Industry Engagement Forum

Hot Topic Report

NECWG - A/NZ

INFORMATION DOCUMENT

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Industry Engagement Forum Overview

1.1 Purpose

The purpose of the Industry Engagement Forum is to work collaboratively with a range of Government and Industry stakeholders to help shape the future direction of Triple Zero (000). Building on the successful Next Generation Triple Zero (000) (NG000) Industry Engagement Forum held in Sydney in April 2015, the second Industry Engagement Forum focused on key topics, with input sought from attendees on developing outcomes that will pave the way for an enhanced Next Generation Triple Zero (NG000) and emergency response.

This event provided further updates on the goals of NG000 and the work undertaken following the Sydney Forum. NECWG-A/NZ aimed to provide attendees the outcomes of the NG000 National Community Survey. This national survey, commissioned by NECWG-A/NZ and undertaken by PwC was conducted in March 2016, and sought the views of the Australian community on the NG000 strategy. The official presentation of the research will assist those involved in the public safety industry to frame their future products and services.

1.2 Actions to Date

First Annual Industry Engagement Forum – Sydney – 22 April 2015

Industry Presentations – Canberra – 19 and 20 May 2015

Industry Meeting – Sydney – 28 September 2015

Second Annual Industry Engagement Forum – Melbourne – 24 May 2016

Hot Topic – Advanced Mobile Location

2.1 Summary

It is an often-used phrase but location information is the single most important piece of information that is required by an Emergency Service Organisation (ESO) when taking a Triple Zero (000) call and as such is the first question, and often the second and third as well, to the caller.

Traditionally, location information has been validated through the Call Line Identification (CLI) data supplied by the Emergency Call Person (ECP) when a person rings Triple Zero (000) from a fixed landline.

More recently, as mobile phone use has increased we have relied more on the caller having a good understanding of how to describe their location. Unfortunately not every Triple Zero (000) mobile phone caller can adequately describe their location; this can lead to a delayed response.

The impact upon an ESO searching for such ill-defined locations results in call taker and responding officers being tied up searching for people or incidents and most importantly, the effect that it can potentially have on the person in need.

Tragically, Triple Zero (000) calls for assistance can go wrong when location information is not available, or when information supplied is incorrect, where at time of the initial call if location could be given or accessed, this information can be used to help validate the location of the caller.

The End Game

Having the best / accurate location information (passed to the ESO), without human intervention, at time of call or contact.

2.2 Topic Lead

Steve Moore – Queensland Ambulance.

Participants – Jane Elkington, Tania Shackleton, Glenn Horton, Craig Westlake, Jan Waudek, David Leggett, Craig Longmuir, Tony Bevacua, Monica Lenko, Philip Lane, Paul Wilkins, Rick Shegog, Ruth Lloyd, Trevor Woodward, Karl Patterson, Veronica Deutrom, Kieren Kortegast, Michael Elsegood, Steve Heyworth, Lyn Moore

2.3 Key Issues and Considerations

Discussion on what initiatives are happening overseas – British Telecom (BT) (UK) with AML and NZ with Mobile Locate

- AML initiative involves Android handset vendors (Samsung, Sony, HTC) working with BT and EENA to pre-install an app on phones (invisible to the user) that activates a location push on the dialling of 999. No involvement from Apple. Only at test phase with no roadmap for world-wide rollout at this stage.
- Mobile Location – ESO sends SMS to handset with link to app which grabs the handset's location and sends it back to the ESO via SMS
- Suggestion that barometric pressure could be used to determine the Z or height co-ordinate (in conjunction to X or latitude AND Y or longitude). This is a better solution than using GPS to determine height as the GPS height component assumes the world is a sphere which it is not (Sri Lanka is determined to be 10m above sea level but GPS – local geodetic datum correct these errors)
- Optus suggested using the Apple Compass app to provide GPS lat/long to ESOs.
  - Concern that Emergency Apps would not be used enough by users for them to remember to use them in an emergency.
  - ESTA pointed out that mobile call's take more time per call to process and that in a large call centre this time spent determining a caller's location adds up.
  - All agree that ESO want GPS lat/long sent to them directly and not read to them by callers.

