



Submission to ACMA – Review of Numbering Plan and other instruments

Virtutel Pty Ltd (“Virtutel”), an active participant in the Telecommunications Market in Australia is pleased to be able to engage with the ACMA review of the Numbering Plan and other instruments.

Virtutel in general believes there is room for improvement in the current numbering plan and how it should be managed going forward including:

- Support for a Principles-based Numbering Plan
- Separate numbering for Mobile and Location Independent Services with broad overreaching re-use of mobile numbers on Location Independent Services through porting
- Collapse of existing SZUs into a simpler geographic area’s promoting better re-use and allocation of numbers
- Easier access to porting across all carriers

About Virtutel

Virtutel is a wholesale only service provider of Data and Voice solutions, both domestically and internationally. Virtutel’s customer base is made up of Managed Service Providers/IT Integrators, Small Internet and Carrier customers and International Carriers. Virtutel has a network presence in all States across Australia, is connected directly to all 121 NBN POIs and since 2018 been an Interconnected Voice Carrier. Further afield, Virtutel has a network presence in New Zealand, Singapore, and the United States.

Virtutel maintains Bi-Lateral Voice Interconnect Agreements with Telstra, Optus, Primus Communications (Vocus Group), Symbio Networks and AAPT (TPG Telecom) for FOAS, FTAS and Telstra, Optus, and Vodafone (TPG Telecom) for MTAS services. Virtutel then supplies services as Voice resell services or Call Termination Services through its network to its downstream wholesale customers, mainly for B2B consumers.

Consultation Questions

- 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?**

Virtutel agrees with the Communications Alliance's (CA) assessment on the Operational Procedures and Requirements.

- 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.**

Please refer to CA response.

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?**

Virtutel Believes that Premium rate and paging, Restricted Access and premium, Paging and Calling Card should be removed from the numbering plan. Community Service Numbers should remain for Dial before you dig and other community services.

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

The number types with no allocations could be repurposed and changed to reformat the number length to current standards to increase the available pool. New ranges should be allocated for Data Only/IOT services to avoid using up spare mobile number ranges and Location Independent Number Ranges for OTT/VoIP Applications.

Virtutel believes strongly that Location Independent Number Ranges should be introduced for Voice Over IP services as an alternative to using Mobile Numbers, providing the same functionality as Mobile Numbers (e.g. Calling & Messaging).

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

From a Virtutel perspective, there is little to no cost in removing these numbers from the numbering plan as these numbers are not conditioned on our network. This may be different for other carriers.

Digital mobile numbers

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

Virtutel in principle agrees with keeping mobile numbers as a discrete number type for mobile services, however “Digital” should be removed from the naming convention and should be removed from being a special service as it’s now a broadly used service.

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

Although Virtutel agrees with keeping the number range for use with “mobile” devices, this should not preclude the ability to port and use the number on other platforms including VoIP where there is a requirement for an end user to keep a number where it’s no longer feasible for it to be used on a Mobile Handset and for it to be ported for use by an OTT or PBX Platform. Further, Virtutel supports the issuing of a separate Location Independent Range which should be conditioned similar to that of Geographic Ranges and has the same functionality as Mobile numbers.

Internet of Things / machine-to-machine

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

It is expected that this will continue to grow exponentially as new applications come online such as Farm Monitoring, Power/Water Metering and Vehicle Applications increase.

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

Virtutel supports the introduction of separate number ranges for this application type to separate it from standard “mobile” services that have Voice, Messaging and Data capability to one that is just for “Data” only services. It allows for better management of numbers for Mobile and IoT services.

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

Virtutel Supports the introduction of a separate range for “Data” Only services. As numbers associated with these services would most likely not be subject to porting requirements, they potentially could be issued as private number ranges within each carriers’ network subject to it not overlapping with the numbering plan.

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

If a new number range is to be added, a free range in the 1xxxxxxx allotment may be acceptable.

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?

As per answer to Question 10. Virtutel does not foresee an interconnection requirement for these numbers as they are internal numbers, however if IPND is required, then an allocated range will be required, although it's doubtful if IPND would be required for this technology type.

Short codes

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

Virtutel believes that short codes should be introduced and used in conjunction with the existing Community Service Numbers. Virtutel agrees with the CA's response on this.

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

Virtutel agrees with the CA Response to this.

Calls over non-mobile networks (Use of 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?

