

**ECAS**

**Fixed            Location  
Information  
Specification**

**Provided to ECAS**

**Issue 5.1**

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# 1.Introduction

The following is the specification of the Fixed Location Information that shall be made available to the ECAS by Operators. The information to be provided includes:

- telephone number;
- installation address;
- operator's name;
- renter's name;
- other information,

and will be used to support the handling of emergency calls, and the subsequent forwarding of available and appropriate information to the Emergency Services, in connection with an emergency call.

Note, in this specification an "Operator" refers to any Authorised Operator. The majority of fixed location information is expected to be provided by eircom.

## 1.1 Scope of the specification

The provision by an Operator of Fixed Location Information is subject to a separate agreement between the Operator and the ECAS, and to regulatory oversight by Comreg. Where such information is provided, the format and definition of records and other aspects, shall comply with this specification.

This specification defines the fixed line information and relevant file formats only. The approach and requirements for the transfer of this information to ECAS is detailed in the "ECAS Data Transfer Specifications" document which must be adhered to by operators in order to supply the information described in this specification to ECAS.

All Publicly Available Telephone Services<sup>1</sup> (PATs) operators should provide Fixed Location Information to the ECAS.

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<sup>1</sup> A Publicly Available Telephone Services is defined in Article 2 of Directive 2002/22/EC.

## 2. Data requirements

### 2.1 Information Types

The following information (where appropriate to the Operators service and subscriber base) shall be supplied to ECAS at regular intervals

1. Fixed line installation records – This information will be used by the ECAS system to determine the location and address of a person calling from a fixed line installation. Installation records should be provided by an operator for all fixed line, VOIP, or other installations that it is responsible for and where the end users service is provided by that operators switching infrastructure. In all cases (including Line share LLU, SB-WLR etc.) installation records should be provided by the direct or wholesale operator that directly provides the voice service to the end user i.e. the operator providing the voice switching infrastructure to which the end user is directly connected.
2. Fixed line billing records – This information will be used by ECAS and the emergency services for additional information on the caller such as the likely name and the details of the retail operator. Billing records should be provided by operators for all subscribers that it owns the supplier/customer relationship with. This will include WLR customers where the WLR operator should provide billing records on all WLR customers.

The ECAS system will import this information from each operator as a separate file for each information type. For each imported file, the import process will create a report file which will contain the number of records imported and details of any rejected records.

The ECAS systems take no account of fixed line number portability concerns or any number portability processes as it is considered that these arrangements and processes are outside the scope of the ECAS operation. In the event of number porting between operators, and other industry processes it is assumed that the relevant update records will be submitted by the operators involved to ECAS e.g.:

- In the case of inter operator number porting, the losing operator will send a DELETE instruction for the relevant installation record and the gaining operator will send an ADD record with the appropriate details.
- In the case of a WLR move between operators, the losing operator will send a DELETE instruction for the relevant billing record and the gaining operator will send an ADD instruction for the relevant billing record.

NOTE: The specifics of record formatting, including how space padding and record truncation will be treated are include in Section 3.1 and Section 4.

### 2.2 High Level File Specifications

The format of all files must satisfy the following requirements:

1. ASCII, flat file format shall be used
2. Fixed length fields shall be used. Fields shall be space padded, and in the case of numeric values will be right justified, and left justified otherwise.
3. Any unused field within a record shall be space padded to the appropriate field width
4. Each Record shall be separated by a carriage return, line feed.
5. Data files will not contain header and trailer records and will contain data records only.
6. For each data file submitted to the ECAS systems an associated "control" file containing one line with the number of records in the relevant data file will be written and sent to the ECAS system once the transfer of the data file has completed successfully.

### **2.2.1 Operator id**

A Variable length operator id will be assigned to each Operator by ECAS. This operator id shall be included in the file name for all files as described below.

The operator id and other required details will be agreed between ECAS and the Operator at an operational level prior to Go-Live.

### **2.2.2 Control Files**

A Control file shall be produced for each data file to be submitted to ECAS.

The Control file shall contain one single field record only which will be a variable width numeric value indicating the number of records in the associated data file.

The control file should be sent or submitted to the ECAS server after the associated data file has been successfully transferred and will be used by the operator to indicate that processing of the data file can now be performed.

