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RAPID, RELIABLE ACCESS TO INFORMATION CAN BE A MATTER OF LIFE AND DEATH

MOBILE SOLUTIONS FOR LAW ENFORCEMENT, FIRE AND EMS AGENCIES

HOW DOES MOBILITY SUPPORT EMERGENCY RESPONSE?

It may sound overly dramatic, but mobile technology and the access to information it provides can be the difference between life and death in an emergency.

Today's first responders and other emergency personnel are equipped with mobile technology that combines devices, software and connectivity into an essential tool that helps police officers, firefighters and emergency medical technicians (EMTs) act more quickly and effectively. Powerful devices connect to critical apps and data so first responders can prepare en route to the scene, make split-second decisions as the situation evolves, and share information with hospital emergency departments and other public safety organizations. The results are seen in saved property and lives as well as in first responder safety.

First responders face several challenges using mobile solutions. Emergency workers operate in difficult conditions and their devices must be able to withstand rough usage and tough environments. Connectivity can be a challenge—particularly in rural or remote areas. And devices must be powerful enough to take advantage of increasingly sophisticated software applications.

When it comes to choosing mobile devices, agencies have a wide range of options, including laptops, tablets and 2-in-1s that can convert to either form factor. Accessories such as vehicle mounts are also important for implementing an easy-to-use, safe solution. Vendors offering professional services can help

your agency plan your solution, deploy devices right out of the box, integrate with existing software, and secure and manage your devices.

This paper explores how first responders are using mobile devices and provides advice and a checklist of considerations for how to choose the mobile device that will best support your department's mission. It also describes ways that Panasonic devices, software and services address first responder challenges.

THE MOBILE ADVANTAGE

- Provides on-demand access to apps and data
- Enables computer-aided dispatch (CAD) and route optimization
- Allows agency collaboration and data analysis
- Improves situational awareness
- Enables real-time documentation of events
- Streamlines reporting

MOBILE SOLUTIONS AS TACTICAL REINFORCEMENT

From the moment a call comes in to 911 to the time when a fire truck, ambulance or squad car arrives at an incident, there are numerous points where communications can break down.

When that breakdown occurs, it can mean delays and the loss of critical pieces of information.

Mobile solutions put CAD and other services such as FirstNet® directly in to first responders' hands. This way, first responders can communicate with the dispatcher and access real-time situational updates, which can be analyzed and used to refine response plans. With built-in GPS, mobile devices help drivers avoid traffic to follow the quickest route possible. This access to information is crucial to arriving at the incident with a strategic, informed plan of action and assists with monitoring efforts at the incident.

For example, EMS teams can quickly and accurately monitor vital signs and document the information on electronic patient care reporting (ePCR) forms. They can quickly assess and treat patients, as well as share information with emergency rooms and other agencies as situations evolve. Fire crews can access critical information such as maps, event history, building schematics, occupant data, hazardous materials (hazmat) info and hydrant locations. And police officers can access information that helps them better understand the situation they're walking into, as well as check intelligence databases, capture event details and complete incident reports in the field.

TWO WAYS TO LOOK AT CONNECTIVITY

A dependable wireless network is essential to first responder mobile solutions, but that's only half the story.

Wireless connectivity is also dependent on the quality of your mobile device. Great network coverage does you little good if the mobile devices you use drop the connections.

Connectivity needs for first responders are complex and varied, but success comes down to two things: device reliability and connectivity reach. First responders rely on constant connectivity to communicate with headquarters, teammates and other crews. Where many mobile devices fail is in reliably maintaining these connections, especially for those first responders working in extreme environments. For example, first responders may experience dead spots at the incident site, signal interference from surrounding buildings or spotty coverage as they race to an emergency that crosses networks.

Your mobile solutions need reliable, always-on connectivity to achieve maximum responsiveness on every call.

SAVING LIVES WITH REAL-TIME INFORMATION: CITY OF HIALEAH

With 20 fire and rescue units across eight stations, the City of Hialeah Fire Department (HFD) in Florida is responsible for answering 30,000 calls each year—largely incidents that require an EMS response.

HFD recognized that having as much information as possible when first responders reach the scene of an emergency facilitates faster treatments and safer outcomes for all involved.

HFD selected Panasonic TOUGHBOOK® laptops and mounted them in its emergency response vehicles. From the moment a call comes in via CAD, responders can head to the scene while reliably accessing and sharing information—from patient status to the location of fire hydrants—ensuring crews arrive quickly and prepared for the situation.

HFD also knew that the devices it adopted would face rough conditions, especially since firefighters often removed their devices from vehicles to help take down medical reports at the scene. It wanted a technology partner that offered comprehensive warranties and services to get the department up and running quickly in the event of a hardware failure. HFD opted into Panasonic's ProServices Protection Plus coverage designed for users facing the most extreme work environments, which augments the standard warranty with no-fault accident coverage. With this coverage, TOUGHBOOK users receive prompt repair or replacement of devices, avoiding unexpected costs.

