

January 2012 ebook



EMERSON[™]
Network Power

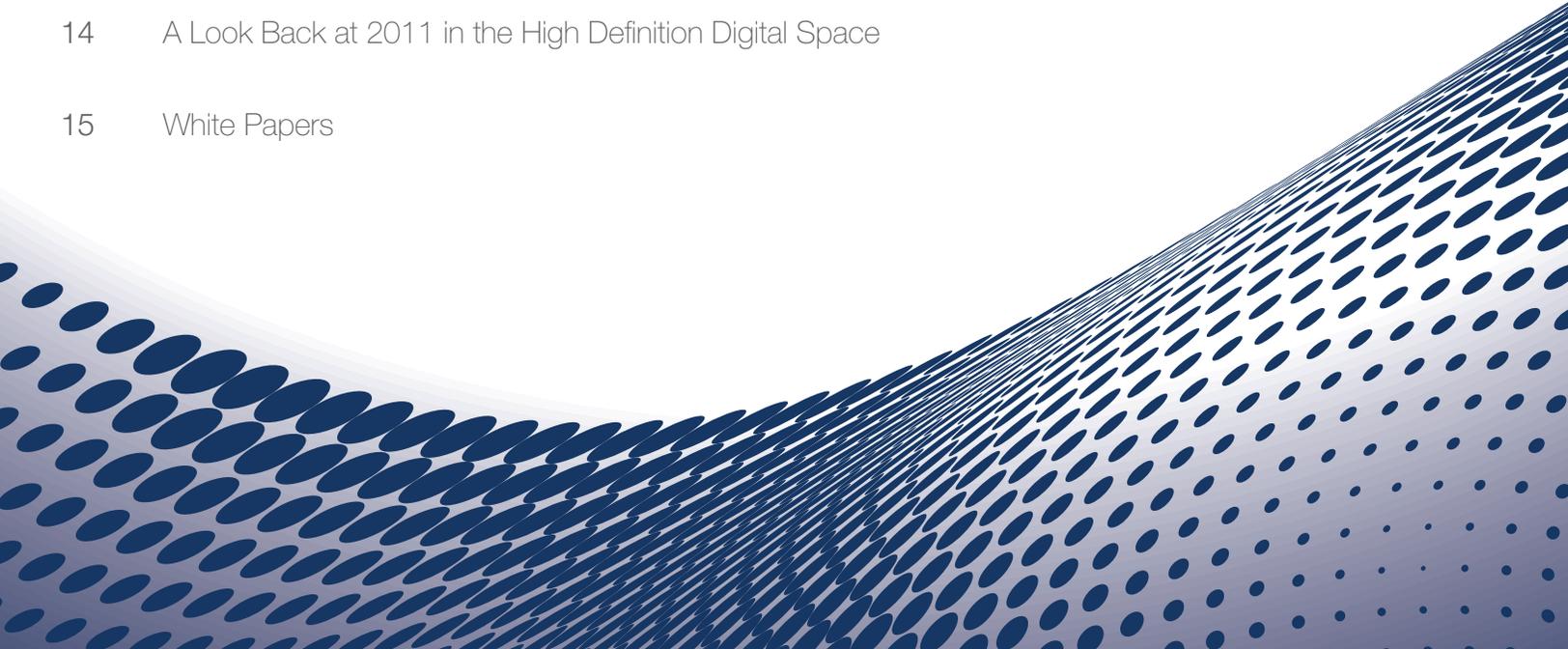
The Scoop on High Definition Digital

An in-depth look at the latest digital signage, broadcast and post production and Pro-AV solutions

The Scoop on High Definition Digital

Table of Contents

- 1 What is High Definition Digital?
- 2 Emerson High Definition Digital Solutions Improve Efficiency via Consolidation for MKNN
- 3 High Definition Digital - Tips for Selecting the Right Television
- 4 Is User Demand for Broadband Demand Changing?
- 6 Avocent Creates Strong Foothold in Broadcast, Post Production Fields
- 7 High Definition Digital Company Lends Help to University of Miami
- 8 High Definition Digital Company Makes its Mark with HMX Extender System
- 9 Emerson Helps Facilitate the Transformation from Analog to Digital
- 10 High Definition Digital Company Finds Place in PRO-AV
- 11 Emerson Network Power's Avocent HMX, AMX Technology Offer Tools to Fight Intellectual Property Theft
- 13 Avocent Technology Paving the Way in Wireless Video World
- 14 A Look Back at 2011 in the High Definition Digital Space
- 15 White Papers



Overview

From the huge onset of Internet streaming to the introduction of wireless video at the gas station to heightened demand for HD video, one thing came across loud and clear in 2011 – high definition digital is here to stay.

