

THIRD SUBMISSION OF TELSTRA CORPORATION LIMITED

Pursuant to a Requirement to provide Information to the Commission of Inquiry dated 14 April 2011 Telstra Corporation Limited (Telstra) has been asked to provide a submission relating to the general operation of the Telstra Triple Zero service, including how calls are answered and presented to Queensland Police, and call volumes received at Toowoomba, for Police, by Triple Zero for the period from 13:00 to 14:30 on 10 January.

TELSTRA'S ROLE AS THE ECP FOR TRIPLE ZERO (000)

Overview of the operation of emergency call services in Australia

1. In Australia, access to ESOs — that is, fire, police or ambulance services — is made by calling the national emergency call service (**ECS**) numbers Triple Zero (000), 112 or 106.
2. Telstra transfers calls to around 75 ESO call centres nationally. Those call centres have different systems at different stages of technological capability for accepting and managing calls. As the central filter, Telstra must be able to interconnect a call with every single ESO. As a consequence, Telstra's Triple Zero (000) capability must be matched to the least capable ESO call centre.
3. In Queensland the relevant ESOs are the Queensland Police, Queensland Fire & Rescue (Fire) and Queensland Ambulance.
4. Triple Zero (000) is the primary ECS number. 112 and 106 are secondary ECS numbers; 112 is for voice calls made from GSM¹-derived mobile phones (which also provide Triple Zero (000) access) and 106 is for text calls made by people who are deaf or hearing/speech-impaired.
5. Any caller has free-of-charge access to the ECS from a standard telephone service (for example, fixed line (including payphones), mobile, satellite, teletypewriter) to request that an operator transfer the call to the desired State or Territory ESO (police, fire or ambulance). The ECS may also be accessed from a number of Voice over Internet Protocol (**VoIP**) services, which enable telephone calls to be made over broadband Internet connections.

¹ Global System for Mobile Communications, a mobile telephone system standard developed by the European Conference of Postal and Telecommunications Administrators.

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6. The Triple Zero (000) service uses a National Automatic Call Distribution (**NACD**) network which carries all calls to Triple Zero (000), regardless of the carrier or carriage service provider (**CSP**) of which the caller is a customer. Calls to Triple Zero (000) are carried on "Service Protected Routing" which is designed to ensure their integrity and delivery. All fixed line phones (including payphones) have access to Triple Zero (000), subject to the phone being operational. All mobile phones have access to the Triple Zero (000) service, subject to those phones being operational and in an area where there is mobile coverage. There are a number of mobile service providers in Australia (including Telstra). Where a mobile phone connected to a particular mobile network (for example, a mobile phone connected to an Optus mobile network) is in an area where there is no mobile coverage on that network, a Triple Zero (000) call may still be made from that phone if any other mobile network operating on a frequency which the mobile handset can access has coverage in that area. In these circumstances, the network which has coverage in the area will carry the call. Calls can also be made to Triple Zero, where a mobile phone has no SIM card, or for a prepaid mobile phone, the customer has no credit.
7. ECS data management systems use two reference databases. The first of these is the Integrated Public Number Database (**IPND**). The IPND was established in 1998, and is a national repository of customer data, including customer contact information (name, address and public number) supplied by CSPs. Australia is one of only a few countries to maintain such a comprehensive repository of numbers. The IPND is the primary data source for customer contact and/or location information used by the emergency call services, law enforcement and national security agencies, producers of public number directories, approved researchers and providers of operator and directory assistance services (**data users**).
8. Telstra is the IPND manager, pursuant to its licence conditions, and must establish and maintain the IPND. Its role includes receiving customer data from CSPs, ensuring that data is securely and safely stored, and making daily updates of the IPND available to the data users for a variety of purposes, including the ECS.
9. CSPs that supply a carriage service to an end-user who has a public number must give the IPND manager (Telstra) the information it reasonably requires to fulfil its obligations as the IPND manager.
10. The IPND contains around 53 million connected and 21 million disconnected Public Number Customer Records and is updated daily. Each record typically contains:
 - (a) the public number;
 - (b) the name of the customer;