### **2.2.3 File Records**

A description of all fields contained within the various record types including details the allowable values are Numeric or Alpha/Numeric is given in the section 3 for the fixed line installation records, and section 4 for the fixed line billing information.

### **2.2.4 Record Keys**

Operators should note that the in case of the fixed line information the following fields will be used as keys.

#### **2.2.4.1 Fixed line information**

For both the installation records and billing records, the combination of the STD Code and Telephone Number fields (i.e. the CLI) will be used as the

record key. In the case of a full update, Operators shall ensure that no duplicates of the combined key fields exist in the file.

For an incremental update of fixed line information the same fields of STD Code and Telephone Number will be used as a Key however duplicates of this field combination may of course be required in order to facilitate the change operation (Delete followed by an Add).

## 2.3 Update Types

### 2.3.1 Fixed line information

For fixed line installation and fixed line billing information both full updates and incremental update information will be accepted by ECAS.

***Operators submitting both full and incremental updates shall ensure that the data submitted to the ECAS fixed line information database can be considered consistent and accurate at all times.***

#### 2.3.1.1. Full update

In order ensure that accurate and complete fixed line information is available to ECAS and minimize and potential update inconsistencies, a full update of all relevant installation and billing subscriber records shall be provided periodically. This data set will replace all of the installation and billing records for that operator within the ECAS fixed line information database.

A Data file will be identified as a full update in the filename.

Operators should submit full updates as one data file and one control file.

#### 2.3.1.2. Incremental Updates

Following a full update from an operator subsequent incremental updates shall be provided daily containing details of all change to records in the time period since the previous *full or incremental* update was provided.

It is acknowledged that the operator's installation and billing data may change on a continual basis however the operator shall implement appropriate measures within their required data export process to ensure that missed updates will not occur. These measures may include techniques such as the use of snapshots of their data, suspending internal updates or the use of record update timestamps to ensure that for example an update (add or delete) within their database which was processed after the required export for ECAS was begun but before the ECAS export completed will be included in the next subsequent increment update to ECAS from that operator.

The ECAS incremental update process will support only "ADD" and "DELETE" operations which will be indicated in the operation field as described below. Update operations will be performed sequentially from the first record to the last record in the update file. The application of the operations in the update file should reflect the Operators underlying subscriber and installation databases at the point that the update file was created.

Operators should submit incremental updates as one data file and one control file.

### 2.3.1.3. Handling and sequencing of add and delete records

To facilitate the relevant industry processes including WLR transfers, and inter-operator porting, the following rules will be implemented by the ECAS import utilities:

- An ADD instruction from any operator for an existing billing or installation record owned by another operator will succeed, the details in the ECAS databases will be updated with the newly supplied information, and no error report record will be generated.
- A DELETE instruction submitted by any operator for a record (billing or installation) that is not currently owned or supplied by that operator will fail silently i.e. the instruction will fail and be skipped but no report record to the operator will be generated.

Internal records of these errors and overwrite conditions will be maintained by ECAS for audit and tracking purposes however as these conditions may arise frequently due to industry transfer and porting processes, these conditions will not be treated as errors from the undertakings perspective and will not be highlighted in the report files returned to the undertakings. ECAS considers undertakings to be trusted third parties with an interest in ensuring that the data maintained by ECAS on fixed line subscribers is as accurate and as up to date as possible.

## 2.4 Processing and import errors

Records in all input files will be processed and imported sequentially. In the case where a record can not be processed, for example the record is not correctly formatted, field validation failed, or an inappropriate action is presented (e.g. a delete operation for a CLI or record that does not exist in the ECAS databases) this will be identified in the report file associated with that import file as described in the “ECAS Data Transfer Specification” document. operators should note that a threshold for processing errors will be set on a per import file basis such that if the number of processing errors encountered while processing the file exceeds this threshold, processing and further import of the records in that file will be aborted and the entire file will be rejected. An appropriate value for this threshold will be set at the discretion of the ECAS service and notified to the operator at an operational level.

## 2.5 Report files

The ECAS system will generate a report file for each data file received containing details of any processing errors encountered during the import of the data file.

Operators shall retrieve the relevant report files from the ECAS system once processing has concluded and take immediate action to resolve any processing errors reported in order to ensure that the records are correctly formatted and will process correctly and will be re-submitted as part of the next update.

