

CASE STUDY

Intel Powered Classmate PCs
Government/Public Sector



Tough Enough for the Front Line

Warwickshire Police connects officers to core systems with innovative Intel® technology-based TETRAtab C Series*

Police forces across the UK have undergone significant change over the last few years. Challenging budgetary constraints, added to re-structuring of many forces, mean efficiency across all areas of operation has never been more critical. Measures have been implemented at a national level to help make the most of officers' time. Specifically, one initiative provides them with access to core IT systems while out on patrol. This shift towards mobile working enables officers to spend more time performing their core roles in the community and less on administrative tasks back at the station.

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*Colin Reynolds, Chief Inspector,
Warwickshire Police*

Challenges

- **Increase public visibility:** Enable officers to spend more time in the field and less in the station through introduction of secure mobile information
- **Reduce red tape:** Eliminate unnecessary paperwork and free up support resources involved in wasteful double handling of information
- **Boost operational effectiveness and quality of service:** Help staff respond faster and more accurately to incidents, with greater collaboration and information-sharing, improving performance in areas and providing increased levels of service to the public
- **Ensure affordability, flexibility and value for money:** Deliver user-friendly, ruggedized solutions able to withstand the rigors of front-line policing without the significantly higher costs associated with more toughened devices

Solutions

- **New design:** Specialized devices – the TETRAtab C Series* ruggedized convertible tablet/netbook, based on the Intel-powered classmate PC, was made available to over 300 officers
- **Seamless connectivity:** Thin client model and mobile broadband network access keep devices connected to over 20 core applications, on the move and without compromising security
- **Familiar interface – office desktop to the car:** Applications appear the same on mobile devices as on office desktop computers, eliminating the need for training on new technology and minimizing resistance to change

Impact

- **More time on the street:** During the first year the devices contributed towards officers spending 5-6 percent less time in the office
- **Greater efficiency:** Ability to access force data and systems on the move means officers can act faster, with more information at hand. Direct input of information at the scene reduces time spent re-handling data back at base
- **A national model:** Solution can be easily replicated in other forces for nationwide mobile collaboration



Police force gets officers out of the station and boosts productivity with innovative Intel classmate PC-based devices

Tough Challenge, Hardy Device

In Warwickshire, the force had piloted a number of different devices including personal digital assistant (PDA) devices, smart-phones, slate/tablets and traditional rugged laptops for use in the field, but it had been unable to find the right fit. Officers had indicated three key requirements:

- Compact, lightweight, flexible and portable
- The ability to use the device in tablet touchscreen mode for simple data input tasks
- The option to use a traditional keyboard and mouse pad when inputting more complex reports and information

Finally, like any good police officer, any mobile devices in the field would also need to be totally flexible – able to be used inside and outside patrol vehicles and be able to stand up to a rough-and-tumble daily routine. A robust design was essential.

Secure mobile information specialist, Strobe Solutions Ltd., was able to provide the answer. The company's Managing Director Roger Marsden had already been working closely with specialist communications equipment manufacturer TETRAtab Ltd. to develop an affordable, ruggedized mobile device that could meet the challenges Warwickshire Police and its peers across the UK were facing.

"We realized that the ideal basis for the right device already existed – in classrooms, of all places," he explains.

"The Intel-powered classmate PC is robust, affordable and user-friendly, all characteristics that we were looking for. It has been such a successful design that Intel has sold over four million of these devices worldwide – so they already had a fantastic pedigree. We realized that by enhancing and customizing some key areas of the design and build we could produce a device that was able to fit the demanding requirements for front-line use."

Having gained valuable input from several police forces to understand specific operational user requirements, TETRAtab Ltd. and Strobe Solutions were able to produce a customized front-line version of the classmate PC that included integrated high-performance mobile broadband communications (3G/GPRS/Wi-Fi/Bluetooth), solid-state hard drives with optional encryption, additional RAM, high-resolution touch screens and extended-life batteries. TETRAtab is also able to incorporate other specialized functionality such as TETRA secure communications and integrated smartcard and barcode reader units.

The new device was launched as the TETRAtab C Series, a ruggedized, convertible tablet notebook.

Making the Connection

Warwickshire Police was the first force in the UK to deploy the new TETRAtab C Series, purchasing 60 devices to be used by response officers and other teams.

The units connect seamlessly to the organization's Citrix-based network and using in-built SIM cards to communicate over the Vodafone mobile network when out of the office.

Officers pick up a device when they commence their shift and take it with them on patrols, logging on through a single sign-on interface to access over 20 core programs including the police national computer (PNC), the automatic number plate recognition (ANPR) system and the force's command and control system.

To keep costs down and ensure optimum security and efficiency, Warwickshire wanted to use a thin client model, with all systems and applications hosted on servers on the force LAN at the station. The devices provide a mobile portal to the servers without holding any data themselves.

The thin client set-up means that the use and appearance of these systems on



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the mobile devices is exactly the same as on the desktop PCs officers were accustomed to using at the station. This eliminated the need for any training for staff, which, with a team of over 300 officers, represented a significant time and cost savings for Warwickshire Police.

Within a year of deployment of the first devices, the force could see results. "Our primary objective was to reduce the time spent in the office and increase time spent on patrol," explains Colin Reynolds, chief inspector at Warwickshire Police and in charge of incident response officers. "Introducing the devices has contributed towards a 5-6 percent reduction in time spent in the station."

