

Connected Policing Framework

Transforming Policing Through Technology

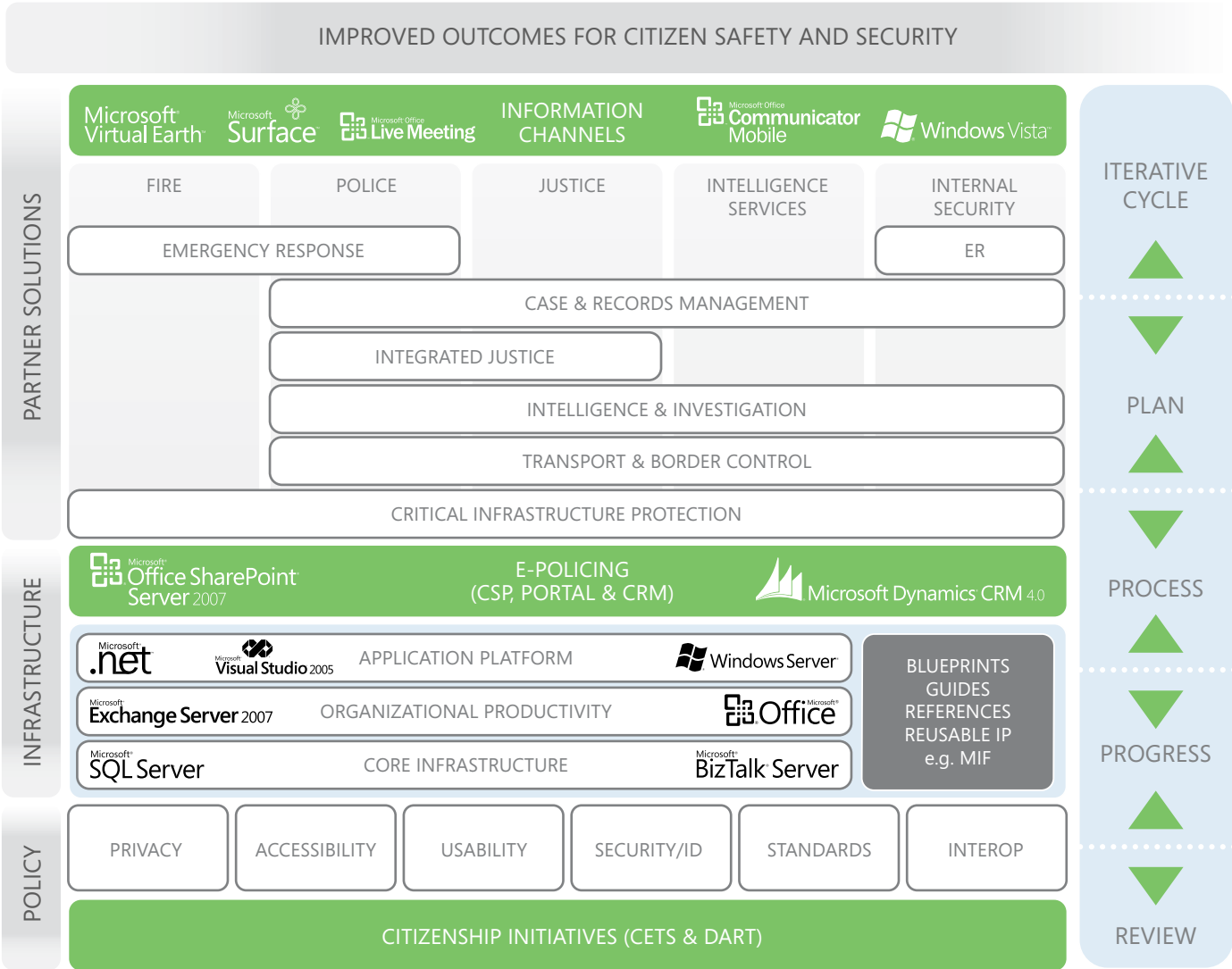
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The Microsoft Connected Policing Framework

The Microsoft® Connected Policing Framework is the result of work between Microsoft, specialist partners and many public safety, law enforcement and judicial organizations to build solutions, technologies and services that assist in integrated and collaborative policing to combat crime and assist with citizen safety. We reuse this collective "Know-How" to share and reuse international best practices in areas such as combating cyber crime with innovative intelligence and investigation solution architectures.



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Introduction

The use of Web-enabled technologies to enhance policing is gaining significant interest, with early adopters in this field experiencing some major breakthroughs. This Connected Policing Framework Paper aims to provide a forum and connected policing discussion themes to share these best practices and assist local, national, and international policing and counter terrorism agencies to develop their own online and internal Web-based law enforcement and judicial solution strategies. It will also build on a common understanding of the types of services and areas of policing where such an approach can be of the greatest value.

In the post 9/11 world, Microsoft continues to work with law enforcement, public safety, counter terrorism, and justice organizations to create an integrated approach to public safety, e-policing, and administration of justice, while delivering enhanced police services to individual police forces in a secure, customer-centric, and cost-effective way.

This thought leadership document primarily focuses on policing, but also reaches into the justice system, public safety, internal security, and counter terrorism. It aims to show how listening and working closely with customers in these fields is helping to build an architecture based on Microsoft technologies by providing an environment for an ecosystem of Microsoft partners to integrate existing systems and information. At the same time, it is introducing innovative collaboration and information sharing solutions to meet the changing needs of the police and related agencies in their collaborative mission to prevent and combat disorder, crime, and terrorism.

In the final section, the White Paper looks at the future value of mapping systems. As Bob Hayes, a former senior police officer who now works for the Microsoft Institute for Advanced Technology and Government, says: "These systems are often limited in their scope, because they are walled gardens of data. Mapping solutions that don't link up with other information sources are missing an opportunity." The White Paper also argues for the need for police forces to exploit the potential for better interoperability and integration, taking full advantage of the overall value of the Microsoft platform.

1.0 Public Safety

Technology alone cannot solve the safety and security challenges experienced by emergency and disaster specialists worldwide. However, powerful computer and communications technologies increases the chances that individuals and organizations — police, fire fighters, homeland security, paramedics, counter terrorism experts, and other first responders including healthcare professionals — will succeed in their critical operations to save lives and protect the public.

Terrorism is challenging most democratic governments, but the threat was already present before the attack on the World Trade Center in New York in 2001 with a 1,100 percent increase in terrorist attacks in the past 10 years and a 650 percent rise in related deaths compared to the previous 30 years.¹ Additionally, some 211 million people globally are affected every year by natural disasters, such as Hurricane Katrina, or most recently in China and Burma where the death toll is feared to be on the scale of the Asian tsunami of 2004. Improved sharing of intelligence will reduce the threat of terrorist attacks and make it easier for first responders to cope with sudden emergencies.

1.1 Emergency and Disaster Response

Given these natural and human threats, the safety of citizens depends on first responders being connected 24 hours a day, seven days a week by reliable IT communications. Not only do life saving professionals need the right information immediately at the click of a mouse — because emergencies don't wait—but systems need to provide strong, built-in physical and cyber security features, mapping, flexible mobile and collaboration capabilities, and systems capable of interoperating with a wide variety of other communication devices and protocols. The overwhelming priority for responders to disasters is to strengthen lines of communication and information availability so as to respond more effectively to a crisis.

When a crisis erupts, it is critical that key people obtain a complete picture of events as they unfold. One of the most effective ways of doing this is through a shared Web site. Microsoft collaboration technologies can aggregate information from multiple agencies and news media into a common Web portal showing text, video, CCTV images, and photos in real time. With such access to up-to-date images and information, inter-agency collaboration and decision making at the command and control operations center can be made easier.

Police forces are constantly on the look-out for a better way to handle public safety during events. Where they rely on paper systems, officers often end up being hours behind what is actually happening on the streets. Where inter-agency working is concerned, organizations now want technology with an easy-to-understand interface and minimal learning curve to help them share information. Tampa Bay Urban Area Security Initiative, a coalition of agencies including law enforcement, emergency management, and public health and safety bodies, was just such an example in managing Tampa's annual Gasparilla Day Parade, which includes a mock pirate invasion of the city and draws more than 500,000 spectators.

In 2007, Tampa decided to use Microsoft desktop applications and a Web portal with the 2007 Microsoft Office system to co-ordinate management of the parade and turned to Microsoft Gold Certified Partner² Convergence Communications³ based in St. Louis, Missouri. Police officers on the ground used Windows Mobile devices to view the data in the incident management system called E-Sponder.

¹ Microsoft research 2007

² Microsoft Gold Certified Partners represent the highest level of competence and expertise with Microsoft technologies and have the closest working relationship with Microsoft.

³ www.microsoft.com/publicsector/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=4000000597

Critical communications, which previously were exchanged via countless paper documents and mismatched radio reports, were brought into E-Sponder, improving the security of the game while maintaining homeland security in Florida.

As a result, Tampa Police Department officers can stay up-to-date as planned and unplanned events occur on Gasparilla Day. Major John Bennett, Commander of Special Operations, Tampa Police department, says: "It performed well for Gasparilla—we're confident it will work for us during a real emergency."

The Jacksonville Sheriff's Office (JSO), also in Florida, faced a challenge on a similar scale in providing security for the Super Bowl, a sporting event that attracts 100,000 spectators and is broadcast to 800 million people around the world. The JSO successfully planned and coordinated the work of more than 50 separate agencies at the local, county, state, and federal levels. They relied on a collaborated solution based on the Microsoft Office system and Microsoft Office SharePoint® Portal Server 2003 technology with expertise from Convergence Communications. Critical communications, which previously were exchanged via countless paper documents and mismatched radio reports, were brought into E-Sponder, improving the security of the game while maintaining homeland security in Florida. Flood crisis management in Missouri was also made easier with E-Sponder providing multiple agencies with situational awareness, incident management, and communication tools so their resources were focused on responding to the events in the most effective way possible.

Another example of cost-effective systems deployment was at the Fujian Flood Control and Drought Relief Headquarters, which oversees flood control and drought relief in Fujian Province, China. It controls water volumes throughout the province and wanted a system to help it to manage floods, make accurate weather forecasts, and improve the efficiency of its people and decision-making. With the help of IT developer Fuzhou Strongsoft Development,⁴ the agency implemented a personal digital assistant integrated application system for flood control to improve its command and control function. The new system uses Windows Mobile phones linked to a Microsoft SQL Server® database, giving officials features such as query, analysis, pre-warning, communications and more. The agency estimates that the new solution will reduce disaster loss by an average of U.S.\$52 million a year.

