

Channels

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Texas Law Enforcement Agencies Become First in Country to Use Satellite-Based Network



Connecting more than 1,500 law-enforcement offices throughout the state, the Texas Department of Public Safety (DPS) recently replaced its terrestrial network with a VSAT solution. The new network will provide fast, reliable access to information to help police officers be more effective and to increase the public safety in Texas. In addition to DPS activities, the VSAT network offers

a common platform for connecting to other state and federal agencies including the Department of Transportation, the Attorney General's office, the Department of Public Safety, the Federal Bureau of Investigation (FBI), and the Alcohol Tobacco and Firearms (ATF) agency. All of these law-enforcement activities will be conducted through an HNS-supplied dedicated hub located in Austin, Texas.

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New Satellite-Based Service, edgeUcast™ Makes High-Speed Internet Access eLearning Available



Building on its established distance-learning strategy, HNS has launched the edgeUcast learning network to provide broadband delivery of specially developed business and computer skills courses for small and home offices. Unique modules designed for the business user will be compiled for edgeUcast from the highly respected portfolio of business and technology courses already offered through PBS The Business & Technology Network. Launch of the service is planned for the summer of this year.

"edgeUcast is the industry's first complete combination of low-cost and high-quality eLearning courses that leverages the power of the Internet to bring content focused on the needs of the small office/home office market. PBS The Business & Technology Network brings exceptional content expertise and a vast knowledge of business and technical training to this marketplace," said Cheryl Hardy, vice president of sales, NTUC. "We anticipate that working with HNS on edgeUcast will create a number of interesting opportunities for small businesses looking for advanced learning capabilities."

edgeUcast takes advantage of the unique features of the satellite-based DirecPC® service to offer

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Coming EVENTS

Supercomm + WCA 2000

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edgeUcast

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significant benefits to its subscribers. The high-speed Internet access ensures that users will not suffer the frustrations associated with downloading large files via ordinary modems. Its Broadband Everywhere™ capability means that DirecPC service is available anywhere in the United States regardless of location.

The combination of superior course material combined with the super-fast speed and nationwide coverage of DirecPC immediately makes edgeUcast a critical resource for any small- or medium-sized business. Access to these kinds of high-quality training resources on a continuous basis is a new and valuable tool to the small business organization.

Once edgeUcast is launched, existing subscribers will be able to sign up for the service on the DirecPC Web site (www.direcpc.com) and new subscribers

The high-speed Internet access ensures that users will not suffer the frustrations associated with downloading large files via ordinary modems.

will be able to purchase DirecPC from authorized dealers.

"This is the next step in the strategy that we began with our acquisition of ONE TOUCH Systems to offer the most comprehensive set of eLearning modules and satellite-based services," said Steve Salamoff, assistant vice president, HNS SOHO Services. "This relationship with PBS The Business and Technology Network further enhances HNS' services offerings and we believe that this combination of quality content and high-speed delivery will appeal to small- to medium-sized businesses everywhere." ■



edgeUcast™

Texas

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"This satellite-based system will prepare Texas law enforcement for the 21st century," said DPS Director Col. Dudley M. Thomas. "Moving from a traditional phone-based communications system to a satellite network will not only decrease the cost to taxpayers, but at the same time, will increase the speed, versatility, and reliability of services offered through the Texas Law Enforcement Telecommunications System. The possibilities are exciting."

Future possibilities for the Texas DPS network include using the network for distance education,



law-enforcement training, videoconferencing, and transmission of graphics and photos. Texas' DPS will use the VSAT network to ensure that even the most remote police stations get fast access to information that will enhance their effectiveness.

"Having real-time access to information is imperative in law enforcement," said Harry George, vice president, Satellite Networks Division, HNS. "These HNS VSATs provide instant, reliable two-way communications to allow law enforcement agencies in Texas the ability to fight crime."

