IR21 VIVO
International / National Roaming
(BRAV1, BRAV2, BRAV3)

Version 44.0
2012-12-28

GSM 850MHz, 1800Mhz and 1900MHz

GSM Association Roaming Database, Structure and Updating Procedures

4.2
April 2007

This is a binding permanent reference document of the GSM Association.

Security Classification Category (see next page):	
Unrestricted	**X**

Document History
(Revisions are highlighted with red characters along the IR21).

Version	Date	Responsible	Brief Description
V1.0	2005-06-03	Camila Vieira	➢ Previous Version.
V2.0	2005-12-13	Marcio Aragão	➢ NDC(National Destination Codes) Updated; ➢ Contact list Updated
V3.0	2006-01-19	Mariana Vieira Nunes	➢ Contact list Updated
V3.2	2006-08-11	Conrado Caon	➢ Data Addition
V3.3	2006-09-04	Guilherme Felizola Carrapatoso	➢ Data Addition ➢ Contact List Updated

4.0	2007-01-29	Guilherme Felizola Carrapatoso	➢ GPRS Information Addition; ➢ MSRN Structure Updated.
V4.1	2007-03-01	Conrado Caon	➢ GPRS Information Addition;
V4.2	2007-03-06	Guilherme Felizola Carrapatoso	➢ International SCCP Gateway Addition. ➢ MSRN Structure Updated. ➢ GT Addresses (E164) of Entities Updated ➢ GPRS Information Addition (Inter PLMN IP ranges)
V4.3	2007-03-09	Guilherme Felizola Carrapatoso	➢ GPRS Information Addition (Inter PLMN IP ranges)
V4.4	2007-05-03	Guilherme Felizola Carrapatoso	➢ International SCCP Gateway Addition.
V4.5	2007-06-06	Guilherme Felizola Carrapatoso	➢ Contact List Updated. ➢ MSRN Structure (MNC 06). ➢ GT Network Element (SMSC – MNC11). ➢ MSISDN Structure (MNC 10 and 11).
V4.6	2007-09-14	Guilherme Felizola Carrapatoso	➢ MSRN Structure (MNC 11). ➢ GT Network Element (MNC 10 and 11). ➢ MSISDN Structure (MNC 06, 10 and 11).
V4.7	2007-10-15	Guilherme Felizola Carrapatoso	➢ MSRN Structure ➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V4.8	2007-11-22	Guilherme Felizola Carrapatoso	➢ MSRN Structure
V4.9	2008-01-17	Suzana Soares Duprat	➢ MSRN Structure ➢ MSISDN Structure
V5.0	2008-04-17	Guilherme Felizola Carrapatoso	➢ MSRN Structure ➢ MSISDN Structure ➢ Automatic Roaming Testing
V6.0	2008-04-30	Guilherme Felizola Carrapatoso	➢ International SCCP Diagram
V7.0	2008-05-15	Guilherme Felizola Carrapatoso	➢ MSRN Structure ➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V8.0	2008-06-05	Guilherme Felizola Carrapatoso	➢ Data Addition (International SCCP Gateway).
V9.0	2008-07-30	Guilherme Felizola Carrapatoso	➢ MSRN Structure ➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V10.0	2008-09-15	Guilherme Felizola Carrapatoso	➢ GPRS Information Addition (3G Network) ➢ GT Addresses (E164) of Entities Updated ➢ MSISDN Structure
V11.0	2008-11-19	Guilherme Felizola Carrapatoso	➢ MSRN Structure ➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V12.0	2009-01-16	Guilherme Felizola Carrapatoso	➢ Contact List Updated. ➢ GT Addresses (E164) of Entities Updated
V13.0	2009-02-06	Guilherme Felizola Carrapatoso	➢ MSISDN Structure
V14.0	2009-02-16	Guilherme Felizola Carrapatoso	➢ MSRN Structure (MNC 06). ➢
V15.0	2009-05-13	Guilherme Felizola Carrapatoso	➢ MSISDN Structure ➢ MSRN Structure ➢ Global Title Addresses (E.164) of Entities
V16.0	2009-06-05	Cleiton Pinheiro	➢ Contact List Update
V17.0	2009-06-18	Cleiton Pinheiro	➢ Update Number Portability

V18.0	2009-08-26	Cleiton Pinheiro	➢ MSISDN Structure ➢ MSRN Structure ➢ Contact List Update
V19.0	2009-10-26	Cleiton Pinheiro	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated ➢ Contact List Update
V20.0	2009-12-23	Cleiton Pinheiro	➢ GT Addresses (E164) of Entities Updated ➢ IP Address Update ➢ Contact List Update
V21.0	2010-02-11	Cleiton Pinheiro	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated ➢ Contact List Update
V22.0	2010-03-31	Cleiton Pinheiro	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated
V23.0	2010-05-03	Cleiton Pinheiro	➢ New Signaling DPCs (by invitation only) ➢ Signal diagram, Node and SCCP Info ➢ Contact List Update ➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V24.0	2010-05-19	Cleiton Pinheiro	➢ GPRS IP Address Update
V25.0	2010-06-25	Cleiton Pinheiro	➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V26.0	2010-07-06	Cleiton Pinheiro	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated
V27.0	2010-08-24	Cleiton Pinheiro	➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated ➢ Contact List Update
V28.0	2010-09-22	Carlla Faria	➢ MSISDN Structure ➢ GT Addresses (E164) of Entities Updated
V29.0	2010-10-25	Carlla Faria	➢ MSISDN Structure
V30.0	2010-11-24	Carlla Faria	➢ IP address Update ➢ MSISDN Structure
V31.0	2011-01-03	Carlla Faria	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated ➢ Contact List Update
V32.0	2011-02-28	Carlla Faria	➢ MSISDN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V33.0	2011-05-04	Carlla Faria	➢ MSISDN Structure ➢ GT Addresses (E164)
V34.0	2011-06-15	Carlla Faria	➢ MSISDN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V35.0	2011-08-24	Carlla Faria	➢ IP address Update ➢ MSISDN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V36.0	2011-11-09	Carlla Faria	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) of Entities Updated
V37.0	2011-11-25	Carlla Faria	➢ New Inter PLMN GSN Backbone IP address

			➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164)
V38.0	2011-12-07	Carlla Faria	➢ New Inter PLMN GSN Backbone IP address
V39.0	2012-01-30	Carlla Faria	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V40.0	2012-05-02	Bruno Quintas	➢ MSISDN Structure ➢ GT Addresses (E164) ➢ Contact List Update ➢ New Inter PLMN GSN Backbone IP address ➢ MSRN Structure ➢ Changes in AAC
V41.0	2012-06-22	Bruno Quintas	➢ MSISDN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V42.0	2012-07-09	Bruno Quintas	➢ Changes in AAC ➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164)
V42.1	2012-08-15	Bruno Quintas	➢ MSISDN Structure ➢ MSRN Structure
V43.0	2012-09-03	Bruno Quintas	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V44.0	2012-10-24	Bruno Quintas	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164) ➢ Contact List Update
V45.0	2012-12-28	Bruno Quintas	➢ MSISDN Structure ➢ MSRN Structure ➢ GT Addresses (E164)

