

## **Pelco Endura System Migrates to 2.0 Platform:**

Pelco has introduced a new version of the Endura platform. Until now, we have been providing systems that utilize versions 1.xx. We are now shipping product with 2.0 firmware.

As part of the cut over to 2.0, we assigned up-dated part numbers too much of the product as capability and performance improved and we needed a way to distinguish between the two.

Endura 2.0 Components Being Released With 2.0:

### Phase 1

NSM5200 – network storage manager supporting MPEG4 and H.264 streams, EnduraStor, load balancing, and active failover

WS5070 – Endura workstation based on Microsoft Vista Business running the WS5200-1 software

WS5200-1, -5, -10, -25, -SITE – 2.0 Workstation software available as 1, 5, 10, 25, or site license. Software supports MPEG4 and H.264 cameras and encoders and includes system administration, Zone of Interest, tear-offs, and support for NSM5200 diagnostics. It runs in either Microsoft Windows XP or Vista environments.

WS5200-MAP – Endura 2.0 mapping interface available as a site-wide license. This requires the WS5200 to be present on the PC before installation.

WS5220-UPG – Single seat upgrade for users currently running WS5000 version 1.5. This upgrade is applicable for the WS5060, but will not run on the WS5050-class PCs.

WS5220-SITE – Site upgrade license for users running version 1.5 of the WS5000.

### Phase 2

VCD5202 – Replacement to the VCD5000 series. Supports MPEG4 and H.264 streams, including HD cameras. Drives two digital monitors per unit.

NET5402RHD – Network decoder supporting both MPEG4 and H.264 streams, including HD cameras. Drives two digital monitors per unit.

WS5200 version 2.1 – Free upgrade to those running version 2.0 of the WS5200. Adds synchronous playback and audio functionality among a few other improvements.

UDI5000 – New server to support 3rd party IP cameras connecting to Endura. Initial instantiation will support MPEG4 and H.264 cameras from select 3rd party vendors.

DAS5200 support – NSM5200 adds support for DAS5200s for storage expansion

3rd Party Storage support – NSM5200 adds support for the NetApp SAN to be used for storage expansion

Rest assured that when these parts are installed into an existing Endura 1.x system they WILL operate at 1.xx standards, however some of 2.0 feature sets will not be enabled unless the Video Display Devices are upgraded to 2.0. We have taken this course of action as it is Pelco's policy to be as backward compatible as possible so that the user can protect their investment.

Certification:

The only aspect of Endura 2.0 that is a significant change from the 1.x system is the setup and configuration of the NSM5200. With Endura 2.0 all NSM's on the network will be able to see all cameras on the network even if they are in different VLAN's. For this reason there is an extra step to get cameras recording. This setup is one of the major reasons we have opted to get 1.x certified integrators updated. While this process is straightforward, it is different, and we don't want people getting frustrated trying to setup the system the same old way. We are offering a 2-day refresher course for current, active Endura certified integrators.

Network Design Guide:

With Endura 2.0 we have gained the advantage of storage pools and the benefit of distributed load balancing and active failover. As you would expect these storage pools will require a different configuration for both the network and traditional recording block setup.

Although the network configuration has changed, Endura 2.0 will put no more or less multicast burden on the network when it comes to recording, playback or live view. In fact, our network test team is currently investigating ways to make network configuration easier at the same time reducing the cost and complexity of the network switches required.

If you have any additional questions, please do not hesitate to call.

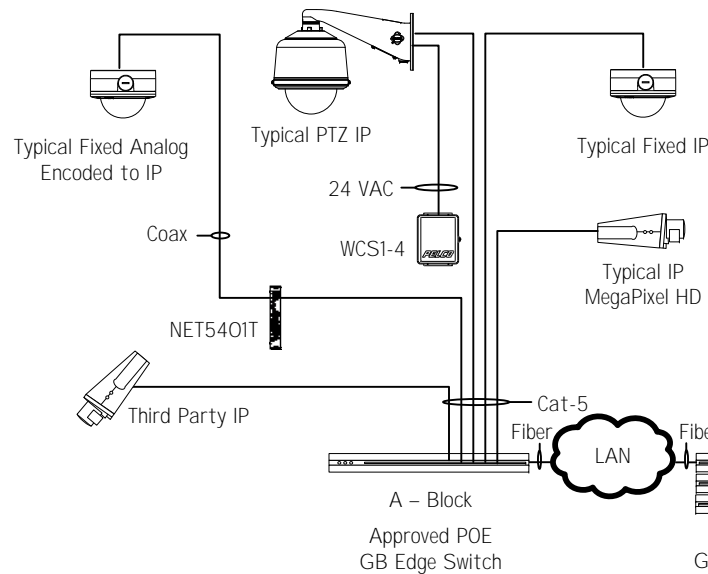
Thank you for allowing us to be of service.