Using the Personal Earth Station™ (PES™) VSAT system, a low-cost, high-capability, private satellite network that supports two-way data, voice, and multimedia, and one-way broadcast video communications, Texas law enforcement officers can quickly access critical information, such as criminal histories, outstanding warrants, and driver's license information from a number of different agencies. The broadcast nature of VSATs will enable Texas to cost-effectively multicast common data to all sites, wherever they are located and whatever the existing infrastructure. In addition, the network will not only accommodate legacy applications, but will also allow new and IP-based applications to run on the same platform with no impact on the existing systems. ■

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Correspondence is invited and, unless otherwise indicated, should be directed to:

Gayle Armstrong, Editor
Corporate Communications
Telephone: 301-212-7926
Fax: 301-212-6869
E-mail: garmstrong@hns.com

Hughes Network Systems
11717 Exploration Lane
Germantown, MD 20876 USA
Telephone: 301-428-5500
Fax: 301-428-1868

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NETWORK SYSTEMS

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Satellite-Based Telephony Proves Only Alternative for Communications in Earthquake-Devastated Areas of Taiwan

At 1:47 a.m. on September 21, 1999, a powerful earthquake devastated the small town of Chi-Chi in Taiwan, killing more than 2,000 people, destroying hundreds of buildings, and leaving thousands homeless. As the enormity of the disaster became evident, officials realized that it would take dramatic measures to bring relief efforts to the people of the Chi-Chi region.

One of the most immediate needs was to quickly establish reliable and comprehensive telecommunications in the regions destroyed by the earthquake. Executives at the Taiwanese telecommunications carrier, Chung Hwa Telecom, realized that land-based systems could not offer the fast, flexible, and reliable deployment necessary to provide a telecommunications system that would cope with the communications needs of both the rescuers and the victims. Only satellite communications could provide an instant infrastructure, so Chung Hwa Telecom contacted HNS to supply its market-leading TES™ family of telephony products.

HNS quickly supplied its very small aperture terminal (VSAT) satellite telephony equipment to Chung Hwa Telecom and dispatched employees from offices around the world to support the installation and operation of the equipment. Within hours TES *Quantum* (and TES *Quantum-Direct*) were giving relief agencies the ability to send and receive



high-quality phone calls, faxes, and modem data. In addition, victims were able to use the system to contact relatives and friends around the world.

“Only satellite communications can rapidly and reliably provide the complete communications system necessary to ensure that relief efforts are effective as well as provide the people of Taiwan with news about their loved ones,” said K.C. Kuo, vice president, Satellite Networks Division, HNS. “HNS’ TES equipment is the most proven VSAT telephony system available and its multiple capabilities are giving those at the disaster

One of the most immediate needs was to quickly establish reliable and comprehensive telecommunications in the regions destroyed by the earthquake.

sites global connectivity. Whether it’s phone calls requesting information, faxes commandeering supplies, or data transmissions of maps and building plans, TES is making sure that the last thing the people in the areas destroyed by this horrific disaster have to worry about is being able to communicate.”

The wireless nature of satellite communications enables it to transmit data and voice communications without a land-based infrastructure such as copper or

fiber-optic cables, making it the only feasible means of communicating to and from remote areas and in areas where terrestrial and microwave communications have been devastated.

To support the relief efforts, HNS installed TES *Quantum-Direct*, which consists simply of a telephone terminal and a small portable dish, at the recovery sites, allowing telecommunications via satellite to and from the Chung Hwa hub earth station. In addition, the TES *Quantum* gateway station connected calls from the disaster areas to the public switched telephony network (PSTN) and routed them globally through Chung Hwa’s hub in Panciao. In accessing the existing telephony infrastructure, HNS leveraged its 10 years of experience in DAMA telephony to produce the most efficient and cost-effective, full-mesh, demand-assigned satellite connectivity.

Thanks to the simplicity and speedy deployment of HNS’ telephony solution, rescue and relief efforts were expedited and so eased the plight of the Chi-Chi earthquake’s victims. ■

Fun Facts

Who says wireless communications is new?

When the *Titanic* sank in 1912, hundreds of passengers

were saved only because a Marconi wireless operator, David Sarnoff, reportedly picked up the ship’s radio distress messages and alerted ships in the area. Sarnoff went on to become president of the first radio network, the National Broadcasting Company.



