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A British APCO White Paper

Next Generation 999 – What next?

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Next Generation (NG) 999 – what next?

Executive Summary

The UK 999 system has evolved in technology terms since its introduction in 1937 but the public will not have noticed significant change in that time; it remains voice dominated and is yet to make the most of recent advances in technology.

The system is made up of multiple elements; the mobile and landline networks we use everyday form the backbone, there is a dedicated 999 infrastructure provided by British Telecom (BT) which ensures emergency calls are identified and passed through to the emergency services reliably, the control rooms of the emergency services then receive the calls on their systems before despatching responders.

Surprisingly there is no contract between the emergency services, Government or BT. The only formal contracts exist between BT and the commercial telecoms operators for BT to act as their 999 Call Handling Agent – the result is that commercial drivers (cost primarily) could prevent the introduction of the latest technology and thereby prevent the introduction of new developments which could improve public safety. The costs of the 999 system are a fraction of the £31billion UK telecoms sector.

The 999 system handles around 35 million 999 calls each year and is experiencing rapid year-on-year rises because of increasing use of mobile technology and automated notifications such as crash detection. This rising pressure, which has seen records broken this year, will eventually result in overload. Peaks of previous years quickly become the norm of the next and where call volumes exceeding 100k per day were considered exceptional a decade ago, in the last year days exceeding 100k were very regular and a record day exceeding 140k calls placed huge pressure on the BT and emergency service operators.

In the last couple of years BT, without fanfare, have replaced the dedicated 999 infrastructure. This means that the UK now has a highly resilient and modern technology base upon which to introduce new 999 capabilities for the public. Essentially, we now have the opportunity of a generation; we can use this new BT technology to implement the latest in communication methods or we can continue to accept a system which outwardly looks little different to that introduced in 1937. What is required is clear strategic leadership at the highest level to identify the steps required and to drive their adoption.

The Major Ask

There is ample expertise within the sector wide, 999 Liaison Committee to lead the UK to a world class 999 system. What is required is Government strategic direction to ensure that commercial pressures do not take precedence over public safety – Government needs to articulate a broad expectation of the level of technology the public deserves. The UK needs a government minister with clear responsibility for the 999-call handling system. At present 5 Ministers have some responsibility for elements of the system; Minister for DSIT (Department for Science, Innovation and Technology) is responsible for telecoms, the Home Secretary for Police and Fire, the Health Minister for Ambulance, the Minister for Transport holds responsibility for Coast Guard as well as e-Call, and

the Chancellor of the Duchy of Lancaster, supported by the Minister for Cabinet Office, who has oversight of civil contingencies & resilience (including COBR – the Civil Contingencies Committee).

This fragmented position means there is a lack of clear ownership and strategic direction for the system which provides opportunity for the commercial elements (and the contractual relationship between BT and the commercial telecoms operators) to be driven by commercial drivers rather than public safety, British APCO feels strongly that it should be public safety supported by strong Ministerial leadership which should prevail. With mounting pressure on the 999-call handling system now is the time to act.

About this White Paper

This white paper has been drafted based on inputs gained from the NG999 Round Table event hosted by British APCO in London in February 2023.

Attendees represented end users, commercial organisations, and government agencies; all key stakeholder groups were present.

The event was organised by British APCO to discuss:

- The current position of the 999 system in the UK
- The opportunities presented by developments in this field, including BT's NG999 system
- The risks and challenges that will need to be overcome to exploit the opportunities
- What needs to be done and by whom, to make the most of the opportunities.

Current position

The UK has had a single 999 emergency number available since 1937. The prominent medium of communication is voice, with limited text capability for users who have pre-registered due to a hearing difficulty. The system also supports calls to 112, which is the European emergency number. The current system has changed little and would be relatively familiar to anyone who has used the system since its introduction 85 years ago.

Calls made using 999 or 112 are identified and prioritised by the communications providers and forwarded to, and then answered by, call handling agents in one of seven call-handling centres. The call-handling centres are owned by BT, who operate the service on behalf of all the communications providers (mobile, fixed line and broadband). An agent at one of the BT call-handling centres responds with "emergency, which service?". The geographic location of the caller, which is normally automatically available, enables the call to be transferred to the relevant geographically located emergency service control room. Overall, it is agreed that the system works well.