The high level specification for Report files will be as described in the “ECAS Data Transfer Specification document”.



## 2.6 Frequency of updates

Operators shall provide fixed line information updates to ECAS on a daily basis where appropriate or as agreed with ECAS at an operational level. It is expected that the export and transfer process will be automated on the operators systems to support this.

The times of day that operators should perform the transfer and also retrieve report files will be agreed between the operator and ECAS at an operational level.

For example, it may be agreed operationally that a particular organisation will provide their 'fixed line billing records' daily from Tuesday to Saturday in line with the update process on their billing system i.e. no records will be produced on Sunday or Monday mornings.

## 2.7 Timeliness of updates

Updates to both fixed line information and mobile location conversion information should be submitted to ECAS within 24 hours of the information being available on the Operator's systems.

Operators shall endeavour to make updated information available to ECAS prior to or as soon as possible after a new installation is configured within its internal systems or in the case of a change to a mobile cell site affecting range or area covered is identified.

## 2.8 Missed updates

Operators shall take all necessary steps to ensure that missed updates do not occur.

In the situation where for any reason an expected update is not produced by the Operator, then one of the following actions should be taken by the Operator as quickly as possible.

1. The missed update(s) should be re-run or re-produced by the Operator and submitted to ECAS. When taking this course of action, Operators **MUST** ensure that the update files are named as they should have been including the original date that the update should have been produced in order to preserve the sequence in which the updates should be applied.
2. In the case where only one consecutive update has been missed and daily updates are being produced, the Operator may choose to abort the update and include the relevant changes in the next daily update

In all cases missed updates must be resolved and the required data submitted to ECAS as soon as is practical.

In the case where more than 2 consecutive updates have been missed, or 2 or more non consecutive updates have been missed in a 7 day period, ECAS *may* require that a full update is produced and submitted by the operator as soon as possible. This will be agreed and addressed by ECAS and the operator at an operational level.

## 2.9 Data consistency

For fixed line information where full and incremental updates are being provided, the Operator shall ensure that at all times an accurate and consistent representation of the required fixed line information can be constructed by ECAS using the last full update and the application of the changes contained in all subsequent incremental updates provided.

In the case where (for any reason) the operator has concerns about the relative consistency of the data that has previously been submitted to the ECAS, the operator should inform the ECAS of these concerns and arrange to submit a full update to ECAS as soon as possible in order to resolve any potential inconsistencies.

## 2.10 Data Accuracy

***Operators shall ensure that data submitted to the ECAS is accurate for the purposes of determining caller location based on the information available to the operator.***

## 2.11 File Names

### 2.11.1 Input Data files

File names of all input data files presented to ECAS by Operators shall be in the following format

ECAS\_<INFO>\_<TYPE>\_<OPID>\_<DATE><BATCHNO>.DAT

#### Where:

<DATE> is the date that the export was performed by the Operator in the format YYYYMMDD. In exceptional circumstances where an operator must upload more than one distinct data file of the same type on the same date (e.g. to recover from a processing error on the previous day) either a time stamp or a batch number may be appended to the <DATE> string to ensure unique file names on both the data input file and the associated control file (if relevant). Report files will include this suffix and be named according to the original input files.

<OPID> is the 5 digit operator id assigned to the Operator by ECAS. This ID will be assigned at an operational level between to the Operator by ECAS.

<INFO> is a two character string indicating the type of information being submitted in this update file. The <INFO> string shall have the following values

- "FI" for Fixed Line Installation records
- "FB" for Fixed line Billing records

- “ML” for Mobile Location Conversion information detailing Location area code records
- “MC” for mobile Location Conversion information detailing Cell Global Identifier records.

<TYPE> is a one character string indicating if the update is a full or incremental update where “F” denotes a full update and “I” indicates that this file relates to an incremental update.

The “.DAT” file extension indicates that this file is an input data file.

### **2.11.2 Input Control files**

File names of all input control files presented to ECAS by Operators shall be in the following format

ECAS\_<INFO>\_<TYPE>\_<OPID>\_<DATE>.CTL

Where the definitions for the various file name component are as above for the input data file names.

