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Doing Business



Photo courtesy of WTVF TV/ Nashville

Satellite technology revolutionizes print news gathering

by David M. Cole

The author is a San Francisco-based newspaper consultant.

In the 2002 cable-TV movie "Live From Baghdad," actor Michael Keaton's character — Cable News Network producer Robert Wiener — was obsessed with something he called the "four-wire." The movie and the book on which it was based detailed Wiener's adventures producing television news out of Iraq in the Persian Gulf War.

The four-wire literally was four wires running underground from Baghdad to Jordan and onward to CNN headquarters in Atlanta. It became the lifeline that connected the bureau to the main newsroom, allowing editors and producers to talk instantaneously.

Flash forward a decade to the current war in Iraq. In his home office in suburban Washington, Frank Folwell, USA Today's legendary deputy managing editor for photography and graphics, has the volume way up on his always-on, Internet-connected laptop.

In the middle of the night, this setup allowed Folwell to be awakened by a sound indicating that photos or messages were arriving from one of his photographers in Iraq. The photographers were equipped with lightweight, relatively inexpensive satellite data terminals that allowed Internet access from the front lines to the systems at the Gannett Co. national daily paper in McLean, Va. That was no different from what someone in a one-person domestic bureau would have.

In 10 years, wartime news gathering has gone from depending on ground-based wires to ubiquitous satellite telecommunications. "The change has been phenomenal," says Nick Evansky, director of international services and technology for The Associated Press in New York. "It's really been incredible."

Though satellites have been used in video transmission for decades—a process called "shooting it up to the bird"—Evansky, Folwell and others in the industry speak eloquently about how satellite voice and data transmission have revolutionized remote news gathering.



A soldier in Iraq works with a Broadband Global Area Network (BGAN) terminal that has become a popular tool for photojournalists to use in sending images to newspapers.

MORE THAN A WARTIME TOOL

While the continuing hostilities in Iraq and Afghanistan prove the usefulness of the technology, it is clear that a reporter or photographer does not have to be thousands of miles from the newsroom before satellite transmissions become cost-effective in delivering breaking news.

"You deploy the right kinds of tools for the situation," Evansky says. The AP has been on the cutting edge of satellite technology for more than 30 years, initially using it to distribute news to members and, more recently, as a news gathering tool.

"If you can only get one person on a United Nations flight," Evansky says of a hypothetical news story, "then that person has to be equipped with the most lightweight, compact tools [available]."

Evansky, based in London, says that to cover the invasion of Iraq, the AP built three news gathering trucks that were based on the Hummer and could be deployed throughout the country. They had upgraded wiring and added stronger air conditioning and a satellite antenna on the roof.

"As soon as you've stopped, you can deploy the antenna and be onto the satellite within five minutes," Evansky says, with full telecommunications, including Internet connectivity and voice communication.

Jack Gruber, staff photojournalist at USA Today, sees lightweight satellite communications as "lunar technology ... like the space shuttle."

Gruber, who covered the current war in Iraq for USA Today and has reported for the paper from Afghanistan, Pakistan and the United Arab Emirates, has been in the business a little more than a decade, and with USA Today for four years.

Despite his effusiveness about satellite technology, Gruber is pragmatic. "Technology is technology, and if you don't understand what's in front of you, it's not going to do anything for you," he says.

When first sent to the Middle East, Gruber says he was issued a hand-held, voice-

quality satellite phone that transmitted data to the Internet at a blazing 9600 bits per second, about one-sixth the speed of a land-line connection to the Web. Early last year, during the run-up to the invasion of Iraq, Gruber discovered a new device and service called Regional BGAN, or Broadband Global Area Network. A lightweight terminal, the BGAN promised photo uploading at land-line speed. Within weeks, the service took off on word-of-mouth alone.

"Photographers would see me and a guy from Knight Ridder sitting in the parking lot of the Sheraton in Kuwait City," says Gruber, as they experimented with the BGAN. Soon, "everybody was using the BGAN. It went from nothing to thousands of machines."

Gruber says he learned while embedded with troops in the desert that "you could pop the back door of a [Bradley Fighting Vehicle], throw the BGAN out the door, point it south and in 20 seconds, you were transmitting."

Gruber said he could edit photos while his unit was moving and, if it made a 10-minute refueling stop, he could transmit quite a few pictures before the unit charged forward.

A veteran of The Flint (Mich.) Journal and The Detroit News, Gruber says he sees potential for a BGAN-like device in many news situations. "Covering hurricanes, fires or just dumped out where you don't even have gasoline."



Skycasters LLC in Virginia Beach, Va., provides broadband satellite Internet access.

BGAN has two downsides. It does not handle voice and is not available in North America.

Reporters at The Washington Post have used standard satellite phones to send text to the paper from Iraq. "Satellite communications are slow, even compared to a modem," says Ed Holzinger, a newsroom software developer at the Post. Holzinger cites user understanding as another caveat. "It takes more training," he says, to use a satellite phone. "People who are going out have to be taught how to use this stuff."

The Post has developed a computer interface that allows reporters to file directly into CCI Europe, the paper's editorial front-end system.