Operator Name	VIVO (MNC 06)
Country (abbreviated according to ISO 3166)	BR

ROUTING INFORMATION		
CCITT E.164 Number series:	**Country Code (CC)**	**National Destination Code (NDC)**
MSISDN Number range(s):	55	4191, 4192, 4291, 4391, 4491, 4591, 4691, 4791, 4792, 4891, 4991, 5196, 5197, 5198, 5199, 5399, 5496, 5499, 5596, 5599, 6196, 6198, 6199, 6296, 6298, 6299, 6399, 6496, 6499, 6596, 6599, 6696, 6699, 6796, 6799, 6899, 6999. (see details in Miscellaneous information)
Network nodes Global Title number range(s):	55	006 (see details in Miscellaneous information)
MSRN number range(s):	55	4191, 4291, 4391, 4491, 4591, 4691, 4791, 4891, 4991, 5197, 5399, 5496, 5596, 6199, 6299, 6399, 6499, 6599, 6699, 6799, 6899, 6999. (see details in Miscellaneous information)
E.212 Number series:	**Mobile Country Code (MCC)**	**Mobile Network Code (MNC)**
	724	06
E.214 Mobile Global Title: (MGT)	**Country Code of MGT (CC)**	**Network Code of MGT (NC)**
	55	006
Does Number Portability apply?	YES ⊗	NO

Operator Name	VIVO (MNC 10)
Country (abbreviated according to ISO 3166)	BR

ROUTING INFORMATION		
CCITT E.164 Number series:	**Country Code (CC)**	**National Destination Code (NDC)**

MSISDN Number range(s):	55	11941, 11942, 11950, 11953, 11954, 11955, 11956, 11957, 11960, 11961, 11963, 11964, 11968, 11969, 11970, 11971, 11972, 11973, 11974, 11975, 11995, 11996, 11997, 11998, 11999, 1296, 1297, 1396, 1397, 1496, 1497, 1498, 1499, 1596, 1597, 1598, 1696, 1697, 1699, 1796, 1797, 1896, 1897, 1898, 1996, 1997, 1998. (see details in Miscellaneous information)
Network nodes Global Title number range(s):	55	010 (see details in Miscellaneous information)
MSRN number range(s):	55	11974, 1297, 1397, 1496, 1597, 1697, 1797, 1897, 1996, 1998. (see details in Miscellaneous information)
E.212 Number series:	Mobile Country Code (MCC)	Mobile Network Code (MNC)
	724	10
E.214 Mobile Global Title: (MGT)	Country Code of MGT (CC)	Network Code of MGT (NC)
	55	010
Does Number Portability apply?	YES ⊗	NO

Operator Name	VIVO (MNC 11)
Country (abbreviated according to ISO 3166)	BR

ROUTING INFORMATION		
CCITT E.164 Number series:	Country Code (CC)	National Destination Code (NDC)
MSISDN Number range(s):	55	2195, 2196, 2197, 2198, 2199, 2298, 2299, 2498, 2499, 2798, 2799, 2898, 2899, 7196, 7199, 7399, 7499, 7599, 7799, 7998, 7999, 8181, 8281, 8381, 8481, 8581, 8681, 8781, 8881, 8981, 9191, 9192, 9291, 9292, 9391, 9491, 9591, 9691, 9791, 9891, 9991. (see details in Miscellaneous information)
Network nodes Global Title number range(s):	55	011 (see details in Miscellaneous information)
MSRN number range(s):	55	2199, 2299, 2499, 2799, 2899, 7196, 7199, 7399, 7499, 7599, 7799, 7999, 8181, 8281, 8381, 8481, 8581, 8681, 8781, 8881, 8981, 9191, 9291, 9391, 9491, 9591, 9691, 9791, 9891, 9991. (see details in Miscellaneous information)
E.212 Number series:	Mobile Country Code (MCC)	Mobile Network Code (MNC)
	724	11
E.214 Mobile Global Title: (MGT)	Country Code of MGT (CC)	Network Code of MGT (NC)

	55	011
Does Number Portability apply?	YES ⊗	NO

INTERNATIONAL SCCP GATEWAY						
Signature: [1]	**MAD-DEL**	**MAD-SIM**	**BAR-COL**	**BAR-MER**	***M-NORTE**	***B-TORRAS**
Type: [2]	**Stand alone SCCP**	**Stand alone SCCP**	**Stand alone SCCP**	**Stand alone SCCP**	**Stand alone SCCP**	**Stand alone SCCP**
International DPC:	**2-030-2**	**2-030-3**	**2-030-4**	**2-030-5**	**4-235-5**	**4-235-6**
Primary and secondary SCCP nodes are assigned per operator. Please see routing diagram and assignment policy below. ***Only for operators which are notified by Telefónica for Migration to new Telefónica DPCs**						

INTERNATIONAL SCCP GATEWAY*		
Signature:	**Lausanne – Savoie** Comfone STP CSP1	**Bern – Baumgarten** Comfone STP CSP2
Type:	**STP SCCP**	**STP SCCP**
International DPC:	**2-061-6**	**2-061-7**
Please see routing diagram in the last page.		

*Vivo has two SCCP Providers (Comfone and Telefonica Spain). Before starting the signaling configuration, send an e-mail to roaming.admin.br@telefonica.com in order to confirm which provider will be used for your operator.

MOBILE APPLICATION PART (MAP)		
Introduction of Higher Supported MAP version		
Application Context	Current Version	Date for next Version
Location Updating	V3	
Roaming number inquiry	V3	
Location registers restart	V3	
Information retrieval	V3	
Stand Alone Subscriber data management	V3	
Network Functional SS Handling	V3	
Short Message gateway	V3	
Short Message Alert	V3	
Short message waiting data management	V3	
Mobile Terminating Short Message	V3	

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[1]   Maximum 20 letters. This field is only needed for information and may be omitted.
[2]   ISC, MSC, Stand-alone SCCP etc. Maximum 20 letters. This field is only needed for information and may be omitted.