The Avocent business of Emerson Network Power, a division that offers infrastructure management software and hardware to help the world's top organizations manage their IT complexities, is constantly introducing new technology to the market that is keeping pace with high definition digital demands.

In this e-book from the Avocent business, you'll learn about how Emerson Network Power is bringing innovative high definition digital technology to the market as well as where the HD industry is headed. Here we've compiled a selection of the top news stories, features, and white papers from the past few months to demonstrate the depth and breadth of the high definition digital solutions afforded by Avocent technology.

What is High Definition Digital?

By Carrie Schmelkin, TMCnet Web Editor

High definition has taken the world by storm as high definition televisions, in particular, become ubiquitous. According to reports, HD first hit the mainstream US market in the 1990s by way of the Digital HDTV Grand Alliance, a group of television companies.

High definition digital is a transport mechanism that makes sure that video and images are delivered with substantially higher resolution and clarity than traditional systems produce. When images suffer from pixilation, delays or other communications problems, companies lose the valuable time that they invested in getting their message across to the masses.

High definition digital ensures that advertising dollars are protected and that messages are delivered reliably from the device to the user station.

Advantages of high definition digital include clearer pictures, superior sound quality, progressive scanning and a wider viewing screen. High definition digital seeks to counter problems such as latency, pixilation and cabling to produce reliable, rock-solid images. Back-end products can be used to facilitate this process to ensure that the infrastructure delivers the messages in a seamless process. Some industries that rely on high definition digital include broadcast and post production environments and Pro AV.

High definition digital is often used when there are multiple displays –such as at a sports arena, stadium or concert hall — and is designed to quickly and easily provide transmission of live and recorded HD video and audio to multiple displays such as plasma, LCD and kiosk stations. High definition digital solutions are what advertisers need to launch high-impact video where consumers gather, whether it's at the mall, airports, restaurants, gas stations, event centers, theaters or other venues.

Many companies can benefit from high definition digital solutions including IT professionals, infrastructure companies and systems integrators.

Emerson High Definition Digital Solutions Improve Efficiency via Consolidation for MKNN

By Susan J. Campbell, TMCnet Contributing Editor

The concept of high definition digital often brings to mind an enhanced viewing experience. In reality, however, it can also streamline communications to keep emergency calls flowing into appropriate departments to ensure first responders receive the information they need.

In an effort to improve response times and staff efficiencies, Meldkamer Noord Nederland (MKNN), a public utility that manages the emergency response activities for three northern districts in the Netherlands, set out to centralize its call center, IT infrastructure and control rooms. The first and most important step, they knew, was choosing the right solution to manage their new state of the art facility.

MKNN was charged with combining the services of three different northern districts into a single control room, but needed help to complete this high definition digital project. To ensure project success, MKNN turned to high definitional digital solutions provider Emerson Network Power, the Avocent division. MKNN selected the Avocent AMX Matrix and HMX Extender Systems to complete the consolidation. The company also sought to enhance the ambiance of the work environment within the control room and increase operational efficiencies.

This project was designed to eliminate much of the investment in multiple locations, real estate, physical building space, IT infrastructure and telephone equipment. MKNN also had an opportunity to implement high quality operations with high definition digital solutions. Avocent's HMX was an optimal choice as it physically separates computer desktops from the users in their work environment, allowing the remote control of multiple computers from a single keyboard or LCD.

"All our computers have to be highly available and work 24x7. The Avocent AMX Matrix and the HMX Extender System combine flexibility, stability and continuity to give us the high availability we need, while significantly reducing our electricity costs and the hardware requirements on each control room desk," said Gerwin Bruynooge, Technical Project leader, Meldkamer North Netherlands in a case study.

The business benefits MKNN experienced as a result of this high definition digital implementation included the facilitation of IT infrastructure consolidation efforts; 24x7 system availability; significant reduction in hardware and power costs; increased adherence to health and safety workplace regulations; the creation of a more worker friendly environment with increased workspace, a more comfortable temperature and less noise; and an environment with faster and more efficient emergency response.

"One of the nice things about the AMX matrix switching system is that it gives dispatchers great flexibility," said Bruynooge. "The police, fire and ambulance all have their own special systems. Instead of requiring 3 or 4 screens per system like we used to do, all of those systems can be combined behind the AMX matrix. As a result, dispatchers in the control room can access any of those systems from any LCD screen on their desk. That makes it very easy for all the dispatchers. Avocent essentially allows our people to work the way they need and want to work."

This high definition digital project identified the needs MKNN expressed and responded with a solution to enable next generation capabilities in a consolidated framework. As Bruynooge noted, you can't tell someone in an emergency to call you back in five minutes; downtime wasn't an option. With the AMX Matrix and HMX Extender System from Avocent, MKNN now has the stability, flexibility and continuity to leverage the high availability they need, while also significantly reducing electricity costs and hardware requirements.

