VideoXpert Professional v 3.9

Scalable Video Management and Surveillance System

Product Features

- "VideoXpert in a box" functionality for small to mid-sized sites
- Simple setup / IT-Friendly — designed for unicast or multicast environments using Microsoft® Windows® for easy configuration and maintenance
- Available in different hardware configurations to support the needs of different sites
- Supports MJPEG, MPEG-4, H.264, and H.265
- Supports monitor walls, including cell layouts and cameras
- Up to 450 Mbps throughput per recorder
- Supports attached storage (NAS) to extend video retention
- Includes VxToolbox for simple configuration of one or more servers
- Includes pre-defined roles for easy user creation, and also supports granular editing of user permissions
- Motion Pixel Search for server side motion detection and quick retrieval of events
- 4k/H.264 and H.265 support for live and playback modes for cameras that support streaming through ONVIF, and the ability to export recorded segments
- HTTPS (SSL) support for Pelco and third-party cameras
- Supports environments that use anti-virus and firewall software
- Imports users and roles from existing LDAP servers to reduce administrative overhead, and enables single sign-on (SSO)
- Asses VMS and camera health using SNMP (VxSNMP is available as a free, separate download)
- Includes Event Monitor Service feature, capable of polling for alarms from devices and performing specified actions when an alarm state change occurs (VideoXpert Event Monitor Service is available as a free, separate download)
- Ability to connect video streams to third-party clients, with customizable RTSP endpoints that allow a client application connection to a VideoXpert System stream via the VxConnect service (VxConnect is available as a separate download)
- VxPortal allows web-based viewing and exporting of video without installing any software
- Asses VMS and camera health using SNMP (VxSNMP is available as a free, separate download)
- Extensible through mapping and plugins, including video information overlays and license plate recognition
- Supports aggregation through the VideoXpert Enterprise System with Aggregation
- Supports ONVIF-compliant cameras and devices
- Edge Storage Auto Gap Fill functionality detects when a gap in local camera recording occurs, and automatically downloads video and audio (if present) to fill the gap

- Investigation mode enables operators to synchronize video playback and export investigative playlists covering scenes of interest
- Monitors multiple VxPro sites with a single client
- The desktop workstation supports up to two directly connected 4k monitors or four 1080p monitors
- Supports Shared Display Decoders so operators can send video to surveillance personnel who need it most
- Supports DNS hostnames for ONVIF-compliant cameras and Pelco cameras
- Enables and supports Risk Management Framework (RMF) and FIPS 140-3
- Provides seamless transition to VideoXpert™ Enterprise
- Provides a migration path for Digital Sentry® systems
- Server models support Dell iDRAC and OpenManage tools
- Supports the Advanced Analytics Suite, powered by Deep Learning
- See real-time motion and Pelco camera analytics alarm (Pelco Basic, Enhanced, and Advanced Analytics Suites) as an overlay on cameras in real-time, playbacks, and exports; and search recorded video based on alarm type and severity

Overview

VideoXpert is a video management system (VMS) in a single box, designed for easy setup and robust monitoring in small or moderately sized applications. Designed for Windows platforms, VideoXpert is easy to install, quick to setup, and provides an intuitive interface that helps operators use video captured by the system.

VideoXpert is available in tailor-made hardware solutions or in software distributions to support your existing VMS infrastructure. VideoXpert provides options to support the throughput you need; and different amounts of storage in RAID 6, RAID 5, or JBOD arrangements to fit your needs for retention, redundancy, and fault tolerance. Software licenses operate in terms of channels, so you don't overpay for the solution you need. The system supports unicast and multicast transmission modes, easily adapting to your network scheme.

Server models also include Dell's iDRAC (integrated Dell Remote Access Controller) platform and support for Dell's OpenManage tools, allowing administrators to remotely configure and support VxPro servers, reducing the need for physical access to the server. Using the iDRAC controller, you can monitor hardware and receive email alerts via SNMP.

VxPro includes VxToolbox, an easy-to-use Windows application enabling users to quickly and easily configure an entire network of servers and cameras locally or remotely. VxPro has pre-defined roles, designed around standard surveillance operations, making user creation and assignments quick and easy.