Automation of manual records is another more fundamental but less glamorous challenge for public safety agencies. South Wales Fire and Rescue is one of the largest fire services in the United Kingdom (U.K.) covering more than 1,000 square miles and protecting over 1.4 million people. To react with speed and efficiency, it is vital that fire fighters are ready to respond to any situation such as fires in buildings that contain chemicals or other hazardous substances. Until recently, much of this information was only available on paper. The fire and rescue service identified the need for a central repository to store such information and the tools to make it accessible to fire fighters in the field. It deployed a solution based on Microsoft collaboration technology including SharePoint Portal Server 2003 implemented by Microsoft Gold Certified Partners Computacenter and Trinity Expert Systems

A parallel challenge faced Christian Aid,⁵ the U.K.'s fourth largest development aid agency, in managing disaster response in a timely way. By 2004, the charity had more than one million documents on its network drives with many duplicated documents and redundant files. Charity workers based in the field had no access to the wide area network and were entirely reliant on e-mail and their C drives.

⁴ www.microsoft.com/asia/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=400000612

⁵ www.microsoft.com/casestudies/casestudy.aspx?casestudyid=48967

Christian Aid needed new technology to ensure it could begin work on an emergency using accurate information well within 24 hours of the event. Previously, decisions were often delayed by the need to gather together 30 or more people for the emergency task force to take decisions.

As it happened, a solution using Microsoft communication and collaboration technology including SharePoint Portal Server 2003, deployed by Microsoft Gold Partner Silversands, was in place just in time to respond to the 2004 Asian tsunami. Indeed when the tsunami struck—the U.S. Pacific Command turned to Microsoft collaboration technology targeted at teams with members who are usually offline, or who do not share the same network security clearance. This helped them link together emergency responders from many countries, non-governmental organizations, and a number of military units.

Crisis management challenges are producing a new generation of solutions especially for technology that can connect all critical stakeholders including disaster managers, operations managers, and field first responders. The need for such technology was underlined by the investigation into the July 7 (7/7) 2005 bombings in London when rescuers underground could not use radios and some relied on mobile phones, which were overwhelmed. Police, fire, and paramedics all used different radio systems, and rescuers at ground level could not talk to their colleagues below street level or in mobile vehicles.

As 7/7 in London proved, tracking people, vehicles, and equipment is essential if the emergency services are to respond effectively to a catastrophe or even cope with routine call-outs. Using Microsoft technology for visualizing complex project information, emergency services can move shapes on a drawing page to quickly populate depots with people and equipment, and reassign them to new locations by dragging shapes from one place to another.

Handling of casualties in disasters presents other challenges. A major advance in casualty management has been achieved by healthcare authorities in Ireland and Dubai, which are commissioning mobile solutions in ambulances to help optimize the use of the “golden hour” after paramedics collect patients. The solution was developed by Microsoft Gold Certified Partner Valentia Technologies⁶. It uses “ruggedized” tablet PCs and a Windows Vista® operating system, giving emergency departments more visibility of inbound patients prior to arrival at casualty departments, which can then correctly prioritize patients from an emergency depending on the severity of their injuries.

Ease of integration is another key factor in choosing crisis or event management software. Victoria Police in Australia needed to maintain a safe and secure environment for the Melbourne 2006 Commonwealth Games. The force required a robust crisis management system that could monitor a high risk 11-day event involving 38 venues. A critical factor in the choice of Microsoft operating systems and SQL Server database technology was ease of integration with existing servers and a requirement for user friendly systems. Victoria Police needed 100 percent visibility of operations and real-time information for faster responses to increase the speed of decision making. It therefore entrusted its iProtect project to Microsoft Gold Certified Partner iComply.

⁶ www.valentiatech.com/MicrosoftCaseStudy.htm

By deploying Microsoft Office SharePoint Server 2007 collaboration technology, helped by Microsoft Gold Certified Partner BT Lynx, the service has acquired a solution which is up to 30 per cent more cost effective than other options on the market.

Few people realize that operating expenses can form as much as 80 percent of the total cost of ownership of a network over just 10 years, meaning that any organization looking to invest in a communications network must strive to achieve value for money as well as high security and performance. Most European Union governments are seeking to improve services through technology, but are also under directives to drive out unnecessary costs by automating processes and eliminating paper systems.

Take Tayside Fire and Rescue, which provides emergency services to 400,000 people in Scotland. The organization spends most of its budget on people and capital equipment — with only a small percentage available for ICT. In addition, high private bank exchange support costs significantly drained resources from the ICT budget. In 2007, Tayside took control of its telephony and deployed a unified communications solution built on Microsoft unified communications technology, which has made the service more responsive and cut costs through increased operational control.

Many fire and rescue authorities depend on employing part-time volunteer fire fighters, especially in rural areas. Grampian Fire and Rescue Services in north-east Scotland has 39 fire stations of which 33 are staffed by part timers. The service needed a unified electronic records management system and an improved intranet service that was user friendly for all employees, whether full time or part time, whatever their level of IT skills. By deploying Microsoft Office SharePoint Server 2007 collaboration technology, helped by Microsoft Gold Certified Partner BT Lynx,⁷ the service has acquired a solution which is up to 30 percent more cost effective than other options on the market. Users can now access important information—that was once in paper files—at the click of a mouse. The portal is easy to use and employees only need basic additional skills to retrieve information. All data is stored in one location and is accessible by everyone through a single gateway.

Infusion Development is a Microsoft Gold Certified Partner offering Joint Engineering Planning and Response System (JEPRS), a real-time crisis and planned event management solution, connecting government officials including disaster managers, operations managers, and field-first responders. It sustains real-time communication and collaboration over GIS data and incident reporting to provide an intuitive common operational picture and enhanced situational awareness, and relies on the Microsoft .NET Framework and SQL Server database technology.

The primary drivers for this solution include: the ability to collaborate and document the common operating picture in an intuitive way in real time; an intuitive user interface that helps emergency management to track events and supports the response to those events in real time. The solution offers deep integration with incident reporting directly through the monitoring system and the common operating picture. Ultimately, JEPRS is an application that allows enhanced real-time communication. Users can extend information and viewing capabilities on a need to know basis, a useful feature, especially in a scenario in which an agency needs to involve outside agencies.

Built with the 2007 Microsoft Office system and Microsoft Virtual Earth™ mapping software technologies, JEPRS helps emergency response personnel to plan and implement crisis management programs. A Web client ensures rapid deployment and wide reach, while a smart client delivers offline capabilities.

⁷ www.microsoft.com/emea/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=4000001615

1.2 Crime and Disorder Reduction Strategies

Crime respects no national or local boundaries and increasingly adopts the strategies of large corporate businesses — the global drug trade is estimated at U.S.\$320 billion while organized crime presents a U.S.\$2 trillion crime threat to world security.⁸ The threats are changing — new ones are replacing old — with organized crime taking advantage of many more opportunities. Criminals network and outsource, using experts to deliver good services to other criminals.

In the European Union (EU), 66 percent of emergency calls to first responders are not emergencies, but fall into categories such as request for information, false alarms, nuisance reports, or petty crime. Filtering genuine calls on police time is one challenge, but police forces throughout the EU increasingly recognize the need to collaborate not just with statutory partners but also with private businesses. As Sir Paul Condon, Former Commissioner, London Metropolitan Police, once said: "Information and intelligence is the life blood of policing and therefore requires protection."

As Jens Henrik Højbjerg, Deputy Director of the European Police Office (Europol) says: "We are facing very dynamic criminals who work with no rules. If we are to meet this challenge we need well-educated people in the police, customs and taxation — across the board. All the European states have agreed that our approach must be intelligence led. If the heroin is already in the addict's body, it is too late."

While security of data is clearly important, for true collaboration to happen, local force systems and national standard systems need to co-exist and converge where possible. In the U.K., police, crime and disorder reduction partnerships involve local authorities, probation services, health authorities, the voluntary sector, and local residents and businesses.

Other more technology-based challenges standing in the way of better information sharing include:

- **Datasharing and storage** — the ability to realize national data sharing and storage beyond the basic exchange of information to a level that involves common data sources.
- **Localkey system** — the readiness and preparation of migration plans from local key systems to national standard systems.
- **Organizational change** — retention of the capability to respond dynamically to organizational change.
- **Bestvalue** — the need to demonstrate best value through a combination of best fit, service delivery, interoperability, user satisfaction, and value for money in low-cost volume licensing.

In 2003, Fife Constabulary was the first police force in Scotland to channel all non-emergency calls through a call-handling unit. The aim was to centralize its call center activities, while deploying a user-friendly customer relationship management (CRM) solution for all interactions with citizens, whether by telephone, e-mail, fax, or the police Web site. The call handling system's analysis of demand showed that 43 separate categories of activity in which Fife police engaged could be better undertaken by other public services.

"The overall value of the Microsoft platform makes it possible for police forces to extend the value of their existing IT assets and this has influenced many police forces to standardize on Microsoft technology."

Bob Hayes, Microsoft Institute for Advanced Technology and Government, U.K. Representative

⁸ Microsoft research 2007

Fife wanted not only to streamline the passporting of such inquiries to other agencies, but also to gain a single view of every citizen so as to ensure a multi-agency response to any emergency. VisionWare,⁹ a Microsoft Gold Certified Partner, deployed its relate-CRM solution using Microsoft technology including Microsoft BizTalk® Server 2004 to orchestrate business processes and link into disparate systems, while Web services are used to share the data. The .NET Framework provides the system for development of service delivery applications.

Central Scotland Police, another of Scotland's eight police jurisdictions, reacted to similar pressures to Fife in 2004 with a review of its IT operating system against best-value considerations, the need to meet government policing targets, improve productivity, and achieve better joint working with criminal justice partners. It also wanted to comply with Freedom of Information Act requests in an automated way and reduce the cost of handling such inquiries. The force needed a system where, instead of wasting time going back to their base station, officers would be able to log on at any station, giving front-line officers more time on the job to serve the public. Central Scotland Police was also anxious to hit all the performance targets agreed with its local Crime and Disorder Reduction Partnerships.

Essex Police in the U.K. pioneered the first cross-border data exchange system in 2005 which allowed the force to electronically transfer incident data from its command and control function to other U.K. forces to most effectively deal with an incident. Microsoft Gold Certified Partner Steria implemented this solution using Microsoft technology which eliminated the inefficiencies previously involved in inter-force data transmission which involved individual e-mails, fax, telephone, or other legacy systems.

1.3 E-Policing

"As the need for increased integration and compatibility with other criminal justice agencies and community partners grows, the value of similar infrastructures becomes more important. A shift to a largely Microsoft infrastructure gives us the ideal platform from which to drive this convergence forward."

