

VideoEdge® Network Video Recorder

Features That Make a Difference:

- Appliance server for low total cost-of-ownership plus highest level of security and performance
- Transform server hardware into a VideoEdge® NVR within minutes
- Supports automatic bridging of multiple networks
- Embedded Linux® operating system eliminates additional cost of server operating system and minimizes patch management
- Efficient design supports largest number of video channels per NVR
- Chain-of-custody feature provides indisputable video evidence
- Expandable storage supports multi-terabytes per NVR
- Integrates with a variety of applications to provide a complete command and control software solution
- Open platform supports many third party¹ devices and hardware
- Remote management from many standard web browsers or client software
- Scalable architecture supports on-demand upgrades for additional video and storage devices
- Optional Windows®-based management suite provides total end-to-end solution



American Dynamics® VideoEdge Network Video Recorder (NVR) is the industry's first turn-key solution that lets you turn any standard commercial off-the-shelf (COTS) computer¹ into an appliance server. Or, for a complete solution, order our bundled system.

The bootable installation disc automatically installs an embedded Linux operating system, web server, network security and storage applications to get you up and running within a couple of minutes.

Each VideoEdge NVR can support as many as 128 cameras² and can be configured with megapixel and standard IP cameras from a variety of manufacturers¹. Using American Dynamics VideoEdge IP Encoder you can utilize analog cameras.

The open system architecture of VideoEdge NVR allows you to start with any number of cameras and scale up as needed by uploading a newer camera license. There is no need to register each individual camera as required by many other similar products on the market today.

(1) Refer to www.americandynamics.net for the latest list of supported devices, hardware, codecs, browsers, and other related information including recommended system requirements for hardware and storage. All proprietary hardware components (e.g. RAID controllers) or devices (e.g. new IP cameras) require special drivers or unique camera handlers.
(2) VideoEdge NVR software can be licensed to support up to 128 cameras on a single NVR. The camera license is based on a per video channel input; therefore, any multi-channel device, such as 4-lens megapixel cameras and 4-channel encoders, will each occupy 4 camera slots. The hardware and storage configuration of the NVR will impact its performance and functionality.

features

Innovative Technologies

VideoEdge NVR includes, at no extra charge, many of the features and functions that are generally additional costs in other comparable products in the industry.

The single bootable installation disc lets you transform standard commercial off-the-shelf hardware into a VideoEdge NVR within minutes. The automatic installer includes everything you need which eliminates the initial and recurring costs associated with the operating system and other software while minimizing the time required to configure the system.

VideoEdge NVR has a true server-client architecture designed to manage video very efficiently and achieve superior performance. The processor, memory, and disk space overhead typically associated with commercially available operating systems do not apply to VideoEdge NVR.

VideoEdge NVR is extremely secure because it is a read-only device and restricts any file-level access. This secure environment prevents the installation of viruses, trojans, spyware, and other malicious programs. Other solutions running on standard operating systems (e.g. Windows) would generally rely on the latest updates from third party security software to detect these types of programs after they have already been installed.

VideoEdge systems provide unique built-in virtualization so that any number of NVRs and cameras from one or more sites looks like one logical NVR. This enables you to better manage a large number of devices and/or locations.



VideoEdge NVR also provides a mechanism for auto-discovery of supported devices to help reduce the time required to add these devices to the system.

As the number of cameras increase at a facility, resolution and frame rate performance can become a challenge. VideoEdge NVR features many unique algorithms to achieve maximum read and write performance. Innovative techniques enable VideoEdge NVR to achieve the highest possible performance while supporting more devices and storage for the lowest total cost-of-ownership.

Scalability

VideoEdge NVRs are completely scalable to provide maximum return on investment (ROI). As the number of cameras required grows, you can purchase an upgraded NVR camera license³. Since you are not required to register the MAC address of each and every camera/encoder, you can easily interchange any device without additional cost.

