



**The New Zealand Telecommunications Forum Submission on:
“Lawful Interception Standards Consultation - Approved standards for
the format of call associated data and the content of
telecommunications”**

Executive Summary

This submission is made by the New Zealand Telecommunications Forum Incorporated (TCF). The TCF is the telecommunications sector’s industry body which plays a vital role in bringing together the telecommunications industry and key stakeholders to resolve regulatory, technical and policy issues for the benefit of the sector and consumers. The TCF enables the industry to work together and to discuss issues and topics collaboratively, to reach acceptable solutions that can be developed and implemented successfully. Its members represent 95% of the sector.

This submission sets out TCF members’ collective views on the key areas regarding this Lawful Interception Standards consultation document and the views the TCF considers should be given careful consideration. Individual members may choose to provide their own submissions on aspects that are of particular importance to them.

The TCF considers that the Lawful Interception (LI) solutions that are in place today and the mechanism for agreeing a useable format works well, and could continue to do so in the future. While we support the objective of clarifying what is an acceptable format, we see no reason to force costly change on industry. In particular it is essential that the introduction of standards does not; stifle innovation, jeopardise the introduction of new services, significantly increase the cost of compliance, or create additional barriers to new start-ups. Compliance with these standards as drafted would increase the cost of providing services which would eventually be passed to customers.

We make the following points in our submission:

- The proposed standards should be amended to reflect current New Zealand best practice rather than impose new standards across all operators and

services, large and small, which would be extremely costly and impractical to implement for both industry and agencies.

- There must be a clear expectation that even if LI format standards are introduced, the agencies will continue to engage, both now and in the future, and agree with operators other acceptable formats as an alternative to the standards, as provided by the Telecommunications (Interception Capability and Security) Act 2013 (the Act).
- Further work is needed around the requirement for the location information to understand the policy justification and ensure what is requested is compliant with underlying legislation.

The Proposed Standard

The MBIE consultation document refers to the 2009 TCF Interception Guidelines and the recommendation of the adoption of European Telecommunications Standards Institute (ETSI) standards. The TCF does not support exclusively ETSI, or the narrow range of ETSI versions listed, as the only means of compliance. The proposal as drafted would place significant additional mandatory requirements upon TCF members and the agencies. The requirements are extensive and very expensive to comply with, particularly where no significant issues have been identified which need addressing in the current operation of the LI regime.

The TCF supports the objective of clarifying what is an acceptable format, and hence clarifying when interception obligations are met. However the range of permissible standards proposed is too narrow and will drive significant additional cost of compliance into the industry and the agencies.

To the best of our knowledge the standards specified are not yet supported by equipment vendors and effectively we would be requiring a New Zealand specific implementation. We are unable to give a thorough analysis of the cost, time and practicality to implement the standards as this will require detailed discussions with equipment vendors. We are therefore unable to give a detailed response in response to this consultation.

Operators that were not providing LI before the Act came into force and do not have the benefit of section 44 will bear an undue burden of these costs. Yet in many cases these operators may be receiving only minimal volumes of LI requests.

The proposal is silent as to when any new standards are proposed to come into force. It is not a simple or inexpensive matter to purchase, install, test and commission new LI mediation systems (if required), or to upgrade and test existing systems. If the proposed new standards are introduced, the TCF submits that may be long lead times in implementing the standards, due to the commercial availability of compliant interception systems, standard procurement processes, and network

security requirements as per section 48 of the Act. Operators could potentially need 18 months or more to implement the standards.

The agencies will also need to have resources available to support their own capability upgrades and testing.

Mandatory unless an alternative is agreed with the surveillance agency

It is critical that any new standards do not become the agencies' default requirement for all operators and all services, large and small. The ability to agree alternative formats with the agencies under the Act must continue – i.e. “a format that is acceptable to the network operator and the surveillance agency executing the interception warrants or other lawful interception authority¹.”

This provision is an essential option for both industry and government in achieving cost effective outcomes. It allows for various alternatives where these are acceptable to the surveillance agency (as is the case now), including:

- Operators using existing legacy LI equipment or formats where these meet the agency's requirements;
- Operators introducing new equipment which meets other standards which provide acceptable capability;
- Operators implementing solutions which are appropriate for the volume of LI requests they receive, including for new services where the customer uptake and/or the volume of LI requests is not immediately known;
- Smaller operators implementing solutions which are appropriate to their customer numbers and/or service offerings;
- When an agency does not have the capability to receive or process particular intercepts.