Hughes Network Systems and Cellular One of San Francisco Form Marketing Agreement to Deliver Wireless Office Service

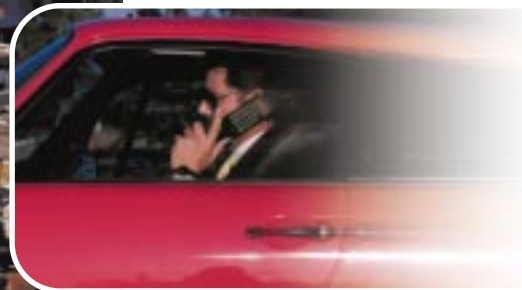
Companies Partner in Anytime, Anywhere Communications

HNS recently signed a strategic marketing agreement with Cellular One of San Francisco to deliver "anytime, anywhere" wireless office service to companies throughout the greater San Francisco Bay area. Under the agreement, Cellular One will provide wireless airtime services to customers while HNS supplies a complete hardware, software, and performance management platform through its AIReach® Office System.

Through the AIReach Office system, Cellular One customers using either their desk telephones or TDMA-based portables will be able to make and receive calls and access all the features of the private telephone system, including call forwarding, call transfer, and four- or five-digit dialing. This call delivery feature enables outside callers to dial one number and reach a party whether that person is in or out of the office, thereby enhancing worker productivity.

"Hughes Network Systems' TDMA-based system allows us to incorporate the latest digital features into Cellular One's wireless office service," said Nancy Gortney, product manager at Cellular One. "Our business customers will benefit from a complete in-building solution for universal wireless services, enabling wireless phones to emulate office extensions in the office or on the road."

This is the third marketing agreement HNS has signed with a wireless service provider for its AIReach Office System, following earlier pacts with AT&T Wireless Services and Rogers Cantel, Canada's largest wireless service provider.



AIReach Office provides the mobility of wireless communications integrated with the functionality of a company's private telephone system.

"We look forward to building a long-term working relationship with Cellular One," said Cathy Zatloukal, assistant vice president, Wireless Networks Division, HNS. "As Bay Area companies seek to increase productivity and enhance the decision making process throughout the workplace, we believe Cellular One's strong brand awareness coupled with AIReach Office's digital features will prove to be the best solution."

AIReach Office provides a company with the mobility of wireless communications integrated with the functionality of a company's private telephone system. Compatible with leading PBX, Centrex, and key office systems, AIReach Office relies on a network of low-cost, low-power picocells to provide wireless coverage throughout a building or across a campus. Operating in both cellular and PCS frequencies, AIReach Office uses the networking features of TDMA IS-136 and IS-41 to achieve seamless interconnectivity among multiple sites across the country and abroad, offering significant productivity and cost advantages, and promoting improved internal and external communications. ■

Hear These HNS Executives SPEAKING



ESTIL HOVERSTEN,
SENIOR VICE PRESIDENT

May 2-5

COMSYS VSAT 2000
Radisson SAS Hotel
Prague
Estil Hoversten,
Keynote Address:
The Future for VSATs
in a Broadband World

May 2-5

Tel.Com Africa
Midrand, South Africa
Karl Keppke,
Options Et Analysis
of Satellite to Africa

May 17-18

IP Broadcast Conference
Cophorne Tara Hotel
London
Mike Cook, The Role of Satellite
in IP Traffic Distribution

June 12-13

Global VSAT Forum 2000,
Latin America
Loews Miami Beach Hotel
Miami
Paul Sandoval, Guest Speaker



and priority can be given to premium subscribers. HNSE's integrated approach results in a high-quality, low-cost alternative to traditional multinetwork infrastructures. The system provides speed, accuracy, and reliability as well as exceptional performance, choice, and service.

The latest addition to the range, the CS2500 data system, provides two-way access at speeds that no current technology can match. The interactive network adapter (INA) supports every conceivable data application for both residential and business users alike including: Web browsing, e-mail, news broadcasts, interactive entertainment and games, teleshopping, electronic advertising, music/video streaming/download, LAN-to-LAN connectivity for home connectivity for telecommuting and video/teleconferencing.

