COMMUNICATIONS ALLIANCE LTD

INDUSTRY GUIDELINE

G619.2:2024

IPND DATA PROVISION, ERROR MANAGEMENT AND RECONCILIATION PROCESSES

G619.2:2024 IPND Data Provision, Error Management And Reconciliation Processes Industry Guideline

First published as IGN019

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INTRODUCTORY STATEMENT

The IPND Data Provision, Error Management and Reconciliation Processes Guideline (G619.2:2024) accompanies the Integrated Public Number Database (IPND) Industry Code (C555). The Guideline is designed to assist Carriage Service Providers (CSPs) and Data Providers (DPs):

- in the implementation of processes or controls that will ensure the validation and success of their IPND PNCD Upload Files;
- in the correct processing of their PNCD records and reconciliation processes; and
- in interpreting IPND error file reports.

BACKGROUND

The Integrated Public Number Database (IPND) is an industry-wide database of all Public Number Customer Data (PNCD) which facilitates the provision of information for purposes specified in the *Telecommunications Act 1997* (Act), the *Telecommunications Integrated Public Number Database Scheme 2007* (IPND Scheme) and the *Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997*(Licence Conditions). As at June 2023, the IPND held approximately 80 million live records. The information contained in the IPND is available for use by the following Data Users:

- Emergency Service Organisations (ESOs) (police, fire and ambulance) for the purpose of responding to emergency calls;
- law enforcement and national security agencies for the purposes of enforcing the criminal law and safeguarding national security;
- Carriage Service Providers (CSPs) for the purposes of providing Directory Assistance Services, Operator Assistance Services, Operator Services, or Location Dependent Carriage Services;
- PNDPs (Public Number Directory Publishers) for the purpose of publishing and maintaining Public Number Directories; and
- researchers for the purposes specified in the IPND Scheme 2007 and related Ministerial instruments.

Accurate data is essential for all these purposes. Data Providers, their Customers and Data Users all gain a significant advantage from Data Providers supplying complete and accurate PNCD to the IPND Manager. This is of paramount importance for ESOs that rely on it when responding to life-threatening or time-critical emergencies. Customers benefit from the IPND having accurate and complete Customer data for the provision of essential emergency services and, when Customers choose to be listed in Directory Related Services. Data Providers benefit from knowing the correct location of the Customer to provide their telecommunications service and associated activities.

The IPND Code underwent a revision in 2019/20 which sought to deliver on three Code deficiencies identified by the Australian Communications and Media Authority. Broadly these were to:

1) clarify that all Numbers Issued to a Customer by a Carriage Service Provider (CSP) are required to be listed in the IPND and give greater clarity of the number types that are required to be in the IPND;

2) set out what a CSP must do to reconcile PNCD against their own Customer data, including a mandatory obligation to review and action Changed Data Provider Reports issued by the IPND Manager; and
3) make reconciliation of PNCD compulsory between a CSP's customer system and the IPND at least once every six months.

Industry Guidance Note (IGN019) was developed to assist CSPs in the implementation of processes arising from delivery of recommendation 3.

2021 Revision

In 2021 the IPND Manager undertook a review into the inactivity of CSP's / Data Provider's (DPs) updating PNCD records into the IPND. This review found that the overwhelming majority of this inactivity stemmed from incidents where a previous file uploaded with PNCD by the CSP / DP failed to be updated into the IPND due to errors, at a file level, and the subsequent .err file produced by the IPND was not actioned appropriately by the CSP / DP.

These errors have led to subsequent files that were uploaded by the CSP / DP to be rejected by the IPND due to them being sent "out of sequence", often without the CSP / DP being aware of the issue. In most cases the CSP / DP did not identify the issue when carrying out data reconciliations, and any remediation activity as a result of the reconciliation also failed to update in the IPND.

Remediation of long-term unsuccessful file uploads to the IPND may require the CSP to carry out a reconciliation of their records and obtain a full data extract of their PNCD in the IPND to understand their current status before they can carry out any remediation / realignment activity.

Industry Guidance Note (IGN019) was updated to assist CSPs and DPs in the implementation of processes or controls to carry out validation and ensure the success of their Customer Record IPND Upload File activity, correct processing of their PNCD records and reconciliation processes.

2022 Revision

During 2022 the ACMA engaged the IPND Manager to share observations they obtained when carrying out analysis on Data Provider activity reports from the IPND.

The analysis identified that some Data Providers appeared to be experiencing periods of inactivity in their interactions with the IPND.

It was also identified that some Data Providers appeared unclear on how to read and interpret an IPND error file Report (.err files) produced by the IPND subsequent to the Data Provider sending a Customer Record IPND Upload File with PNCD to the IPND.

This may result in a Data Provider not undertaking the remediation activities required to ensure their Customer Record IPND Upload File has been processed and PNCD successfully added to the IPND.

The Communication Alliance IPND Working Group and the IPND Manager revised IGN019 to include further guidance to assist Data Providers on interpreting IPND error file Reports.

2024 Revision

As part of the 2023 review of the IPND Code (C555), it was determined that updates were required to this document to assist Data Providers and CSPs.

Changes included;

- elevating the IGN019 Industry Guidance Note to an Industry Guideline;
- aligning definitions and terminology with the Code;
- clarifying and expanding on processes within the Guideline to ensure consistency with the Code.

