

Getac and FirstNet: When Information and Communication are a Matter of Life or Death

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Utilities — electric, water, and gas — are the quintessential long-term business. It takes years to permit and construct physical infrastructure like transmission lines, water treatment plants, or power plants, and those assets will operate for decades. The rates department calculates future revenue requirements for a decade or more.

But surprisingly, that same long-term planning perspective does not always drive decision-making when utilities choose laptops, tablets, and communications networks for linemen and field workers. When it comes to deploying mobile communications technology with a utility's field personnel, the long-term consequences of short-term thinking could be catastrophic.

2021: A year of weather extremes and natural disasters

In 2021, U.S. utilities and first responders confronted a historically bad year for extreme weather and natural disasters:

- Winter Storm Uri hammered Texas in February, freezing the state's energy infrastructure, plunging millions into cold and darkness, killing over 100 people, crippling the water infrastructure, and inflicting an estimated [\\$130 billion](#) economic toll on people and property in the Lone Star State.
- Wildfires burned over [six million acres](#) of land across the country, mainly in the West, incinerating electric poles, wires, homes, and other structures.
- An especially active Atlantic hurricane season lashed the Southeastern U.S. and Caribbean. Hurricane Ida tore through Louisiana before

running up the East Coast, eventually killing dozens.

- At least 750 tornadoes destroyed lives and property across the country.
- The U.S. experiences an average of 35 “serious” pipeline incidents and 2,872 “significant” pipeline incidents per year, over the last 20 years, according to the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA). “Serious” incidents result in deaths or hospitalizations; “significant” incidents result in deaths, hospitalizations, and property damage above a specified level or spillage of hazardous materials.

Rugged Computers: A No-Regrets Investment

The potential for more extreme weather in the future has been serious enough to convince several U.S. utilities to purchase rugged equipment from Getac and join the FirstNet dedicated broadband network in 2021.

Even if the extreme weather events decline in 2022 and beyond, utility crews still will face service restoration challenges and field emergencies that demand extraordinary communications reliability.

Our clients have told us that investing in rugged computers and a dedicated broadband communications network is a no-regrets decision. Most importantly, it ensures the safety of field crews doing occasionally hazardous, life-threatening work.



Couple 2021's extreme weather emergencies with run-of-the-mill operational challenges in the field and you have a year where utility field crews and first responders were extraordinarily busy. That heightened level of activity amplified the need for rugged computing solutions and reliable communication networks to establish real-time communication between field crews and operations centers. For those in the field, IT decisions are literally a matter of life and death.

The lives of linemen and field workers depend on communications

Utilities are in the reliability business. Many, but not all, already are using rugged laptops and tablets with FirstNet, a specially engineered communications network for mission-critical and first-response teams. FirstNet enables field crews to keep in constant connection with other crews and emergency operations centers during a crisis.

But there are also plenty of U.S. utilities still relying on over-the-counter commercial laptops, tablets, and data networks. These utilities tend to focus on first-costs, not the total cost of ownership. But, as one veteran utility analyst pointed out, "it's one thing to be using your tablet two hours a day on your couch. It's something else to use it 10 hours a day, every day, and occasionally have your life depend on it."

"Using commercially available laptops and tablets in linemen's trucks means replacing them every year," he continued. "Commercially available tablets and laptops have become inexpensive enough that some utilities may choose to purchase that equipment knowing it will be replaced annually."

But the cost of annual purchases including accessories, such as charging sleeves and truck mounting hardware, can easily be several times the cost of a rugged laptop or tablet over time.

"Reliability is the lifeblood of any utility," the source said. "The cost of an equipment failure might not be high on a dollar basis, perhaps \$200 or \$300 per failure. But the consequences of an equipment or communications failure can be extremely high when you're talking about your customers or the regulators. Plus, think of the added risk that equipment failure places on field workers."

The analyst commented: "You don't want to give your people the bare minimum they need. You want to give them the equipment they need to fully succeed. That's why more and more utilities are opting for rugged laptops and tablets."

“If your business is based on reliability, why would you scrimp on essential equipment?”

Rugged equipment helped utilities coordinate disaster recovery efforts

In 2020, Hurricane Laura devastated Louisiana, knocking down over 1,000 transmission towers and inflicting considerable damage on the distribution systems of Entergy and Cleco. Mutual aid crews from 29 states rushed to Louisiana to assist with the power restoration effort.

Those crews could seamlessly communicate with each other because they used the same equipment — Getac rugged computers and laptops and the FirstNet data network. There were no compatibility problems.

Scott Thie, Getac’s director of sales for utilities & communications, shared this: “One of our clients, a prominent utility in the South, told us that the versatility and ruggedness of their Getac computers allowed them to remove them from trucks that had been damaged by the storm and seatbelt them into new trucks for crews to use right away. We had FirstNet built into the Getac machines and had a broadband connection when others did not. After a severe weather event, our crews were able to restore power faster than other crews that were not similarly equipped.”

