

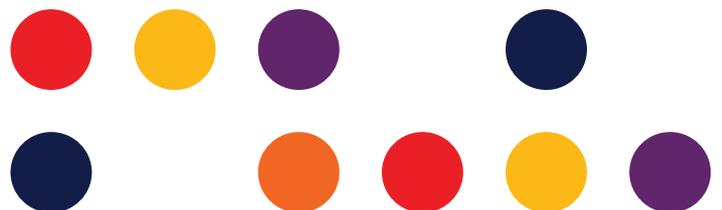
Review of the Numbering Plan and other instruments 2024

TPG Telecom submission

Australian Communications and Media Authority

July 8, 2024

[Public]



Submission

Thank you for the invitation to provide feedback on potential changes to the Numbering Plan 1997 (the Plan).

About TPG Telecom

TPG Telecom is Australia's third-largest telecommunications provider and home to some of Australia's most-loved brands including Vodafone, TPG, iiNet, AAPT, Internode, Lebara and felix.

We own and operate nationwide mobile and fixed networks that are connecting Australia for the better.

Executive summary

TPG Telecom contributed to and supports the submission by Communications Alliance. TPG Telecom believes the Plan needs to have significant changes to clarify:

- number use in a more consistent manner for all number types;
- a clear set of principles for the Plan;
- New number ranges introduced for new number ranges for IoT and data only services;
- how numbers can be used for call origination and termination across networks; and
- how Australian numbers can be used for origination of traffic from outside Australia

In previous reviews, TPG Telecom has outlined its suggested format for the Plan, suggesting the basic details for each number type be included in a standardised format, and additional detail relating to the operations for use of the number type be included in an Industry Code.

The recent 2022 review of the Industry Code C566, Number Management – Use of Numbers by Customers, established a path to this approach by clarifying the details relating to number use at a customer level. We suggest an additional 'part 2' to this Industry Code could be produced, setting out the details for number allocation, transfer, surrender, etc. at a CSP level.

During the previous review, TPG Telecom also provided a copy of a revised Industry Code in Parts 1 and 2 to show what this could look like. TPG Telecom would be pleased to provide the ACMA with updated versions of these documents, accommodating for recent changes to various Industry Codes, if it would assist the current Plan review.

TPG Telecom continues to see exponential increases in scam activity due to the misuse of numbers. TPG Telecom does not supply services to our customers on numbers other than those we have issued, or have been ported in.

The use of numbers to originate traffic on other-than-the-network-that holds-that-number makes scam control difficult and TPG Telecom remains concerned these communications are invisible to investigation and enforcement agencies due to non-compliance with IPND obligations.

We have identified how these issues can be best addressed in the following responses to the ACMA discussion paper's questions and would be happy to expand upon these concepts at any time.

Consultation questions: Principles-based

1. **Do you support a principles-based Numbering Plan where associated operational procedures and requirements are developed and managed by industry through codes and guidelines? Why or why not?**

TPG Telecom and the broader industry have long advocated for the Plan to adopt a principles-based approach, standardising headings and details across number types.

Feedback provided during the previous review of the Plan emphasised the need for greater detail relating to CSP and customer use of numbers included in an Industry Code. This simplified approach of stipulating universal rules for all numbers and only specifying special rules for certain number types, where required, would make the document clearer, shorter and more accessible for new entrants.

While the ACMA improved aspects of the Plan during the past review by removing unnecessary detail contained in the previous Plan relating to the various stages of the auction process for Freephone and Local Rate number allocation, more can be done.

TPG Telecom believes the detail in the present Plan means the Plan is relatively inflexible in comparison to an approach of setting out the fundamentals in a principles-based Plan with the operational details setting out obligations on CSPs and carriers in supporting Industry Codes and Guidelines.

TPG Telecom has been advocating this approach for several years and previously drafted a model instrument that would become a Part 2 to the current Number Management – Use of Numbers Code. The proposed Part 2 would address the operational arrangement for the allocation, transfer and surrender of numbers along with rules that considered efficient use of numbers, reporting and other number management tools. This approach provides greater flexibility to accommodate any necessary changes to number management while remaining subject to potential ACMA enforcement action. See Draft Numbering Plan in Appendix A.

Where administration matters are required to remain in the Plan as they relate to the powers of the ACMA (e.g. exemptions) and ACMA obligations, they should be moved to the front of the Plan for greater visibility and to improve the flow and readability of the Plan.

TPG Telecom believes the future anticipated approach of requiring CSP registration is broader than the Numbering Plan and therefore the CSP registration requirements would be better placed in a discrete instrument.

Principles

The first regulator developed *AUSTEL Australia's Telephone Number Plan – The National Numbering Plan* April 1993 established several guiding principles for numbering arrangements, including obligations for AUSTEL. TPG Telecom believe a similar approach of numbering principles should be integrated into the new Plan. For example, the AUSTEL Plan's Table 1, set out General Principles for Number allocation identifying how AUSTEL should behave, and Table 2, which outlined principles for primary allocations that required consideration of the consumer, promoting competition and ensuring numbering efficiency.

TPG Telecom believes the following principles should guide the content of a revised Plan:

1. The Numbering Plan outlines the arrangements associated with numbers used by the public. Operational or technical matters relating to number use and numbers not used by the public are to be addressed in Industry Code(s) supported by Industry Guidelines and/or Business Rules. Other matters are dealt with in other instruments (e.g. Obligations relating to Emergency Service numbers are dealt with in the Telecommunications (Emergency Call Service) Determination 2009).
2. The Plan must encourage competition, delivery of innovative new services and treat all carriers and carriage service providers equitably.
3. Principles for number allocation, transfer surrender and quarantine functions should be clearly identifiable in the Plan across all number types.
4. Detailed obligations for Number allocation, transfer surrender and quarantine functions should be clearly spelt out in detail in an associated Industry Code, which may have supporting Guidelines.
5. Any future governance and operational processes should be delivered via an industry¹ self-regulatory approach.
6. The Plan could also include an outline of a governance structure that included industry representation:
 - 6.1. To assess any new number allocation proposals to ensure any industry impacts are appropriately considered before the ACMA makes any recommendation, and
 - 6.2. Oversight of any ongoing future variations to any new arrangements put in place.

We draw attention to the intention of the Government of the day when introducing the Telecommunications Act 1996. As stated in the Explanatory Memorandum Volume 2 to the Telecommunications Bill 1996 Part 22—Numbering of carriage services and regulation of electronic addressing:

The ACA will be able to delegate to an industry body its powers and functions provided by the numbering plan, including its function of maintaining a register of allocated numbers. This reflects the general regulatory approach adopted in this Act of promoting the greatest

¹ That is, directly related to Australian carriers and carriage service providers via an industry body or not for profit organisation.

practicable use of industry self-regulation (see clause 4).

The Government of the day (and by extension, Parliament) intended the allocations be handled by an "industry body". Further, Mr Warwick Smith, Minister for Sport, Territories and Local Government, at the second reading of the Telecommunications Bill 1996 stated:

“Significant efficiency gains can be achieved through greater reliance on self-regulation in networked industries such as telecommunications because regulatory structures and arrangements can be better designed to reflect industry and community needs. This package of legislation provides the framework for the telecommunications industry to take responsibility for key areas of regulation over and above the legislative guarantees provided.”

This regulatory approach of the greatest practicable use of self-regulation still underpins the legislation today and supports our expectation for a future where number management is undertaken by a telecommunications industry self-regulatory body.

- 2. What steps or changes to the current Numbering Plan, or existing or new industry codes, would support the evolution towards a more simplified or principles-based document? Please provide details, including likely timeframes.**

TPG Telecom has previously provided ACMA with a revised Numbering Plan incorporating the changes we suggest. Please refer to Appendix A.

Consultation questions: Types of numbers for use

Removal of unused number types from the Numbering Plan

3. Of the number types listed in Table 2, are there any you consider are redundant or becoming less relevant in the industry? What number types that have minimal allocations are being used?

Yes, as identified below some types of numbers which have zero, or near zero use, as highlighted below could be withdrawn and repurposed.

