



Providing wireless and flexible working to Government-specified security levels

“Without a fast, secure and reliable way of accessing and working with critical business information, our international teams would be unable to operate effectively. In terms of our global strategy, it is a prerequisite to our success.”

Ian Baker
Assistant Director, Infrastructure Services
Criminal Justice IT

Criminal Justice IT staff are now able to work with security and flexibility thanks to a customised BT Wireless LAN solution

Executive Summary

Criminal Justice is a major area of public service in the country. Some 400,000 people serve it – from court ushers, judges and Crown Prosecution Service lawyers to police, prison and probation officers. Security is critical if Criminal Justice and related Government departments are to function effectively, where a large proportion of data is classified as ‘restricted’.

The Criminal Justice IT (CJIT) team – formed in 2002 to enable a modern IT infrastructure – required a means to use remote flexible working including Wireless LANs. This would need to be fully approved for connection to the Government Secure Intranet (GSI). CJIT needed a solution for remote and mobile Criminal Justice working: in the office, at home, and out and about in the UK and overseas. Given the already mobile nature of Criminal Justice work, this vision would help to

transform working methods and serve to meet efficiency improvements required by the Gershon Report, an independent review of public procurement and public sector efficiency carried out by Sir Peter Gershon in autumn 2003.

CJIT’s industry partner BT is renowned for its wireless networking expertise. It has a track record of successfully delivering strategic IT solutions to the Government sector, and was therefore called in to design and install a secure Wireless LAN. The solution complied with strict UK Government Communications-Electronics Security Group (CESG) requirements and is the only such solution approved for connection to the GSI. It proved the viability of secure wireless and remote working as a tool for use throughout the Criminal Justice area.

Case study

Government

“The design of the BT Wireless LAN has provided us with end-to-end security between laptops and offices while our people are working remotely. None of this could have been achieved without a supplier with the breadth of expertise that BT provides. BT people were professional in everything they did and their architecture and recommended solution work perfectly.”

Ian Baker
Assistant Director, Infrastructure Services
Criminal Justice IT

Marketplace

Criminal Justice is a major area of public service in the UK. Some 400,000 people serve it – from court ushers, judges and Crown Prosecution Service lawyers to police, prison and probation officers. The various entities that make up the Criminal Justice service use a variety of systems, but these were not originally designed to share information between colleagues working in those different organisations.

The Criminal Justice IT (CJIT) programme was set up in spring 2002 with a vision to enable anyone involved in Criminal Justice – including professionals, victims and witnesses – to have easy access to all available information relating to their part in the criminal justice process. It is paving the way for more flexible ways of working right across the public sector. Ian Baker, Assistant Director of Infrastructure Services for CJIT, explains: “We wanted to provide individuals with flexibility of choice over how they work and gain improved productivity through the use of enabling technology.”

Security is critical for Criminal Justice and the Government departments and Public Bodies that support it, where a large proportion of data is classified as ‘restricted’. However, readily available out-of-the-box Wireless LAN solutions lack the security provisions required to protect the integrity of information in Government and, indeed, many commercial environments. So CJIT was keen to invest in the first Wireless LAN solution fully approved for connection to the Government Secure Intranet (GSI).

Most, if not all, Government departments use the GSI to provide their Internet access and their email services, both secure and non-secure. Any network system that is to be connected to the GSI is required to be fully and formally approved by the relevant UK government accreditation authorities in order to protect other users.

Business opportunity

The CJIT budgetary provision covers the IT facilities required to ensure that by March 2008 anyone involved in Criminal Justice should have electronic access to the information they need when and where they need it rather than waste time working inefficiently, having to sit in offices wading through disparate paper-based systems. In fact, ending this paper chase should deliver improved performance across the whole Criminal Justice service.

One key focus area is being able to provide solutions for remote and flexible working: in the office, at home, and out and about in the UK and overseas. Given the already mobile nature of Criminal Justice work, this vision will help to transform Criminal Justice working methods and serve to meet efficiency improvements required by the Gershon Report, an independent review of public procurement and public sector efficiency carried out by Sir Peter Gershon in autumn 2003.

Gershon profoundly influenced the UK Government’s 2004 Spending Review, suggesting £20 billion-worth of savings in staff, premises and back office procedures. Flexible working and new working procedures would reduce the need for formal office space and utilise what was left more efficiently. As Ian Baker comments: “What we needed was a new model that would push the envelope from current fixed desk working or basic remote access – allowing intrinsically secure transmission and access to information irrespective of where the person was working.”

At the centre of that model was to be the development of the first Wireless LAN to fully meet Government-level security specifications for connection to the GSI. It was also expected that the solution’s development would lead to an improved definition of the Wireless LAN specification, which conforms to the CESG Manual V Government security standard.

Case study

Government

BT solution

CJIT needed an expert in wireless networking with a track record of successfully delivering strategic Government IT solutions. A proposal from BT for the required secure Wireless LAN solution included not only the technical platform and infrastructure but also end-to-end professional services, spanning design through to implementation and ongoing maintenance and support.

Explaining the decision in favour of BT, Ian Baker says: "We needed a capable and trusted technical authority that could produce a design to meet our needs and at the same time work with the Communications-Electronics Security Group to agree the technical solution. BT satisfied these criteria."