Over 100 U.S. utilities, including Florida Power & Light, Pacific Gas and Electric, Duke Energy and Entergy, rely on Getac rugged computers and the FirstNet first

responder’s broadband network to communicate under any situation.

Getac has a leading share of the rugged computer market in the U.S., according to the latest research by VDC, a B2B technology market intelligence provider.

Globally, the rugged tablet market grew more than 30% year over year and by 20% in every U.S. region. This positive trend belies a fierce competition, and Getac was the only one of the top three vendors to gain market share for the period. The company regained and extended its lead significantly in the key Americas market, which grew more than 40% year-over-year. Getac increased its regional market share by nearly six percentage points, out-shipping its closest competition by more than 10%.

Getac Becoming the Rugged Computer of Choice for Utilities

One reason an increasing number of utilities and first responders are choosing Getac is the way the company engineers and services its product. In response to customer requests, Getac provides both an Ethernet and a serial port on its equipment. Most competitors offer only one or the other, which often creates compatibility issues between legacy systems.

Getac rugged equipment also includes a QR code reader that can be used to instantly order replacement equipment from the field, reducing the chance for error and shortening service restoration times.



Getac rugged computers make utility field crews more efficient

Credit: Getac



Getac rugged computer mounted in utility service truck

Credit: Getac

The serial port on Getac's rugged equipment connects seamlessly with utility SCADA systems to ensure up-to-the-minute situational intelligence into the utility's infrastructure.

And users say that the longer battery life and vivid screen displays separate Getac's equipment from its competitors.

This shared this comment from a major utility in the Western U.S.: "It's critical that our workforce is able to clearly see what is displayed on their screens in a challenging field environment. When our field workers look at their screens, they need to see a crisp and clear resolution. Plus, given the longer shifts many of our crews must endure, being able to hot-swap fresh batteries when needed is critical. We are not in a position to be the weak link during a first-responder event. There is just too much at stake."

Getac's products also come in a wide variety of sizes: Tablets are offered with 7-inch screens, 10.1-inch screens, 11.6-inch screens, and 12.5-inch screens; laptops are available with 13.3-inch screens, 14.1-inch screens, and 15-inch screens.

FirstNet network ensures continual communications during a crisis

After the 9/11 terrorist attacks, where communications system breakdowns hampered recovery efforts, Congress established a national public safety broadband network. This network was reserved exclusively for police, fire, EMS crews, hazmat crews, and utilities to ensure they could communicate during crises.

AT&T was selected to engineer and build this network. At no cost to taxpayers, the company spent tens of billions of dollars to create Band 14, a 24/7/365 broadband network that is physically separate from commercial broadband networks. The network, operated by FirstNet, has about 2.7 million square miles of coverage across the U.S.

Natural disasters typically take down cell towers, among other structures. And there's typically a surge in cell phone usage after a natural disaster, as people anxiously try to reach loved ones. So, at a time when there is limited cell phone bandwidth, utility crews and first responders in the field risk getting a "busy" signal if forced to use commercial communications equipment and networks.

Losing the ability to communicate and coordinate tactical decisions and relay situational intelligence creates a whole new set of life-or-death risks for field crews.



When there's a premium placed on reliability, utilities choose Getac and FirstNet.

Credit: Getac

That won't happen with FirstNet, according to Doug Clark, AT&T's executive director for FirstNet. "When a disaster happens, utilities and first responders can count on FirstNet," he said. "When a crisis hits and multiple utilities or agencies respond, if they're not on the FirstNet system, the alternative is to hand out mobile radios and synchronize communications, which wastes valuable time."

The FirstNet network was engineered for and built to meet four unique requirements of utility crews and first responders: availability, operability, innovation, and support.

Even without extreme weather disasters, linemen rely on their communications infrastructure — hardware and software — day in and day out to receive and send work orders, coordinate work crews, provide restoration status updates, and place instant equipment orders.

Natural disasters often take down cell towers in an affected area, which cripple communications for

those utilities using commercial broadband networks. But FirstNet has truck-mounted mobile cell towers as well as a drone fleet and blimp resources to ensure continued network coverage even when cell towers are burned or destroyed.

Conclusion

Thie said, "The utility industry has been rapidly transforming the way it handles field communications. The migration from consumer devices to rugged devices at utilities continues to grow. For utilities, it's all about safety, agility, and cost efficiency. Up time is vital, often a case of life-or-death. Utilities that are concerned about worker safety, reliable connectivity, and getting the best bang for your buck increasingly are choosing Getac and FirstNet. It's the most reliable package."

Utilities are built around reliability. Customers expect always-on service, as do regulators. Reliability is also a deeply ingrained cultural trait at utilities.

Utilities need to consider reliability and long-term total cost to operate when making decisions about their field crews' communications equipment and broadband networks. If your business is built around reliability, and your employees occasionally risk injury or worse when responding to emergencies or incidents, why trust commercial computer equipment and broadband networks?

Over 100 U.S. utilities, and thousands of other first responders, have operationalized their reliability culture by selecting Getac rugged computers and FirstNet Band 14, a 24/7/365 broadband network that is physically separate from commercial broadband networks.