David Stirling, Head of ICT, Central Scotland Police

Advanced Internet and communications technologies can empower the police officer on the front line with tools to access and share critical information rapidly and easily. Few governments can afford to modernize all their legacy systems, but citizen relationship management software can help put a new face on ageing systems for contact centers, collaboration, and information sharing environments. As Bob Hayes, a former senior police officer who now works for the Microsoft Institute for Advanced Technology and Government, says: "The overall value of the Microsoft platform makes it possible for police forces to extend the value of their existing IT assets and this has influenced many police forces to standardize on Microsoft technology."

David Stirling, Head of ICT for Central Scotland Police¹⁰ put it another way, remembering the force's switch from Linux to Microsoft in 2004. "Although an open-source solution met our needs in the past, it was becoming more difficult to maintain in the increasingly joined-up environment of today," he recalls. "As the need for increased integration and compatibility with other criminal justice agencies and community partners grows, the value of similar infrastructures becomes more important. A shift to a largely Microsoft infrastructure gives us the ideal platform from which to drive this convergence forward."

⁹ [www.visionwareplc.com/upload/Fife%20Consabulary%20\(related%20and%20MultiVue\).pdf](http://www.visionwareplc.com/upload/Fife%20Consabulary%20(related%20and%20MultiVue).pdf)

¹⁰ www.microsoft.com/presspass/press/2005/aug05/08-11CSPPR.mspx

Other benefits for collaboration and information technologies included:

- Immediate use of off-the-shelf programs to reduce the need for customized applications
- Greater compatibility with partner organizations' ICT systems
- Increased staff satisfaction through use of familiar technology
- Reduced number of operating systems
- Increased access to a wider range of software products

Additionally, new standards-based portals help police forces to collaborate online with other agencies and to integrate emergency operations into a joint command center. Just as law enforcement agency information is important, so too is knowledge that comes from the community.

E-policing has huge potential in both the developed and developing world. To capitalize on this potential, the opportunities provided by the Internet and mobile technology to reach the most remote and disadvantaged communities must be seized.

Twenty years ago, police kept in touch with their local communities through neighborhood watch meetings. The tradition still continues, but in a digital age, police are increasingly turning to the Internet to best connect to the communities they serve, especially young people. E-policing takes advantage of e-mail to alert residents, schools, faith groups, and community leaders of crimes occurring in their own communities and invites them to become involved in combating crime. It has been successfully implemented in some of the busiest police forces in the world, including the Los Angeles Police Department.

Crime reporting and intelligence systems are two sides of the same coin although in some countries, systems integration is still a major challenge. The Finnish police enjoy a well deserved reputation for excellence in combating crime and in protecting the safety of citizens. But until 2004, the police service's IT systems were fragmented and deployed on dozens of local area network services including Novell and early versions of Windows. Helped by Microsoft Partner Atea Finland,¹¹ the force chose up-to-date Microsoft Windows technology with Active Directory® identity management systems. Johan Ekström, Senior Planning Officer, Finnish Police, says: "We chose Microsoft technologies because they were affordable, functional, and safe. Our critical systems have to be available for police work round the clock without any downtime. We value the reliability of Microsoft solutions and the continuity of development they offer." The Finnish police is also using Microsoft solutions for instant messaging and values the flexibility the new systems have brought to the police service's uniformed and civilian workers.

The Italian Carabinieri Police, a military organization that safeguards Italian national security and provides general policing duties, wanted to optimize internal communications and improve its relationship with the public. The force wanted to integrate internal and citizen-facing solutions for the public to report crime online. With 5,000 police stations across Italy and a number of officers working on international assignments, success depended on fast, effective information sharing. The force has deployed new collaboration tools based on Microsoft Windows Server technology and SharePoint Portal Server. This provides a wealth of information to employees using features such as mailing lists, online catalogs, newsletters, surveys, and instant messaging. The public can report thefts online and talk to operators using video-streaming technology.

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Johan Ekström, Senior Planning Officer,
Finnish Police

¹¹ www.microsoft.com/industry/publicsector/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=200527

Since going live in 2004, CADIC has achieved an availability of 99.99 per cent, helping Swiss police to respond in real time to any emergency, thereby achieving much faster response times to the public and to saving lives.

The Municipal Police of Lausanne is responsible for maintaining public safety in the Swiss city of Lausanne, which is home to 150,000 people. The force needed a global information system (GIS) for better handling of operational information, including command and control, communication, and management support. Getronics,¹² a Microsoft Gold Certified Partner for enterprise systems, supplied its Computer Aided Dispatch and Integrated Communication (CADIC) systems running on Windows technology and the Microsoft Office system. Since going live in 2004, CADIC has achieved an availability of 99.99 percent, helping Swiss police to respond in real time to any emergency, thereby achieving much faster response times to the public and to saving lives.

U.K. police forces need to comply with the Management of Police Information guidelines. In 2002, Hampshire Police officers anticipated that their part-manual, part-automated methods to comply with these guidelines were too resource intensive. Another driver was the need for an out-of-the-box electronic records and document management system. Using records management, collaboration, and integration features, officers wanted to search and share unstructured data easily. Records managers needed to automate the application of metadata, filing and publication rules, and disposal processes.

However, despite these successes, serving police officers in London's Metropolitan Police Service say much more remains to be done. A London Borough police inspector⁴, responsible for neighborhood policing initiatives, says single logon has only been in use in his borough for the past 12 months, the crime reporting and crime intelligence systems do not interoperate, and there are no standard templates to record information from the community. Single logon was not working on the day of the interview resulting in delays in accessing numerous different databases.

However, the main issue in data sharing for the inspector is still the inaccuracy of replicating, or re-keying incident data, which often compromises the accuracy and integrity of the information and negatively affects operational efficiency. In a recent example, a simple error in keying in the name of a street where several burglaries had taken place resulted in a new crime "hot spot" being wrongly created and vital resources shifted away from the correct location — a situation which took weeks to resolve.

The Pennsylvania Office of the Attorney General tackled similar challenges in 2007. It manages a broad range of law and public safety responsibilities, but had for years relied on an outdated system for communicating with citizens. In March 2007, Microsoft Certified Partner Smart Business Advisory and Consulting¹³ helped the agency deploy Microsoft Dynamics® CRM citizen relationship management software. They then enhanced the solution with a Web application that automates all citizen contacts, including the processing of Web-based forms. Now, the agency is experiencing more satisfied citizens, increased workflow efficiency, and technologies that support continuous improvements in service delivery. George White, CIO, Office of the Attorney General, says: "Microsoft CRM has played a key role in helping us quickly respond to virtually any constituent request with superior service — whether an in-person visit to one of our offices, by phone, or over the Internet."

¹² www.microsoft.com/industry/publicsector/partnersolutionmarketplace/global/CaseStudyDetail.aspx?casestudyid=49146

¹³ www.microsoft.com/industry/publicsector/partnersolutionmarketplace/global/CaseStudyDetail.aspx?casestudyid=400001142

1.4 Microsoft Citizen Service Platform

Together with its partners, Microsoft has created its Citizen Service Platform (CSP) which it says will make it easier for governments to interact with citizens, streamline processes and, as a result, save time and money. CSP offerings will help governments of all sizes to more responsively deliver services to citizens via the Internet. The CSP application framework, announced originally by Microsoft in January 2008, is now available to customers to help them implement technological solutions to some of the most common issues governments face.

"Government agencies are looking for simpler processes, yet enhanced interactions, for the way they serve their constituents," says Gail Thomas-Flynn, Microsoft General Manager of State and Local Government in the U.S. "The common framework offered through the CSP ensures efficient collaboration and productivity to provide better service, reduce costs, and improve management insight."

The CSP is an extensible package that supports repeatable implementation of local and regional government solutions. It uses existing IT investments and easily scales as new business requirements arise. Built with Microsoft infrastructure components, it uses open standards and includes a set of common transactions so developers can build solutions that ensure delivery of critical services to citizens, businesses, and civil servants. Gordon McKenzie, Director of Local and Regional Government, Microsoft Worldwide Public Sector, says: "CSP can provide a superb platform for e-policing through its ability to connect the needs of the citizen and government agencies through to the case management, incident tracking, and analysis needed by an integrated public safety solution."

Microsoft CRM, a citizen relationship software package, is part of the CSP offering and is an appropriate environment for collaboration, case management, and workflow. Using this technology as a building block, Microsoft Gold Certified Partner 2e2 is developing a general case management framework for police and other emergency services using CRM and related collaboration and database technologies. These include:

- **Missingpersons** — including mobile interface, interactive voice response (IVR) voice platform for information capture and provision, integrated with Microsoft CRM, and other interoperable collaboration and search features.
- **Stopand search** — with mobile interface, property tracking into CRM, custody scheduling in CRM and collaboration and information sharing functions.
- **Crimereporting** — again with mobile interface, use of IVR for information capture and provision, integrated with CRM plus collaboration and search.
- **Intelligence** — Microsoft Office PerformancePoint integrated performance management technology for "heat mapping", hot spots, graphicals, and workflow features linked to CRM.
- **Domesticdisputes** — use of Microsoft technology to inform on process, hold good practice and lessons learned.

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Gordon McKenzie, Director of Local and Regional Government, Microsoft Worldwide Public Sector

2.0 Criminal Justice

The successful function of the justice system worldwide depends on multiple agencies working with shared data and intelligence. Where professionals employed in the criminal justice system can seamlessly connect to the information and resources they need, everything changes. Better exchanges of information means enhanced public safety for the law abiding citizen. But, to operate more effectively and improve the timeliness and quality of judicial decisions, governments need integrated systems that securely connect people to authorized information, each other, and related organizations.

Justice delayed is justice denied, and where accurate case records, judicial precedents, or pre-sentencing reports are on hand electronically, inter-agency co-operation that once took days can often be completed in minutes. Delays in bringing defendants to trial can be reduced and the chances of a successful prosecution and award of compensation enhanced. However, modernizing and integrating the criminal justice system is not just about making the best use of available technology, but also about being innovative in the administration of justice and in reducing costs to the taxpayer. The aims as articulated by the Northern Ireland Court Service in January 2008,¹⁴ which apply in many other jurisdictions are for:

- Continuous improvement in all business areas to offer better value in the services provided to customers.
- A focus on front-line activities with customers to provide solutions that make the best possible use of human resources within the criminal justice system.
- Deployment of technology that advances capability, capacity, and cost-effectiveness, which in the Northern Ireland Court Service involves contributing to government targets for cost reductions of GBP22 million (U.S.\$42 million) over the next three years.
- Through the consideration of contracting out shared services between criminal justice partners to centralize and automate the more repetitive routine and lower-value-added activities, ensuring that more time is freed up for the areas of greatest business need and service delivery to customers.