The included VxOpsCenter client software provides an easy to use interface, so you can use VideoXpert with little to no training. You can operate VxOpsCenter clients in multi-system access mode, allowing one workstation to access multiple servers, scaling your surveillance solution. VxOpsCenter also supports modular plugins, providing integrated functionality from external systems, including informational overlays, license plate recognition (LPR), analytics (Pelco Basic, Enhanced, and Advanced Analytics Suites), and a built-in mapping application.

Built around open standards, VideoXpert includes a complete application programing interface (API), software development kit (SDK), and dedicated technical support, allowing other systems' manufacturers to develop interfaces leveraging VideoXpert's capabilities.

Administrators can migrate current Digital Sentry hardware environments to VideoXpert Professional, repurposing hardware and reusing current video management infrastructure while gaining the benefits of VideoXpert. VideoXpert Professional can also utilize Digital Sentry storage hardware as recording solutions, preserving the video stored on those devices while providing access to VideoXpert Professional features.

Hardware Specifications

Item	Power 2 Server[1]	Flex 2 Server	Eco 2 Server	Workstation
Form Factor	Rack (2RU)	Tower		
Processor	Intel® Xeon® Silver 4110	Intel Xeon E-2134	Intel Xeon E-2124	Intel Core™ i7-8700
Memory	16 GB DDR4			
Operating System	Microsoft Windows 10 IoT Enterprise 64-bit (LTSC) or Server 2019	Microsoft Windows 10 IoT Enterprise 64-bit (LTSB)		Microsoft Windows 10 IoT Enterprise 64-bit (LTSC)
OS Drive	2x SSD 480 GB (RAID 1)	M.2 SSD 240 GB		M.2 NVMe 256 GB
Storage				
Max[2]	96 TB (7200 RPM SATA)	28 TB (7200 RPM SATA)	12 TB (7200 RPM SATA)	N/A
RAID Level[3]	6/5/JBOD		JBOD	N/A
Optical Drive	N/A			DVR±RW
Dell iDRAC Controller	iDRAC9 Basic			N/A
USB Ports				
USB 2.0	2x front	4x rear		2x front, 2x rear
USB 3.0	2x rear	1x front, 2x rear		1x front, 4x rear
USB 3.1 Type-C	N/A			1x front

[1]You must have a separate Workstation with the Power 2 series Server

[2]Maximum storage based on JBOD configuration

[3]RAID level is user configurable

Power 2 Server

Flex 2 Server

Eco 2 Server

Desktop Workstation

Video

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Video Outputs	4x Mini DisplayPort 1.4			
Video system	NVIDIA Quadro P620 (2 GB memory)			
Maximum Video Resolution	mDP 1.4 direct connect, HDR 5120 x 2880 at 60 Hz (30-bit color)			

Audio

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Inputs	N/A			Universal Audio Jack (front)
Outputs	DisplayPort Audio			Universal Audio Jack (front), Line Out (rear), Internal Speaker, DisplayPort Audio
Connector Types	mDP Cable (out)			3.5 mm 4 pole (In/Out), 3.5 mm 3 pole (Out), mDP cable (Out)

Networking

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Gigabit Ethernet (1000Base-T) ports	2x + dedicated iDRAC port			1x
Recording Throughput	Up to 450 Mbps		Up to 200 Mbps	N/A
IP version	IPv4 and IPv6			

Power

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Input	100 to 240 VAC 50/60 Hz, autoranging			90-264 VAC, 3.2 A (maximum)
Supply	Dual Hot Swappable 750 W (Platinum)	Internal 350 W (Bronze)	Internal 365 W (Gold)	Internal 200 W
	Note: This system is also designed to be connected to IT power systems with a phase-to-phase voltage not exceeding 230 V.			
Consumption	2891 BTU/hr max	1405 BTU/hr max (350 W power supply)	1908 BTU/hr max (365 W power supply)	682 BTU/hr max (200 W power supply)
	Note: Heat dissipation is calculated by using the power supply maximum wattage rating. Results will vary depending on system load.			