Hunan Multimedia Communication Bureau, a unit of Hunan Provincial Post & Telecommunication Administration Bureau, specializes in the construction and administration of broadband communication networks. It operates three large networks: a broadband picture communication network, an ATM broadband communication network, and an ISDN integrated business digital network. ■

Hughes Network Systems Europe Brings High-Speed Broadband Data Services to China

Hughes Network Systems Europe (HNSE) recently won a substantial contract from the Hunan Sanli Telecom Economy Trading Company to install CableServe® cable data systems at the Hunan Multimedia Communication Bureau and the other 14 PTT bureaus operating within Hunan Province. When CableServe is installed, the residents of Hunan will be able to enjoy premium broadband data services, such as home shopping, eCommerce, Internet access, and e-mail.

HNSE will install a complete CableServe system, including DVB-compatible data modems and head-end servers. It will enable the Hunan PTT bureaus, such as Hunan Multimedia Communication Bureau, to enhance their HFC (Hybrid Fiber Coax) broadband multimedia communications networks to carry premium services such as telephony and broadband data.

With CableServe, users have Internet access at up to 56Mbps – up to 1,000 times faster than using conventional telephone lines – and can remain logged on without incurring any additional charges.

“When CableServe is installed, Hunan’s residential and business customers will enjoy many new applications, including videoconferencing, e-mail, Web browsing, teleshopping and electronic advertising,” said Ray Childerstone of HNSE. “This is the most powerful cable data system available and its exceptional performance and unbeatable service gives the Hunan PTTs a competitive edge to win additional subscribers.”

“The system will allow us to generate higher revenues per subscriber as we can deliver more new services than with our existing network,” said Liu Guiqing of Hunan Multimedia Communication Bureau. “We chose CableServe because it is compliant with DAVIC and DVB, the emerging global standard for this application, and because HNS was able to offer a system tailored to meet our requirements.”

CableServe is an integrated access system designed to enhance HFC broadband multimedia communications networks to carry premium services such as telephony and broadband data. It has also been designed to offer full IP routing capabilities. It incorporates powerful management features to ensure that maximum use is made of the network capacity



Interesting Web Sites

<http://www.hot-dog.org/>

During the 2000 baseball season, Americans are expected to enjoy 26.5 million hot dogs, which when laid end-to-end would stretch from the Pacific to the Atlantic Ocean. Find out more fun facts and information on this great American food at the official site of the National Hot Dog and Sausage Council.



<http://www.weather.com/>

Check out one of the most comprehensive weather sites on the Web.

VICOM Offers Telecommunications Alternatives to Brazil Via VSAT

When VICOM, a Brazilian telecommunications service provider, opened its doors in 1985, the company's founders had one objective in mind – to offer high-quality and innovative telecommunications services to all regions of Brazil, whatever the topography or current infrastructure. VICOM executives decided early on that to achieve this goal they must review other alternatives in addition to traditional telecommunications service offerings.

"Brazil is a large country with very diverse geography and its terrestrial networks have not always been able to provide the highest quality service to all who need it," said Guilherme Saraiva, project manager at Rio de Janeiro-based VICOM. "From day one, the company knew that we'd have to look beyond existing technologies and services if we wanted to achieve our mission and remain competitive."

After evaluating the options, VICOM concluded that very small aperture terminal (VSAT) networks would offer corporations the most effective method of supporting their wide area networks (WANs) given the limited reach of Brazil's terrestrial infrastructure.

"VSAT networks provide rapid, reliable satellite transmission of data, voice, and video to an unlimited number of geographically dispersed sites or from these sites to headquarters," said Saraiva.



VICOM Launches Shared-Hub Services for VSAT Networks

"Because reliability and cost are so important to companies selecting a telecommunications backbone, VICOM felt that this was precisely the technology that would offer Brazilian businesses the best choice for their networks."

VSATs offer a very attractive alternative to many Brazilian businesses. Until recently, the cost for dedicated leased lines in Brazil was so pricey – as much as \$10,000 a month per 500–600 miles of landline – that many companies were left without

networking solutions. Even now, Brazil's terrestrial alternatives, when available, can be more costly than their satellite competitors, especially when performance is taken into account. By contrast, the broadcast nature of satellite communications ensures that one transmission will reach all branch offices or company locations wherever they are located, whatever the terrain, and for one flat fee.

VICOM feels that it has built on the inherent reliability and



flexibility of the VSAT technology with its own concept of service. "We try to tailor the customer's network around their needs rather than ours," said Saraiva. "In addition, whilst many of the local phone companies provide maintenance services only during normal business hours, we offer our customers 24x7x365, round-the-clock service and availability. Nothing in Brazil matches this."