2.1 Case and Records Management

The Supreme Judicial Council is responsible for administering the legal system of the oil-rich Gulf state of Qatar. Until 2005, the judges could take up to a month to give judgment after the hearing on an individual case because they needed to search paper systems for precedents and past judicial rulings before coming to a verdict. They also needed to automate the process of delivering any actions or sentences into a single integrated business process so as to "join up" with other agencies. The government decided to develop its own case and records management system using the .NET Framework having first rejected an Oracle/Linux solution. As a result of implementing the new workflow systems, the courts are now delivering decisions in minutes not weeks, judgments are more consistent, and the risk of a miscarriage of justice has been reduced.

The Causeway Criminal Justice program is used by six different criminal justice departments in Northern Ireland all requiring access to accurate up-to-date information. The users must have confidence in the veracity of the data retrieved as important decisions are often based on this information. Prior to the start of rolling out the new system in 2004, a large proportion of the documentation used by the government criminal justice system was paper based, which

¹⁴ Northern Ireland Court Service Value for Money (VFM) Delivery Agreement 2008-2011

resulted in significant delays in the legal process. Information was hard to find and there was much duplication of effort, especially in filing. The dispersed nature of the filing systems made keeping information up-to-date difficult and the system did not lend itself to the production of cost effective, accurate statistical analysis. Put simply, processes were too often ineffective and inefficient — the average delay in bringing a case to trial was 292 days and this was increasing.

The solution, whose main contractor is Microsoft Gold Certified Partner Fujitsu,¹⁵ together with HP and Meridio, is continuing to evolve. It is built around Microsoft enterprise application integration (EAI) technology that uses encrypted links to connect to a Microsoft SQL Server central data warehouse. Naturally, the change from a paper-based to a database solution presents not just technical hurdles but cultural hurdles and changes in work practices. Electronic case preparation is not only benefiting stakeholders in the criminal justice system by reducing delays in bringing cases to trial, but it is also providing an improved service for victims and witnesses.

Implementing electronic case preparation will scrap the equivalent of 3.5 million pieces of paper a year. Information will pass instantaneously between the police, prosecution service, and forensic science laboratory. The police will submit electronic case files to prosecutors and request forensic tests on items of evidence. Prosecutors will manage cases online and receive forensic reports as soon as they are completed. The system will handle 100,000 cases annually and deliver efficiency savings across the board.

Since 2004, similarly impressive productivity gains have been achieved by the Israeli Court House Management,¹⁶ whose responsibilities include working on the 3,000 cases presented to the State of Israel courts each working day. The courts needed to convert its document management system into a paperless service that gave controlled access to casework for 30,000 lawyers and the public round the clock. The solution used Microsoft development, integration, and database technology including BizTalk Server 2004 and SQL Server 2000 for its Next Generation Court System, thereby replacing a manual system that consumed 3.5 million pages of case files a year.

Among Microsoft Gold Certified Partners specializing in case records management systems, GoPro provides a solution to 100,000 users in 19 countries with both the citizen/stakeholder portal and the back-office working environment. It provides a consolidated hierarchical view of cases categorized by citizen, business, authority, and legal regulations with supporting background information. Critical cases are highlighted. The solution is scalable through the .NET Framework with full integration to the Microsoft Office system and Office SharePoint Server collaboration technologies. As a result, case workers get a complete view of all their cases and each case has processing information such as responsible employees, deadline, status, access control, and work flow. Cases can therefore be associated with related contact persons, organizations, and involved persons. Additionally, GoPro helps customers meet government mandates for transformational government — the process of improving services by harvesting the benefits from technological investment through business process re-engineering and re-design.

Implementing electronic case preparation will scrap the equivalent of 3.5 million pieces of paper a year. Information will pass instantaneously between the police, prosecution service, and forensic science laboratory.

¹⁵ www.microsoft.com/emea/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=49304

¹⁶ <http://www.microsoft.com/asia/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=200248>

Just such a challenge faced the Icelandic government. In 2006, the Icelandic Minister of Justice Bjorn Bjarnason signed an important contract for the implementation of the GoPro.net document and business process management system. The ministry and all its departments; including all police units, all district commissioners, the whole court system and the state prosecutor, are deploying GoPro.net for internal processes, correspondence and document management. The process needs of the ministry's business units for cross organizational case and document management are now the same but implementation can still be individual to the needs of the department, thus freeing up front line officers and support staff for other work. Critically, GoPro.net can manage the entire spectrum of structured or unstructured digital content from active content creation — documents, pictures, sound, forms — to static archives for record keeping.

The Constitutional Court of South Africa is the highest court for the interpretation, protection, and enforcement of the South African constitution. The court needed a knowledge management and collaboration platform to cater for the needs of the constitutional judges and other staff members of the court. Microsoft Gold Certified Partner Intervate Solutions¹⁷ produced a customized version of Office SharePoint Server collaboration technology to address the accessibility requirements of visually-impaired users. This has resulted in a generic solution that can help visually-impaired users to access, navigate and more importantly, participate, in any workspace site using the collaboration software. In addition there is now improved communication — more rapid decision making capabilities: better process control — more efficient processes with a reduction of manual administrative tasks, and easier access to research material.

The U.K. Department for Children, Schools and Families works across government to ensure the education and safety of children, young persons, and vulnerable adults. The department wanted to manage the three separate systems they had in place for vetting and barring individuals who work with children and vulnerable adults into a single integrated solution which would ensure streamlining of the process. They had previously run on separate IT environments. In any new system, the department had to be convinced that it would gain complete reliability, consistency, and accuracy in case management given the sensitive nature of the information and the complex and increasing workloads. Microsoft Gold Certified Partner Capgemini delivered a successful cost effective case work management system using Microsoft Dynamics CRM customer relationship management software to provide the department's staff with a single view of cases. The implementation has helped the department to comply with government directives to rationalize and improve systems and business processes relating to child protection.

¹⁷ www.intervate.com

2.2 Integrated Policing and Justice

The vision for an integrated justice system extends beyond case and records management in the courts to prisons, police, and related institutions. It needs to take into account the needs of remote workers—who may have to work in temporary offices or from home—while still having access to critical information such as police records and judicial decisions. In the U.K., the National Offender Management Service (NOMS) bears the critical social responsibility for helping criminals avoid re-offending. NOMS was created in 2004 following recommendations for a much closer relationship between the national probation service and the prison service. With an objective to reduce re-offending by 10 percent by 2010, developing an end-to-end offender management model based on a national IT system, integrated databases, and common processes was a priority.

NOMS mobile workers, who formerly had to travel back to their offices to log on to the NOMS network, required more convenient and secure access to sensitive information, and also needed to protect the data stored on their portable computers. NOMS also wanted to enhance collaboration with external agencies such as the prison and probation services. Working with Microsoft, NOMS implements a new collaboration system using the most up-to-date Microsoft operating systems, Office SharePoint Server 2007, and related security technology. NOMS predicts yearly time savings of £5,000 a person — by quickly sharing information with third parties NOMS has cut down one meeting a week, saving £2,000 per user a year.

In South Australia, members of the judiciary now have better access to crucial data by using Microsoft communication and collaboration technology. Legal professionals, for example, can manage cases across multiple agencies through a single online portal. One easy interface makes it easy for them to share, view, and distribute documents in a standardized format.

In the State of Alabama, the authorities needed to provide justice services with a single point of access to 4,500 law enforcement and justice agencies—including the motor vehicle department, court, and prison records—which had all been disparately hosted and were difficult for outside law enforcement agencies to search. The .NET Framework was used to create the single access point for users and simplified management of user IDs and passwords.¹⁸ Jim Pritchard, Executive Director for the State of Alabama Integrated Courts System Project says: “We’re well on the way to achieving total criminal justice system integration in less than one year. Microsoft technology allows us to do this without depending on outside vendors for all out support and development.”

A similar challenge exists between the Sheriff’s Office and local police forces in King County, Washington, where 1.6 million citizens are served by 39 distinct public safety agencies. The different agencies were using separate record management systems, making it very difficult for agencies to share information in real-time about crimes and criminal suspects. The county deployed a justice integration server product built on Web services and .NET technology. As a result, law enforcement officers have better information available in real time, both in the office and when working at remote locations. Follow up investigations that used to take half a day of officer time can now take as little as 30 minutes with information exchange carried out through secure channels.

“We’re well on the way to achieving total criminal justice system integration in less than one year. Microsoft technology allows us to do this without depending on outside vendors for all our support and development.”

Jim Pritchard, Executive Director for the State of Alabama Integrated Courts System Project

¹⁸ www.microsoft.com/industry/government/homeland/casestudies.msp

The Serbian Ministry of Justice had a judicial system with seven separate information systems to support its courts and prisons administration system, but in 2006 government ministers found that only 28 percent of its budget was covered by income. They wanted to unify the administration courts of general jurisdiction, special courts, the public prosecutor's office, and the prisons with an easy to use collaboration environment suitable for business and technical information sharing.

Supported by Microsoft in the capital Belgrade, the ministry, which is dependent on funding from external stakeholders, has begun an integration project using Microsoft collaboration and database technology and plans to use the Microsoft Solutions Framework, a set of principles, models, disciplines, concepts, and guidelines for designing applications from Microsoft.

Similar challenges faced the much better resourced Ministry of Justice (MOJ) of Lower Saxony,¹⁹ the region's highest judicial authority, which used to support its activities with a complex IT infrastructure. Previously, the ministry worked with operating systems, messaging engines, and tape libraries distributed across 180 branch offices. The technology at each site was managed locally, along with time-consuming data back-up processes.

Because new deployments at each branch depended on the capabilities of local technicians, the quality of IT services was not consistent across the organization. To address these issues, the ministry deployed a new infrastructure based on Microsoft Windows server technology. The new solution provides centralized management tools that help improve service across the organization and reduce software licensing, hardware, and staffing burdens. The result will be an estimated saving of U.S.\$2 million on hardware and software and improved customer service at a reduced cost.

¹⁹ www.microsoft.com/windowsserver/compare/CaseStudyDetails.aspx?recid=135

3.0 Internal Security

In a world characterized by widespread and rapid movement of people, data, and products, it is essential that both the transportation and information systems on which governments, counter terrorism, and emergency agencies rely are protected from the threat of terrorism and cybercrime. However, the sharing of terrorist-related information between relevant agencies at different levels of government is still dependent on multiple systems that cannot communicate with each other and are still limited by institutional and technical barriers.

The challenges are far reaching—from gaining secure identity management and protection through trust, authentication, and authorization solutions, to using integrated analytics to predict patterns and identify suspect behavior. The use of a common IT-platform will encourage partner agencies to build new applications behind the firewall to improve the sharing of information and sensitive data. It will help to break down the resistance in many agencies to attempt the paradigm shift from the “need to know” principle in counter-terrorism work to the “need to share” information so as to break down the walls that often exist between law enforcement and crime intelligence agencies.²⁰

3.1 Transportation and Border Security

Customs departments need access to data about the movements of ships and containerized cargo for risk control purposes. Given the very high volumes of cargo transported globally by maritime containers, and the fact that less than five percent of containers are physically inspected anywhere around the globe, the capacity to target high risk consignments based on critical information has become essential.