BT's work with CJIT commenced with the establishment of a comprehensive design specification that met the operational needs of Criminal Justice users while complying with strict accreditation requirements for GSI security, for both CJIT and other Government users. Creating such a secure Wireless LAN requires a rigorous, methodical approach to developing and applying appropriate security policies. BT security experts worked alongside CJIT and CESG teams to achieve this. Ian Baker comments: "BT showed deep commitment to achieving our aims, and encouraged the necessary team work by bringing together various groups with specialised needs and expertise."

This phase included a full survey of the CJIT offices in London. A vital step in the design process, this exercise identified the best places to deploy the wireless hotspots, together with a technical audit of possible sources of radio frequency interference. Critically it identified and minimised security risks from nearby wireless networks or potential drive-by hacking.

Once the design was agreed the focus shifted to testing and gaining CESG approval. After a period of joint working – between CJIT, CESG and BT – attention turned to gaining approval for connection to the GSI. The CESG team undertook an intense period of penetration testing – i.e. mimicking the possible hacking attacks that might take place – to actively and realistically evaluate the network's security measures. This rigorous approvals process also included a detailed examination of BT's design rules and documentation.

While the solution is based upon standard industry components – including a Cisco Systems Wireless LAN platform – BT's security experts

were able to custom engineer the hardware and software to achieve a fully secure and trusted medium for Government use. Without this readily available BT expertise, costs would have considerably increased through the need to contract third party consultants.

BT's service to CJIT also extends to ongoing management and support including assistance with further development of the solution, conformance with changing Government rules and regulations, and its application to departments beyond CJIT.

Results

Receiving final approval to carry 'restricted' traffic in March 2004, the BT solution has now become the first secure Wireless LAN environment to conform to the Manual V Government security standard and at the same time to be approved for connection to the GSI. A range of CJIT users now enjoy unrivalled flexibility and security regardless of where and when they carry out their work.

In the future secure Wireless LAN and flexible working solutions are almost certainly going to be introduced across the Criminal Justice service; the CJIT model could be a major tool in the kit to do this as it will enable people associated with Criminal Justice to work flexibly by providing fast, secure access to Criminal Justice information. For example, probation officers and staff employed by the Crown Prosecution Service and the Prison Service – whose traditionally paper-based working takes them to various government buildings – will now be able to work electronically with information from other departments available to them without having to have access to GSI. In addition, cross-departmental teams will be able to be brought together quickly, and flexed equally rapidly, to deliver new projects more efficiently and to shorter timescales.

"What we are working towards is packaging this solution into part of a standard Government IT toolkit for remote and wireless working, which will make it easier for the Criminal Justice service and Government departments to achieve flexible working benefits," says Ian Baker. Wireless LAN working will also help the Criminal Justice service meet the Gershon recommendations, by making more efficient use of office space. People will be able to use their time more productively and respond faster and more accurately to ad hoc requests through better and ubiquitous access to information. In addition, office relocation costs could be minimised by reducing – or even eliminating – the requirement for a new network infrastructure each time staff have to move.

For example, in February 2005 the CJIT teams in London moved offices and those people with VPN access including fixed and wireless connections only suffered a weekend of downtime as opposed to three days or more for those on the fixed network. This move was fully supported by BT with the same security and Wireless LAN experts carrying out a new survey, re-installing the network and ensuring that all steps were undertaken to preserve the security of the CJIT network to maintain GSI accreditation.

Ian Baker concludes: "BT, with its wide experience of secure networking, was able to successfully convert our user requirements into a workable solution that fully met CESG requirements. The design of the BT Wireless LAN has provided us with end-to-end security between laptops and offices while our people are working remotely. None of this could have been achieved without a supplier with the breadth of expertise that BT provides. BT people were professional in everything they did and their architecture and recommended solution work perfectly."

Why BT?

- At 76,000-strong, BT's mobile workforce is the largest in Europe, so BT is uniquely qualified in the operation of secure flexible working environments
- BT is a trusted provider of fixed and wireless ICT solutions and services to the Government sector
- BT has extensive experience of providing network security solutions for Government departments
- BT has the ability to integrate best of breed vendor components into a complete security solution

Case study

Government

Technology blueprint

BT installed an industry-standard 802.11b Cisco Wireless LAN platform for CJIT, with an IPSec overlay that ensures that data security and integrity are independent of the Wireless LAN transport layer. CyberGuard firewalls are installed between the Government's wired and wireless network environments, and personal firewall client software sits on each PC and laptop. Authentication between users and the CJIT network is performed through digital certificates issued by an internal certificate server.

A virtual private network (VPN) architecture ensures that data integrity and confidentiality is maintained. The result is a secure VPN channel between the user's laptop and the CJIT network, which ensures that users enjoy full access to all the CJIT office applications and to the GSI, from wherever they are working.

Main BT products & services

- Secure Wireless LAN solution including the Wireless LAN platform and infrastructure together with firewall and certificate security components
- Professional services covering the secure Wireless LAN solution assessment, planning and design, implementation, management and support

Offices worldwide

The services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any part of any contract.

©British Telecommunications plc 2008.
Registered office: 81 Newgate Street, London EC1A 7AJ
Registered in England No: 1800000

PHME 54821