- (c) the address of the customer;
 - (d) the service location (if practicable);
 - (e) the name of the customer's CSP;
 - (f) the type of service (government, private, business etc); and
 - (g) the data provider code.
11. The second ECS data management system is ECLIPS (the Enhanced Calling Line Identification Processing System). ECLIPS is a national computer system operating non-stop to support the ECS, and is created and maintained by Telstra in its capacity as the ECP for Triple Zero (000) and 112. Because ECLIPS must remain operational at all times, the terminals can switch to either of two replicated hosts should their primary host fail, and can also operate in manual mode by accessing local copies of the most important data. The ECLIPS hosts will respond to requests from the ECLIPS application servers to provide relevant information to the ESOs. The ECLIPS database uses information from the IPND. It provides customer service information, logs emergency calls and is the master source of all ESO information.
 12. Each ESO provides Telstra with lists of contact telephone numbers for that ESO for specified towns or regions. For each specified town or region, an ESO provides up to 6 contact telephone numbers. This information is stored in ECLIPS and (as explained further below) is used by the system to connect callers to the appropriate ESO answering point.
 13. Carriers or CSPs which control a switching system are required to provide calling line identification (**CLI**). CLI includes the originating number of the caller. This enables the ECLIPS system to extract the record associated with the caller's phone number, and to display the caller's identity and location on the ECS operator's screen in real time. The display (and transmission to the ESO operator) of this information allows convenient and efficient handling of emergency calls.
 14. Calls from fixed-line services, including payphones, are supported by ECLIPS (which receives and stores customer data from the IPND), together with a national postcode database maintained by Telstra (as ECP) and a database of ESOs. When a caller dials Triple Zero (000), the operator will answer the call by saying "Emergency — Police, Fire or Ambulance?" For fixed-line callers, the caller's phone number and address of the phone service used by the caller are displayed on the Telstra ECP operator's screen. The caller is required to nominate the relevant ESO. Once a selection is made, the system matches the town and postcode contained in the service address information against the

national database. The system then searches the emergency service contact database for the corresponding ESO for that town and postcode, or other nominated ESO central answering point. The emergency call is then automatically presented to an ESO answering point, with the caller's phone number and service address sent (automatically) to the ESO operator's screen as the call is connected. When the emergency call has been answered by the ESO operator and the conversation has commenced (but not before that time), the Telstra ECP operator leaves the connection and the emergency call continues with the ESO operator.

15. If a call is made from a mobile phone, the caller's location is not known beyond the location of the caller's standardised mobile service area (**SMSA**) at the time of the call, which may include more than one base station. Calls from mobile phones are handled in much the same way as calls from fixed-lines. The caller's phone number, current SMSA and State of origin of the mobile call are displayed on the Telstra ECP operator's screen. The Telstra ECP operator will then ask the caller for the location details. Once the Telstra ECP operator has selected the State and town quoted by the caller and entered this information into the system, the system matches the town against the national database. The system then searches the emergency service contact database for the corresponding ESO for that town, or other nominated ESO central answering point. The emergency call is then automatically presented to an operator from the ESO, with the caller's phone number and location information sent (automatically) to the ESO operator's screen as the call is presented. When the emergency call has been answered by the ESO operator and the conversation has commenced (but not before that time), the Telstra ECP operator leaves the connection and the emergency call continues with the ESO operator.
16. Whether subscriber information is available in ECLIPS depends on whether the call is carried on the home network of the subscriber eg if a caller phones triple zero on a Telstra mobile and the call is carried on the Telstra network, the customers' subscriber information will be available. If, a customer has an Optus mobile phone, and the call is carried on the Telstra network, the subscriber information will not be available.
17. Similarly if a customer calls triple zero using a Telstra pre-paid mobile phone, if the call is carried on the Telstra network, the subscriber information will be available. If the call is not carried on the Telstra network, the subscriber information will not be available. Calls can be made to Triple Zero from pre-paid mobiles, even if there is no credit remaining.
18. Finally calls can be made to triple zero, from mobiles without a SIM card. These calls appear with a default CLI. Each carrier has their own default CLI.

Operation of Telstra's role as the ECP for Triple Zero (000)

