X-Net Video Management System (VMS)

X-Net VMS modular software solution

X-Net VMS is a powerful PC based software solution for Viewing, Recording & Management of CCTV and associated security systems. It comprises the following modular elements: Network Video Recording (NVR), Video Management System (VMS) and Operator Workstations (WS).

X-Net VMS is designed to work seamlessly with the COE range of IP products (X-Net codecs & cameras, X-Net Video Intelligence System and Telecommand) and can also manage video from analogue cameras as well as providing 3rd party device integration.

X-Net VMS is highly scalable and can easily scale from tens to thousands of cameras, whilst providing maximum utilisation of your existing infrastructure.

System Features and Benefits

Fully integrated Recording, Video Analytics and Management solution - Reduces the number of systems to manage and maintain as well as providing a single seamless user interface for maximum operator efficiency and reduced training costs.

Multi window control - Able to simultaneously view live video, recorded video, maps and alarm log on multiple monitors so you never miss a new alarm whilst reviewing old incidents.

Multi format support - Support for MPEG4, MJPEG and H.264 video streams, future proofing your investment.

Open hardware and software architecture - The system works on industry standard PCs ensuring that you are not tied to one hardware supplier or limited by obsolete hardware. X-Net VMS comprises NVR, Management Servers and Workstations to facilitate simple modular system expansion.

Support for a variety of storage devices - Support for RAID, NAS, SAN, iScsi and a variety of other storage interfaces for lower cost and flexibility of configuration.

Full frame rate and highest resolution recording - X-Net VMS does not restrict the resolution and frame rate you can record at. As storage prices continue to reduce, storing long term recorded video at full frame rate and resolution is rapidly becoming cost effective and with VMS you don't have to pay anything extra when you decide to move to real time recording.

Comprehensive Alarm Management & Audit Trails - Pre and post alarm recording, multiple levels of alarms, alarm prioritisation, partitioning and report exporting, greatly reduce system manpower requirements and the time to take evidence to court.

Multi level redundancy - X-Net VMS supports hot swap server configuration to ensure high availability of the entire system. In case of the main server failing, the backup server takes over, thus ensuring that the system is available at all times.

Full support for 3rd party devices such as alarm interfaces from access control, fire and fence alarm systems, digital recorders, domes, codecs, etc. - X-Net VMS makes optimal use of the existing site infrastructure whilst giving you new features easily with the flexibility of simple future expansion.

Alarm Handling

One of the most important roles of a surveillance system is to act in response to an alarm, be it from an intelligent video analysis system like X-Net VI or alarms triggered by PIRs or panic buttons. X-Net VMS can not only handle all these alarms but also uses them to trigger an appropriate action. For example, consider a scenario where a car breaks down on a motorway and stops along the side of the road:
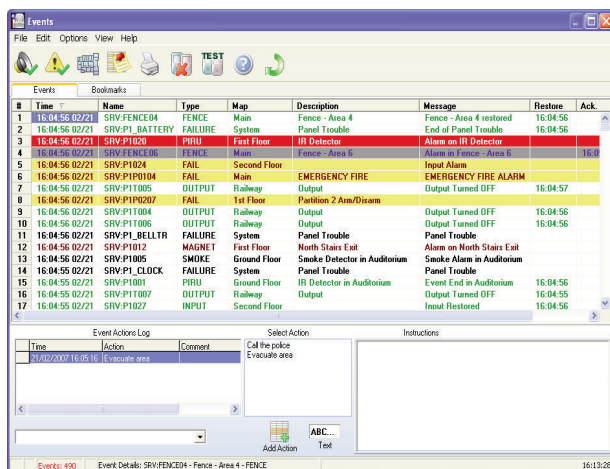
- X-Net VI detects the stopped car and informs X-Net VMS.

- Camera icon on X-Net VMS workstation map starts flashing and an audible alarm is sounded. At the same time, the corresponding video image pops up on workstation monitor.

- The video recording resolution and frame rate from that camera automatically increases from CIF at 6fps to 4CIF at 25fps.

- The operator is shown precise instructions about what he is supposed to do in the circumstances and his response and time to respond is logged.

- A screenshot of the car and the location is either emailed or sent via MMS to the PDAs of the mobile patrol team.

