British Association of Public Safety Communications Officials

BRITISH APCO JOURNAL

Knowledge Exchange for Public Safety Communications

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BRITISH APCO
Knowledge Exchange for Public Safety Communications

British Association of Public Safety Communications Officials

British APCO is where active and advising members of our public safety community exchange and advise on all critical communications subjects. British APCO participates strongly in the Global Alliance of APCO Interational.
British APCO's aims include solving realtime critical communications problems, participating in research programmes (eg EU projects), showcasing technologies, and lobbying on issues such as spectrum and harmonisation.
British APCO holds an annual exhibition and development event, many regional events as well as training sessions, and is respected as the UK's (and Europe's) leading – and only – forum of knowledge exchange and transfer specific to communications in public safety.
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British APCO: President's address

Sue Lampard, President

In this edition I have a whole page to fill. A daunting task until I jotted down some of the areas to cover and then the space filled very quickly!

I'm delighted to be entering my second year as President. The first year flew by and culminated with the B-APCO 2014 event. A huge amount of work went into putting it together and I'm grateful to everyone involved. Even better, the exhibition sold out well before the show and unique visitors were up 16% from last year. This was a tremendous achievement in the current austerity climate. I hope everyone who attended found it of benefit.

For the first time, we ran a series of three 'super sessions', I was a little disappointed that that they weren't well attended. I think it was a combination of so many other things happening and perhaps their purpose was not articulated well enough. We'll run similar sessions next year but put extra thought into how they can capture the essence of what B-APCO is about (AKA the 'triangle of confusion') to draw in a bigger audience.

You may be aware that our Executive Director, Tony Antoniou, is no longer with us. Tony decided to move on at the end of April and I take this opportunity to thank him for all his hard work and efforts for the Association. At this stage we will not replace Tony; Geoff Naldrett will take a new role as Chief Operating Officer which will combine his previous role as Operations Manager with the Exec Director role. Geoff has done a huge amount already to progress different areas and we're happy to have him on board with his new 'hat' on (I can use that analogy as he's ex-Navy!).

This edition covers updates on most of our main work streams. As I write, I'm on route to London to launch the RUSI/ B-APCO research paper 'Emergency Services – Resilience for the 21st Century'. Jenni Cole and Ed Hawker have done a great job in putting it together – it includes a kind of 'dummies' guide' to spectrum, as well as a look at case studies across the world where communications have seriously failed. You can download the report from the B-APCO and RUSI websites, but we'll provide a synopsis in the next B-APCO Journal.

We've also included an article on progress in the United States with 'text to 911'. Whilst the UK has a '999 SMS' service for deaf and hard of hearing customers, the messages do not integrate with Command and Control systems. There is no reason why this can't happen – the benefit would be that the call handler can interact with the customer and the conversation is logged! Other social media channels could be similarly integrated. There is still much to be done in the UK to achieve Next Generation 999 technology. That said, we are finally making some progress with the 999 App Accreditation pilot scheme and changes to handsets to allow enhanced data location.

As usual you'll see input from the B-APCO Projects team. Gary, Shaun and Paul work quietly (well usually!) behind the scenes enabling B-APCO to play a strategic role in developing future capability in support of public safety communications. B-APCO events provide excellent opportunity to conduct workshops with our members as well as demonstrations to showcase the project outcomes. The professional knowledge and experience of B-APCO members makes them ideal contributors to generating user requirements and acceptance testing. Our members involved with project work also get to meet with public safety colleagues from Europe which has added value and benefit to all.

As one project (FREESIC) finishes, we're about to embark on two more (SECINCORE and REDIRNET). Our two UK (LYNX and HYDRA) and one EU (ABSOLUTE) projects continue to run – so the team are kept usefully engaged!

Finally, (as I've now run out of space!) I'll mention our autumn event. This year it will be held at St James's Park in Newcastle. Great for those who like football! Dates are the 11-13 November. We're sharing the venue with Airbus who will be running their Fire Service Safe Command User Group. It will enable their delegates and ours to take advantage of both events so there are less time and cost commitments. We also aim to host the annual TSG Symposium with the Civil Contingencies Secretariat, as well as a number of other user groups, workshops, roundtables and training. Please keep supporting us by continuing with membership – or by joining us if you're not a member! The more people we have involved, the more we can achieve.

BRITISH APCO

Knowledge Exchange for Public Safety Communications

New Chief Operating Officer Geoff Naldrett outlines his aspirations for B-APCO members clearly and concisely – we are here for you, let's make things happen.

Firstly, in my initial article for the *B-APCO Journal* as the newly appointed Chief Operating Officer, I want to express my thanks for taking the time to open the magazine to see what we have to say and what has – and will be – happening in the public safety communications world.

As the President of B-APCO has already alluded to in her article, we have reshaped slightly and combined two roles into one – Executive Director and Operations Manager now become the role of COO. A tall order for a person of average height (just about) but there is excellent support from internal and external sources that has been graciously offered and I know I can draw on it when I need to.

My early intentions however are not to complicate and muddle – in fact just the opposite. I want to build solid administrative foundations and sound procedures and practises that enable B-APCO to focus on supporting our membership and be represented in all of the places and on all of the topics that are currently here with us or on the horizon of public safety communications. I want those who chose to serve on our Executive Committee to feel involved and appreciated for the work they do for B-APCO in tandem with their day jobs. I want our members and prospective members to fully understand what we are doing and why it it is our responsibility to do it. I want anyone who works in the ever-changing and developing aspect of communications to understand how they will benefit from what we are achieving.

I am under no illusions of the difficulty of the task that lies ahead. After 12 months of deep involvement in the topics that are of most pressing concern (MAIT, NG999, ESMCP, spectrum etc) I realise that it is often difficult to find any individual or organisation that is unconstrained enough to take charge, accept overall responsibility and drive a project to the next step. This is not a criticism, just a fact of life. Time and budgets prevent over-involvement in tasks that are not directly related to the main role. This however is where I see the strength of B-APCO. We can, and do, focus on these tasks on behalf of our membership. Sue Lampard, the President, is constantly going from meeting to meeting representing public safety communicators. Her aims are to make processes better; to ensure that new technology is introduced into control rooms and out on the streets; and to make sure that the interactions between the public and those that support them are the best they can possibly be.

Alongside these crucial but fairly behind-the-scenes activities, you are probably aware that we have two events per year to which B-APCO members enjoy free access. Our main event at Manchester just a few weeks ago was a resounding success with all aspects outperforming those of the previous year. That doesn't make it a 'done deal' and mean 'same again next year'. We know there is always room for improvement and the challenge for us – in harmonious partnership with Brintex again for 2015 – is to identify those subtle changes that can be made to make the experience even better for our membership and delegates.

We seem to spend a fair amount of our time justifying why we exist and what we do for our members and that is exactly as it should be. What I want B-APCO to do is make the argument more one sided. I want members to have a clearer understanding and belief in what we do and realise that it is vital for an association such as ours to be there for you and represent your best interests. Don't let us rest on our laurels. If you have comments about our performance and want to air them, then let us know, email me at geoff.naldrett@bapco.org.uk or leave comments via the website. My aspiration is that anyone who works in public safety communications should know and believe that B-APCO is working for them as their voice and their drive. So when considering your membership renewal or talking to others about the benefits of taking out B-APCO membership, please remember that we are your association and are working for you, day in and day out, in all of the key areas to make things happen, striving for communications to be as good as they can be. We are the Association for Public Safety Communications Officials and that will remain our focus and reason for existing.

Geoff Naldrett,
Chief Operating Officer

SIZE MATTERS

Airbus introduced the world's smallest fully-featured TETRA radio to the UK market this year at B-APCO. The TH1n is the thinnest and most lightweight handset available today, and is part of a significant investment by Airbus in the UK public safety communications market both in terms of current technology and the provision and development of mission critical communications for the future. The TH1n handset has undergone the necessary evaluation process with CESG and carries a number of interesting features, such as an automatic capability that gives users visibility of other members of their talkgroup by providing details on how far away and in which direction their closest colleagues are.

Airwave Smart Mobile enables advanced interaction

Airwave launched Airwave Smart Mobile during Critical Communications Europe 2014 in Amsterdam.

Operating as a mobile virtual network operator (MVNO), Airwave Smart Mobile is a mobile communications service that provides access to one the UK's largest mobile networks and enables the possibility of interaction with Airwave's Emergency Services Network (ESN).

'We have designed Airwave Smart Mobile to help the public service community meet the challenges they face today around operational resource management, cost control, efficiency and effectiveness, while coping with ever decreasing budgets. It will also allow more users to access and benefit from the Airwave Service,' said Richard Bobbett, Chief Operating Officer, Airwave.

For the first time ever there will also be the ability to connect from a smartphone to a talkgroup on Airwave's ESN. This is made possible by a new Push To Talk (PTT) application, Enhance, and is controlled by the customer.