Sincerely,

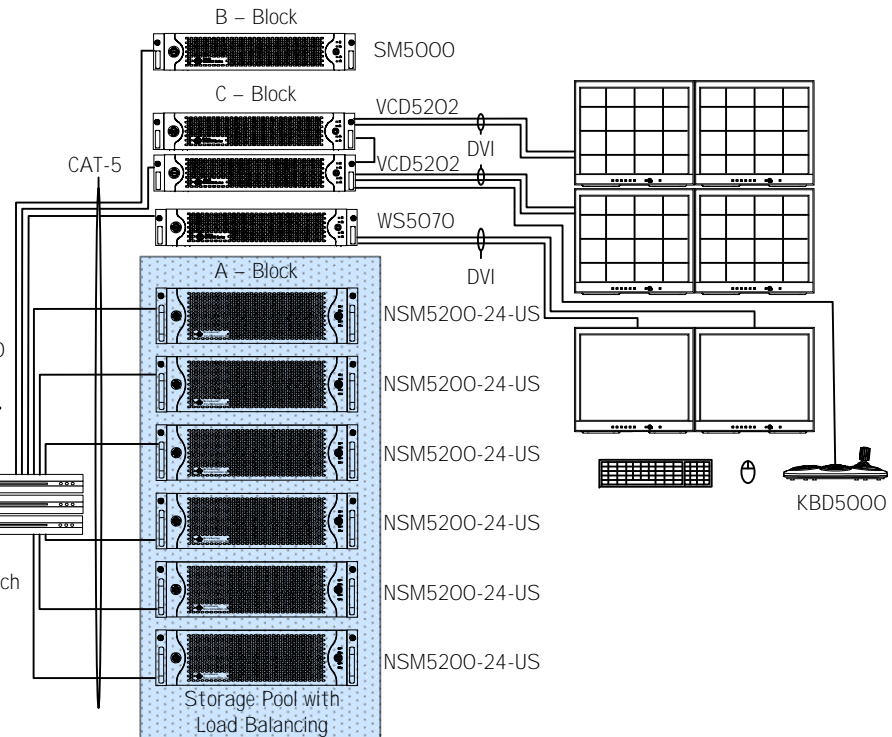
Langbaum Associates, Inc.  
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Typical of Edge – Camera Locations



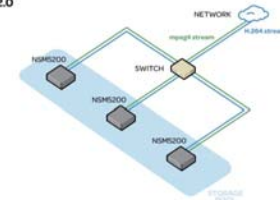
Typical of Endura 2.0 Head End Control Room



System Components

- NET540xxT - a high-performance, dual-stream, video encoding unit **with an open architecture API**. Its main function is to convert live analog video signals into dual MPEG-4 streams to be utilized by Pelco's Endura System or Third-Party Software. Intelligent Encoders available for analytics.
- SM5000 - System Manager is an integrated hardware and software platform that provides distributed administration of multiple devices, including Pelco's NVR5xxx, **NSM5200**, NET53xx, **NET54xx**, VCD500x, and **VCD5202** series units.
- **VCD5202** - Video Console Display is a high-performance, multiple stream decoding unit. Its main function is to convert multiple MPEG-4 **and HD MegaPixel H.264** streams into video signals to be viewed on **DVI**, VGA, or analog monitors. **Supports 2 DVI video outputs per unit and will support a KBD5000 Joystick. Additional units may be daisy chained to create HD video wall displays.**
- **WS5070** - Endura Workstation can decode and display up to 16 MPEG-4 and **HD MegaPixel H.264** video streams simultaneously and provides full access to operations and administration. **Highly intuitive GUI redesigned to utilize Zone of Interest functionality, ease of use, and parallel MPEG-4 and H.264 video support.** Supports dual **DVI** Outputs and can utilize WS5000-MAP Endura Maps and Graphics software.
- **NSM5200 - Network Storage Manager** purpose-built for the demands of high resolution MPEG-4, **HD MegaPixel H.264**, high frame rate, and high reliability video recording and playback. Fully integrated and systemized with Endura 1.x and 2.0 systems, the **NSM5200 provides fault tolerant, scalable, and expandable recording for video, audio, and data, with intelligent load balancing, system health monitoring, RAID 6 storage drives. Each NSM5200 supports up to 250 Mbps of throughput and 24 TB of Storage.**
- **UDI5000** – New server to support 3rd party IP cameras connecting to Endura. Initial instantiation will support MPEG4 and H.264 cameras from select 3rd party vendors.