Note: The table supplied in the discussion paper as the number of numbers in use is unclear, as it fails to include which partial ranges are in use and which are free. There is wild variance between the number of numbers available and those reported as available in the table in the ACMA discussion paper. TPG Telecom has added additional columns to the table below identifying the Numbering Plan reference showing the numbers available in the range as per the Numbering Plan.

Table 2: Numbers for use and availability of those numbers in the Numbering System as of May 2024

Number Type	Numbers in range	ACMA Allocated	ACMA noted as Spare	ACMA noted % available	Plan Reference
Geographic*		122,312,400	45,587,600	27.2%	Schedule 1: 10 digit
Freephone	1800 & 1801 = 1M x 2 = 2M 1802, 1803, 1804, 1806, 1807, 1808 & 1809 = 1K x 7 Total = 2,007,000	178,253	820,650 ? (Actual 1,828,747)	82.1% ?	Schedule 2: 1800 & 1801 10 digit and 1802, 1803, 1804, 1805, 1806, 1807, 1808 & 1809 7 digit
Local rate	130 = 10M 131, 132, 133, 135, 135, 137, 138, 139 = 8 x 1K = 8K 1340, 1341, 1342, 1344, 1345, 1346, 1347, 1348 & 1349 = 1K x 9 = 9K Total = 10,017,000	240,436	771,812 ? (Actual 9,776,564)	76.2% ?	Schedule 3: 130 10 digit 131, 132, 133, 1340, 1341, 1342, 1344, 1345, 1346, 1347, 1348, 1349, 135 136, 137, 138, 139 6 digit
Premium rate	1900, 1901, 1902 & 1906 = 4 x 1M 191, 193 & 194 = 3 x 1K = 3K	100,117	2,203,883 ?	95.7% ?	Schedule 4: 1900, 1901, 1902, 1906 10 digit. 191, 193 & 194 6

	197 & 199 – 2 x 100K Total = 4,203,000				digit. 197 & 199 8 digit
Premium rate and paging ?		0	1,000,000	100%	What range is this?
Age Restricted access premium rate	195 = 1,000 196 = 100,000 Total = 110,000	0	1,000,000 ?	100%	Schedule 4: 195 6 digit & 196 8 digit
Satellite telephone	0141, 0142, 0143, 0145 & 0147 = 5 x 1M Total = 5M	90,000	4,910,000 (Correct)	98.2%	Schedule 5: 0141, 0142, 0143, 0145, 0147 10 digit
Paging	0163 = 100K	0	700,090 ? (Actual 100K)	100%	Schedule 5: 0163 9 digit
Data network access	0192 = 10 01980, 01982, 01983, 01989 = 4 x 100K – 400K Total = 400,010	24,000	476,015 ? (Actual 376,010)	95.2% ?	Schedule 5: 0192 5 digit. 01980, 01982, 01983, 01989 10 digit
Digital mobile*	04 = 100M	83,180,000	16,820,000 (Correct)	16.8%	Schedule 5: 10 digit
Community service	1100 = 10 119 = 100 Total = 110	1	912 ? (Actual 109)	99.9% ?	Schedule 5: 1100, 119 4 digit (e.g. 1100 Dial before you dig)
Operator service	124 & 125 = 2 x 100 = 200. 2 x 1K = 2K. 2 x 10K = 20K. Total = 22,200	134	17,524 ? (Actual 22,066)	99.2% ?	Schedule 5: 124 & 125 5 to 7 digit.
Internal network service	1261, 1262, 1263, 1264, 1265, 1266, 1267 & 1268 = 8 x 1 = 8, 8 x 10 = 80, 8 x 100 = 800, 8 x 1000 = 8000, 8 x 10K = 80K, 8 x	4,002	8,698,004 ? (Actual 8,884,886)	99.9% ?	Schedule 5: 1261, 1262, 1263, 1264, 1265, 1266, 1267 & 1268 4 to 10 digit

100K = 800K. 8 x
 1M = 8M
 Total = 8,888,888

Testing service	1272 = 1,111,100	90,202	7,800,000 ? (Actual 7,709,798)	98.9% ?	Schedule 5: 1272 6 to 10 digit
Calling card service	189 = 1 x 100 Total 100	0	100 (Correct)	100%	Schedule 5: 189 5 digit
International service access codes	0010, 0014, 0015, 0016, 0018, 0019 = 6 x 1 = 6, 0013, 0017 = 2x 100 = 200. 009 = 1 x 100 Total = 306	3	123 (Actual 303)	97.6% ?	Schedule 6: 0010, 0014, 0015, 0016, 0018, 0019 4 digit. 0013, 0017 & 009 5 digit
Incoming only international access codes	Total = 1,111,111,111,10 0	1,010,101,030,00 ?	103,532,407? (Actual 1,010,101,008,10 0)	0.01% ?	Schedule 6: 10, 11 & 12 4 to 15 digit. 141, 142, 143 & 144 4 digit. Q the accuracy of this usage volume. Low availability is incorrect.
Interconnection and routing	141, 142, 143, 144, 145, 146, 147, 148 & 149 = 9 x 10 = 90 Total = 90	31	59 (Correct)	65.6%	Schedule 6: 141, 142, 143, 144, 145, 146, 147, 148 & 149 4 digit
Virtual private network	188 = 100	6	94 (Correct)	94%	Schedule 6: 188 5 digit

TPG Telecom believes the table above shows a number of issues with the present Plan, including:

Geographic numbers are still in high numbers. Their use for consumer services is waning. However demand continues for business use. We comment further on geographic numbers elsewhere in this submission.

Freephone numbers have a healthy margin for growth.

Local Rate have a very significant margin for growth.

Premium Rate have been in decline for some time. Given there are a limited volume of numbers allocated there may be potential to rationalise the 4M numbers in this block and used for another purpose.

Premium Rate and Paging – TPG Telecom is unable to identify what this category in the ACMA discussion paper table relates to in the Plan.

Age restricted access premium rate are not in use but the number block is relatively small and suggest 195 could allow 10 digits if there was need to open capacity for any future resurgence in use. The 196 portion of the range should be re-allocated as a 10-digit range for intercarrier network testing.

Satellite telephones have a relatively low use of the available numbers and with new technology satellite direct to normal mobile device this range may never have significant growth. Suggest leaving this range as is.

Paging given the small number range, TPG Telecom suggests this range be left as is.

Data Network Access has a modest 40K available numbers. There is opportunity to use this range for the new range of SIP and other services geographically unrestricted but are not a mobile service and require interconnect across networks. Expansion of the 019 range to enable 10-digit blocks would significantly improve availability opening up to 10 million numbers. Alternately, this number range could remain unchanged, and the 09 range could be opened up for these services. With 10-digit numbers this would provide 100M numbers in this range.

The previous approach of using 055 for Locations Independent Communications Services failed because services were already using Geographic or Mobile Numbers, and regulators at the time failed to address the need for number portability. There were also no interconnect arrangements in place for the number range.

TPG Telecom recommends geographically unrestricted services be determined as portable and the existing Mobile Number Portability solutions could be configured to support number portability for these services. For interconnect purposes, services in this category should be treated as unregulated but akin to a geographic number as a flat rate local service.

Digital Mobile has a healthy margin for growth, particularly with availability of expansion into the 05 range.

Community Service only has a small number range (110) and currently one number is used in this range (Dial before you dig 1100). This range may be used as a short code for future services such as the EU Child Helpline and is best left as is for future community-based services requiring a short code.

TPG Telecom recommends a range of shared 4 digit community service numbers be available in the 3 and 7 ranges providing 2K numbers to be available at short notice and offer flexibility in use, such as 3498 used for approved mobile device checking and 7226 (Scam) and 7726 (Spam).

TPG Telecom recommends the management of these numbers via the Comms Alliance Numbering Working Group, similar to the UK Shortcode Management Group as mentioned in the ACMA Number Plan discussion paper. The industry group would be responsible for managing the number reservation

and allocation system for community service short codes. The industry group would determine numbers that are shared community numbers, or a number held by a CSP for an on net service and have a process for consultation with the ACMA and ACCAN.

Operator Service has a relatively large available number pool (22,200) with very few numbers in use (134). There is an inconsistent use of this number range. While operators may have a number allocated, it is not necessarily in public use and some operators use other number ranges for operator services. More common is the move to online chat via the service providers app or website. This range could be freed up and the entire 12 range used for Internal Network Services, which may include operator services, IoT, M2M, modem back up numbers and any services where the use of numbers is for communications remaining solely within that network.

