EMBEDDED VMS STORAGE SYSTEM

COLDSTORE®
2U NX

Application | COLDSTORE 2U NX delivers enterprise recording performance for all types of installations

COLDSTORE®
with embedded
Nx Witness video
management
system

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

Nx Witness
VIDEO MANAGEMENT SYSTEM

| Integrated Nx Witness server and storage system

| Up to 64 full HD channels at 30fps per channel

| Up to 160TB capacity using only 50 watts

| No recurring software licence fees

| Incorporates COLDSTORE LAID™ and SFS™

| Fully-featured, powerful Nx Witness VMS

| Nx Cloud option for mobile device access

veracity

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 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 for 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 smart phones.

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 smart phone 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

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

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 2U an ideal server/storage platform for Nx Witness, with up to 140TB effective storage capacity (using 20TB disks, see capacity table under Technical Specifications).
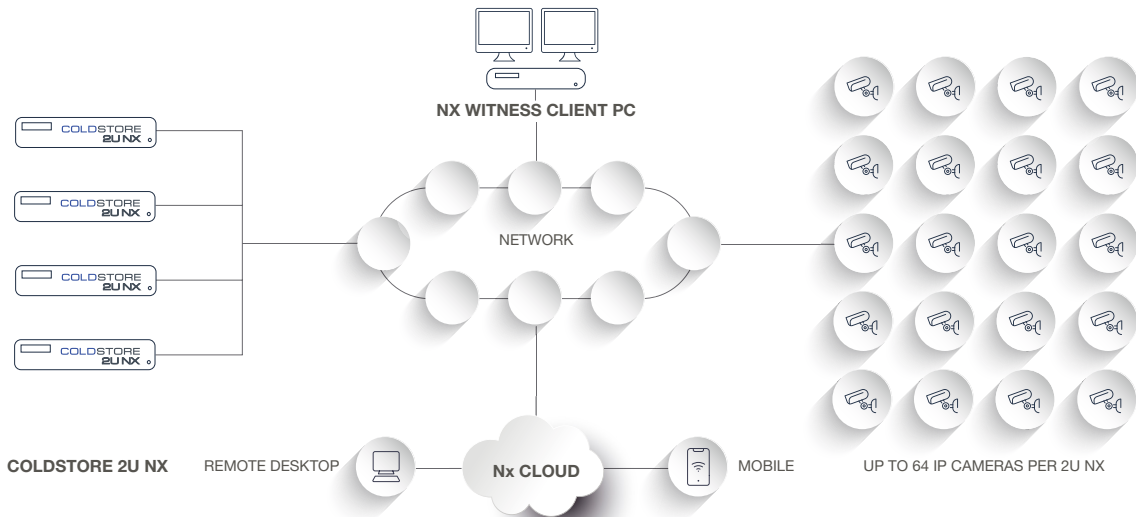
Extended Disk Lifetimes

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 2U NX solution is dramatically reduced for the end user.

COLDSTORE 2U NX APPLICATION DIAGRAM

NX WITNESS CLIENT PC

NETWORK

COLDSTORE 2U NX   REMOTE DESKTOP   Nx CLOUD   MOBILE   UP TO 64 IP CAMERAS PER 2U NX

Single or multiple COLDSTORE 2U 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	16ch	32ch	48ch	64ch	16ch	32ch	48ch	64ch	16ch	32ch	48ch	64ch
30 days	11TB	23TB	34TB	46TB	17TB	34TB	51TB	68TB	23TB	46TB	68TB	91TB
60 days	23TB	46TB	68TB	91TB	34TB	68TB	103TB	137TB	46TB	91TB	137TB	🗄
90 days	34TB	68TB	103TB	137TB	51TB	103TB	🗄	🗄	68TB	137TB	🗄	🗄

| Figures in green require 18TB or 20TB HDD - check availability   🗄 denotes 2 Units are required.

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TECHNICAL **SPECIFICATION**

COLDSTORE® 2U NX

GENERAL

System Type	Storage server with embedded Nx Witness video recording system
Storage Array Type	COLDSTORE sequential storage system
Drive Bays	8 x 3.5" removable drive bays with locking feature
Network Interface	Dual gigabit Ethernet ports
Power supply	Single or 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 64 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 (inc.18TB and 20TB)
Array Capacity (Raw)	160TB maximum array capacity (with 20TB disks)
Array Capacity (Effective)	140TB in normal COLDSTORE mirrored-overlapping pair mode (with 20TB disks)

POWER

Power supply type	Single fixed PSU or optional dual-redundant hot-swappable PSU
Power supply rating	110-240V AC 50/60Hz Input (Auto sensing)
Power consumption	50 watts typical maximum (PSU rated at 300W or dual 300W)

PHYSICAL/ENVIRONMENTAL

Dimensions	19" rack width, 2U high, 573mm deep (W 442mm x D 573mm x H 90mm)
Weight	11.7kg (26lbs) (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

CSTORE8-2U-NX-UK	COLDSTORE 8-Bay 2U unit, embedded Nx Witness VMS, **single** PSU & UK power cable
CSTORE8-2U-NX-EU	COLDSTORE 8-Bay 2U unit, embedded Nx Witness VMS, **single** PSU & EU power cable
CSTORE8-2UD-NX-UK	COLDSTORE 8-Bay 2U unit, embedded Nx Witness VMS, **dual** PSU & UK power cables
CSTORE8-2UD-NX-EU	COLDSTORE 8-Bay 2U unit, 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	4	6	8	10	12	14	16	18	20
Raw Capacity	TB	32	48	64	80	96	112	128	144	160
Effective Capacity	TB	28	42	56	70	84	98	112	126	140

veracity

Veracity HQ
Prestwick International Aerospace Park
4 Dow Road
Prestwick
KA9 2TU
UK
Tel +44 (0) 1292 264967
www.veracityglobal.com
sales@veracityglobal.com

*See **www.veracityglobal.com** website for country and region specific contacts.*