Relay		
GPRS Location Updating	V3	

CAMEL INFORMATION	
CAP(Camel Application Part) Version	Ph3

PRS and 3G INFORMATION – MNC 06, 10, 11	
APN Operator Identifier	**mnc006.mcc724.gprs** **mnc010.mcc724.gprs** **mnc011.mcc724.gprs**
DNS IP address & name (primary)	IP: 200.220.254.148 IP: 200.142.134.20
DNS IP address & name (secondary)	IP: 200.220.254.148 IP: 200.142.134.20
Inter PLMN GSN Backbone IP address range(s)	200.142.134.0/25 200.220.224.128/25 200.220.252.128/25 200.220.254.128/25 200.220.255.128/25 189.0.64.0/26 189.0.64.64/27 200.142.136.0/24 200.220.255.160/27 200.192.224.128/25 200.192.231.0/26 177.79.250.0/24 177.79.251.0/24 177.79.248.0/24 177.79.249.0/24 177.79.244.0/24
Autonomous System Number	**26599**
Used GRX operator(s)	**TIWS**

List of APN's available for testing:		
WAP	**APN**	wap.vivo.com.br
	Username	Vivo
	Password	vivo
	WAP Gateway IP address	WAP 1.X: **200.142.130.166** Port: **9201** WAP 2.0: **200.142.130.104** Port: **80**
	WAP Server URL	WAP 1.X: http://termwapgsm1x.vivo.com.br WAP 2.0: http://termwapgsm2.vivo.com.br
WEB	**APN**	zap.vivo.com.br
	Username	must be asked during the test.
	Password	must be asked during the test.
MMS	**APN**	mms.vivo.com.br
	Username	vivo
	Password	vivo
	WAP Gateway IP address for MMS	WAP 1.X: **200.142.130.166** Port: **9201**
		WAP 2.0: **200.142.130.104** Port: **80**
	Messaging Server URL	http://termnat.vivomms.com.br:8088/mms

BLACKBERRY	APN	blackberry.net
BSS Information:(optional field)		Ericsson and Huawei
Vendor information SW/HW version for core NW (SGSN, GGSN, HLR): (optional field)		Ericsson and Huawei
Contact person(s) for GPRS: (optional field)		See Contact List

GSM Services provided for roaming subscribers within VIVO Brazil network
Teleservices
✓ Speech, telephony
✓ Speech, emergency calls
✓ Short Message Service MT/PP
✓ Short Message Service MO/PP
✓ Short Message Service Cell Broadcast
✓ Automatic facsimile gr.3, T
✓ Automatic facsimile gr.3, NT
Supplementary Services
✓ Calling line identification presentation (CLIP)
✓ Calling line identification restriction (CLIR)
✓ Call forwarding unconditional (CFU)
✓ Call forwarding on mobile subscriber busy (CFB)
✓ Call forwarding on no reply (CFNRy)
✓ Call forwarding on mobile subscriber not reachable (CFNRc)
✓ Call waiting (CW)
✓ Call hold (CH)
✓ Multi Party (MPTY)
Additional GSM features
✓ Call forwarding to abroad, unrestricted
✓ Call forwarding to abroad, restricted (which countries)
✓ Call forwarding to abroad , not allowed
✓ Support of Optimal Routing (SOR) Phase 1 (late call forwarding)
✓ CAMEL Phase 1
✓ CAMEL Phase 2
✓ CAMEL Phase 3
✓ Operator determined barring for CS
✓ EMS MO
✓ EMS MT
✓ Support of DTMF signalling
✓ IMSI attach/detach
✓ Implicit deregistration
✓ IMEI handling in MSCs
✓ Equipment identity register

AUTOMATIC ROAMING TESTING VIVO (MNC 06)		
Entity **Automatic Answering CirCuit (AAC)**	**Subscriber-Number** **(MSISDN)**	**Location**
1. AAC	+ 55 41 9258 1199	Curitiba – PR
2. AAC	+ 55 42 9100 1199	Ponta Grossa – PR
3. AAC	+ 55 43 9161 1199	Londrina – PR
4. AAC	+ 55 44 9109 1199	Maringá – PR
5. AAC	+ 55 45 9149 1199	Foz do Iguaçu – PR
6. AAC	+ 55 46 9116 1199	Pato Branco – PR
7. AAC	+ 55 47 9199 1199	Joinville – SC
8. AAC	+ 55 48 9171 1199	Florianópolis – SC
9. AAC	+ 55 49 9100 1189	Chapecó – SC
10. AAC	+ 55 51 9742 1199	Porto Alegre – RS
11. AAC	+ 55 53 9971 1199	Rio Grande – RS
12. AAC	+ 55 54 9605 1189	Caxias do Sul – RS
13. AAC	+ 55 55 9901 1199	Santa Maria – RS
14. AAC	+ 55 61 9922 1199	Brasília – DF
15. AAC	+ 55 62 9804 1199	Goiânia – GO
16. AAC	+ 55 63 9951 1199	Palmas – TO
17. AAC	+ 55 64 9964 1199	Rio Verde – GO
18. AAC	+ 55 65 9965 1199	Cuiabá – MT
19. AAC	+ 55 66 9634 1199	Sinop – MT
20. AAC	+ 55 67 9607 1199	Campo Grande - MS
21. AAC	+ 55 68 9962 1199	Rio Branco – AC
22. AAC	+ 55 69 9974 1199	Porto Velho – RO

AUTOMATIC ROAMING TESTING VIVO (MNC 10)		
Entity **Automatic Answering CirCuit (AAC)**	**Subscriber-Number** **(MSISDN)**	**Location**
2. AAC	+ 55 11 95300 1189	São Paulo - SP
4. AAC	+ 55 11 95050 1189	São Paulo - SP
5. AAC	+ 55 12 9600 1189	São José dos Campos - SP
6. AAC	+ 55 13 9600 1189	Santos - SP
7. AAC	+ 55 14 9600 1189	Baurú - SP
8. AAC	+ 55 15 9600 1189	Sorocaba - SP
9. AAC	+ 55 16 9601 1199	Ribeirão Preto - SP
10. AAC	+ 55 17 9601 1199	São José do Rio Preto - SP
11. AAC	+ 55 18 9600 1189	Araçatuba - SP
12. AAC	+ 55 19 9600 1189	Campinas - SP

AUTOMATIC ROAMING TESTING VIVO (MNC 11)		
Entity **Automatic Answering CirCuit (AAC)**	**Subscriber-Number** **(MSISDN)**	**Location**
1. AAC	+ 55 21 7190 1189	Rio de Janeiro – RJ
2. AAC	+ 55 22 9841 1199	Sul Fluminense – RJ
3. AAC	+ 55 24 9836 1199	Norte Fluminense – RJ

4. AAC	+ 55 27 9600 1189	Vitória – ES
5. AAC	+ 55 28 9926 1199	Cachoeiro de Itapemirim – ES
6. AAC	+ 55 71 9600 1189	Salvador – BA
7. AAC	+ 55 73 9800 1199	Ilhéus – BA
8. AAC	+ 55 74 9961 1199	Juazeiro – BA
9. AAC	+ 55 75 9800 1199	Feira de Santana – BA
10. AAC	+ 55 77 9800 1199	Vitória da Conquista – BA
11. AAC	+ 55 79 9927 1199	Aracajú – SE
12. AAC	+ 55 91 9101 1199	Belém – PA
13. AAC	+ 55 92 9107 1199	Manaus – AM
14. AAC	+ 55 93 9100 1199	Santarém – PA
15. AAC	+ 55 93 9101 1199	Altamira – PA
16. AAC	+ 55 94 9161 1199	Marabá – PA
17. AAC	+ 55 95 9111 1199	Macapá – AP
18. AAC	+ 55 96 9137 1199	Boa Vista – RR
19. AAC	+ 55 97 9152 1199	Tabatinga – AM
20. AAC	+ 55 98 9156 1199	São Luís – MA
21. AAC	+ 55 99 9143 1199	Imperatriz – MA
22. AAC	+ 55 81 8101 1199	Recife – PE
23. AAC	+ 55 82 8105 1199	Maceió – AL
24. AAC	+55 83 8110 1199	João Pessoa – PB
25. AAC	+ 55 84 8105 1199	Natal – RN
26. AAC	+ 55 85 8110 1199	Fortaleza – CE
27. AAC	+ 55 86 8105 1199	Teresina – PI
28. AAC	+ 55 87 8107 1199	Petrolina – PE
29. AAC	+55 88 8110 1199	Juazeiro – CE
30. AAC	+ 55 89 8101 1199	Picos – PI