The “.CTL” file extension indicates that this file is an input control file

### **2.11.3 Report files**

Report file names generated by the import process will be named exactly as per the input data and control files with the exception of the file extension which will be “.REP” i.e.

ECAS\_<INFO>\_<TYPE>\_<OPID>\_<DATE>.REP

## **2.12 Address records**

Operators shall submit addresses for all records in a standard format as defined in the relevant record definitions. The record and field definitions provided in sections 3 and 4 include eight address line fields. It should be noted that the fields to be used will depend on the address data in question as address information data type is implied in the fields.

All addresses component fields shall be provided in English except in the case where the official local authority name for the town or locality is in Irish and this name can be referenced in the An Post Geodirectory Database, the Irish name may be provided for the address component. Operators shall ensure that address component values are provided using correct spelling for all localities, streets, towns etc. The data contained within the GeoDirectory database shall be considered the single authoritative source for correct spelling of address component values.

## 2.13 Location information fields

Geographic Location or position information should be provided for all CLI records in installation records if available. The format for this information will be Northings and Eastings on the Irish Grid and formatted as follows.

The field width for both Northings and Eastings will be 10 characters (digits) and the values presented in this field will be either 6 digits or 9 digits as described below. This means that the location fields will contain either 1 padding space or 4 padding spaces.

Field values shall contain numeric digits only with no decimal point characters. Fields will be formatted as either:

- A 6 digit numeric string (right justified and space padded to a 9 character width field) specifying full northings or eastings in units without decimal places. This string should be formatted as “SSSDDDDDD”, where SSS denotes 3 spaces, and DDDDDD denotes a (zero filled from left if necessary) numeric value for northing or easting units.
- A full 9 digit numeric string including 3 decimal places of either northings or eastings but without the decimal point character. This string should be formatted as follows “DDDDDDddd” where DDDDDD denotes a (zero filled from left if necessary) numeric value for northing or easting units, and ddd denotes a 3 digit decimal value (zero padded to right if necessary) value for decimals (or thousands of a northing or easting)

## 2.14 Eircodes

Ireland's Eircode system is the preferred method for providing both Geographic and Civic address locations for fixed line type voice services.

Use of Eircodes is expected to simplify the process of providing fixed line address data by service providers as it is expected that an Eircode will be available for the majority of premises or locations where a fixed voice service is installed or expected to be used.

Use of Eircodes eliminated many of the challenges associated with assigning or fitting civic address data to the field assignment and field width which may be encountered by service providers in providing fixed line address data to the ECAS. Where an Eircode is available in the data, ECAS will utilise the structured address resolved from the Eircodes database in preference to the other values provided for that CLI.

Service providers are encouraged to provide Eircodes for all fixed line CLIs where available as they result in higher quality, more accurate location information being made available to the Emergency Services.

### **3. Fixed line Installation records**

An Operator shall provide installation records and/or billing records for all relevant services and products<sup>2</sup> they provide. Installation records shall be provided by the Operator that carried out, maintains, and is responsible for the physical installation of the lines or circuits in question or in the case of an LLU line by the operator whose voice switching infrastructure the unbundled line is connected to. Billing records shall be provided by the Operator that invoices for the service and owns the relationship with the end user.

Relevant products and services are those that can be used to place emergency calls.

Where no fixed location information is available for a relevant service or product, a record indicating that no information is available shall be provided. For fixed line information, where an Operator provide a direct dialling-in service to a customer with installations in multiple locations, the Operator shall ensure that based on the information available to the operator:

1. the Fixed Location Information provides the telephone numbers and address of each location;
2. The Calling Line Identification presented to ECAS identifies the actual location of the caller based on the STD code and telephone number provided as part of the installation records.

#### **3.1 Installation Record Format**

Operators shall provide installation records with fields as described in the following table. All address and location details to be provided as part of the installation records will be for the physical installation.

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<sup>2</sup> A relevant service or product is one that provides, or may support, a Publicly Available Telephone Service.

