



TADIG Code Naming Conventions

Version 10.3

23 May 2013

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1 Introduction

1.1 Overview

TADIG Codes are allocated by the GSM Association (GSMA) for use as primary identifiers, both within file contents and file names, in the following GSMA defined formats:

- TAP (Transferred Account Procedure) as defined in TD.57 [14]
- RAP (Returned Account Procedure) as defined in TD.32 [8]
- NRTRDE (Near Real Time Roaming Data Exchange) as defined in TD.35 [9]
- RAEX (Roaming Agreement EXchange) as defined in TD.67 [15], TD.77 [17], AD.81 [2], AD.85 [3]
- RTDR (Roaming Traffic Data Report) as defined in TD.91[18]
- PNR (Payment Notification Report) as defined in TD.95 [20]
- EID (Electronic Invoicing Data) as defined in TD.72 [16]
- Inter-agent operational reports as defined in TD.36 [10], TD.56 [13], BA.63 [6]
- Migration reports as defined in TD.54 [11], TD.55 [12], TD.92 [19]
- SMS and MMS interworking reports as defined in IN.15 [7]

Inclusion of TADIG Codes in any other GSMA defined formats needs to be approved by TADIG via a Change Request to this PRD.

While the usage of TADIG Codes for TADIG defined data exchange processes is the main one, TADIG Codes are also allowed to be used as a more generic entity identifier in the mobile industry. Codes for such usage must still be allocated by the GSMA. Examples include, but are not limited to:

- DCHs and FCAs
- Roaming Hubs
- Mobile operator groups

1.2 Scope

This document contains the TADIG Code naming conventions, and the rules that must be followed when allocating TADIG Codes.

The naming conventions used within this document are based on already existing implementations, and the naming can therefore not always be referred to standards.

Changes to these conventions can be done only by submitting a formal Change Request (CR) to TADIG.

1.3 Definitions

Term	Description
Elected Connected Operator	An operator who has been elected as a roaming relation through the Roaming Hubbing model, as defined by BA.62 [5]
Host Operator	Operator that extends its existing roaming relationships through a Network Extension, as defined in BA.21 [4]
Network Extension	Extension to the roaming coverage of a Host Operator, as defined in BA.21 [4]
NRTRDE Agent	Entity facilitating NRTRDE exchange on behalf of an operator

Term	Description
Roaming Hub	Entity providing roaming services, as defined by BA.62 [5]
TADIG Code	Code used as company identifier in many TADIG defined data exchange processes

1.4 Abbreviations

Term	Description
CR	Change Request
DCH	Data Clearing House, acting as an agent of an operator or a Roaming Hub
EID	Electronic Invoicing Data
FCA	Financial Clearing Agent, acting as an agent of an operator or a Roaming Hub
GSMA	GSM Association
ISO	International Organization for Standardization
M2M	Machine to machine
MCC	Mobile Country Code
MMS	Multimedia Messaging Service
MNC	Mobile Network Code
NRTRDE	Near Real Time Roaming Data Exchange
PNR	Payment Notification Report
PRD	Permanent Reference Document
RAEX	Roaming Agreement EXchange
RAP	Returned Account Procedure
RTDR	Roaming Traffic Data Report
SMS	Short Message Service
TADIG	Transferred Account Data Interchange Group
TAP	Transferred Account Procedure

1.5 References

Ref	Doc Number	Title
[1]	ISO 3166-1	Codes for the representation of names of countries and their subdivisions
[2]	PRD AD.81	RAEX IR.21 Format Specification
[3]	PRD AD.85	RAEX IR.85 Format Specification
[4]	PRD BA.21	Network Extension Principles
[5]	PRD BA.62	Roaming Hubbing Commercial Model
[6]	PRD BA.63	Roaming Hubbing Hub to Hub Operational Procedures
[7]	PRD IN.15	IW Services Billing Disputes Process
[8]	PRD TD.32	RAP Format Specification
[9]	PRD TD.35	NRTRDE Format Specification