Operators seek an assurance that agencies will continue to engage in good faith to agree acceptable standards when there is good reason for that and that any new standards do not become the default requirement in all cases.

Clarification is needed on the proposal for location information

Clarification is sought as to the expectation of when location information is required in this proposed National Variant, as this has a significant impact on requirements, and hence the cost of compliance. We are therefore unable to give a detailed response in response to this consultation.

The TCF would also like to understand the agency requirements sitting behind these requests and how they fit with the underlying legislation. It may be that there are other means (other than location information in Intercept Related Information (IRI) messages) that would meet these requirements. For example manual processes as

¹ s10(5)(b) of the Telecommunications (Interception Capability and Security) Act 2013

an operational procedure at the time of provisioning of the interception in the case of fixed services could perhaps meet agencies' requirements at a much lower cost.

We would therefore like to request a meeting with MBIE and agency technical representatives to clarify the requirement and determine if there is another means (other than location information in IRI messages) that would meet their requirements.

The Current Lawful Intercept Regime

The current regime for LI appears to be functioning without any significant problems. Operators and agencies work together within the context of the legislation to deliver LI capability. This provides flexibility on an operator-by-operator basis to reflect factors such as the different network and LI solution capabilities, legacy facilities, operator size and product offering etc.

While the Act provides for the introduction of LI format standards this option should not be used to introduce a major departure from existing New Zealand best practice.

Background Regarding Acceptable Standards

The issue with the proposal is the very narrow range of acceptable format standards listed. Such a narrow definition of acceptable standards and versions is inconsistent with the Purposes and principles of the Act (Section 5 (c)) to *“ensure that network operators and service providers have the freedom to choose system design features and specifications that are appropriate for their own purposes”*.

The proposal will drive significant additional costs into the industry and the surveillance agencies:

1. *The proposed standard would mandate the installation of expensive mediation systems by Network Operators for all network services, or upgrades to existing systems, even though existing equipment / systems are adequately supporting LI today:*
 - Network equipment interception system interfaces are not ETSI compliant but tend to be proprietary, this includes network equipment from vendors designed for the ETSI market.
 - Traffic captured from network links using test equipment and standard tools are not ETSI LI compliant.
 - Equipment from American vendors tends to support the American interception standards but is often not ETSI LI compliant.

Therefore mediation will be required for all interception solutions that are not covered by a bilateral agreement with an agency or an exemption. The cost of establishing full mediation platforms to meet these standards is very expensive and likely to be in excess of \$1,000,000 per solution.

2. *It will drive additional investment into interception systems despite these functioning well with agency systems today as:*

- Vendors typically require time to support standards. The ETSI versions currently supported by vendors are in most cases earlier versions than those stated.
- Vendors support different standards: Some support another standard such as an American LI standard rather than ETSI standards. Operators face a reduction in the choice of vendors and some operators would be required to change vendor.
- Operators deliver the product in another format that had been mutually agreed with agencies (raw packet captures such as pcap).

The proposed standard versions are very recent and not yet supported by many vendors, and are unlikely to be supported by agency system vendors yet. Therefore some network operators will have to commission custom development from their vendors for existing LI solutions to support the standards under this proposal. They will then need to deploy and test the upgraded systems, potentially changing the format from one which the agencies can currently accept to one which they may not be able to accept until they upgrade also.

3. *It will stifle innovation by:*

- Introducing additional compliance costs associated with the introduction of new services in the market, particularly new services that do not warrant fully mediated ETSI LI solutions, for example due to low uptake or the inability of agency systems to receive or process interceptions from these services.
- Introducing additional cost and delaying the introduction of new services until an LI solution that supports the latest ETSI standard is available and deployed, rather than using an alternative means to comply.
- Disadvantaging the introduction of equipment from the markets (such as the American market) that has not been designed to generate the information required for ETSI LI systems.
- Increasing the complexity and cost of compliance for small start-ups.
- Innovation by way of Open Source software and hardware must not be impeded by requiring the mandatory selection of ETSI certified solutions. Such that Service Providers selection and investment decisions in new technologies is restricted.
- Even where it can be afforded, investing \$1,000,000 in LI solutions will have significant impacts on services as it will divert funds from other essential service elements such as customer and technical services. Where reasonable, new Open Source intercept ready applications should be acceptable.