Efficiency Across the Force

Efficiency – another key priority – has also improved demonstrably. By being able to check details themselves, rather than radioing the control center, officers can respond to incidents much more quickly and with greater accuracy. For example, an officer was called to a shoplifting incident and recognized the criminal from his image on the shop's CCTV footage. This meant he could immediately look up the individual on the PNC to confirm his

identity. The PNC also informed the officer of the criminal's address and known associates, one of whom was a woman who also appeared in the CCTV footage. In this way the officer was able to identify both offenders and confirm his next steps before he even left the crime scene.

Even as part of the daily routine, this instant access is useful. Officers coming on shift can check the briefing and tasking system to update themselves on what has been happening on their patch in the last few hours, and identify any areas or tasks that they need to deal with.

Information can be captured and added to the PNC and other systems more effectively as well. In the future, officers arriving at an outdoor crime scene will have the opportunity to take pictures on the integrated webcam and immediately upload them to the system before weather conditions or public interference contaminate or erase any evidence. These detailed images could later then be used for court prosecution purposes.

The paperwork associated with routine police work can be managed better as well. Officers can use quiet moments (such as waiting by the side of the road

for recovery vehicles to arrive after a road traffic collision) to catch up on tasks that would normally be done at the end of their shift on office desktop computers.

While officers on the beat are using their devices to carry out these and a number of other tasks more efficiently, their sergeants are also able to work smarter. They can keep tabs on where their staff is deployed and who is available to respond to new incidents, even when they are out on patrol themselves.

Empowering Officers for Excellent Results

The new technology gives officers the tools to carry out system checks themselves and also means they can take some of the burden off of the control center during busy times. They may also make use of the PNC more often, which enables them to make more proactive and efficient use of their time. For example, one officer noticed a van in a car park that sparked his suspicion and he looked up the number plate, only to find the van was owned by a burglary suspect. On further investigation it was found to contain GBP 30,000 worth of stolen goods. By acting on his hunch on the spot, the officer was able to make an arrest and retrieve stolen goods, which otherwise may not have been possible.

In emergency situations, officers use the devices to give them better visibility and more accurately determine next steps. Armed response units can pull up a map of the house they intend to approach to see what other entrances or exits may need to be covered. For example one officer searching for a missing person was able to look up online the medication they had left behind to determine how and when it next needed to be administered and advise the unit that picked up the individual.

Improved Public Perception

The new devices have proven popular with members of the public in



Warwickshire as well as with police staff. Many residents live in rural areas, so police community support officers (PCSOs) now take one with them to regular surgeries held in villages around the county. This enables them to resolve queries from the public straight away and demonstrates to constituents that the police force is dedicated to making use of the latest technology to deliver the best possible services.

A National Vision

Implementation of the TETRAtab C Series solution at Warwickshire Police was handled by project manager Phil Richardson, who sees great potential for the technology. "At Warwickshire, we've developed a solution that can be delivered pretty much out-of-the-box," he explains, "so rolling it out to other forces will be

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straightforward, and would assist in wider police collaboration at a national level."

Indeed, Strobe Solutions and TETRAtab have already delivered a similar roll-out of 65 C Series devices to Cumbria Constabulary and more to South Wales Fire and Rescue Service.

TETRAtab has also developed a complete in-vehicle demountable docking solution for the C Series range, offering secure, lockable stowage of the device while in motion and connecting to vehicle power and external antennae as well as a range of secondary in-dash touch screens and rugged keyboards.

In addition to the more than 20 applications and databases already available, Warwickshire Police is expecting to be able to add more in the near future. These include the national collision reporting system (CRASH), additional form-entry systems, electronic witness statements and remote printing capabilities.

"The introduction of mobile data represents a huge leap forward for almost every aspect of policing," Phil Richardson concludes. "We're confident that we'll see more benefits and improvements as officers become more comfortable with the devices and continue to innovate their own improvements to traditional working practices."

Innovation in Motion

Using mobile data devices has enabled officers to use their own innovations and creative approaches to make themselves more effective. The automatic number plate recognition (ANPR) system is a perfect example.

Traditionally, static cameras on the street or attached to specially-equipped police cars are used to check passing vehicles for intelligence, wanted offenders, missing persons, and various motoring offenses. Images captured by the street cameras are monitored by operators at the control center who, upon spotting an offending or suspect vehicle, radios the officers in the area and asks someone to intercept the car. This can be time consuming and not always effective.

By accessing the ANPR system directly through their TETRAtab C Series tablet, officers realized that they could position their car to identify offending cars shortly before they pass the police car. The officers are then ready to intercept and stop the right car straight away.



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Spotlight on Warwickshire Police

Warwickshire lies to the south and east of the west midlands conurbation and covers an area of 736 square miles (1,979 km²). It has an estimated population of 530,700 (mid-2008 estimate).

The county is at the heart of Britain's transport network and has several key strategic routes passing through it. Although most of the population is located in the main towns, a significant part of Warwickshire is rural.

Warwickshire Police aim is to protect people from harm. This includes responsibility for fighting crime in the whole of the county, working together with partner agencies and neighbouring forces.

In June 2011 the force joined West Mercia Police in a strategic alliance which will see joint delivery of services across both force areas.

Policing within Warwickshire is delivered from a number of core sites, which accommodate specialist teams and support services, and local policing bases from where neighbourhood officers are deployed.



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