In the area of cargo security, Microsoft collaboration, interoperability, and database technologies have been deployed for Customs and Border Protection (CBP) programs. Customs-Trade Partnership Against Terrorism (C-TPAT) is a joint government-business initiative to build cooperative relationships that strengthen overall supply chain and border security. Developed on the latest Microsoft technologies, the C-TPAT business portal provides a secure environment for interaction and communication for C-TPAT applicants, trade partners, and CBP staff. In addition, it provides real-time access to C-TPAT information, tools, and databases for these stakeholders.

A similar need is expressed also by the wider security community, whose focus is the detection of illicit people-trafficking cargoes globally and at national borders. Since the 9/11 attacks, a new global consensus appears to have developed on the need for tighter immigration enforcement and border controls given that 70 million people are on the move worldwide today. In fact, gone are the days of globalization when many countries were calling for constitutional amendments declaring open borders and free movement of people. As governments gear up to provide stronger border controls, immigration, counter terrorism, and customs officers need the capacity to make rapid decisions at the point of contact.

²⁰ Moving from Need to Know to Need to Share – A Review of the 9/11 Commission Recommendations, House Committee on Government Reform August 3 2004

Using Microsoft software, it is now possible to aggregate and interpret information from diverse systems — both structured and unstructured content — including video surveillance, e-passports, and biometrics.

Technology in the form of commercial off-the-shelf (COTS) products provides many of the tools for border control and homeland security officers to analyze essential data and see the complete picture in a simple interface. Using Microsoft software, it is now possible to aggregate and interpret information from diverse systems — both structured and unstructured content — including video surveillance, e-passports, and biometrics (fingerprints, retinas, chemical sensors) as well as from hand held devices, and then verify it against security information in real time. Secure identity management, authorization, and intelligence features provide the underlying platform layer needed to aggregate and interpret data harvested by border security.

For example, in Australia, machine readable e-passports rely on highly secure intelligence aggregation and fusion technologies from Microsoft to verify against traveler biographies, crosscheck against related security information, update records in real time and automatically provide alerts, if an exception is detected. In 2002, Indusa Global,²¹ a Microsoft Certified Partner, was engaged by the Bahamas Ministry of Labor and Immigration to help secure its borders by processing its immigration cards within 24 hours of a visitor entering the Bahamas, and implementing search capabilities for immigration officers to search visitors when required. Successful implementations of the Indusa e-passport solution can be found in several other Asian and African countries.

Also in Australia, Maritime Safety Queensland regulates the safety of some 14,000 ship movements a year through the state ports including the largest — the Port of Brisbane. In 2006, the company decided to replace its ageing vessel management information system with an automated centralized tracking system. Until 2006, ship workers sent port visit details to agents at each of the ports by fax, phone, or e-mail message. Agents then manually logged the information into the vessel management database. This was slow and cumbersome and data was often out of date. It was difficult for employees to carry out daily tasks such as tracking port activity, providing up-to-the minute navigational advice, or uncovering the source of problems such as environment crime/marine pollution. The solution was built on the .NET Framework and uses service oriented architecture. Shipping movements are now automatically entered into a central database. As a result, the risk of ship delays and accidents has been minimized and the authorities can respond more quickly to marine pollution incidents.

More recently, the Border Protection Command in Australia, a joint Australian Defense and Australian Customs Command, has deployed a secure instant messaging solution to record information of all vessels operating in Australian maritime approaches. All vessels other than day recreational vessels will be identified, tracked, and threat assessed. The system, from Microsoft Gold Certified Partner Boldon James, uses extensions to Microsoft COTS software. With the added features from the partner, Microsoft ensures ease of use and implementation as well as a low total cost of ownership and significantly reduced deployment risk.

²¹ www.indusallc.com/media/indusaWhitePaper.pdf

The U.S. Coast Guard faced a similar challenge following 9/11. New federal regulations required ships arriving at U.S. ports to file detailed passenger and cargo information to the U.S. Coast Guard National Vessel Movement Center (NVMC). In 2002, the NVMC created a Web site for ships to submit arrival data online, but staff still had to enter data manually from ships at sea with limited Internet connectivity. Two years later the Operations Systems Center contracted with Microsoft Gold Certified Partner SI International²² to use a Microsoft information gathering solution to develop a form using Microsoft Office InfoPath® 2003 that can be completed offline and sent later. As a result, the NVMC predicted savings of more than U.S.\$1 million a year in data entry costs alone.

For government agencies, GreenLine Systems provides a customized risk management solution to support screening and facilitation of cargo. Working for a border security agency, GreenLine produced a solution to gather and unify multiple sources of business-to-business trade information into actual shipment cycles while also developing and evaluating new methods to identify trusted or suspect goods and conveyances. GreenLine also used Microsoft interoperability technologies to support several Operation Safe Commerce pilot systems, intended to focus on identifying potential risks in commercial trade routes from a counter terrorism perspective.

²² www.si-intl.com/Download.aspx?ID=36&Type=Story

4.0 Intelligence

The Microsoft vision to combat terrorism is for a referenceable and replicable fusion center mission technology architecture that helps ensure best business practices for the gathering, intake, analysis, and dissemination of critical intelligence.

The 9/11 Commission report into the terrorist attacks on the World Trade Center in New York made it starkly clear that because intelligence was not shared, analysis was not conducted, and consequently preventive action was not taken. Where 9/11 is concerned, what was once in the future is now in the past: the lessons are still there to be learned although, in the absence of follow on attacks in the U.S, the motivation of a clear and present terrorist threat has begun to fade. The Microsoft vision to combat terrorism is for a referenceable and replicable fusion center mission technology architecture that helps ensure best business practices for the gathering, intake, analysis, and dissemination of critical intelligence.

However, minimizing risk and creating a safer environment for citizens requires continual surveillance, and highly secure information sharing across key people, related agencies, and systems. This intelligence can be harvested by police, local and national government, and public safety agencies to take maximum advantage of the databases and systems available via participating organizations. Provided it uses common standards, technology can provide customized scorecards and dashboards for management reporting. These can highlight suspicious trends and provide early warning of organized crime waves, pandemics, terrorist threats, and environmental disasters.

Israel-based Nice Systems, a Microsoft Gold Certified Partner, specializes in surveillance software which now includes a program that automatically scans CCTV footage for suspicious behavior and matches it with other intelligence such as existing photographs of suspects. The new software can alert police when it detects loitering, crowd gathering, people running when they should be walking, tailgating, parking in the wrong place, unauthorized entry, or any other sort of behavior the police want to track.

Technology can also play a key role in effective and secure dispersal of more prosaic intelligence about crime trends and police performance against agreed targets. It can help to reduce crime and the fear of crime in local neighborhoods and support better partnership working between the emergency services and other tiers of government. In the U.K., an Audit Commission Corporate Assessment in 2008 of a fire and rescue service found that, while operational IT systems were excellent, management information systems lagged way behind because this part of the fire and rescue service's IT service was effectively outsourced to another tier of local government²³. Nevertheless, the deficiency was holding back the service at the operational level because fire fighters depended on the management information system for appraisal of their community fire safety work.

Finally, technology has created a sustained shift in the analysis of operational risk, creating actionable connections for police analysts and investigators from volumes of seemingly unrelated data provided they operate on a common platform.

²³ Metia original research 2008

4.1 Intelligence and Investigation

Microsoft software and partner solutions help police and security agencies to identify threats rapidly, share vital information, and provide more secure access to critical data over a variety of devices. Solutions based on the Microsoft Intelligence Framework, a common collaboration platform, help investigators to move to a “need to share paradigm” building on an interlocking set of products that ensure secure information sharing, collaboration, and storage. Because intelligence and investigation is an iterative process, it requires tools that improve and deliver effective information sharing, analysis, decision making, and operational execution — helping to transform control and command systems. They also provide a low total cost of ownership as well as improving efficiency, effectiveness, and interoperability with other lines of business applications.

In the U.K. the Home Office monitors standards of excellence in U.K. policing. It needed a better performance assessment system to analyze monthly reports from police forces around the country to ensure a speedy follow up on any adverse trends. Microsoft Partner Information Management Group, a specialist in business intelligence, designed a scalable solution based on the Microsoft SQL Server database suite of products for a new version of the U.K.’s policing performance analysis system. As a result, once police forces have submitted their monthly crime figures, 500,000 reports are now produced in an afternoon — 10 days earlier than previously, leading to faster remedial decision-making by police forces based on up-to-date information. The system can not only scale to the growing demands of the users, but is also easy to develop and maintain for the IT developers.

The Italian Railway Police,²⁴ which provides a nationwide policing service for the rail operator, has implemented a nationwide automated closed circuit television (CCTV) surveillance system to connect with other agencies to improve incident detection and prevention. Built with Microsoft Windows server technology and the .NET Framework, the solution connects a network of more than 3,000 CCTV cameras, and 25 operations rooms ensuring coast to coast co-ordination between agencies. Providing an equivalent level of security-monitoring using only police officers would have involved a small army of detectives. Integration of information resources will help steer the railway police towards more intelligence-led policing work. For example, knowing that the Rome-Nice train service is the hardest hit by pickpockets means that the number of patrols can be stepped up on that section of the rail service. CCTV also provides the police with objective information on which to base decisions instead of relying on eye-witness reports.

Israeli police²⁵ had a similar priority. They needed to unite data from more than 20 intelligence applications to give officers a faster and more efficient tool for solving crime. They specified an enterprise grade extract, transform, and load (ETL) tool for performing complex transformations on feeds before adding information to the service’s new OnLine Analytical Processing (OLAP) intelligence system. After testing another product against Microsoft SQL Server database integration services, Israeli police chose Microsoft for the ETL component of its OLAP solution and worked with Microsoft Gold Certified Partner Ness Israel, a business unit of Ness Technologies of the U.S. The 2-terabyte intelligence system runs on a single SQL Server database, which helps Israeli police intelligence officers complete data searches in seconds what once took days to assemble from disparate systems.

²⁴ www.microsoft.com/industry/publicsector/partnersolutionmarketplace/CaseStudyDetail.aspx?casestudyid=53480

²⁵ www.microsoft.com/industry/publicsector/partnersolutionmarketplace/global/CaseStudyDetail.aspx?casestudyid=201101

Microsoft Intelligence Fusion solutions can support decisions about criminal behavior and trends. Data from multiple sources can be imported through the Microsoft data translation services facility and time dimension tables can be designed to track information to the nearest second.