Ref	Doc Number	Title
[10]	PRD TD.36	Data Clearing Procedures
[11]	PRD TD.54	NRTRDE Agent Migration Process
[12]	PRD TD.55	DCH Migration Process
[13]	PRD TD.56	NRTRDE Inter-Agent Operational Procedures
[14]	PRD TD.57	TAP3 Format Specification
[15]	PRD TD.67	RAEX IOT Format Specification
[16]	PRD TD.72	EID Format Specification
[17]	PRD TD.77	Before 28 February 2013: RAEX AA.14 Format Specification From 1 March 2013: RAEX Op Data Format Specification
[18]	PRD TD.91	RTDR Format Specification
[19]	PRD TD.92	Roaming Hubbing TAP, RAP and NRTRDE Flow
[20]	PRD TD.95	PNR Format Specification
[21]	RFC 2119	"Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997. Available at http://www.ietf.org/rfc/rfc2119.txt

1.6 Conventions

The key words "must", "must not", "required", "shall", "shall not", "should", "should not", "recommended", "may", and "optional" in this document are to be interpreted as described in RFC 2119 [21].

2 TADIG Code Format

2.1 General

The TADIG Code consists of two fields, with a total length of five characters consisting of a three-character country code and a two-character operator/company identifier.

2.2 Relation to MCC/MNC

2.2.1 Bilateral Roaming Model

A one-to-one relationship between TADIG Code and MCC/MNC pair is strongly recommended for the bilateral roaming model, as this is the only relationship supported by most billing systems. However, as the industry develops, this may change. If an organisation requires a different relationship, then they must agree this bilaterally with their commercial partner(s).

2.2.2 Roaming Hubbing Model

The roaming hubbing model requires the use of multiple TADIG Codes per operator, in case the Roaming Hub is part of the TAP and RAP flow. Consequently, a one-to-one relationship between TADIG Code and MCC/MNC pair may not be possible in the roaming hubbing model, and is therefore not required.

2.3 Country Code

All operators in one country must have the same country code, except for the exceptions listed in this section or where the available number of TADIG Codes is exhausted (see section 3.5).

Existing TD.13 country codes must be used in all new entries (even in those cases where ISO would change the ISO 3166-1 [1] country code), except:

- In the case of non-terrestrial operators, non-terrestrial Network Extensions, satellite operators, Associate Members and non-operators.
- In the case that no TD.13 country code is available, then the three-character ISO 3166-1 [1] country code must be used. Information regarding ISO 3166-1 [1] can be obtained from ISO.

Note: Before the introduction of TAP2, old country codes were used with TAP1 files, however these were replaced by the ISO 3166-1 [1] country codes. The old TAP1 country codes are no longer valid.

For non-terrestrial operators, non-terrestrial Network Extensions and satellite operators, the first 3 characters of the TADIG Code must be as follows:

- Aeronautical operators: AAA
- Maritime operators: AAM
- Satellite operators: AAQ
- Non-geographic machine-to-machine (M2M) operators: AAZ

Note: All TADIG Codes starting with AA* (where * is unused character from A to Z) are reserved for future use, in case any of the above would be exhausted or any new type of non-geographic is introduced. Non-terrestrial operators, non-terrestrial Network Extensions or satellite operators who registered other codes in the TD.13 database before the above rule went into effect are not required to change their codes.

All TADIG codes starting with WW are reserved for Wi-Fi operators.

Associate Members and Non-Members can either use the existing format or alternatively use a company identifier of three letters. If a company identifier is used, they cannot be the same as any existing ISO 3166-1 [1] country code. Should the three letter company code chosen by the Associate Member or Non-Member one day become an ISO code then the Associate Member or Non-Member is allowed to keep this code, and the case must be included into the Known Issues List in section 4.

3 TADIG Code Allocation Rules

3.1 General Rules

TADIG Codes are used to identify operators and other organisations as specified by the data interchange processes defined in the relevant PRDs.

The TADIG Code must be registered with the TD.13 database on the Infocentre before it can be used in any GSMA data interchange.

Due to existing implementations, the existing TADIG Codes cannot be changed.

Note: A deleted TADIG Code cannot be re-used.

Organisations can have public TADIG Codes (used on the public interface) and private TADIG Codes (used on their private interface).

Ranges of TADIG operator/company IDs have been reserved to organisations to use at their own discretion. All codes falling within these ranges cannot be assigned to organisations for use as an operator/company ID. If organisations need to use codes outside of these ranges, even for private use, these codes must be registered with the GSMA, to ensure duplication does not occur. The user reserved operator/company IDs are the series of letters:

- YA to YZ
- ZO to ZZ

3.2 TADIG Code Allocation per Data Interchange point

Where an organisation has implemented more than one physical data interchange point to be used on the public interface of a specific data interchange process, a unique TADIG code must be allocated for each data interchange point.