Virtutel believes there should be no restriction of the use of Mobile Numbers across different technology types within reason. Mobile numbers should be used for mobile devices, however there are the following use cases where mobile numbers should be allowed from non-mobile networks including:

- Calls Diverted from a Mobile phone to show the Caller ID
- Where use of a Mobile Number on a single handset is no longer feasible and the end user requests for the number to be transferred/porting to an OTT Application for mixed use on a mobile phone/personal computer OR to add the number to a PBX. Originating calls should be allowed to show the Caller ID of the mobile number if used in this case.

We do agree that there is a degree of misuse currently with Mobile Caller IDs for SPAM/SCAM activities as they are often seen as a trusted number, more so than Geographic Numbers. The industry could and should extend the SMS Sender ID

registry for use with existing Call Authentication RFCs (known internationally as STIR/STAKEN) and customise its use for the Australian environment. This would dramatically reduce the number of unauthenticated calls and relieve the often cumbersome and problematic solutions some carriers have put in place to reject potential unwanted calls.

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.

As per previously answered in Question 15, the use cases as listed should be permitted.

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

Should be modified to allow for other use cases if the use case for the number changes post the original allocation as per Question 15 and 16.

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?

Virtutel believes that Location Independent Number Ranges for Voice over IP should be introduced. Geographic numbers are often being used outside of their prescribed SZU for various reasons and this would provide a standardisation of numbering for VoIP Services.

These numbers should:

- Treated the same way as Geographic Numbers for termination and origination of calls
- Allow for the same functionality as Mobile Numbers (eg Messaging)
- To be treated as a nomadic/location independent service.

These numbers would have the same requirement to have subscriber/end-user details published to the IPND with the Alternate Address field flagged. These numbers could also be used for A2P Applications instead of using Mobile Numbers. Geographic Numbers should still be allocatable to Fixed VoIP Services.

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

Consistent with previous responses, Virtutel supports a principals-based numbering plan where associated operational procedures and requirements are developed and managed by the industry through codes and guidelines. However,

we believe that for the use of these numbers to gain traction amongst carriers, the ACMA should ensure these numbers are treated in the same context as Geographic Numbers for Voice Calling and Mobile Numbers for messaging applications.

Virtutel suggests that the 09xxxxxxx, 10 Digit range is used for Location Independent Services.

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

Local Service should be renamed Geographic or Fixed number. Local Service is no longer significant as most providers have now done away with Local Calls in preference for a standardised national call to Fixed Numbers. Numbers are now often allocated within a broad geographic region within SZUs.

Standard Zone Units

21. Are Standard Zone Units still required? Why or why not?

In the context of Fixed Numbers, we still believe they are required for allocation of numbers within a broad geographical location, however their use for Local and Community Calling has largely been superseded by fixed rate national calling. We believe the construct of Local Calling should be removed from the Telecommunications Act as it's no longer necessary.

A common use case for SZUs is MOLI and Postcode routing when dialling 13/1300/1800 Numbers. Although Postcode routing by exchange is largely now non-existent due to the issuing of broad geographic numbers, call routing by SZU is still common. Any change to existing SZU arrangements should take this into account.

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

Yes, there is merit in moving to broader geographic zones to free up numbering resources in particular areas. Moving from 2000 SZUs to approx. 200 more broader SZUs would be more appropriate. There would be existing legislative and regulatory obligations/transitional arrangements which would need to be considered as well as those pointed out in the previous answer. Virtutel is seeing more and more end users wanting to move premises, retain their existing numbers, while moving between SZUs in the same broad geographic location (Eg. Within Greater Melbourne but physically moving from Melbourne SZU to Clayton SZU). This change would alleviate this issue.

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

There would be cost burdens to carriers (eg. reconfiguring equipment/systems etc) and to notify end users about change. In Virtutel's perspective, changes would be limited to updating our Routing, Billing and Number allocation systems, which would not infer high costs. The only possible burden would be on SZU routing for Inbound 13/1300/1800 services which would need to be changed on a customer-by-customer basis for those that have that feature enabled.

Traffic origination from outside of Australia

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

Virtutel believes that the use of Australian numbers to originate calls from outside Australia should be allowed, however they should always terminate via Australia (eg. not to be used for calling between third party countries). There are legitimate use cases for numbers to be calling from overseas such as outsourced offshore call centres or travelling/offshore staff for Australian Companies.