ID	Field	Null able	Length	Justified	Padded	Type	Notes
1.	Operation	No	1	NA	NA	A	See Note 2. – D or N
2.	STD code	No	6	Right	Space	N	The number is according to ITU Recommendation E.164. The STD code includes the leading zero.
3.	Telephone number	No	20	Right	Space	N	The number is according to ITU Recommendation E.164
4.	Address A	Yes	5	Left	Space	AN	The number of the unit within a building
5.	Address B	Yes	35	Left	Space	AN	The name of the unit within a building. For example "Flat", "Apartment", "Office".
6.	Address C	Yes	3	Left	Space	AN	The floor number of a unit within a building.
7.	Easting	Yes	10	Right	Space	AN	Location Easting on Irish Grid reference system. See section 2.13 above Reference system WGS 84 shall be used.
8.	Northing	Yes	10	Right	Space	AN	Location Northing on Irish Grid reference system. See section 2.13 above Reference system WGS 84 shall be used.
9.	Address D	Yes	35	Left	Space	AN	The name of the building
10.	Address E	Yes	10	Left	Space	AN	The street number of the building
11.	Address F	No	61	Left	Space	AN	The Street name, Townland name or Town name.
12.	Address G	No	60	Left	Space	AN	The City or Town name or Dublin Postal area.
13.	Address H	No	20	Left	Space	AN	The county name without the prefix, such as "Co." or "County".
14.	PATS type	Yes	2	NA	NA	N	Zero padded 2 digit Number identify the Line type that this CLI relates to. Allowable values are:  00= PSTN, ISDN 01= Fixed Mobile 02= VoIP 03= Private Network, PBX 04=Payphone Other values reserved.
15.	Operator Name	Yes	20	Left	Space	AN	The name of the Operator (Operator) providing the service to the end user (i.e. Billing operator)
16.	Eircode	Yes	8	Left	Space	AN	Previously referred to as Address ID. The 7 Character Irish Eircode without space.
		TOTAL					

The fields types for the above fields are "AN" denoting an alphanumeric variable length string, and "N" for a purely numeric value.

## Notes

- All fields shall be included in the files. The "Nullable" label in the above table identifies where a blank value may be submitted in the file. Blank or Null values are identified within the input file as the associated character positions in the fixed length record containing all space characters only (i.e. no tab, null or other characters).
- Updated field: Three values are applicable for this field: 'D' (Delete); and 'N' (New activity or Add)...  
A "D" shall be used to indicate that the telephone number has been

deleted/ceased or to remove the existing record prior to replacing with updated address or other details. A "D" in the input file signals ECAS to delete the old record.

An "N" shall be used to indicate that the telephone number has been provided or to insert the updated details I.

3. PATS type: The PATS Type field shall be used to indicate to ECAS if the location information available for a particular CLI can be considered reliable. A line type of PSTN/ISDN will be expected to be in the location provided by the installation record details whereas a line type of VOIP or Private Network/PBX (where the caller may be located in a different location and through local breakout may have entered the PSTN at a different location) will not be considered reliable enough for call handling and the ECAS operator will need to confirm the caller's location.

The Value Payphone for PATS Type while not strictly a line type is required to be set for all Payphone installations which would normally be set to a line type of PSTN/ISDN. The ECAS service will need to know if the caller is calling from a payphone.

4. A record may be truncated after any of the optional fields. However, space padding must be supplied for any of the preceding fields in order to preserve the record format up to the last supplied optional field in the record.

## 4. Fixed line billing records

Operators shall provide billing records with the following fields.

All Name, address and location details to be provided as part of the Billing records will be the appropriate contact details of the subscriber and organisation that purchased the line.

ID	Field	Nullable	Length	Justified	Padded	Type	Notes
1.	STD code	No	4	Right	Space	N	The number is according to ITU Recommendation E.164. The STD code includes the leading zero.
2.	Telephone number	No	7	Right	Space	N	The number is according to ITU Recommendation E.164
3.	Address A	Yes	24	Left	Space	AN	Address line 1
4.	Address B	Yes	15	Left	Space	AN	Address Line 2
5.	Address C	Yes	25	Left	Space	AN	Address line 3
6.	Address D	Yes	20	Left	Space	AN	Address Line 4
7.	Address E	Yes	10	Left	Space	AN	County
8.	Operation	No	1	NA	NA	AN	See Note 2. – C or P
9.	Customer Name	No	35	Left	Space	AN	Renters name – see note 4
10.	Operator	No	20	Left	Space	AN	Operator name – see note 5
11.	PATS type	Yes	2	NA	NA	N	Zero padded 2 digit Number identify the Line type that this CLI relates to. Allowable values are:  00= PSTN, ISDN 01= Fixed Mobile 02= VoIP 03= Private Network, PBX 04=Payphone Other values reserved.
12.	Easting	Yes	9	Right	Space	AN	Location Easting on Irish Grid reference system. See section 2.13 above Reference system WGS 84 shall be used.
13.	Northing	Yes	9	Right	Space	AN	Location Northing on Irish Grid reference system. See section 2.13 above Reference system WGS 84 shall be used.
		TOTAL	181				