Miscellaneous Information – Vivo (MNC 06)

IMSI Structure:
The IMSI complies with the GSM 03.03 and ITU-T E.212 and has a fixed length of 15 digits. It is composed as follows:

724 06 h1 h2 Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8   h1 = 0...9, h2 = 0...9, Z1...Z8 = 00000000...99999999

MSISDN Structure:

State	CC	NDC	Prefix	Complement			
MSISDN Structure (MNC 06)			
PR	55	41	91AB	XXXX	A=0…9	B=1…9	X=0…9
	55	41	92AB	XXXX	A=0…6	B=1…9	X=0…9
	55	41	92AB	XXXX	A=7…8	B=0…9	X=0…9
	55	41	92AB	XXXX	A=9	B=0	X=0…9
	55	42	91AB	XXXX	A=0…5	B=1…9	X=0…9
	55	42	91AB	XXXX	A=6	B=1…6	X=0…9
	55	43	91AB	XXXX	A=0…6	B=0…9	X=0…9
	55	43	91AB	XXXX	A=7…8	B=1…9	X=0…9
	55	43	919B	XXXX		B=1…5	X=0…9
	55	44	91AB	XXXX	A=0…7	B=1…9	X=0…9
	55	44	91AB	XXXX	A=8	B=0	X=0…9
	55	45	91AB	XXXX	A=0…4	B=1…9	X=0…9
	55	45	91AB	XXXX	A=5	B=1…8	X=0…9
	55	46	91AB	XXXX	A=0…3	B=0…9	X=0…9
	55	46	91AB	XXXX	A=4	B=0…1	X=0…9
SC	55	47	91AB	XXXX	A=0…9	B=0…9	X=0…9
	55	47	92AB	XXXX	A=0…8	B=0…9	X=0…9
	55	47	92AB	XXXX	A=9	B=0…7	X=0…9
	55	48	91AB	XXXX	A=1…8	B=1…9	X=0…9
	55	48	91AB	XXXX	A=0	B=0…9	X=0…9
	55	48	91AB	XXXX	A=9	B=0…4	X=0…9
	55	49	91AB	XXXX	A=0…9	B=1…9	X=0…9
RS	55	51	80AB	XXXX	A=1...4	B=0…9	X=0…9
	55	51	80AB	XXXX	A=5	B=0…7	X=0…9
	55	51	95AB	XXXX	A=0…8	B=0…9	X=0…9
	55	51	95AB	XXXX	A=9	B=0…5	X=0…9
	55	51	96AB	XXXX	A=0…9	B=0…9	X=0…9
	55	51	97AB	XXXX	A=0…9	B=0…9	X=0…9
	55	51	98AB	XXXX	A=0…9	B=0…9	X=0…9
	55	51	99AB	XXXX	A=0…9	B=0…9	X=0…9
	55	53	99AB	XXXX	A=0	B=1…9	X=0…9
	55	53	99AB	XXXX	A=1	B=0, 9	X=0…9
	55	53	993B	XXXX		B=0...8	X=0…9
	55	53	99AB	XXXX	A=2	B=0…9	X=0…9
	55	53	99AB	XXXX	A=4...7, 9	B=1…9	X=0…9
	55	54	96AB	XXXX	A=0...8	B=0…9	X=0…9
	55	54	96AB	XXXX	A=9	B=1…9	X=0…9
	55	54	97AB	XXXX	A=0	B=0…9	X=0…9
	55	54	97AB	XXXX	A=1	B=0…3	X=0…9
	55	54	99AB	XXXX	A=0…9	B=0…9	X=0…9
	55	55	96AB	XXXX	A=0…9	B=0…9	X=0…9

	55	55	97AB	XXXX	A=0...3	B=0…9	X=0…9	
	55	55	97AB	XXXX	A=4	B=0…2	X=0…9	
	55	55	99AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	61	96AB	XXXX	A=0…9	B=1…9	X=0…9	
	55	61	98AB	XXXX	A=0...5	B=1…9	X=0…9	
	55	61	98AB	XXXX	A=6...7	B=0…9	X=0…9	
	55	61	98AB	XXXX	A=8	B=0...4	X=0…9	
	55	61	99AB	XXXX	A=0…5	B=1…9	X=0…9	
	55	61	99AB	XXXX	A=6…9	B=0…9	X=0…9	
	55	62	96AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	62	98AB	XXXX	A=0...4	B=0…9	X=0…9	
	55	62	98AB	XXXX	A=5	B=0…3	X=0…9	
	55	62	99AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	63	9911	XXXX			X=0…9	
	55	63	99AB	XXXX	A=2	B=8…9	X=0…9	
	55	63	99AB	XXXX	A=3, 7…8	B=0…9	X=0…9	
	55	63	99AB	XXXX	A=4...6, 9	B=1…9	X=0…9	
	55	64	96AB	XXXX	A=0	B=0…9	X=0…9	
	55	64	961B	XXXX		B=0...8	X=0…9	
	55	64	962B	XXXX		B=3…7	X=0…9	
	55	64	964B	XXXX		B=1…8	X=0…9	
	55	64	965B	XXXX		B=2…5, 8	X=0…9	
	55	64	967B	XXXX		B=1, 5…6	X=0…9	
	55	64	969B	XXXX		B=5, 9	X=0…9	
	55	64	991B	XXXX		B=0...2, 5…9	X=0…9	
	55	64	99AB	XXXX	A=2...4, 8	B=1…9	X=0…9	
CO	55	64	99AB	XXXX	A=0, 5	B=0…9	X=0…9	
	55	64	99AB	XXXX	A=6	B=0...5, 7…9	X=0…9	
	55	64	997B	XXXX		B=0...9	X=0…9	
	55	64	999B	XXXX		B=0...1, 4…8	X=0…9	
	55	65	96AB	XXXX	A=0...4, 7...9	B=0…9	X=0…9	
	55	65	965B	XXXX		B=0...1, 8...9	X=0…9	
	55	65	966B	XXXX		B=0...5, 7...9	X=0…9	
	55	65	98AB	XXXX	A=0	B=0…9	X=0…9	
	55	65	98AB	XXXX	A=1	B=0	X=0…9	
	55	65	99AB	XXXX	A=0	B=1…9	X=0…9	
	55	65	99AB	XXXX	A=1…9	B=0…9	X=0…9	
	55	66	96AB	XXXX	A=0	B=1…9	X=0…9	
	55	66	96AB	XXXX	A=1…9	B=0…9	X=0…9	
	55	66	990B	XXXX		B=0…3, 5...7, 9	X=0…9	
	55	66	99AB	XXXX	A=1...3, 7...8	B=0…9	X=0…9	
	55	66	99AB	XXXX	A=5...6	B=1…9	X=0…9	
	55	66	99AB	XXXX	A=4	B=0…4	X=0…9	
	55	66	999B	XXXX		B=1, 4…9	X=0…9	
	55	67	96AB	XXXX	A=0…5, 7...9	B=0…9	X=0…9	
	55	67	966B	XXXX		B=0…5, 7...9	X=0…9	
	55	67	99AB	XXXX	A=0...4, 7...8	B=0…9	X=0…9	
	55	67	996B	XXXX		B=0…5, 7…9	X=0…9	
	55	67	999B	XXXX		B=0…1, 4…9	X=0…9	
	55	67	98AB	XXXX	A=0...8	B=0…9	X=0…9	