Alexander R. Osborne
Chair
IPND Working Committee

APRIL 2024

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1 GENERAL

1.1 Introduction

1.1.1 The development of the Guideline has been facilitated by Communications Alliance through a Working Committee comprised of representatives from the telecommunications industry, Government regulatory agencies, and consumer groups.

1.1.2 The Guideline should be read in conjunction with related legislation and in the context of other relevant Codes, Guidelines and documents including the :

(a) *Telecommunications Act 1997 (Cth)*;

(b) Integrated Public Number Database (IPND) Industry Code (C555);

(c) Integrated Public Number Database (IPND) Data Users and Data Providers Technical Requirements for IPND document;

(d) Integrated Public Number Database – IPND Error Correction document;

(e) IPND Internet Interface Service (IIS); and

(f) IPND Data Industry Guideline (G619.1).

1.1.3 Statements in boxed text are a guide to interpretation only.

1.2 Scope

1.2.1 The Guideline is applicable to the following sections of the telecommunications industry under section 110 of the *Telecommunications Act 1997*:

(a) CSPs (who are Data Providers to the IPND Manager);

(b) Data Providers; and

(c) Data Users.

1.2.2 The Guideline deals with the quality of data provided to the IPND Manager and encourages accurate entry of data to satisfy the needs of all Data Users, and, in particular, Emergency Service Organisations.

1.2.3 The Guideline attempts to capture the relevant details required to provide consistently accurate data in accordance with the IPND Technical Requirements.

1.3 Objectives

1.3.1 The objectives of the Guideline are to;

(a) provide guidance on an industry process and should be read in conjunction with the obligations set out in the Integrated Public Number Database Industry Code (C555) (the Code);

(b) provide DPs and CSPs an overview of the flow of data through the IPND, from the time a DP sends a Customer Record IPND Upload File to the IPND, through to critical Data Users receiving PNCD updates to support their functions;

(c) assist DPs and CSPs in validating the successful upload of their PNCD records to the IPND each and every time by using existing reporting provided to them by the IPND Manager and the IPND using the Data Users and Data Providers Technical Requirements for IPND document;

(d) assist DPs and CSPs in understanding the types of errors that can occur when Customer Record IPND Upload Files are sent to the IPND, and providing the tools available to assist in remediation of these errors;

(e) assist DPs and CSPs in requesting Full Data Extracts / Data Snapshots of PNCD from the IPND Manager;

(f) provide information on how the IPND Manager will manage these PNCD data extract requests from DPs

(g) provide guidance to DPs and CSPs in meeting reconciliation obligations as per the Code;

(h) provide guidance to DPs and CSPs as to how to remediate instances of long-term Customer Record IPND Upload File failures via reconciliation of their records in the IPND;

(i) to set out competitively neutral, non-discriminatory processes.

1.4 Guideline review

The Guideline will be reviewed every 5 years, or earlier in the event of significant developments that affect the Code or a section within the Guideline.

2 ACRONYMS, DEFINITIONS AND INTERPRETATIONS

2.1 Acronyms

For the purposes of the Guideline:

ACMA

means the Australian Communications and Media Authority

CDP

means Change Data Provider report

CSP

means Carriage Service Provider

DP

means Data Provider

ESO

means Emergency Service Organisation

IPND

means Integrated Public Number Database

PNCD

means Public Number Customer Data.

2.2 Definitions

For the purposes of the Guideline:

Act

means the *Telecommunications Act 1997 (Cth)*.

Carriage Service

has the meaning given by section 7 of the *Act*.

Carriage Service Provider

has the meaning given by section 87 of the *Act*.

Note: CSPs include internet service providers and VoIP service providers that supply a Carriage Service using an Issued Number.

If an entity is supplying a Carriage Service directly to a Customer, using a Number, the entity is considered to be a CSP under this Code and the obligations relating to a CSP in this Industry Code will apply.

Carrier

has the meaning given by section 7 of the Act.

Customer

means a consumer who has entered into a customer contract with a CSP and has been Issued a Number.

Change Data Provider Report (CDP)

means the Change Data Provider report provided to DPs by the IPND generated on the first day of each month.

NOTE: As per the IPND Technical Requirements document, the purpose of the Change Data Provider report is to provide Data Providers with information regarding numbers lost and gained during the reporting period. This is necessitated by the fact that numbers may be transferred between DPs multiple times during the reporting period.

Customer Record IPND Upload File* (*Data Provider Upload File or Upload File)

means the transfer or upload of a file from an external entity to the IPND containing PNCD.

Data Provider

means a person who is registered with the IPND Manager and has received authorisation from the IPND Manager to send PNCD to the IPND on behalf of the CSP.

NOTE: A person is not classified as a Data Provider until this authorisation process is completed. A Data Provider may also be the CSP or may act on behalf of one or more CSPs.

Data Provider Code

means a unique Data Provider Code, generated and allocated by the IPND Manager, on receipt of an application from a DP.

Data Provider Error File (.err report)

means files generated by the IPND and sent to Data Providers containing records of errors identified during the validation of the Data Provider's Upload File to the IPND.

NOTE: One error file will be created for each Customer Data IPND Upload file sent to the IPND.
A .err file may contain no (0) errors. This occurs when validation does not identify any errors with the Customer Data IPND Upload file.