Endura 2.0



\* Edge-to-Edge HD Solution

Benefits:

- Distributed storage architecture eliminates VLAN's and creates storage pools which utilize load balancing for redundancy and efficiency.
- The NSM5200 handles 250 Mbps, twice the throughput of the previous NVR, at half the power consumption. This allows for more cameras recorded per unit while eliminating rack space.
- Redesigned user interface creates ease of use, configuration flexibility, and leverages existing analog and IP MPEG-4 video with new HD MegaPixel technologies to their fullest capabilities.
- Backwards Compatible to Endura 1.x Systems



Endura 1.x Vs. Endura 2.0

Endura 2.0

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# The Top Ten Reasons Why Endura 2.0 Is The Choice For Security Operators

An essential component of the Pelco HD Optimized solution is Endura 2.0. Carefully designed and developed to provide security professionals the tools they need for success, it offers a powerful yet extremely easy and user configurable solution for the most sophisticated of applications.

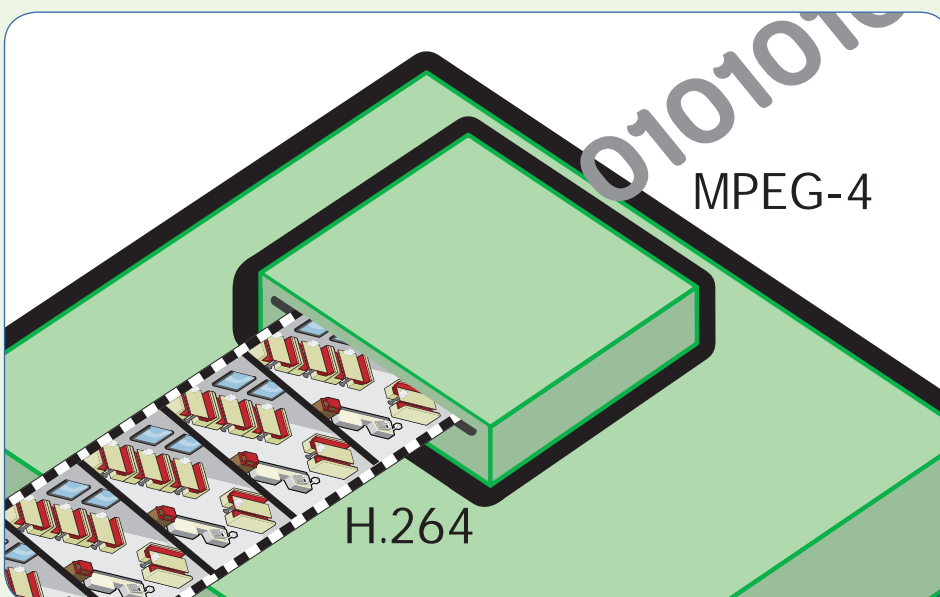
BY MITCH FAGUNDES, PRODUCT MARKETING MANAGER

## 1. Complete End-to-End High Definition Video Solution

Endura 2.0 is a complete solution for high definition video encoding, recording, and display. While most manufacturers supply incomplete solutions for high definition video, relying on third-party components for a complete solution, Endura 2.0 guarantees interoperability and performance. And Pelco-patented EnduraStor and EnduraView technologies extract the optimum benefit from today's megapixel cameras while keeping system costs under control.

