EMBEDDED VMS STORAGE SYSTEM

COLDSTORE®
COLOSSUS NX

EMBEDDED VMS

Application | COLDSTORE Colossus Nx delivers enterprise recording performance for large installations.

COLDSTORE Colossus® with embedded Nx Witness video management system

NetworkOptix
VIDEO. POWERED.

The powerful Nx Witness VMS combines with COLDSTORE Colossus® sequential recording and extreme disk reliability to provide a unique CCTV recording solution.

| Integrated Nx Witness server and storage system

| Up to 100 full HD channels at 30 FPS per channel

| Up to 900TB capacity using only 80 watts

| No recurring software licence fees

| Incorporates COLDSTORE LAID™ and SFS™

| Fully-featured, powerful Nx Witness VMS

| Nx Cloud option for mobile device access

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Embedded Nx Witness transforms COLDSTORE into a fully-featured video management system server

Nx Witness is one of the most powerful and easy-to-use VMS software solutions available, now combined with COLDSTORE for unbeatable system performance and cost.

Veracity - Network Optix Partnership

Veracity was founded in 2005 and has been a partner of Network Optix since their foundation in 2011.
Nx Witness has developed into one of the most powerful, easy-to-use and cost-effective video management systems available. Now embedded in COLDSTORE, it provides the optimum combination of high performance video surveillance recording and management.

Nx Witness Architecture

The Nx Witness system consists of four components - desktop, server, cloud and mobile. The desktop component is the client application which can run on any PC system (Windows, Mac or Linux). The server component is effectively the VMS engine, which in this case runs inside the COLDSTORE storage system.

The cloud component enables simple remote connectivity, streaming, and management of one or an unlimited number of Nx Witness installations, whilst the mobile application allows users to view, control and playback their cameras from tablets or smartphones.

Nx Witness Desktop Client

The Nx Witness Desktop application is a rich media player with a flexible GRID interface, unmatched speed and responsiveness, instant notifications, an embedded browser, and a user experience unlike any other video management software. All features are available on every system, stand-alone or enterprise, providing a consistent user experience on all sites.

Nx Witness Server

The Nx server auto-discovers 99% of known IP cameras and is ONVIF S and T compatible, including H.265 support. Dual (hi-res and low-res) streams enable adaptive scaling for Nx Client displays using minimum bandwidth. A hive architecture synchronises user settings and system configurations between all local servers. Combined with automatic failover protection, this ensures a resilient system with no single point of failure in multiple server installations.

Nx Witness Cloud

Administrators can connect systems to Nx Cloud for easy merging and management of remote sites. All video and communications are encrypted for secure access, which can be shared easily with other users. Nx systems can be accessed from anywhere, via Nx desktop or mobile clients.

Nx Witness Mobile Client

Nx Mobile is a low-latency client application for iOS and Android which provides remote viewing, PTZ control, fisheye de-warping, playback and smart searching from a smartphone or tablet. Connecting with encrypted links via Nx Cloud, it provides secure access to an unlimited number of Nx systems, with live thumbnails and remote system control.
Full integration development tools are available for Nx Witness.

Nx Witness Feature Set

| Flexible grid user interface
| Camera analytics support
| Easy bookmarking & export
| Bitrate throttling
| Enhanced export
| Advanced PTZ control
| Advanced user management
| Archive integrity check
| Adaptive video scaling
| Fast search & smart search
| Manual event triggers
| Two-way audio support
| Event rules engine
| Optimised update process
| Universal fisheye de-warping
| Custom video watermarking
| Virtual camera support
| Webcam support
| Notifications panel
| IP camera auto-discovery
| ONVIF S and T support
| H.265 support
| Server hive architecture
| Automatic failover
| Encrypted video
| Synchronisation of configurations
| Encrypted cloud connections
| Mobile device support
| Unlimited scalability
| Shared access
| Cloud client system
| Low-latency
| Live thumbnails
| No recurring licence fees
| One-click upgrades
| Integration development tools
| Video source SDK
| Nx Server API
| Metadata SDK