A DP is responsible for downloading the corresponding .err file each time they send a Customer Data IPND Upload file to the IPND. They are to review the .err file for any errors their Customer Data IPND Upload file may contain and remediate them under Sections 5.1.6 to 5.1.11 of the Code.

Data Provider Query File (DPQF)

means a file generated by the IPND and sent to the CSP via the Data Provider which highlights potential inconsistencies in PNCD, identified by Data Users via Data User Query Files.

NOTE: The DPQF is deposited into the respective DPs download area for them to review. *The DUQF / DPQF process is a mechanism for DUs to provide feedback to DPs / CSPs regarding their PNCD data quality issues for remediation.*

Data Provider Upload File or Upload File (Customer Record IPND Upload File)

means the transfer of a file from an external entity to the IPND containing PNCD.

Data User

means an entity that has been granted authorisation from the ACMA and / or IPND Manager to receive PNCD from the IPND for an Approved Purpose.

Emergency Service Organisation

has the same meaning as given in section 147 (11) in the TCPSS Act.

Full Data Extract

means the PNCD held by the IPND Manager associated to a specific CSP / DP, which includes connected and disconnected records. Also referred to as Data Snapshots.

Integrated Public Number Database

means the Integrated Public Number Database created pursuant to the Act and the Licence Conditions.

IPND Manager

means the person or association or delegate(s) that manages, maintains and administers the IPND.

IPND Technical Requirements

means the *Integrated Public Number Database (IPND) Data Users and Data Providers Technical Requirements for IPND* document produced by the IPND Manager to assist DPs and Data Users with understanding the technical and operational requirements of providing and using data in the IPND.

Licence Conditions

means the additional conditions that apply to Telstra Limited (ACN 086 174 781) as set out in the Telecommunications (Carrier Licence Conditions -Telstra Corporation Limited) Declaration 2019.

Number

means a number specified in the Numbering Plan that has been Issued to a CSP or a Customer to be used in conjunction with the supply of a Listed Carriage Service.

NOTE:
For avoidance of doubt, a Number that can be Issued to a Customer only includes:

- calling card numbers (i.e. 18 9)

- freephone numbers (i.e. 18x);

- Geographic Numbers (i.e. 02x, 03x, 07x, 08x;

- International Numbers (Numbers Issued by a CSP operating within Australia for use within Australia);

- local rate numbers (i.e. 13 and 1300);

- Mobile Numbers (i.e. 04x);

- premium rate numbers (i.e. 19x); and

- satellite numbers (i.e. 014)

Numbering Plan

means the *Telecommunications Numbering Plan 2015*.

Public Number Customer Data

means the data relevant to a Customer and including, as referenced in the Licence Conditions, and for the purposes of this Guideline the:

(a) (Public) Number;

(b) Service Status Code;

(c) Customer name and associated details;

(d) Finding Name for a Listed Entry or Suppressed Address Entry (where a Suppressed Address Entry is offered); and

(e) address of the Customer which is:

  (i) for a Local Service, the Service Address as installed unless not technically feasible;
  (ii) for a PMTS, the physical address, where practicable, as provided by the Customer; and
  (iii) for a Listed Entry or Suppressed Address Entry (where offered), the Directory Address; and

(f) List Code;

(g) Usage Code;

(h) Type of Service (optional);

(i) Customer contact;

(j) CSP Code;

(k) Data Provider Code;

(l) Transaction Date;

(m) Service Status Date;

(n) Alternate Address Flag; and

(o) prior (Public) Number (optional).

NOTE: For additional information on the above data sets see G619.1 IPND Data Industry Guideline.

Reconciliation

means the comparison and correction by a CSP of the PNCD held by the IPND Manager associated to that particular CSP with the CSP's own data for a Number that is: -

1. associated with an active service in its customer records data base that does not have a corresponding customer 'connected' PNCD record in the IPND for that Number;

2. associated with an active service in its customer records data base for which the corresponding PNCD record in the IPND for that Number has a 'disconnected' status;

3. associated with a disconnected service in its customer records data base for which the corresponding PNCD record in the IPND has a 'connected' status in the IPND; and

4. associated with a service not present in its customer records data base for which there is a PNCD record for that Number in a 'connected' status in the IPND.

2.3 Interpretations

In the Guideline, unless the contrary appears:

(a) headings are for convenience only and do not affect interpretation;

(b) a reference to a statute, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;

(c) words in the singular includes the plural and vice versa;

(d) words importing persons include a body whether corporate, politic or otherwise;

(e) where a word or phrase is defined, its other grammatical forms have a corresponding meaning;

(f) mentioning anything after include, includes or including does not limit what else might be included;

(g) words and expressions which are not defined have the meanings given to them in the Act; and

(h) a reference to a person includes a reference to the person's executors, administrators, successors, agents, assignees and novatees.

3 IPND CUSTOMER RECORD MANAGEMENT

Effective management of PNCD in the IPND ensures that critical Data Users are provided data of a high quality in a timely and consistent manner. This section is to assist with improving DP and CSP understanding the process flow of data through the IPND, and PNCD management.