Example: A DCH identified by TADIG code “DCHXY” at location “A” must obtain a new TADIG code before implementing a new data interchange point on the public interface at location “B”.

3.3 TADIG Code Allocation by Business Role

It is possible that a specific organisation may implement several different business roles, for example two or more of the following (non exhaustive) list:

- Operator
- Data Clearing House (DCH)
- Financial Clearing Agent (FCA)
- NRTRDE Agent
- Roaming Hub

Should this be the case, such organisation will need to support specific data interchange processes, as defined in the relevant PRDs and required by each applicable business role.

An organisation must obtain a separate TADIG Code where the reuse of an existing TADIG Code leads to either file naming clashes or data routing issues.

Note: Routing issues may also need to take data protection and commercial sensitivity issues into consideration.

For example, an organisation already acting as FCA and willing to also act as Roaming Hub who needs to receive RTDRs, should not re-use the TADIG Code already obtained in their role as FCA, as this could generate file name collisions in case the same operator will select such organisation both as FCA and Roaming Hub. A unique and separate TADIG code for the Roaming Hub role should be obtained instead.

A TADIG Code used on the public interface by an operator generally cannot be re-used to represent any business function, for example Data Clearing House or Hub, unless that function only acts on behalf of that one TADIG Code.

In most cases a business function that acts on behalf of more than one operator TADIG Code on the public interface will itself need to have a separate and unique TADIG Code.

The following table indicates the combination of business roles within the same organisation that could generate file routing issues and/or file naming clashes if the same TADIG Code would be used. An H indicates those combinations where the potential risk of generating file routing issues and/or file naming clashes is high.

For such combinations, it is strongly recommended to check if reusing an existing TADIG Code for the new business role leads to file naming clashes or data routing issues on the

public interfaces implied by those business roles. Should this be the case, a separate TADIG Code must be allocated to the new business role of the organisation.

An L indicates those combinations where the potential risk of generating file routing issues and/or file naming clashes is in principle not so high, although the risk may change in the future, for example due to changes to the standard procedures or to the introduction of new ones (for example RAEX).

Note that any organisation willing to implement a new business role can avoid all these risks by directly applying for a separate TADIG Code for the new business role. This approach is therefore strongly recommended by TADIG.

Allocation of a unique TADIG Code Conditionality	Operator	Roaming Hub	FCA	DCH	NRTRDE Agent
Operator	-	H	H	H	H
Roaming Hub	H	-	H	H	H
FCA	H	H	-	L	L
DCH	H	H	L	-	L
NRTRDE Agent	H	H	L	L	-

Table 1: File routing and/or file naming clashes risk

Associate Members must specify a TADIG Code Type to show for what business role the TADIG Code is used. The TADIG Code Type must be one of the following:

- Data Clearing House
- Financial Clearing Agent
- NRTRDE Agent
- Roaming Hubbing
- Interworking Hub
- General

3.4 Roaming Hubbing

3.4.1 General Rules for Roaming Hub TADIG Code Allocation

The roaming hubbing model requires the use of multiple (alias) TADIG Codes per operator, in case there are Roaming Hubs involved in the roaming relation who are part of the TAP and RAP flow. For a complete description of how TADIG Codes are used in the roaming hubbing model, see TD.92 [19].

A Roaming Hub is only authorised to apply for an alias TADIG code for an operator if it is part of the TAP and RAP flow for a roaming relationship involving that operator. A Roaming Hub who is not part of the TAP and RAP flow, does not need any alias TADIG codes and therefore cannot apply for them.

As long as the Roaming Hub is part of the TAP and RAP flow, it can apply for an alias TADIG code to represent their client operator. They can also apply for one alias TADIG code for each roaming relation scheduled to be implemented for their client operator to represent each Elected Connected Operator.

Roaming Hubs applying for TADIG codes to represent operators must use the specific Roaming Hub application form in section 6.

In order to avoid too many TADIG Codes being issued where they are not needed, the GSMA will supervise and control the allocation of TADIG codes to Roaming Hubs.

All TADIG Codes must be justified, so it is clear the application is valid. By filling in the application form, the Roaming Hub guarantees that it is compliant with the TADIG code allocation rules defined in this section.

If codes are allocated due to an incorrect application, the Roaming Hub may need to forgo the allocated codes.