Environmental

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Operating Temperature	10° to 35°C (50° to 95°F) with no direct sunlight on the equipment			0° to 35°C (32° to 95°F)
	Note: Maximum temperature is reduced by 1°C/300 m (33.8°F/984.25 ft) above 950 m (3,117 ft)			

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Non-Operating Temperature	–40° to 65°C (–40° to 149°F)			
Operating Relative Humidity	10% to 80% RH with 29°C (84.2°F) max dew point			5% to 95% (non-condensing)
Non-Operating Relative Humidity	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.			10% to 90%, non-condensing
Operating Altitude	Maximum of 3048 m (10,000 ft)			–15.2 m to 3048 m (–50 to 10,000 ft)
Operating Vibration	0.26 Grms at 5 Hz to 350 Hz (operation orientations)			0.66 Grms

Physical

Item	Power 2 Server	Flex 2 Server	Eco 2 Server	Workstation
Dimensions (D x W x H)	68.2 x 43.4 x 8.68 cm (26.8 x 17.1 x 3.4 in) without rack ears and bezel	58.91 x 21.8 x 44.33 cm (23.19 x 8.58 x 17.45 in) without bezel	45.38 x 17.5 x 36.29 cm (17.87 x 6.89 x 14.29 in)	29.2 x 9.26 x 29 cm (15.5 x 3.65 x 11.42 in)
Rack Mounting	2 RU	N/A		
Maximum Weight[1]	29.68 kg (65.43 lb)	25.25 kg (55.67 lb)	11.16 kg (24.6 lb)	5.26 kg (11.57 lb)

[1] Unit weight varies by hard drive configuration. For example: 4TB hard drive is 680 g (1.5 lb) and 8TB hard drive is 780 g (1.72 lb).

Minimum System Requirements[1]

Item	Server	VxOpsCenter
Processor	Intel Core i5 64-bit CPU	Intel Core i5 64-bit CPU with Intel HD Graphics or better
Memory	16 GB	
Operating System	Windows 10 64-bit, or Windows Server 2012 or newer[2]	Windows 7 SP1 (64-bit) or newer
Browser	Current version of Google Chrome, Mozilla Firefox, or Microsoft Edge	

[1]Software-only systems tested without antivirus software installed.

[2]Although server OS is supported, VxOpsCenter is not supported in the server OS.

Software Licenses

With VxPro, you only pay for the devices you want to use with your system. Each camera in a VxPro environment consumes a “channel” license. VxPro includes four trial licenses and a 1-year software upgrade plan (SUP) to quickly get started.

Each camera/encoder on a VideoXpert system requires a channel license. To enable upgrades to VideoXpert software, an active SUP is also required.

License	Description
VXP-1C	1 channel license for VideoXpert Pro, plus one year SUP
VXP-1C-3Y	1 channel license for VideoXpert Pro, plus three year SUP
VXP-SUP-1Y	Extension to current channel license (SUP); entitles you to upgrades for one year. One per channel is required.
VXP-SUP-3Y	Extension to current channel license (SUP); entitles you to upgrades for three years. One per channel is required.
U1-AGG-1P	(Optional) This is a one-channel license for VideoXpert Professional to aggregate into a VideoXpert Enterprise system. Professional services are recommended.
VX-ASCII	ASCII Service
VX-EVENT-MON	Event Monitoring Service to network I/O devices
VX-SNMP	SNMP Monitoring
VX-CONNECT	VxConnect to relay RTSP