Internal Network Service has a large pool of available numbers (8,888,888) with very little identified use (4,002). As identified in comments above for Operator Services, there would be benefit in enabling the entire 12 range to be used for on net services within a network (using 10 digits would provide 100M numbers.). Services used in the 12 range, excluding shared numbers in schedule 5 part 2, would be at the discretion of the network operator and would not be recorded in the ACMA numbering solution and not subject to the Annual Numbering Charge (Note: this has no impact on government income as the revenue would be recovered from other chargeable numbers).

It's unlikely customers would need to retain numbers used for these services if moving network. However, given the available pool of numbers it is possible the numbers may be available in an alternate network if customers change provider.

Testing Services has very little use (90K) of the available (1,111,100) number range. As above, the entire 12 range should be set aside for internal Network Services. The Age Restricted Premium Number range (1968) should be re-allocated as a 10-digit range providing 1 million numbers for intercarrier network testing.

Calling Card Services has a very modest number of available numbers presently unused. TPG Telecom suggests leaving Access Codes ranges as they are.

The numbering types as proposed by TPG Telecom would be:

Number Type	Numbers in range	ACMA Allocated	Plan Reference
Geographic*	No change		Schedule 1: 10 digit
Freephone	No change		Schedule 2: 1800 & 1801 10 digit and 1802, 1803, 1804, 1805, 1806, 1807, 1808 & 1809 7 digit
Local rate	No change		Schedule 3: 130 10 digit 131, 132, 133, 1340, 1341, 1342, 1344, 1345, 1346, 1347, 1348, 1349, 135 136, 137, 138, 139 6 digit
Consider changing from Premium rate to making available for other purposes	1900, 1901, 1902 & 1906 = 4 x 1M 191, 193 & 194 = 3 x 1K = 3K 197 & 199 – 2 x 100K Total = 4,203,000	100,117	Schedule 4: 1900, 1901, 1902, 1906 10 digit. 191, 193 & 194 6 digit. 197 & 199 8 digit
Change Age Restricted access premium rate from 6 digit to 10 digit to increase available number volume.	195 = 1,000	0	Schedule 4: 195 6 digit change to 10 digit
Change from Age Restricted access premium rate to Testing Range	196 = 1M	0	196 10 digit
	No change		

Satellite
telephone

Schedule 5:
0141, 0142, 0143,
0145, 0147 10
digit

Paging No change

Schedule 5:
0163 9 digit

Consider
changing Data
network access
to entire 019
range as 10 digit
numbers = 10M

Currently - 0192
= 10
01980, 01982,
01983, 01989 = 4
x 100K – 400K
Total = 400,010

24,000

Schedule 5:
0192 5 digit.
01980, 01982,
01983, 01989 10
digit

Digital mobile* No change

Schedule 5: 10
digit

Community
service

Add 3 & 7 = 2 x
1K = Total 2K

Schedule 5:
1100, 119 4 digit
3 and 7 4 digit
(e.g. 3498
check IMEI, 7226
report scam)

Open Operator
service range
for all on-net
internal number
use

124 & 125 = 2 x
100 = 200. 2 x 1K
= 2K. 2 x 10K =
20K.
Total = 22,200

134

Schedule 5: 124
& 125 5 to 7
digit.

Change internal
network service
to unrestricted
on net services
Unlimited
number length
gives infinite
number
availability

From 1261, 1262,
1263, 1264, 1265,
1266, 1267 &
1268 = 8 x 1 =8,
8 x 10 = 80, 8 x
100 = 800, 8 x
1000 = 8000, 8 x
10K = 80K, 8 x
100K = 800K. 8 x
1M = 8M
Total = 8,888,888
to

4,002

Schedule 5:
1261, 1262, 1263,
1264, 1265, 1266,
1267 & 1268 4 to
10 digit change
to entire 12
range – suggest
10 digit but
network
operators can
use this range as
necessary for all
on-net services
except those 4
digit shared
numbers

specified in
schedule 5 part
2.

Testing service Exit this range to 90,202
make available
for internal
network
services. Testing
to be migrated
to the 1968 10
digit range

Schedule 5:
1272 6 to 10
digit.

Calling card No change
service

Schedule 5: 189
5 digit.

International No change
service access
codes

Schedule 6:
0010, 0014, 0015,
0016, 0018, 0019
4 digit. 0013,
0017 & 009 5
digit

Incoming only No change
international
access codes

Schedule 6: 10,
11 & 12 4 to 15
digit. 141, 142,
143 & 144 4 digit

Interconnection No change
and routing

Schedule 6: 141,
142, 143, 144,
145, 146, 147,
148 & 149 4 digit

New - 09 = 100M
Geographically
Unrestricted

10 digit

4. Could existing number types be repurposed for another use? If so, which number types and for what purposes (for example, which services)?

Yes, refer above.

5. Are there any specific costs or impacts of removing number types and associated provisions from the Numbering Plan? If so, please provide details.

Yes, there will be some cost to reorganising numbers as suggested but the work involved and task duration is business as usual activity.

Digital Mobile Numbers.

6. Should digital mobile numbers be listed as a discrete number type? Why or why not?

Yes. Digital mobile numbers should be listed as a discrete number in the Plan. Use should be consistent s32 with the Act. A call using a mobile number must use the Calling Line Identifier and Subscriber Identity Module on a AAA server within a mobile network via Media Gateway Control Function, Evolved Packet Gateway or evolved Packet Data Gateway to be considered a mobile service.

Note: it would be preferable to simply refer to this number type as 'mobile numbers'.

Please refer to the draft Numbering Plan at Appendix A for an example.

7. Are there specific rules that should apply to this number type? If so, please provide details and reasons.

Digital Mobile Numbers make up the second most used number ranges in Australia.

There are very specific obligations relating to the expectations for the use of Digital Mobile Numbers and their association to a public mobile telecommunications Service (PMTS) in the *Telecommunications Act 1997* (the Act), as noted below.

In addition, there are obligations relating to mobile services in other regulatory instruments such as the *Telecommunications (Emergency Call Service) Determination 2019* and the Industry Code C536 Emergency Call Service and Industry Code C2628 Telecommunications Consumer Protections. These obligations relate to handling emergency calls, location information, how the service is sold, and information provided to consumers that are inconsistent with the use of this number range for other types of services not a mobile service, as defined in the Act.

Further, it is a community expectation when seeing a mobile number as the Calling Line Identifier (CLI) it will be a person with a mobile phone at the other end. There is a greater perception of trust to answer a mobile call.

This is borne out by the use of mobile numbers being preferred for:

Credit Collection

Most organisations, including banks, insurance companies, telecommunications providers, and utilities, have debt collection processes as part of their operations. When customers owe money, these organisations must contact them to discuss repayment arrangements or options in case of bereavement. Our customers with this use case express the need to call from mobile numbers as they believe it improves the pickup rate in this market.

Local Business Representation

Businesses who provide local services, such as consolidated trades, real estate, cleaning services like to represent themselves as local and always available. Advertising a mobile number for any of these services improves the incoming call rate from new clients. Using a mobile caller ID when calling existing clients also helps build trust. Using a local number, even if it is in the same SZU as the client, can impact the direct one-on-one relationship the service provider has with their client.

Charities

Agency operating on behalf of charity services (e.g. Red Cross) also believe outbound calls from mobile CLIs improve pickup rates and strengthen relationships with donors.

Delivery Services

Businesses who perform deliveries (such as Amazon.com) often need to call clients when making a delivery to an apartment block, or when confirming address details. Customers expecting a delivery item are more likely to pick up a call from an unknown mobile number than an unknown fixed line number, facilitating the completion of the business deal.

However, this growing use of mobile numbers as a preferred number range for originating from non-mobile services is diluting trust in this number range when used for a commercial purpose, rather than the original intent of a person-to-person communication where the A Party caller is a person rather than a scammer or a corporation using this number range for convenience.

It is evident mobile numbers are being used on fixed networks today to generate millions of scam calls on a daily basis. Although these are being blocked when identified, simpler network rules regarding the expected use of mobile numbers could significantly reduce the volume of scam traffic.