	55	67	98AB	XXXX	A=9	B=0…1	X=0…9	
	55	68	99AB	XXXX	A=0	B=0…8	X=0…9	
	55	68	99AB	XXXX	A=3...6, 9	B=1...9	X=0…9	
	55	68	99AB	XXXX	A=0...2, 7…8	B=0…9	X=0…9	
	55	69	96AB	XXXX	A=0	B=0…3	X=0…9	
	55	69	993B	XXXX		B=0…8	X=0…9	
	55	69	99AB	XXXX	A=0...2, 4…9	B=0…9	X=0…9	

MSRN Structure (MNC 06):

MSRN Structure (MNC 06)						
State	**CC**	**NDC**	**Prefix**	**Complement**		
	55	41	9100	9YXX	Y=0...5	X=0...9
	55	41	9100	8XXX		X=0...9
	55	42	9100	0YXX	Y=0	X=0...9
PR	55	43	9100	9YXX	Y=0...1	X=0...9
	55	44	9100	0YXX	Y=0...1	X=0...9
	55	45	9100	0YXX	Y=0...1	X=0...9
	55	46	9100	5YXX	Y=0	X=0...9
	55	47	9100	9YXX	Y=0...5	X=0...9
SC	55	48	9100	5YXX	Y=0...3	X=0...9
	55	49	9100	5YXX	Y=0...1	X=0...9
	55	51	9747	0XXX		X=0...9
	55	51	9747	1YXX	Y=0...3	X=0...9
	55	51	9747	2XXX		X=0...9
	55	51	9747	3YXX	Y=0...2	X=0...9
	55	51	9747	4XXX		X=0...9
	55	51	9747	5XXX		X=0...9
RS	55	51	9747	6XXX		X=0...9
	55	51	9747	7XXX		X=0...9
	55	53	9944	5YXX	Y=0	X=0...9
	55	54	9604	5XXX		X=0...9
	55	54	9961	0XXX		X=0...9
	55	55	9636	5XXX		X=0...9
	55	55	9636	8XXX		X=0...9
	55	61	9960	0YXX	Y=0...7	X=0...9
DF	55	61	9960	1YXX	Y=5...6	X=0...9
	55	62	9960	9YXX	Y=9	X=0...9
	55	62	9970	1YXX	Y=8...9	X=0...9
	55	62	9960	9YXX	Y=0...8	X=0...9
GO	55	64	9980	7YXX	Y=0, 2...3	X=0...9
	55	64	9980	71YX	Y=1...9	X=0...9
TO	55	63	9970	9YXX	Y=0...2	X=0...9
	55	65	9980	5YXX	Y=0...6, 9	X=0...9
MT	55	65	9980	4YXX	Y=0...4	X=0...9
	55	66	9980	4YXX	Y=0...3	X=0...9
	55	66	9980	5YXX	Y=0...9	X=0...9
MS	55	67	9990	0XXX		X=0...9
	55	67	9990	2YXX	Y=0...2	X=0...9
AC	55	68	9980	2XXX		X=0...9

RO	55	69	9980	7XXX		X=0...9

Miscellaneous Information – Vivo (MNC 10)

IMSI Structure:
The IMSI complies with the GSM 03.03 and ITU-T E.212 and has a fixed length of 15 digits. It is composed as follows:

724 10 h1 h2 Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8   h1 = 0...9, h2 = 0...9, Z1...Z8 = 00000000...99999999

MSISDN Structure:

State	CC	NDC	Prefix	Complement			
	55	11	941AB	XXXX	A=0...9	B=0...9	X=0...9
	55	11	942AB	XXXX	A=0	B=0...8	X=0...9
	55	11	950AB	XXXX	A=2	B=0, 3...8	X=0...9
	55	11	950AB	XXXX	A=3	B=0, 7...9	X=0...9
	55	11	950AB	XXXX	A=4	B=0, 3, 7...8	X=0...9
	55	11	950AB	XXXX	A=5	B=0, 7, 9	X=0...9
	55	11	950AB	XXXX	A=6	B=4	X=0...9
	55	11	950AB	XXXX	A=7	B=5...6	X=0...9
	55	11	953AB	XXXX	A=0...1	B=0...9	X=0...9
	55	11	953AB	XXXX	A=2	B=0...4	X=0...9
	55	11	9547B	XXXX		B=2...4	X=0...9
	55	11	955AB	XXXX	A=0	B=0	X=0...9
	55	11	955AB	XXXX	A=2	B=0	X=0...9
	55	11	955AB	XXXX	A=3	B=0	X=0...9
	55	11	955AB	XXXX	A=4	B=0	X=0...9
	55	11	955AB	XXXX	A=5	B=0...2, 4...9	X=0...9
	55	11	955AB	XXXX	A=6	B=9	X=0...9
	55	11	955AB	XXXX	A=7	B=0, 7...8	X=0...9
	55	11	955AB	XXXX	A=8	B=0	X=0...9
	55	11	955AB	XXXX	A=9	B=0	X=0...9
SP	55	11	956AB	XXXX	A=0	B=0, 2, 4...9	X=0...9
	55	11	956AB	XXXX	A=1	B=0, 7...9	X=0...9
	55	11	956AB	XXXX	A=2	B=8...9	X=0...9
	55	11	956AB	XXXX	A=3	B=0, 6...9	X=0...9
	55	11	956AB	XXXX	A=4	B=0, 7...9	X=0...9
	55	11	956AB	XXXX	A=5	B=0...9	X=0...9
	55	11	9576B	XXXX		B=9	X=0...9
	55	11	9577B	XXXX		B=0...9	X=0...9
	55	11	9578B	XXXX		B=0...6	X=0...9
	55	11	9605B	XXXX		B=7...9	X=0...9
	55	11	9606B	XXXX		B=0	X=0...9
	55	11	9618B	XXXX		B=2...9	X=0...9
	55	11	9619B	XXXX		B=0...9	X=0...9
	55	11	963AB	XXXX	A=7...9	B=0...9	X=0...9
	55	11	964AB	XXXX	A=0...1, 7...9	B=0...9	X=0...9
	55	11	968AB	XXXX	A=4...5	B=0...9	X=0...9
	55	11	968AB	XXXX	A=6	B=0...6	X=0...9
	55	11	969AB	XXXX	A=0	B=0...9	X=0...9
	55	11	969AB	XXXX	A=1	B=0...3	X=0...9
	55	11	97AXX	XXXX	A=1...4		X=0...9