Through the PTT application, users can give permission to extend their talkgroup communication beyond existing Airwave service users. 'There's no need for groups like these to hold a TEA2 licence or implement additional infrastructure to use the Airwave Smart Mobile service. Enabling groups such as these to interoperate with the emergency services when necessary means incidents, actions and responses can be far better coordinated and managed,' said Richard.

Going forward, Airwave will continue to provide mission-critical and non-mission critical services to the emergency services, as well as to the wider public service community. Airwave Smart Mobile is an intrinsic element of a broader set of capabilities and services that Airwave continues to bring to market. 'As we speak there are more applications and services in the pipeline addressing the challenges in the mobilisation of command and control, duty of care for both employee and employer, to name but a few,' concluded Richard.

Video streaming via TEDS

Motorola Solutions has demonstrated video streaming over Norway's Nødnett TETRA network using TETRA Enhanced Data Service (TEDS). As well as video services, a wide range of mission-critical data applications have been showcased over the TEDS system which has been optimised to work within a channel bandwidth size of 50 kHz. Other key public safety applications that have been successfully trialled include mobile fingerprint scanning and vehicle license database checks.

Together with the Directorate for Emergency Communication (which leads the development of Norway's nationwide TETRA Public Safety Network) Motorola Solutions has been running a detailed analysis of TEDS capabilities. The pilot project, in Notodden, south-eastern Norway, comes ahead of the planned roll out of higher-speed mission-critical data services across Norway on Motorola Solutions Dimetra IP base stations that are TEDS ready.

ICT spend figures

Police ICT investment in England and Wales will total £403m in 2014-15, a 39% increase on the previous year, according to a new breakdown of force budgets.

Communications and Airwave-related technology spending is up 77% on the previous year at £14.5m. Mobile working investment rises by 55% to £31.8m and Automatic Numberplate Recognition Systems spending is up 85% to £6.9m. The figures are published by Police Market Report, the specialist monthly newsletter. They examine spend data under more than 30 separate headings.

A total of £5.8m is earmarked for internet-related technologies, an 85% increase on 2013-14 and a clear signal of the move away from traditional 'front office' public engagement models.

Metropolitan Police investment, forecast at £171m in 2014-15 is 60% up on the previous year and will fund the start of migration away from technology condemned as not fit for purpose by the London Assembly last year. Provincial ICT spending will increase by 34% to £232m in 2014-15. They partly account for raised identified spends on telephony, up 48% to £10.6m; networks, up 33% to £10.8m and desktops and licences, up 37% to £19m.

Contact reports@policemarketreport.co.uk.

Mason Advisory formed within Datatec

Datatec has formed Mason Advisory Limited within its consulting division. The new company, which was previously a division of Analysys Mason Limited, will see Datatec partner with Steve Watmough, the new CEO and shareholder of Mason, to develop a highly focused independent IT advisory business.

The core focus of the separated business will be consulting on the growing IT, cloud, security and mobile technology requirements of major public and commercial enterprises. Jens Montanana, the CEO of Datatec commented: 'The separation of the division from Analysys Mason (which will continue to focus on providing strategic TMT consulting services and research) and the return of Steve Watmough, will bring increased management focus and new talent.' Steve will be joined in the management of Mason by Duncan Swan, an existing Partner of Analysys Mason Limited.

Celebrating 10 years under one roof

Sunday 19 April marked the 10th anniversary of the Emergency Services Joint Control Room (ESJCR). A unique tri-service facility, the ESJCR has helped to establish the Isle of Man as a global leader in terms of integrated communications. It has attracted interest from the UK, Channel Islands, Europe and the Middle East over the past decade, with many delegations visiting the Island to see the system in action.

Digital courtroom future is unveiled

The digital courtroom has been unveiled and criminal cases will be handled digitally from the moment a crime is committed through to the conclusion in court, Criminal Justice Minister Damian Green has said.

Speaking at Bromley Magistrates' Court in South London, Damian Green said that in future every magistrates' court in England and Wales would operate completely digitally, with increased use of remote video links and written evidence and legal submissions being stored securely centrally and accessed by magistrates and legal teams on digital devices, using Wi-Fi connections. Police officers will be able to collect evidence at the scenes of crimes using mobile devices and begin building case files on the beat.

The Government announced in March that courts across England and Wales would be upgraded using new funding of £75m a year. This is in addition to £44m already provided for the provision of new IT programmes. The funding will include ensuring all criminal courts can operate completely digitally by July 2016.

The changes, outlined in April in the new Criminal Justice System Digital Business Model, will help victims and witnesses by ensuring cases progress as quickly as possible.

Tracking your most valuable assets

RFID specialist Red Ledge has formed a joint venture with fire and crisis management technology consultancy BSG Command Systems to launch iSCOPE, an incident sector command-level system that uses RFID tags to constantly track firefighter locations, breathing apparatus air levels and other equipment assets in real time, across all zones of any incident.

RFID's wireless technology does not require a line of site and can be used in extreme conditions. iSCOPE uses a quick-deploy portal to scan incoming and outgoing firefighters for the data held on their uniform or helmet RFID tag, which identifies them and also determines whether they have the skill set for the incident tasks they have been assigned. The system records all Airwave and other communications at an incident, and can also be used to call up the latest health and safety documentation for at-incident reference.

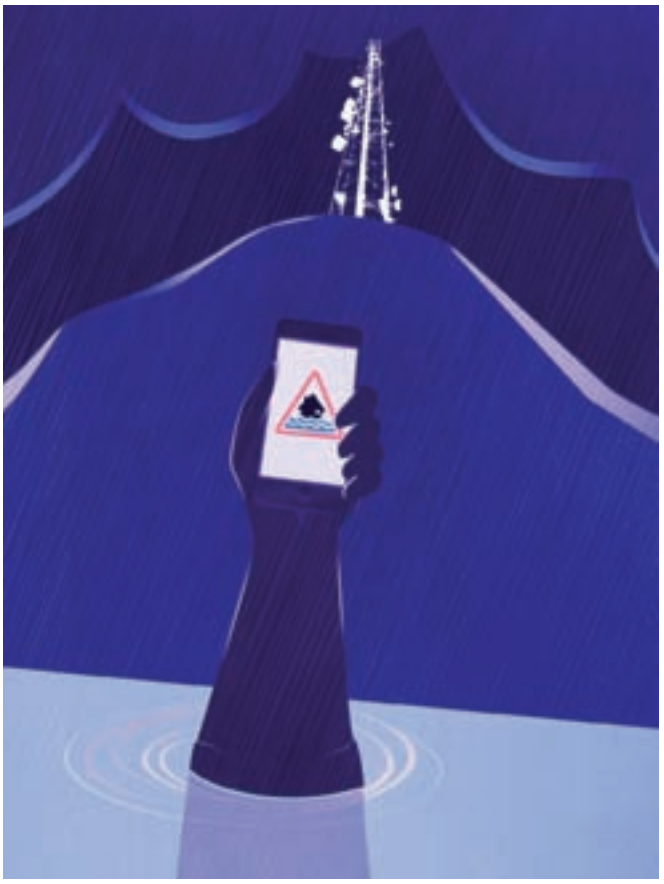
iSCOPE can also be used in other public safety and security environments requiring incident asset management. RFID-driven tracking applications in policing include scenes of crime, chain of evidence and the management and tracking of police firearms.

NEWS IN BRIEF

The Ministry of Interior (MOI) of Qatar and Airbus Defence and Space have agreed to build a partnership on the development of a Terrestrial Trunked Radio (TETRA) Group Communication over Long Term Evolution (LTE) service using the existing LTE and Professional Mobile Radio (PMR) communication networks of the MOI. The new service will be made progressively available to the country's public safety users. For the first time it will be based on LTE technology offering the ability to stream high quality video and transport very large data files, while including fundamental TETRA service characteristics like push-to-talk (PTT) and talk-group communications.

The Home Office has published guidance on ANPR performance assessment and optimisation which includes suggestions for how an automatic number plate recognition system can be set up and maintained in order to achieve maximum performance. The 21-page guidance document has been written for law enforcement ANPR operatives and commercial installers on behalf of the ANPR Programme Board. The contents of ANPR Performance Assessment and Optimisation include chapters on: Pre-purchase; Site Survey; Installation; Performance measurement on installation; Evaluation conditions; ANPR performance measurements; Minimum evaluation sample; Comparison with NASP; and Regular maintenance and system checks.