## 2. H.264

Endura 2.0 utilizes the latest in video encoding technology, delivering outstanding video quality at a fraction of previous bit-rates and storage costs. What's more, support for both Baseline and High Profile H.264 means the system will have the flexibility and performance required to optimize the benefits this new compression scheme has to offer.





### 3. EnduraView™

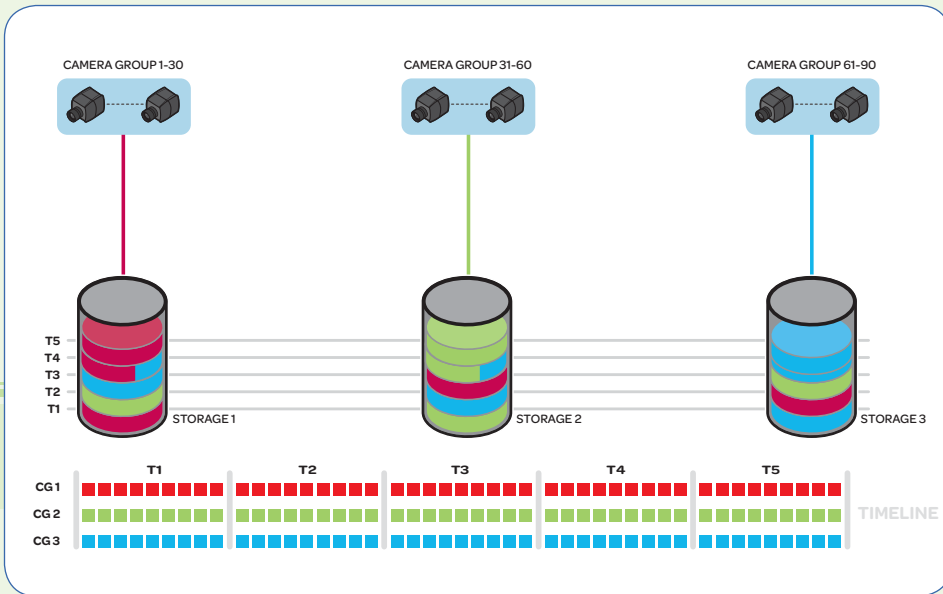
Pelco's unique EnduraView technology ensures that high definition video will not overload the workstation or other viewing devices that are requesting live video streams, thus reducing the impact on the underlying network. Today's PCs lack the processing power to display multiple HD streams simultaneously. The results are video display artifacts, random pauses in the video stream or other workstation stability issues. EnduraView solves these issues. When the screen configuration changes to a multi-camera view, Pelco-patented EnduraView technology automatically subscribes to a lower bit-rate/resolution on a secondary stream, while maintaining full frame rate on the

first. This ensures that the system does not overwhelm the PC, which ultimately ensures that the operator's viewing experience is not disrupted. Further, because the camera streams are now lower bit-rate than a full HD stream, EnduraView minimizes the bandwidth hit on the network.

### 4. EnduraStor™

Patented EnduraStor technology optimizes system storage capacity, greatly increasing recording duration while keeping storage costs as low as possible. EnduraStor works on the proposition that the value to the user of recorded video diminishes over time. The system records all new video at 30 images per second. After a user-specified period,