Ofcom, the independent communications regulator, oversees regulation of the telecommunications aspects of the 999 service through the General Conditions of Entitlement[1].

Growth over 5 years of mobile calls made to 999
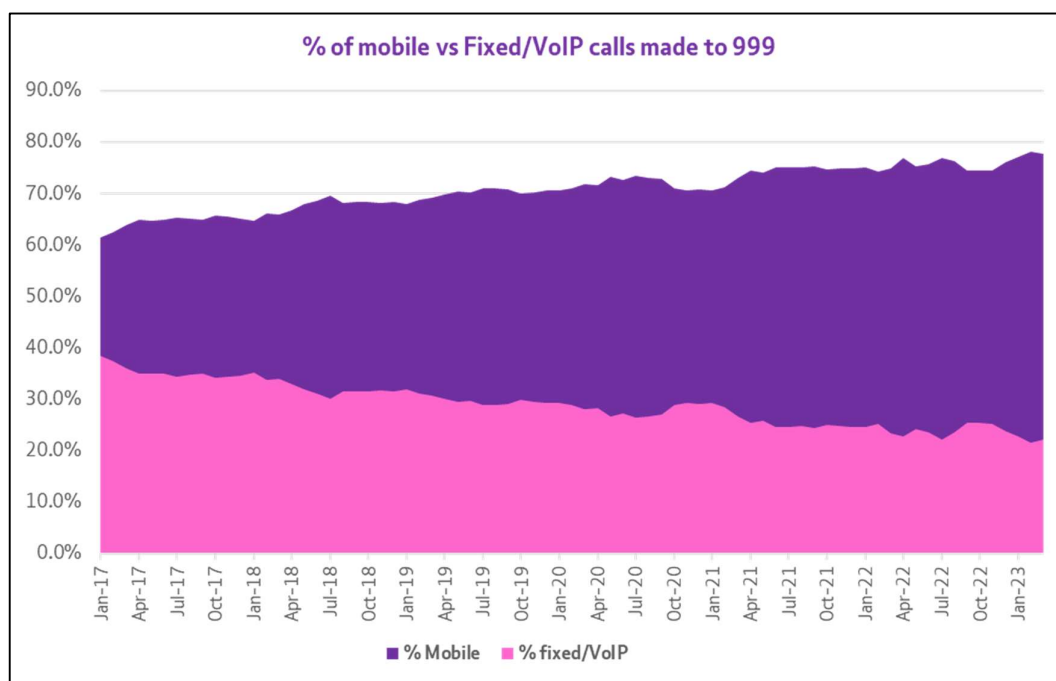
Source: BT plc April 2023

In 2022, 35 million 999/112 calls were made – as shown in the table above, the trend is towards more calls from mobile devices 74% from mobile devices, 26% from landlines. 28,000 of the mobile

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[1] https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/general-conditions-of-entitlement

calls were eCalls from automated devices in vehicles. In 2022, 53% of calls were for the Ambulance Service, 44% of calls were for the Police, 3% for Fire & Rescue, and less than 1% for Coastguard.

BT screens out millions of fake, malicious, and accidental 999 calls to ensure they don't reach the control rooms, without this aspect of filtering the emergency service control rooms would be quickly overwhelmed.

Calls are handled by seven BT call centres which fulfil the role of the UK's Level 1 Public Service Answering Point (PSAP) and 144 local emergency services control rooms which are Level 2 PSAP's.

System under pressure

While the system works well, it is coming under increasing pressure. Call volumes are rising year on year, the table below shows the number of calls per day for the years 2016, 2018, 2020 and 2022. 2022 is represented by the green dots and the general trend is more calls year on year, as well as a continually rising peak for seasonal call volumes.