When storage requirements increase due to setting changes, such as with the addition of megapixel camera or an increased number of cameras, the NVR is designed to dynamically support additional storage (internal, external, IP SAN).

Hardware Independence

As a hardware independent solution⁴, VideoEdge NVR lets you use standard, commercial off-the-shelf hardware, such as single and multi-core processors and larger capacity hard drives from a variety of vendors. This gives you the flexibility to design a solution based on your individual business needs. However, for those looking for a all-inclusive source for product and support, American Dynamics offers hardware solutions (certified servers, storage, and cameras/encoders) to complement the entire VideoEdge product offering.

Open Solution

With a well-documented software development kit (SDK) and 100% API-driven NVR, VideoEdge easily integrates with other business-critical systems such as Software House[®] and Kantech[™] access control systems and other third party applications⁴.

The built-in web server enables you to configure almost any client PC, including Windows, Macintosh, or UNIX, and enables the use of most standard browsers for logging into the NVR to manage the system. With appropriate drivers, you can also view live/recorded video.

(3) VideoEdge NVR software can be licensed to support up to 128 cameras on a single NVR. The camera license is based on a per video channel input; therefore, any multi-channel device, such as 4-lens megapixel cameras and 4-channel encoders, will each occupy 4 camera slots. The hardware and storage configuration of the NVR will impact its performance and functionality.
(4) Refer to www.americandynamics.net for the latest list of supported devices, hardware, codecs, browsers, and other related information including recommended system requirements for hardware and storage. All proprietary hardware components (e.g. RAID controllers) or devices (e.g. new IP cameras) require special drivers or unique camera handlers.

Security

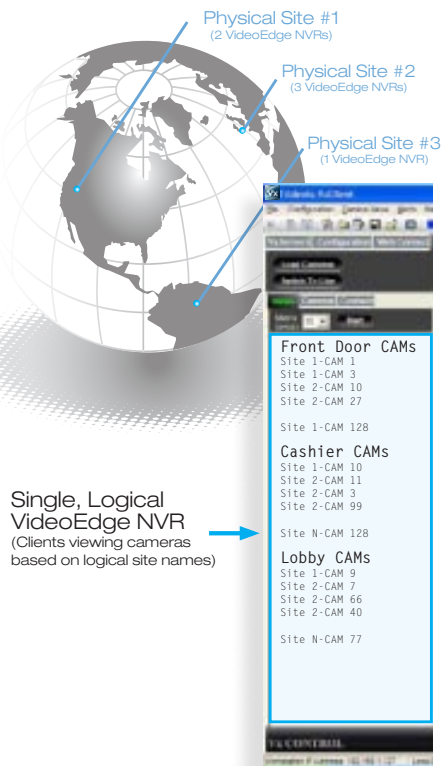
Since VideoEdge NVR includes an embedded Linux operating system and functions as a web-based appliance, it provides the highest level of security. There is no keyboard access at the server, no file-level access, and no back-door access. The NVR operates in read-only mode and utilizes a minimum number of ports for access and communication. Seven different camera level security permissions can be applied to individual devices for tighter control over user access. An administrator audit trail is also automatically generated to track system changes that affect the functionality of the NVR.

Chain-of-Custody

There are many software tools available today that enable users to manipulate nearly any type of digital file. These tools can be used to enhance the original file to provide a sharper image but can also be used to manipulate the original file. To ensure that no video has been altered, VideoEdge NVR provides a clear chain-of-custody.

Distributed Architecture

VideoEdge NVR provides automatic bridging of multiple subnets to enable you to set up separate networks (physical switches or logical VLANs) for clients, cameras, and/or IP SAN storage to achieve the highest levels of performance and security. VideoEdge NVR also supports large capacity SCSI and Fibre RAID devices⁵.



VideoEdge NVR distributed architecture addresses the diverse requirements of large and small customer applications. Each NVR is completely self-contained and uses its own resources to manage groups of users and any number of video and storage devices.