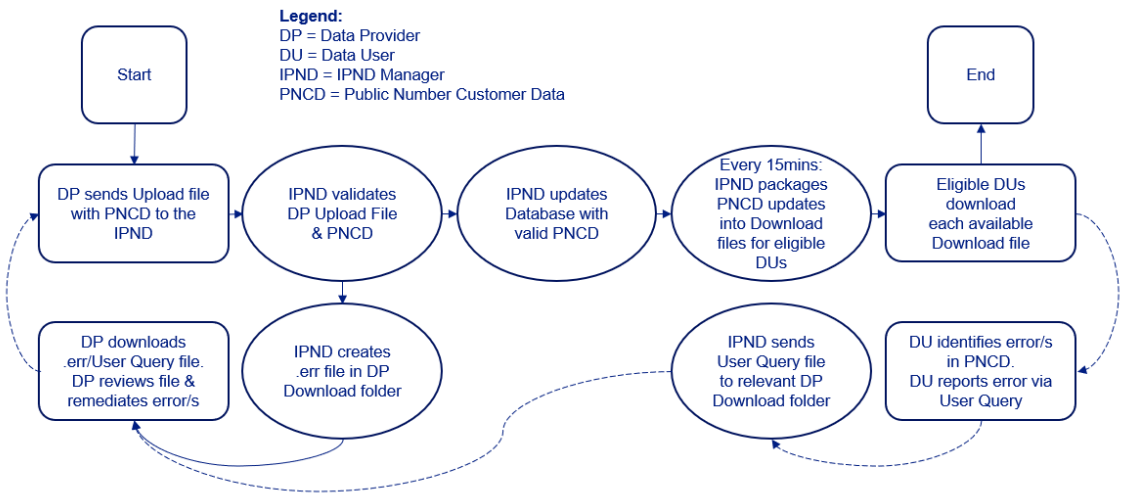
3.1 IPND Data Flow

The purpose of this section is to provide DPs and CSPs a basic overview of data flow in the IPND.

Each time a DP sends a Customer Record IPND Upload File containing PNCD to the IPND, the IPND will perform 4 key automated activities.

1. Validate the attributes of the Customer Record IPND Upload File and the PNCD using pre-defined criteria and rules.
2. Create a corresponding Error file (.err file) which includes the results of the validation performed. The .err file includes a list of error codes if inconsistencies are identified.
3. Update the IPND Database with the valid PNCD contained in the Customer Record IPND Upload File. and,
4. Every 15mins, collate all valid new and updated PNCD received during the previous 15mins into download files and make them available for eligible Data Users.

Basic Process Flow:



3.2 PNCD Management: Operating Rhythm and Process

Effective record management requires an operating cadence along with processes aligned to DP's / CSPs responsibilities and obligations.

For the IPND, DP's / CSP's operating cadence and processes help to ensure the below occurs:

Daily: Provisioning of Customer Records to the IPND and actioning of error notifications

3.2.1 CSPs are obligated to provide Customer Records to the IPND within 1 Business day of service activation / status changes.

3.2.2 CSPs are obligated to review all error notifications that are made available to them in their IPND Download directory. Error notifications are provided in the form of:

(a) Data Provider Query Files (DPQF) which are created when Data Users raise a User Query when an issue is identified with PNCD content.

(b) .err files as a result of Data Provider sending Customer Record IPND Upload Files to the IPND.

3.2.3 DPs/CSPs are obligated to investigate and remediate any issues / errors that appear on error notifications.

NOTE: A daily CDP report will be produced if a Customer Record has changed Data Providers the previous day. If zero (0) Customer Records changed providers from / to your Data Provider code no daily CDP report will be produced.

Monthly: Review IPND Change Data Provider report.

3.2.4 CDP reports are produced by the IPND on the 1st day of each month.

3.2.5 DPs are required to review CDP reports to identify any records incorrectly overwritten by other DPs during the previous month.

Bi-Annually: Reconciliation of Customer Records between a CSPs systems and the IPND.

3.2.6 Reconciliation activities include a CSP recording the findings and remediation of misalignments identified.

Further details about each process is provided in the sections below.

4 IPND DATA PROVISION

4.1 Customer Record IPND Upload File

Rules apply regarding the provision of data to the IPND Manger. These Rules include the roles and responsibilities of DPs and CSPs in relation to their obligations for providing PNCD to the IPND Manager, as well as the format, content and technical aspects of the Customer Record IPND Upload File and IPND functionality.

Section 4 of the Code – *Rules for data provision to the IPND Manager*: details the roles and responsibilities of DPs and CSPs in relation to their obligations for registration and provision of data to the IPND Manager and should be read and understood in its entirety. At a high level, the key requirements to note are:

(i) DPs and CSPs are obligated to provide PNCD to the IPND in the form of a Customer Record IPND Upload File
(ii) CSPs that provide a Number to a Customer are obligated to provide PNCD, including transaction updates to the IPND by the end of the next Business Day.
(iii) DPs and CSPs are obligated to register with the IPND Manager in order to be authorised to supply PNCD to the IPND.
(iv) DPs and CSPs are obligated to ensure that contact information provided to the IPND Manager remains current.
(v) CSPs are obligated to ensure PNCD provided to the IPND is accurate, complete and remains up to date.
(vi) DPs and CSPs are obligated to include in PNCD a tag identifying whether the Number is to be a Listed Entry, Suppressed Address Entry (where offered) or an Unlisted Entry.