Histogram of total 999 calls received showing Year on Year Growth
1ˢᵗ January to 31ˢᵗ December in 2016, 2018, 2020 & 2022
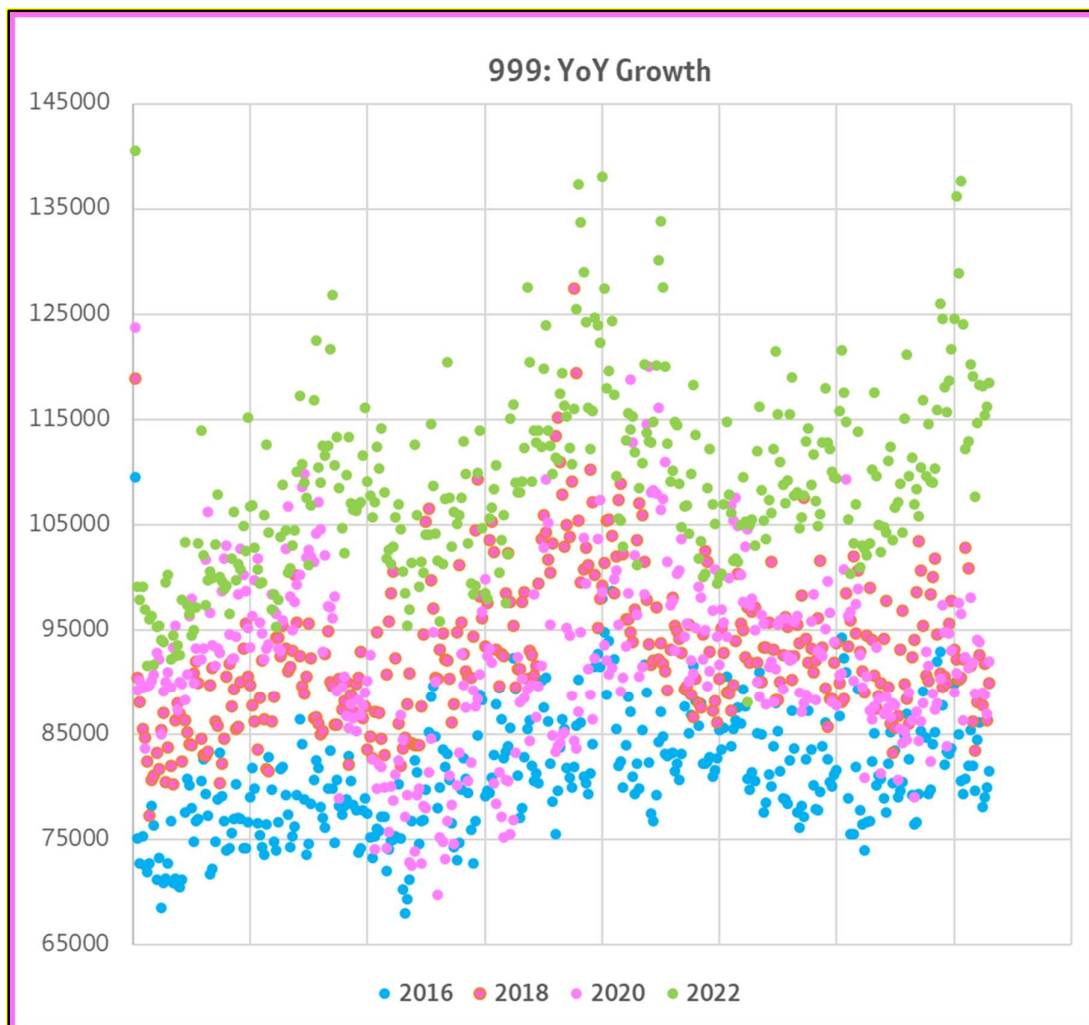
Source: BT plc April 2023

Of concern is the increase in the average length of time it takes for a call to be answered by the emergency services. The average time for BT call handlers to answer a 999 call is 0.50 seconds. However, the call then needs to be transferred to the relevant emergency service, and it is the increase in this transfer time that is highlighting the increasing pressure on the emergency service control rooms (the L2 PSAP's) because of an overall increase in volume of calls, but which is further exacerbated by an increasing complexity in call handling processes.

We have a 'once in a lifetime' opportunity to reset and revise the 999-call handling process, to look at new and different ways of working, and to take advantage of evolving data communication channels and technologies such as Artificial Intelligence (AI). That opportunity is Next Generation (NG) 999.

What is Next Generation 999?

NG999 is a technical concept for the future of emergency communications based on standards. In Europe this is ETSI Technical Specification TS 103 479[2] - an architecture and core components supporting emergency communications that can respond to shifts in technology, user behaviour and legislation.

What does this involve?