Hardware Models

Model	Range	Windows OS	Raw Capacity	Effective Capacity	RAID Level	Power Supply
VXP-P2-96-6-D	Power 2	10 IoT	96 TB	72.70 TB	RAID 6	Dual
VXP-P2-96-5-D	Power 2	10 IoT	96 TB	79.97 TB	RAID 5	Dual
VXP-P2-96-J-D	Power 2	10 IoT	96 TB	87.24 TB	JBOD	Dual
VXP P2-72-6-D	Power 2	10 IoT	72 TB	50.89 TB	RAID 6	Dual
VXP-P2-72-5-D	Power 2	10 IoT	72 TB	58.16 TB	RAID 5	Dual
VXP-P2-72-J-D	Power 2	10 IoT	72 TB	65.43 TB	JBOD	Dual
VXP-P2-48-6-D	Power 2	10 IoT	48 TB	29.08 TB	RAID 6	Dual
VXP-P2-48-5-D	Power 2	10 IoT	48 TB	36.35 TB	RAID 5	Dual
VXP-P2-48-J-D	Power 2	10 IoT	48 TB	43.62 TB	JBOD	Dual
VXP-P2-24-5-D	Power 2	10 IoT	24 TB	14.54 TB	RAID 5	Dual

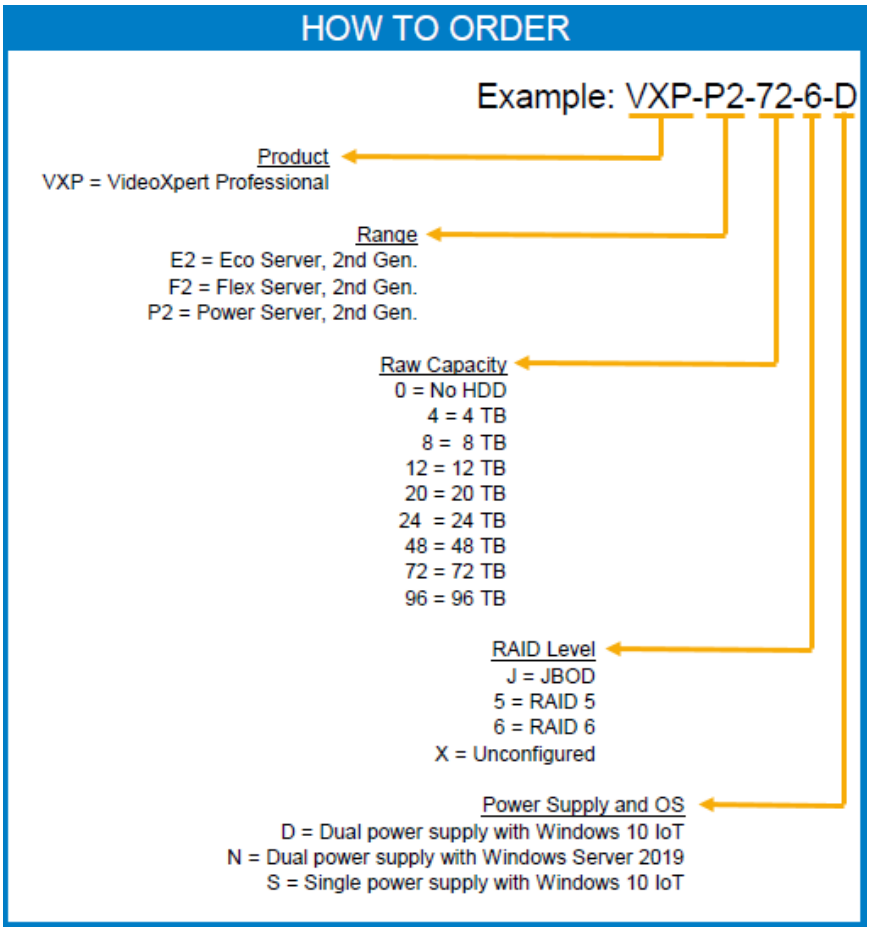
Model	Range	Windows OS	Raw Capacity	Effective Capacity	RAID Level	Power Supply
VXP-P2-24-J-D	Power 2	10 IoT	24 TB	21.81 TB	JBOD	Dual
VXP-P2-0-X-D	Power 2	10 IoT	0 TB	N/A	Unconfigured	Dual
VXP-P2-96-6N	Power 2	Server 2019	96 TB	72.70 TB	RAID 6	Dual
VXP-P2-96-5N	Power 2	Server 2019	96 TB	79.97 TB	RAID 5	Dual
VXP-P2-96-JN	Power 2	Server 2019	96 TB	87.24 TB	JBOD	Dual
VXP P2-72-6N	Power 2	Server 2019	72 TB	50.89 TB	RAID 6	Dual