Sections 5.2.2 *File Upload by Data Providers;* 6.1 *File Formats* and 6.1.2 *Customer Record IPND Upload File* of the IPND Technical Requirements outline the requirements for the Customer Record IPND Upload File construction. Adherence to these requirements will assist DPs and CSPs with Customer Record IPND Upload File success while minimising the generation of avoidable errors.

4.2 Customer Record IPND Upload File Success Validation

As advised in clause 4.1 above, the IPND will create an error file (.err file) for each Customer Record IPND Upload File sent by DPs and received by the IPND. The .err file is deposited into the DPs download area within the IPND.

The .err file is essentially a transaction report which DPs / CSPs use to identify the status of the PNCD included in their corresponding Customer Record IPND Upload File. Only one .err file will be created for each Customer Record IPND Upload File (it is a 1 to 1 relationship).

> *NOTE: DPs will need to investigate immediately instances where a .err file is not produced as this indicates that their Customer Record IPND Upload failed to be received by the IPND.*

It is the responsibility of DPs / CSPs to download and review each .err file and perform remediation activities for the associated errors generated.

NOTE: Only CSPs who are also DPs will be able to access the download area within the IPND. DPs are required to pass error notifications onto the relevant CSPs if they are different entities.

Clauses 5.1.6 and 5.1.7 of the Code detail the roles and responsibilities of DPs and CSPs in relation to their obligations for obtaining and sharing the .err files when the .err files are made available by the IPND Manager.

Section 6.1.3 – *IPND error file Report to Data Providers*, of the IPND Technical Requirements outlines the format of the .err file.

It is essential that DPs understand how to interpret the content of .err files to determine the success / failure of their Customer Record IPND Upload File and the PNCD content.

A .err file has 3 key components: the Header Record, the Error Record and the Trailer Record.

Header Record: contains information required by the IPND for processing the Customer Record IPND Upload File, such as the File Source and the File Sequence Number.

Error Record: refers to each Number contained in the Customer Record IPND Upload File, its position in the Upload file and details of an error generated during validation.

Trailer Record: contains information to determine the number of errors generated and the number of successful Customer Records added to the IPND from the Customer Record IPND Upload File.

Key components of an .err file:

- Header Record
- Error Record
- Trailer Record

No.	Field	Format	Mandatory	Values	Value Description	Description
	HEADER RECORD					One per file
1	Record Type	X(3)	M	HDR	Header	
2	File Type	X(6)	M	IPNDPE		
3	File Source	X(5)	M		To be provided by the IPND Manager	Source System of data. A DATA PROVIDER may have multiple systems, each generating it's own sequence of files.
4	File Sequence No.	N(7)	M			Unique consecutive number, for upload file from File Source
5	File Creation Start	N(14)	M			Date and time creation of this error file commenced. (YYYYMMDDHHMMSS)
6	Filler	X(31)	MF	SPACES	ASCII 32	Padding to make all records in file the same length.
7	Record Delimiter	1	M	\n	ASCII 10	Newline
	ERROR RECORD					(not present if there are 0 errors identified)
1	Public Number	X(20)	O*			Number of record with error. * Field is mandatory if Error Type is H or S
2	Record Number	N(7)	O*			How many records into the IPND upload file the erroneous record was. Does not include the header record. * Field is mandatory if Error Type is H or S
3	Error Number	N(5)	M			Error Code – describes the error.
4	Error Type	X(1)	MF	F H S W	File Hard Soft Warning	The type of error found
5	Filler	X(33)	MF	SPACES	ASCII 32	Padding to make all records in file the same length.
6	Record Delimiter	1	M	\n	ASCII 10	Newline
	TRAILER RECORD					One per file
1	Record Type	X(3)	M	TRL	Trailer	
2	File Sequence No	N(7)	M			Unique consecutive number, for upload file from File Source
3	Hard Error Record Count	N(7)	M			Number of records in this file with hard errors.
4	Soft Error Record Count	N(7)	M			Number of records in this file with soft errors. Does not include records with both hard and soft errors.
5	Warning Record Count	N(7)	M			Number of warning records in this file, with warnings.
6	Error Record Count	N(7)	M			Number of records in upload file with hard or soft errors. Note a record could have multiple hard and/or soft errors.
7	Success Record Count	N(7)	M			Number of records in upload file, which were processed successfully. Note Success Record Count plus Error Record Count should equal the total number of records in the Upload file.
8	File Creation End	N(14)	M			Date and time creation of the data file was completed. (YYYYMMDDHHMMSS)
9	File Record Count	N(7)	M			Number of records in this file. (Does not include header or trailer)
10	Record Delimiter	1	M	\n	ASCII 10	Newline

Figure 1 - IPND .err file Report – Key Components

Figure 1 shows the key components of the IPND error file (.err file) Report broken down into the header record, error record and trailer record.