Organised by Public-i and Mutual Gain, the Policing Social Citizens conference takes place 26-27 June in Manchester. Sponsored by Greater Manchester Police and Greater Manchester Fire and Rescue Service, this national conference aims to create a strong vision around working with communities, using technology to create innovative prototype projects. It seeks to bring together thought and practice leaders from policing and community nationally. The conference will combine formal presentations and unconference-style sessions to encourage participants to create their own events. The event will be webcast in order to enable digital participation worldwide. Public-I Director Emma Daniel commented: 'We understand that there is a big appetite for police and engagement leaders at all levels within organisations to get together and develop ideas. We also believe that there is a need for some leadership to emerge in this space and we would like to create an opportunity for some authoritative voices to emerge.'
To book contact emma.daniel@public-i.info or visit www.eventbrite.co.uk/e/next-steps-policing-social-citizens-2014-tickets-10658262149.
You can read more about the emerging agenda and participate in creating it here: http://policingsocialcitizens.wordpress.com/



Cell Broadcasting: public emergency alerts without the network crash

*Last month's publication by the Cabinet Office of the **Mobile Alerting Trials: Project Final Report** has put the spotlight on Cell Broadcasting – a technology that remains relatively unknown in the UK. The EU and the USA have already favoured Cell Broadcasting over SMS message alerts in all their studies, and it has been adopted by a number of countries including the US, Japan, Israel, and – as recently announced – Taiwan. So why not the UK?*

Mark Wood – a former UN Disaster Coordinator and former Senior Lecturer of Mobile Network Design at the Ericsson Institute in Stockholm – is one of a small group of cell broadcast experts in the world.

Mark explains that cell broadcast (CB) is a communications facility that is built into the control channel of a cell and – crucially – is not part of the mainstream voice or SMS traffic system. The cell uses this facility to communicate technical details to a mobile phone – details such as frequency and power that the phone requires to configure itself to work with that cell.

Interestingly, however, it is also possible to send text messages using this facility, albeit with some crucial differences to an SMS delivery system.

First difference is that the cell doesn't discriminate between phones nor does it need phone numbers to send its message(s) – it broadcasts these messages to all mobile phones in its area (a bit like a radio transmitter). Secondly, unlike with an SMS, the CB system cannot ascertain whether a message has actually been received.

Because CB sits outside the normal traffic system of a network, it remains unaffected by the type of network congestion that is associated with large-scale emergencies or events such as New Year's Eve in central London. US studies showed that large-scale SMS transmissions could block voice calls as well as SMS messages on a mobile network.

In fact, CB is so oblivious to network traffic that it will deliver any number of messages within the same timeframe of around 7 seconds. So whether it be 5,000 or 6 million text alerts, they will be delivered in around 7 seconds. Furthermore, delivering tens of millions of messages by CB cannot crash the network (either voice or text), no matter how overloaded the network is at the critical moment.

It is these two characteristics that have caused CB to be chosen over SMS as the emergency alerting method of choice for a number of countries around the world – USA, South Korea, Japan, The Netherlands, Turkey, Taiwan, Israel and Chile. A number of other countries are preparing for it too.

The EU has been studying CB for a long time, and a standard is already in existence for the European Public Warning System: *ETSI TS 102 900 V1.1.1 (2010-10): Technical Specification Emergency Communications (EMTEL); European Public Warning System (EU-ALERT) using the Cell Broadcast Service*.

To quote from this ETSI document: 'Not only the EU project has concluded that Cell Broadcast (CB) would be the bearer technology best suited for the

purpose of EU-Alert, but also ETWS [the tsunami and earthquake public warning system used in Japan] and CMAS [the Wireless Emergency Alert Public Warning system used in the USA] are based on the Cell Broadcast Service as specified in 3GPP TS 123 041.'

However, CB has one major issue, and that is in most countries the facility to receive CB text messages is turned off within the mobile phone handsets themselves.

In the US, The Netherlands and Japan, the authorities have got round this problem by stipulating that all mobile phones sold in those countries have this facility turned on at the point of sale. And, as a person typically buys a new mobile phone every two or three years, over the course of a year and a half it is estimated that around 50% of the population would have the CB facility. 'For the vendors it is relatively easy because all the standards are written already so they don't have to invent anything,' adds Mark Wood.

Mobile Alerting Trials: Project Final Report

In 2013 a project was launched to complete a series of trials in partnership with three of the UK's Mobile Network Operators (MNOs) and emergency responders to assess different methods of issuing alerts to mobile devices in defined areas.

The report concludes that 'location-based SMS is the preferred solution following a detailed technology comparison using evidence obtained from the trials and consultation with the MNOs. The main reasons for this was that location-based SMS makes better use of existing MNO infrastructure (and therefore offers better value for money); and unlike Cell Broadcasting it does not require handset configuration to allow messages to be received.'

The report goes on to say that this conclusion was not unanimous, however, and that CB cannot be ruled out.

Although broadly speaking the conclusions based on the trials are correct, Mark Wood believes it is worth putting some of these conclusions in a wider context.

Location-based SMS

The report points out that in order to successfully route a geo-specific call or text to a mobile phone, the mobile phone network needs to know its approximate location.

In the report's own words, this 'is facilitated via a secure database managed by the mobile phone network which contains the mobile phone numbers of its customers in any given area. This option also provides the capability for location-based SMS services, whereby the operator could identify a geo-fence around a particular area and use the information about location of handsets (of its customers) to send alerts to those handsets in the specified area. As this data is stored in the mobile operator's database, it would not require people to sign up to such a service.'

Mark Wood points out that such a secure database does not currently exist. What is in existence, however, is a visitor location register. 'Before you make a call to someone's phone you first have to page it to bring it online. A phone is not online all the time, otherwise its battery would go down very quickly. To stop that happening the phone sits there and "lurks", listening to the cell's paging channel and periodically saying "hi I'm here". That is called "periodic registration". So the database effectively says: "this handset told me it was turned on half an hour ago". It does say what location area it was in, however.

> "Because CB sits outside the normal traffic system of a network, it remains unaffected by the type of network congestion that is associated with large-scale emergencies"

'Cells are arranged in large groups called location areas, which are the size of a small county. When you are called, the network pages you on every cell in that location area because it doesn't know which cell you are in – and there are several hundreds in one location area. So the network commands every single cell in an area to page you. When you reply back, you reply to one of the cells and then it knows where you are.'

For location-based SMS to work, the network would have to keep a record of which cell each handset was closest to – not just which location area. And to get this information it would have to first page each phone regularly to keep it up to date. 'I was involved in a similar project in Florida, and once it was ascertained that in order for the SMS system to work there would have to be an up-to-date database containing the location of every person with a mobile phone, there were severe concerns with privacy and it was decided to pursue the cell broadcast route instead,' says Mark Wood.

Service criteria requirements, SMS vs CB

One of the service criteria and requirements of the trials is that an alerting system demonstrates 'value for money against other options presented'. The report concludes that SMS meets this criteria whilst CB only 'partially' meets it, with the following

explanation: 'MNOs have indicated that SMS would provide the better value for money option (out of the two) as much of the infrastructure is already in place within the networks. However it would still require investment. More work is needed to investigate costs of implementation and system operation for the options available. MNOs will work with operators in other countries to share learning on system performance of similar systems and also on costs of implementation and operation.'

It is unclear, however, for whom 'value for money' is referring to, points out Mark Wood, considering that MNOs can charge (presumably the Police Authority instigating the alert) for sending SMS messages, but not for cell broadcasts. 'And someone will have to pay to create the location system needed for SMS – which is not needed for cell broadcasting. By the time that database is created, I would imagine the SMS system will cost more than CB. And every time it is used it will cost more than CB,' says Mark.

In contrast to the time it would take to create a secure database of each phone user's location (and how issues of privacy would be handled are not clear – 'ongoing work with the ICO'), Mark points out that it takes around 90 days to install and calibrate a CB system on a network, although – admittedly – the issue of switching on the facility on each handset would take longer.

On the subject of privacy, CB does not need a database of anyone's location, it is also easier for citizens to opt out of CB. 'To opt out of SMS you would probably have to go to a website and delete yourself from a database. But with CB, as it's a receiver, you just go to the channel on your handset and turn it off and you'll never receive anything. I also wonder about an opt-out database for SMS, because presumably before sending out an SMS alert you would have to consult it to know who to delete off the recipients. Scaling this up to large-scale during the critical phase of overload would be a considerable burden.'

> "In the USA they repeat the message every minute for 20 minutes"

Another check box requirement is that messages 'will be received by handsets in a no coverage area', and neither of the two technologies meet that requirement (naturally). With SMS the messages will be retried and received (hopefully) once a handset is within a coverage area – as with CB, explains Mark: 'CB messages are not just sent once – they are repeated. In the USA they repeat the message every minute for 20 minutes, but since the phone knows when a message is a repeat, it only sets off its alert tone once. The trouble with SMS is – if the message is not successful – it can go to the back of the queue, and in the meantime other messages may be delivered which conflict with the previous one – think "run" or "stay indoors". This is called the "cascading" problem. With CB you just receive the message that is related to the here and now.'

Lastly, at a time when the emergency services are envisaging moving to a 4G/LTE environment through the Emergency Services Network, some experts are scratching their heads and wondering why an alerting system that would put additional pressure during the critical phase on the mobile network is being considered.

During the trials the largest number of SMS messages sent out (in Glasgow) was 24,755 – not exactly pushing the technology to the kinds of numbers where problems would be expected to begin to show.