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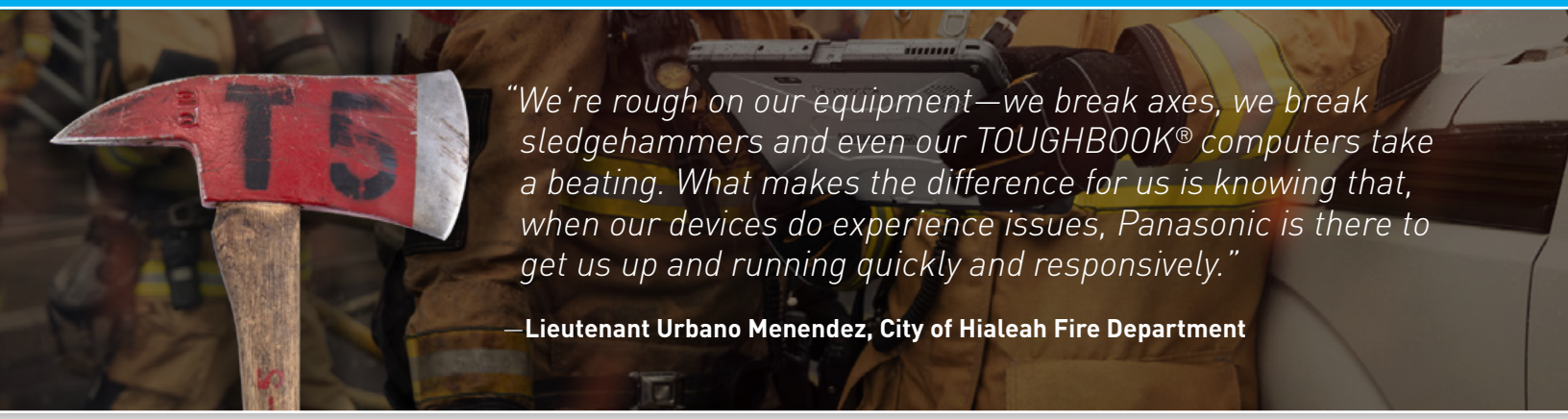

"We're rough on our equipment—we break axes, we break sledgehammers and even our TOUGHBOOK® computers take a beating. What makes the difference for us is knowing that, when our devices do experience issues, Panasonic is there to get us up and running quickly and responsively."

—Lieutenant Urbano Menendez, City of Hialeah Fire Department

HOW TO EVALUATE MOBILE TECHNOLOGY

Mobile devices used in public safety environments have unique requirements.

To get the best value and provide appropriate support for personnel, agencies should consider devices that go far beyond typical consumer requirements.

Form factors and device features—Laptop? Tablet? Both? Before you can select the best form factor and features for your device, consider how personnel will use it. If first responders mainly receive data, a tablet may be best. Need to input lots of data such as ePCR forms? A laptop may be easier to use than a tablet's onscreen keyboard. Working with high data input and need portability? Consider a 2-in-1 device with a detachable tablet that can be carried closer to the action. Be sure that the device enables responders to use a touchscreen while wearing gloves—in bright sunlight or darkness—and can be sanitized after use.

Ruggedness—Most consumer devices are not designed for the hardships faced by first responders. Extreme heat and cold; dust, smoke, water, accidental drops and vehicle shocks and vibrations are just some of the daily challenges. Some agencies buy lower-priced, consumer-grade devices to save on initial costs and then add screen and case protection, typically not designed for extensive rugged use. These devices just can't "stand the heat."

Agencies risk damaged internal device components, overheating and other malfunctions. What may be saved in purchase costs up front can be quickly eaten up by downtime and productivity loss from more frequent repairs and replacements. This raises the total cost of ownership (TCO) and costs more in the long run. Learn more about what to look for when buying a truly rugged device.

Failure rate—Productivity goes down and costs go up when devices fail. In situations where failure is not an option, Panasonic devices are more than five times more reliable than the average laptop used by businesses across the United States,[1] lasting longer and contributing to a low total cost of ownership.

Battery life—In-vehicle devices may have a constant source of power (from the vehicle's battery), but devices used outside of the vehicle need batteries that last or that can be swapped out without powering down.

1. Based on a comparison of Panasonic actual data for our TOUGHBOOK family of devices to PC Magazine reader-reported data for competitors, 2018.

Wireless components—Quality components matter and placement within the device can impact performance. Look for devices tested for internal and external interference to ensure unblocked wireless transmissions. Wireless components undergo six rigorous tests for durability and resistance to interference in one of the industry's largest anechoic testing chambers.

Data privacy and security—Agencies using ePCR forms and sharing patient data must comply with Health Insurance Portability and Accountability Act (HIPAA) requirements and other regulations regarding patient privacy and data security. Critical security protections built into TOUGHBOOK® devices enable HIPAA compliance with National Institute of Standards and Technology BIOS compliance and Trusted Platform Module (TPM) 2.0 to protect devices and patient data through secure boot and hardware-level encryption.