Stifling innovation is contrary to section 5(b) of the Act to – “ensure that surveillance agencies, in obtaining assistance for the interception of telecommunications, do not

create barriers to the introduction of new or innovative telecommunications technologies”.

Maintaining Agency Discretion

The Act allows Operators to agree alternative formats with the surveillance agencies – i.e. *“a format that is acceptable to the network operator and the surveillance agency executing the interception warrants or other lawful interception authority”.*

This feature of the Act is sensible and practical. It allows format flexibility for various scenarios including infrequent LI requests, legacy mediation equipment, new services and technology, services with low uptake and smaller operators where investment in fully automated and ETSI compliant systems is not justified.

While the TICSAs Interception Standards Consultation: Q & A document (Q & A document) confirms alternative formats can still be agreed between Operators and surveillance agencies, the TCF is concerned that under the proposal the ability to agree formats with the agencies generally, or for one off LI requests, will be diminished or lost and that in time all operators will be obliged to purchase fully mediated solutions in order to comply with the formatting standards.

The TCF seeks an assurance as to the scope of application of any new formal standards, and that the agencies will continue to agree formats with Operators in good faith on a case-by-case basis, despite any introduction of formal standards. Any changes to existing alternative solutions should require the agreement of both the Operator and the agencies.

National Variant Regarding Location Information

Clarification is sought as to the expectation of when location information is required in this proposed National Variant, as this has a significant impact on requirements and hence the cost of compliance. This will take more time to assess than that currently allocated for submissions as it requires discussion with vendors and detailed consideration of how solutions would be implemented.

The provision of location information is potentially very expensive to implement as network systems to which the LI solutions are connected are generally not aware of the location of the target in fixed networks, and in mobile networks are currently only aware of the cell site (Cell Global Identifier for 3G networks or the Enhanced Cell Global Identifier for 4G networks). To provide more information than this in the IRI will require network enhancements such as:

- Location Based Services infrastructure in mobile networks costing in excess of \$1,000,000 for each network;
- Interfacing LI mediation systems to customer database systems that hold location information for fixed customers at costs yet to be assessed as this

capability is not available off the shelf and therefore will have to be custom engineered.

At the moment the only reference in TICSA to the requirement to provide location information is in the definition of Call Associated Data, which states:

“if the telecommunication is generated from a mobile telephone, the point at which the telecommunication first enters a network;”

This suggests that this requirement is intended to apply to only mobile telephones.

We ask that MBIE clarifies the scope of this requirement. If it plans to include other services, such as fixed customer locations it should clearly justify their inclusion in the context of the legislation. It is stated in the purpose that:

“This national variant establishes additional requirements when providing Intercept Related Information (IRI) records which have a location field as a mandatory requirement.”

IRI is an ETSI term, not a TICSA term, and in the version of standard for mobile services quoted earlier in the consultation paper ETSI state that:

4.5 H12: Interface port for intercept related information

The H12 interface port shall be used to transport all IRI, i.e. the information or data associated with the communication services of the target identity apparent to the network. It includes signalling information used to establish the telecommunication service and to control its progress, time stamps, and, if available, further information such as location information. Only information which is part of standard network signalling procedures shall be used within communication related IRI.

This indicates that location is never mandatory in IRI and therefore clarification is sought as to when location information is mandatory.

Further clarification is also sought on what parameters are required in the IRI for particular services, for example:

1. GPS co-ordinates of the targeted device (for mobile devices this would require the implementation of location based services with GPS assist on mobile networks and customer's phones; for fixed services it would have to be a customer database look-up assuming this information is currently held);
2. and/or Physical street address (mobile GPS co-ordinates provided by the system described in 1 and translated into an address by a database look-up; fixed services customer service address database look-up);
3. and/or GPS co-ordinates of cell site, azimuth and range of target (not necessarily known by mobile networks currently, the capability would have to be developed; N/A for fixed);
4. and/or (enhanced) cell global identifier and a separate database.