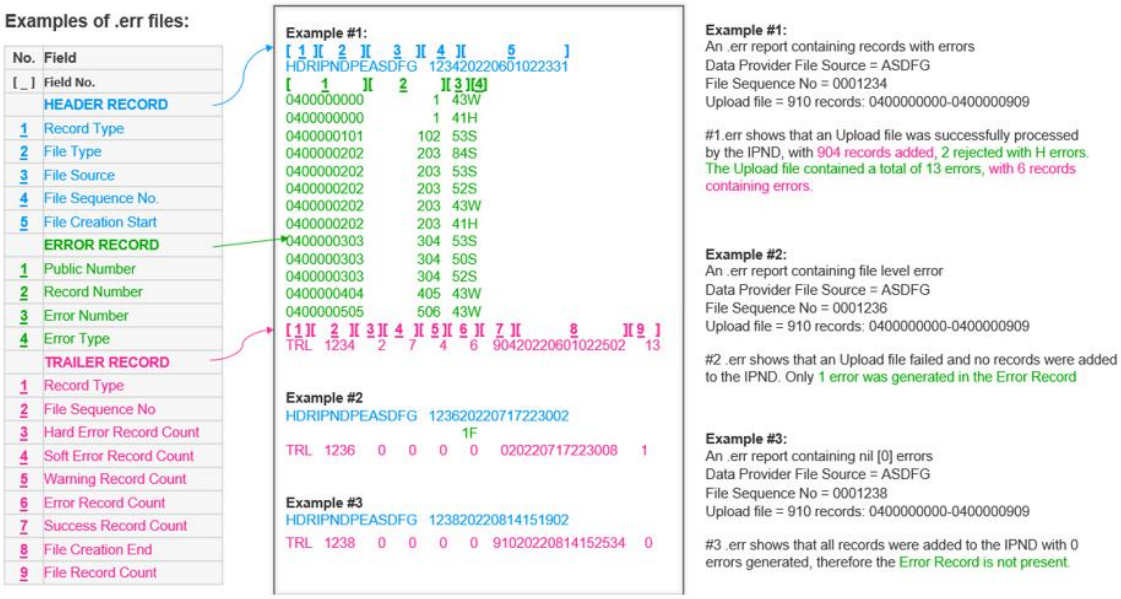


Figure 2 - IPND .err file Report – Example reports

Figure 2 shows 3 examples of information contained within the IPND .err file.

(a) Example 1: Shows sample information of what an .err file will contain when IPND Validation identifies issues with the Customer Record IPND Upload File and its PNCD content. These issues are presented as a list of errors generated with the public number and corresponding position of the PNCD within the Customer Record IPND Upload file.

(b) Example 2: Shows sample information of what an .err file will contain when IPND Validation identifies that there is an issue with the Customer Record IPND Upload File, and the entire file and its PNCD content was rejected with a file level error.

(c) Example 3: Shows sample information of what an .err file will contain when IPND Validation finds no issues identified with the Customer Record IPND Upload File or its PNCD content, and all PNCD records were successfully added to the IPND.

NOTE: When reviewing the .err file trailer record, the sum of Error Record Count and the Success Record Count are required to match the total record count for the associated Customer Record IPND Upload File.
For a clean Customer Record IPND Upload File with 100% of Customer Records processed without error, the .err file will have:
Hard Error + Soft Error + Warning counts = Zero,
Success Record Count match the File Record Count from the associated Customer Record IPND Upload File.

4.3 IPND Error Notifications

Section 5 of the Code relating to Data Accuracy should be read and understood in its entirety. At a high level, the key requirements to note are:

4.3.1 It is a DPs responsibility to review all error notifications provided to them by the IPND Manager.

4.3.2 The IPND Manager will provide DPs with two types of error notifications:

(a) a DPQF, produced when a Data User identifies an issue with the content of PNCD; and

(b) a .err files (the most common), produced when a Customer Record IPND Upload File is received.

Clause 5.1.1 to clause 5.1.11 of the Code detail the roles and responsibilities of DPs and CSPs in relation to their obligations for identifying and remediating the errors contained in .err files and DPQFs when they are made available by the IPND Manager.

4.3.3 DPs are obligated to download all error notifications on the same Business Day that they are made available by the IPND Manager.

(i) Reasonable steps are to be taken to resolve File Level notifications, PNCD Hard Error notifications and DPQFs within one Business Day of the error notification being made available by the IPND Manager.

(ii) Reasonable steps are to be taken to resolve PNCD Soft Error notifications within 2 Business Days of the error notification being made available by the IPND Manager.

4.4 Error Notifications: Data Provider Query File (DPQF)

DPQFs are produced by the IPND when Data Users raise Data User Query Files (DUQF). Data Users raise DUQFs when they identify or receive feedback pertaining to the content of a PNCD. This feedback is often received on behalf of police and ambulance officers attending emergency triple zero calls.

DPQFs include the service number, details of the issue which can include Customer Name, address or contact information, in addition to a free type comment.

> *NOTE: DPQF Comments are a free type field and are often provided by an emergency service officer. An example of a DPQF comment is:*
> *"Police attended the service address and confirmed that the address is incorrect, customer no longer lives at premises."*

4.4.1 DPs / CSPs should download DPQF files as they become available and review to determine whether the feedback provided by the Data User for the Customer Record is valid, followed either by:

(a) providing an update via a Customer Record IPND Upload file incorporating the feedback received in the DPQF file; or

(b) uploading the service data again without any change, if investigation determines the feedback is not valid.

If an upload for the Customer Record is not sent to the IPND, a query flag will remain active against the PNCD, which will appear in Data User and IPND Management monthly reporting.