The service is also using Microsoft scorecard and performance management solutions to manage the large amount of data involved in organized crime.

In the U.K., the Lancashire Constabulary has successfully used technology from i2 — the U.K. investigative software analysis company — which was developed on the .NET Framework to speed up the process of preparation, analysis, and presentation of data for strategic risk assessments. It is helping new users become productive quickly. i2 software is also the backbone of a new system of joint working between the U.K. Prison Service and the Metropolitan Police Service to simplify and streamline the sharing of intelligence and information. The idea that once an offender is put in prison they stop committing offences, is wrong. If a prison is thought of as a small town, it is easy to see how crime continues to be committed.

Designed by the users of the database, information from the prison Security Information System in all seven of the prisons in London is extracted and fed into a central i2 iBase database, creating one large information pool, which can then be shared. The database helps to find links between prisoners and their contacts — both in and out of prison — and using i2 analytical tools gives investigators the chance to turn a pile of paper-based intelligence into an easy to understand, visual chart.

Additionally, Microsoft Intelligence Fusion solutions can support decisions about criminal behavior and trends. Data from multiple sources can be imported through the Microsoft data translation services facility and time dimension tables can be designed to track information to the nearest second. OLAP cubes provide data exploration interfaces which answer specific questions from a decision matrix determined by the organizations involved.

The Illinois Statewide Terrorism and Intelligence Center (STIC) is a law enforcement intelligence centric organization focused on prevention and response in the areas of terrorism, violent crime, and drugs trafficking. In January 2007, an alliance was established between Illinois State Police and Microsoft to pursue the creation of technology architecture to serve the STIC's needs and provide an architectural model for other states. Over the next five years, Illinois intends to transform the STIC to a true fusion center incorporating agencies other than law enforcement agencies and extending the STIC's mission scope.

The Portuguese Ministry of Homeland Security²⁶ is responsible for civil protection and border control, two branches of the police, fire and rescue services, and road safety. Traditionally, its branches have been highly independent with separate communications networks. In 2005, the ministry decided to rationalize its systems into a single IT infrastructure based on Microsoft server products including SQL Server 2000 called Rede Nacional de Segurança Interna (RNSI). The RNSI is helping the emergency services in Portugal to respond more quickly to internal and external threats. Carlos Lourenço, Adviser to the Secretary of State for Homeland Security, says: "With current security concerns, national government is reprioritizing IT initiatives to support first responders and defend against external and internal threats."

²⁶ www.microsoft.com/emea/partnersolutionmarketplace/spain/CaseStudyDetail.aspx?casestudyid=4000000411

5.0 Supporting Technologies

For many crime prevention organizations, technology plays only an incidental role in employees' day-to-day work. But many agencies find they become far more effective by placing technology in a more central role. Some of the most powerful manifestations of this effect are found where organizations have used IT systems to improve information sharing and inter-agency transparency. This section discusses how current solutions, such as the Microsoft Intelligence Framework, can improve these kinds of processes. It goes on to discuss the roles that future technologies might play in helping agencies with operations such as surveillance, mission planning, debriefing, and forensics.

5.1 Intra and Cross Organization Communication, Collaboration and Information Sharing

The Microsoft vision for unified communications is to give people the ability to access all the information and messages they need from any device and from any location. Public safety is no exception.

Recent advances in Microsoft unified communications technology shows that commercial off-the-shelf products can be used by law enforcement and crime intelligence agencies without compromising security of organizations. Bob Hayes, who represents the Microsoft Institute for Advanced Technology and Government in the U.K., says: "What has been really needed is a means to deliver the new "need to share" imperative and to ensure that this only extends to individuals that can be trusted. Secure information exchange is about removing the security barriers to information flow, but in a way that doesn't increase the risk to a nation or its citizens."

Microsoft Gold Certified Partner Twisted Pair Solutions is in the front line of policing with a product called WAVE, and is recognized by many users as the de facto standard for software-based communications interoperability. WAVE is a distributed and highly reliable voice over internet protocol software application that connects users together regardless of device type. The software-based WAVE solution is compatible with almost any type of existing communications system including radios, traditional analog phone systems, new IP phone systems, and industry specific proprietary devices. WAVE can support thousands of groups of simultaneous users and connect these users to any type of communications system across geographically dispersed networks.

In an influential White Paper, Microsoft Gold Certified Partner Boldon James argues that cost-effective, secure information exchange should also be considered in parallel with other technologies for trusted networks, accountability, digital network encryption and organizational security policy.²⁷ The White Paper argues that by introducing an environment where all entities — information, e-mail, buildings — are classified and all users have a clearance, it is possible to implement an information sharing environment that is secure and still protects the national interest. The use of classifications and clearances works by restricting the distribution of the source material from the outset. The principle has two overall effects — fewer copies of the sensitive information in circulation, and the existence of the information is denied from unauthorized persons.

"In its next phase, Virtual Earth will include the ability to function as a discreet application rather than as an Internet application. This is crucial for crime prevention organizations, because it means they can run mapping behind their firewalls. With the software protected in this way, they can layer sensitive data onto the maps."

Bob Hayes, Microsoft Institute for Advanced Technology and Government, U.K. Representative

²⁷ Secure Information Exchange White Paper www.boldonjames.com

Cybercrime

The past five years have seen a clear shift in the cybercrime landscape. Where once illegal activities were the domain of amateur hackers and misguided teenagers, the most dangerous threats on the Internet now come from organized crime syndicates. These organizations often operate out of countries or regions that have taken a less rigorous approach to criminal prosecutions relating to spamming, phishing, hacking, and denial of service attacks.

The harsh truth is that the legal system, even in more diligent states, must constantly adjust to new threats. New international laws are required to deal with criminal activities that span many countries and regions. This, in turn, puts pressure on local and regional crime-fighting agencies to better share information that helps identify suspects and achieve successful prosecution.

Any campaign to reduce cybercrime also requires close collaboration between experts with diverse skill sets. Microsoft has established a global Internet Safety Enforcement Team (ISET) organized on these very principles, which consists of individuals including attorneys, investigators, technical analysts, and other professionals.

In the past few years, the team has contributed to the investigation, arrest, and prosecution of individuals responsible for the Sasser and Zotob worms. And in one of its most successful operations, it identified a phishing gang that mocked up e-mails and Web sites that replicated the look and feel of the MSN® network of internet services. The gang, based in Bulgaria, had launched 46 attacks on 43 servers located in 11 countries. The ISET team investigated leads and referred them to National Services to Combat Organized Crime, which arrested members of the gang in January 2006. In addition, ISET supported the Global Phishing Enforcement Initiative, and in 2006, Microsoft announced 129 legal actions against phishers targeting MSN Hotmail® users.

When it comes to international legislation, Microsoft supports policies including the Council of Europe CyberCrime Convention. This requires signatories to strengthen their laws while promoting intergovernmental cooperation in addressing cyber crime. Microsoft is also an active member of the International Center Model Legislation on Child Pornography, which supports those countries that do not have any law addressing child pornography.

Microsoft Intelligence Framework

One of the most important lessons learned from recent terrorist attacks around the globe is the importance of information sharing. Channels need to be in place for law enforcement and counter terrorism organizations to pool their resources in a secure and meaningful way. The Microsoft Intelligence Framework is a collection of technologies which facilitates that process.

The Framework incorporates database, portal and data analysis solutions, supporting a necessary movement from a fragmented model of data to a federated one. Users can control access rights and deploy advanced search functions to go beyond simple data mining techniques. In practical terms, the Framework allows organizations to share information with authorized agencies, while at the same time making that data more useful.

5.2 Geospatial Visualization Technologies

Law enforcement operatives worldwide depend on the ability to visualize situations geographically. From re-creating large-scale crime scenes to planning sensitive operations, seeing how an event occurred in the past or how it may occur in the future is absolutely critical. Technology such as digital mapping can play an important part in this process, helping ease the imaginative transition between micro and macro levels of detail. Visualization solutions that make police work more effective are already in place.

For example, working with Microsoft Gold Certified Partner ESRI, emergency responders in the County of Surrey in the U.K. together commissioned Surrey Alert which provides a Web-powered communications interface combined with a Global Information Systems (GIS) mapping feature and a Microsoft SQL Server database — it can be easily accessed by all agencies participating in the management and mitigation of any specific emergency.

Surrey Alert performs two functions. First, it serves as a hub for the provision of information to the public that are affected by an incident or crisis such as the foot and mouth disease outbreak in 2001. The system also acts as a virtual command and control center for the Surrey emergencies services and local government. Mike Abbot, Strategic Lead for the Surrey County Council Safer and Stronger Communities group, says: "Surrey wholly depends on Surrey Alert to meet our statutory obligation to 'warn and inform' the public."

Microsoft Virtual Earth

Crime prevention agencies already use proprietary digital mapping systems to plan operations, manage resources, and monitor suspects. But as Bob Hayes was quoted as saying at the start of this document: such systems are often limited in their scope, because they are walled gardens of data. Mapping solutions that fail to link up with other information sources are missing an opportunity.

The future of digital mapping in law enforcement may be technologies such as Microsoft Virtual Earth. As Hayes explains: "In its next phase, Virtual Earth will include the ability to function as a discreet application rather than as an Internet application. This is crucial for crime prevention organizations, because it means they can run mapping behind their firewalls. With the software protected in this way, they can layer sensitive data onto the maps. In a few clicks, operatives will be able to visualize target premises of interest, safe areas for observation, output from sensors, data from a criminal records database, or even the real-time deployment of officers."

Another critical development will likely be the movement away from digital mapping as a static, office-bound technology. "We envisage a time when every officer will be equipped with a handheld mobile computer that provides live mapping, with real-time tracking of assets or suspects. On the way to raid an address, officers could receive an automatic alert about a suspect's movements, along with on-the-fly directions to his or her present location. The technology has the potential to change the way operatives do their jobs," says Hayes.

"Surrey wholly depends on Surrey Alert to meet our statutory obligation to 'warn and inform' the public."

Mike Abbot, Strategic Lead for the Surrey County Council Safer and Stronger Communities group

5.3 Future Developments in Technology

The lessons from recent global terrorist incidents demonstrate that crime prevention agencies must use all available resources to gather intelligence and operate more efficiently. While technology can never replace human input in these areas, it can help. Microsoft is pioneering research in the fields of visualization and simulation that will aid enforcement agencies in their day-to-day work, as well as in specialist scenarios.

