



## CASE STUDY

### Emergency management agency field-tests BGAN from Stratos during Nebraska wildfires

*Nebraska Emergency Management Agency personnel dispatched to the scene of a disaster require Internet access in the critical hours before a mobile command post arrives. In July 2006, NEMA tested BGAN from Stratos, a highly portable, cost-effective satellite system during two major wildfires in remote parts of Nebraska.*

Bob Eastwood is Communications Officer for the Nebraska Emergency Management Agency (NEMA), a small agency with about 35 employees headquartered in a Cold War era bunker in Lincoln, Nebraska.

He's responsible for all the communications equipment that agency personnel use in the event of a state emergency.

"Tornadoes, floods, fires and blizzards are the main types of emergencies we respond to, and occasional hazardous materials incidents," he says. "We get involved when local resources are inadequate for the crisis at hand and they call on the state for assistance."

Upon declaration of a state emergency, NEMA's Emergency Operations Center in Lincoln at the far southeast corner of the state acts as the hub for all state resources responding to the situation – State Patrol, National Guard, Department of Roads, Health and Human Services and other agencies. Federal authorities may also become involved.



*National Guard UH-60 conducting aerial fire suppression.*



## Need for Internet Access

Depending on how far away a disaster occurs, the first individual that NEMA sends out may travel by plane. NEMA can also send two mobile command posts almost anywhere in the state within eight or ten hours. However, in those critical hours before arrival of a mobile command post – if, in fact, one is deployed – emergency relief personnel at the scene may have no access to the Internet.

“We have a web-based emergency management software program that all the agencies monitor and use to log disaster-related actions, requests for resources and other communications,” Eastwood explains. “So it’s vital for us to have an Internet connection wherever we go. Usually some kind of field office is set up in a school, a church, or a fire hall. We never know where. And although many places in the state have Internet access these days, a lot of remote areas don’t.”

For this reason, Eastwood decided to field test BGAN (Broadband Global Area Network), a small and highly portable satellite system, in the summer of 2006. “BGAN fills an important niche for us,” he says, “whenever a mobile command post is not at the location. Or even if one is onsite, it might be tied up or we might need additional access to the

Internet at some distance away from the vehicle. BGAN would be useful in all those situations.”

Both of NEMA’s mobile units, he explains, are equipped with MotoSAT systems and 36-inch dishes for satellite Internet access.

*“BGAN is a less expensive, more portable way for either a first responder or a small agency to get Internet access anywhere in the state.”*

*– Bob Eastwood,  
Communications Officer, NEMA*

## BGAN Field Trials

Eastwood first encountered BGAN at Stratos’ booth at the IWCE Wireless convention in Las Vegas, April 2006. In May, Stratos announced the commercial availability of Inmarsat BGAN service in the United States, for the first time.

“One reason I picked this particular unit,” he notes, “was that it can be used wirelessly. The BGAN terminal – which is the size of a small briefcase – could sit outside on the ground or the hood of a car, and I could be inside a building with my laptop. That turned out to be very helpful when I was deployed to a wildfire in Valentine.”

One Sunday in mid-July, temperatures in north-central Nebraska soared to nearly




HNS 9201  
BGAN Terminal.

115°F (46°C). In a canyon just north of Valentine, a town of 2,600, tree limbs apparently rubbed against a power line, causing a shower of sparks that ignited the grass below. The ensuing blaze spread quickly, driven by strong winds and extremely dry conditions. Two hundred people were evacuated and flames consumed a dozen homes along the edge of town before firefighters brought the wildfire under control days later.

When NEMA personnel first arrived, they had no Internet access. “I was already planning to test a BGAN unit, to see how it worked in the field,” says Eastwood. “So I asked Stratos to ship it to me up in Valentine instead of Lincoln.”

The temperature was close to 100°F (38°C) when the BGAN unit arrived. “I was drenched in sweat when I set out the termi-



nal on the hood of our Durango," he recalls. "The beauty of it is that, once I got the system up and the wireless turned on, I could sit inside where it was air conditioned." Initial set-up required Eastwood to load special software on the laptop, which helps aim the terminal at Inmarsat's satellite. After that, he was able to access e-mail easily and log onto NEMA's web-based emergency management application.

Although NEMA was interested in BGAN primarily for web-based data communications – since disaster relief personnel already have satellite phones – the system also offers simultaneous voice and data capability. What's more, individuals with little or no technical expertise can set up a complete broadband office anywhere in minutes. The second time Eastwood brought BGAN to a wildfire, it took only ten minutes to get the system up and running.