High Definition Digital - Tips for Selecting the Right Television

By Susan Campbell, TMCnet Contributing Editor

High definition has taken the world by storm as high definition televisions, in particular, become ubiquitous. According to reports, HD first hit the mainstream US market in the 1990s by way of the Digital HDTV Grand Alliance, a group of television companies.

High definition digital is a transport mechanism that makes sure that video and images are delivered with substantially higher resolution and clarity than traditional systems produce. When images suffer from pixilation, delays or other communications problems, companies lose the valuable time that they invested in getting their message across to the masses.

High definition digital ensures that advertising dollars are protected and that messages are delivered reliably from the device to the user station.

Advantages of high definition digital include clearer pictures, superior sound quality, progressive scanning and a wider viewing screen. High definition digital seeks to counter problems such as latency, pixilation and cabling to produce reliable, rock-solid images. Back-end products can be used to facilitate this process to ensure that the infrastructure delivers the messages in a seamless process. Some industries that rely on high definition digital include broadcast and post production environments and Pro AV.

High definition digital is often used when there are multiple displays –such as at a sports arena, stadium or concert hall — and is designed to quickly and easily provide transmission of live and recorded HD video and audio to multiple displays such as plasma, LCD and kiosk stations. High definition digital solutions are what advertisers need to launch high-impact video where consumers gather, whether it's at the mall, airports, restaurants, gas stations, event centers, theaters or other venues.

Many companies can benefit from high definition digital solutions including IT professionals, infrastructure companies and systems integrators.

Is User Demand for Broadband Demand Changing?

By Gary Kim, Contributing Editor

Service provider network planning might be at something of a crossroads, if new data from Sandvine (News - Alert) continue to be seen. Among the bigger potential changes is an apparent leveling of growth in consumer bandwidth demand on fixed networks, with the new problem being the peak evening hours, not overall bandwidth as such.

The flatter consumption profile does not necessarily mean that consumer demand for higher speeds necessarily is satiated. But it probably does suggest that existing application profiles are relatively settled. People have discovered what they want to do, and have settled into a pattern in terms of how much time is allocated to such apps.

And there are some other possible implications. Since much of the growth of demand is real-time entertainment with variable rate settings, adding more capacity does not necessarily help access providers deliver “more” bandwidth, as the new capacity just gets absorbed by current users and applications in the form of “higher-quality” video.

The Sandvine traffic study shows that subscriber usage is becoming increasingly concentrated in a couple of hours in the evening. The fixed network’s peak time has condensed even more than it has been in the past.

While aggregate network traffic was within five percent of its peak value for a duration of 2.5 hours just six months ago, September 2011 saw a peak duration of only two hours. So the peak hours are more concentrated, while overall demand relatively constant.

Within North American fixed networks, real-time entertainment applications are the primary drivers of network capacity requirements, accounting for 60 percent of peak downstream traffic, up from 50 percent in 2010, according to Sandvine.

At the same time, per-subscriber usage remained generally flat overall (mean monthly usage dropped to 22.7 GBytes from 23 GBytes six months ago) and declined on the lower end (median monthly usage dropped to 5.8 GBytes from 7 GBytes), suggesting that subscribers are concentrating the same amount of activity within an increasingly narrow slice of time.

“If this leveling-off of monthly consumption continues, then network operators might be on the cusp of a dramatic shift in how networks are engineered,” says Sandvine.

In a world in which per-subscriber usage is relatively flat from month-to-month, investing to deliver increasing bandwidth no longer makes sense; rather, networks might soon be engineered to deliver a constant quality of experience,” Sandvine says.

The assumption of flat usage is susceptible to unexpected changes in end-user behavior, so few executives likely will declare that the need for faster networks or more capacity is ended. Still, the apparent flattening of demand is a significant development.

Continued on the next page

It appears that since video is driving much of the demand that rate-adaptive video delivery is starting to have an impact on consumption. Rate-adaptive video represents the majority of video bandwidth, with Netflix alone representing 32.7 percent of peak downstream traffic, a relative increase of more than 10 percent since spring 2011, says Sandvine.

This fact is of particular importance to network operators, since it means that most video traffic adapts to network congestion by shifting to lower bit rates and quality, which both affects the subscriber quality of experience and reduces network demand and congestion.

That also has network engineering implications. When capacity is increased, adaptive video simply apps might simply shift to a higher fidelity level, consuming the new capacity as rapidly as it can be supplied.