- Finally, the mobile patrol team reaches the destination and sends its response back which is logged into the system for audit purposes.
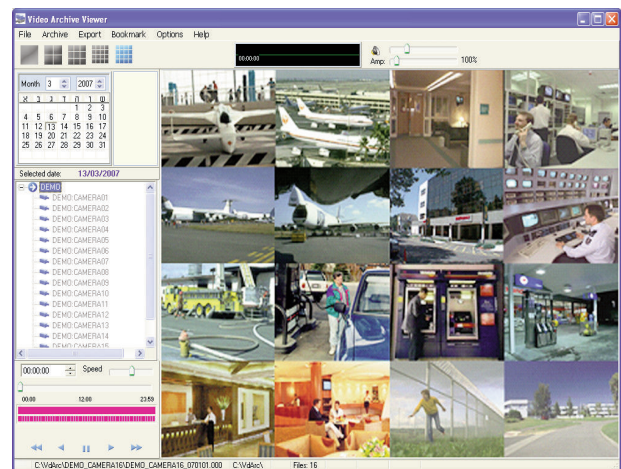

Operator receives audible notification of the alarm and the camera icon starts flashing on the screen

Map Window shows a visual representation of the alarm and presents the operators with instructions on how to respond to the alarm

A central database keeps track of all the alarms, the user actions and response times
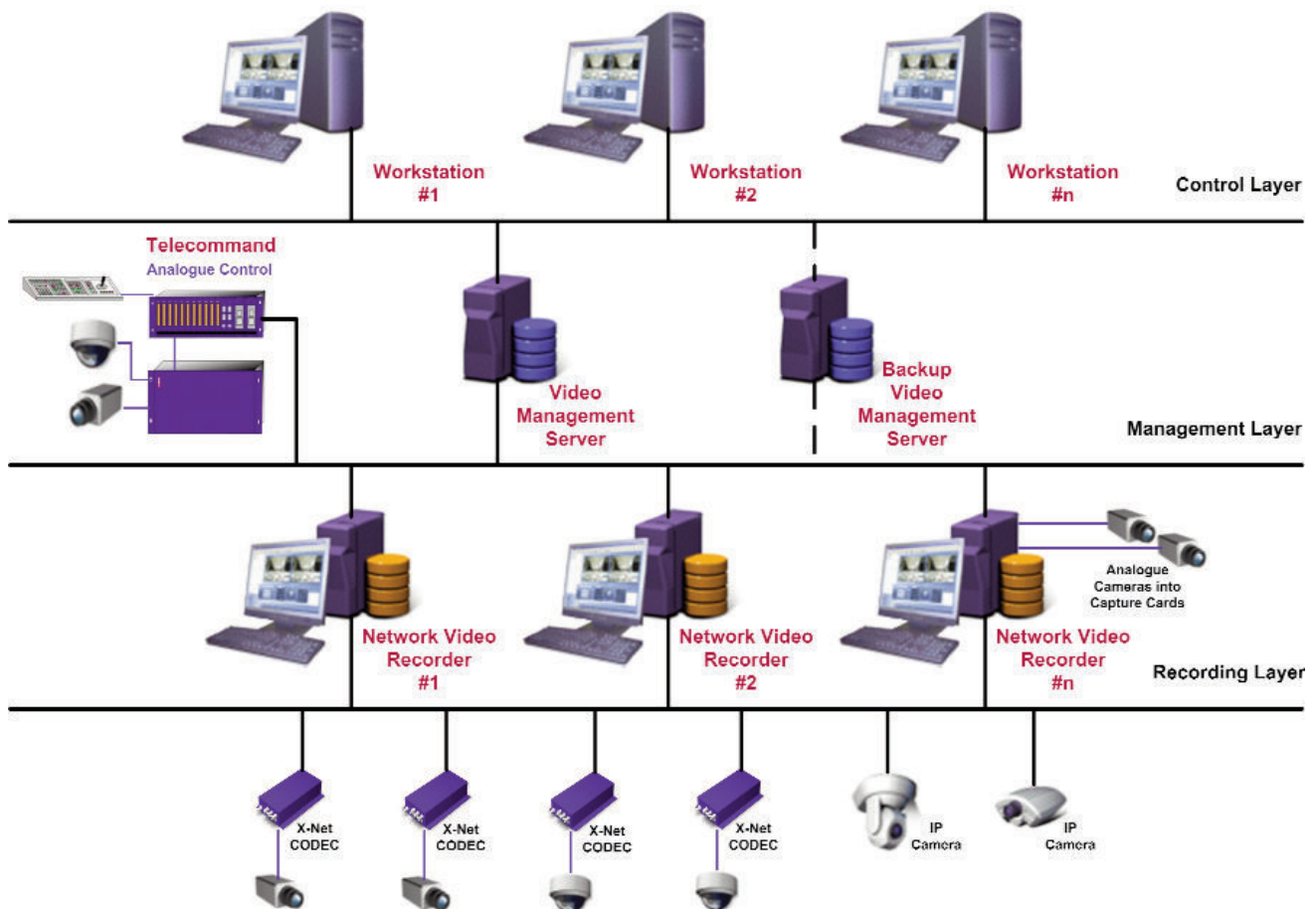

The camera (or multiple associated cameras) pop up on the video screen and recording resolution increases

