

Investigation Report

File No.	ACMA2018/409-17
Carriage Service Provider	Vodafone Australia Pty Limited ACN 056 161 043
Type of Service	Carriage Service Provider
Relevant Legislation/Code	- <i>Telecommunications Act 1997</i> - <i>Industry Code (C555:2017) Integrated Public Number Database (IPND)</i>
Date	13 December 2018

Findings

The Australian Communications and Media Authority (the **ACMA**) finds that, on multiple occasions, Vodafone Australia Pty Limited ACN 056 161 043 (**Vodafone**) has:

- > contravened subsection 101(1) of the *Telecommunications Act 1997* (the **Act**), which requires a carriage service provider (**CSP**) to comply with the service provider rules that apply to it, by failing to give Telstra Corporation Limited (**Telstra**, or the **IPND Manager**) the information it reasonably requires to provide and maintain the Integrated Public Number Database (**IPND**), thereby contravening the service provider rule in clause 10 of Schedule 2 to the Act;
- > contravened the following clauses of the *Industry Code (C555:2017) Integrated Public Number Database (IPND)* (the **IPND Code**):
 - 4.2.1 – because Vodafone, a CSP that provides carriage services to customers using public numbers¹, failed to provide the relevant public number customer data² to the IPND Manager in respect of certain carriage services it supplies;
 - 4.2.11 – because Vodafone failed to ensure that certain public number customer data provided to the IPND Manager was accurate, complete and up to date; and
 - 4.2.25 – because Vodafone failed to supply to the IPND Manager certain public number customer data updates that occurred on one business day, by the end of the next business day.

¹ In this report, *number* and *public number* mean a number under the *Telecommunications Numbering Plan 2015*.

² As defined in the IPND Code, where it is also referred to as 'PNCD'.

Background

1. This report details findings of an investigation conducted by the ACMA under paragraphs 510(1)(a) and (c) of the Act into whether Vodafone contravened the Act and/or an industry code registered under Part 6 of the Act.
2. The investigation was commenced on 4 July 2018 following the ACMA becoming aware that a number of Vodafone's carriage services provided to end-users with a public number:
 - a. did not have a corresponding record in the IPND; or
 - b. had an IPND record which contained incorrect information about whether the service was connected or disconnected.

Relevant facts

3. Vodafone is a CSP within the meaning of the Act.³ Vodafone supplies mobile telecommunications services to business, government and residential customers.
4. Vodafone is a 'Data Provider' within the meaning of clause 2.2 of the IPND Code.⁴
5. The IPND is intended to be an industry-wide database of all public telephone numbers. It was established in 1998 and is currently managed by Telstra as required by section 10 of the *Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997 (Telstra Licence Conditions)*. The maintenance of the IPND by the IPND Manager is supported by, among other things:
 - a. a service provider rule requiring a CSP that supplies a carriage service to an end-user, and where that user has a public number, to give Telstra such information as Telstra reasonably requires in connection with Telstra's fulfilment of its obligation to provide and maintain the IPND;⁵ and
 - b. the IPND Code, which is an industry code registered by the ACMA under Part 6 of the Act, and which sets out procedures relating to the storage of information in the IPND and the transfer of information to and from the IPND Manager.
6. The IPND Code, and the associated IPND Data Guideline (G619:2017), also refer to the *Integrated Public Number Database (IPND) Data Users and Data Providers Technical Requirements for IPND (the Technical Requirements)*. The Technical Requirements, which are issued by Telstra and made with the agreement of a majority of relevant Data Users⁶ and Data Providers (see clause 7.1.8 of the IPND Code), set out the detailed operational and technical requirements for the submission of information by Data Providers to the IPND Manager.
7. The information in an IPND record includes customer name and address, phone number, the type of service, whether the service is listed or unlisted and details about the service

³ See section 87 of the Act.

⁴ 'Data Provider' is defined to mean a CSP who has an obligation to provide PNCD to the IPND Manager, or an entity acting on behalf of the CSP, and who is registered with the IPND Manager.

⁵ Subsection 101(1) of the Act requires CSPs to comply with the service provider rules, and paragraph 98(1)(a) of the Act provides that the service provider rules include the rules set out in Schedule 2 to the Act. Clause 10 of Schedule 2 to the Act deals with the information that CSPs must give to Telstra in association with its IPND Manager responsibilities.