Also, the majority of real-time entertainment traffic on North America's fixed access networks is destined for devices other than a laptop or desktop computer. Game consoles, set-top boxes, smart TVs, tablets, and mobile devices being used within the home now consume 55 percent of all video entertainment traffic.

By volume, 55 percent of real-time entertainment traffic is destined for the television (either directly to a smart TV or using an intermediary like a game console or set-top device), a mobile device or tablet. The remaining 45 percent is being delivered to desktop and laptop computers.

Like the fixed access network, peak mobile network demand is concentrated in a two-hour band, between 7pm to 9pm. The three largest categories account for more than three quarters of aggregate traffic.

Real-time entertainment generates 30.8 percent of peak demand (of which YouTube (News - Alert) contributes the bulk, at 18.2 percent), continuing a growing trend, while Web browsing is the second largest category, making up 27.3 percent of peak period traffic. Social Networking, at 20 percent, takes the third spot, driven primarily by Facebook (News - Alert).

The overall distribution of consumption on North America's mobile access networks shows significant disparities, as has been the case for years. The heaviest one percent of upstream and downstream users account for 26.8 percent and 21.3 percent of upstream and downstream bytes, respectively.

The lightest 80 percent of users account for only 10 percent of total traffic.

Mobile operators might face tougher challenges, but not necessarily because of bandwidth demand. As users shift from carrier-provided messaging (short message service or "text messaging") to over-the-top messaging, "the stability of the service provider business model" is at risk.

Revenue per bit is the issue. As users shift to over-the-top messaging, they use less SMS. That leads to average revenue per delivered byte declines, as SMS bytes, estimated to be generally \$30,000 per GByte, are being replaced by over-the-top bytes that deliver a revenue on the order of \$10 per GByte.

Avocent Creates Strong Foothold in Broadcast, Post Production Fields

By Carrie Schmelkin, TMCnet Web Editor

As an industry leader in data connectivity, Avocent, a division of Emerson Network Power, has made such a dent in the broadcast and post production environment that its products are now found in 90 percent of major broadcasting companies, including ABC, CBS and Turner Broadcasting System, since the division's inception in 2000.

"Avocent solutions for media and entertainment enable effective shared computing in your specialized work environments," company officials explain on the Avocent site. "Whether you need a secure digital extension and switching on a single wire or analog extension for master control, graphics and edit, our award-winning, next-generation KVM technology is at the ready. All so your people can keep doing their jobs, whether they're in the broadcast studio, animation suite, traffic center or master control room."

Avocent, a leading provider of open, secure, modular solutions that enable customers to simply manage IT complexity, rely on KVM video extensions so that customers can use their editing and graphical systems in an easier setting.

"We have products that allow you to have users sit at their user stations while having the equipment that they are working on back-racked into a data center," Paul Nashawaty, director of product marketing for Avocent Products and Services, told TMCnet. "We allow that extension of distance between the user equipment and the physical assets that they are trying to access."

Broadcast companies would turn to Avocent products for a number of reasons, according to Nashawaty. Specifically, the high definition digital company's products remove the physical and environmental components of the equipment, like the heating and cooling systems, away from the user station so that the equipment can be better monitored and not interfere with the employee's work.

Moreover, multiple people are able to connect to the one computer that hosts all the editing services, a machine that can cost upwards of \$50,000; the machine is securely locked up; the team can take advantage of resource sharing; and the employee can still enjoy real-time benefits.

"Those people are not remotely connected, but they are actually physically connected to an asset so they have real-time user experience" Nashawaty said.

While Avocent's core products are data center driven, these products are also a logical fit for the broadcast industry and have been met with great success. Its product sets – the AMX analog KVM switching solution and the HMX digital solution have exceeded customer expectations in the broadcast and post production environments.

After seeing the success its products had in this sector, Avocent listened to its customers and made changes to its products to better meet the broadcast need.

"Listening to customer input and feedback, we adapted the product to make it more of a broadcast-ready solution," Nashawaty said.

Companies seeking to maintain the physical security and environmental controls of their assets and protect their resources and data can benefit from Avocent products, according to officials.

In addition, Avocent promises that its customers won't experience a latency issue.

"High quality latency free video transport is an absolute must in the broadcast environment. High latency and pixilation can artificially create issues and slow switching response time and that can make all the difference in a successful broadcast," Nashawaty said. "Our solution eliminates latency and pixilation between the connectivity of these devices."

High Definition Digital Company Lends Help to University of Miami

By Carrie Schmelkin, TMCnet Web Editor

Broadcast journalism majors at the University of Miami may be enjoying all the benefits of their school's on-campus broadcast facilities with little awareness that Avocent's KVM technology is the plumbing behind the technology that is helping them become the next Katie Courics of the world.