The writing is now on the wall

As the US continues its journey to NG911 we catch up with APCO Past President Terry Hall Director of Emergency Communications at York-Poquoson-Williamsburg ECC. His message to UK public safety communications professionals is simple: educate yourself, your staff and your public; embrace the technologies and utilise them as the tools they have been developed for. And don't wait - there is no reason not to launch these technologies now.

The pace of the US journey to Next Generation 911 (NG911) is speeding up.

From September last year all wireless companies were required by the Federal Communications Commission to send an automatic 'bounce back' message to citizens trying to send a text message to 911 where this service was not available.

In January the FCC announced the goal that all wireless telephone companies and providers of text messaging services should enable consumers to send messages to 911, and proposed rules to support this by December 31st this year. In an agreement with NENA and APCO, the four major US carriers (AT&T, Sprint, T-Mobile and Verizon) committed to provide this service by May 15th this year, to all 911 call centres prepared to receive these texts.

Today, it is up to each 911 call centre to decide whether and when to begin accepting texts.

Where is York-Poquoson-Williamsburg ECC with NG911?

We went live with the first text-to-911 in December 2012 and my centre was the first one to use the largest carrier in the US, Verizon. This was followed with AT&T and this week we have literally gone live with Sprint. So today we have three of the six biggest nationwide vendors providing text to 911 to us. But we have to be clear that this is what I call 'evolution NG911'. 'Total NG911' is when we convert all our communications centre to IP-based technology, which is when we'll be able to take in images and videos and do pretty much all things we do now; so logging the media, categorising it, prioritising it, and sending it out to first responders in the field.

What has been your experience with SMS text messages?

It has not been overwhelming. We've had about a dozen real messages plus testing. When we decided to go down this route my staff came up with the protocol and we were running 300 tests a day – which is how we came up with all the possible scenarios. They wanted to find any problems in a test environment rather than a real one. So by the time the real SMS messages came in we were used to them – just like real 911 calls. But we have found it very rewarding.

Can you mention one example?

One of the first messages we had came from a church, with the subject reporting a domestic in the parking lot. The guy committing the crime turned to the subject as it was happening and said: "Don't you touch that mobile phone." So the subject put down the phone and sent a text to 911, and we were able to send a response. In fact, the subject even texted to say: "I can hear sirens, please turn them off". So we were able to interact very well.

Were there any unexpected obstacles or challenges?

They happened before we launched and not after. My staff is the eighth wonder of the world, and when I announced we

Terry Hall is Communications Manager for the York County Regional Emergency Communication Center (USA). He has also been awarded Life APCO membership.

were going to be with Verizon, the first in the country, the senior staff had all kinds of fears and concerns – and good ones too. How do you turn the facility on and off? What if we get a hurricane and are overwhelmed? Which takes priority, 911 call or 911 text? How do we trace or hang up a call? How do we recall a subject, or say it is safe? We were able to respond to 99% of these before we launched.

Right now the biggest issue for text 911 is our language line. If we get a text to 911 in a foreign language, we don't have the option to transfer them to a language line to interpret. But I think the immediate impact for the deaf and hard of hearing community has been overwhelming. They have had their own protocol which they have been using for years, but we now have a paradigm change and a job to convince them to trust that they can talk directly to PSAPS [Public Safety Answering Points].

How has the public reacted?

Educating the public is the number one issue with text to 911 – not as regards when to use it, but to know that it is available. Because at the moment it is rarely available across the whole area. We are starting to look at doing things regionally with Hampton Roads Virginia. Currently York-Poquoson-Williamsburg is live, James City County is live, and Southampton County and Isle of Wight County have started their process. So we are getting pockets that are available. As we move forward with public education, we want everyone to understand that this does not replace voice 911, it is a tool to augment the process when you cannot communicate. Because let's be honest, it takes longer to process a text to 911 than a voice call, as you have to ask a series of questions that could be answered as soon as you hear a voice.

Have you noticed any demographic patterns in the people who use text to 911?

Not as far as the users, no. But as far as the demographics of the call takers, the young ones are embracing it more, as that is their way of life. Some of them I think would rather use text than talk to someone! That is the way they conduct their personal lives.

Do you have any concerns around hoax media when NG911 is implemented?

We will always get those, but what will come in with those calls in an enhancement – so we will have a data stream that can validate the call further, But yes, someone could have a picture of a horrific accident and send it. But there would be charges, just like we do now for false calls.

What is the next step?

Our next step is to begin migrating to IP to enable us to take in pictures, and video will follow. Then it will be automatic crash notification and other machine-to-machine devices. This will increase the level of service we can provide citizens of the USA.

We are also looking at technology that can tell you the altitude of a call, so if it's coming from the sixth floor of a building. I'm currently on my way to see a trial in San Francisco Bay in California.

As for the IP side, I would say a year from now we'll have all the wireless carriers up and working, and none will be sending messages to 911, because we'll be in an i3 environment. That concept is wider than multimedia, because it enables interconnection at county, regional and even state level. We currently have a virtual PSAP network using our own microwave network with Jameson County, but in an i3 environment if we had a catastrophic problem in the northeast coast of the USA and Virginia was wiped out, PSAPS could be answering calls for Virginia from California. So on the resilience side NG911 is a big plus.

What is your message to the UK as regards the use of newer technology for answering emergency calls?

People think that they can wait until the technology is ready and then they can just turn it on. But it's easier to regard it as an evolutionary process because then people aren't inundated with technology – and your people are part of the solution as well.

My message is: educate yourselves, embrace the technologies and use them as the tools they have been developed for. If you educate your staff and your public there is no reason not to launch these technologies now. Don't wait.

IMMEDIATE APCO PAST PRESIDENT TERRY HALL, DIRECTOR OF EMERGENCY COMMUNICATIONS, YORK-POQUOSON-WILLIAMSBURG ECC

With over 30 years' experience in public safety, Terry Hall is currently the Communications Manager for the York County Regional Emergency Communication Center. Through Terry's leadership the region designed, built and implemented this state-of-the-art facility which serves the County of York, the City of Poquoson and the City of Williamsburg in Virginia. York County was the first 911 Center to deploy Phase I & Phase II in Virginia and also to develop wireless technology currently used throughout the country. Terry received the Virginia Governor's appointment to the State E911 Services Board. He is currently the Project Manager for the Regional Radio System that encompasses six localities in Virginia. Terry has recently been awarded the Life APCO membership. He has served two terms as the President of the Virginia Chapter, served as Chairman of APCO International Homeland Security Committee, Member Assistance Advisory Program and served on APCO International's Long Term Strategic Planning Committee. As a past member of the Virginia 2 Urban Search & Rescue and the Virginia 1 Disaster Medical Assistance Team, Terry spent over two months deployed on search, rescue and restoration efforts for Hurricanes Katrina, Rita, Isabelle and Gustav. Among multiple other recognitions, in 2006 Terry had the distinguished honour of receiving the Virginia Governor's Award for Excellence and the APCO International Communications Director of the Year Award. Terry is often called upon nation-wide as a subject matter expert pertaining to issues concerning emergency communications and public safety.

On the journey towards the future

Ensuring that the path towards NG911 is as smooth as possible has taken an enormous amount of work for technology companies in the US, reveals Diamond Chaflawee, Director of Marketing & Business Development, Public Safety, NICE Systems.

Diamon Chaflawee, NICE Systems.

Since 2008 NICE Systems has been participating in the National Emergency Number Association's (NENA) ICE 8 Industry Collaboration Event, a forum that promotes progress towards NG911. 'ICE is probably the most important industry cooperation event, bringing different vendors together to provide different elements of the next generation system, and during the course of a week basically test the technology that has been based on the standards put together by the working groups,' explains Diamond Chaflawee, who helped to develop a technology that provides an automated way for emergency call centres to manage and reproduce multimedia information, and which is in use in public safety sites worldwide – NICE Inform.

During ICE 8 in 2013 (Illinois Institute of Technology), for instance, NICE was able to confirm interoperability of its NG911 recording solutions with a spectrum of i3 interfaces, an essential capability for logging IP-based NG911 emergency communications in the form of voice, video and text.

'We are currently at draft two of the NENA i3 standard for NG911, so the standard is not finalised yet. We have participated in five ICE events so far and at each event we continue to evolve and change based on the feedback from participating vendors.'

Diamond describes NG911 as being in a transitional phase at the moment, which means that any IP deployments currently in the US are not yet 'true i3' or 'true NG911'. 'There are a number of reasons for this. Funding is a big factor, as is governance. NG911 is not just about technology and switching to IP – that is the easy part. The other part is the operational side and how PSAPS are going to work together and share load as part of a larger network at national level and so on.'

Until the i3 standard is finalised no technology can describe itself as truly i3-enabled, even if it has the capability to handle multimedia information, as can the latest version of NICE Inform. 'For years we have had the capability to handle not only audio but also video and GIS information, screen recording etc. And we think what we have in place is future proof enough so that people can use it in the transition phase of working on existing and future infrastructure.'

