SOLVE MOBILE IT CHALLENGES TO MEET THE MISSION-CRITICAL NEEDS OF LAW ENFORCEMENT
For police officers, detectives, and other law enforcement personnel, being on duty means being on the move. Among the arsenal of tools required to perform their job duties, having access to information is a top priority. Data services such as CAD (Computer-Aided Dispatch), Number Plate Lookup, and the CJIS (Criminal Justice Information Services) database are just a few examples of information sources law enforcement personnel need access to in the field.

In this dynamic work environment, it’s understandable why mobile computing adoption is exploding. According to a 2013 Gartner study which ranked IT spending priorities in the global government industry, mobile technologies topped the list, surpassing cloud computing, IT modernization, and IT governance.

But, does outfitting police officers and detectives with mobile devices automatically guarantee a safer, more productive work experience? Unfortunately, the answer is an emphatic "No." There are several additional factors that must be taken into consideration.

This paper shares best practices for overcoming law enforcement’s mobile IT challenges to improve officer safety, efficiency and recording of evidentiary facts.
MOBILE IT CHALLENGES AND SOLUTIONS

CHALLENGE: ENSURING OFFICER SAFETY WHILE IMPROVING PRODUCTIVITY

SOLUTION: PROPER IN-VEHICLE SOLUTIONS

How technology is mounted and used within a vehicle is essential to officer and community safety. The design of a safe mobile computing environment should include a suitable in-vehicle device, safety compliant and ergonomically correct mounting hardware, and safety software such as the blank-it vehicle display management system which can be configured to blank out the tablet screen and/or disable the keyboard of the vehicle when in motion. Dash mounts take up less space and do not disable the side passenger airbag. It should be noted that the design should be forward-looking, meaning if the company plans to move to smaller hybrid vehicles, organizations should plan for a type of mounting that will work within these vehicles.

SOLUTION: MOBILE VS. PORTABLE TECHNOLOGY

Understanding the difference between mobile and portable technology is crucial to providing officers with the tools that will provide the most productivity. Typically, portable devices are used in an enclosed environment and only while sitting. They are generally awkward to use while standing. Mobile devices provide everything that portable devices do, but they also add important benefits like allowing an officer to easily move from the vehicle to the field to the office, to stand up outside and/or walk around the scene of an incident. For example, in a non-threatening situation, a mobile device enables the officer to document an accident and capture on-screen witness accounts safely. Additionally, when the officer needs that information in court appearances and other forums, he or she can easily retrieve and share it. Tablets are the mobile device form factor that bridge the gap between portability and mobility and expand the value a device can bring to an officer.

CHALLENGE: END USER ACCEPTANCE

SOLUTION: HIGH PERFORMANCE, RUGGED TABLET

More and more organizations are realizing the importance of end users embracing and accepting mobile technology. In law enforcement, the task of balancing the technology expectations of a new generation of officers with the technology preferences of senior officers can seem daunting. The new generation grew up with touchscreen technology and expects to have access to the latest trends, like today’s IOT (Internet of Things). The senior officers are likely more reluctant to embrace new trends, but rather prefer to use what they know, like a keyboard. Tablets are an excellent option that work for both generations – offering multiple input options including pen, keyboard and touch. Design and performance are also key to ensuring end-user acceptance. For law enforcement, outdoor use places a lot of requirements on tablet PCs. Rugged,
moisture and dust resistant are essential. Viewable screens in sunlight are a requirement. Excellent wireless performance while mobile is also a requirement. Long runtimes on battery with hot-swappable functionality is key. Now, all of this has to be in a lightweight, ergonomically acceptable tablet if the goal is mobility. Fortunately, some tablet PCs that fit these requirements also tout a large screen, a handle and custom mounting vehicle docks that ensure clean views and more space.

**SOLUTION: WORKFLOW-ENHANCING ACCESSORIES**

Being able to access and record information in real-time is one thing, but having all the accessories to do it seamlessly is what will make an officer truly embrace a solution. Carrying cases, multiple input and docking options, built-in documentation cameras with more sophisticated software for annotation and measurements, time and GPS location stamping – these are just a few workflow-enhancing accessories and features that will greatly improve officer productivity and ensure end user acceptance.

**CHALLENGE: SECURING DATA**

**SOLUTION: WINDOWS®-BASED TECHNOLOGY**

To ensure CJIS information is properly protected even on a mobile device, CJIS enacted a security policy in 2013 requiring authentication to be used to access the database, and specific mobile device management capabilities installed. Law enforcement agencies that opt to use Android™ and iOS devices limit themselves to the security and remote management applications supported by those mobile operating systems and 3rd party tools. Even though these devices may include their own personal security features that allow an individual user to remotely lock or wipe a lost or stolen device, these features are not easily extended to IT administrators or IT service providers who may need access to the devices to ensure software updates and patches are being performed regularly. Windows®-based devices on the other hand are designed to support mobile workflows as well as proven IT security initiatives, including biometric- and fob-based two-factor authentication.

**CHALLENGE: RELIABLE WIRELESS CONNECTIVITY**

**SOLUTION: MOBILE GATEWAY**

One way to ensure secure, fast, wireless connectivity is always available is to install a Mobile Gateway, which is a small, rugged, self-contained unit that can be mounted to a vehicle roof or in a trunk. Some of the more advanced Mobile Gateways feature a multiple-antenna array and come with automated configuration software. Inside the Mobile Gateway units are multiple cellular radios and wireless mesh links that aggregate available connectivity from multiple sources and present it to users as if they were on one single network. Mobile Gateways include extended standalone battery power and some can even be configured to run on solar power.
MOBILE GATEWAY VS ANTENNA PASS-THRU

An older wireless connectivity method used in law enforcement is antenna pass-thru which connects the installed PC to a roof-mounted antenna. One problem with this solution is that it only ensures connectivity for the PC. Today, a patrol car may have many wireless devices, including self-contained ANPR (Automatic Number Plate Recognition) systems, lapel-mounted IP cameras, dash mount cameras that can stream video, and even an officer’s cell phone. All of these devices can connect to the Mobile Gateway.

Another consideration to think about when comparing a Mobile Gateway and antenna pass-thru is that although antenna pass-thru technology improves radio performance when antennas are attached, it degrades radio performance when not attached. This is because every connection point in an antenna circuit degrades performance. PCs without antenna pass-thru perform better than a PC which is not using an external antenna but could. In order to have an in-vehicle PC which can also be used while mobile and outside of the vehicle, it is essential to select units without antenna pass-thru and rely instead on a Mobile Gateway to deliver better connectivity, and to more devices.

CONCLUSION

In law enforcement, where safety, efficiency, reliability and security must all be taken into consideration with every IT decision, thoughtlessly choosing a mobile device or failing to pair the right mobile device with reliable wireless connectivity can be disastrous. Selecting a purpose-built mobile device and reliable mobile wireless infrastructure that addresses the challenges unique to law enforcement is a critical prerequisite for success. Instead of being an impediment to safety and productivity, the right mobile solution has the potential to aid police officers and detectives in doing what they do best – serving and protecting.

ABOUT MOTION

Motion Computing® is a leading global provider of rugged tablet PCs, accessories, software and wireless connectivity products for mobile workers. We combine world-class products with services customized for the unique needs of targeted industries, including utilities, construction, public safety, retail and healthcare. We are committed to making the mobile workforce more productive and safe by reducing mobile deployment risks and preserving existing IT infrastructure investments.

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