While the University of Miami was able to boast the fact that it was ranked No. 54 in the U.S. News & World Report 2007 "America's Best Colleges," the school was plagued by antiquated analog broadcast technology that was not up to date with industry standards and a lack of infrastructure in place to support future HD recording and broadcasting. Administrators soon realized they needed to upgrade their on-campus broadcast facilities.

"It had been about eight years since the studio had been upgraded," said Tom Ortiz, director of Engineering and Operations at University of Miami, in a recent case study. "The prior system was based on analog broadcast technology and was not up to date with industry standards. With the industry moving to digital and high definition recording and broadcasting, we needed a modernized facility to give our students the best possible educational experience."

The school decided to turn to Avocent, and Avocent's broadcast KVM switches were selected as part of a total solution from Professional Communications Systems to simplify control of machine room computers and broadcast devices.

"Avocent is the backbone technology that makes this whole system possible," said Lloyd Hicks, regional manager for PCS.

Echoed Tom Ortiz, director of engineering and operations for University of Miami, "The technology has created a more efficient, open and dynamic work environment. Students don't have to run to different computers in another room or on another floor. Everything is just easier and faster."

Avocent, a division within Emerson Network Power, is a leading provider of open, secure, modular solutions that enable customers to simply manage IT complexity. Avocent solutions are used in a variety of spaces including digital signage, broadcast and post production environments and Pro-AV.

Schools like the University of Miami have also benefitted from the high definition digital company, as the college students and administrators can now enjoy a state-of-the-art digital broadcast studio that mirrors current industry environments; a centralized computing that enables quicker, easier, secure access to core applications; user access to multiple shared computers to perform their jobs; increased space in studios, control rooms and editing suites, and cost savings through reduced power consumption and streamlined maintenance.

"The technology has created a more efficient, open and dynamic work environment," Ortiz said. "Students don't have to run to different computers in another room or on another floor. Everything is just easier and faster."

High Definition Digital Company Makes its Mark with HMX Extender System

By Ashok Bindra, TMCnet Contributor

Access over IP solutions are designed for desktop administrators who need to physically separate the computer from the user in the work environment. However, physical separation of the computer and the user can be critical as security and/or environmental issues are major concerns.

The Avocent HMX extender system access over IP solution provides a solution for these environments.

Avocent, a division of Emerson Network Power, is a leading provider of open, secure, modular solutions that enable customers to simply manage IT complexity. Among the many industries that Avocent targets are high definition digital, Pro-AV and broadcast and post production environments.

Avocent's HMX technology is just one of the company's signature products.

According to the high definition digital company, the HMX extender system can be easily deployed over a local area network (LAN) and supports a comprehensive range of peripherals, including DVI-I video, CD audio, USB mass storage, keyboard, mouse and many USB devices.

Besides physically separating the computer and user, the HMX extender system solution also enhances security by adding a physical layer to the security system. All information and data received from the computer interface module is encrypted to 128-bit AES SSL.

To remotely manage and monitor multiple HMX extender systems, Avocent offers HMX Manager, a secure, Web browser-based, centralized enterprise management solution. The HMX extender system, which includes a transmitter and a user station, provides users with a full computer desktop experience from anywhere on the corporate TCP/IP network, while maintaining the computers securely housed in a corporate data center. The addition of the HMX Manager appliance allows the user stations and transmitters that comprise the HMX system to operate in Desktop mode. This mode allows a user to log in to any HMX user station and the system will connect automatically to the transmitter that has been assigned to that user.

In short, through the Desktop mode, the HMX Manager appliance allows administrators to remotely manage and monitor the networks of user stations and transmitters that comprise the HMX system. In so doing, desktop administrators are able to effectively and efficiently manage the desktop computing resource without compromising the user experience.

In other news, Avocent is spreading the word about its Digital Signage Solution, designed to quickly and easily provide transmission of live and recorded HD video and audio to multiple displays such as plasma, LCD and kiosk stations. Giant Stadium is just one place where Avocent digital signage technologies have been used.

Emerson Helps Facilitate the Transformation from Analog to Digital

By Carrie Schmelkin, TMCnet Web Editor

A transformation from analog to digital in the data center is happening and high definition digital leader Emerson Network Power wants to make sure that it equips you with the technology to facilitate the migration.

“Your Television made it to the digital age...why hasn't your Data Center?” Avocent, a division of Emerson, asks on its website. “Avocent wants to take your production environment to the next level by introducing you to our digital products.”

To help you go digital, Avocent suggests employing the Avocent HMX solution, the only solution that permits users to access multiple computers from their desks and have all their local USB peripherals connect to those remote computers. The technology also boasts the best video quality in the industry as it allows users to connect remote computers over industry standard TCP/IP networks.