Microsoft ESP

When planning an operation in a highly sensitive area, it is often impractical for a law enforcement agency to carry out reconnaissance without compromising the mission. In the future, technologies such as Microsoft ESP could help. Currently at an early stage of development, ESP is a virtual reality simulator that incorporates high quality mapping data as well as the ability to integrate user-generated 3D models and data. Hayes explains: "Because it will integrate an organization's crucial data, Microsoft ESP could be a great asset when planning operations. Police officers, for example, could "drive through" an area in full 3D prior to a mission, with assets, points of interest and operation goals clearly visualized. They would get the benefit of familiarity without the danger of live surveillance."

Microsoft Photosynth and Microsoft SenseCam

In law enforcement, the human factor is crucial. Making decisions under pressure and accurately recalling events after stressful situations are routine skills for many operatives in this field. But technology can augment these skills. Solutions such as Microsoft Photosynth, for example, could help agencies reconstruct crime scenes digitally. The technology, which is in the beta phase of development, analyzes the similarities between photographs in a collection and stitches them together to create a three-dimensional representation of a space. As Hayes says: "In the future, forensic investigators might use Photosynth to collate all the digital images they collect in their limited time at the scene, creating a rich visual scenario that they can later revisit and navigate digitally."

In a similar way, Microsoft SenseCam could increase the accuracy of post-operation debriefs. The system, which is under development by Microsoft Research, is a wearable camera that takes photographs in response to stimuli such as changes in heat, light, and movement. As Hayes explains: "Individuals involved in stressful situations such as live fire operations often remember events in different ways. That is not a criticism, just a fact of the way the human mind prioritizes certain information. SenseCam provides an objective record of important events, which could be vital in understanding exactly how a mission played out."

6.0 Citizenship

6.1 Protecting Children with the Child Exploitation Tracking System

Law enforcement agencies worldwide are increasingly dependent on connected systems and databases to share information with their peers in other countries and regions. This is particularly important now that human trafficking and other child exploitation crimes span continents, and are often organized by gangs operating out of countries where legislation against their activities is limited. The Child Exploitation Tracking System (CETS) is a unique database that helps to address this problem and provides access to critical data so that investigators can collaborate in real-time across jurisdictions.

Critically, investigators can easily organize, analyze, share, and search information – from the point of detection right through investigation, arrest, and conviction. The number of international participants is growing and includes teams from Canada, Brazil, Chile, Indonesia, Italy, the U.K., Spain, Romania, and Australia.

To date, 25 sessions have been held worldwide, reaching more than 2,200 law enforcement personnel from 105 countries. Microsoft supported the organization of the training sessions and Microsoft attorneys, investigators, and computer engineers served as faculty members. In total, the company has contributed U.S.\$1.5m in funding to this program.

6.2 Supporting Government Disaster Preparedness and Response

Microsoft shares know-how, best practices, and tools with public sector organizations responsible for disaster preparedness and response (DPR) before disasters occur. The Microsoft DPR Program is designed to support proactive public sector engagement to reduce risk and improve response capability. The Microsoft vision is to share Microsoft technology, tools, and practices that enhance the capacity of first responders and humanitarian assistance providers worldwide. The long-term goal is to develop an offering that speaks to the disaster response needs of public-sector partners. The DPR activity is part of the Microsoft Innovative Government Program. It supports proactive engagement through Microsoft field personnel to reduce risk and improve response capability for governments.

With its extensive network of global partners, Microsoft has the ability to apply a comprehensive set of software, solutions, technologies, and small and medium enterprise expertise in the aftermath of disaster.

6.3 Disaster Response and Humanitarian Relief

In common with many corporations around the world, Microsoft and its employees are generous with donations when disasters strike. Microsoft employees both drive and direct the company's relief efforts, and they often serve on the front line as volunteers.

By partnering with leading non-profit organizations, non-governmental bodies, and international relief organizations, Microsoft looks for new ways to use its business and technology expertise, as well as its global reach, to help address some of the critical challenges faced by individuals and communities after a natural disaster. With its extensive network of global partners, Microsoft has the ability to apply a comprehensive set of software, solutions, technologies, and small and medium enterprise expertise in the aftermath of disaster.

In recent and past disasters, Microsoft, in collaboration with its partners, has provided various technology solutions to help humanitarian organizations respond—including development of a tracking system for displaced people, updated online maps of the impacted regions, a volunteer registration tool, a satellite infrastructure for non-governmental organizations, and a software application localized to meet language needs.

Microsoft is actively working with numerous humanitarian relief organizations to determine where its resources can be most helpful for impacted regions.

7.0 Microsoft Partner Information

The strengths of Microsoft technologies are supported by the extensive capabilities of the growing Microsoft partner ecosystem. The connected policing sector is no exception. Microsoft Gold Certified Partners represent the highest level of competence and expertise with Microsoft technologies and have the closest working relationship with Microsoft. Microsoft Certified Partners on the other hand are providers of Microsoft software application services who are officially recognized, certified, and partnered by Microsoft to do so.

2e2

2e2 is one of the fastest growing IT service providers in Europe. It has revenues of £240 million (U.S.\$470.5 million) and employs more than 1,500 people across the U.K. and Isle of Man, Netherlands, Belgium, and the Channel Islands. It works with customers to provide solutions to their business IT problems, large or small. Once delivered, customers can manage the technology themselves, work with 2e2 to run it, or leave it all to 2e2. Its expertise falls into five main areas: services, unified communications, technology solutions, business application solutions, and asset management.

www.2e2.com

Atea Finland

Atea is a leading provider of IT infrastructure services, solutions and products in Finland. Atea Finland has approximately 250 employees and it is located in 19 cities. The Finnish operation offers primarily infrastructure services — consultancy, systems development and datacenter support. In Finland Atea has especially strong competence within the server/storage area, a competence that is appreciated by customers and vendors. Atea helps companies and organizations to increase the value of IT by providing service and solutions at every stage of their IT infrastructure investment.

www.atea.fi

Boldon James

Boldon James is a U.K. company providing secure and formal messaging to defense, aviation, intelligence, and other government agencies such as homeland security, police, home and foreign offices. Its solution set has been sold to 1.5 million users in 60 organizations across 14 countries, and has been designed to enhance Microsoft products. Components include secure e-mail and chat, directories and gateways, typically deployed as a Military Message Handling System. Boldon James is the sole Microsoft 'Global Go To Market Partner for Secure Messaging in Defense and Public Security'.

www.boldonjames.com

BT Lynx

BT Lynx is one of the leading U.K. providers of IT solutions and services to business and the public sector, offering world-class consulting, technology, and outsourcing. It offers a true end-to-end approach, from advising on IT strategy to implementing technology solutions and managing IT infrastructure. Its mission is to be a market-leading IT services company, which makes its customers' lives easier and simpler through world-class consulting, technology, and outsourcing. Its customer-focused strategy is to provide world-class IT services to both the private and public sector: to medium-sized organizations direct, and to larger enterprises through outsourcing arrangements with partners.

www.lynxtec.com

Capgemini

Capgemini is headquartered in Paris, France, and operates in more than 30 countries. It is, above all, a people company — over 83,000 people in North America, Europe, and the Asia Pacific. It has over 30 years' consulting experience and 10,000 people helping its public sector customers transform their organizations throughout the world. Adopting new commercial models is second nature to the teams at Capgemini. Its client portfolio spans all sectors of public service around the world, with dedicated practice groups in each of its regions. Capgemini's broad international experience brings cost savings and lasting results to public sector clients.

www.capgemini.com

Computacenter

Computacenter is a leading European independent provider of IT infrastructure services. It helps its customers maximize the value of IT by advising on IT strategy, deploying and integrating appropriate technologies, and managing elements of their infrastructures on their behalf. At every stage, it helps them minimize the cost and maximize the business value of their IT expenditure. Its corporate and government clients are served by a network of branch offices across the U.K., Germany, France, and Benelux, and—through its international partners—at locations across the globe.

www.computacenter.com

Convergence Communications

Convergence Communications provides government and commercial enterprises with highly customized communications and collaboration solutions as well as providing the commercial market with a wide variety of IT solutions. Convergence Communications understands that the heartbeat of a business or agency is dependent on reliable and affordable IT solutions that will maximize productivity. As a result, delivering IT solutions that meet the needs of its customers is the foundation of its business. It specializes in providing government and commercial enterprises complete enterprise portals, through its E-Sponder solution, to maximize their efficiency. It also offer a wide variety of turnkey IT solutions.

www.convergence-comm.com

ESRI

ESRI designs and develops a world leading geographic information system (GIS) technology. GIS is an important tool — one that helps shape the world around us. GIS technology must constantly evolve to meet the changing needs of government, business, natural resources, conservation, science, and education. It is ready for these changes. Today, ESRI has more than 2,750 skilled employees worldwide who work with hundreds of business partners and tens of thousands of users.

www.esri.com

Fujitsu

Fujitsu is a leading provider of customer-focused IT and communications solutions for the global marketplace. Pace-setting device technologies, highly reliable computing and communications products, and a worldwide corps of systems and services experts uniquely position Fujitsu to deliver comprehensive solutions for its customers' success. Headquartered in Tokyo, Fujitsu reported consolidated revenues of about 4.8 trillion yen (U.S.\$40.6 billion) for the fiscal year ended March 31, 2006. Fujitsu in the U.K. offers a complete range of IT services and products across multiple industries in both the public and private sectors.

www.fujitsu.com/uk

Getronics

Getronics is a leading international provider of Information and Communication Technology services and solutions, focusing on workspace management, application services and consulting and transformation services. Getronics helps organizations raise their performance and increase the productivity of their people, by helping them to share information and to work together efficiently, securely, and effectively, wherever and whenever they need.

www.getronics.com

GoPro

Microsoft Gold Certified Partner GoPro is a software development company that specializes in case management, document management, and customer relations management software. Since 1993, it has collaborated closely with public sector organizations and companies, especially in Europe, to produce the GoPro case and document management system that is compliant with existing legislation and work procedures familiar to the end user. The company's software is currently deployed in over 30 countries around the world, at all organizational levels.

www.gopro.net

GreenLine Systems

GreenLine Systems was founded by a group of leaders in the supply chain field. They saw an opportunity to combine the tools of global trade automation and the processes of risk management to improve the security and facilitation of cargo and conveyances. GreenLine Systems helps organizations to identify, quantify, and mitigate the risks associated with the movement of goods across borders. GreenLine solutions combine risk management and supply chain expertise with a powerful suite of enterprise applications to provide measurable improvements to manage cargo and conveyances as they cross international borders.

www.greenlinesystems.com

HP

HP is a technology company that operates in more than 170 countries around the world. It explores how technology and services can help people and companies address their problems and challenges, and realize their possibilities and aspirations. It applies new thinking to create simpler, valuable and trusted experiences with technology, continuously improving the way its customers live and work. It provides infrastructure and business offerings that span from handheld devices to some of the world's most powerful supercomputer installations. This comprehensive portfolio helps it match the right products, services, and solutions to its customers' specific needs.