Further information is available in the IND Technical Requirements clauses 5.2.7 *Data Provider Query File (DPQF)* and 6.1.16 *IPND DPQF File Structure*.

4.5 Error Notifications: Data Provider Error File (.err)

As per section 4.2 of this document, a .err file is created each time a Customer Record IPND Upload file is received by the IPND.

A .err file contains 4 error types or classifications, included in the below table:

.err Error Classification		**Detail**
F	File level error	The Customer Record IPND Upload File + PNCD content was rejected. Resolve error and resend.
MH	Mandatory Hard	The PNCD record was rejected. Resolve error and resend.
MS	Mandatory Soft	The PNCD record was accepted with error. Resolve error and resend.
W	Warning	The PNCD record was accepted, investigation required.

The IPND Technical Requirements clause 6.1.4 *IPND Error messages* provides a list of all applicable error messages that can be found in a .err file.

Further information pertaining to errors found on .err files, their cause and steps for remediation is available via the IPND Error Correction document.

Key takeouts from the IPND Technical Requirements and the IPND Error Correction documents are below:

- One (1) .err file will be created for each Customer Record IPND Upload File.
- There may be multiple errors generated for each Customer Record in a Customer Record IPND Upload File.
- A .err file may only contain a single Header and Trailer record; this occurs when no errors are generated.
- Errors resulting from Customer Record IPND Upload File inconsistencies will result in a file level error code generated for each inconsistency and are written to the .err file. The generation of a file level error will result in the rejection of the entire Upload File and its Customer Record content. When a Customer Record IPND Upload File is rejected, no / zero Customer Record changes are applied to IPND.
- Hard errors will result in the Customer Record being rejected and written to the .err file with the appropriate MH error code.

- Soft errors will result in the Customer Record being applied to the IPND database tagged as having a Soft Error and written to the .err file with the appropriate MS error code.

NOTE: A reconciliation of PNCD between the CSP / DP systems and the IPND will be required in the event of extended period of or multiple Customer Record IPND Upload File failures / rejections. *Reconciliation is necessary to realign PNCD records as the failed Customer Record IPND Upload Files may contain an outdated / obsolete PNCD status / content. The reconciliation is to be carried out before any attempt is made to resume sending Customer Record IPND Upload* Files.

5 CHANGE DATA PROVIDER REPORT

5.1 Changed Data Provider Report

The Change Data Provider (CDP) report is produced by the IPND on the 1st day of each month (and produced daily if required, see Note below). The purpose of the CDP report is to provide Data Providers with information pertaining to PNCD that have transferred (lost or gained) during the previous month.

NOTE:

A daily CDP report is produced if a Customer Record has changed Data Providers the previous day. If zero (0) Customer Records changed providers from / to your Data Provider code no daily CDP report will be produced.

It is strongly recommended that DPs make use of (or share with their CSPs) the daily CDP report to streamline the efforts in managing changes over the course of the month. Utilising the change of CSP Code report in conjunction with this will also assist in ensuring data currency is maintained.

It is a common issue in the IPND community where PNCD are transferred between Data Providers multiple times due to portability process non-compliance / issues.

5.1.1 It is the DPs responsibility to check their monthly Change Data Provider report to identify PNCD that may have been incorrectly overwritten.

Clauses 5.1.14 to 5.1.18 of the Code provide detailed information regarding a DPs or CSPs obligations for resolving instances of incorrectly overwritten PNCD.

More information is available in the IPND Technical Requirements clause 5.2.6 *Change Data Provider Report* and clause 6.1.18 *IPND Changed Data Provider Report File Structure*.

6 DATA RECONCILIATION

6.1 Data Reconciliation processes

Data Reconciliation of PNCD is a critical component of effective IPND record management. At a high level, the key requirements to note are:

6.1.1 IPND Data Reconciliation Processes involve several key activities that are to be carried out in order for the Reconciliation to be successful, including:

(a) Obtaining PNCD: CSP / DP Systems + IPND PNCD Records

(b) Comparing / Reconciling PNCD: CSP / DP Systems + IPND PNCD Records

(c) Record findings

(d) Re-alignment / Remediation of misalignments.

6.2 Obtain Data

6.2.1 To undertake a reconciliation a CSP or DP is obligated to obtain an extract of their PNCD from the IPND Manager (at least once every 6 months) and compare the PNCD records to those Customer records in their Customer Records Management System (or equivalent).

6.2.2 It is the responsibility of a CSP / DP to determine the dates for reconciliation activities falling within the first and the second half of a year.

6.2.3 Where a DP provides PNCD to the IPND on behalf of one or more CSPs, the DP is obligated to obtain an extract of the PNCD from the IPND Manager and provide each CSP with their relevant PNCD extract as soon as practicable once it is made available by the IPND Manager.

6.2.4 The IPND Manager will provide the PNCD extract to the DP within a reasonable timeframe and make the PNCD extract files available within 5 Business Days of the agreed time.

NOTE: If a CSP has multiple DPs, they will need to source their IPND PNCD from each DP individually.