Furthermore it should be noted that, most² Retail Service Providers (RSPs) use other parties' access networks for the last mile to customers, particularly those using the copper and fibre access networks. Therefore the ability that the RSP has to identify the point of origin is limited by the information that the access network provider passes on to the RSP.

In the case of fixed access services, this information is static and defined at the time of service provisioning and so can be looked up in the RSP's customer databases.

However, for other services, such as those over other people's WiFi access networks or nomadic services able to be accessed from any company's internet access line there may be no location information passed on to the RSP other than an IP or MAC address that is not under the RSP's control.

In the case of fixed services, there may be other ways in which location information can be provided, such as by manual processes as an operational procedure at the time of provisioning of the interception, rather than including it in the IRI, that would meet the agencies requirements at much lower cost. The TCF would therefore like to request a meeting with MBIE and agency technical representatives to clarify the requirements and determine if there is another means (other than location information in IRI messages) that would meet their requirements.

TICSA Interception Standards Consultation: Q & A document

The TCF makes the following comments on the MBIE Q & A document:

2. *Will there be exceptions to the referenced standards?*

Operators seek an assurance that agencies will continue to engage in good faith to agree acceptable standards when there is good reason for that. While the Q & A document refers to the section 10(5) and s24(7) definitions of "usable format" and the ability to agree a format that is acceptable to the surveillance agency and network operator, no assurances have been given regarding use of this format in the future. Operators seek an assurance that any new standards do not in the future become the default requirement in all cases.

3. *What happens if the referenced standards are amended? (section 43)*

The Q & A document assumes that there will be Gazetted standards and that these will be amended in time. Section 43 of the Act states that if a standard is incorporated by reference, there is no automatic obligation for a network operator to comply with any amendments to that standard. The TCF has concerns about the following statements in the Q & A document:

² Exceptions include mobile providers who run their own mobile networks and cable.

- “Should a Telecommunication Service or LI Mediation Platform be changed or altered, continuation of existing agreements or validation of compliance is not guaranteed”.

Telecommunication Services are changing all the time by nature as they evolve, for example with more capacity, better quality etc. This comment potentially restricts the natural evolution and growth of services in the industry and is therefore unacceptable.

- “A network operator must ensure that the Telecommunication Service and LI Mediation platform has remained unchanged since they were deemed compliant with a specific gazetted standard, maintaining a written record and declaration to this fact in order to remain compliant with a previous standard”.

This interpretation is unacceptable because it makes any sensible security upgrades or capacity upgrades due to the natural growth of the platform (or even the movement of additional customer base to it) automatically non-compliant. In addition, section 43 does not require the operator to maintain a written record or to make any declaration. Section 43 simply requires the operator to ensure that their interception capability continues to conform to the earlier standard. How they do that, and keep any records, is entirely up to the operator.

The TCF is concerned at the interpretation of section 43 that has been posted.

4. *What happens if a network operator was compliant under the previous Act? (section 44)*

Section 44 of the Act states that network operators who were compliant with their interception obligations under the Telecommunications (Interception Capability) Act 2004 (2004 Act) by obtaining call associated data and telecommunications in a format that was able to be used by a surveillance agency will not have to comply with any new standards in order to meet their interception obligations. However, some interpretation of section 44 as contained in the Q & A document have raised concerns, as detailed below:

- *“To comply with Section 44 network operators must ensure that the Telecommunications Service and LI mediation platform has remained unchanged since the commencement of TICSA, maintaining a written record and declaration to this fact”;*
- *“Should a Telecommunication Service or LI Mediation Platform be changed or altered, continuation of existing agreements or validation of compliance is not guaranteed”.*

Section 44 does not say it ceases to apply if the operator has changed their platform. The suggestion that the LI Mediation platform must have remained unchanged since May 2014 (six months after the Act received Royal Assent) is unworkable. Like any software platform, LI platforms undergo regular upgrades to improve such things as functionality and to fix bugs. Section 44

also does not require a written record and declaration of this. Evidence of section 44 being applicable, and any records kept, is entirely up to the operator.