Virtutel believes that many non-Australian Companies and/or Organisations that have no affinity with Australia are using Australian Numbers to originate calls. In this case there should be rules put in place to verify the end user of the number range and their intended use of Australian Numbers.

For international termination partners of Virtutel, where we terminate calls for them within Australia, we block any Australian CLI being sent which are not native to our network to prevent any misuse of originating numbers. We also require end-user details for any numbers that have been assigned from our number ranges in line with the prescribed codes.

Any changes to the use rules of numbers need to consider the possible use cases of traffic origination outside of Australia.

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.

As indicated earlier, the industry should work towards integrating the SMS Sender ID register with Call Authentication. To date, the industry has been working within the code (C661:2022 REDUCING SCAM CALLS AND SCAM SMS) where each carrier has been implementing their own solution to combat SCAM calls instead of working as a collective industry group. Virtutel has been advocating for the expansion into Call Authentication via the prescribed RFCs, customised for the Australian environment. Although not foolproof, it could be

paired with the SMS Sender ID register to provide a single source of proof that the callee is indeed allowed to present the caller ID.

Verification by carriers before issuing numbers to international organisations and/or restricting Caller IDs to those issued to the downstream international termination partner directly would potentially assist in limiting the amount of unwanted traffic. The only issue which would need to be considered is if a Domestic Termination customer (CSP) was also providing termination to a downstream international customer – how could you ensure that they are also limiting the use of numbers and not sending international originated calls from a number assigned to another carrier.

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

Both options as indicated in the previous question would go a long way in lessening SCAM calling.

Allocation – availability of numbers

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

Virtutel supports the increase of number availability where potential shortfalls are identified.

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

Yes. There are numbers allocated to non-conditioned CSPs who have been using numbering resources where there are scarce allocations available. For Conditioned CSPs, this should be on a case by case basis based on future numbering requirements.

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

As per previous answers and the CA response, we support a principles-based numbering plan where associated operating procedures and requirements are developed and managed by industry through codes and guidelines.

Allocation – rules

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

Virtutel supports clear rules for allocating numbers ensuring that:

- That the C/CSP is or is undertaking Interconnection with 2 or more carriers
- That the C/CSP is only requesting numbers that it is reasonably likely to use within an SZU

This broadly interconnects with the previous answer, whereby this can be managed by the industry through codes and guidelines.

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

Yes, the ACMA should ensure and seek the information from the C/CSPs during the application phase as per indicated in the previous answer.

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?

Virtutel supports there being consistent rules on the information required from CSPs for the allocation and for the sub allocation of numbers. This should be within an Operational Code managed by the industry.

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?

Although in theory Virtutel supports this, as it could eventually lead to better adoption of industry porting and reporting requirements, this register would need to be limited to the conditioned carrier viewing their own assigned number ranges only for privacy and commercial reasons. With access to the downstream CSP information only available to the ACMA and/or law enforcement. Virtutel however believes this platform should be cross shared with the IPND, which already is the defacto system for this information.

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

At the present time, we believe this is unnecessary as this information is already available within the IPND. Virtutel however would support the possible combining of the numbering system with the IPND (and possibly a central porting/ported number registry).

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

No. One would assume that the ACMA already has the power to do audits when required.

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

This depends on the audit required and cost/time would depend on the work to be conducted. It is Virtutel's believe that if the ACMA requires more granular reporting that itself runs the platforms (or outsources it to a company like ZOAK) and each time a number is allocated, ported, deactivated or there is an IPND update it is reported to it, releasing the CSP of the future burden of reporting.

Pooled numbers

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?

Virtutel believes that this would not be required if the Location Independent Numbering Range is implemented with messaging as it would limit the requirement for pooled ranges for SMS messaging, with each end-user able to have a dedicated number, that is a known source.

EPIDS

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

There is no requirement for this as there are existing arrangements in place for the allocation of EPIDs. We do not see this as a requirement to use the Numbering System or to be allocated numbers.

39. What are the specific costs or burdens that may result from this suggestion?
The ACMA may incur costs for this for changing the Numbering System and system changes required by CSPs.

Enhanced Rights of Use

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

Virtutel does agree with this, however we don't believe it goes far enough. The current structure allows for brokers to buy and sit on numbers, and unscrupulously rent the numbers out to end-users/businesses. When end-users/businesses attempt to move these numbers out, they are often caught by fine print where they are required to continue to pay rental for the number, buy the number out at a much higher cost than originally purchased for or give up the number where there are often unintended costs to the end-user (eg change of advertising/signage). We believe there should be a strict requirement to update the EROU upon allocation to an end user by a Broker.