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- Optus suggested that VoLTE will include the ability to add GPS handset co-ordinates with the call signalling which could be pushed to the ESAP (and added to the current push MOLI)
- Recognition that industry has been working on solutions

    Options
- 4G LTE
- "Mobile Locate" (NZ model) interim solution
- BT Solution AML (UK)
- "Network based location solutions"

2.4 Recommendation / Next Steps

Actions:

- Define location standards. Comms Alliance be approached to co-ordinate a whitepaper that explains the current location information, GPS and how to interpret the data.
- Continue strong relationship with relevant industry and Comms Alliance for way forward
- Create discussion paper and potential roadmap
- Emergency Service Organisations (ESO) consider use of a system like "Mobile Locate" (NZ model) as an interim solution
- That a working group continue to develop options

Addendum – Post Industry Engagement Forum

The Department of Communications and the Arts released an Expression of Interest from interested parties capable of delivering Triple Zero location data service.

The Expression of Interest closed on 14 October 2016. NECWG-A/NZ is awaiting the results of the evaluations to ascertain its contribution to the progression of this critical capability.

Hot Topic – SMS and Beyond

3.1 Summary

Reliance and use of communication channels that do not rely on voice are increasingly pervasive in the community. SMS is one of many 'voiceless' interactions entrenched in everyday life, and is the first step in a journey for emergency communications.

These channels could potentially be disruptive to emergency services, as the capability to identify and verify relevant information without verbal confirmation is a large gap from current capability.

The introduction of SMS to 9-1-1 in the US and SMS to 112 in Europe is increasing non-voice communications between people in need and emergency services in these jurisdictions.

Opening up access to emergency communications provides opportunities and benefits that have yet to envisaged, but does come with challenges.

3.2 Topic Lead

Craig Anderson – Public Safety Business Agency

Participants - Peter Nelson; Melissa Whitfort; David Dennis; Mike De Beer; Tom Daemen; Joe Stowers; John Dalton; Chris Rapier; Chris Calvert; Terry Eby; Andrew Richards; Jane Craig; Colin Schultz; Paul Winnell.

3.3 Key Issues and Considerations

SMS is recognised as 'old' technology however is seen as a logical entry point to providing non-voice access to Triple Zero (000). It is also recognised that the capability of modern systems and community expectations stretch well beyond traditional non-voice systems such as SMS including sensors, social media, and Apps.

It is recognised that communications with Triple Zero (000) will move from being a one way contact to a two-way communication, and that any non-voice channel must be cognisant of this and provide an appropriate level of capability to achieve this.

Many jurisdictions are developing standards and principles to be used as the basis for the design and establishment of these capabilities. It is recognised that, where appropriate, these standards and principles should be adopted by Australia / New Zealand.

Key focus areas for consideration in the development of the non-voice communications to Triple Zero (000) include:

- Regulatory
- Technology
- People / workforce
- Process
- Organisational change
- Maintaining currency
- Focussing of standards and principles and let the experts develop the solution/s

It was recognised that the move to introduce non-voice communications to Triple Zero (000) is – but is not – a technology issue. By this, it is recognised that the development needs to focus on policy and process, and the organisational change factor, equally if not more than the technological requirements.

It was noted that a lot of work has already progressed in relation to the development of draft operational processes as well as the draft technical design to ensure the SMS to Triple Zero (000) service meets community and emergency services expectations.

3.4 Recommendation / Next Steps

Following on from the discussion around the issues and considerations, the next steps were identified as:

- Continue to develop the work done around SMS to Triple Zero (000) including exploration of options to undertake a proof of concept for the draft technical design
- Focus on organisational change and commence engagement with ESOs on their readiness and/or requirements to include non-voice communications

Hot Topic – Public Safety Response in an IP World

4.1 Summary

- The smart city (or connected community) will involve systems and objects connected via a range of technologies that interface with the emergency services of tomorrow.