www.HPcom/UK

i2

As a world-leading supplier of visual analysis software, its aim is to provide the best solutions to help customers make sense of masses of data and complex scenarios. Allied to an organization's analytical skills, its software will enhance capabilities, which lead to more informed decision-making and helps companies address issues more effectively. Its products are proven from short-term tactical operations to long-term strategic planning and are used extensively in law enforcement, government agencies, and the commercial sector.

www.i2.co.uk

iComply

iComply is a leading provider of compliance audit software and compliance audit services to the public and private sector. iComply combines technical excellence with over 50 years of professional experience to implement the best audit, compliance, and risk management solutions for businesses worldwide. Based in Melbourne, Australia, iComply is now a world-leading compliance consultancy with a team of highly qualified and accredited people. Recognized by Microsoft and the international software industry for its innovative solutions, iComply compliance software products and compliance audit services have become integral to the success of public and private organizations across the globe.

www.icomply.com.au

IDV Solutions

IDV Solutions, a Microsoft Gold Certified partner, is a visual composite applications company. Their suite of products, Visual Fusion Suite™, helps organizations engage their enterprise data in an interactive, easy to use, Web-based environment. They are committed to helping Global 2000 and government organizations make their information more accessible, understandable, and contextual. Through the visual integration of numerous data sources, IDV delivers intuitive and compelling composite applications placing their data only a mouse click away.

www.idvsolutions.com

Imasoft

Imasoft ApS is a Danish owned and operated company, specialized in designing software systems for Police/Intelligence agencies and other customers within the field of law enforcement. Under careful consideration and scrutiny, they design systems specifically made to meet customers' needs.

<http://uk.imasoft.dk>

Indusa Global

Indusa has established itself as a boutique IT firm dedicated to providing a broad spectrum of technical and consulting services and delivering timely, practical, and high-value IT solutions to its clients. Indusa firmly believes that technology initiatives drive and accelerate business growth, while reducing the overall costs of conventional services and operations. Accordingly, Indusa strives to align its various IT initiatives with its customer's business strategies and objectives. Indusa believes that supplying targeted and accurate data is only the first step in the greater process of applying technology effectively and economically.

www.indusaglobal.com

Information Management Group

Information Management Group delivers advanced information management solutions that help organizations analyze and report critical information to improve business performance. Its end-to-end data warehousing, business intelligence and collaboration solutions are helping large organizations across industry sectors to gain insight into their business activities and improve business performance. Its services cover the full project life cycle from defining business requirements to the design of technical architectures, from application development and deployment to training and support. It is a Microsoft Gold Certified Partner with competencies in business intelligence, information worker productivity, and advanced infrastructures.

www.imgroup.com

Infusion Development

Infusion Development has offices in New York, Boston, Toronto, and Dubai. It offers clients a wide array of IT-related services from consulting and development to training and mentoring. It specializes in the architecture and implementation of enterprise-scale financial systems and mission-critical solutions for some of the world's largest banks and government agencies. Infusion is also a Microsoft Gold Certified Partner. It currently employ six Microsoft Most Valuable Professionals and is one of its key partners for evangelism, architecture design sessions, proofs of concept, deployment engagements, training, mentoring and technical writing, with many of its white papers published on MSDN.

www.infusion.com

Intervate Solutions

Intervate is a specialist provider of Microsoft .NET solutions, focused on knowledge management and productivity. Areas of expertise include workflow and process automation, collaboration and communication, as well as document and records management. Intervate has extensive experience in developing and deploying intranet and portal solutions, key components and versatile tools for the delivery of information, and knowledge management systems. As a Microsoft Gold Certified Partner with information worker competency and custom development competency, Intervate holds expert SharePoint Server skills and provides a range of add-on products and solutions for this environment.

www.intervate.com

Meridio

Meridio is a leading worldwide provider of enterprise document and records management software, engineered for Microsoft .NET environments. Meridio helps enterprises to meet their corporate governance needs including legislation, litigation, and business process optimization goals. Meridio with Microsoft provides complete life cycle enterprise content management from document creation and modification, to record declaration, policy driven retention, and finally disposal. The functionality is provided seamlessly through Microsoft Office system interfaces. Corporate information assets are held securely for collaboration, quick retrieval, and legal hold — improving profitability by mitigating risk and reducing costs associated with achieving corporate governance within the enterprise.

www.meridio.com

Ness Israel

Ness Technologies is a global provider of end-to-end IT services and solutions designed to help clients improve competitiveness and efficiency. The Ness portfolio of solutions and services consists of software product development, including both offshore and near-shore outsourcing, system integration, application development and consulting, and software distribution. With 7,800 employees, Ness maintains operations in 18 countries including Israel, and partners with numerous software and hardware vendors worldwide.

www.ness.com

NICE Systems

NICE Systems is the leading provider of Insight from Interactions solutions and value-added services, powered by advanced analytics of unstructured multimedia content — from telephony, Web, radio, and video communications. NICE solutions address the needs of the enterprise and security markets, helping organizations to operate in an insightful and proactive way, and take immediate action to improve business and operational performance and ensure safety and security. NICE has over 24,000 customers in 100 countries.

www.nice.com

SI International

SI International is proud to serve the U.S. government. It defines, designs, develops, deploys, trains, and operates mission-critical information technology and network solutions for the Department of Defense, federal civilian agencies, and the intelligence community. It delivers solutions quickly — often in a matter of months. SI International can rapidly stand up innovative solutions and then incorporate extra capabilities in rapid succession. The company combines both technology expertise and functional knowledge of client missions to deliver a full spectrum of state-of-the-practice systems and services with a strategic focus on federal IT modernization, defense transformation, homeland defense, and mission-critical outsourcing.

www.si-intl.com

Silversands

For nearly 20 years, it has been helping its clients to use IT to build their businesses. Its philosophy is to work hard to exceed its clients' requirements and to keep them as long-term customers. From being a local company, with a local client base, it now serves major organizations across the U.K. and, for those with an overseas presence, further afield. It has implemented systems in Europe, Africa, and the Far East, bringing the total number of countries it has made deployments in, or provide support services, to over 30.

www.silversands.co.uk

Smart Business Advisory and Consulting (SMART)

SMART is a diverse team of business advisory, consulting, accounting, compensation and benefits, tax, and transaction advisory professionals that offers a comprehensive foundation of business expertise and practical, informed advice. SMART has set an innovative new standard for service that adds value to its customers' bottom line and security to its planning strategy. Located in Atlanta, Baltimore, Chicago, New York, Philadelphia, Washington DC, and internationally in Amsterdam and London, the company is comprised of over 550 professionals and staff.

www.smartgrp.com

Steria

Steria is the leading end-to-end IT services provider in Europe for companies which consider new technologies a vital part of their business strategy. Steria focuses on setting up strategic partnerships with its customers in each of its key markets: the public sector, finance, telecoms, utilities, and transport. Steria offers its customers integrated services including consulting in core business processes as well as the development and operation of its information systems. In October 2007, Steria acquired the U.K. firm Xansa. The new group employs over 18,000 people in 16 countries, including 5,000 in India.

www.steria.com

SunGard Public Sector

SunGard is a Microsoft Gold Partner. Sungard Public Sector serves a wide range of customers—public safety and justice agencies, third sector organisations, and local and central government. SunGard Public Sector products include public safety communications, justice applications and associated managed services and management consulting. These solutions impact more than 100 million citizens in North America and 50 million citizens in the UK.

www.sungardps.com

Trinity Expert Systems

Trinity Expert Systems Limited is a well-respected and leading IT solutions provider. It is committed to delivering professional, enterprise level solutions that address the business challenges of its clients across a broad range of market sectors. It performs a range of services across different technologies. As a Microsoft Gold Certified Partner, it has extensive experience across the entire Microsoft product stack, including integrating multiple products. Its people are its strength and with its technology, business and project management skills it delivers solutions across all phases of its customers' IT projects.

www.tesl.com

Tubedale

Microsoft Gold Certified Partner Tubedale is a unique provider of consultancy and technical solutions across a broad spectrum. They offer consultancy and software solutions for Enterprise Project Management (EPMS), Customer Relationship Management (CRM), Microsoft Office SharePoint, Business Intelligence, and Business Process Management. Tubedale Communications have been commissioned by Microsoft to develop a Case Management Demonstrator for Local and Central Government. The basics of contact management, case management, workflow automation and escalation, and marketing, drive the demonstration. The core engine of the demonstration system is Microsoft Dynamics CRM 4.0 supported by additional Microsoft technologies.

www.tubedale.co.uk

Twisted Pair Solutions

Twisted Pair Solutions designs and builds enterprise software solutions that power interoperable group communications. Its WAVE software technology helps manage real-time, secure, group communications over the IP network, linking in people and devices. It is committed to making manageable group communications mainstream and pervasive, demonstrated through its use of open standards and COTS products in combination with an architecture that supports simple protocol and interface extensions to proprietary devices. This distinguishing approach provides its customers with options and capabilities. Customers can now have true interoperable group communications using their existing equipment regardless of protocols — vastly enhancing their communications.

www.twistpair.com

Valentia Technologies

Valentia Technologies develops intelligent person-centric systems for in-community health and social services delivery. Its systems facilitate the transformation from the centralized service delivery models to distributed managed care, reflecting the realities of increasing patient empowerment, changing lifestyle patterns, demographic pressures, and escalating funding challenges. Its emphasis is on directly improving health outcomes and lifestyle quality by facilitating condition monitoring, reporting, intervention, care management, and data aggregation and analysis.

www.valentiatech.com

VisionWare

Formed in 1993, VisionWare is a leading provider of customer data integration (CDI) and master data management (MDM) solutions. With industry-leading technology and nationally recognized and award winning projects, VisionWare helps both public and private sector organizations to implement a powerful CDI and MDM strategy with its COTS product—MultiVue Identification Server. By implementing a CDI and MDM solution with VisionWare's MultiVue Identification Server, it is possible to obtain a complete and accurate view of customers, products, and associated activity, while enhancing operational performance, increasing profitability, and adhering to regulatory compliance.

www.visionwareplc.com

Visiphor

Visiphor is a Gold Certified Partner in two related competencies—Business Process and Integration and Information Worker Solutions. Visiphor has established and maintained a growing team of BizTalk, InfoPath and SharePoint professionals, in addition to having secured one of the largest collections of BizTalk customer references. Visiphor is also a Managed Gold Certified Partner, which means that Microsoft has dedicated a team of Partner Account Managers to work with Visiphor on sales, customer experience, partner readiness and product strategy initiatives.

www.visiphor.com



For further information, visit:
www.microsoft.com/industry/publicsector

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