There are also community and regulated obligations relating to a PMTS and how it is used as a tool to make an emergency call or a call for food delivery and the available location information that is associated with that communication. Mobile network operators have put significant effort and resources into the necessary work to provide granular location information in association with an emergency call and to provide the necessary location for location-based services, such as personal public transport (e.g. taxi, hire car, etc.) and fast-food delivery.

Under the Telecommunications Act (the Act) the use of digital mobile numbers should only be used in association with a public mobile telecommunications service, as specified in the Telecommunications Act 1997:

32 Public mobile telecommunications service

(1) For the purposes of this Act, if:

- (a) an end-user can use a carriage service while moving continuously between places; and
- (b) the customer equipment used for or in relation to the supply of the service is not in physical contact with any part of the telecommunications network by means of which the service is supplied; and
- (c) the service is supplied by use of a telecommunications network that has intercell hand-over functions; and
- (d) the service is not an exempt service (as defined by subsection (2), (3) or (4));

the service is a *public mobile telecommunications service*.

(2) For the purposes of this section, a carriage service is an *exempt service* if:

- (a) the service is supplied by means of a telecommunications network (a *primary network*) that is connected to one or more line links or other facilities that, apart from this section, are eligible network units; and
- (b) the principal function of the primary network is to supply carriage services between customer equipment connected to the primary network and other such equipment; and
- (c) the supply of carriage services between such equipment and equipment connected to the network units is, at most, an ancillary function of the primary network; and
- (d) despite the connection or connections referred to in paragraph (a), the primary network cannot be used in carrying a communication, as a single transaction, between equipment connected to the network units and other such equipment.

(3) For the purposes of this section, a carriage service is an *exempt service* if the service is:

- (a) a one-way only, store-and-forward communications service; or
- (b) a service that performs the same functions as such a service.

(4) For the purposes of this section, a carriage service is an *exempt service* if all of the end-users of the service are located at the same distinct place.

(5) In this section:

eligible network unit means a network unit:

- (a) that is owned by one or more carriers; or
- (b) in relation to which a nominated carrier declaration is in force.

Legislators put considerable effort into distinguishing that a PMTS requires intercell handover as specified in:

33 Intercell hand-over functions

(1) For the purposes of this Act, a telecommunications network is taken to have *intercell hand-over functions* if, and only if:

(a) the facilities of the network include at least 2 base stations each of which transmits and receives signals to and from customer equipment (*mobile equipment*) that is:

- (i) used for or in relation to the supply of an eligible mobile telecommunications service; and
- (ii) located within a particular area (a *cell*); and

(b) the network includes the functions necessary to do the following while the network is carrying a communication made to or from particular mobile equipment:

- (i) determine in which cell the equipment is located and cause the base station in that cell to transmit and receive signals to and from the equipment;
- (ii) when the equipment moves from one cell to another, cause the base station in the one cell to stop, and the base station in the other cell to start, transmitting and receiving signals to and from the equipment.

(2) For the purposes of this section, a carriage service is an eligible mobile telecommunications service if:

- (a) an end-user can use it while moving continuously between places; and
- (b) customer equipment used for or in relation to the supply of the service is not in physical contact with any part of the telecommunications network by means of which the service is supplied.

Those networks using mobile numbers to originate traffic on a network that does not meet the requirements of the Act should be stopped.

Geographically Unrestricted services should be transitioned to more relevant numbers types such as the 09 or 16 range number ranges as suggested under question 3 and 9.

Applying the rules under the Act would ensure use of these numbers would meet the original intent for services associated with this number type and improve public trust in the associated CLI for these services.

Internet of Things and Machine to Machine services

8. What is the expected demand for mobile numbers for IoT purposes over the next decade?

The future volumetric demand for mobile numbers for IoT and M2M purposes is unknown. What is clear is there is a growing demand for numbers for IoT and M2M type services. IoT and M2M services are in some cases using mobile numbers because there is no alternative, such as for geographically unrestricted services. There are a variety of different types of services, and it would be more appropriate to open up number ranges for the various types of uses to ensure sufficient capacity in the future. Use cases include:

- services entirely on-net and do not require interconnect across networks. These can be further broken down into stationery services (i.e. in a generally fixed location), albeit that may move from time to time (e.g. vending machines) and those where the use is constantly in motion (e.g. stock tags, inventory, etc.).

The Plan should allow scope for a variety of solutions in order not to exhaust available numbers in one category. An on-net service would use a number in the proposed 12 number range.

- services requiring interconnect to one or more other networks. Again, these can be further broken down into stationery services (i.e. in a generally fixed location, albeit that may move from time to time (e.g. vending machines), which would use the proposed 09 and/or 16 number range(s) and those where the use is constantly in motion (e.g. stock tags, inventory, etc.) that would use a mobile number.

In this way a range of numbers would be available to suit the expected increase in future use without exhausting any one number type.

9. Do you support the introduction of different numbers for IoT and M2M communication? Why or why not?

Yes, see response to question 8.

Much IoT and M2M communications is on-net. Opening the 12 range more broadly for internal network services would provide greater freedom of use of numbers on net.

As these numbers are solely on-net there is no need to have these numbers allocated by the ACMA or to be in the IPND, given they will never be needed in a directory, will never make an emergency call, and are unlikely to be of interest to enforcement agencies, who could use a multi-operator warrant if necessary.

Opening up a discrete range for on-net services and Geographically Unrestricted services would provide the potential for up to 300 million numbers across the various number ranges to ensure sufficient head room for growth well into the future.

10. Which of the 2 options do you support and why? If neither or another, please explain.

Refer response to previous question (9).

11. Is there an existing number range that would be suitable for this use, or should a new number range be introduced?

Refer response to question 9.

12. If numbers were to be introduced to support IoT and M2M communication, how would the operation of these numbers differ from existing numbers and what specific rules would be required?

Refer response to question 9.

Short Codes

13. Should short codes be introduced in the Numbering Plan? Why or why not?

Refer to comments on short codes under Q.3.

TPG Telecom does not agree there should be a market for short codes for use by businesses. We are aware there is a popular market for short codes for businesses in Europe and the UK. There was a move several years ago to introduce short codes for businesses into the Australian market by a company called Message Stick. However, as noted in the ACMA discussion paper, in Australia the preference has been to use alpha numeric sender ID's and Australia makes more use of 13n and 18n numbers so this idea never realised delivery.

There are risks in making short codes available to businesses as there are limited numbers available and Australian consumers have no familiarity with the concept of short numbers for businesses. The limited volume of available numbers for short codes presents a challenge that early adopters would gain benefit and it opens a market in number sales.

There are also Rights of Use issues to be addressed and discussion about how the numbers would operate across networks and would they be portable. In addition, it opens another avenue for scams via number spoofing, unless there were also very strict protocols for use such as a registration solution. In the future it may also be possible to include the sender's name in the SIP INVITE.

There are a number of articles about this capability:

<https://telnyx.com/resources/the-beginners-guide-to-sip-headers>

<https://transnexus.com/whitepapers/sip-invite-header-fields/>

<https://www.3cx.com/blog/voip-howto/sip-invite-header-fields/>

While this future capability would possibly be beneficial to companies to use as the caller identifier, particularly helpful for companies with overseas based call centres, it does raise some concern with TPG Telcom scammers could move to using company names as identifiers as they do today for alphabetical identifiers on messages. As such, it may be necessary to set up a similar register for use of name identifiers associated with voice calls as for messaging.

14. Are there any risks or benefits in introducing short codes; for example, on scam mitigation efforts?

Refer previous answer (13).

Consultation questions: Specification of numbers

Use of Digital Mobile Numbers

15. Do you agree or disagree that mobile numbers should only be used to originate calls from mobile networks? Why or why not?

Yes. Mobile numbers should only be used to originate calls from a mobile network to be consistent with s32 and s33 of the Act. A call using a mobile number must use the Calling Line Identifier and Subscriber Identity Module on a AAA server within a mobile network via Media Gateway Control Function, Evolved Packet Gateway or evolved Packet Data Gateway to be considered a mobile service.