- A shift to packet-switched infrastructure (based on IP) in devices, networks and PSAPs
- A progressive replacement of legacy elements in devices, networks and PSAPs while ensuring continued access
- A high degree of futureproofing in its ability to support non-voice emergency communications.

BT has already upgraded its platform to an IP-based system, which offers great potential for the emergency services to benefit from new and enhanced services and extra capability. This gives us the huge opportunity, but clear direction needs to be given to BT in terms of what further development is needed, and the question of funding must be addressed.

With the pressure on the emergency services only set to increase, the question is how to fundamentally change the current basic proposition. We need to build a system for the future that takes advantage of digitisation to improve the 'customer journey' and assist in reducing pressure on the emergency services. The new technology is designed to provide a highly resilient system from a technical perspective but, at present, is not addressing demand issues which will ultimately result in the emergency control centres (Level 2 PSAPs) being over-whelmed.

BT has provided a reverse-compatible, highly-resilient voice-based NG999 system which meets the General Conditions of Entitlement – specifically GC3 and GC4[3]. However, these refer to access to the emergency services and resilience and are high level expectations, not a set of specific instructions. The Government also has no contract with BT for the provision of the 999 service, the contract is between BT and the UK's commercial telecoms providers (CPs). There is, therefore, no clear route for Government to direct future development for the benefit of the public creating a serious weakness which may result in commercial pressures trumping public safety.

There has been, and continues to be, a great deal of discussion, but focus is now needed as the UK's old telephony infrastructure (PSTN; which also provides the backbone for the mobile networks) is being retired in 2025 as telecoms services all become digital for consumers and business alike.[4] Mobile network providers are also evolving their services with 2G and 3G networks being switched off. The 3G mobile networks are gradually being switched off over the next few years to make room for more advanced networks, and 2G will be switched off by 2033.[5]

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[2] https://www.etsi.org/deliver/etsi_ts/103400_103499/103479/01.01.01_60/ts_103479v010101p.pdf
[3] https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/general-conditions-of-entitlement and
https://www.ofcom.org.uk/__data/assets/pdf_file/0021/112692/Consolidated-General-Conditions.pdf
[4] https://business.bt.com/why-choose-bt/insights/digital-transformation/uk-pstn-switch-off/
[5] https://www.gov.uk/government/news/a-joint-statement-on-the-sunsetting-of-2g-and-3g-networks-and-public-ambition-for-open-ran-rollout-as-part-of-the-telecoms-supply-chain-diversificatio

The use of telephony has evolved beyond all measure in the 85 years since 999 was introduced but the 999 system has remained relatively static. Whilst the new IP based NG999 system could provide the platform for considerable development, the only formal driver is the commercial contract between BT and the CPs. This is fundamentally driven by cost and a like-for-like replacement which remains voice-based and offers no improvement for the public but is an attractive, cost-effective option for the CPs.

Without Government support and clear requirements from the emergency services there is a significant risk that the UK 999 system remains firmly rooted in the 20th century whilst consumers race into the 21st.

NG999 - Who are the stakeholders in the Emergency Communications Chain?

Source: EENA, April 2023 EENA Conference Ljubljana

- The caller = the public
- The public's representative = His Majesty's Government
- The landline infrastructure providers = BT and Virgin Media
- The mobile network providers = 3, EE, O2, Vodafone plus multiple MVNOs[6]
- The 999-system provider = BT (currently the sole Level 1 PSAP)
- The emergency services and their control rooms (the Level 2 PSAPs)
- UK 999/112 Liaison Committee (includes Government Departmental representatives, the emergency services, OFCOM, British APCO, communication service providers)

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[6] MVNO – Mobile Virtual Network Operator; a wireless communications services provider that does not own the wireless network infrastructure over which it provides services to its customers

Moving forward

The soon to be published Police National Contact Management Strategy has the following working assumptions, and it is reasonable to assume that the other emergency services would take a similar view:

- Telephony will continue to be the public's channel of choice for Emergency contact
- Telephony will continue to be the police's channel of choice for Emergency Contact
- Emergency Contact volumes will continue to rise, year on year
- Emergency Contact complexity will continue to rise
- Emergency Contact handling time will continue to rise
- Resource budgets will continue to be under pressure
- Increasing Contact Channels increases Contact Volume
- Education on System usage does not significantly impact behaviour

It is equally relevant to note that voice remains paramount in any emergency contact; however, there are more channels supporting voice than just fixed or mobile telephony, including WhatsApp, Skype, Messenger, Teams, and Alexa. And, in general, these are not currently catered for.