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Combined **COLDSTORE**® features and Nx Witness licence model deliver the ultimate long retention times

COLDSTORE Technology

Our Linear Array of Idle Disks (LAID™) and vibration-free Sequential Filing System (SFS™) delivers a powerfully simple storage system for resilient video surveillance. This makes COLDSTORE Colossus an ideal server/storage platform for Nx Witness, with up to 880TB effective storage capacity (using 20TB disks, see capacity table under Technical Specifications).
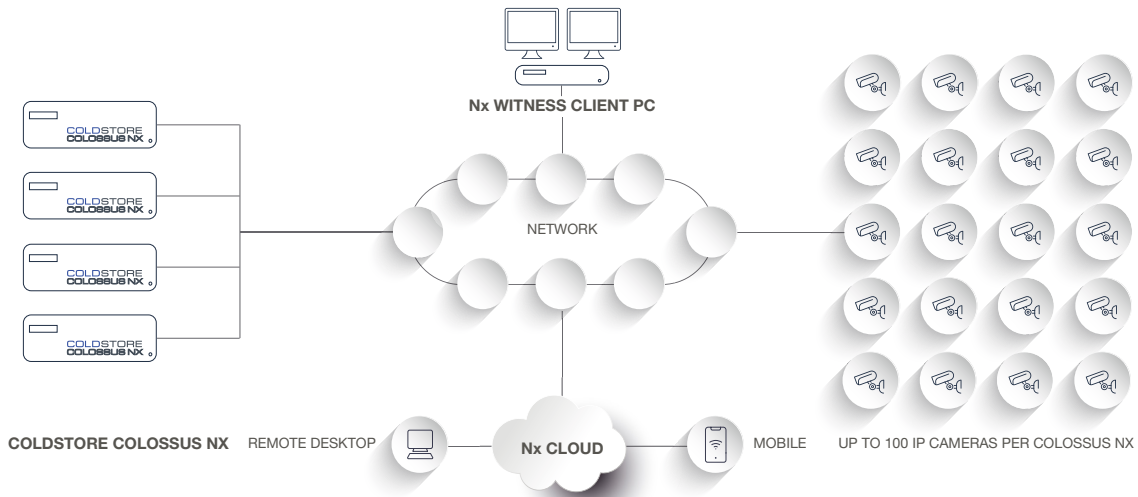
Extended Disk Lifetimes

COLDSTORE disks are used sequentially, saving power and greatly reducing temperature, vibration and wear - the three primary disk killers. Combined with SFS, this greatly extends disk lifetimes. COLDSTORE uses a mirrored overlapping-pair writing pattern which delivers the redundancy of RAID1 on write, but unlike RAID1 does not require twice the number of disks.

Low Power, Low TCO

All COLDSTORE models offer very low power consumption with minimal cooling costs and lower UPS backup power costs. When combined with the one-time licence fee model for the embedded Nx Witness VMS software, the overall Total Cost of Ownership of the COLDSTORE Colossus Nx solution is dramatically reduced and the high capacity is ideal for long retention times.

COLDSTORE COLOSSUS NX APPLICATION DIAGRAM

Nx WITNESS CLIENT PC

NETWORK

COLDSTORE COLOSSUS NX   REMOTE DESKTOP   Nx CLOUD   MOBILE   UP TO 100 IP CAMERAS PER COLOSSUS NX

Single or multiple COLDSTORE Colossus Nx servers may be used with single or multiple client workstations.

Workstations may be Windows, Linux or Mac and may be local or connected remotely through Nx Cloud.

Nx Cloud also supports access via iOS or Android mobile devices.