THE GORY DETAILS

Today's hand-held satellite phones are reminiscent of cellular phones of the early 1990s, weighing about 12 ounces and slightly bigger than the palm of one's hand. They are usually configured to operate in at least two modes: a cellular signal (Europe's GSM or the CDMA protocol used in the United States) and satellite.

So-called tri-mode phones support analog systems, too. The mode feature allows a user to dial out on the most inexpensive system available in any given place.

The cost of a satellite phone ranges from about \$500 for a hand-held device to as

much as \$2,500 for a base station or marine system. Satellite phone providers in the United States include Globalstar LP of San Jose; Iridium Satellite LLC of Arlington, Va.; and Mobile Satellite Ventures of Reston, Va.

Overseas providers include those U.S. companies and Inmarsat Inc. of Washington, as well as Eutelsat of Paris, Redwing Satellite Solutions of suburban London and Thuraya Satellite Telecommunications Co. of the United Arab Emirates. Globalstar estimates that users pay about \$1.39 per minute for a satellite phone call between Iraq and the United States, depending on currency conversion rates. In-country calls cost between 70 cents and \$1 a minute.

The satellite telephone business has been risky, with Globalstar and Iridium weathering bankruptcy, and more than \$2.4 billion spent on systems by ICO and Teledesic — the two combined in 2001 — with service not yet available.

Globalstar exited bankruptcy this year and was purchased by Thermo Capital Partners LLC, a Denver investment firm. Teledesic in Kirkland, Wash., merged three years ago with ICO and its founders — cellular phone pioneer Craig McCaw and computer software mogul Bill Gates — poured in more money.

The Regional BGAN system is available in 99 countries in Europe, the Middle East, the northern part of Africa and India. It provides 144 kilobits per second Internet access speed, roughly the same as a land-line ISDN modem, and twice as fast as a regular modem. The terminal is about the size of a small notebook computer and weighs about four pounds with its standard antenna.

Like a cable modem or DSL, the BGAN system is “always on,” providing constant Internet access. The user is billed by the amount of data sent and received through the terminal. Battery life is about one hour of transmission or 36 hours of standby operation “at standard temperature.”

The terminal connects to a Windows- or Macintosh-based computer using USB, Ethernet or wirelessly using the Bluetooth standard.

Setup, Inmarsat says, is fast and simple, and “end-users do not need knowledge of satellite or modem operation.”

While the system is not inherently secure because hackers can trick the satellite into sending data to an illegal terminal, it does support static Internet Provider addresses and Virtual Private Network protocols, allowing for government-quality security.

Terminals are available for rental or purchase in the United States; one dealer is Outfitter Satellite Inc. of Nashville. A fully equipped system with external antenna, spare batteries and carrying case costs about \$2,400, though refurbished terminals without the accessories may be half that amount. Rental is \$120 a

Resources

Globalstar LP, 3110 Zanker Road, San Jose, Calif. 95134, (408) 933-4000, sales@globalstar.com.

Inmarsat Inc., 1050 Connecticut Ave., Ste. 1116, Washington, D.C. 20036, (202) 772-3135, customer_care@inmarsat.com.

Iridium Satellite LLC, 1600 Wilson Blvd., Ste. 1000, Arlington, Va. 22209, (703) 465-1000, info@iridium.com.

Mobile Satellite Ventures,

week.

Data transmission prices vary widely depending on the reseller and plan adopted. Sending a newspaper-quality photograph would probably cost less than \$100.

Since the BGAN system is not available in North America, how can a publisher obtain mobile broadband connectivity in remote locations? Establishing connectivity is not difficult, but the moving part still requires work.

Several companies supply small satellite dishes for use with the Direcway satellite broadband delivery system. Direcway is part of Hughes Electronics Corp. of El Segundo, Calif., which is controlled by News Corp. Ltd., publisher of the New York Post.

The Direcway system supports two levels of data downloading: 400-kbps and 600-kbps service with speeds similar to that of DSL. Different service levels support different upload speeds, which can range from 128 kbps to 256 kbps, speeds similar to ISDN.

Though the system is designed for fixed locations, one company that specializes in mobile broadband is Skycasters LLC of Virginia Beach, Va. It has developed two satellite dishes, one .74 meters and the other 1.2 meters in diameter, that are designed to be mounted on the roof of a truck, van or recreational vehicle. Both fold down when not in use. The Skycasters system hardware costs between \$4,000 and \$7,000, and service can run between \$100 and \$300 a month.

Skycasters also supports Macintosh computers, something that many satellite broadband companies do not think is important.

Within the last 10 years, news gathering has gone from a shaky dependence on wires buried under the desert to the point that, as the AP's Evansky says, "You can pick up your phone from your desk in London, dial an extension and get a truck in Basra."

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Sources

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- Frank Folwell, USA Today, 7950 Jones Branch Drive, McLean, Va. 22108-0001, (703) 854-3637, ffolwell@usatoday.com.
- Jack Gruber, USA Today, 7950 Jones Branch Drive, McLean, Va. 22108-0001, (703) 276-3400, jgruber@usatoday.com.
- Ed Holzinger, The Washington Post, 1150 15th Street, N.W., Washington, D.C. 20071-0001, (202) 334-6000, holzinger@washpost.com.

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