In addition, there are concerns that this interpretation may create situations where the existing compliant legacy systems become non-compliant because of a technicality, such as where the platform has been upgraded due to lack of capacity or because of a request from the Agency (for example the Agency could not retrieve the data in the same way as before).

The TCF is concerned at the interpretation of section 44 that has been advanced.

Conclusion

The TCF does not support exclusively ETSI, or the narrow range of ETSI versions listed, as the only means of compliance with call associated data and the content of telecommunications in a “usable format”. The TCF seeks an assurance that even if LI format standards are introduced, the agencies will continue to engage, both now and in the future, and agree with operators other acceptable formats as an alternative to the standards.

Furthermore, additional work is needed around the requirement for the location information to fully understand this proposal. The TCF would like to request a meeting with MBIE and agency technical representatives to clarify the requirement and determine if there is another means (other than location information in IRI messages) that would meet their requirements.

Contact

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Answers to Specific Questions:

1. Are ETSI standards the most suitable interception standards to become mandatory in New Zealand? If not, why?

The TCF does not support the ETSI standards becoming a mandatory requirement. Some TCF members support ETSI standards being used as one of the acceptable standards of compliance, although there is no support for the narrow range of ETSI standards proposed. It is critical that any new standards proposed do not become the agencies' default requirement for all operators and all services, large and small. The ability to agree alternative formats with the agencies under the Act must continue.

It is not appropriate that only the specified ETSI standards in the consultation paper become mandatory as:

- this would drive significantly increased cost of compliance as off the shelf systems do not yet support them;
- many existing systems introduced since the Act, including Network Operator and agency systems, would have to be re-engineered to support them;
- low cost interception solutions for low interception rate services would have to be replaced with fully mediated LI solutions at significant cost.

2. Are there other standards that should be considered? If so why?

In addition to the ETSI standards, other standards should also be acceptable including, but not limited to:

- PacketCable Electronic Surveillance Specification, [PKT-SP-ESP-I03-040113](#), Cable Television Laboratories Inc., 13 January 2004.
- T1.678, Lawfully Authorized Electronic Surveillance (LAES) for Voice over Packet Technologies in Wireline Telecommunications Networks.
- Lawfully Authorized Electronic Surveillance, ATIS/TIA joint standard, document number J-STD-025B, December 2003.
- Other formats that are acceptable to the network operator and the surveillance agency executing the interception warrants or other lawful interception authority should be permitted (e.g. PCAP, Broadworks, PSTN outcalling).

Permitting these other formats, by agreement with the agency, will allow the Network Operator and the agency to work together to select the lowest cost interception system solution. Maintaining existing alternative solutions will avoid the cost of change for the operators and agencies.

3. Do you agree that any standards adopted should be based upon freely available and/or open standard?

Ideally standards should be readily procurable, all the ones listed above are available for free or purchase to anyone.

Note that it is usually not necessary to obtain a copy of the standard unless you are designing a new system to implement the standard from scratch. Vendors will have purchased standards and designed their off the shelf systems to comply with standards they have specified.

Even if the standards themselves are readily available, it can be a challenge to participate in their development over time from New Zealand due to the European nature of the standardisation process.

4. *What is your view on the proposed set of ETSI standards and versions?*

ETSI standards are not supported by all vendors. Even when ETSI standards are supported there is no current support for the ETSI standard versions as proposed.

Previous versions of ETSI Standards should also be acceptable so that existing solutions can continue to be used and current off the shelf solutions from vendors with earlier ETSI version can be deployed. It is not appropriate that only the specified ETSI standards in the consultation paper become mandatory as:

- this would drive significantly increased cost of compliance as off the shelf systems do not yet support them;
- many existing systems introduced since the Act, including Network Operator and agency systems, would have to be re-engineered to support them;
- low cost interception solutions for low interception rate services would have to be replaced with fully mediated LI solutions at significant cost.

5. *Do you agree with the introduction of the proposed National Variant on Location Information? If not, why?*

We do not fully understand the requirements at this stage. We are concerned that any national variant could drive significant additional costs for Network Operators as the draft requirements require functionality beyond that required of standard ETSI solutions.

We are also concerned that the scope of the requirements may be beyond that required by law.

6. *Do you think other national variants are required?*

Not at this time.