16. Are there specific rules or updates that should apply to mobile numbers, including to support changes in technology and in the use of mobile numbers? If so, please provide details and reasons.

Yes. To be consistent with s32 and s33 of the Act. TPG Telecom has proposed a solution for Geographically Unrestricted services to use an alternate number range for these services. This would ensure there was no need to make changes to the expected use of mobile numbers in a way inconsistent with the Act.

17. Is the definition of digital mobile services in the Numbering Plan still fit for purpose? If it should it be updated, how?

No. The definition should refer to the obligations under s32 and s33 of the Act.

VoIP, application-based messaging and cloud-based services

18. What specific changes or updates to the Numbering Plan, including definitions should be made to accommodate these services?

TPG Telecom recommends adopting a new number range (i.e. 09 and/or 16) and referring to these services as 'Geographically Unrestricted'. This approach maintains the distinction between a 'geographic number' being used for a 'local service' at a fixed location and recognises there are other services similar to a mobile, in that they are geographically diverse and able to move location, yet they are not a mobile service as defined in the Act.

Geographically Unrestricted services (using 09 and/or 16) should be declared portable and interconnect arrangements determined. For interconnect purposes TPG Telecom suggests services in this category be treated as an unregulated flat rate call but akin to a geographic number making a local service call.

19. What types of numbering rules should be included in the Numbering Plan for these types of services?

The Plan should set out the principles for use of 'Geographically Unrestricted' as a discrete number type.

20. Should the definition of Local Service be changed? If so, how?

No. A new and separate definition for 'Geographically Unrestricted' should be applied. (Refer example Plan included).

Standard Zone Units

21. Are standard zone units still required? Why or why not?

There are a range of issues relating to SZU's including the interconnect cost arrangements, customer billing and the use of SZU for location information. The untimed call obligations in Part 4 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* are outdated and have not been relevant for many years. Changes to Standard Zone Units have no relevance or impact on billing due to the practice of unlimited calls across Australia to any geographic or mobile number. The limited impact may be on the dial plan digits needed to initiate a call (e.g. dialling the full national number) to make a call.

Note: As the ACMA is aware, there has been a trend over many years geographic numbers are used outside of their SZU.

TPG Telecom believes more work is required to understand all implications of making changes to SZU's and that any move to broaden SZU should consider how more granular location information can be provided as an alternative, particularly for emergency calls, enforcement investigations and location services such as fast food and transport.

22. If it is possible, do you support the potential move to broader geographic zones and accompanying number ranges?

Yes. There is need to undertake a study to understand all implications of such an approach, including untimed local call obligations, preselection, the use of numbers to provide location information used by services that rely upon location such as; Lifeline, fast food delivery, etc.

23. What costs or burdens could result from such a change?

Depends upon the scope of change.

Traffic origination from outside Australia

24. Should there be rules about the use of Australian numbers to originate calls from locations outside Australia? Why or why not?

Firstly, there needs to be clarity on the activity of call diversion and origination of call traffic. TPG Telecom agrees there are valid use cases for call diversion of geographic numbers that may travel outside of Australia and divert back into Australia. In these cases, the call record should identify the call is a diversion. We are aware some carriers are diverting calls without the call diversion flag being included in the call record. However, in recent years TPG Telecom has seen a considerable volume of traffic using Australian geographic numbers originating overseas using Australian geographic numbers that is mostly scam or spam traffic and, in many cases, is spoofing the local number as the A Party CLI. Note: TPG Telecom will supply data separate to this submission.

The simplest approach to stopping the volume of scam traffic originating from outside Australia is to block it.

While TPG Telecom recognises some multi-national companies may originate traffic outside Australia in international call centres, the overwhelming volume of scam traffic coming into Australia using domestic geographic numbers requires stringent measures to limit or eliminate this traffic.

Some other telcos and other organisations have suggested a CSP registration scheme will solve this problem. It will not. In the same way a driver's licence does not stop illegal activity on the road, a CSP registration solution does not itself stop poor behaviour.

Enforcement is very distinct from a scheme to identify an entity. Some wholesale only networks are currently delivering large volumes of 'bad' traffic and the entity originating traffic is overseas. These local networks take no measures to review the traffic they enable to enter Australia and claim they are merely a transit provider while they profit from the delivery of these scam and spam calls to B-Parties in Australia.

TPG Telecom is aware some international operators do take steps to know their customers, including undertaking checks they hold the number via authenticating its use. It may be possible a solution to enabling continuity of these services could be to have this traffic enter Australia via the international gateway of the CSP holding the numbers being used, after pre-approval to use that number in that way by the holder of the number.

In such an instance, networks could still apply strict rules traffic only originates from the network holding the number and have some surety the traffic was genuine. If 'bad' traffic did eventuate, the CSP holding the number and allowing access of calls into Australia would have control and an ability to stop the incoming traffic directly. They would also be more mindful of monitoring the traffic, so they were not implicated in delivering scam calls into Australia.

As an alternative TPG Telecom proposes use of another number range for Geographically Unrestricted services, with the caveat that numbers should only be used to originate calls on the network that holds that number.

Note this is related to Q.43.

25. Noting stakeholders have cited scam calls originating offshore using Australian numbers as the reason for this suggestion, should any such rules be in the Numbering Plan or another instrument? Please explain your answer.

Yes, the Plan should make clear geographic numbers must only originate in Australia or enter Australia via the international gateway used by the holder of the number.

26. What would be the effect of such rules on businesses and consumers?

TPG Telecom is not aware any of our customers endorse traffic originating overseas on another network. No consumer customer has a use case for originating traffic on an overseas network and is significantly impacted by the volume of scam calls spoofing our customers' numbers.

Blocking geographic numbers originating outside Australia would significantly affect the revenue stream of the carriers that enable this traffic to enter Australia. It would also have an impact on the low volume of genuine call cases for overseas call centres.

As previously noted, TPG Telecom recognises there are cases where an Australian company has a call centre based overseas and wants to use an Australian number as CLI in order for customers to return a call. However, the incidence of these scenarios is miniscule in comparison to the scam call issue. TPG Telecom has previously provided data to the ACMA and will provide additional data separate to this submission.

It has been stated companies in Australia want a recognised number as the calling line identifier. However, most Australian companies use a 13n or 180n number as their 'directory number' and these are specifically prohibited from use as a call origination number. As such, it is potentially misleading to proclaim use of a local number provides identification of the calling party as most customers of a company would not relate a geographic number to a company.

While TPG Telecom agrees a local geographic number assists with providing consumers a local number to call back, this number should be a number held by the CSP originating the communication.

Also, refer to previous commentary re use of SIP INVITE and the ability to add calling party name to the communication in future.

Consultation questions: Allocation of numbers

Availability of numbers

27. Are there any comments on the list of proposed numbers in Appendix B?

TPG Telecom agrees the list of propose numbers.

28. Should the ACMA withdraw unused numbers under section 94 of the Numbering Plan, before releasing additional prefixes or numbers?

No. There are many reasons for holding numbers and withdrawing allocated numbers has an impact on number conditioning arrangements across all networks. If there were to be rules relating to forced recovery of numbers, the arrangements should be in the proposed industry code Number Management Part 2 Administration, not in the Plan, including section 94.

TPG Telecom has suggested ways to address future availability of numbers through use of expanding use of the entire 12 range for internal network services and opening up 09 as a range for geographically unrestricted services as well as stricter rules for ordering numbers to control that numbers are used appropriately.

29. Are there any number conservation strategies the ACMA should consider in a remade Numbering Plan?

No. The Numbering Plan should be a principles-based document for the generic rules about the number type, questioning is it portable, is it shared, etc. If there were to be any number conservation arrangements they should be in the proposed industry code Number Management Part 2 Administration.

Rules for allocation

30. Should there be stronger, or more prescriptive, rules for allocating numbers to C/CSPs in the Numbering Plan? Why or why not?

While TPG Telecom agrees there should be stronger requirements relating to the rules for allocation, the Plan is not the place for such rules. The Plan may set out general principles for use of each number type and an overarching rule numbers can only be allocated and used consistent with the principles that relate to the use of that number type. Further details of the specific rules should be in the proposed industry code Number Management Part 2 Administration which provides an enforcement capability while providing flexibility for change as it may be required from time to time.

