

EMBEDDED VMS STORAGE SYSTEM

COLDSTORE® NX
4U|48 NX

Application | COLDSTORE 4U 48 Nx delivers enterprise recording performance

COLDSTORE 4U 48 Nx with embedded Nx Witness video management system

The powerful Nx Witness VMS combined with COLDSTORE sequential recording and extreme disk reliability provide a unique CCTV recording solution in a single box.



- | Integrated Nx Witness server and storage system
- | Up to 256 full HD channels at 30 FPS per channel
- | Up to 1248TB capacity using only 175 watts
- | No recurring software licence fees
- | Incorporates COLDSTORE LAID™ and SFS™
- | Fully-featured, powerful Nx Witness VMS
- | Nx Cloud option for mobile device access

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. Combined with COLDSTORE this unbeatable duo offers high performance and low TCO.

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. Fully embedded in COLDSTORE, this provides the optimum combination of high performance video surveillance recording and management in a single box solution.

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 on 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 dewarping, 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
- | Advanced EDGE analytics support
- | Easy bookmarking and export
- | Bitrate throttling
- | Enhanced export
- | Advanced PTZ control
- | Advanced user management
- | Archive encryption
- | Adaptive video scaling
- | Fast search and smart search
- | Manual event triggers
- | Audio Video Mapping
- | Event rules engine
- | Optimised update process
- | Universal fisheye dewarping
- | Custom video watermarking
- | Multi-sensor 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 with TFA
- | Synchronisation of configuration
- | Encrypted cloud connections
- | Mobile device support
- | Unlimited scalability
- | Shared access
- | Cloud client system
- | Low-latency
- | Live thumbnails
- | No recurring licence fees
- | Camera grouping over all servers
- | Integration development tools
- | Video source SDK
- | Nx Server API
- | Metadata SDK



Combined COLDSTORE features and Nx Witness Pro licence model deliver the ultimate in low TCO

Rear view (above) showing the 1 gigabit and 2.5 gigabit Ethernet ports, dual hot-swap power supplies and mirrored hot-swap solid-state OS disks.



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 an ideal server/storage platform for Nx Witness, with up to 1222TB effective storage capacity (using 26TB disks, see capacity table under Technical Specifications).

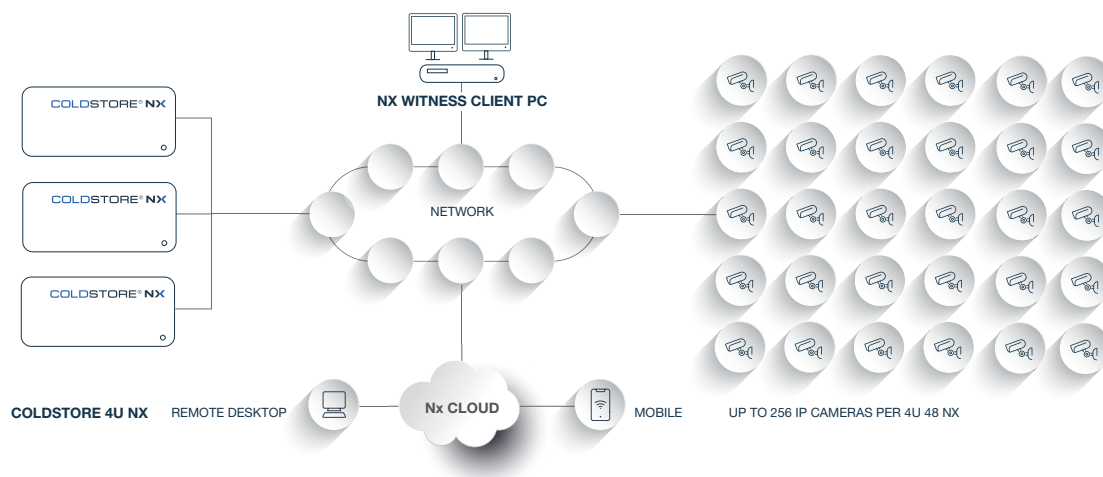
Extended Disk Lifetimes

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 4U Nx 48 solution is dramatically reduced for the end-user.

COLDSTORE 4U NX APPLICATION DIAGRAM



Single or multiple COLDSTORE 4U 48 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				4Mbps per Channel				6Mbps per Channel			
Channels	32ch	64ch	100ch	256ch	32ch	64ch	100ch	128ch	32ch	64ch	100ch	120ch
60 days	2U NX	2U NX	2U NX	3U NX	2U NX	2U NX	3U NX	3U NX	2U NX	3U NX	428TB	513TB
90 days	2U NX	2U NX	3U NX	547TB	2U NX	3U NX	428TB	547TB	3U NX	411TB	642TB	770TB
180 days	2U NX	3U NX	428TB	1095TB	3U NX	547TB	855TB	1095TB	411TB	821TB	1219TB*	2x4U NX

Figures define effective storage capacity | Calculations made with 750Mbps maximum bit rate
Highest capacities assume use of 26TB drives *max capacity reached with 5.7Mbps per camera

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TECHNICAL SPECIFICATION

COLDSTORE® NX
4U|48 NX

GENERAL	
System Type	Storage server with embedded Nx Witness video recording system
Storage Array Type	COLDSTORE sequential storage system
Drive Bays	48 x 3.5" removable drive bays
Network Interface	Dual ports, 1 x 1 gigabit, 1 x 2.5 gigabit Ethernet ports
Power Supply	Dual hot-swappable
SYSTEM & SOFTWARE	
Operating System	Linux OS on mirrored solid-state disk
Storage System	COLDSTORE firmware running L.A.I.D.™ and S.F.S.™
Embedded VMS	Network Optix Nx Witness VMS
Time Synchronisation	Via NTP (TIMENET 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 256 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)	1248TB maximum array capacity (with 26TB disks)
Array Capacity (Effective)	1222TB in normal COLDSTORE mirrored overlapping-pair mode (with 26TB disks)
POWER	
Power Supply Type	Dual-redundant hot-swappable PSU
Power Supply Rating	110-240V AC 50/60Hz Input (Auto sensing)
Power Consumption	175 watts typical maximum (PSU rated at dual 1200W)
PHYSICAL/ENVIRONMENTAL	
Dimensions	19" rack width, 4U high, (W 447mm x H 176mm x D 818mm)
Weight	38.4kg (84.6lbs) (including mounting rails but without disks)
Operating Temperature	5°C to 40°C (41°F to 104°F)
Relative Humidity	Up to 85%, non-condensing
Compliance	CE, FCC, RoHS, UKCA, NDAA, TAA
PRODUCT CODES	
CSTORE48-4U-NX-UK	COLDSTORE 48-Bay 4U, embedded Nx Witness VMS, dual PSU & UK power cables
CSTORE48-4U-NX-EU	COLDSTORE 48-Bay 4U, embedded Nx Witness VMS, dual PSU & EU power 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	6	8	10	12	16	18	20	24	26
Raw Capacity	TB	288	384	480	576	768	864	960	1152	1248
Effective Capacity	TB	282	376	470	564	752	846	940	1128	1222

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