- These could include public and private networks and wireless networks. The "Internet of Things" vision with a multitude of devices interacting with control units and dashboards, through sensors, RFID, M2M, satellite and GPS will be a major shift in how the community interacts with the emergency services.

- The amount of data generated by these systems will require solutions from emergent technologies to manage in a cost effective manner. The world of "Big Data" will drive appropriately and centrally stored, managed, analysed, and protected solutions.

- The public and private sectors will have a role in defining the standards of interaction between systems and will require business continuity integrity and resilience.

4.2 Topic Lead

Lance Martin – Western Australia Police

Participants - Alex Stefan, Ben Johnston, Edwardo Freesz, David Fuge, Michael Brooke, Ben Piper, Darren Presty, Paul McGrath, Andrew Westmorland, Gordon Gay, Colin Ryles, Paul Ralphs, Kelly Mallcott, Peter McKechnie, Adam Boyt, Judith Barker

4.3 Key Issues and Considerations

Vision – definition, inputs, sensors, cameras, data interop, analytics, data storage, chain of evidence, use, input, network, smart community, Australia centric, governance, planned / resource allocation

Outcomes – top down / bottom up

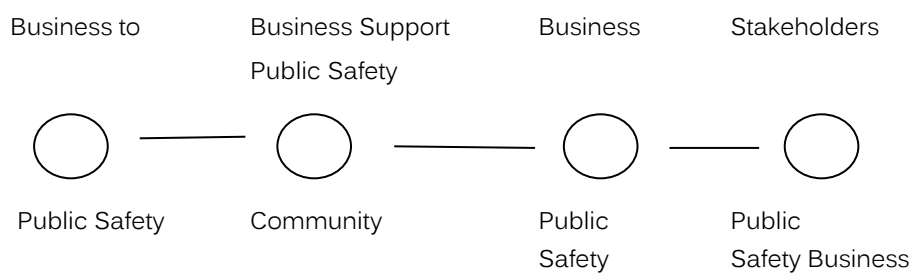- Better and more responsive with improved service efficiency

- Positively impacting other areas of the connected environment such as traffic management.
- Providing citizen / community transparency to public safety capability
- Applicable to larger and smaller environments. Not just Smart Cities, applicable to all connected communities. There is a need to provide consistency in approach, acknowledging scalability.
- Must be effective in the engagement with the community, providing a return on investment
- The solution must be reliable / redundant / secure
- Need for continuous improvement, and evolution through changing technology and community expectations

    i. Identify and engage business reps to collaboratively work to define "smarter or connected communities" supported by NECWG-A/NZ

    ii. Community engagement – engaging community reps (as done previously) to define initial outcomes to be sourced from a smarter community initiative

    - Surveys and workshops
    - Supported by vendors
    - Community access / input portal
    - Smart diagnostics to define "wants"
    - Federal, state, local councils

    iii. Consolidate and refine community required outcomes into strategy

Business to	Business Support	Business	Stakeholders
	Public Safety		

Public Safety	Community	Public Safety	Public Safety Business

    iv. Engage NECWG-A/NZ representatives for existing, current "smarter city / connected community" initiatives interfacing to Public Safety

    - Ensure relevance
    - Accelerate top themes on a national basis – leverage off industry partners for meta data analysis

- Identify candidate industry conferences on "smart city / community" for research purposes with the potential for research by sub-committee?

4.4 Recommendation / Next Steps

Following on from the discussion around the issues and considerations, the next steps were identified as:

Body

- Establish a working group under NECWG –ANZ
- Gain commitment from industry participants
- Define a common vision of the scope of Public Safety interaction with an IP world.
- Define common language
- Research international and local trends
- Agree communications / marketing approach.

Hot Topic – Smart Alerting Solutions

5.1 Summary

- Alerting Part time / Volunteer staff to respond to emergency incidents is one of the mission critical core functions of emergency services. Other organisations also relay heavy on alerting staff within a building and in some case over a wide area footprint eg Health.