Voice and Data

To date, access to the emergency services has largely been via circuit-switched voice communications (PSTN). Irrespective of future developments, voice will remain an essential channel – person-to-person voice provides instant reassurance and feedback to the caller, instant response to questions for the emergency call handler and the ability for the call handler to continue to support the caller until the first responders arrive. Clear and concise life-saving instructions can be provided, such as how to administer CPR or prevent the spread of a fire.

In 2017, the Government Digital Service and Cabinet Office commissioned a report that looked at "User needs of a modern 999 emergency system". Whilst research confirmed that people prefer to call and speak to the emergency services rather than use another communication platform, this does not rule out other platforms that may enhance the service. They expect the emergency services to easily pinpoint their location when they call from their mobile phones. And, recognising that waiting for the emergency services to arrive is very stressful, people in these situations appreciate any form of communication that updates them with regards to the progress of the emergency services.

Today people expect, both in their daily lives and in an emergency, to be able to use a much wider range of channels such as SMS, WhatsApp, other apps, and social media. In the future, it is expected that emergency services contact will need to support audio, video, real-time text messages (collectively known as Total Conversation), and IoT[7]-originated emergency communications. This will generate a hugely increased quantity of data which will need to be shared, and technology and operating procedures must be developed to support that need, with the associated data storage, management, ownership, and privacy issues.

Almost a decade ago, the IET published a short report entitled 'Contacting Emergency Services in the Digital Age', which emphasised the impact of mobiles, particularly the potential for silent text calling

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[7] IoT – Internet of Things; connected devices

and the provision of accurate location. Since that report was published, the capability of connected devices, the amount of data and its complexity have increased beyond all expectations, and with the advent of 5G networks and the IoT this will only continue to grow.

Access to and use of this data can present great benefits to both the emergency responder and the caller/victim - mobiles and connected wearables carry a huge amount of information about the owner/wearer and this can be invaluable knowledge in an emergency. However, it is essential to avoid 'misinformation' – such as the medical details of the caller being recorded, rather than that of the victim – and 'information overload' in the control room. There is a need to ensure that the control room operators remain in control so that they can access data when it is useful to them.

Today's mobile devices make it much simpler to call for help, with personal safety apps and single-button emergency calls which can be voice-activated and call automatically if there is no follow-up.

The degree to which a call is 'silent' can also be live controlled. Texting is silent and sometimes safer – vulnerable people and those with disabilities can register for BT's Relay UK service[8], but its capability is relatively basic and, at present, requires a text to speak 'translation' which is slow and cumbersome. Further, many in the deaf community have sign language as their first language; they communicate by way of "999 BSL" a service that connects to British Sign Language Interpreters remotely through an app or a web-based platform, who then will relay the conversation with the BT call handler and emergency authorities.

Devices capable of making autonomous calls for help via fall detection or crash detection (based on accelerometers) are becoming more prominent and, since April 2018, all new vehicle models are required to be fitted with eCall.

The types of data available

Data as part of the emergency call has been available for several years. It has been significantly enhanced with advent of eCall and the provision of Advanced Mobile Location (AML) which both provide a range of data including GPS coordinates to the emergency services via BT's EISEC system.[9]

All emergency services now subscribe to EISEC and pay for the service. Multiple forms of data are placed on the EISEC server to be downloaded at the time of call by the blue light services. Some other agencies which might benefit from access, such as National Highways or the recently formed Road Safety Investigation Branch, are not yet provided access.

When eCall is activated following a serious road traffic collision, it connects to the nearest emergency response centre, using both a voice and data link. This allows the occupants of the vehicle to communicate with the emergency centre operator and, at the same time, a minimum set of data is automatically transmitted (exact location, the time of the accident, the vehicle identification number, fuel type, and the direction of travel). This allows the emergency services to assess and immediately begin managing the situation and information gathered to enhance response time/process.