“Migrating to a digital strategy is a logical transition from other legacy formats,” Director of Product Marketing for Avocent Products and Services Paul Nashawaty told TMCnet. “By migrating to digital, customers can take advantage of newer technologies while leveraging their existing investments.”

Some of the HMX benefits include: a distance limitation of 1,000 feet; the ability to utilize fiber infrastructure efficiently by granting access to fiber, as opposed to copper, infrastructures; and the benefit of allowing the number of users to be virtually unlimited, as opposed to AMX technology.

For example, to the first point, with existing AMX technology, customers are stuck because their users have to be within 1,000 feet of their computers. And, in some cases, they can be no more than 150 feet away. With HMX technology, a user can now be placed outside the 1,000 feet limitation as long as there is IP present at that location.

HMX also provides customers with: the ability to install your solutions using a standard network infrastructure that eases deployment and future expansion; enhanced video resolution (1680x1050 at 60Hz); support for both analog and digital video; easier support for dual screen environments or mixed environments with both single and dual screen needs; easier support for larger environments with many users; support for rich USB peripheral sets; and support for other USB devices including thumb drives, external hard drives, CD/DVD ROM.

In other company news, the next time you are pumping gas don't be surprised if you find a small screen in the pump itself as there is a huge push for wireless video and Emerson is giving the movement wings with its technology.

Emerson's Avocent technology transmits video from point A to point B, or sometimes from one point to multi-points, all through wireless technology.

High Definition Digital Company Finds Place in PRO-AV

By Carrie Schmelkin, TMCnet Web Editor

In PRO-AV, there can be so many points of failure as issues surrounding latency, pixilation and cabling creep up. Avocent, a division within Emerson Network Power, has the solution as it offers technology capable of producing “rock solid reliability” when transferring a video from Point A to Point B, according to company officials.

“Avocent on a whole is in a unique position from their technology standpoint for the PRO-AV industry,” Caleb Hooper, senior product manager of Avocent, told TMCnet. “The company has the ability to handle video from point to point and manage that video content to be able to matrix that content with little to no latency while maintaining a lossless quality; that’s something that is absolutely mission-critical in the PRO-AV industry. It’s an ever evolving problem and Avocent has some really amazing technology that enables them to help that industry.”

Avocent, a leading provider of open, secure, modular solutions that enable customers to simply manage IT complexity, offers an industry-leading portfolio of software, hardware and embedded technologies designed to address the challenges that enterprise-level IT organizations face. Three industry areas that Avocent specifically targets are the broadcast and post production environment space, high definition digital and PRO-AV.

PRO-AV can be useful in places such as concert halls, large venues and houses of worships, among other places, according to Avocent officials. PRO-AV accounts for how processes are completed from an infrastructure standpoint.

In the PRO-AV space, the high definition digital company works to help companies to do more with less, according to Hooper. In particular, Avocent offers solutions for companies that rely on high-end, high-dollar pieces of equipment to perform editing tasks that need a more efficient way to have all their editors use the suite without having to buy several different machines.

“What we enable companies to do is to take those high-end pieces of equipment and back-rack them so that if you have 15 edit bays you don’t have to buy 15 of a high-end production equipment to be able to have access for all your editors,” Hooper said. “Your editors can just use our products to get direct access to it.”

“Reliability is what we furnish,” he added. “We give companies the ability to remotely access those high-end pieces of equipment and not have to buy a certain piece of equipment for every edit suite or for every location.”

Another challenge that Avocent addresses is all the cabling that is often needed in the PRO-AV space to make transportation work.

“One of the biggest challenges in PRO-AV is all the cabling, cabling formats, connectors and video formats on the cables, and that’s a huge challenge; you end up just packing your walls, your ceiling and your floors full of cabling,” Hooper said. “Our product allows a client to take your video content and move it from Point A to Point B to matrix that content to dynamically route your content where you want using a common platform.”

In a concert hall, for example, Avocent technology can be used to make it easier to get out commands from the master control to all the different screens in the place.

The high definition digital company gives its customers the ability to put Avocent equipment at each one of the push out points, whether it’s in a mezzanine, a hallway or an office, so that the customer can transport the video.

Emerson Network Power's Avocent HMX, AMX Technology Offer Tools to Fight Intellectual Property Theft

By Carrie Schmelkin, TMCnet Web Editor

It may seem like a bad dream: A burglar donning a ski mask breaks into your office not to steal your money, but to steal your intellectual property located on your computer. Unfortunately, intellectual property theft is becoming a cold hard reality and a ubiquitous problem.

"Intellectual property theft is becoming more prevalent in areas such as the United States and Europe due to the shift toward knowledge-based work rather than labor-based jobs," said Caleb Hooper, senior product manager for the Emerson Network Power's Avocent business .

