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Triple zero service outage

Inquiry Submission

PumpCX welcomes the opportunity to contribute to this inquiry. PumpCX is an Australian-owned and locally developed technology company that specialises in real-time monitoring of voice call systems for contact centres and critical public services. Our technology is currently used by more than fifty major organisations to provide continuous oversight of call integrity and early detection of service disruptions.

PumpCX was founded in response to a simple but critical insight — that organisations often had limited insight into when telecommunications systems were not working effectively. We saw this in the case of the recent Optus emergency services outage, where it was not until multiple calls were made to call-centres, informing Optus of an outage that it became aware and moved to address the issue.

The recent Optus outage has highlighted the significant risk to the Commonwealth and to the public arising from the absence of real-time, independent visibility of telecommunications performance—particularly regarding triple-zero emergency services. Despite statements by some providers, it remains the case that regulators and emergency agencies are dependent on carrier self-reporting to detect and respond to service interruptions.

We believe there is a strong case for the Commonwealth to adopt a national standard for continuous monitoring of emergency and essential call services. Such a framework would:

- Provide independent verification that mobile and fixed-line networks are meeting statutory service continuity requirements;
- Reduce the Commonwealth’s exposure to criticism or liability in the aftermath of network failures;
- Reinforce public confidence in the reliability of triple-zero and other emergency systems; and
- Demonstrate the Government’s commitment to sovereign capability and the protection of Australian lives through local innovation.

This framework would also meet recommendation 2 of the Australian Government Response to the Bean Review Final Report by prioritising the oversight of and overarching responsibility for the efficient functioning of the Triple Zero ecosystem, including monitoring the end-to-end performance of the ecosystem.



Response to the Terms of Reference

c) the frequency and management of triple zero outage

- i. The role of the minister, ACMA and the Australian Government in ensuring reliable access to and public confidence in emergency telecommunications assistance, including in relation to the efficacy, reliability and enforcement of emergency camp-on arrangements

Reliable access to emergency telecommunications services is a foundational public expectation and a core government responsibility. Strengthening the role of the Minister, ACMA, and the Australian Government through a national framework for continuous monitoring of emergency and essential call services will ensure that Australians can maintain trust of life-saving communications networks during emergencies.

Recent national outages have highlighted the critical need for real-time visibility into the performance of emergency and essential call services. The ability of carriers and regulators to detect, isolate, and escalate emergency call failures in a timely manner is fundamental to both reliability and public assurance.

Placing synthetic calls on a real network is regarded as the closest solution to a real caller. This process involves artificially generated calls across a live telecommunications network using the same signalling, routing, and call-handling protocols as a real customer call. Unlike simulations that model network behaviour, synthetic calls exercise the end-to-end call path and follow the same signalling and prioritisation logic, including the camp-on process for triple zero calls during congestion. Thus, providing auditable evidence of compliance and reliability and the ability to notify the relevant authority within minutes of an outage occurring. Further, the capability exists to ensure that synthetic calls that go to call centres do not interrupt the critical work that is being undertaken by said call centres. PumpCX for instance has demonstrated this capability while providing this service to the Australian Tax Office and Services Australia.

A national standard that mandates real-time performance monitoring would enable the Minister, ACMA, and industry to move from a reactive posture to detect early signs of systemic or network-specific faults before they result in service interruptions.

- iii. The adequacy of regulatory, legislative and policy frameworks governing Australians' access to emergency telecommunications assistance including whole-of-government responsibilities and co-ordination and the protection of vulnerable Australians

While existing regulatory, legislative and policy frameworks mandate post-incident reporting and compliance audits, they remain largely reactive in nature and do not provide for continuous oversight of emergency call handling and network performance. This limits the ability of both regulators and service providers to detect emerging issues in real time.



To ensure the adequacy of these frameworks, a stronger emphasis on real time testing and monitoring should be embedded within the regulatory structure. Real-time oversight of emergency telecommunications systems would allow for earlier fault detection and faster escalation.

Improving these regulatory and policy settings would also support more effective whole-of-government coordination. Emergency telecommunications reliability requires collaboration between the minister, ACMA, the Department, carriers, and emergency service organisations. A unified monitoring framework would create a shared evidence base for decision-making, ensuring that all stakeholders can respond quickly and consistently during network incidents.

Furthermore, strengthening continuous testing and monitoring frameworks would significantly improve the protection of vulnerable Australians including the elderly community who are familiar with the reliability of landlines. Embedding proactive oversight within the regulatory framework would help ensure that all Australians, regardless of circumstance or location, can depend on uninterrupted access to life-saving emergency telecommunications services.

- iv. Whether federal government oversight of critical telecommunications infrastructure is fit for purpose.

Current oversight mechanisms, including regulatory supervision by ACMA, provide a foundation for managing critical network risks. However, recent outages and incidents have identified areas where oversight is not yet fully fit for purpose.

A key challenge lies in the scope of monitoring and enforcement. While carriers are required to report incidents and maintain risk management frameworks, there is limited independent verification of network performance or resilience in real time. This reactive approach can delay detection and response to systemic vulnerabilities, potentially affecting the continuity of emergency services.

Federal oversight would be strengthened by implementing continuous monitoring of telecommunications networks independent testing, real-time performance measurement, and transparent reporting. As it would provide regulators with a more accurate and timely view of network health, allowing for proactive mitigation of risks before they impact end users.

Additionally, enhancing oversight is critical not only for operational reliability but also for public confidence. Australians expect uninterrupted access to emergency services, and confidence in the system is eroded when outages occur without clear accountability or preventative measures. Strengthening federal oversight, supported by real-time monitoring, would ensure that Australia's critical telecommunications infrastructure remains fit for purpose in every day and emergency use.



Conclusion

PumpCX welcomes the opportunity to contribute to this inquiry. The recent Optus outage has highlighted the significant risk to both the Commonwealth and to the public arising from the lack of real-time, independent visibility of telecommunications performance, particularly regarding triple-zero emergency services. We believe the national standards for continuous monitoring of call services outlined above would alleviate this issue.

Yours sincerely,

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