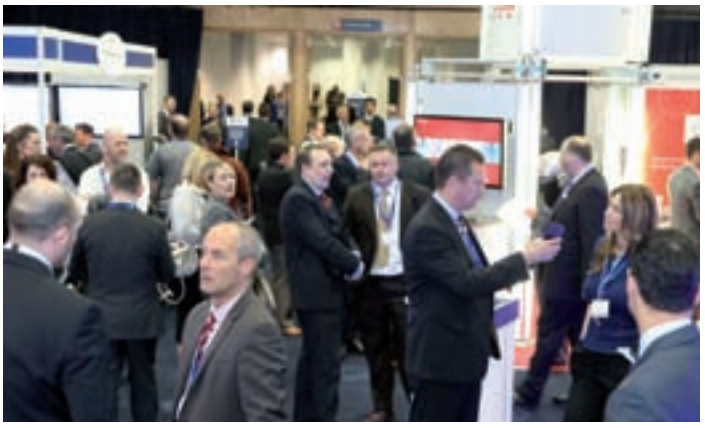
The pace of NG911 implementation has been slower than envisaged by technology companies like NICE: 'For years I thought NG911 was only a year or two away and each time I've been wrong. I still expect it to be in the near term, however, because the cellular companies now have to enable text to 911. While this is – again – not true NG911, it is a step forward.'

SMS text messaging to 911 is regarded by Diamond as an important milestone for PSAPS. 'Everyone I meet understands that NG911 is not a matter of flicking a switch.

'NG911 is not a destination, it is a journey. You take those steps slowly and 911 texts are one stage – so text today, tomorrow start images, then video.'

In preparation for that journey NICE has been refining its Inform platform to help PSAPS better cope with the change involved in acquiring a new skill set and ensuring dispatchers adhere to new protocols and policies. 'We have a solution called Next Generation Quality Assurance that is part of Inform and enables contact centres to evaluate the performance of their agents and identify where they need additional training.'

Most agencies in the US understand that NG911 is coming and they will be a part of it sooner or later, believes Diamond: 'It's a journey that requires agencies to work with partners that understand the change and have the tools to enable them to progress at a pace they are comfortable with.'



The UK hub for ES telecommunications

For the second year running B-APCO 2014 Annual Event experienced an increase in the number of visitors attending the show, with overall footfall standing at 1,125 as well as a 16% rise in unique visitors. Couldnt' attend? Don't worry, here are some of the highlights.

Sue Lampard, B-APCO President.

Dave Barnes, CCS.

Interoperability update – MAIT: Dave Barnes, CCS; John Hunter, MD Vector Command; Tony Bracey, Project Manager MAIT, Joint Emergency Services Group (Wales); Jamie Orr, CFOA; Sue Lampard, President of B-APCO

Dave Barnes kicked off with a short presentation of where Government wanted to go with open standards, highlighting that there was a real drive and push towards open standards as initiated by the DEIT programme in Wales.

The plethora of organisations supplying emergency services as well as the need for intra and inter-agency collaboration means open standards are necessary. Factors such as changes in technology and a drive for efficiency at reduced costs also lead to exploring how services are shared – not just back office but also increasingly at the front end.

An open standard, as per the Government's definition, is one that is constructed collaboratively and transparently, allowing people to comment following due process.

South Wales' DEIT project had been crucial for testing whether MAIT could be feasible. Over a six-week period all the parties involved were able to transfer information leading to operational benefits such as a reduction in process times – shaving four minutes off the process.

A less tangible benefit was improved operational awareness for those attending incidents, as the information from other parties helped responders to be in a better position to deal with an incident.

The sharing of the different terminology used by the different organisations facilitated all parties to gain an insight into how each other worked, as well as assist the developers to create some standardisation across the board.

The Welsh pilot took place in 2012 but things have not stood still and the drive is to expand the capability to all eight of the emergency services in Wales, enabling all of them to exchange information.

In terms of next steps, it is hoped that by June this year there will be a hub in place in South Wales for the first few organisations to begin sharing information – but that is subject to the development of training procedures.

As far as developing the MAIT standard, B-APCO set up a whole series of user groups to ensure that the standard would incorporate the different types of information required by each organisation. 'It also looked at the learning from Wales and added those elements in, to ensure that when exchanging location details that everybody was clear from what database that location information was derived from.'

Challenges have included simple things like agreeing organisational identification codes as well as agreeing core mandatory fields.

Dave concluded by pointing out that a draft standard was now live and ready for comments – both technical and non technical [see it on www.bapco.org.uk].

Sue Lampard then took over, beginning by saying that she had come to the conclusion that there were two MAITs. MAIT the schema and MAIT the vision. 'So far the schema has been developed from the DEIT schema but the long term vision of MAIT is complete seamless interoperability between all the agencies.'

After a description of some initiatives taking place around the UK which aligned themselves with the aims of MAIT, Sue Lampard admitted that MAIT would not become a panacea for a long time. 'In the early days we anticipate MAIT will just be the transfer of incident data at command and control level. But at some point in the future I'm

hoping we can migrate to records management too – but we are keeping it simple in the early stages.

'The experience in Wales showed that you don't have to wait for someone to pick up the phone – which can be challenging at times – and that when information arrives electronically it does so in a timely way and without any risk of Chinese whispers. I think that the public would expect that facility to be in place already and that if you told them that the police, fire and ambulance service couldn't transfer information electronically they would not believe it.'

As for next steps, B-APCO has set up a MAIT team that anybody can join. It meets every two months and it is linking with another program. ONAT, Overt National Asset Tracking, is looking to develop open standards for tracking the national assets of the emergency services. 'Next we are looking for another site to test the hub that will be built by Vector Command. We are just waiting for the green light that will link fire, police, ambulance and coastguard in a site.'

Concluding her presentation, Sue urged visitors to build MAIT into any bids for innovation funding around interoperability.

MD of Vector Command John Hunter picked up the baton and spoke about the importance of identifying the essential aspects of MAIT whilst also ensuring that the structure would be flexible enough to allow the adoption of future changes.

The inclusion of strong validation was a key requirement: 'We don't want just anybody to come and start putting information on this network that is to be used by the blue lights. So we need strong security and protocols to ensure data is genuine.'

John highlighted that ONAT – as mentioned by Sue Lampard – may appear to be using data in the same way as MAIT, but that this wasn't the case. 'ONAT is about your assets and where they are at a particular time. MAIT is about what you are doing with the assets or how you are going to manage them – which is more to do with command support.'

Vector Command is planning on building a single hub that will manage both MAIT and ONAT-type data. 'And while MAIT can be point to point or hub, it is essentially a stateless pipe that passes on data without holding. ONAT's structure is yet to be decided.'

Read and comment on the draft MAIT standard at www.bapco.org.uk.

Vector Command MD John Hunter. Below: Avanti Communications' HYLAS 2 was launched in 2012 and uses the latest Ka-band technology to deliver high speed, two-way data communication.

ONCE AIRWAVE IS SWITCHED OFF, HOW WILL THE BLUE LIGHTS COMMUNICATE WHEN OPERATING IN AREAS NOT COVERED BY THE NEW EMERGENCY SERVICES NETWORK? AVANTI REVEALED ITS ANSWER TO THIS TRICKY INFILL QUESTION DURING B-APCO 2014

Project HYDRA is a satellite-backhauled, portable, self-contained 4G/LTE network. As a compact technology, it can be quickly deployed anywhere that doesn't have mobile phone communications coverage. HYDRA is a product of a strategic partnership between satellite operator Avanti Communications, Quortus and B-APCO.

Avanti Communications demonstrated the core capabilities of the technology during the annual B-APCO event. The team constructed an enterprise indoor network that provided coverage for 4G devices, via Avanti's Ka-band HYLAS 2 satellite. The testing was enabled by a Skyware 98cm dish antenna with 3Watt BUC on the roof of the Manchester conference venue.

Paul Feenan, Director of Avanti Government Services, commented: 'Range is crucial in emergency situations: the HYDRA solution can provide coverage in the range of several kilometres. With a TCP optimised network you get 9-10mb downlink on a single mobile device, and close to 5mb upload.' The upper limit is expected to be even higher when using the maximum capability of the satellite modem.

After a live demonstration of these speeds, Feenan explained that this type of data packet manipulation was the first in the market. HYDRA will enhance an emergency service user's overall experience with responsive browsing, enabling fluid video streaming and multiple concurrent applications at smart terminals. Users will experience the maximum satellite link available, without compromising the standard network architecture.

'One of the key markets for this is the Emergency Services Network Lot 4, which is concerned with infill. HYDRA is the ideal solution, partly because it is small and easily deployed. You can roll this technology out and get a network running with around 2km coverage for your own mobile devices. And with larger devices, the coverage range has extended to 5km in testing.'

One of the next steps for Project HYDRA, which was co-funded by the UK Government's Technology Strategy Board, is to engage the network operators and build a commercial system that runs over licensed spectrum. 'One of the applications we are keen to demonstrate is that HYDRA can provide the same user experience as networks running on more traditional connectivity methods,' concluded Feenan.