The fields types for the above fields are “AN” denoting an alphanumeric variable length string, and “N” for a purely numeric value.

### Notes

- All fields shall be included in the files. The “Nullable” label in the above table identifies where a blank value may be submitted in the file. Blank or Null values are identified within the input file as the associated character positions in the fixed length record containing all space characters only (i.e. no tab, null or other characters).
- Updated field: Three values are applicable for this field: 'C' (Cease or Delete); and 'P' (New activity or Provide)...  
A “C” shall be used to indicate that the telephone number has been deleted/ceased. A “P” shall be used to indicate that the telephone number has been provided or to insert the updated details.



3. PATS type: The PATS Type field shall be used to indicate to ECAS if the location information available for a particular CLI can be considered reliable. A line type of PSTN/ISDN will be expected to be in the location provided by the installation record details whereas a line type of VOIP or Private Network/PBX (where the caller may be located in a different location and through local breakout may have entered the PSTN at a different location) will not be considered reliable enough for call handling and the ECAS operator will need to confirm the caller's location.

The Value Payphone for PATS Type while not strictly a line type is required to be set for all Payphone installations which would normally be set to a line type of PSTN/ISDN. The ECAS service will need to know if the caller is calling from a payphone.

4. Customer name: The name of the customer as specified in the billing record.
5. Operator: This is the name of the retail operator that sold the line to the customer. In most cases this will be the name of the operator submitting the billing record.
6. A record may be truncated after any of the optional fields. However, space padding must be supplied for any of the preceding fields in order to preserve the record format up to the last supplied optional field in the record.

## 5. Data types and field validation

*It should be noted that it is the responsibility of the operator to ensure that information submitted conforms to these specifications so that it may be successfully imported into the ECAS databases.*

### 5.1.1 Alphabets

Text and character fields shall support the Irish and English alphabets only.

## 5.2 Capitalisation within a file

Operators shall where possible send records with mixed case letters, as appropriate to the field value e.g. Normal personal names and place names towns counties should be lowercase starting with a capital or as appropriate to the business name e.g. AIB Bank.

However, the import process will accept capitalisation where supplied.

## 5.3 Allowable data Characters

The following Characters are the **only** valid Data Characters within a Record

Character	Printer Graphic	Field Types	Position in Field
Space	Space	AN	Anywhere except first or last Character in a populated field
Full stop	.	AN	Anywhere except first Character in a populated field
Ampersand	&	AN	Anywhere except first Character in a populated field. Ampersand can be used instead of the word 'and' e.g. John & Mary etc.
Back slash	\	AN	Irish Language Fada, used after the vowel to which the fada is to be applied.
Forward slash	/	AN	Anywhere
Left Parenthesis	(	AN	Anywhere.
Right Parenthesis	)	AN	Anywhere
Minus	-	AN	Anywhere except first Character in a

			populated field
Apostrophe	'	AN	Anywhere except first Character in a populated field
Comma	,	AN	Anywhere except first Character in a populated field
A to Z	A to Z	AN	Anywhere in Alpha or Alpha/Numeric fields
a to z	a to z	AN	Anywhere in Alpha or Alpha/Numeric fields
0 to 9	0 to 9	AN, N	Anywhere in Numeric or Alpha/Numeric fields
Colon	:	AN	Anywhere except first Character in a populated field
At symbol	@	AN	Anywhere except first Character in a populated field
Plus	+	AN	Anywhere except first Character in a populated field
Quotation Mark	"	AN	Anywhere
Question Mark	?	AN	Anywhere except first Character in a populated field
Percentage Sign	%	AN	Anywhere except first Character in a populated field

TABLE II: Allowable Data Characters.