⁶ As defined in clause 2.2 of the IPND Code.

provider. The Technical Requirements (at clause 6.1.2) specify the information that is included, or which can be included, in an IPND entry. An IPND record includes a mandatory field, called the 'Service Status Code', which is used to indicate whether a service is connected or disconnected.

8. Under Part 13 of the Act and the Telstra Licence Conditions, the information in the IPND can only be used for specific purposes. Critical users of the IPND use IPND information to protect life and property and to investigate serious crime. These bodies include the emergency call service, the emergency warning system, and national security and law enforcement agencies. Failure to provide accurate, timely and current information to critical users can have serious consequences. For example, failure to provide location information associated with a call to the Triple Zero emergency call service could place a caller's life at risk. Non-critical users of IPND data include publishers of public number directories and researchers conducting permitted research.
9. There are several ways in which a Data Provider can identify potential errors occurring when uploading data to the IPND, and any discrepancies between its own customer data and that stored in the IPND, including:
 - > by reference to clause 4.2.28 of the IPND Code, which allows a Data Provider to obtain an extract of its public number customer data as a full set of records or a subset of records based on criteria agreed between the Data Provider and the IPND Manager for reconciliation purposes;
 - > by reference to clauses 6.1.6 and 6.1.7 of the IPND Code, which require a Data Provider to download the information the IPND Manager produces about hard and soft errors⁷, and take reasonable steps to resolve the matter and supply the corrected public number customer data to the IPND Manager within one business day for hard errors and two business days for soft errors;
 - > additionally, the IPND Manager sends reminders via email (at least twice a year) to the approved contact(s) of all Data Providers about the importance of checking the corresponding error file after each IPND upload to ensure the file has been processed successfully; and
 - > by reference to clause 6.1.10 of the IPND Code, which encourages Data Providers to check a monthly 'Changed Data Provider' report produced by the IPND Manager, which informs the Data Provider of all numbers gained and lost in the last month.

ACMA analysis

10. From analysis conducted in March 2018, the ACMA identified numbers not present in the IPND that might be associated with an active service or for which the connection status may be inaccurate. When queried by the ACMA about whether some of these numbers may be for Vodafone services, Vodafone responded stating that:

⁷ 'Hard' and 'soft' errors are identified during the IPND's validation process when a Data Provider attempts to upload a file of IPND records (a file may contain one or more records). A hard error, such as mandatory field in the IPND record being blank, prevents the upload of the file and/or the record containing the hard error to the IPND. A soft error is a possible error in an individual field of the record. In this case, the file is still uploaded to the IPND but is tagged as having a 'soft' error. A soft error can signify potential name and/or address inaccuracies, or missing information within an IPND record. The IPND Manager makes reports about hard and soft errors available to Data Providers.

- a. 349 numbers were associated with active services (missing records);
 - b. 27 numbers were associated with Vodafone active services in the past but have since either been disconnected or ported to another CSP (missing records);
 - c. 28 of its currently active services were incorrectly designated as 'disconnected' in the IPND (inaccurate records); and
 - d. Vodafone would generate or correct IPND records for all services it had identified as having missing or inaccurate records.
11. Following correspondence with the ACMA, Vodafone voluntarily requested its IPND data from the IPND Manager to reconcile the data sets.
12. On 8 June 2018, Vodafone advised that the comparison of its customer systems with its IPND records identified the following discrepancies:
- a. approximately 280,000 numbers were without a record in the IPND but active in Vodafone's systems (missing IPND records);
 - b. approximately 200,000 numbers were listed as 'disconnected' in the IPND but active in Vodafone's systems (inaccurate IPND records);
 - c. approximately 400,000 numbers were listed as active (or 'connected') in the IPND but 'disconnected' in Vodafone's systems (inaccurate IPND records);
 - d. 118 numbers were listed in the IPND as being associated with Vodafone services and as being 'connected', but were not present in Vodafone's systems (inaccurate IPND records).
13. Vodafone advised that:
- a. a range of issues had been identified as having caused the errors;
 - b. remediation was under way to correct those underlying issues;
 - c. missing and inaccurate customer records were being updated as a priority;
 - d. it would take action to identify which CSP (if any) is responsible for the 118 numbers that are active in the IPND but are not Vodafone services and follow up with the IPND Manager; and
 - e. it would perform another reconciliation exercise between the IPND and Vodafone systems following resolution of the root cause and the correction process to ensure any remaining mismatches were detected.