During B-APCO 2014 O2 made the startling revelation that lack of technology on the beat was costing UK police £221m

New research has revealed that the average frontline police officer in the UK is wasting upto 193 hours per year through a lack of connectivity to essential systems and information outside the station.

This inefficiency is costing the police up to £221m a year, according to O2 and the Centre for Economic and Business Research, which carried out the research, while providing access to relevant digital technology has the potential to boost productivity by the equivalent of an additional 5,500 junior officers.

The results of the research came ahead of the launch at B-APCO of a new mobile package for the UK police from Capita and O2, which includes a mobile platform that allows secure access to central systems while on the move. It has been designed to help police forces tackle the key issues behind the lost productivity.

Currently, frontline officers are leaving encounters on the beat or call outs to incidents an average of 61 times per year to return to the station to access records or create reports; a further 71 hours per year are lost in unnecessary follow-up visits because key information was not accessible the first time; and an additional 45 hours are lost because officers are taking longer to complete tasks they were unable to carry out during or immediately after 45% of external visits.

The new mobile package from O2 and Capita will provide solutions to these issues by allowing officers to access crucial information wherever they are across a range of smart devices. The Blue Light Managed Mobility solution, which will be available to all forces and not just O2 customers, offers expert account management and mobile device management to allow offers to work securely, and as part of the package O2 will exclusively distribute Capita's SmartWorks App and platform.

The Capita SmartWorks platform allows multiple processes to be carried out via a single smartphone app, which provides secure access to back office systems including local record management, the Police National Computer and command and control systems. Officers can search multiple systems for information about people, places and vehicles, which can then be combined into an instant crime report or command and control shift update.

Capita and O2 have launched a new mobile package for the UK police that includes the ability to securely access central systems whilst on the move.

The system aims enable officers to make better informed decisions and provide more information and targeted support to victims and witnesses of crime, as well as eliminating paper reporting as reports can now be submitted via the app.

The app will help frontline officers cope with the changing face of policing, which requires more efficient processes and immediate access to information. According to Sean Massey, Divisional Managing Director, Capita, Justice and Secure Services: 'We have created an app that works securely on any device and any platform, and provides a fast route to everything an officer needs to work safely, quickly and while on the move. Our partnership with O2 allows us to provide police forces with a managed service delivered via an award winning network with unrivalled technical support.'

The crucial role of technology will help police forces deliver costs savings while maintaining support in their local communities, added Billy D'Arcy, managing director of public sector business at O2: 'Through our Blue Light Managed Mobility Service, we're helping put the right technology in the hands of frontline police and working with Capita to provide access to the tools and information they need. This will allow officers to spend more time in the places that need them most – working with the communities they work hard to serve and protect.'

Cadcorp held a joint workshop with Nottinghamshire Fire & Rescue Service (NF&RS) showcasing how Cadcorp's technology can unlock the hidden value in historical call-out records and associated GPS logs to improve the efficiency of incident response

The presentation centred on the enhanced use by NF&RS of the Ordnance Survey's Integrated Transport Layer (ITN). This is used by emergency services for routing-based analysis, but in the past this analysis has relied on average speeds for different road types in determining which resources should respond to an incident. What NF&RS have done, using Cadcorp's GIS software and several years' worth of GPS logs of call-outs, is enhance this road network map, allowing them to estimate travel times using actual travel speeds achieved by vehicles on their routes to incidents.

Cadcorp's software enabled NF&RS to take the millions of data points collected over a five-year period and 'snap' them to fit onto the Ordnance Survey ITN, explained Gary Randle, Cadcorp's UK sales manager. 'Then, on the ITN data, we know the actual travel speed that vehicles were

doing. This makes the data a lot more accurate for determining which stations should respond to an incident.'

During the presentation, Gary set out the context and technology behind the initiative before handing over to NF&RS for an insight into its implementation. He added that there is a great opportunity for other fire services to find out more about how to make better use of their historical data – or, indeed, begin keeping it.

'At the moment, only around half of organisations are currently collecting and keeping AVLS data from their vehicles,' said Gary. 'A certain amount of historical data is required to make analysis using AVLS statistically robust, which is usually around a year, depending on how busy a particular fire service is. NF&RS demonstrated how the use of this data, with this technology, has impacted on the efficiency of the service's mobilisation through a comparison of their old and new methods.'

Airwave's vision for a 4G future: Airwave Today, Tomorrow, and the Future

The focus of the session, said Airwave's Head of Smarter Network Solutions Henry Kay, was to demonstrate Airwave's ability to provide a one-stop-shop for 4G mobile services. 'We wanted to show customers that it's not necessary to wait for new 4G capabilities to be developed and launched; we already have these capabilities and they are available now.' Airwave believes its vision for a 4G future will revolutionise the way emergency services staff on the ground communicate and do their jobs. 'It's all about delivering the right information to the right place at the right time to allow the emergency services to be more effective,' said Henry Kay.

For example, a 4G Samsung Galaxy Note 3 using the technology available today, can provide officers on the ground with visibility of their colleagues in addition to

DURING B-APCO'S ANNUAL EVENT PUBLIC SAFETY PROFESSIONALS WERE FORTUNATE TO SHARE AN EXCLUSIVE PRESENTATION AND Q&A BY A KEY MEMBER OF THE HOME OFFICE'S EMERGENCY SERVICES MOBILE COMMUNICATIONS PROGRAMME (ESMCP) TEAM. THE SESSION WAS HELD IN A CLOSED ENVIRONMENT WITH NO MEMBERS OF THE SUPPLIER COMMUNITY PRESENT

The first step has been taken to provide the emergency services with a communications services that the Home Office believes will not only be cheaper, but better and smarter.

The Emergency Services Network is expected to require an enhanced commercial network to deliver broadband data services. The current service, Airwave, is run on a private mobile radio system.

On an enhanced commercial network the emergency services will get priority over other users, which will avoid the need for separate and expensive mobile radio spectrum.

The ESN will deliver integrated critical voice and broadband data services to all three emergency services and other users throughout the UK. These services require a mobile communications network capable of providing the full coverage, resilience, security and public safety functionality required by the emergency services.

ESN could also offer the ability to share patient records and images with a paramedic on call or en route to hospital; it could provide building diagrams to help plan and coordinate fire fighting across multiple fire and rescue services.

The new service contracts are expected to be awarded during 2015 to facilitate commencement of service delivery from late 2016 as existing service contracts begin to expire.

The service for the three emergency services will be required to cover (currently):

- Approximately 250,000 operational staff across the three emergency services ;
- 44 Police and Crime Commissioners/services;
- 50 Fire and Rescue Authorities/services;
- 13 Ambulance Trusts;
- National Crime Agency;
- 3 non-Home Office Police Services (British Transport Police, Ministry of Defence Police, Civil Nuclear Constabulary);
- National Police Air Service.

ESN will also provide a service for 400+ Government and local public safety and other bodies that will potentially require the ability to use ESN. These other bodies may add up to approximately 50,000 additional connected devices.

The procurement has been divided into 4 Lots that include integration, management, infrastructure and operating services:

Lot 1 – ESN Delivery Partner (DP) – transition support, cross-Lot integration and user support: a delivery partner to provide programme management services for cross-Lot ESN integration; programme management services for transition; training support services; test assurance for cross-Lot integration; and vehicle installation design and assurance.

Lot 2 – ESN User Services (US) – a technical service integrator to provide end to end systems integration for the ESN: provide public safety communications services (including the development and operation of public safety applications); provide the necessary telecommunications infrastructure; user device management; customer support; and service management.

Lot 3 – ESN Mobile Services (MS) – a resilient mobile network: a network operator to provide an enhanced mobile communications service with highly available full coverage in the defined Lot 3 area (in GB), highly available extended coverage over the Lot 4 telecommunications network, and technical interfaces to Lots 2 and 4.

Lot 4 – ESN Extension Services (ES) – coverage beyond the Lot 3 network: a neutral host to provide a highly available telecommunications network in the defined Lot 4 areas to enable the Lot 3 supplier to extend their coverage.

Sue Lampard and the B-APCO team would like to thank the ESMCP for the exclusive update as well as for fielding some challenging questions from an expert audience.

Airwave focussed on demonstrating its ability to provide a one-stop-shop for 4G mobile services. The company believes its vision for a 4G future will revolutionise how the emergency services carry out their roles.

access to other services such as group calling. The tool for providing these services is Airwave Smart Mobile, launched at Critical Communications Europe 2014 in Amsterdam.

Then there's 4GMax, a secure and resilient high speed data-on-demand service for the emergency services that uses the existing commercial mobile coverage by combining bandwidth from up to four commercial mobile networks. This enables the use of applications such as live video streaming from vehicles on the move and provides an effective alternative to satellite communications or fixed links. It is already in use by Surrey Police in a mobile video pilot for roads policing video streaming. A representative from the force gave a short presentation about the project, showing how the increased bandwidth used by the 4G app allows for real-time video streaming from police vehicles, and how this has enabled not only faster decision making and shorter operations but also cost savings.

Excelerate's Sherpa video surveillance system has more recently been used as an ANPR capability.