Customers can manage remote sites by connecting to VideoEdge NVRs via an IP address or domain name using a web browser or with the American Dynamics Vx Client, part of the VideoEdge Management Suite. Since physical access to the NVR is not required, firmware can also be updated remotely⁶.

High-Availability and Failover

By design, VideoEdge NVR includes both high-availability and failover. Each NVR can be configured to support up to two levels of backup storage for each designated storage section. In the event that the primary storage fails, VideoEdge NVR automatically switches to backup storage to ensure that recording continues. Additional hard drives and/or logical RAID volumes need to be available to configure backup storage.

You have the option to designate one or more VideoEdge NVRs as the failover NVR which can be configured to suit the needs of the site: 1-to-1, many-to-1 (N+1) or many-to-many (N+M). If any of the monitored VideoEdge NVRs go offline, the failover NVR will immediately begin to manage and support all of its video devices, users, and security permissions to provide continued recording and access to those devices.

VideoEdge NVRs are designed to easily backup/restore the entire configuration database and can be rebuilt from scratch (via new unformatted hard drive) and completely recovered (NVR database for cameras, network, security, storage, users, etc.) for full operation within minutes. This is ideal in disaster recovery situations as well as for configuring a larger number of VideoEdge NVRs for mass deployment.

Lowest Cost-of-Ownership

As the number of physical NVR requirements increases (e.g. multiple buildings and sites), you are protected from the hidden incremental costs associated with NVR server licenses, operating system, security software, and IT management resources for each and every server. Therefore, when the scope of any security project increases, VideoEdge NVR provides a dramatic cost savings for you and your customers.

(5) Refer to www.americandynamics.net for the latest list of supported devices, hardware, codecs, browsers, and other related information including recommended system requirements for hardware and storage. All proprietary hardware components (e.g. RAID controllers) or devices (e.g. new IP cameras) require special drivers or unique camera handlers.

(6) A fast and reliable network connection is required between the client and VideoEdge NVR to ensure a successful firmware reflash.

Model Number Configuration and Specifications for VideoEdge NVR (software only)

	BRAND	FAMILY	PLATFORM	PRODUCT	CAMERA LICENSE
EXAMPLE	AD American Dynamics	N Network Video Management Systems	S Software	NVR Network Video Recorder	CLx -CL1 = Price based on quantity of 1 to 64 total camera slots -CL2 = Price based on quantity of 65 to 249 total camera slots -CL3 = Price based on quantity of 250+ total camera slots

Processor 3.2GHz Dual-Core Intel® Xeon CPU
 Memory 4 GB DDR2 RAM
 Optical Drive Bootable CD-ROM drive
 Hard Disk Drive Bootable 80 GB dedicated hard drive
 (raw, no operating system required)
 Network Card Two Gigabit 1000Mbit NICs

Graphics Card. Onboard
 Monitor 800 x 600 resolution, 16-bit color
 Keyboard. Standard
 Video Storage Additional internal hard drives
 Host Bus Adapter Optional for any extended video storage⁷
 (SCSI, Fibre)

VideoEdge NVR software orders are based on total number of camera slots (video channels) that are required for the project as there is no NVR server license. You must specify total number of NVRs and camera slots per NVR when placing an order.

NOTE: Maximum camera slots per NVR is 128 and some devices will occupy multiple camera slots (e.g. 4-lens megapixel IP cameras and multi-channel IP encoders)

Model Number Configuration and Specifications for VideoEdge NVR (bundled server solution)

	BRAND	FAMILY	CHANNELS	PLATFORM	TOTAL STORAGE (TB AVAILABLE)
EXAMPLE	AD American Dynamics	N Network Video Management System	XXX 016 024 032	S Server	XXXX 0150 0300 0375