55	11	975AB	XXXX	A=0...9	B=0…9	X=0…9
55	11	9708B	XXXX		B=7...9	X=0…9
55	11	9709B	XXXX		B=0...9	X=0…9
55	11	99AXX	XXXX	A=5…9		X=0…9
55	12	96AB	XXXX	A=0...5	B=0…9	X=0…9
55	12	96AB	XXXX	A=6	B=0...8	X=0…9
55	12	97AB	XXXX	A=0…9	B=0…9	X=0…9
55	13	96AB	XXXX	A=0...6	B=0…9	X=0…9
55	13	96AB	XXXX	A=7	B=0...2	X=0…9
55	13	97AB	XXXX	A=0…9	B=0…9	X=0…9
55	14	96AB	XXXX	A=0...9	B=0…9	X=0…9
55	14	97AB	XXXX	A=0...9	B=0…9	X=0…9
55	14	98AB	XXXX	A=0...9	B=0…9	X=0…9
55	14	99AB	XXXX	A=0	B=0…9	X=0…9
55	14	99AB	XXXX	A=1	B=0…1	X=0…9
55	15	96AB	XXXX	A=0...9	B=0…9	X=0…9
55	15	98AB	XXXX	A=0...5	B=0…9	X=0…9
55	15	98AB	XXXX	A=6	B=0...4	X=0…9
55	15	97AB	XXXX	A=0…9	B=0…9	X=0…9
55	16	96AB	XXXX	A=0...1	B=0…9	X=0…9
55	16	96AB	XXXX	A=2	B=0…4	X=0…9
55	16	97AB	XXXX	A=0…9	B=0…9	X=0…9
55	16	99AB	XXXX	A=6, 9	B=1…4	X=0…9
55	16	9975	XXXX			X=0…9
55	17	96AB	XXXX	A=0…6	B=1…9	X=0…9
55	17	96AB	XXXX	A=5...6	B=0…9	X=0…9
55	17	96AB	XXXX	A=7	B=0	X=0…9
55	17	97AB	XXXX	A=0…8	B=1…9	X=0…9
55	17	979B	XXXX		B=1...4	X=0…9
55	18	96AB	XXXX	A=0...9	B=0...9	X=0…9
55	18	97AB	XXXX	A=0...9	B=0…9	X=0…9
55	18	98AB	XXXX	A=0...1	B=0...9	X=0…9
55	18	98AB	XXXX	A=2	B=0...3	X=0…9
55	19	96AB	XXXX	A=0	B=1…9	X=0…9
55	19	96AB	XXXX	A=1...9	B=0…9	X=0…9
55	19	97AB	XXXX	A=0…4, 8...9	B=0…9	X=0…9
55	19	97AB	XXXX	A=5…7	B=0…9	X=0…9
55	19	98AB	XXXX	A=0...9	B=0…9	X=0…9
55	19	99AB	XXXX	A=0...7	B=0...9	X=0…9

MSRN Structure (MNC 10):

MSRN Structure (MNC 10)						
State	CC	NDC	Prefix	Complement		
	55	11	97470	0YXX	Y=0...7	X=0...9
	55	11	97470	1YXX	Y=5...6	X=0...9
	55	11	97470	2YXX	Y=0...7	X=0...9
SP	55	11	97470	3YXX	Y=5...6	X=0...9
	55	11	97470	4YXX	Y=0...7	X=0...9
	55	11	97470	5YXX	Y=5...6	X=0...9

	55	11	97470	6XXX		X=0...9	
	55	11	97470	7XXX		X=0...9	
	55	11	97470	8XXX		X=0...9	
	55	11	97470	9XXX		X=0...9	
	55	11	97480	0XXX		X=0...9	
	55	11	97480	1XXX		X=0...9	
	55	11	97480	2XXX		X=0...9	
	55	11	97480	3XXX		X=0...9	
	55	11	97480	4XXX		X=0...9	
	55	11	97480	5XXX		X=0...9	
	55	11	97480	6XXX		X=0...9	
	55	11	97480	7XXX		X=0...9	
	55	11	97480	8XXX		X=0...9	
	55	11	97480	9XXX		X=0...9	
	55	11	97490	0XXX		X=0...9	
	55	11	97490	1XXX		X=0...9	
	55	11	97490	2XXX		X=0...9	
	55	12	9796	0XXX		X=0...9	
	55	13	9769	0XXX		X=0...9	
	55	13	9769	1XXX		X=0...9	
	55	14	9699	0XXX		X=0...9	
	55	14	9699	1XXX		X=0...9	
	55	14	9699	2XXX		X=0...9	
	55	18	9756	0YXX	Y=0...7	X=0...9	
	55	18	9756	1XXX		X=0...9	
	55	16	9736	0XXX		X=0...9	
	55	17	9749	1XXX		X=0...9	
	55	19	9803	0XXX		X=0...9	
	55	19	9803	1YXX	Y=0...2	X=0...9	
	55	19	9803	2XXX		X=0...9	
	55	19	9803	3YXX	Y=0	X=0...9	
	55	19	9803	4XXX		X=0...9	
	55	15	9780	3YXX	Y=0...6	X=0...9	
	55	15	9780	4XXX		X=0...9	

Miscellaneous Information – Vivo (MNC 11)

IMSI Structure:

The IMSI complies with the GSM 03.03 and ITU-T E.212 and has a fixed length of 15 digits. It is composed as follows:

724 11 h1 h2 Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8   h1 = 0…9,   h2 = 0…9,   Z1…Z8 = 00000000…99999999

MSISDN Structure:

State	CC	NDC	Prefix	Complement			
	55	21	95AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	96AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	97AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	98AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	99AB	XXXX	A=0…9	B=1…9	X=0…9
	55	21	71AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	72AB	XXXX	A=0…9	B=0…9	X=0…9
	55	21	67AB	XXXX	A=0…3	B=0…9	X=0…9
	55	21	67AB	XXXX	A=4	B=0…7	X=0…9
RJ	55	22	96AB	XXXX	A=0…3	B=0…9	X=0…9
	55	22	96AB	XXXX	A=4	B=0…1	X=0…9
	55	22	97AB	XXXX	A=0…7, 9	B=0…9	X=0…9
	55	22	97AB	XXXX	A=8	B=0…7, 9	X=0…9
	55	22	98AB	XXXX	A=0…9	B=0…9	X=0…9
	55	22	99AB	XXXX	A=0…9	B=0…9	X=0…9
	55	24	98AB	XXXX	A=1…5	B=1…9	X=0…9
	55	24	98AB	XXXX	A=6	B=0…9	X=0…9
	55	24	98AB	XXXX	A=7	B=0…4	X=0…9
	55	24	99AB	XXXX	A=0…1	B=1…9	X=0…9
	55	24	99AB	XXXX	A=2…9	B=0…9	X=0…9
	55	27	95AB	XXXX	A=0…6	B=0…9	X=0…9
	55	27	96AB	XXXX	A=0…9	B=0…9	X=0…9
	55	27	97AB	XXXX	A=0…9	B=0…9	X=0…9
	55	27	98AB	XXXX	A=0…9	B=0…9	X=0…9
ES	55	27	99AB	XXXX	A=0…9	B=0…9	X=0…9
	55	28	988B	XXXX		B=1…6	X=0…9
	55	28	99AB	XXXX	A=0…1	B=0…9	X=0…9
	55	28	992B	XXXX		B=0…6	X=0…9
	~~55~~	~~28~~	~~993B~~	~~XXXX~~	~~-~~	~~B=5, 8…9~~	~~X=0…9~~
	55	28	99AB	XXXX	A=3…9	B=1…9	X=0…9
	55	71	96AB	XXXX	A=0…9	B=0…9	X=0…9
	55	71	97AB	XXXX	A=0…3	B=0…9	X=0…9
	55	71	97AB	XXXX	A=4	B=0…3	X=0…9
	55	71	99AB	XXXX	A=3, 6…9	B=0…9	X=0…9
	55	71	99AB	XXXX	A=0…2, 4…5	B=0…9	X=0…9
BA	55	73	98AB	XXXX	A=0…3	B=0…9	X=0…9
	55	73	98AB	XXXX	A=4	B=0…2, 5…9	X=0…9
	55	73	98AB	XXXX	A=5	B=0…6	X=0…9
	55	73	99AB	XXXX	A=0… 9	B=0…9	X=0…9
	55	74	99AB	XXXX	A=2	B=2…9	X=0…9

	55	74	99AB	XXXX	A=3...4	B=0…9	X=0…9	
	55	74	99AB	XXXX	A=5...8	B=0…9	X=0…9	
	55	74	999B	XXXX		B=1, 4…9	X=0…9	
	55	75	98AB	XXXX	A=0...8	B=0…9	X=0…9	
	55	75	98AB	XXXX	A=9	B=0...7	X=0…9	
	55	75	99AB	XXXX	A=0...9	B=0…9	X=0…9	
	55	77	98AB	XXXX	A=0...3	B=0…9	X=0…9	
	55	77	98AB	XXXX	A=4	B=0…4	X=0…9	
	55	77	99AB	XXXX	A=0...9	B=0…9	X=0…9	
SE	55	79	96AB	XXXX	A=0...5	B=0…9	X=0…9	
	55	79	96AB	XXXX	A=6	B=0...5	X=0…9	
	55	79	98AB	XXXX	A=0...9	B=0…9	X=0…9	
	55	79	99AB	XXXX	A=0…9	B=0…9	X=0…9	
NO	55	91	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	91	92AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	91	93AB	XXXX	A=0...8	B=0…9	X=0…9	
	55	91	93AB	XXXX	A=9	B=0...2	X=0…9	
	55	92	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	92	92AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	92	93AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	92	94AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	92	95AB	XXXX	A=0...4	B=0…9	X=0…9	
	55	92	95AB	XXXX	A=5	B=0...5	X=0…9	
	55	93	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	93	92AB	XXXX	A=0...2	B=0…9	X=0…9	
	55	93	92AB	XXXX	A=3	B=0…2	X=0…9	
	55	94	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	94	92AB	XXXX	A=0...8	B=0…9	X=0…9	
	55	94	92AB	XXXX	A=9	B=0...3	X=0…9	
	55	95	91AB	XXXX	A=1...6	B=1…9	X=0…9	
	55	95	91AB	XXXX	A=7	B=0...4	X=0…9	
	55	96	91AB	XXXX	A=0...5, 7...8	B=0…9	X=0…9	
	55	96	91AB	XXXX	A=9	B=1…9	X=0…9	
	55	96	916B	XXXX		B=0…6, 8...9	X=0…9	
	55	96	92AB	XXXX	A=0	B=0…3	X=0…9	
	55	97	91AB	XXXX	A=4	B=5…9	X=0…9	
	55	97	91AB	XXXX	A=5	B=0…9	X=0…9	
	55	97	91AB	XXXX	A=6...8	B=1…9	X=0…9	
	55	97	919B	XXXX		B=1…5	X=0…9	
	55	98	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	98	92AB	XXXX	A=0...1	B=0…9	X=0…9	
	55	99	91AB	XXXX	A=0…9	B=0…9	X=0…9	
	55	99	92AB	XXXX	A=0...1	B=0…9	X=0…9	
	55	99	92AB	XXXX	A=2	B=0...2	X=0…9	
NE	55	81	81AB	XXXX	A=0...9	B=0…9	X=0…9	
	55	81	82AB	XXXX	A=0...5	B=0…9	X=0…9	
	55	81	82AB	XXXX	A=6	B=0...3	X=0…9	
	55	82	81AB	XXXX	A=0...8	B=0…9	X=0…9	
	55	82	81AB	XXXX	A=9	B=0...3	X=0…9	
	55	83	81AB	XXXX	A=0...8	B=0…9	X=0…9	

55	84	81AB	XXXX	A=0...7	B=0...9	X=0…9
55	84	81AB	XXXX	A=8	B=0...1	X=0…9
55	85	81AB	XXXX	A=0...9	B=0...9	X=0…9
55	85	82AB	XXXX	A=0	B=0...9	X=0…9
55	85	82AB	XXXX	A=1	B=0...7	X=0…9
55	86	81AB	XXXX	A=0...6	B=0...9	X=0…9
55	86	81AB	XXXX	A=7	B=0...6	X=0…9
55	87	81AB	XXXX	A=0...3	B=0...9	X=0…9
55	87	81AB	XXXX	A=4	B=0...4	X=0…9
55	88	81AB	XXXX	A=0...3	B=0...9	X=0…9
55	88	814B	XXXX		B=0...2	X=0…9
55	89	81AB	XXXX	A=0...2	B=0...9	X=0…9
55	89	81AB	XXXX	A=3	B=0...6	X=0…9

MSRN Structure (MNC 11):