Unparalleled Scalability

Surveillance systems are growing in size and complexity with new cameras and 3rd party devices being added regularly. Users today need a surveillance system which spans over multiple sites, can integrate with multiple devices and yet offers the operator a simple interface which hides the complexity of the underlying system. X-Net VMS has been designed with this very goal in mind. As a result, the system can scale up seamlessly from tens to thousands of cameras whilst providing a uniform command & control interface to manage a multitude of video and 3rd party devices. Features such as virtual matrix switching, which allows you to display any camera onto any monitor, unrestricted recording resolution and frame rate (all the cameras can be recorded from QCIF at 1fps to 4CIF at 25fps without any restriction) and integrated intelligent video analysis are available as standard features in the VMS, thus ensuring that the system can grow with your requirements. Additionally, multiple sites can be linked together and redundant servers can be added to create a highly distributed and resilient system to ensure that all the recordings remain available even if a site goes down due to an incident.

System Architecture

Open Architecture

COE X-Net VMS offers a platform for integrating numerous 3rd party surveilllance devices. X-Net VMS is built on open standards and hence it is very easy to integrate 3rd party devices such as DVRs, codecs, IP cameras, alarms from access control, fence security and various other systems into X-Net VMS. In addition, there is a free SDK available for X-Net VMS which allows third party systems to receive video and alarms from the VMS system.

X-Net VMS makes adding COE products to a legacy site very simple. X-Net VMS can take over the control of all the legacy equipment on a site and present the user with a uniform interface which hides the underlying diversity of the legacy network. This significantly reduces the cost of adding new equipment to the site by giving the operator a choice of different manufacturers whilst considerably reducing the cost of training system operators.

World Class Service and Support

COE is a company with a global footprint. With offices in UK, France, Netherlands, Hong Kong & Singapore, COE can support customers anywhere in the world. COE has a track record of providing long term support and customised solutions for its customers. Clients such as Transport for London, Singapore MRT, Delhi Metro, Shell and numerous public authorities are testimony to the quality of our support. X-Net VMS comes with an option for extended support and maintenance contract and it is possible to extend support for up to 10 years. All COE customers who opt for a support and maintenance contract are provided with a pre configured VPN router which allows secure access to the site for remote updates and troubleshooting. X-Net VMS runs on standard PC hardware and the latest Microsoft server operating systems. Microsoft provides long term support for its operating systems, which allows the VMS system to be maintained for a very long period of time, unlike Linux based NVRs and DVRs which suffer from lack of long term support from the Linux vendors making it almost impossible for the vendor to provide long term support for such software. Additionally, the combination of standard hardware and software means that it is extremely easy to add support for new devices such as external hard drives, RAID arrays, newer graphics cards etc. to the system.

X-Net VMS Software Applications

X-Net NVR

The basic unit for recording analogue cameras, IP cameras or codecs. Each channel is individually configurable. The NVR also includes an onboard playback suite.

X-Net VMS Server

VMS Server is required to collate the information from multiple NVRs, which could be spread over multiple sites. Additionally, the VMS Server interfaces with numerous 3rd party devices such as CCTV Matrices, Codecs, IP cameras, DVRs etc. It hides the complexity of the underlying network from the operator, while maintaining a central database of all the devices and events in the system. This allows new viewing stations to be easily added to the system as new stations pick up the configuration information from the Server. VMS is available on a per channel basis.

X-Net VMS Backup Server

Since the VMS Server is such an important part of the system, for large systems it is important to have redundancy built into the network. The Backup Server keeps a copy of the entire database kept by the VMS Server.

If the VMS Server fails for any reason, the Backup Server takes over the entire system seamlessly, thus ensuring that there is no system downtime.

X-Net VMS Workstation

VMS workstation gives the user the ability to view live and recorded video, all system maps, alarms etc. from any NVR in the system at any location.

X-Net NVR Viewer

Remote viewing station for the NVR. Provides access to live and recorded video but no access to maps or alarms.

X-Net VMS and NVR Sales Codes

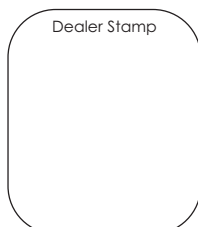|	
X-Net VMS SRV LIC	VMS Server License for a single video channel.
X-Net VMS SRV PK	VMS main server software pack on CD, with license dongle and operation manual.
X-Net VMS BSRV LIC	VMS Backup Server License for a single video channel.
X-Net VMS BSRV PK	VMS Backup Server software pack on CD, with license dongle and operation manual.
X-Net VMS WS PK	VMS Workstation for viewing live and recorded video, and controlling the entire CCTV system.
X-Net NVR LIC	NVR server recording license for one video channel
X-net NVR SRV PK	NVR server software pack on CD, with license dongle and operation manual
X-net NVR VWR PK	NVR viewer software for review and playback of live and recorded video, excludes maps and alarms