- Traditionally Fire have used a ring around process, Sirens located at the station, interfacing Emergency Responses systems into retains staff home phones and in the late 1980s pagers via commercial or private networks and IVR systems.

- Today there are many vendors offering messaging systems for smart phones with enhanced functionality. These vendors focus on the applications with resilience only required for the backend servers hosting the core applications and databases.   The assumption is the carrier network is always available.

- Carrier networks are subject to planned outages, internal failures/congestion back haul connectivity interruptions and/or external infrastructure such as main power. Smart phone connectivity are impacted by these outages and in some cases with more people using mobile phones and less fixed phones, even the old fashion soccer mum ringing around process can be impacted.

5.2 Topic Lead

Greg Wild – Fire and Rescue NSW
Participants - Tony Bedingfield; Peter Bull; Brad Quinn; Denise Higgin; Sarah Muxworthy; Rick Curtis; Brian Mykityshyn; Don Tomkins; Bevan Moore; Christian Gianatti; Ander Soderstrom; Anne Bahgat; Mathew Merington

5.3 Key Issues and Considerations

- Governance
- Network (outage) – availability
- BYOD or Supplied
- SMS – Coverage
- Priority
- Two Devices

Challenges

- High availability from CAD to Member responder
- Standardise – App development for first responders
- Safety
- Failure to meet end/users requirements
- Disposition / fleet / responders
- Integration
- Capability matches deployment
- Scope of risk of redundancy
- Transition strategy (multi channel)

Requirements

- Connectivity with redundancy (diverse path)
- Standards based App and interface
- Governance systems
- Cost effective
- Procurement strategy

5.4 Recommendation / Next Steps

Following on from the discussion around the issues and considerations, the next steps were identified as:

Further investigation

- Detroit – voice over pager
- UK (Tetra) being replaced by LTE
- Multi channel – output
- Backend integration
- AMS (Motorola)

Next Steps

- Industry engagement
- Research (desktop) solutions standards
- Consider RFI to engage industry
- Develop standard
- Est. Timeframe

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Hot Topic – Future Engagement Strategy

6.1 Summary

What does a future engagement strategy look like?

Summary: Develop a collaborative, transparent partnership providing holistic; strategic; innovative insights in the delivery of public safety

- A key enabler identified in the NG000 strategy was engagement. The strategy highlighted "What does success look like?" as: *Government, ESOs, the community, carriers,* **VENDORS** *and* **INDUSTRY** *all understanding and supporting the vision of NG000 supported through a dynamic, coordinated engagement plan which elicits collaboration and innovation.*
- Two key design principles required to support NG000 were identified as:
  - Wide-spread collaboration to drive advocacy and adoption; and
  - Encourage innovation through public and private sector partnerships

6.2 Topic Lead

Chris Beatson – NSW Police Force

Participants - Jacinta Brown, Angela Hughes, Nicole Hogan, Paul Case, Jamie Vernon, Janine Enniss, Chris Low, Keiran Miller

6.3 Key Issues and Considerations

Issues

- Agreement on purpose and value of the need for collaboration between Emergency Communications sector and Industry
- Focus on strategic development rather than specific product development although it is recognised that this helps inform strategic thinking
- Two way sharing to explore the evolving mechanics of both industry capability and emergency communications needs across A/NZ region
- Identify issues for discussion – e.g. proposed outcomes of ECP Review
- Define a framework for future engagement
- Form of ongoing relationship between NECWG-A/NZ and industry – formal / informal / individual / collective.

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- o   Board position
- o   Associate membership
- o   Sub-committees
- o   Working Groups
- Opportunities for Industry to showcase capability (informative – less formal – future – trends)

6.4 Recommendation / Next Steps

Next steps

- Continue to develop the framework and form of ongoing relationship model
- Inclusion of Industry in hot topic working groups
- Consider opportunity for Industry to showcase capability at future NECWG-A/NZ events
- Industry Engagement working group