3.4.2 Allocation of Network Extension TADIG Codes for Roaming Hubbing

Where a Roaming Hub has allocated an alias TADIG code for an operator, then it must also allocate a unique and separate alias TADIG code for each Network Extension implemented via the roaming relation including the operator (Host Operator).

Note: Alias TADIG codes must not be allocated by default, only when needed.

3.4.3 Example of Roaming Hub TADIG Code Allocation

TADIG Codes and countries used are just examples and not meant to identify existing operators or Roaming Hubs.

Scenario Description:

Roaming Hub H1 has a client Sweden1 who wants to roam with operators Norway1 and Finland1.

Roaming Hub H4 has a client Denmark1 who also wants to roam with operators Norway1 and Finland1.

Norway1 is a client of Roaming Hub H2; Finland1 is a client of Roaming Hub H3.

All four Roaming Hubs have Roaming Hubbing Inter-working Agreements in place amongst each other.

Roaming Hubs H1 and H2 are both part of the TAP and RAP flow.

Roaming Hubs H3 and H4 are not part of the TAP and RAP flow.

The following TADIG Codes are already allocated:

- Sweden1 bilateral TADIG Code = SWE01
- Denmark1 bilateral TADIG Code = DNK01.
- Norway1 bilateral TADIG Code = NOR01.
- Finland1 bilateral TADIG Code = FIN01.

Roaming Hubs H1 and H3 have agreed to use the principal TADIG codes between them.

Roaming Hubs H2 and H4 have agreed to use the combination of alias and principal TADIG codes between them.

TADIG Codes Allocation:

To implement the four required roaming relationships, the following TADIG Codes need to be requested and allocated:

Roaming Hub H1 will apply for 3 TADIG Codes to support the implementation of the roaming hub relationships required by their client Sweden1:

- SWEH1 to be used by H1 for the roaming with Norway1.
- NORH1 to be used by H1 for the roaming with Norway1.
- FINH1 to be used by H1 for the roaming with Finland1

Roaming Hub H2 will also apply for 3 TADIG Codes to support the implementation of the roaming hub relationships required by its client Norway1:

- SWEH2 to be used by H2 for the roaming with Sweden1.
- NORH2 to be used by H2 for the roaming with Sweden1.
- DNKH2 to be used by H2 for the roaming with Denmark1.

Roaming Hub H3 and Roaming Hub H4 will not need any TADIG codes for any of the operators, as they are not part of the TAP and RAP flow.

The following picture shows the distribution of the TADIG Codes and their usage according to TD.92 [19]:

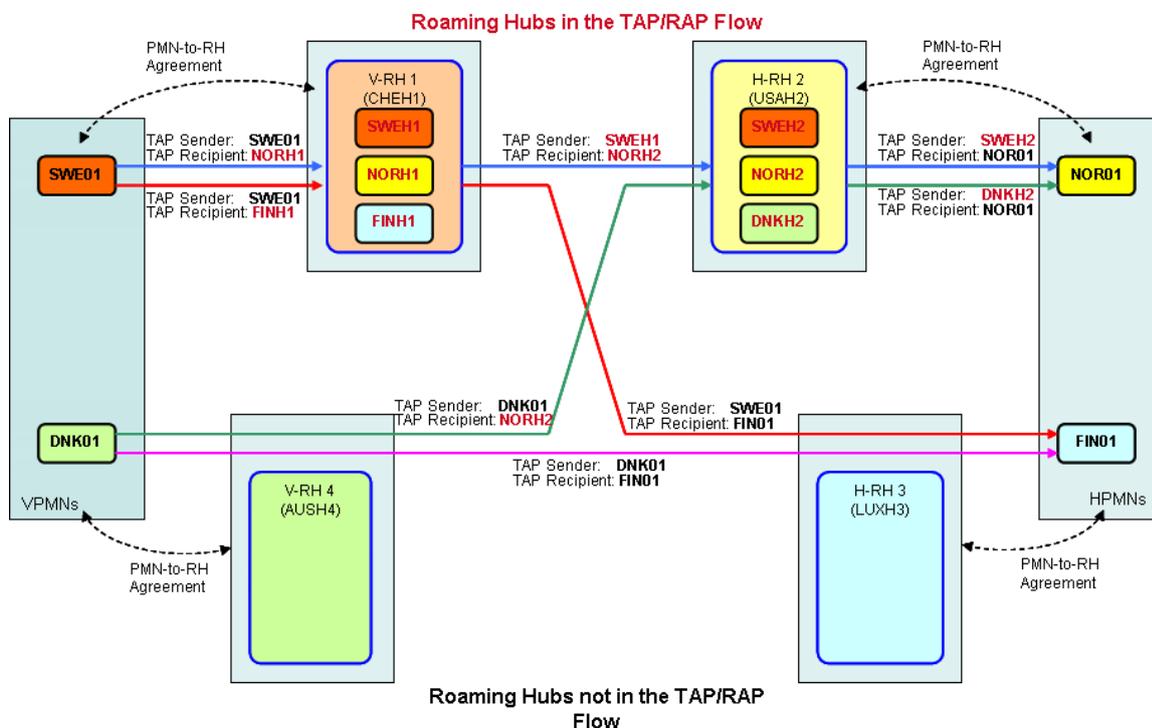


Figure 1: Roaming Hub TADIG Code Allocation

3.5 Handling of TADIG Code Exhaustion

The defined structure of TADIG Codes allows for 1296 different combinations for each given combination of the three-character Recipient country code. This number is further reduced by the 52 combinations reserved for private usage, resulting in 1244 usable TADIG codes in each country.

With the introduction of Roaming Hubbing, exhaustion of TADIG Codes for a given country becomes a possibility. As of early 2011 the highest number of allocated TADIG Codes per one country code is approximately 300 where another country code has more than 100 associated TADIG Codes. Whether this will result in TADIG Code exhaustion for a given country code depends on the market penetration in such country of Roaming Hubs that are financially liable and on TAP/RAP flow. It is not really possible to predict whether exhaustion

will materialise, but in such case GSMA will allocate a second country code for the given country which is different from the ISO code.

4 Known Issues List

There are a few known discrepancies with the data provided in the TD.13 database. Several of these discrepancies are perfectly legitimate and will remain. Details are provided below:

- USA does not always represent the area of coverage (such as US territories), although this is not in line with the current TD.13 rules. However, new applications for TADIG codes need to respect the TD.13 rules and make use of the ISO code for the territory.
- Some operators in Romania and Sudan use the old ISO country code however new applications for TADIG codes have and will be allocated with the new ISO country code for these countries.
- YUG has been used by Montenegro and Serbia operators. Each country now has its own ISO code (MNE and SRB, respectively). Going forward, applications for new TADIG codes will use these ISO codes.
- Montenegro operators will have a transition period, as they change to a new MCC, where they will have two TADIG Codes simultaneously, one with the YUG ISO code and one with the new MNE code. Serbian operators will not have such a transition period.
- FRAF4 – FRA (France) does not represent the area of coverage.
- FRATK – FRA (France) does not represent the area of coverage.
- FRARE – FRA (France) does not represent the area of coverage.
- MCOM2 – MCO (Monaco) does not always represent the area of coverage.
- K00 – Kosovo is not (at the time of the addition of this text) recognised as a country by ITU and does not have its own code. K00 is used to represent Kosovo within TD.13.

Note: Any additional discrepancies should be submitted to TADIG in the form of a CR to TD.13.

Please check the relevant box:

Public Code (used on the public interface)

Private Code (used on the private interface)

Note: All TADIG codes must be upper case.

If you wish to request more than one code, please fill out the table below with your additional code requirements:

Organisation	Operator / Company Name	Operator / Company Country / Area	TADIG Country / Area Code	TADIG Operator / Company Code	TADIG Code Type (for Associate Members)	Public / Private Code

Table 2: TADIG Code Request

I guarantee that the information provided above is correct and is following the rules of TD.13. I recognise that I may have to forgo codes that have been allocated due to an incorrect application.

Document	
Name:	Phone:
Fax:	E-mail:
Date:	Signature:

Table 3: Requesting Company Signature

XX

Note: All TADIG codes must be upper case.

Requesting Roaming Hub Name				Requesting Roaming Hub TADIG Code	
Operator Name	Operator Country/Area	Operator Principal TADIG Code	Client (Y/N)	Requested Alias Country/Area Code	Requested Alias Operator Code

Table 4: TADIG Alias Code Request

I guarantee that the information provided above is correct and is following the rules of TD.13. I recognise that I may have to forgo codes that have been allocated due to an incorrect application.