Visitors to Manchester enjoyed the opportunity to see Excelerate's Sherpa video surveillance system in action

Sherpa is a pole-climbing camera and communications system that delivers rapid deployment for a number of communications and data relay options, including TETRA, GSM, CCTV, Wifi and 3G. It has been used for some years by the police and local authorities to cover blind spots in CCTV coverage and temporary event monitoring and can be deployed quickly with minimal training or technical expertise to provide real-time information transfer.

However, more recently Sherpa has been put to use by the police as an ANPR capability exactly because of it offers such cost-effective, rapid and flexible deployment. It can be transported in the boot of a car and attached to a lamp-post as needed, using a motorised remote-control delivery system to take the communications or video platform to the required height, after which the delivery system descends and can used again. Sherpa can be accessed via 3G and data can be transmitted to a pelicase PC or sent directly to a control room or vehicle.

'Our customers drive product development,' said Excelerate's sales and marketing director Nicola Savage, 'and with the current climate and the need for flexibility with solutions, the ability to deploy a number of different communications or one type of system at the touch of a button is becoming more of a necessity. Traditional rapid deployment cameras still need specialist installation and this can be quite costly. Sherpa, on the other hand, offers the convenience of a readily transportable and easy to set up and operate system that is designed for use by ordinary officers, not technical personnel.'

US company OnStar announced it would be bringing its subscription-based in-car safety and security services to the UK and Europe in 2015

Cathy Bishop, OnStar's Global Emergency and Strategy Outreach Manager, explained that OnStar currently has around 6.5 million active vehicles around the world, the majority of which are in the US and Canada but the service is also operating in Mexico and China. These vehicles are fitted with high-tech sensors that detect when a crash has occurred and can automatically contact an OnStar call centre, opening up a connection with the vehicle's occupants and providing an array of critical information including an exact location and specifics about the type of vehicle.

Come 2015, this service will be available in the UK and Europe, and Cathy talked about the company's experience of running the service in the US and Canada over the last 18 years, as well as OnStar's vision for how the system would operate within the current public safety environment in the UK. One of the key points Cathy covered in her presentation was how the OnStar data could be used to assist emergency services in mobilisation and incident response. 'Many of OnStar's Public Safety Outreach team have worked for public safety organisations, and my background is in running a 911 call centre, so we understand the challenges facing the first responders,' said Cathy. 'Today I want to talk about what the UK can expect from OnStar and how we plan to work closely with public safety organisations in the UK to assist our customers and use the important data we will have to make the outcome of incidents more successful.'

This data includes an immediate understanding of how serious an incident is and whether occupants have suffered injuries as well important information about the vehicle, for example whether it has an alternate propulsion system which can help with extrications. OnStar also offers security features to drivers which can be helpful to the police force, such as providing precise locations for stolen vehicles and blocking their ignition systems.

In addition, the presentation touched on the advantages of an OnStar call centre, and how this can better assist with the relay of data. 'The current model in the UK dictates that all emergency calls are received by BT but we're hoping to talk to the 999 Committee about the benefits of setting up an OnStar call centre,' says Cathy. 'This includes connectivity to the vehicle, which is only available via an OnStar call centre, which means we can stay in contact with a vehicle

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Cathy Bishop explains that OnStar has been running its in-car safety services for the last 18 years in the USA and Canada. It will be offering its services to the UK and Europe in 2015.

until help arrives and sound the horn and flash the lights if the vehicle is off the road and first responders are having difficulty locating it. BT won't have that dynamic connection to the vehicle.'

The other argument for an OnStar call centre, Cathy explained, is that the company can draw on its 18 years of experience of handling emergency calls. 'We find, for example, that around 90% of manual emergency button calls from vehicles are inadvertent or non emergencies, and we are able to screen these out. There is no sense in tying up BT's resources with these calls.'

A new emergency notification system from Airbus Defence and Space enables public safety responders to communicate rapidly and securely with communities and multiple agencies in real-time during a terrorist incident, major disaster or wide-scale emergency such as the recent flooding

Eleanor Rice, Business Development Manager for Airbus Defence and Space, explained how this technology can be used effectively in the UK during the scenario-based super session, Cycle of Contact: Agency to Public.

The Reverse 911 software is already in use in other countries such as the US, where it has been used in a number of high profile incidents including the Hudson River airplane rescue, Hurricane Katrina and the Californian wildfires.

The software distributes accurate intelligence about an incident via voice or text message to relevant people in the area including local community members and public safety agencies. It works via all possible devices, including landlines, mobiles, pagers, Blackberries, hand-held radios, fax and email.

Authorities can also use Reverse 911 to send out daily notices and reports to communities, and an automatic acknowledgement of the message is sent back once it has been received. 'The increasingly complex and unpredictable nature of today's emergency incidents such as natural disasters or terrorist attacks means that public safety responders are required to communicate with communities and each other in real time,' said Eleanor. 'This notification technology has the potential to transform the way police and other authorities respond to an emergency incident in a way we have not seen before in the UK.'

Introducing… the 'Evergreen Control Room'

Frequentis launched a new highly extensible and fully IP-based integration platform for public safety control room ICT solutions. It also showcased a supporting 'evergreen philosophy' for the new system, which has been designed to ensure that the control room constantly adapts to the many changing factors that affect its operation so it can consistently deliver a high service in a cost-effective manner.

The new 3020 LifeX IP-based integration platform comprises a suite of 'easy in', 'easy out' applications that aim to deliver a new dimension in user experience and management configuration. They support now-and-then functionality from Frequentis or other suppliers, which the company said was an essential part of the Evergreen philosophy.

Commenting on launch of the platform Johann Schweiger, public safety director for sales and business development, Frequentis AG, said: 'The launch of our new solution platform and the related Evergreen Control Room philosophy marks the start of a new era for public safety command and control, allowing the business to break away from the challenges of the past and take control like never before. We say, "your business, your way", and we mean it.'

Sir Hugh Orde, ACPO President.

Welcome to ACPO Summer Conference

The 2014 ACPO summer conference (17-19 June, Harrogate International Centre) ***Embracing Change, Building Trust and Leading Success*** *comes at a time when the national organising body for operational policing stands on the edge of positive transition.*

Chief officers are actively working with Police and Crime Commissioners to establish a modernised, simplified and more accountable forum for practical leadership and decision-making in the police service.

Bringing together senior figures at all levels during this critical period, to share views on the challenges and learn from the best, remains hugely important.

This year's programme includes plenary sessions covering topics from the wider political context and staff wellbeing through to an exploration of funding and delivering performance. There will also be breakout meetings to look at issues in more depth and hear from experts outside of the service.

Notably, session eight on Wednesday June18 will take the form of a panel discussion focused on digital information in the modern policing environment. Confirmed speakers include Chief Constable Simon Parr, the National Information Lead for Information Management, and Dr Barak Ariel of the Cambridge Institute of Criminology. Dr Arial's work in Rialto (California) with Chief Tony Farrar has played a crucial role in proving the benefits of body worn video and encouraging uptake by police forces around the world.

Alongside the event ACPO will welcome the Police Public Bravery Awards: a unique annual opportunity for the service to recognise some truly extraordinary acts of bravery by members of the public.

The conference and exhibition are open to Chief Officers and their senior police staff equivalents, Police and Crime Commissioners, members of Police & Crime Panels, senior civil servants, stakeholder representatives and members of the press, as well as all superintending ranks whose contribution to police leadership alongside chief officers is so vital.

One company looking forward to ACPO is Taser International. Perhaps better known for making Taser weapons, it also has a body worn camera and a digital management solution that is currently being trialled by the London Met.

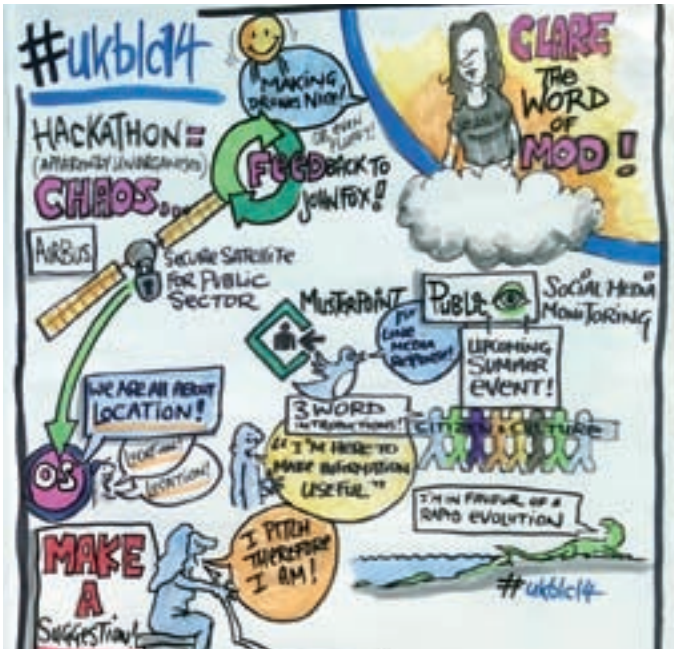
Around 1,300 agencies in the USA are currently using Taser's cameras, 95% of which – according to Pat Murphy (VP Marketing, Taser) – are using it in conjunction with its cloud digital management solution, evidence.com. 'We do see the cloud being used internationally but we realise that in most instances a local solution is needed. We would not expect the UK to store its data in a US-based cloud. There are always security concerns when storing digital evidence but we believe there is no safer solution than the cloud. We feel agencies are more susceptible to a security breach when they house the data in their own servers. The challenge with agencies having their own infrastructure is that it is very difficult to keep it up to date. With cloud services we add a new feature and it is live next day. We think the cloud is really the way of the future.'