VXP-P2-72-5N	Power 2	Server 2019	72 TB	58.16 TB	RAID 5	Dual
VXP-P2-72-JN	Power 2	Server 2019	72 TB	65.43 TB	JBOD	Dual
VXP-P2-48-6N	Power 2	Server 2019	48 TB	29.08 TB	RAID 6	Dual
VXP-P2-48-5N	Power 2	Server 2019	48 TB	36.35 TB	RAID 5	Dual
VXP-P2-48-JN	Power 2	Server 2019	48 TB	43.62 TB	JBOD	Dual
VXP-P2-24-5N	Power 2	Server 2019	24 TB	14.54 TB	RAID 5	Dual
VXP-P2-24-JN	Power 2	Server 2019	24 TB	21.81 TB	JBOD	Dual
VXP-P2-0-XN	Power 2	Server 2019	0 TB	N/A	Unconfigured	Dual
VXP-F2-28-6-S	Flex 2	10 IoT	28 TB	18.15 TB	RAID 6	Single
VXP-F2-28-5-S	Flex 2	10 IoT	28 TB	21.78 TB	RAID 5	Single
VXP-F2-28-J-S	Flex 2	10 IoT	28 TB	25.41 TB	JBOD	Single
VXP-F2-20-5-S	Flex 2	10 IoT	20 TB	14.52 TB	RAID 5	Single
VXP-F2-20-J-S	Flex 2	10 IoT	20 TB	18.15 TB	JBOD	Single
VXP-F2-8-J-S	Flex 2	10 IoT	8 TB	7.26 TB	JBOD	Single
VXP-F2-4-J-S	Flex 2	10 IoT	4 TB	3.63 TB	JBOD	Single
VXP-F2-0-J-S	Flex 2	10 IoT	0 TB	N/A	JBOD	Single
VXP-E2-12-J-S	Eco 2	10 IoT	12 TB	10.89 TB	JBOD	Single
VXP-E2-8-J-S	Eco 2	10 IoT	8 TB	7.26 TB	JBOD	Single
VXP-E2-4-J-S	Eco 2	10 IoT	4 TB	3.63 TB	JBOD	Single
VXP-E2-0-J-S	Eco 2	10 IoT	0 TB	N/A	JBOD	Single
VX-WKS	Desktop Workstation	10 IoT	N/A			