"We had a fire out at Harrison a few weeks later, where I used the BGAN unit again," he says. The wildfire at Harrison, a community of 280 in the far northwest corner of the state, was apparently triggered by lightning. Before it was finally contained by local, state and federal firefighters, the blaze consumed thousands of acres of rural grasslands, and at least one building in

town. "We had our trailer with MotoSAT up there," Eastwood adds, "but a couple people were using it, and it's not wireless. So instead of connecting via MotoSAT, I set up BGAN outside and used it for a day while the other satellite system was busy."

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## A Portable, Cost-Effective Solution

"The systems we have in our mobile command units are actually bigger and faster than BGAN," he observes. "But they're also more costly. Of course, portability is another big difference. If you're flying out to a disaster, you can throw your laptop and BGAN on an airplane or in the back of an SUV and take off."

He explains that while the Nebraska Emergency Management Agency owns mobile command vehicles with satellite

systems, many other state agencies and the local emergency response managers in 93 counties simply don't have the budget for systems like those. "BGAN is a less expensive, more portable way for either a first responder or a small agency to get Internet access anywhere in the state," he concludes.

## About NEMA

The Nebraska Emergency Management Agency, headquartered in Lincoln, Nebraska, is a part of the State's Military Department, along with the Army National Guard and Air National Guard. The agency headquarters serves as the nerve center for emergency management activities throughout the state, and deals with a host of hazards caused by nature or human activity. NEMA personnel monitor state situations, conduct extensive training, and develop emergency plans. Local authorities are responsible for initial response to a disaster. However, if the situation is declared a state emergency, NEMA alerts the Governor and other state or federal agencies, and works with them to respond appropriately to the situation. During recovery, NEMA works with federal authorities to disburse funds to repair damaged infrastructure, to cover costs of emergency responders, and provide assistance to survivors.



## BGAN from Stratos. First on the Scene. Anytime. Anywhere.

[www.thepowerofbgan.com](http://www.thepowerofbgan.com)

### BGAN Benefits and Key Features

BGAN users can access e-mail, corporate networks, the Internet, transfer files, make telephone calls, and transmit streaming IP data via satellite. Key benefits and features of BGAN include:

- A range of small, light-weight, highly portable and rapidly deployable terminals
- Ability to communicate from anywhere, even when terrestrial networks are not operational
- High-speed wireless IP data and circuit-switched network
- Shared capacity IP data rates up to 492 kbps
- Streaming IP data rates up to 256 kbps
- Simultaneous voice and data – on different channels
- Optional guaranteed bandwidth
- Support for legacy applications and a platform for new IP-based solutions
- Support for supplementary services, e.g., call hold, call waiting, call forwarding, SMS and voicemail
- BGAN Dashboard

### The Stratos Advantage

- Stratos Dashboard™
  - Credit Watch Facilities – no more surprise bills! Our extensive online BGAN customer care Dashboard provides real-time information on voice and data usage. Customers can monitor, manage and limit consumption per SIM as well as per groups of SIMs.
  - Instant Online Self Provisioning – BGAN Dashboard also gives customers the means to review their contracts and installed base, as well as the ability to instantly activate, de-activate and change service configurations.
- Stratos Trench™ (Customer Managed Firewall) – Trench is a personal firewall between the internet and the BGAN network. (Web) traffic and applications can be authorized or blocked via a user-friendly interface.
- BusinessAccess – customers can now easily extend their LAN networks to BGAN connected laptops using our cost saving and secure BusinessAccess service.
- GuaranteedAccess – Our infrastructure extends BGAN's guaranteed bandwidth to the terrestrial side, so bandwidth, including end-to-end streaming services, is really guaranteed all the way to the customer's doorstep. Customers using GuaranteedAccess will always get what they pay for!
- IP Access – our value added infrastructure allows customers to benefit from all possible types of internet access via public, private, static and dynamic IP addresses.

### About Stratos

Stratos is the world's trusted leader for vital communications. With more than a century of service, Stratos offers the most powerful and extensive portfolio of remote communications solutions including mobile and fixed satellite and microwave services. More than 20,000 customers use Stratos products and industry-leading value-added services to optimize communications performance. Stratos serves U.S. and international government, military, first responder, NGO, oil and gas, industrial, maritime, aeronautical, enterprise, and media users on seven continents and across the world's oceans. For more information visit [www.stratosglobal.com](http://www.stratosglobal.com).

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