Recently, a burglar broke into the offices of Nicira Networks, a Silicon Valley company, and made his way straight toward the cubicle of a top engineer at the company. His target was the bulky computer that stored Nicira's source code, according to a Bloomberg Businessweek article.

The whole operation lasted no more than five minutes, but national intelligence investigators and company officials fear that this was a bit more than a simple burglary in which the thief was after a computer to sell on Craigslist. Rather, the theft could have been performed by someone with ties to China or Russia who wanted access to Nicira's ideas.

Intellectual property theft is not isolated to the Silicon Valley area alone as intellectual property accounts for over half of all U.S. exports and employs over 18 million Americans, according to the U.S. Chamber of Commerce. Moreover, according to World Customs Organization, intellectual property theft represents \$500 to \$600 billion in lost sales globally each year.

"Just as the Industrial Revolution changed the world, the information revolution is changing the face of businesses the world over," Hooper said. "The fact that so many companies are built on intellectual property means there is a critical need to secure data and in turn protect their livelihood."

The world has seen a rise in intellectual property theft for several reasons, in particular because of the fact that many successful companies are built upon intellectual property and it is the key to their livelihood.

"Think about any technology company with a strong brand – Apple, Microsoft, Cisco, Oracle – and their unique value comes from the ideas generated within the business," Jason Holschen, director of product management for the Avocent business of Emerson Network Power told TMCnet.

Moreover, intellectual property theft is "arguably easier and more profitable than traditional theft," Holschen added.

"With a few e-mail clicks or files dragged onto a portable device, virtually anyone could steal sensitive information," he said. "Finally, business is truly global as many companies have employees outside of the home geography or have outsourcing arrangements with partners in other countries. Access to R&D and other intellectual property is becoming increasingly difficult to control."

Continued on the next page

So what is the solution (aside from increasing human resources to watch over valuable assets) to preclude this type of theft? Employing Emerson Network Power's Avocent HMX and AMX technology, according to company officials.

The Avocent HMX and AMX product lines are equipped with multiple layers of protection for securing sensitive data stores.

"Physical machines can be moved to high security data centers without impacting the day-to-day operations of users," Hooper said. "The securing of hardware creates a physical layer of protection since many times theft consists of hard drives or entire machines being stolen. The second line of defense created by Avocent HMX and AMX products is software authentication and tracking. The user authentication process allows for system administrators to more tightly control access to both local and remote systems."

Emerson Network Power's Avocent business is a provider of open, secure, modular solutions that enable customers to simply manage IT complexity, offering an array of HMX and AMX technology.

When asked how Avocent technology in particular can help protect against intellectual property theft, Hooper explained, "Emerson Network Power is a leader in access and control in markets ranging from government to datacenters and broadcast/post production. Access and control is one of the core components of Avocent products through a combination of proprietary compression algorithms, physical security, and software based authentication and tracking."

From software programmers to engineering based companies to financial institutions, anyone whose business depends on sensitive information or a knowledge-based product should be on the lookout for this new type of burglar.

Avocent Technology Paving the Way in Wireless Video World

By Carrie Schmelkin, TMCnet Web Editor

The next time you are pumping gas don't be surprised if you find a small screen in the pump itself as there is a huge push for wireless video and Emerson Network Power is giving the movement wings with its technology.

Emerson's Avocent technology transmits video from point A to point B, or sometimes from one point to multi-points, all through wireless technology.

"The bottom line is you are eliminating wires, and that's what's key," Senior Product Manager of Avocent Products and Services Caleb Hooper told TMCnet in a recent interview. "Especially if you are going back into an infrastructure that you are retrofitting, that's where a lot of wireless products really shine."

The Avocent technology has already been deployed in a variety of industries, from retail stores to supermarkets to gas pumps to car dealerships. It can be useful in any place where "you are trying to capture a consumer's attention and where you are trying to focus a value proposition to an end user," Hooper said.

Recently, Hooper visited a car dealership that relies on Avocent technology to bring content in their glass box show room.

"They had screens all around these show room and they were actually using our technology to wirelessly transmit information on the cars and the different vehicles and the features and that environment is great because it is a glass box and they are putting it in locations where they cannot be running AV transmission lines," he said.

Wireless video is "phenomenal," according to Hooper, as it allows user to install new equipment without incurring the labor and cost of cabling and without permanently altering your facility. For example, if you have a one-time event you are able to position and dynamically stage the presentation.

Moreover, it allows customers to push multiple channels of videos to multiple receivers, allowing you to create a "hub and spoke environment" of being able to drive certain content to certain screens, according to Hooper.

One place that has exploded exponentially with regards to wireless video is the gas station market.