Document	
Name:	Phone:
Fax:	E-mail:
Date:	Signature:

Table 5: Roaming Hub Signature

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
		Previous history unavailable		
3.12.2	20 Jun 2002	CR 001 (TADIG Doc 074_02)	TADIG #53	Christer Gullstrand / Syniverse Technologies
3.12.3	5 Dec 2002	CR 002 (TADIG Doc 143_02rev1)	TADIG #54	Christer Gullstrand / Syniverse Technologies
3.12.4	20 May 2004	CR 003 (TADIG Doc 57_061rev1)	TADIG #57	Christer Gullstrand / Syniverse Technologies
4.0	10 Jun 2005	Major CRs 004 and 005 (TADIG Docs 59_037 and 59_038rev2)	TADIG #59 E-mail vote EMC #33	Christer Gullstrand / Syniverse Technologies
4.1	1 Jun 2006	Minor CRs 007 and 008 (TADIG Docs 61_040 and 61_041rev1)	TADIG #61	Christer Gullstrand / Syniverse Technologies
4.2	9 Nov 2006	Minor CR 009 (TADIG Doc 62_020)	TADIG #62	Christer Gullstrand / Syniverse Technologies
4.3	7 Jun 2007	Minor CR 011 (TADIG Doc 63_026) Removal of payment information.	TADIG #63	Christer Gullstrand / Syniverse Technologies
5.0	27 Jun 2007	Major CR 010 (TADIG Doc 63_025) Serbia and Montenegro split.	TADIG #63 EMC #55	Christer Gullstrand / Syniverse Technologies
5.1	22 May 2008	Minor CR 012 (TADIG Doc 65_055) Editorial clarification: TADIG code used for more than TAP and RAP.	TADIG #65	Christer Gullstrand / Syniverse Technologies
6.0	24 Dec 2008	Major CR 013 (TADIG Doc 66_042) Rules for allocation of TADIG codes to Roaming Hubs, plus general restructure to improve readability.	TADIG #66 EMC #69	Christer Gullstrand / Syniverse Technologies

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
		Minor CR 014 (TADIG Doc 66_056) Addition of country code K00 for Kosovo to the known issues list.		
7.0	2 Jul 2009	Major CR 014 (TADIG Doc 67_053) Change to rules for allocation of TADIG codes to Roaming Hubs. Note: The CR number 014 was reused by mistake, and not discovered until after approval of the CRs below.	TADIG #67 EMC #74	Christer Gullstrand / Syniverse Technologies
8.0	23 Dec 2009	Minor CRs 016 and 017 (TADIG Docs 68_042 and 68_051). Allocation of TADIG codes for Roaming Hubbing interworking scenario. Support for M2M. Major CR 015 (TADIG Doc 67_053) Network Extensions within Roaming Hubbing.	TADIG #68 EMC #79	Christer Gullstrand / Syniverse Technologies
9.0	21 Jan 2011	Major CRs 019 and 020 (TADIG Docs 70_021 and 70_022). Physical data Interchange points and separate business roles within the same organisation.	TADIG #70 EMC e-mail	Christer Gullstrand / Syniverse Technologies
10.0	30 Jun 2011	Major CR 021 (TADIG Doc 71_045). Makes clear that TADIG needs to assess usage of TADIG codes when included in any GSMA defined interchange and provides guidance in case of TADIG Code exhaustion.	TADIG #71 EMC #94	Christer Gullstrand / Syniverse Technologies
10.1	15 Dec 2011	Minor CRs 022 and 023 (TADIG Docs 72_020 and 72_021). Clarify what form to use for Roaming Hubbing. Reserve AA*** range for M2M operators.	TADIG #72	Christer Gullstrand / Syniverse Technologies
10.1	12 Nov 2012	Update to new GSMA template	N/A	Christer Gullstrand / Syniverse Technologies
10.2	22 Nov 2012	Minor CR 024 (TADIG Doc 74_010). Reserving the range WW*** for Wi-Fi operators.	TADIG #74	Christer Gullstrand / Syniverse Technologies
10.2	18 Apr 2013	Editorial change: Update to new gsma.com e-mail addresses.	N/A	Christer Gullstrand / Syniverse Technologies

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
10.3	23 May 2013	Minor CR 1001. TADIG Code Type for Associate Members.	TADIG #75	Christer Gullstrand / Syniverse Technologies

A.2 Other Information

Type	Description
Document Owner	TADIG
Editor / Company	Christer Gullstrand / Syniverse Technologies

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