As their business continued to grow, VICOM found that they needed an established VSAT vendor with a comprehensive set of offerings that were scalable and well supported. According to Saraiva, VICOM based its decision on quality of network reliability, global experience, cost, and bandwidth capacity.

"Stability was a significant factor in selecting Hughes Network Systems as our satellite communications provider," said Saraiva. "The company has an excellent reputation for offering

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Coming EVENTS

June 6–8

Supercomm
Georgia World Congress Center
Atlanta, GA
Booth 7175

July 10–12

WCA 2000
Ernest N. Morial Convention Center
New Orleans, LA
Booth 417

July 19–21

SBCA
Las Vegas Convention Center
Las Vegas, NV
Booth 929

November 5–8

FS/TEC
Long Beach, CA

November 13–17

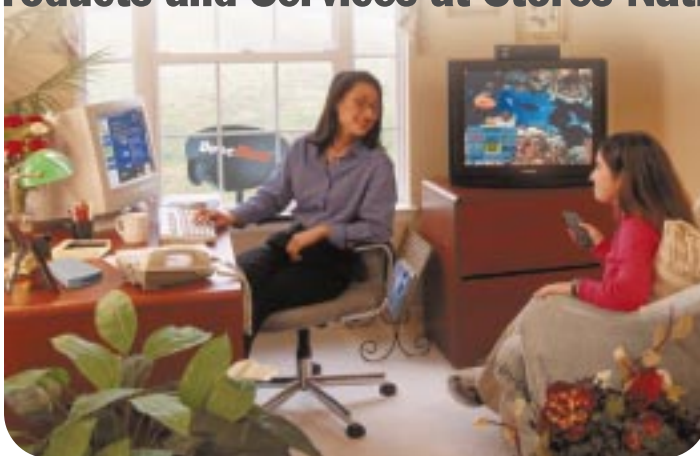
Comdex
Las Vegas Convention Center
Las Vegas, NV
Booth L1419

Best Buy Offers DirecPC® Broadband Internet Retailer to Provide Satellite Products and Services at Stores Nationwide

Minneapolis-based Best Buy Co., Inc., the United States' largest volume specialty retailer of consumer electronics, personal computers, entertainment software, and appliances, has made available DirecPC broadband Internet services at more than 350 of its stores in 37 states.

"With DirecPC, Best Buy can offer our customers broadband service anywhere in the continental United States," said Pete Bosse, Best Buy's vice president of merchandising, digital communications services. "Internet speed reaches a new level with nationwide satellite providing coverage to areas that were previously unreachable with broadband and DirecDuo™ offers integration of satellite TV and Internet access from one satellite dish."

DirecPC brings broadband Internet to the consumer with Internet access speeds up to 400 Kbps – or about eight times faster



than a 56K modem – and is delivered via an external USB satellite modem and a 21-inch satellite dish antenna. Users can select from a single-function antenna or the DirecDuo antenna, which receives both DIRECTV® programming and DirecPC services, both of which are available at Best Buy.

"We're excited to launch DirecPC with a premier retailer like Best Buy," said Paul Gaske,

executive vice president and general manager of HNS' Consumer Division. "Best Buy has been a key retailer of our Hughes-brand DIRECTV Systems, and this is a natural evolution of our ongoing relationship. As a leading retailer of both computers and video products, we're confident that Best Buy will be successful with both DirecPC and DirecDuo."

DirecPC is an asymmetric

technology that uses the computer's analog modem to make requests from the Internet (typically keystrokes or mouse clicks), and the satellite link to deliver the requested information – bypassing slow land-lines for the graphically rich content prevalent on the Web today.