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[8] https://www.relayuk.bt.com/how-to-use-relay-uk.html
[9] https://www.bt.com/bt-plc/assets/documents/sinet/sins/downloads/278v2p9.pdf

Machine-originated calls, such as those from fire or burglar alarms, have been around for decades but eCall is the start of mass machine-originated calls that are automatically routed to the emergency services. However, it is already being overtaken by the automated crash detection on the latest mobile phones and smart watches – after all, it is the people that count. Mobile devices can also carry valuable health information – health history, heart rate etc. – that could be sent to paramedics and ambulances in advance of their arrival at the patient's side.

Number of eCalls received by BT 999 system and number connected through to Level 2 PSAP
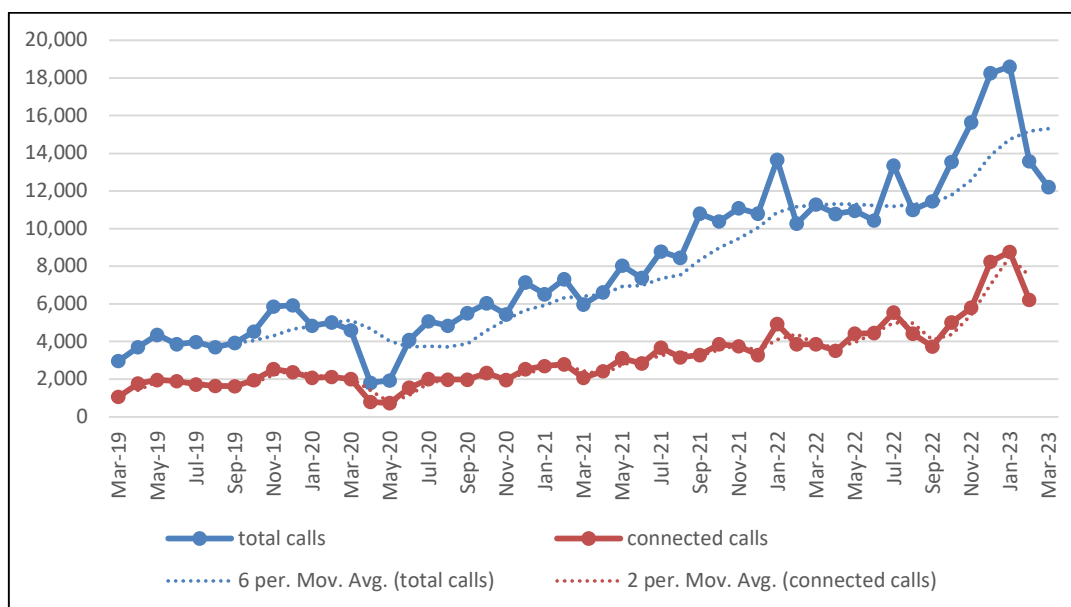
Source: BT plc [10]

However, BT has confirmed that the current 999 system, even the NG999 equipment now being introduced, is optimised for voice. The utilisation of data pertaining to a single emergency number needs considerable development to be effective and to avoid data-overload. The potential aggregation of geo-location data from mobile phones, connected cars, dashcams, smart doorbells etc into a receiving system needs to be managed with a clear expectation at a strategic level that it should be available to control room teams.

It is also essential that the importance of a whole system approach is taken; the initial caller, the CP, BT and the 999 infrastructure, the emergency call centre, and the responders. To make the most of the opportunity we have with current developments we must ensure that new capabilities flow through the whole system effectively.

AI - making data useful

With the amount of data becoming available, simply gathering it and interpreting it into useful information quickly enough to help will be challenging. AI can help here – there was noticeably more enthusiasm around the potential of AI during this round table discussion, compared to the 2019

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[10] https://www.gov.uk/guidance/999-and-112-the-uks-national-emergency-numbers#calling-for-assistance

event. It was noted that 'AI is not infallible – but nor are people' and AI is not intended to replace human intervention, but to make it more effective.

New interfaces and data handling capability can be helpful in increasing efficiency at the 'supplier' end of the data service. As an example, it is easier for AI to deduce useful triage information from text input. There will be even more powerful local/device processing in the future to use AI for speech recognition, and better machine understanding of video images.

Could AI help reduce costs, and help with resource demands with staff moved from other roles to field calls during a major event?

AI and chatbots could be of great assistance. For a 999 call, the initial question and answering is already highly structured and a chatbot could handle this, giving fast responses – and could stay on the line longer, enabling human operators to action the first responders needed.