Software and network partnerships with device providers—Some manufacturers work together with network and application providers to create complete solutions that optimize device performance. Be sure that devices are certified and tested to work with the software and network provider you choose.

As an authorized AT&T FirstNet® Dealer, Panasonic can help you plan for FirstNet adoption with easy-to-deploy options. We also ensure that all our devices are Verizon Response Ready.

All Panasonic TOUGHBOOK devices are certified with major carriers and ready to activate and connect you reliably to critical information when you need it most.

Vendor services—Working with a trusted partner who offers professional services can provide numerous benefits and take the pressure off your IT department to plan and deploy multiple devices. Panasonic has been working with public safety organizations for decades and brings deep experience and technical knowledge to every setting. Panasonic's ProServices can help agencies plan their mobile solutions from start to finish, offering consulting, connectivity, application, deployment and vehicle-mounting services. Find out more about how Panasonic ProServices can help your agency.

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THE PANASONIC CONNECTIVITY ADVANTAGE

Panasonic TOUGHBOOK® mobile devices are designed to deliver the one-two punch of reliability and reach in nearly every type of rugged environment. Why?

- 4G LTE Advanced multicarrier mobile broadband with GPS, wireless and Bluetooth® capable.
- High-performing antenna modules smoothly and securely hand off signals between cell sites and Wi-Fi access points as you move between them.
- Wireless components embedded in our devices reduce interference from external and internal sources.
- Six rigorous tests for component durability and resistance to interference in one of the industry's largest anechoic testing chambers.
- Built-in device and data security software.
- Certified with major carriers for their first responder networks, including FirstNet with Band 14 capabilities and Verizon Response Solutions.

For more about Panasonic connectivity, read our wireless connectivity guide.

HOW TO EVALUATE NETWORK CONNECTIVITY

Network connectivity is a lifeline to critical information.

Consider the following network capabilities when you choose your network provider.

Reliable connectivity and coverage reach—It's important to understand reliability and reach for your network provider. Check out the network provider's service level agreements (SLAs), as well as its actual performance record in your geographical area. How often does it drop connections? What areas have no or limited coverage? Also, be sure that mobile device docking stations support "pass through" to antennas that can be mounted outside the vehicle. This allows the docking station to access the radio frequency outside the steel box that is your vehicle, which maximizes the height and gain of receiving in open air.

Speed—How long does it take to connect to the network, and how fast can data be transferred? Peak speeds can vary by 50 percent or more; it's important to compare advertised and actual network speeds. Consider the type of information that needs to be transferred and communicated.

Scalable and secure virtual private network (VPN)—Does the network provider support the secure transmission of patient information or other sensitive data? Secure connections use more bandwidth. Can the provider expand capacity as needed without loss of speed and performance? A secure VPN can provide additional security to an agency's mobile devices in the field.

Customer service—Work with a network provider that provides exceptional customer service. When technology issues arise, you should feel comfortable turning to the network provider knowing problems will be resolved quickly.

MOVING TOWARD A SUCCESSFUL MOBILE STRATEGY

Mobile devices and network connectivity can be a vital asset to fire departments, EMS and law enforcement agencies—but only if you choose and implement carefully. To get the most out of your investment in a mobile strategy, consider the following best practices:

- Identify your needs and use cases and make sure the devices and network you select address those needs.
- Get input from first responders who are regularly in the field; shadow them on the job to discover opportunities to streamline tasks and improve processes.
- Minimize changes to workflow and other processes. Only change what will improve efficiency.
- Provide training so personnel are prepared to use devices without thinking in emergency situations.
- Consider the applications you need and how they affect bandwidth, storage, performance, and other network and device requirements.
- Leverage current investments and identify the path for upgrading existing solutions. A reputable third-party provider with expertise in this area can help you through the process.

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First responders have a lot on the line when a call comes in. They shouldn't have to worry about the tools they use to do their job. With the right mobile devices and a reliable network, first responders can have the information they need to protect the community they serve and keep personnel safe.

TOTAL COST OF OWNERSHIP—MORE TO LOSE THAN JUST MONEY

In many cases, a low-priced consumer-grade laptop or tablet costs the organization, and the people it serves, more in the long run. TCO provides a more accurate picture of costs over time. TCO incorporates maintenance, repair and replacement costs; associated equipment (e.g., docking stations), training and user support costs.

First responders also need to look at device failure rates to calculate TCO. In addition to more frequent repair costs, lost productivity is an important consideration.

LEARN MORE ABOUT HOW PANASONIC HELPS FIRST RESPONDERS.

TOUGHBOOK.com toughbook@us.panasonic.com 1.888.245.6344

This white paper was originally created by Emergency Management, Verizon and Panasonic in 2017. It has been extensively updated to include new content reflecting emerging trends in mobility for first responders.