19. Telstra's Windsor Call Centre and Sydney Call Centre handle all calls to Triple Zero (000) in Australia on the basis of a national queuing system. Under this system, the longest waiting call is directed to the first available Triple Zero (000) operator. A national queue offers a much higher call processing capacity for any given call across Australia, and callers have a much higher chance of getting through a single queue with a higher volume of available call takers.
20. Telstra's Triple Zero (000) call centres are staffed 24 hours a day, 7 days a week. The call centres are staffed by operators who work at computer terminals. Operators are rostered on duty depending on the forecast number, and average duration, of calls for the day in question. During the time that they are rostered on, operators are permitted to take scheduled breaks. At all other times, operators are required to be logged on facing the computer screen at the terminal, and available to answer any call that is presented to that terminal.
21. When a call is received at Telstra's Triple Zero (000) call centre (answering point), an audible ring tone is produced at one of the terminals and an "answer" icon is displayed at that terminal. The Triple Zero (000) operator answers the call by pressing the "enter" key on the keyboard at the terminal. The operator is then required to ask, "*Emergency – Police, Fire or Ambulance?*" When the customer indicates which emergency service is required, the operator is required to say, "*Connecting Police*", "*Connecting Fire*" or "*Connecting Ambulance*", as appropriate. The operator must then select the relevant service on the computer screen. If the call has been made from a mobile telephone, the Telstra operator is required to ask, "*What State and Town is the emergency in?*", to select the State that the caller requires, and to press the "enter" key to connect to the assigned ESO.
22. When the Triple Zero (000) operator answers an incoming call, the caller's CLI, the service address or, in the case of a call from a mobile phone, the SMSA, are displayed on the operator's screen. As explained above, this information (together with the location information obtained verbally by the operator in the case of a mobile call) is used by the Triple Zero (000) system to connect the call to the assigned ESO answering point. The Triple Zero (000) system automatically uses the first priority number supplied to the Triple Zero (000) database by the relevant ESO. Once that first priority number is selected by the system, a ring tone is heard by the agent and the customer. As the call is connecting, the ECLIPS system sends a job number and CLI details via a data link to the ESO.

23. When the ESO operator answers the call, a three-way conference call between the caller, the Telstra operator and the ESO operator is established. The Telstra operator is required to hear 3 or 4 words of a conversation between the caller and the ESO agent before releasing the call to the ESO operator. The call is released by the Telstra operator by highlighting a "disconnect" icon and by pressing the "enter" key. This leaves the customer connected with the ESO, with the Telstra operator no longer on the call.
24. If the Telstra operator hears a busy tone when attempting to connect the call to an ESO, or if the ESO does not answer the call within a specified period of time as defined by the relevant ESO, the Telstra operator is required to select an "unsuccessful" icon on the screen and to say to the caller words to the effect "*I will try another number*". A list of the ESO's alternative numbers (as provided by the ESO to Telstra and stored in the ECLIPS system) will then be displayed on the screen, with the number just called highlighted on the screen. The Telstra operator is then required to select the next listed number and again to say "*Connecting Police*", "*Connecting Fire*" or "*Connecting Ambulance*", as appropriate. If the ESO does not answer that further call within the specified period, the Telstra operator should repeat the process described above, using any further alternative telephone numbers in the list provided by the ESO (which are displayed on the operator's screen). If the ESO does not answer any of these listed numbers when they are called by the Telstra operator, the operator is required to select the first listed number again and to continue calling through the list again until the operator is able to successfully connect the call to the ESO. The Telstra operator is required to remain a party to the call until the ESO call taker answers the call and a "hand-over" is completed. The Telstra operator is unable to answer other incoming calls while in the process of transferring a call to an ESO.
25. In Queensland, where a caller requests Police, in the Toowoomba area, the order of presentment is as follows:
- First choice, Toowoomba Police with 45 second ring time;
 - Second choice, Toowoomba Police, on a second phone line with 45 second ring time;
 - Third choice, Yamanto with 45 second ring time;
 - Fourth choice if not answered by Yamanto after 45 seconds of ringing with no answer, the call is presented to Brisbane as the final choice.
26. The following standard phrases must be used by the Telstra operator without any change to wording:
- Answering any Incoming Triple Zero call: "*Emergency — Police, Fire or Ambulance?*"

- Connecting a call to an ESO, for example the police: *"Connecting Police"*.
- Where the system has prompted for a State and/or a town: *"What State and town is the emergency in?"*
- Agents must repeat the State and town quoted, for example: *"Lismore, New South Wales"*.
- Connecting a call to an SES or directory assistance: *"Please hold for this information"* or *"Hold for this information"*.

Calls on 10 January 2011

27. On 10 January 2011, between 13:00 and 14:30 there were 200 Triple Zero calls in the Toowoomba region, where the caller requested the Police. A breakdown of the calls is as follows

Time	Calls offered	Calls not answered on first presentation
13:00 – 13:30	6	0
13:30 to 14:00	83	47
14:00 to 14:30	110	65

Date: 15 April 2011



Sue Laver

General Counsel Dispute Resolution

Legal Services

Telstra Corporation Limited



GLOSSARY

CLI	Calling Line Identification
CSP	Carriage Service Provider
ECLIPS	Enhanced Calling Line Identification Processing System
ECP	Emergency Call Person
ECS	Emergency Call Service
ESO	Emergency Service Organisation
IPND	Integrated Public Number Database
NACD	National Automatic Call Distribution
SMSA	Standardised Mobile Service Area
VoIP	Voice over Internet Protocol