Some suggested rules for inclusion in the proposed Industry Code include:

- a CSP must identify the network on which the numbers are to be conditioned for use;
- the network for use must be consistent with the number type (e.g. a mobile number cannot be conditioned to a non-mobile network).
- if the number is portable the CSP must have porting ability and an agreement via the

- relevant industry body to test that porting capability
- relevant EPID codes from Communications Alliance
- a CSP Code from the IPND Manager
- attestation that they have:
 - a. scam call detection capability
 - b. interception capability
 - c. data retention capability
 - d. emergency call capability
 - e. caller location capability for emergency calls from mobile numbers consistent with relevant regulation (e.g. ECS Determination and Industry Guidelines)

31. Should the ACMA seek additional information from CSPs during the application process for numbers? Would this strengthen the integrity of the numbering ecosystem?

Yes. It used to be the case a CSP had to justify an order for numbers, however the automated solution makes no checks the numbers are a relevant number range for the service being offered by that CSP. Additional checks and a justification should be made for a request for numbers and the requirements should be in the proposed industry code Number Management Part 2 Administration.

32. Should CSPs be required to seek additional information from other CSPs before being able to sub-allocate/assign numbers to them? Why or why not?

Yes. There should be no opportunity to subvert any applicable rules that may be developed for ordering numbers from ACMA by receiving numbers via sub-allocation. There are examples where number types have been sub-allocated to a CSP as a way around controls imposed by other network operators relating to that number type and the numbers have been used in a way TPG Telecom considers to be in breach of regulatory obligations in the Act.

Any additional checks and a justification should be consistent with obligations for a direct allocation from the ACMA and requirements should be in the proposed industry code Number Management Part 2 Administration.

33. Should the ACMA consider enhancing its registers in the Numbering System to improve visibility of all current CSPs and the numbers they hold? Why or why not?

No. The Numbering Plan should be a principles-based document. If there were to be any arrangements for greater visibility of numbers held by a CSP they should be in the proposed industry code Number Management Part 2 Administration.

34. Do you support the ACMA revisiting its proposal for CSPs to be registered in the Numbering System before they can be assigned numbers?

TPG Telecom generally supports CSP registration, however we do not see CSP registration as a solution for addressing poor behaviour.

In some cases, entities are unaware they are a CSP and therefore would not register, and do not meet a number of regulatory obligations. There is also an issue of overseas entities that mis-use Australian numbers and originate communications into Australia that will never register and are beyond the reach of Australian regulators. Any arrangement for accessing numbers directly from the ACMA need to be

mirrored for sub-allocation for numbers and included in the proposed industry code Number Management Part 2 Administration.

TPG Telecom agrees with the Communications Alliance response to this question.

35. Do you support provisions requiring annual audits in the Numbering Plan? Why or why not?

No. The Numbering Plan should be a principles-based document. Any operational arrangements such as auditing of number use should be included in the proposed Industry Code – Number Management Part 2 Administration.

Changes were made to the Industry Code Number Management - Use of numbers, to include a reporting obligation; this could be further refined to address audit capability. TPG Telecom understands the purpose of the audit is to identify discrepancies between a CSP issuing a number and having a record in the IPND. Audits are often time consuming, resource intensive checks at a single point in time. Other ideas such as CSP registration have been put forward as a remedy to the lack of information in the IPND.

TPG Telecom has championed a review of the current IT framework for IPND, number portability, etc. and provided an overview of this concept at the last Numbering Advisory Committee (NAC) meeting. As stated at the time of presenting the idea to the NAC through Comms Alliance, a steering committee and IT sub-group have been formed to further develop the model and the associated arrangements required should this future IT framework model be adopted and proceed.

36. What specific costs or burdens could arise due to these proposals? Please provide specific details.

The administration of numbers needs a careful balance between the rigour needed to ensure the correct use of numbers and not requiring obligations unlikely to have a constant check of compliance through manual processes.

The approach considered as part of the future IT state envisages an approach ensuring compliance by design where there is complete transparency of number use and no ability to evade the obligation for IPND data users to have access to the required information. The proposed model necessitates a thorough review of regulations, and a principles-based Plan supported by an Industry Code addressing operational administration matters.

37. Should any rules be introduced in the Numbering Plan for 'pooled' numbers? If so, why, and what should the rules be? If not, why not?

TPG Telecom recognises there are a range of uses for pooled numbers, including for messaging and for voice call services.

For messaging services (i.e. MMS and SMS) TPG Telecom has no concerns about pooled number use, as this is an efficient use of numbers for one-way messaging communications. However, pooled numbers are also being used for voice services and this has potential for deleterious impacts on consumers, enforcement agency investigations and scam controls, (refer examples in Q.7).

When pooled numbers are used for voice communications it can cause problems for consumers

where there is a relatively quick turnaround in number use.

For example, one organisation has a pool of numbers it uses to supply to credit collections agencies, business contractors, etc. A number that has been used by a credit collection agency has a short life as consumers called identify repeat calls from that number at some point in time and the B Party stops answering calls from that number. Credit collection agencies stop using a number when it is ineffectual (time period can vary) and moves to using another number. A local tradesperson is then issued the same number for their services which may be co-ordinated with a messaging campaign (e.g. a special on window cleaning) as a 'local service'. In the meantime, the original person called by the credit agency decides to call the number to address the credit collection issue and instead reaches the local tradesperson who is of course confused about receiving the call from a person in a credit collection situation. Numbers used in this way may also present a challenge for investigation and enforcement agencies. If numbers are used for return calls a consumer may call the number that has already been moved to a different entity. CSPs have an obligation to apply quarantine rules to avoid these types of potential issues with changes of the customer associated with a number.

TPG Telecom suggests that to overcome these issues - firstly, if an entity is supplying a service using a public number, then they are a CSP and have an obligation to update the IPND. Secondly, the numbers in use must be held by the CSP providing that service to the end users. Finally, there should be consideration of a minimum period after a number has been used before it can be recycled to a different end user. Rules of this type should be in the proposed Industry Code Number Use Part 2 Administration.

38. What are your views about using the Numbering Plan to enforce the use of EPIDs?

TPG Telecom does not agree to tying the Numbering Plan to EPIDs. Comms Alliance already has documented arrangements for the use of EPIDs. As a principles-based document the Plan should not provide this granular level of detail.

In a proposed future IT state there would need to be rationalisation of the use of CSP identifiers including EPID's and the unique ID allocated to CSP's and Data Providers by the IPND Manager. Any such details to tie a CSP to an identifier and for purposes such as validation for an allocation of numbers should be included in a proposed Industry Code Number Use Part 2 Administration.

39. What are the specific costs or burdens that may result from this suggestion?

TPG Telecom does not see requiring an EPID, or another identifier (including IPND CSP codes) as a significant cost or burden. In order to make use of numbers a CSP must presently have an EPID in order to participate in number portability and other industry arrangements. As noted previously the use of unique identifiers should not be a matter for the Plan.

Consultation questions: Special rules about smartnumbers

40. Do you support these initiatives? Why or why not?

TPG Telecom agrees with the concept of a breach of the scam code resulting in loss of EROU if the EROU-holder is convicted.

TPG Telecom does not agree a principles-based Plan is the appropriate place for the administration details. Details of the arrangements should be included in a proposed Industry Code Number Use Part 2 Administration, to enable the Plan to remain high-level.

Numbers portability

41. Are the number portability provisions in the Numbering Plan still fit for purpose? Why or why not?

Yes, for existing number types of Inbound numbers, Local numbers and Mobile numbers (refer response to next question).

In a principles-based Plan the arrangements need to be modified so each number type separately identifies whether it is portable and should give guidance to the relevant industry codes.

In order to transition to a principles-based Numbering Plan the ACMA should consider moving the administration functions of the Plan enabling exemptions in Part 3 of the Plan to be moved to the front of the Plan (as per example provided).

42. Are there any additional matters the ACCC should consider regarding number portability provisions in the Numbering Plan? Please explain.

As discussed previously, TPG Telecom suggests the use of the 09 and/or 16 range for Geographically Unrestricted services and these numbers should be portable. This could be relatively easily achieved by including these number ranges into the MNP solution in the same way additional number ranges are regularly added to the MNP solution.