STORAGE PERIOD VERSUS CHANNEL COUNT

TB REQUIRED	2Mbps per Channel				3Mbps per Channel				4Mbps per Channel			
Channels	48ch	64ch	80ch	100ch	48ch	64ch	80ch	100ch	48ch	64ch	80ch	100ch
60 days	68TB	91TB	114TB	143TB	103TB	137TB	171TB	214TB	137TB	182TB	228TB	285TB
90 days	103TB	137TB	171TB	214TB	154TB	205TB	257TB	321TB	205TB	274TB	342TB	428TB
180 days	206TB	274TB	342TB	428TB	308TB	410TB	514TB	642TB	410TB	548TB	684TB	855TB

Figures define effective storage capacity. Capacities above 704TB will require 18TB or 20TB disks - check availability.

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TECHNICAL **SPECIFICATION**

COLDSTORE® COLOSSUS NX

GENERAL
System Type	Storage server with embedded Nx Witness video recording system
Storage Array Type	COLDSTORE sequential storage system
Drive Bays	45 x 3.5" removable drive bays with locking feature
Network Interface	Dual gigabit Ethernet ports
Power Supply	Dual hot-swappable

SYSTEM & SOFTWARE
Operating System	Linux OS on solid-state disk
Storage System	COLDSTORE firmware running L.A.I.D.™ and S.F.S.™
Embedded VMS	Network Optix Nx Witness VMS on solid-state disk
Time Synchronisation	Via NTP (TIMENET Pro Recommended)
Configuration & Management	COLDSTORE via SITESCAPE on Client PC
	Nx Witness Server via Nx Witness Desktop on Client PC

VMS SYSTEM
VMS Server	Nx Witness (Linux version) - licenced per channel - integration API available
VMS Client	Nx Witness (Windows/Linux/Mac for desktop, iOS/Android for mobile) - licence free
Camera Channels	Up to 100 channels (including active VMD on secondary streams)
IP Camera Support	Auto-discovery plus manual add and remove
ONVIF	S and T supported in addition to native SDKs. H.265 compatible
Resilience	Server hive system - synchronisation of user and configuration data on all units
Failover	Supported (with multiple COLDSTORE NX systems)
Scaleability	Up to 100 servers supported

CAPACITY
Disk Type	SATA disks - almost all makes, models and sizes supported (including SMR)
Disk Capacity	Maximum available disk sizes supported
Array Capacity (Raw)	900TB maximum array capacity (with 20TB disks)
Array Capacity (Effective)	880TB in normal COLDSTORE mirrored-overlapping-pair mode (with 20TB disks)

POWER
Power Supply Type	Dual-redundant hot-swappable PSU
Power Supply Rating	110-240V AC 50/60Hz Input (Auto sensing)
Power Consumption	80 watts typical maximum (PSU rated at dual 320W)

PHYSICAL/ENVIRONMENTAL
Dimensions	19" rack width, 4U high, 800mm deep (W 440mm x D 800mm x H 175mm)
Weight	30kg (66lbs) (including mounting rails but without disks)
Operating Temperature	5°C to 50°C (41°F to 122°F)
Relative Humidity	Up to 85%, non-condensing
Compliance	CE, FCC, UKCA, RoHS, BIS.

PRODUCT CODES
CSTORE45-4U-NX-UK	**COLDSTORE 45-Bay 4U Colossus, embedded Nx Witness VMS, dual PSU & UK cables**
CSTORE45-4U-NX-EU	**COLDSTORE 45-Bay 4U Colossus, embedded Nx Witness VMS, dual PSU & EU cables**
L01-NXWI	Nx Witness VMS IP camera recording licence (per channel)*
L06-NXWI	Nx Witness VMS encoder recording licence (per 4 encoder channels)*
L08-NXWI	Nx Witness VMS I/O module control and recording licence *
L05-NXWI	Nx Witness VMS video wall licence (2 monitors per licence)*

No recurring annual fees and including free software upgrades (excluding major revisions)

Disk Size	TB	4	6	8	10	12	14	16	18	20
Raw Capacity	TB	180	270	360	450	540	630	720	810	900
Effective Capacity	TB	176	264	352	440	528	616	704	792	880

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