In the US evidence.com is revolutionising the chain of custody for evidence management, doing away with having to burn DVDs for later playback during court proceedings. 'With evidence.com we handle all that. So to access a piece of evidence you just log into the website and click and share with whoever you choose. If I am the DA I can log in during court and get it in real time.'

The Taser camera systems have some interesting features too. A 30-second buffer feature means that when an officer starts recording, the footage will include the previous 30 seconds of action. 'This can be good if an officer sees someone running a red light but hadn't been recording at that precise moment. If the person denies what they had done, the officer can play back the video using his smart phone and show the suspect what has been recorded.'

Although body worn video is at an advanced stage in the US, Pat admits that there are still some issues to sort out around policy. 'One of them is, do you allow an officer to review the evidence before they write their report, or after? Some thought leaders in the US who have been using body worn video believe that officers should report an incident as they remember it first, and then review the video. Another policy being discussed is how long you hold on to data. With evidence.com you simply set a retention schedule around different types of incident.'

Joining Pat Murphy at ACPO Summer Conference will be Taser Founder and CEO Rick Smith.



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Clare White, BLC Unconference Facilitator; Simon Whitehouse, BLC Hackathon Facilitator; Mark Braggins, BLC Founder and Organiser; Sasha Taylor, BLC Founder and Organiser, Christine Townsend, BLC Organiser.

Let's get unconferencing!

Blue Light Camp 2014 took place in Ordnance Survey's headquarters in Southampton 10-11 May after a few hectic months of planning by founders Mark Braggins and Sasha Taylor. Whilst attending Day 1 of the 'unconference' Jose Sanchez de Muniain found out about the ground-breaking 999 EYE project being initiated by West Midlands Fire Service.

Attendees to Blue Light Camp had not only travelled from all over the UK to be in Southampton but they had also sacrificed their weekends to share ideas in a most unconventional and 'hip' manner (in a geeky kind of way).

The unconference facilitator, Clare White, set the tone by encouraging attendees to move in between streams if they didn't feel they could contribute to a particular session during the two-day unconference – known as 'the rule of two feet'. 'As for tomorrow, we are not sure what is happening yet – but that is fine,' said Clare, explaining that this would enable people to be creative on the day. After a short introduction by each of the sponsors (Ordnance Survey, Muster Point, British APCO, Airbus, Public-i, GOSS, Hampshire Hub, and CrowdControlHQ, with Environment Agency sponsoring the winners of the Hackathon) each person introduced themselves. Then came crunch time – time to pitch the ideas that if supported by the audience would solidify the contents for each session. 'Pitchers' duly formed a queue to pick up the microphone and briefly outline ideas that ranged from the tantalisingly vague ('when does open source get ickey') to the ground-breaking ('software to stream 999'). The latter turned out to be perhaps the most conventional session of the day as it was structured as a traditional presentation to help generate the general discussion that followed. In total there was just over 20 sessions pitched on the day.

Software to stream 999

Matt Wroughton, Emergency Response, Technical and Operational Support Directorate, West Midlands Fire Service, introduced the audience to a project that is aiming to provide live streaming footage from Smartphones at the scene during 999 calls. 'If we can take live footage and handle it within the 90 seconds of a 999 call and pass it on to responders, they have a snapshot of the incident – how much more effective can they be, and how much safer will it be for them and for the public?'

At the initial stages of development the idea of using an app to facilitate the stream had been rejected on the grounds that it would be impractical for everyone in the West Midlands to download it.

Based on market studies that indicated that 80.9% of mobile phone users would have smart phones by 2017, and that over 50% of 999 calls originated from mobile phones, WMFS settled on a potential solution. 'Whilst on the 999 call you will receive an SMS message to that phone. In that text there will be a URL and when you press it it will take you to a website. Pressing a button on that website will initiate live streaming directly into our control centre via a web-based system.'

Once a connection is established via the website, it is envisaged that GPS and WIFI will be used to cross reference against the location information from EISEC. 'Jumping forward, the future question for all control room operators would be, "Can you confirm the incident is where you currently are?" And if the answer is yes, then all the nearest resources would populate the command system, and we would save 30 to 40 seconds of response time.'

WMFS developers have been asked to ensure the software can take an image from the live stream. 'We believe a picture would be more than enough for most incidents, rather than streaming footage from the public to the responders.'

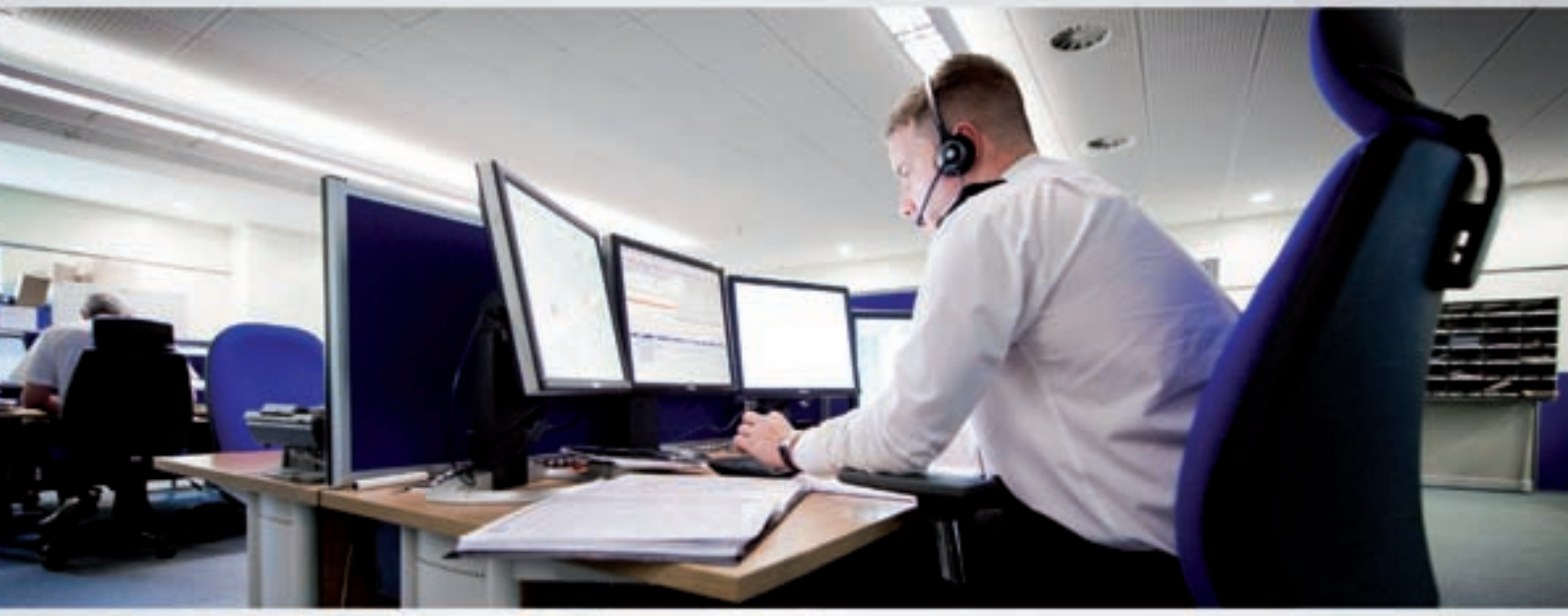
Matt added that another reason why it was decided to reject 999 images from the public in favour of live stream was to circumnavigate the issue of hoax calls (using images taken in the past) and location information. 'If we go for live information we know it is real and we know the location.'

A pilot phase will study the impact that live streaming will have on the number of resources that are sent out to an incident, and how that compares to the response that would have been sent out without that information. 'There may be incidents where had they had footage then more appropriate resources would have been sent out from the start – for example a hydraulic rescue platform or additional appliances.'

Matt emphasised that at this developmental phase the software and its application should not be placed in a silo purely for Fire Services: 'We are interested in opening this product up to all Cat 1 Organisations and sharing the system freely to benefit the wider response community and the people we serve.'

To find out more about 999 EYE contact Matt on matthew.wroughton@wmfs.net
To get involved wth Blue Light Camp, visit http://bluelightcamp.org.uk/

Mission Critical Solutions



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Winston Churchill
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