This may have some minor technical impacts on MNP, such as requiring the Private IP network to be expanded to an additional number of industry participants and some resizing of the technical solution through additional bandwidth and more memory. The MNP solution currently has a Portability Service Supplier that could meet the needs of smaller CSPs that may need to be part of the solution.

Consultation questions: Use of numbers by multiple carriage service providers

43. Do you support the use of numbers by multiple CSPs? Why or why not?

No. TPG Telecom strongly opposes any acceptance of the use of numbers by multiple CSPs.

Rights of Use

There is a perception that customers can authorise use of a number issued to them on any network. This is incorrect and results in failure to address a number of regulatory obligations as set out below:

There is no 'right' to use a number on another network either explicit or implicit in any regulation. In fact quite the opposite. In Industry Code C566 Number Management - Use of Numbers by Customers states:

4.3.4 CSPs must consider a Number as Issued at the time that a CSP or its delegate and the Customer agree to the provision of a specific Number for the Customer's use in association with a Listed Carriage Service, to be provided on the Network provided by that CSP.

The CSP holding the number issues the specific number for the customer's use on the Network provided by that CSP, not any other network.

The CSP that provides the service could consider use of the number on another network a breach of the terms of the service, however it is not (yet) common practice to do so.

Customer Authentication

Few CSPs allowing use of any Number by an A Party communication originator validate the veracity of the person wanting to use that Number as they did not Issue the Number to the Customer. Some may ascertain whether a person has access to the Number (but most generally don't) and while there may be a check of who holds that number this doesn't prove the access to a number is authorised the Customer with ROU of that Number.

IPND

Upon Issuing a Number to a Customer a CSP is obligated to fulfil a number of obligations under various industry codes, industry standards and the Telco. Act. Including to provide data to the IPND.

The Act requires any CSP providing service to a Number to provide information to Telstra as the IPND Manager to populate the IPND. This obligation is not specific to the CSP that 'Issued' the Number to the Customer, although this was clearly the intent as all regulation generally assumes a Number is only used on one network but does not specifically identify this.

These very clear obligations in the Act relating to the IPND are being ignored both by CSPs using numbers not held by them and by the ACMA through its lack of enforcement.

TPG Telecom does note the IPND cannot currently accept a record from more than one CSP, as it was never anticipated Numbers could be used across multiple networks. It would be a significant cost to change the IPND to allow multiple entries per Number and even more complex than it is today to

maintain IPND accuracy if multiple CSPs were providing data to IPND.

The effect of CSPs enabling use of numbers on multiple networks is currently no record is being put into the IPND by CSPs that allow this use of Numbers on their networks that identifies the number being in use on another network. This means agencies are 'blind' to this use therefore calls are never intercepted on these networks and retained data is never called upon. This is a significant risk for investigations and prosecutions and threatens to undermine the basis for data retention and interception.

The fact that a serious criminal or terrorist activity has not yet been identified as using another network is simply a matter of time. None of the CSPs that misuse numbers have ever identified how IPND obligations are being met, how agencies are able to know they are carrying this traffic and how they would provide interception and retained data. The agency operational arrangements are also absent.

Incorrect use of Numbers

Some CSPs with non-mobile infrastructure are using mobile numbers not held by them to originate calls. This is due to a range of factors as stated in Q6. The volume of scam traffic using mobile numbers further degrades public trust in mobile numbers. This means the vital routing data required for services requiring closest point of contact call delivery for services such as banking, Lifeline, such as pizza delivery services, etc. is absent. If an emergency call is made on these networks, it will have no granular location data.

CSP Number holder impacts

There is no discussion with the CSP that 'Holds' the Number(s) re use of Numbers, this means services that have been suspended or disconnected can continue to be used on other networks, and while the CSP that holds the number may block this traffic coming into its network there is no control of use on other networks.

CSPs rely on grey areas in regulation never previously considered as being valid use cases to make profit while bearing little to no cost of meeting regulatory obligations.

CSPs that offer service using numbers they do not hold profit from originating traffic from those numbers which has a direct revenue loss impact on the CSP whose numbers are being used.

If a CSP wants to provide service to a customer they should take the entire service via number portability, not just the profitable traffic. As noted in the ACMA paper, portability exists to enable a customer to change CSP where required.

TPG Telecom believe there needs to be a clear ruling and direction included in the Plan that a number can only originate traffic on the network that holds the number, unless the CSP that holds the number has provided permission to use the number for call cases such as overseas call centres (refer response to Q.24.5 & 26). We know Optus and Telstra have advised their Numbers should not originate from other networks and this is also true for TPG Telecom.

Emergency Calls

Another factor being ignored is what happens with an emergency call originating on other than the network that holds the number. What are the impacts of making an emergency call on a different network particularly if misusing a number such as originating a call using a mobile number as calling line identifier from a fixed network where no advanced mobile location data will be provided).

Network diversity/redundancy

TPG Telecom believes the network redundancy argument as an excuse to use numbers across multiple networks is fallacious. If the customer wants network redundancy, they can have two or more CSPs connect to their telecommunications equipment. They simply need to ensure that the outgoing Calling Line Identifiers remain on the User Network Interface associated with the CSP that allocated that number (Calling Line Identifier).

In most cases Australian companies use 13 and 18 numbers as their contact numbers and these are not used in outbound calling as they are blocked under Scam Code arrangements.

A customer with a mobile service can in most cases have more than one Subscriber Identity Module (either physical or electronic) in a mobile device to provide network resilience and redundancy.

Network diversity/redundancy does not require use of a number held on another network.

Number spoofing

The use of numbers across multiple networks also assists in number spoofing. We receive regular complaints from Customers they receive harassing calls from people claiming they are trying to scam them. This is a direct result of Number spoofing and lack of verification of authority from the Customer by those that enable call origination from numbers they do not hold.

Without a ruling Numbers to limit number use we will continue to see mis-used and spoofed numbers, and this remains a major reason for ongoing significant volumes of scam traffic.

Scam traffic

TPG Telecom sees the rise in scam traffic as a direct negative consequence of the misuse of numbers. It is increasingly more difficult to sort the so-called genuine traffic from scam calls as a direct result of numbers being used on any network (for example we have previously provided details to the ACMA).

In addition, this misuse of numbers drives an increased cost across the industry in the resources needed to identify and block scam calls vs. a simpler lower cost approach of blocking traffic based on numbering rules.

TPG Telecom continues to expend significant effort to limit scam traffic. Specifically, TPG Telecom has applied numbering rules to limit international traffic inconsistent with international numbering conventions, and limited Australian numbers coming into its international gateways unless a valid use case, such as call diversion or international roaming. We also block unallocated and other numbers

that have not been conditioned for use on our networks. These simple network rules have had an immediate effect on the scam traffic using these calling number identifiers with scam traffic moving to real numbers in use on Australian networks.

However, more needs to be done to limit scam calls. While TPG Telecom is all for competitive services and recognises valid call cases for transit networks. We don't accept numbers can be used randomly across networks, particularly when most of these calls present as scam traffic.

Limiting call traffic to the home network would significantly reduce scam traffic, and where the CSP has direct control over caller information, such information could be used for prosecution.

Locking down numbers to networks would have a compounding effect on blocking scam calls through meshed protection for customers from scam call traffic as carriers could block originating traffic from a network other than its home network thereby protecting each other's numbers (e.g. a call going to a Telstra Customer using a TPG Telecom Number that originated from another network would be blocked and stop the scam call.

Blocking calls in this way has no effect on call transit services which would still be allowed as these calls are flagged a particular way in the network).

TPG Telecom seeks stronger control of scam traffic through simple network rules such that a Number can only originate calls from the network it is conditioned to, except for call diversions and international roaming. This would enable stronger network controls so that most scam and spam traffic could be eliminated.

Proposals to have arrangements for number sharing are fraught with problems and would add operational costs to the holder of the number to enable another CSP to profit.

While misuse of numbers by allowing origination on multiple networks may have been in place for a number of years, this practice only came to attention with the development of the Industry Code C661 Reducing Scam Calls and Scam SMs in 2022 when CSPs that benefit from this practice limited the controls that would have a more profound impact on scam communications.