Vodafone's response to the Preliminary Findings

14. The ACMA's preliminary findings set out that Vodafone had contravened the service provider rule and the IPND Code in relation to:
- a. **280,376** missing records. This figure was comprised of 280,000 services identified by Vodafone through its first reconciliation exercise plus 376 numbers confirmed by Vodafone as missing prior to the first reconciliation exercise (subparagraphs 10(a) and (b) above).
 - b. **600,146** inaccurate IPND records. This figure is comprised of 600,118 services identified by Vodafone through its first reconciliation exercise plus 28 services

identified by Vodafone as being inaccurate prior to its first reconciliation exercise (paragraph 10(c) above).

15. In response to the preliminary findings, Vodafone stated the following:
 - a. It did not refute the underlying facts of the ACMA's preliminary findings, except with respect to the figures, which it stated it revised to accurately reflect its reconciliation process as:
 - i. 132,827 (missing IPND records);
 - ii. 164,704 (inaccurate IPND records – active in Vodafone's systems but disconnected in the IPND);
 - iii. 401,330 (inaccurate IPND records – disconnected in Vodafone's systems but connected in the IPND).
 - b. It had been 'undertaking an iterative process of reconciliation, analysis and remediation, in order to identify and rectify the relevant root causes for the mismatched records'.
 - c. It had identified three root causes of the mismatches: a fault in a rule in one of its system tools; another rule which did not correctly identify and report records with an overseas address to the IPND in the format required by the IPND Manager; and discrepancies in data as a result of using a copy of the production version of its customer database as the 'source of truth' for its IPND process.
 - d. Vodafone stated it was still analysing the mismatches identified by the third reconciliation exercise, and would continue to search for the root causes for such mismatches and conduct further reconciliation exercises until it was satisfied that they had been fully remediated.
 - e. The mismatched records did not arise from intentional acts, or any disregard by Vodafone for the importance of providing accurate and up-to-date public number customer data records in the IPND. They were caused by:
 - i. flawed logic in Vodafone's internal IPND tools, which Vodafone had previously considered to be accurate and in compliance with the Technical Requirements; and
 - ii. inconsistencies in the copy of its customer production database that were unknown to Vodafone prior to this investigation.
 - f. It also stated that the system errors did not lead to the generation of hard or soft errors by the IPND Manager, which would have alerted Vodafone to the non-compliance at an earlier date.
16. Vodafone also subsequently submitted that it has an ongoing IPND monitoring activity which includes reconciliation processes.
17. Based on information provided by Vodafone, the ACMA is of the view that services related to Vodafone had:
 - a. **133,149** missing IPND records. This figure is comprised of 132,827 services identified by Vodafone through its reconciliation exercise plus 322 numbers

confirmed by Vodafone as missing following enquiries from the ACMA prior to the reconciliation exercise.

- b. **566,180** inaccurate IPND records. This figure is comprised of 164,704 and 401,330 and 118 services identified by Vodafone through its first reconciliation exercise plus 28 services identified by Vodafone as being inaccurate before its first reconciliation.

Findings and reasons

Compliance with the Act

18. Subsection 101(1) of the Act requires that service providers, including CSPs, comply with the service provider rules that apply to them. Subsection 98(1) of the Act provides that the service provider rules include those set out in Schedule 2 to the Act.
19. Clause 1 of Schedule 2 to the Act provides that service providers must comply with the Act. Clause 10 of Schedule 2 requires that where a CSP supplies a carriage service to an end-user, and the end-user has a public number, the CSP must give Telstra (as the IPND Manager) such information as Telstra reasonably requires to fulfil its obligation to provide and maintain an IPND.

Clause 10 of Schedule 2

20. In determining what information the IPND Manager reasonably requires to fulfil its obligation to provide and maintain an IPND, the ACMA has regard to the Act, the Telstra Licence Conditions, the IPND Code, and the Technical Requirements.
21. Subclause 10(4) of the Telstra Licence Conditions requires that the IPND must include, among other things, the public number, and the name and address of the customer. It is reasonable for the IPND Manager to require that information which the Telstra Licence Conditions require it to obtain, and which is obviously essential to the maintenance of the IPND.
22. Further, the IPND Manager may reasonably require other information that will assist in delivering the objectives of the IPND. Having regard to the critical functions described in paragraph 8 above, the ACMA considers that the service status of a number (that is, 'connected' or 'disconnected') is important to the proper functioning of the IPND, given that an incorrect status could adversely impact Data Users' services (noting that researchers and public number directory publishers only receive 'connected' records). It could also cause severe detriment in some cases (if, for example, a service did not receive an emergency warning because it was listed as 'disconnected').
23. The IPND Manager has explicitly sought the service status information from Data Providers in respect of each IPND entry, via the Technical Requirements. As noted above, the Service Status Code is a mandatory IPND field (others are optional), and the Technical Requirements have been made in consultation with, and with the agreement of, Data Providers. Further, clause 4.2.10 of the IPND Code provides that Data Providers must ensure that all public number customer data transferred to the IPND Manager is in the format specified in the Technical Requirements; and clause 4.2.11 provides that the Data Provider must ensure that the information provided to the IPND Manager is accurate, complete, and up to date.