DirecPC offers consumer service plans that range from \$19.99 to \$49.99 per month. DirecPC's consumer packages include the following services:

- ◆ Turbo Internet, a fully interactive service for Web surfing Turbo Webcast, where users select from a list of top Web sites and content is multicast automatically to their hard drive for off-line surfing
- ◆ Turbo Newscast, where users select from up to 30,000 Usenet newsgroups which are then multicast to their hard drive for off-line surfing. ■

Shoney's, Inc. Installs Latest Satellite-Based Wide Area Networking and Training Technology

The food-service industry is quickly emerging as the most recent market to recognize the role of satellite networking in increasing revenues and improving efficiency and operations. Shoney's, Inc., the family dining restaurant chain, is leading this trend as it replaces its outdated terrestrial dial-up communications with an enterprise-wide satellite network based on very small aperture terminals (VSATs) from HNS. All company-owned Shoney's, Captain D's, Pargos, and Fifth Quarter restaurants will soon benefit from the cost savings, speed, and reliability that VSATs bring to the table.

With 1,117 restaurants in 28 states, Shoney's is one of the nation's largest restaurant chains and is committed to providing its customers with the best service possible. This new, comprehensive VSAT network will improve the efficiency of its data communications such as credit and debit activities, point-of-sale applica-



tions, and back-office systems. The network will also allow the company to offer e-mail accounts to all employees and will accommodate future plans for interactive distance learning (IDL), computer-based training, broadcasts by senior management, and in-store music.

"The restaurant industry is very competitive and we felt that a VSAT system would allow us to better serve our customers," said Bernie Gray, CIO, Shoney's. "The rapidity and efficiency of its transaction-based networking means less waiting time for customers paying by credit

or debit card or checks. In addition, the technological sophistication and speed of HNS' IDL solution will allow us to expand and improve our companywide employee training, which will again lead to better customer service and satisfaction."

Adds Gray, "Using the combination of DirecPC Enterprise Edition from HNS and Front Row™ from ONE TOUCH, we plan to offer multimedia interactive training from our headquarters located in Nashville to restaurants

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Brazil

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good quality products. The more stable our telecommunications services are, the more our customers can concentrate on their core businesses.”

VICOM has customers in all segments of the Brazilian economy and has found that a wide range of industries from retail to agribusiness to utility companies have been quick to adopt VSAT technology for their corporate WANs.

“From retail applications to enterprise resource planning to monitoring consumption and usage to e-mail facilities, our customers find that the range of applications supported meets their needs today and allows them the flexibility to expand their networks in the future,” Saraiva said. “In addition, some of our customers are located in rural areas where they just don’t have terrestrial alternatives and a VSAT network gives them reliable service 24 hours a day at a price that they can afford.”

“VSATs are definitely making our customers more competitive, simplifying their operations, and reducing costs,” Saraiva said. “With a satellite network, retail

“...our customers find that the range of applications supported meets their needs today and allows them the flexibility to expand their networks in the future.”



stores can offer their customers more payment options such as credit cards, communication is enhanced through e-mail and ERPs in the farm coops, and intranets keep bankers up to date on the latest banking information.”

As Brazilian companies look for their networks to support second-generation applications, VICOM knows that VSAT technology will enable its corporate customers to implement applications such as IP multicasting

and interactive distance learning. Many of these applications require very large bandwidth, and even if terrestrial

lines are available, few alternatives can offer the high-bandwidth option of VSATs.

“I’m confident that IP multicasting, satellite-supported intranets, and interactive distance learning are all applications that our customers will add in the near future,” Saraiva said. “We’re fortunate that whenever our customers need these next-generation services, our satellite network is already in place to make them a reality.” ■

Shoney’s

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nationwide. We are excited by the real-time interactivity that Front Row allows and feel that our employees will become more involved in the training and therefore will retain more information. In addition, we will plan to use the system for a variety of communications projects.”

Together, DirecPC Enterprise Edition and Front Row from ONE TOUCH offer the fastest Web-based multimedia desktop IDL system for real-time, interactive training, and corporate communications via an intranet.

“By modernizing its network to take advantage of the speed, efficiency, and cost-effectiveness of VSATs, Shoney’s is demonstrating its commitment to both its employees and customers,” said Peter Abitanto, assistant vice president, satellite networks division, HNS. “Better trained employees and quick and efficient networking lead to less turnover, better customer service, and reduced costs. Satellite communications are clearly the only way to get high-quality, real-time distribution of information to multiple sites at a cost-effective price.” ■

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11717 Exploration Lane
Germantown, MD 20876 USA

First Class Mail
U.S. Postage
PAID
Germantown, MD
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