6.3 Compare / Reconcile PNCD

6.3.1 Upon receipt of the PNCD extract(s) provided by the IPND Manager, and in addition to data from their own Customer Records Management Systems (or equivalent), a DP / CSP are obligated to perform a reconciliation activity based on the 4 reconciliation criteria outlined by the ACMA below (see example template in Appendix A for assistance):

(a) Determine the total number of services Active / "Connected" in the CSPs Systems which do not have a corresponding PNCD in the IPND.

(b) Determine the total number of services Active / "Connected" in the CSPs System which have a corresponding PNCD in the IPND with a status of "Disconnected".

(c) Determine the total number of PNCD in the IPND with a status of "Connected" which are designated as inactive / "Disconnected" in the CSPs System.

(d) Determine the total number of PNCD in the IPND with a status of "Connected" which are not included / missing in the CSPs System.

6.4 Record Findings

6.4.1 It is the responsibility of CSPs / DPs to compile and retain copies of the reconciliation results / findings.

In addition to the 4 reconciliation criteria outlined in clause 6.3.1 above reconciliation reports should also include:

(a) The total number of misalignments identified during the initial comparison of IPND extracts against the CSPs source system / records.

(b) A breakdown of the re-alignment actions undertaken including the number of records that were remediated, the dates performed, the total outstanding, and any exemptions etc.

NOTE: See Appendix A for an IPND Reconciliation progress report example template.

6.5 Re-alignment / Remediation of misalignments

6.5.1 Once a CSP has identified and captured the number of misalignments present during the initial comparison of IPND PNCD against CSP systems data, a CSP is required to perform a re-alignment.

6.5.2 Re-alignment / remediation of misalignments should be completed within 30 Business days of the data being made available by the IPND Manager where practicable.

NOTES: 1. Re-alignment is to be done using existing BAU process whereby the DP sends Customer Record IPND Upload Files to the IPND
2. There may be a variation between the IPND extract creation date vs the date of Reconciliation / comparison against CSPs System data. During this interim period, the PNCD status and details may have changed.

It is highly recommended that DPs verify the current PNCD status via a Public Number Query in the Web Portal or seek assistance from the IPND Manager. It is also recommended that DPs refer to the Change Data Provider report (CDP report) created on the 1st day of each month to identify whether PNCD has changed DPs in the interim.

REFERENCES

Publication	Title
Industry Codes	
C555	Integrated Public Number Database (IPND)
Industry Documents	
Data Users and Data Providers Technical Requirements for IPND	
IPND Data Provider Information Pack	
Integrated Public Number Database – IPND Error Correction	
Industry Guidelines	
G619.1	IPND Data
Legislation	
Privacy Act 1988	
Telecommunications Act 1997	
Telecommunications (Consumer Protection and Service Standards) Act 1999	
Telecommunications Integrated Public Number Database Scheme 2007	
Telecommunications (Section of the Telecommunications Industry) Determination 2007	
Telecommunications (Emergency Call Service) Determination 2009	
Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997	

APPENDIX A: IPND RECONCILIATION PROGRESS REPORT EXAMPLE TEMPLATE.

Interface Name / Data Provider Code	Date misalignment identified	Discrepancy Type	Total misaligned services	Total services exempted from remediation	Total services actioned	Total outstanding services requiring action	Description of action taken to resolve the misalignment	Date IPND was / will be updated	Status
		Total quantity of Numbers associated with an active service that do not have a corresponding customer record in the IPND							
		Total number of Numbers associated with an active service for which the corresponding customer record in the IPND has a 'disconnected' status							
		Total number of customer records associated with CSP with a 'connected' status in the IPND for which the Number is designated as 'disconnected' in CSPs Customer System							
		Total number of customer records associated with CSP with a 'connected' status in the IPND which are not present in CSPs Customer System.							

PARTICIPANTS

The Working Committee that revised the Guideline consisted of the following organisations and their representatives:

Organisation	Membership	Representative
ACCAN	Non-voting	Samuel Kininmonth
ACMA	Non-voting	Emma Bain
Aussie Broadband	Voting	Eric Erickson
Aussie Broadband	Non-voting	Bryan Coulson
IPND Manager (Telstra Wholesale)	Voting	Penny Waite
Optus	Voting	Tom Forwood
Optus	Non-voting	Warren Hudson
Symbio	Voting	Michelle Costa
Telstra	Voting	David Fabbian
Telstra	Non-voting	Robert Lansbury
Telstra	Non-voting	Spiro Zantiotis
TPG Telecom	Voting	Annie Leahy
TPG Telecom	Non-voting	Alexander R. Osborne
Vocus	Voting	John Sexton

This Working Committee was chaired by Alexander R. Osborne. Craig Purdon of Communications Alliance provided project management support.

Communications Alliance was formed in 1997 to provide a unified voice for the Australian communications industry and to lead it into the next generation of converging networks, technologies and services.

In pursuing its goals, Communications Alliance offers a forum for the industry to make coherent and constructive contributions to policy development and debate.

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It is committed to the achievement of the policy objective of the *Telecommunications Act 1997* - the greatest practicable use of industry self-regulation without imposing undue financial and administrative burdens on industry.

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COMMUNICATIONS
ALLIANCE LTD

Level 25
100 Mount Street
North Sydney
NSW 2060 Australia

Correspondence
PO Box 444
Milsons Point
NSW 1565

T 61 2 9959 9111
E info@commsalliance.com.au
www.commsalliance.com.au
ABN 56 078 026 507