It is TPG Telecoms view that use of numbers across multiple networks is inconsistent with regulatory expectations and that long standing non-compliance to regulation such as IPND obligations in the Telecommunications Act and lack of support for enforcement and investigation agencies should not be an excuse for this practice to be legitimised.

44. Can you provide some evidence / data of the benefits or harms of this practice? Please provide details and indicate if this information is provided in confidence.

Note: Information provided separately.

45. Which of the 3 potential options do you consider to be most viable in the circumstances and why? Please provide details.

The ACMA discussion paper provides three options:

- no change/Status quo – TPG Telecom believes this is not a viable option.
- introduce rules to manage the multiple-service practice – TPG Telecom believes this approach would be problematic and commercial issues too difficult to resolve.
- prohibit the multiple-service practice– TPG Telecom believes this is the only viable option and reflects current regulatory arrangements for use of numbers and the associated arrangement for emergency calls, data retention, interception, correct se of number types and scam reduction.

46. What are the potential benefits and costs to industry and end-users of each of option?

> no change/Status quo

TPG Telecom believes this is not a realistic option. Scam calls will continue to proliferate and network operators will continue to play 'whack-a-mole' trying to stop scam communications and the investigation and enforcement agencies will continue to be in the dark about these communications over other networks.

> introduce rules to manage the multiple service practice

TPG Telecom does not favour this model. Those CSPs holding numbers have costs associated with accessing those numbers and having in place contractual arrangements with customers based on those costs. To enable rules to allow other CSPs to use numbers would add to our operational costs which would need to be recovered from our customers. There are other costs that would also be incurred by the telecommunications sector, such as necessary changes to IPND arrangements to flag use of numbers across other networks as well as by investigation and enforcement agencies in having to change operational arrangements to suit this model.

> prohibit the multiple-service practice.

TPG Telecom does not see this as a change but rather as enforcement of expected behaviour. Current regulation does not expect traffic to be carried in multiple networks using the same number at the same time, except for messaging traffic. For messaging there are valid recognised use cases for SMS aggregators, and these have operated for many years largely without problem. The proposed alpha tagged messaging solution, if mandatory, will address any remaining issues we have with control of scams using this communications medium. Voice calls are another matter and the immediacy of the contact and the carefully crafted approaches make this form of communication particularly effective for scams.

47. If option 2 were preferred, what should the rules be and how would this best be achieved / implemented? Are different solutions required for voice and SMS or fixed and mobile services? What are the potential timeframes needed to implement these arrangements from an industry and consumer perspective?

TPG Telecom does not prefer option 2 as the controls required would add additional costs to our operations. As we noted earlier under Q24, in order to maintain control of number use under current regulation a limited model could consider numbers being used to originate traffic on another network only where the origination point is outside Australia and where the CSP intending to originate that traffic undertook authentication of the customer together with the CSP holder of the number and the traffic entered Australia via the gateway approved by the holder of the number.

In this way, the CSP holder of the number would be able to have strict controls for number use and maintain an ability for itself and other Australian network operators to have better control over scam traffic while ensuring enforcement and investigation agencies were aware of this traffic and its sources and have a single point for interception.

This model would not work in a domestic origination model as it would make scam controls more difficult and mean agencies would need to have multiple interconnect points for interception. From the traffic we see, this approach would be a case for enabling a change to allow a few to profit at a cost to the many.

48. Are there other solutions or measures that could be implemented to address the concerns raised to date?

No. Refer previous comments.

49. Is legitimate use of the multiple-service practice a problem? Please explain and provide specific details.

Refer previous comments.

50. If you are a CSP that uses the multiple-service practice to originate calls/SMS, using numbers issued to your customers by another CSP :

a. How many customers and how many numbers in total do you apply this practice to? What number types are used?

Not applicable to TPG Telecom.

b. What specific services do you provide to customers using these numbers? What is the total volume of calls and / or SMS sent?

Not applicable to TPG Telecom.

c. What is the total revenue received from services provided to customers using this practice?

Not applicable to TPG Telecom.

- d. Do you also offer similar services to customers using numbers you hold and have directly issued to customers?**

Not applicable to TPG Telecom.

- e. Would a customer be able to port their number to you and receive an equivalent service to that supplied by their current CSP? If not, why not?**

Not applicable to TPG Telecom.

- f. Do you have (or have you attempted to put) any agreements in place with the CSPs that hold the numbers of customers to whom you provide services? If not, do you notify the CSPs of your use of their numbers? If not, why not?**

Not applicable to TPG Telecom.

- 51. If you are a CSP that holds numbers being used by other CSPs to originate calls on another network (on behalf of a customer who has rights of use of the number) using this practice:**

- a. How many of your customer numbers, that you estimate or are aware of, are being used by other CSPs for this practice? How did you become aware of this use?**

The rights of use a number on another network argument is fallacious. There is no explicit or implied right to use a number on another network and regulation as currently drafted does not support this model.

TPG Telecom typically becomes aware of use of a number we hold on another when we block the number coming into our network as a result of seeing scam traffic. The volume and numbers involved are constantly changing. As we block numbers that look like scam traffic, the calls originate on other numbers. As scam call blocking needs to identify a pattern before blocking is applied, some scam traffic always gets through. When it does, we sometimes receive calls from our customers asking why they are receiving calls about their number being used for scam calls.

Details provided separately to this submission.

- b. If you are aware of another CSP using numbers you hold, have you taken any steps regarding that arrangement (for example, putting an agreement in place, contacting the customer, putting the customers number on an 'allow' list etc)? If yes, please outline them; if no, why not?**

No. TPG Telecom has not been approached by any network operator that delivers traffic to us using TPG Telecom numbers. Generally, it appears the network providing the incoming traffic to our networks is only providing a transit service and the entity using TPG Telecom numbers is a customer of the transit network provider. We do not consider using an allow list is a suitable solution as it adds complexities to our own operational arrangements, thereby increasing our costs and failing to address other regulatory issues, specifically the IPND obligation in the Act.

- c. Do you provide similar services to those your customers are seeking to obtain from other CSPs? If so, are you aware of why your customers aren't obtaining these services from you?**

No, TPG Telecom does not provide a service using a number other than a number we have issued to that customer. In some cases of genuine traffic, the customer may have a call centre outside Australia

and may have arrangements with a service provider in the country where it is located. We have commented how this might be addressed in response to Q.24.

- d. What effect does this practice have on your business? What specific costs (if any) do you incur as a result of your numbers being used for this practice? Have there been any harms or detriments to your business or your customers because of this practice? Please provide specific details.**

The practice of using TPG Telecom numbers results in increased operational costs in investigating and blocking scam traffic. This requires identification of a pattern of calls that look to be scam calls vs. a model. If this practice was forbidden, TPG Telecom would apply rules to limit all communications from a network that did not hold those numbers apart from call redirection and international mobile roaming call cases.

We are aware of harm caused to our customers by their numbers being spoofed, via their complaints detailing having received unwelcome calls accusing our customer of being a scam caller. We are unaware of any customer complaining their service with us was limited in any way.

Details provided separately.

Pre-selection

- 52. Is the Pre-selection Determination still fit for purpose? Please provide reasons.**

Yes, TPG Telecom understands this is still useful for some providers.

- 53. Is the Pre-selection Determination still required to support the competitive delivery of long distance, international and fixed-to-mobile calls? What is the demand for pre-selection? Please provide details.**

TPG Telecom has a very small numbers of customers that use pre-selection.

- 54. Should the ACMA remake the Determination? If so, are there any changes that should be made to the Determination?**

Yes. No.

- 55. What would be the likely effect of allowing the Determination to sunset on end- users, and/or to any other arrangements including on the operation of the FAOS?**

Unknown.

- 56. Are there any other factors the ACMA should consider when reviewing the Determination?**

Unknown.

Portability Service Suppliers

57. Is the Determination still fit for purpose? Please provide reasons.

Yes. Portability Service Suppliers (PSSs) play a vital role in assisting suppliers to meet their number portability obligations.

58. Should the ACMA remake the Determination?

Yes.

59. Are there any other factors the ACMA should consider when reviewing the Determination?

None TPG Telecom is aware of at this time.

Appendix A

Draft Numbering Plan - refer separate paper