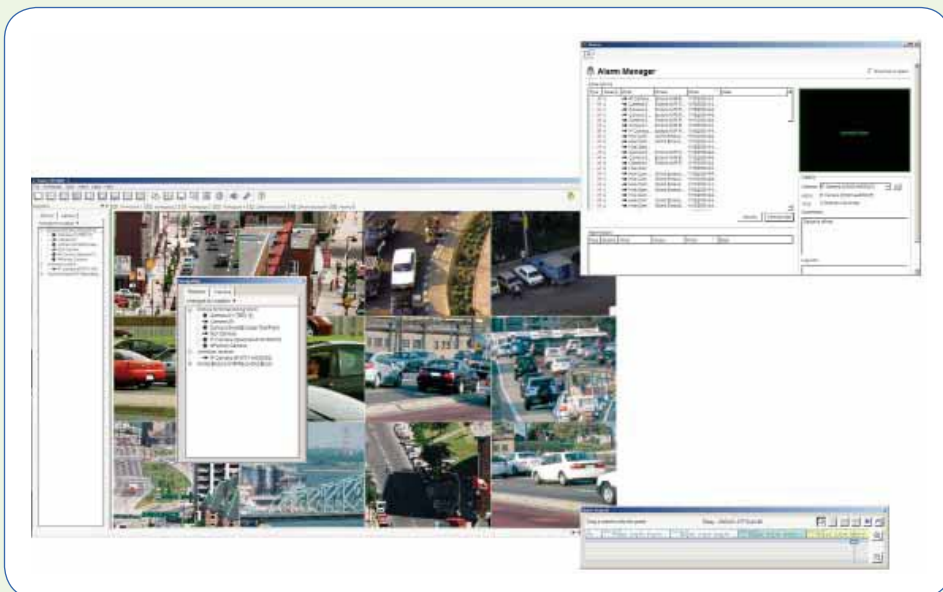
EnduraStor "prunes" the database during periods of no alarm activity (software or hardware alarm) and reduces the frame rate of recorded video to 2FPS. Compared to other systems that typically record at a lower frame rate and "bump-up" on alarm to conserve storage costs, EnduraStor allows users to capture real-time video of important events that may not actually trigger an alarm, but are important nonetheless (i.e., slip and falls, hit and run, purse snatching, mugging, etc). EnduraStor retains the real-time recording for footage that is marked by an alarm event, ensuring that critical footage is never compromised. This unique feature can be enabled or disabled as needed.



Storage pooling, unique to Endura, sets a new standard of reliability for network video recording.

## 5. High Performance Recording with Unmatched Fault Tolerance

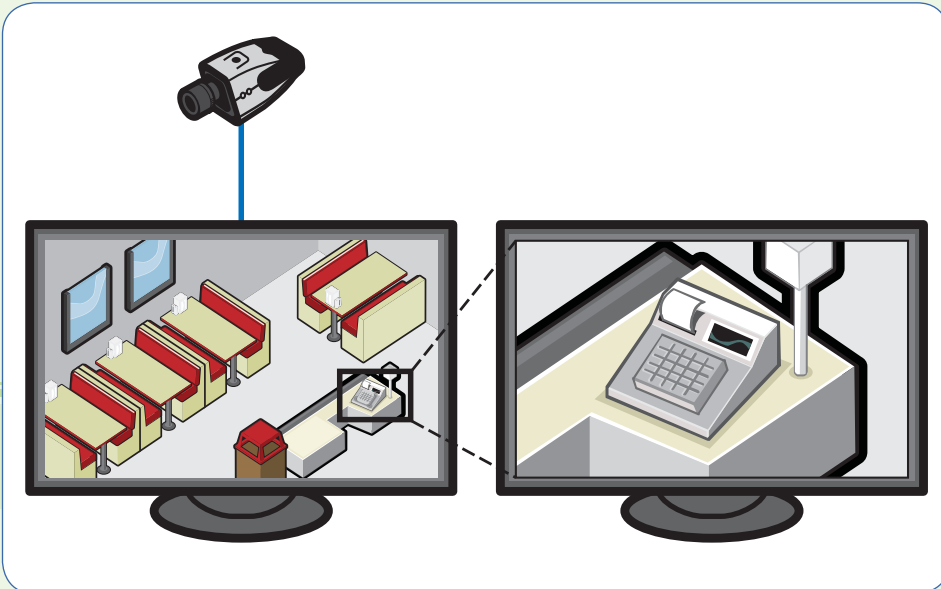
The NSM5200 network video recorder hardware platform is designed to mitigate occasional component failures. Fault-tolerant features include: redundant power supplies, redundant fans for proper cooling, and a RAID6 recording structure that allows for two simultaneous drive failures while still protecting recorded video data. The Linux OS-based platform ensures maximum reliability and security. Storage pooling, unique to Endura, sets a new standard of reliability for network video recording. The NSM5200 utilizes advanced network load balancing in which groups of cameras are automatically recorded onto a storage pool consisting of multiple NSM5200s. Camera assignments are automatically rotated to ensure that all available storage is symmetrically utilized. In the unlikely event of a NSM5200 failure, cameras are automatically distributed across the remaining NSM5200s in the storage pool, providing NVR failover. Storage pooling dispenses the risk of video loss across multiple NVRs.



