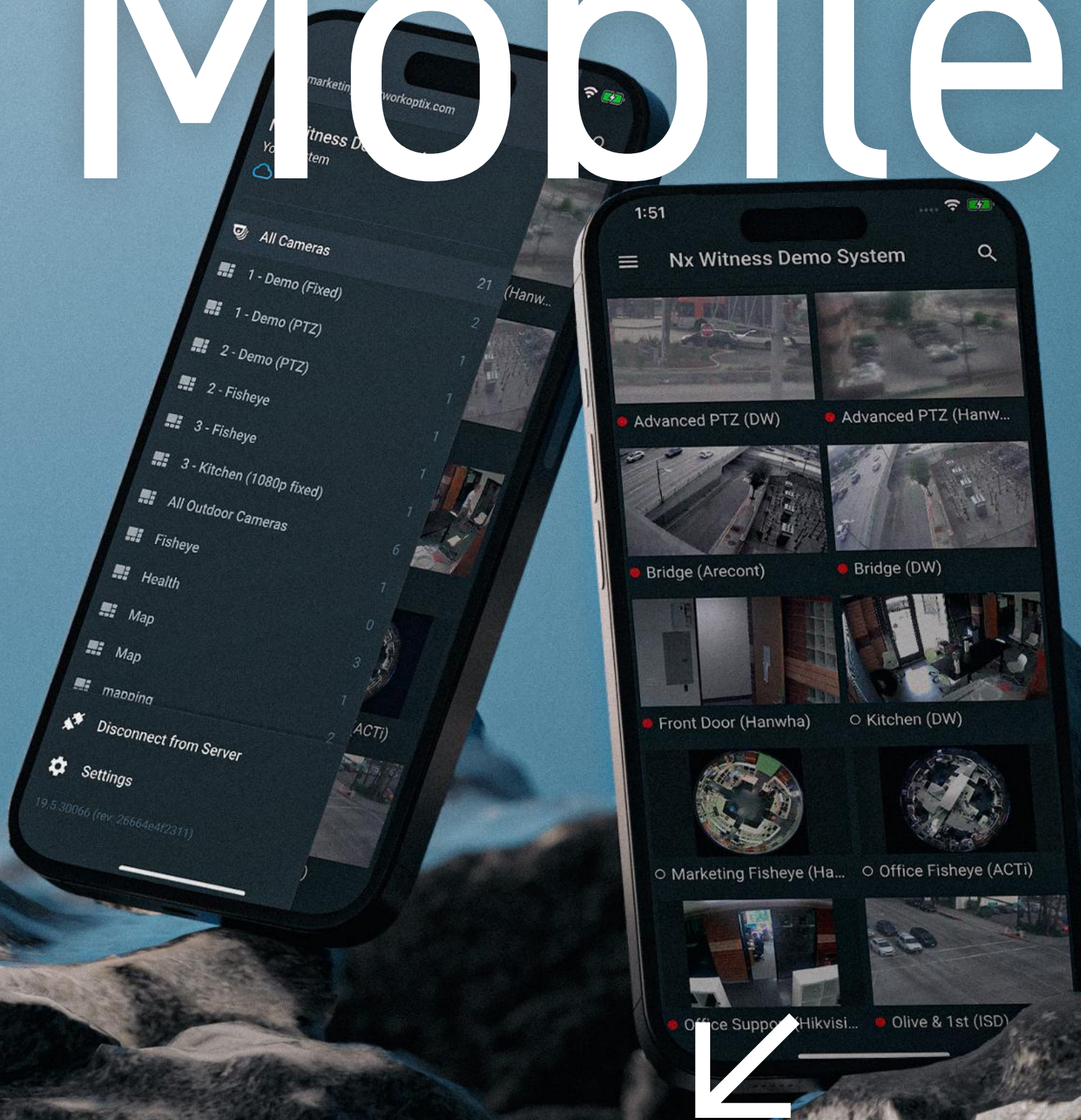
**Live Thumbnails:** Thumbnails refresh in real-time

**Flex Timeline:** Search using the same timeline interactions as Nx Desktop

**Smart Motion:** Search using Smart Motion

**Push Notifications:** Receive customizable push notifications for key events

# Mobile



A mobile application for iOS and Android devices designed for on-the-go viewing and control of system devices.



# Nx Toolkit



## VIDEO SOURCE SDK

### 3rd Party Video Devices

The Video Source SDK provides the ability to integrate virtually any live or recorded video source (IP Cameras, NVRs, DVRs, etc) into System. It also allows integrating device I/O ports and motion detection information.

### 3rd Party I/O Devices

The Video Source SDK also provides the ability to integrate 3rd party I/O devices which can increase hard wire interoperability with 3rd party systems and connected devices.



## STORAGE SDK [C++]

### 3rd Party Storage

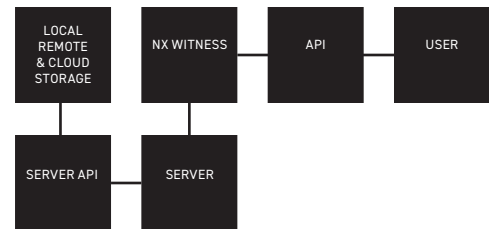
The Storage SDK allows developers to read from or write to any storage location: local, remote, and cloud. Creating a storage plugin requires implementing standard functions such as: I/O stream, if file exist, delete file, list of files in the folder, etc. The Storage SDK also contains an example for using an FTP server as a storage location.



## SERVER API [REST API]

### Integrate ANYTHING using HTTP API Calls

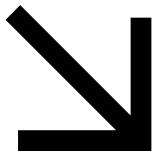
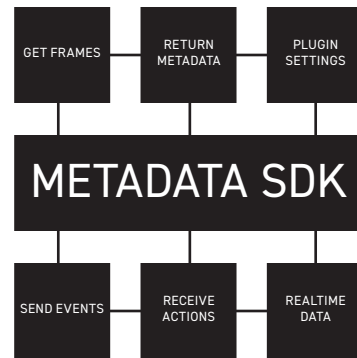
A REST API that gives developers the ability to access almost every system feature available in the regular client: query/manage system resources (servers, cameras, users, permissions), pull live or recorded video out of System, generate events, create rules, control PTZ cameras, and more.



## METADATA SDK

### Create plugins that run on Nx Server

The Metadata SDK allows developers and tech partners to create installable Plugins for Nx Witness which run on the Nx Server application to create tight, seamless integrations. The Metadata SDK is focused on bringing object metadata from 3rd party Systems - like Face Recognition, Retail Analytics, License Plate Recognition, etc - to enhance both real-time system intelligence and post-event, post-capture video search and review.



Nx Witness developer tools are FREE to use and can be accessed by installing Nx Witness VMS and opening the Server Web Admin interface.

Download Nx Witness today at:

[NetworkOptix.com/Nx-Witness](https://NetworkOptix.com/Nx-Witness)



FOR MORE INFORMATION

[www.NetworkOptix.com](http://www.NetworkOptix.com)