Number portability

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

Although the provisions in the numbering plan are still fit for purpose, the move of operational details relating to number portability should be removed from the Numbering Plan to an operational industry code to adapt to service provider, consumer and regulatory changes in a timely manner.

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

Virtutel believes the current porting system is difficult for new interconnected entrants to get established. The current system is Bi-lateral in nature and requires parties to both be interconnected and have an in-place LNP Agreement. As a result, to port numbers from one carrier to another, you need to have an LNP

Agreement as well as being Interconnected. Of all the Interconnected carriers, we have two where we have no active Interconnect/LNP Agreement, preventing porting directly to/from these carriers. We believe the current system has the potential to be anti-competitive where you are potentially unable to arrange a Bi-lateral with another carrier. There are moves to reform the LNP Platform under a future state IT Project being spearheaded by the Communications Alliance which may change the system from Bi-lateral to Uni-lateral like that of the INMS for 13/1300/1800 numbers, this is some time off from becoming reality.

Virtutel believes that the ACCC and ACMA need to investigate and better mandate LNP between carriers.

Multiple services to a number

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

We don't oppose the use of use of originating numbers being used across multiple CSPs if the domestic CSP is operating within the guidelines of the industry codes. However, we can foresee there is a lot of potential for misuse.

As per a previous answer, we do not allow our downstream international customers to originate Australian numbers that are not assigned to them. We do however strongly support the introduction of Call Authentication (also known as STIR/STAKEN RFC 8224, 8225, 8226, 8588) which allows calls to be categorised based on where the call originated from which could be linked to the SMS Sender ID registry for authentication.

44. Can you provide some evidence / data of the benefits or harms of this practice?

We believe you have addressed the benefits and harms of the practice. From our perspective, we have seen particular carriers implement their own SCAM/SPAM monitoring/blocking solutions, which in our opinion drop more legitimate calls, than prevent bad actors from getting through. The industry would be better off working on a single solution to combat this through Call Authentication.

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

Virtutel supports introducing rules to manage the multi-service provider practice. This could be achieved using the Call Authentication and a register (such as the SMS Sender ID registry). This is the most viable solution to ensure a competitive market.

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

There will be costs to upgrade systems to accept Call Authentication, however there is a ratified RFC for this so development costs should be minimal (however

this will depend on the carrier's vendor) and there is already work underway on the SMS Sender ID registry which can be repurposed as a general originating Sender ID registry that can be dipped.

47. If option 2 were preferred, what should the rules be and how would these 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?

This question has mostly been answered; however, it would be expected to generally take 1-2 years to implement and roll this out, again this is dependent on works required within each of the concerned carriers. The same solution would and should apply for all Voice Calls and SMS.

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

Monitoring of large number of calls from a Single Number, Unusual Patterns, Publishing of a known Database of Numbers to be blocked by the ACMA (Do Not Originate List).

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

The current issue with the multiple-service practice is that it is difficult to trace calls when there are issues such as routing or complaints as the call may not have originated from the CSPs network and there could be several providers in between. Call Authentication as indicated, may assist tracing calls easier.

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?

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

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

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

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?

f) Do you have (or have you attempted to put) any agreements in place with the CSPs who 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?

Virtutel is a direct C/CSP and as such Question 50 does not apply to Virtutel.

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?

Most likely upwards of 10000 Numbers. Through Spam and/or calling issues.

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?

We have only blocked numbers if they have been misused.

c) Do you provide similar services to those your customers are seeking to obtain from other CSPs? If so, do you know why your customer aren't obtaining these services from you?

The common answer to this is that our downstream customer wants to spread their risk across multiple providers, however the most common response comes down to price.

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 customer because of this practice? Please provide specific details.

We lose out on revenue on the outbound call. Also when one of our Donor numbers are used, and someone is complaining about a call made from one, we are unable to trace the call back and we need to refer the caller to their provider to investigate.

Provisions of Pre-selection Determination Questions 52-56

Virtutel does not participate in Pre-selection, so we cannot comment on this.
Please refer to Communications Alliance Response.

**Portability Service Suppliers Determination
Questions 57-59**

Please refer to Communications Alliance Response.