"The average pumping of gas takes three to five minutes and that is a captive audience; that's a point in time to where you've got somebody paying attention," Hooper said. "You have a targeted audience, you know what they are looking for and you can take advantage of that. There is a huge value in overdoing the typical poster on top of the gas pump – that you have to change out that can become dated and not relevant to what is going on currently – and going to the video side of things where you can target and keep it relevant."

Video feeds at the gas pump can be customized with weather conditions, the time of day and even what type of gas someone is pumping.

In fact, some gas stations are moving beyond just simply placing a video screen on top of the pumps and placing them in the pump themselves because of the success that wireless video has had.

"Having a dynamic video wireless video source allows you to make those changes on the fly to adapt to the marketplace and you end users over a printed piece of marketing material," Hooper said.

A Look Back at 2011 in the High Definition Digital Space

By Carrie Schmelkin, TMCnet Web Editor

From the huge onset of Internet streaming to the introduction of wireless video at the gas station to heightened demand for HD video, one thing came across loud and clear in 2011 – high definition digital is here to stay.

“2011 was a time of increased expectations in terms of resolutions, digital workflows, and streaming,” Senior Product Manager of Avocent Products and Services Caleb Hooper told TMCnet. “In the background, resolutions such as 1080p are commonplace and becoming a baseline for products. While the resolution arms race has companies constantly fighting to stand as king of the hill, one of the byproducts is the needed development for digital workflows to help support the ever increasing onslaught of resolutions and files sizes.”

“Finally HD streaming has seen many improvements due to cellular and hard line data speed jumps and the common availability of HD video products,” he added. “Increasingly people are choosing the Internet at their preferred method of viewing HD content.”

With just a few more weeks left in 2011, TMCnet decided to sit down with Hooper to discuss how the high definition digital space has changed over the last few years, where the industry is headed and what major challenges still exist when it comes to HD.

One of the major changes that was evident in 2011, according to Hooper, was the widespread adoption of streaming and digital signage.

“Streaming is huge right now and HD streaming is really becoming a force in the marketplace,” Hopper said. “Consumers are gaining access to faster Internet connections and are beginning to expect HD streaming. Digital signage is another area that is really beginning to push HD quality. The price of HD panels has dropped to the point that using HD and flat panels for digital signage is a no brainer. Digital content and workflows along with improved hardware and greater community acceptance of mpeg4 H.264 have also been paving the way for digital signage to play a larger role.”

Thanks to the advent of streaming and digital signage, consumers have seen HD introduced in many places where it previously did not exist before – particularly at the gas pump. Earlier this year, Avocent officials explained that the next time you are pumping gas you shouldn't be surprised if you find a small screen in the pump itself as there is a huge push for wireless video.

This type of technology has also made its way into a variety of other industries, from retail stores to supermarkets to gas pumps to car dealerships. It can be useful in any place where “you are trying to capture a consumer's attention and where you are trying to focus a value proposition to an end user,” Hooper said.

“The industry has been in a state of evolution for several years now but things look like they are starting to solidify,” Hooper said. “HD and digital content were once a novel concept but they have now proven to be resilient and the way of the future. The video industry has always been based around tapes and the advent of all digital content and workflows is turning everything on its ear.”

As we head into 2012 and a new year of high definition digital, Hooper said there still exists challenges within the HD environment, particularly when it comes to digital workflows, storage, bandwidth, and IT/video converging.

Specifically, dealing with raw video in digital workflows is still an obstacle and “not a cheap one at that,” Hooper said.

“Video resolutions and quality are ballooning and storage, data throughput, processing needs are all following suit and are showing no signs of slowing,” he said. “The video industry appears to be on a steady march towards merging with many facets of the IT industry and there is going to be a learning curve for many involved.”

So what else is in store for us for 2012? Resolution wars, according to Hooper.

“The war for pixels is showing no sign of slowing down any time soon,” he said. “There was an announcement earlier this year that segments of the 2012 London Olympics will be broadcast in Hi-Vision (7,680 pixels x 4,320 pixels) which is 16 times the detail of your TV at home. Things are about to get really exciting for the video industry and it is a great time to be part of it.”

White papers



Achieving Control Over Data Center Implementations and Operations



Back to the Future:
The New IT Infrastructure Opportunity



Make this DIGITAL connection,
before you make any others.

high-definition-digital.tmcnet.com

Visit the new High Definition Digital Community

It's a one-stop source for what you need to know to enable the highest quality digital extension within your work environment. Sponsored by the Avocent® business of Emerson Network Power, it's an online convergence of breaking news, case studies, video interviews, white papers, thought leadership, interaction and more. Type in the URL or scan the QR code and visit it today.
www.high-definition-digital.tmcnet.com