As an example, if the mobile handset manufacturers were to implement a '999 integrated app' emergency button that enables a choice of service and language, the mobile phone would already have the name, location details and potentially medical information. Simple screens could follow – i.e., victim or witness; near event or directly involved; attack/crash/fire/flood. Looking at the basic BT workflow – why is human intervention needed on all calls? Chatbots could be used while the emergency services are enroute, to relieve the pressure on call handlers.

Across Europe, there is evidence that Apps are providing the means to instigate emergency communications – Finland is a key example with "112 Suomi", the Emergency Response Centre Agency's mobile app. "112 Suomi" started as a means to deliver accurate location information but over time has developed into a more sophisticated emergency communication tool that provides key information prior to the caller speaking to an emergency service call handler.

AI and real-time transcription services could be used to support and aid 999 dispatchers and call handlers to accurately evaluate, relay, convey and reduce call response times - it is always easier to 'read' or be alerted to 'key words' than try and get the person in distress to repeat what they have said.

All these developments provide significant opportunity to assist in reducing pressure on the '999 system' but clear direction is essential to assist in prioritising first steps, we must also ensure that we create a system that is always accessible to all – for example callers must never need to download an app before they can call for help.

Social media

Social media already plays its part in major events – Twitter for example is used to alert and share, emergency services can be directly contacted but not to 999 standards. However, the general high level of social media use coupled with the ubiquity of mobile communications can cause problems with multiple reports of the same incident.

There is also the issue of trust. Is the emergency event real – or are they fake/old videos and images? It is generally acknowledged that deepfakes will be an increasing problem.

Do all the emergency services need all the data? All services do not need to be delivered on all channels, there needs to be a detailed evaluation process of which services could benefit from which types of data and delivered/accessed through which channels. Do all the services have the capability to implement the technology that might be required?

Introducing basic or rich data into the mix means ownership, responsibility and accountability needs to be integrated into any system utilising the data to avoid privacy and security breaches. Getting or legally assuming access needs to be done in advance, and user involvement and privacy checking needs attention. Security audits would need to be done across the entire delivery chain, and no doubt there would be a rash of court cases challenging the use of the data as evidence.

The focus needs to be on the problems that need to be solved, rather than spending time looking at what technology 'could' do. There is more 'must do' than 'should do' needed.

BT – providing value add as the primary PSAP

BT has built a platform to support NG999; however, getting real benefit from this investment will require a strategic plan - backed by appropriate funding. This requires government and the emergency agencies to agree what features and functions they want BT to deliver into the emergency service control rooms, by when – and which communications channels are to be supported for citizens initiating an emergency communication.

BT is currently the only provider of the L1 999 answering service, their contract being with the CPs only. The legal framework, via the Ofcom General conditions stipulates an obligation to handle emergency calls. However, in this digital age, it is a very narrow-siloed requirement that has not yet evolved to expect the use of new capabilities and is a key barrier to the adoption of next generation features and functions that the advanced technology already implemented by BT could deliver.

The role of BT as the primary PSAP adds significant value in terms of reducing complexity for the 999 service – and, importantly, filtering significant numbers of calls that are not put through to an emergency service control room. Around 50% of calls made to 999 are not genuine emergencies – dialled in error, pocket dials, etc. Silent calls are also filtered out and forwarded onto the Metropolitan Police Service silent solution[11].

Having a single primary PSAP does relieve pressure on emergency service control room staff, and, without the service, emergency agencies would need to employ additional staff to answer emergency communications. Now is surely the time to have an agreement in place with BT that has a set service level agreement that includes an NG999 implementation plan – it may mean that BT must hire/pay for more staff, but surely that would go a long way to maintaining the UK emergency communication infrastructure.

The bottom line is that no-one can make decisions or mandate action regarding the overall development of NG999. There is no single point of national responsibility or ownership of the 999 service, no strong governance, and no guarantee of funding. Without all of those being in place, it is unlikely that any significant progress will be made that benefits all services and all citizens. The 999-

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[11] https://www.policeconduct.gov.uk/sites/default/files/Documents/research-learning/Silent_solution_guide.pdf

call cycle is never reviewed end to end, it is always looked at in parts and therefore some of the context is lost.