24. Considering the above, the ACMA is satisfied that the IPND Manager reasonably requires CSPs to provide correct information about whether a telephone number is connected or disconnected to fulfil its obligations as IPND Manager. By uploading information that incorrectly identified connected telephone numbers as 'disconnected', and disconnected telephone numbers as 'connected', Vodafone did not give the IPND Manager the information it reasonably required to fulfil its obligation to maintain the IPND.
25. Based on the information provided by Vodafone, no public number customer data was uploaded to the IPND for 133,149 public numbers and Vodafone customer data for 566,180 public numbers had, at a minimum, an incorrect Service Status Code⁸.
26. Vodafone advised that the errors occurred due to a range of technical and/or systems issues. This does not excuse or detract from Vodafone's responsibility to ensure that it gives the IPND Manager the information it reasonably required to fulfil its obligation to maintain the IPND.
27. The ACMA therefore finds that Vodafone contravened clause 10(2) of Schedule 2 to the Act.
28. Accordingly, the ACMA finds that Vodafone contravened subsection 101(1) of the Act as it failed to comply with the service provider rule in clause 10(2) of Schedule 2 to the Act.

Compliance with the IPND Code

29. The IPND Code is an industry code registered under Part 6 of the Act⁹ which applies to CSPs (among others).¹⁰

Clause 4.2.1

30. Section 4.2 of the IPND Code sets out rules in relation to the provision of data to the IPND Manager. As noted above, clause 4.2.1 of the IPND Code imposes obligations on a CSP to supply public number customer data to the IPND Manager for each public number it uses to supply a carriage service. Vodafone is a CSP within the meaning of the IPND Code.
31. Public number customer data includes, among other things, the public number, and the name and address of the customer, as referenced in the Telstra Licence Conditions and the definition in clause 2.2 of the IPND Code.
32. Based on the information provided by Vodafone, it did not upload public number customer data to the IPND for 133,149 public numbers used in connection with an active, or previously active, Vodafone service.
33. The ACMA therefore finds that Vodafone contravened clause 4.2.1 of the IPND Code.

Clause 4.2.11

34. Clause 4.2.11 of the IPND Code requires a CSP to ensure that the public number customer data provided to the IPND Manager is accurate, complete and up to date.

⁸ This investigation has not considered whether other fields in the relevant IPND records contain inaccuracies.

⁹ The IPND Code is registered under section 117 of the Act.

¹⁰ See cl. 1.3.1(b) of the IPND Code.

35. Based on the information provided by Vodafone, it did not upload customer data to the IPND for 133,149 public numbers, and 566,180 public numbers had an incorrect Service Status Code in the corresponding IPND record.
36. The ACMA therefore finds that Vodafone contravened clause 4.2.11 of the IPND Code as it failed to ensure that information it provided to the IPND Manager in those instances was accurate, complete, and up-to-date.

Clause 4.2.25

37. Clause 4.2.25 of the IPND Code requires a CSP to supply to the IPND Manager all public number customer data updates that occur on one business day, by the end of the next business day.
38. Public number customer data updates can include a change to the customer data for an existing number, or any new or ported numbers for which customer data has not previously been provided by the CSP.
39. Based on the information provided by Vodafone, it did not upload public number customer data to the IPND for 133,149 public numbers used in connection with active Vodafone carriage services, and there was public number customer data in the IPND for 566,180 public numbers used in connection with active or previously active Vodafone carriage services with incorrect Service Status Codes. Vodafone made no claim that these numbers were for services that were newly connected, ported or disconnected and that the time limit for uploading or updating IPND customer data had not expired. Consequently, updates for these services were not supplied to the IPND within the requisite timeframe.
40. The ACMA therefore finds that Vodafone contravened clause 4.2.25 of the IPND Code by failing to supply public number customer data updates that occur on one business day, by the end of the next business day.