Model	Range	Windows OS	Raw Capacity	Effective Capacity	RAID Level	Power Supply
VX-RKWKS	Rackmount Workstation	10 IoT	N/A			
VX-RKWKS8	Rackmount Workstation	10 IoT	N/A			

How to Order

Use the following table to create a model number for your VideoXpert hardware and/or software package. Your model number consists of the VxPro range, capacity, RAID-level, single/dual power supply, and quantity of licenses.

The chart below lists the full range of features. Capacity, RAID level, dual power supply, and channel requirements may be limited by the product range you select. Workstations come in a single configuration and do not require capacity, RAID, power supply, or channel designations.



VideoXpert Player

The VxPlayer decrypts, validates, and plays-back secured exports from VideoXpert. You can download the player directly from VideoXpert along with an exported video file or you can download it from Pelco.com. The following sections specify the minimum system requirements for non-VideoXpert machines running the VxPlayer.

VxPlayer can convert exports into user-friendly file formats, including .mp4 and .avi.

Hardware Requirements

- Dual Core i5 2.67 GHZ
- 4 GB RAM
- 200+ GB of free HDD space or more
- GPU that supports OpenGL 3.0 or higher
- 1024 x 768 or higher screen resolution
- 100/1000 Ethernet Network Interface Card
- Sound Card

Software Requirements

- Windows 10 Pro 64-bit
- .NET 4.6.1 or higher
- OpenGL 3.0 or higher
- Direct3D 9 or higher

Security

VideoXpert includes the following security features:

- Client authentication
- Passwords stored with cryptographic protection
- Configurable roles and permissions
- User action reports
- TLS-based encryption over HTTPS
- Support running with antivirus
- Ability to encrypt exports
- Synchronized system clocks using NTP
- Supports video and data encryption using AES-128-256 through third-party disk encryption software.
- Incorporates FIPS 140-3 validated cryptographic modules
- FISMA/NIST Configuration Guidance – This guide will help organizations documenting the system through their RMF process with information about:
  - How to categorize the system
  - Which NIST-based security controls are applicable
  - How VX implements NIST-based security controls

- FISMA/NIST Compliance Testing – VideoXpert is installed on a FISMA representative system with applicable DISA STIGs (Defense Information Systems Agency, Secure Technical Implementation Guidelines) and tested for functionality. Applicable STIGS include:
  - Microsoft Windows 10 for VxOpsCenter and VxToolbox
  - Microsoft .Net Framework 4
  - Microsoft Internet Explorer 11
  - Microsoft Windows Firewall and Advanced Security
  - Postgres Database 9.x
- Conforms to SB327 requirements (and international iterations of such) by enforcing default password changes upon initial configuration.

Supported Languages

The VxToolbox, VxPortal, and VxOpsCenter interfaces are available in the following languages:

- Arabic
- Brazilian Portuguese
- Bulgarian
- Croatian
- Czech
- German
- French
- Hungarian
- Italian
- Korean
- Polish
- Romanian
- Russian
- Simplified Chinese
- Spanish for Latin America
- Turkish

Supplied Accessories

- Keyboard*
- Mouse*
- USB drive containing resource and recovery information
- Rack mount kit (Power Series only)
- 4 Mini DisplayPort to DisplayPort (Flex 2, Eco 2, and Desktop Workstation only) and 1 Mini DisplayPort to HDMI (all models)
- US, UK, and EU power cords

*Not included with Power 2 Series (VXP-P2) models.

Optional Accessories

- **VX-A4-SDD** Shared Display Decoder with US, Europe, and United Kingdom power cords; works when there is one VxP, not when MSA mode is in use
- **3DX-600-3DMOUSE** Enhanced 3D Mouse and Joystick
- **Y-U0023-G910KBD** Enhanced Keyboard
- **A1-KBD-3D-KIT2** Enhanced Keyboard and 3D Mouse Combination Kit
- **KBD5000** Keyboard with Jog/Shuttle, Keypad, and Joystick
- **PMCL622** Full High-Definition LED Monitor, 22"
- **PMCL624** Full High-Definition LED Monitor, 24"
- **PMCL632** Full High-Definition LED Monitor, 32"
- **PMCL643K** 4K Ultra-High-Definition LED Monitor, 43"
- **PMCL649K** 4K Ultra-High-Definition LED Monitor, 49"
- **PMCL655K** 4K Ultra-High-Definition LED Monitor, 55"
- **PMCL665K** 4K Ultra-High Definition LED Monitor, 65"
- **VXP-KIT-4TB** 4 TB hard disk drive with carrier for Eco 2 or Flex 2 Servers only
- **VXP-KIT-8TB** 8 TB hard disk drive with carrier for 2nd generation Power 2 Server only

Optional Power Accessories

- **PWRCRD-S-AR** Standard power cord, Argentina
- **PWRCRD-S-AU** Standard power cord, Australia
- **PWRCRD-S-EU** Standard power cord, Europe
- **PWRCRD-S-UK** Standard power cord, United Kingdom
- **PWRCRD-S-US** Standard power cord, United States
- **PWRCRD-R-AR** Round power cord, Argentina
- **PWRCRD-R-AU** Round power cord, Australia
- **PWRCRD-R-EU** Round power cord, Europe
- **PWRCRD-R-UK** Round power cord, United Kingdom
- **VXP-KIT-P2-PSU** Hot-swappable power supply for the VXP-P2 series.

Certifications

- CE (Class A)
- FCC, Part 15 (Class A)
- ICES-003 (Class A)
- UL/cUL Listed
- RCM
- CCC
- KCC
- NOM

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