Without clear Government ownership and direction niche solutions will continue to be implemented by individual emergency services, commercial providers will continue to create solutions that may or may not be fit for purpose, budgets will not be used to the best advantage, and our 999 system will no longer be the envy of the world.

Takeaways from the 2023 British APCO NG999 workshop

- BT has been providing a successful 999 service since 1937 with effective call management but the system is under increasing pressure.
- What the new NG999 platform has provided is the opportunity we must now exploit - IP based equipment which is eminently configurable, and we now need to decide how to configure it for the future.
- There is no point building in new capability for data services if the emergency services do not have a clear strategic plan to introduce the technology or the skills or available resource to utilise it. Anecdotally, the emergency services have very limited capability and knowledge on using the data that is supplied now and needs further work
- There is a danger of the emergency services starting to suffer from 'pointless technology' – with the techies' approach of 'I've made this, now what problem can I solve?'
- The focus really needs to be on 'what do the control rooms need?'
- Whatever is decided, it must not take too long to achieve critical mass – the EISEC issue, where the emergency services took more than 20 years to achieve 100% connection, must not be repeated.
- Currently, commerce can trump public safety – commercial offerings are implemented without an overall emergency services responsibility for control/checks in terms of interoperability, security, etc.
- Equality of service must be delivered – whilst new tech may be required for new capabilities this must not prevent people without the latest tech from being able to contact the emergency services quickly and efficiently.
- The benefits of any proposed new/enhanced service need to be demonstrated to get strategic leaders and Government Ministers to listen and provide clear direction.
- New services must be supported by a sound rationale and the emergency services must have the capability to adopt them within a reasonable timescale.

Next steps

Commendably BT has quietly and without fanfare implemented the NG999 platform, a major step forward in its successful and reliable provision of the 999 service since 1937. It is now up to 'the owner' of the 999 system to oversee the exploration of the capabilities of the new platform and gain consensus from stakeholders as to what is needed to catalyse a paradigm shift in the efficiency of the 999 service by exploiting those capabilities.

However, there is no overall owner of the 999 ecosystem. There is a need for strategic leadership at Government level, a review of the end-to-end cycle from 999 caller through to the emergency services responder, and the creation and delivery of a clear strategic plan. If the technology roadmap

requirements were agreed and clearly communicated, then developments could focus on those areas. Subsequently, a good plan is always evolving and so requirements must be kept under review and, where appropriate slotted in to an achievable strategic plan.

To re-emphasise, this fragmented position means there is a lack of clear ownership and strategic direction for the system which provides opportunity for the commercial elements (and the contractual relationship between BT and the commercial telecoms operators) to be driven by commercial drivers rather than public safety, British APCO feels strongly that it should be public safety supported by strong Ministerial leadership which should prevail. With mounting pressure on the 999-call handling system now is the time to act.

What is needed is that strategic plan. And that needs strategic buy-in and vision to enable the strategic plan to be created. From a UK Telecom Market size of some £30+billion (in 2021) then there must be funds available.

Appendix 1

Key takeaways from European NG112 projects, courtesy of EENA:

- **Projects timeline** typically 2-4 years. Be mindful of forthcoming regulatory requirements (2027)

- **Size and complexity** dependent on existing PSAP structures and call handling procedures and any proposed changes to these

- Cost of supporting **obsolete technology** (higher OPEX) a consideration

- **Phased implementation** (i.e., using pilot sites or a "service at a time") seems a prudent approach

- **Funding** varies but ultimately it is a problem for each Member State to resolve

- "**Expanding the room**" seems like a good approach to account for different operating procedures of Stage 2 PSAPs and emergency services

- **Investment in people** (training and certification) as important as investment in tech

- Build in a **security audit** to the tender requirements

Acknowledgements

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Speakers:

- Alan Todd KPM, Chair 999 Liaison Committee & ACC Police Service of Northern Ireland
- Darryl Keen QFSM DL, British APCO & 999 Liaison Committee member
- William Stewart, The IET
- Andy Rooke, British APCO Vice Chair & 999 Liaison Committee member
- Mandy Dixon, UK Home Office
- Jessica Reed, Vice President Strategy & Global Partnerships, RapidSOS
- Mike Tunnicliffe, Actica Consulting
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