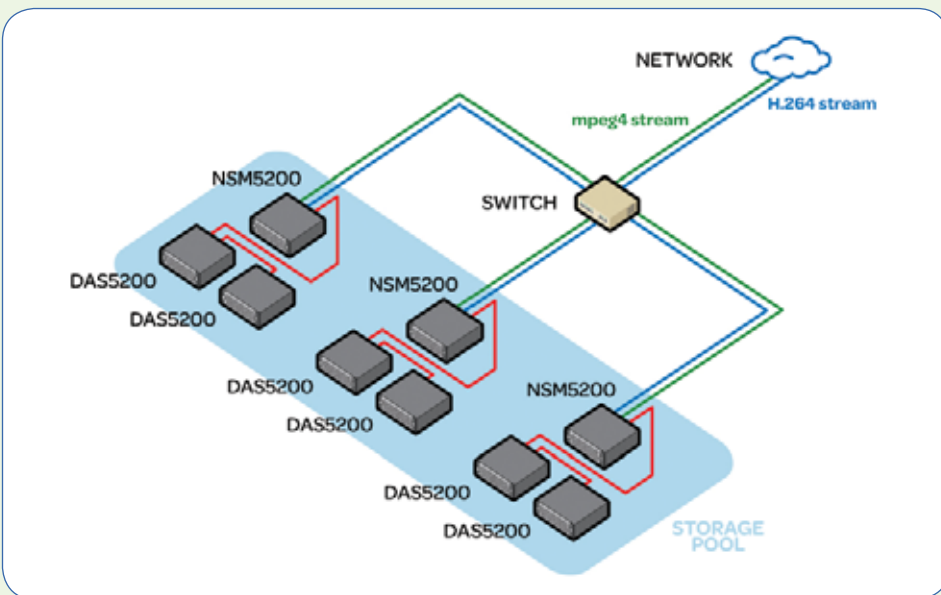
The Endura 2.0 Workstation Software offers the most user-friendly experience in an IP video system, hands down.

## 6. Configurable User Experience

The Endura 2.0 Workstation Software offers the most flexible user-friendly experience of any IP video system on the market. The software automatically adjusts the properties of the main monitor, making available screen configurations tailored to the requirements of 4:3 monitors and 16:9 displays. The system allows users to co-mingle 4:3 and 16:9 images on the same display, preserving the proper aspect ratio of each stream, giving users a clear, undistorted view of all scenes. For unprecedented ease of use, the Endura 2.0 workstation allows users to customize the format and display of their workspace to adapt it to their needs. With the software's unique tear-off capability, each section of the screen can easily be re-sized and moved from one area to another.



Endura 2.0's Zone of Interest capability allows a user to maintain the panoramic view of the scene and designate zones of interest into which to independently zoom.



NSM5200, and accompanying Direct Attached Storage units record both MPEG-4 and H.264 streams.

## 7. Zones of Interest

Customers often select megapixel cameras for their ability to replace several standard resolution cameras while providing powerful digital zoom capabilities. Endura 2.0's Zone of Interest capability allows a user to maintain the panoramic view of the scene and designate zones of interest into which to independently zoom. These zones can then be located anywhere on one of two monitors supported by the workstation and provide virtual camera views without incurring additional network or processing load for supporting multiple cameras.

## 8. Open Architecture for Third-Party Compatibility

Pelco provides a complete API (Application Programming Interface) for all Endura 2.0 components, allowing other systems manufacturers to develop interfaces for and leverage Endura's capabilities. Additionally, Pelco has developed interfaces in Endura 2.0 for several third-party IP cameras as well as fiber channel or iSCSI-based storage solutions, allowing system administrators to take advantage of existing SAN storage for video recording.

## 9. Advanced Diagnostic Reporting

In the event that a failure occurs or is imminent, (e.g., early warning temperature fluctuations), all diagnostic alarms are reported within the advanced Endura workstation software program, giving operators an instant view of potential issues. Additionally, Endura 2.0 supports SNMP v3 to integrate with third-party systems for network monitoring.

## 10. Endura Backward Compatibility

Any Endura 2.0 component can be seamlessly integrated into existing systems, giving access to legacy products for complete backward compatibility.