Computer Dell® PE2950
 Processor Quad Core Intel Xeon CPU
 Memory 4 GB DDR2 RAM

Network Card 2x Gigabit Ethernet NICs
 Keyboard. USB
 Host Bus Adapter PERC5 hard drive controller

NOTES:

- VideoEdge NVR bundled servers are preconfigured and licensed
- Three-year warranty on hardware; 90-day on software
- Additional camera licenses (ADNSNVR-UPG-xxx) and extended storage (Fibre kit: ADFRSHBAD2 & Fibre RAID Storage: ADFRSSxxx/ADFESSxxx are sold separately)
- Processor type and speed (single-dual-quad core), amount of memory, network speed, and storage type will impact the overall performance and functionality (total number of video channels, resolutions, frame rates, recording modes, etc.)
- CD drive (ATAPI, SATA, SCSI, USB) is used for booting and installing VideoEdge NVR software onto an internal hard drive (ATAPI, SATA, SCSI)
- Network cards provide VideoEdge NVR connectivity for client, camera and/or IP SAN network segments
- Graphics card, monitor, and keyboard are used for NVR installation process and to display status information (e.g. NVR IP address)
- Video storage requires additional hard drives and/or supported RAID storage (e.g. Dell Perc/5, HP SmartArray 6i/642/6402/6404)
- Host bus adapter (e.g. Adaptec SCSI, Qlogic Fibre) provides connectivity to extended video storage (e.g. SCSI or Fibre RAID)
- Lower system configurations (e.g. CPU, RAM, NIC) will generally work to support lower number of cameras and/or performance
- Use with standard IT rack

Model Number Configuration for Fibre RAID Storage System

	BRAND	FAMILY	TYPE	CONFIGURATION	TOTAL STORAGE (RAW)	
EXAMPLE Fibre RAID Storage system (add up to 3 Fibre Expansion modules)	AD American Dynamics	F Fibre	RS RAID Storage	S Single Controller	XXXX 0375 = 3.75 TB 0750 = 7.50 TB	1125 = 11.25 TB 1500 = 15.00 TB
EXAMPLE Fibre RAID Expansion Storage module	AD	F	ES Expansion Storage	S	XXXX 0300 = 3.00 TB 0600 = 6.00 TB	0900 = 9.00 TB 1200 = 12.00 TB

NOTES:

- Purchase the Fibre Kit (M/N: ADFRSHBAD2) to connect up to two, single Fibre RAID Storage systems (with or without Fibre RAID Storage Expansion modules)
- RAID configurations for Fibre RAID Storage systems are available for all models and are created through its web interface
- RAID configurations for NVR Fibre RAID Expansion Storage modules are available for all models, are created through the Fibre RAID Storage web interface, and up to three expansion units can be daisy-chained using SAS cables

VideoEdge Management Suite Model Numbers

ADNSVXC-STN. . . . American Dynamics Vx Client-standard mode
 (remote management software)
 ADNSVXC-VWC . . . American Dynamics Vx Client-video wall controller
 mode (remote management software)
 ADNSVMX-AGT. . . . VideoEdge VMx Agent
 (virtual matrix video wall software)

ADNSCX-AMC American Dynamics Cx Alert Console
 (alert management and map editor software)
 ADNSCX-PDA American Dynamics Cx Mobile Alert
 (PDA software)
 ADNSCX-SM. American Dynamics Cx Site Manager
 (centralized three-tier server software)

⁽⁷⁾ Refer to www.americandynamics.net for the latest list of supported devices, hardware, codecs, browsers, and other related information including recommended system requirements for hardware and storage. All proprietary hardware components (e.g. RAID controllers) or devices (e.g. new IP cameras) require special drivers or unique camera handlers. Therefore, review information related to the latest released version.

Product offerings and specifications are subject to change without notice. Actual products may vary from photos. Not all products include all features. Availability varies by region; contact your sales representative. Certain product names mentioned herein may be trade names and/or registered trademarks of other companies.