MSRN Structure (MNC 11)						
State	CC	NDC	Prefix	Complement		
	55	21	9940	0XXX		X=0...9
	55	21	9940	1XXX		X=0...9
	55	21	9940	3XXX		X=0...9
	55	21	9940	4XXX		X=0...9
	55	21	9940	7XXX		X=0...9
	55	21	9950	2XXX		X=0...9
	55	21	9960	3XXX		X=0...9
	55	21	9960	4XXX		X=0...9
	55	21	9960	8XXX		X=0...9
	55	21	9960	9XXX		X=0...9
	55	22	9950	3XXX		X=0...9
	55	22	9950	5XXX		X=0...9
	55	22	9950	6XXX		X=0...9
	55	22	9950	7XXX		X=0...9
RJ	55	22	9960	0XXX		X=0...9
	55	22	9960	2XXX		X=0...9
	55	22	9960	4XXX		X=0...9
	55	22	9960	8XXX		X=0...9
	55	22	9960	9XXX		X=0...9
	55	22	9970	0XXX		X=0...9
	55	22	9970	1XXX		X=0...9
	55	22	9970	2XXX		X=0...9
	55	22	9970	3XXX		X=0...9
	55	24	9950	1XXX		X=0...9
	55	24	9950	3XXX		X=0...9
	55	24	9950	4XXX		X=0...9
	55	24	9950	5XXX		X=0...9
	55	24	9950	7XXX		X=0...9
	55	24	9960	8XXX		X=0...9
	55	27	9990	0XXX		X=0...9
ES	55	27	9990	1YXX	Y=0...8	X=0...9
	55	27	9990	3YXX	Y=0...6	X=0...9

	55	27	9990	3YXX	Y=9	X=0...9
	55	27	9990	5YXX	Y=0...4	X=0...9
	55	27	9990	7XXX		X=0...9
	55	28	9954	0XXX		X=0...9
	55	28	9954	1YXX	Y=0...1	X=0...9
	55	28	9954	3YXX	Y=0...3	X=0...9
	55	28	9954	7XXX		X=0...9
BA	55	71	9638	5YXX	Y=0...2	X=0...9
	55	71	9638	5YXX	Y=4...5	X=0...9
	55	71	9638	6YXX	Y=0...2	X=0...9
	55	71	9638	7XXX		X=0...9
	55	71	9638	8XXX		X=0...9
	55	73	9960	6YXX	Y=0...1	X=0...9
	55	73	9960	7XXX		X=0...9
	55	73	9980	6YXX	Y=0...4	X=0...9
	55	74	9970	5YXX	Y=0	X=0...9
	55	74	9970	7XXX		X=0...9
	55	75	9970	5YXX	Y=0...1	X=0...9
	55	75	9970	8XXX		X=0...9
	55	77	9980	6YXX	Y=0...2	X=0...9
	55	77	9980	7XXX		X=0...9
SE	55	79	9980	6XXX		X=0...9
	55	79	9970	5YXX	Y=0...3	X=0...9
PA	55	91	9199	8YXX	Y=0...7	X=0...9
	55	91	9199	9XXX		X=0...9
	55	93	9133	9YXX	Y=0...4	X=0...9
	55	93	9134	9YXX	Y=0...4	X=0...9
	55	94	9117	9XXX		X=0...9
	55	94	9161	9YXX	Y=0...4	X=0...9
	55	94	9224	9XXX		X=0...9
RR	55	95	9126	9XXX		X=0...9
AP	55	96	9137	9XXX		X=0...9
AM	55	92	9107	8XXX		X=0...9
	55	92	9107	9XXX		X=0...9
	55	92	9168	8XXX	~~Y=5...9~~	X=0...9
	55	92	9168	9XXX	~~Y=8~~	X=0...9
	55	92	9260	4XXX		X=0...9
	~~55~~	~~92~~	~~9260~~	~~5XXX~~	-	~~X=0...9~~
	~~55~~	~~92~~	~~9260~~	~~6XXX~~	-	~~X=0...9~~
	55	92	9260	7XXX		X=0...9
	55	92	9260	8XXX		X=0...9
	55	92	9260	9XXX		X=0...9
	55	97	9152	9YXX	Y=0	X=0...9
	55	97	9152	0YXX	Y=1...4	X=0...9
MA	55	98	9156	9YXX	Y=0...7	X=0...9
	55	99	9143	9YXX	Y=0...2	X=0...9
	55	99	9104	9YXX	Y=0...4	X=0...9
PE	55	81	8100	0XXX		X=0...9
	55	81	8100	1XXX		X=0...9
	55	87	8100	0XXX		X=0...9

AL	55	82	8100	0XXX		X=0...9	
	55	82	8100	1XXX		X=0...9	
	55	82	8100	2XXX		X=0...9	
	55	82	8100	3XXX		X=0...9	
PB	55	83	8100	0XXX		X=0...9	
	55	83	8100	1XXX		X=0...9	
	55	83	8100	2XXX		X=0...9	
	55	83	8100	3XXX		X=0...9	
CE	55	85	8100	0XXX		X=0...9	
	55	85	8100	1XXX		X=0...9	
	55	88	8100	0XXX		X=0...9	
RN	55	84	8100	0XXX		X=0...9	
	55	84	8100	1XXX		X=0...9	
PI	55	86	8100	0XXX		X=0...9	
	55	86	8100	1XXX		X=0...9	
	55	86	8100	2XXX		X=0...9	
	55	89	8100	0XXX		X=0...9	
	55	89	8100	1XXX		X=0...9	
	55	89	8100	2XXX		X=0...9	

Global Title Addresses (E.164) of Entities:

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550064401000
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550065101004
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550065301000
550065401000
550065501000
550065401001
550065501001
550066101000
550066101002
550066101004
550066101006
550066201000
550066201003
550066201005
550066301001
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550066501004
550066601001
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550066901000
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550064401500
550064701501
550064801500
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550066101500
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550066201500

550066201503
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550066501504
550066601501
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550066701505
550066801500
550066901500

SCP
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550065103001
550065103002
550066102150
550066102160
550066103001
550066103002
550066103102

HLR/AuC
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550066102004

SGSN
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550065102021
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550065102520
550065102521

MNC 10

MSC
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550101501001
550101601000
550101801002
550101901000
550101901006
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550101801003
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SCP
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550101103200

HLR/AuC
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550100002011
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SGSN
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USSD
550101102029

SMSC
550100002020
550101102010
550101102011
550101102013
550101102018
550101102019
550101102500

EIR
550101102000
550101102100

MNC 11

MSC
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550117101000
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550118101510
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550118201501
550118301501
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550119201503
550119201504
550119101502
550119901500
550119201506
550119201508
550119401501
550112101499

MSC Co-allocate HLR/AuC
550119501000
550119601000
550119501500
550119601500

SCP
550112102150
550112102160
550112102170
550112102150
550112102160
550112103001
550112103002
550112103003
550117103001
550117103002
550117103005
550117103006
550117103007
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550112102080
550112102081
550112102090
550112102091
550112103101
550112103102
550117103102
550112103004
550112103005

SDP
550112102030

HLR/AuC
550112102001
550112102002
550112102004
550112102003
550112102005
550112102006
550112102007
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550118102001
550118502001

SGSN
550112102020
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550112102024
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550112102499

USSD
550112102029
550112102031

SMSC
550112102010
550112102011
550112102012
550112102013
550112102018
550112102019
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WORLDPHONE – Roaming GSM x CDMA

HLR Global Title:
550100211001

MSC/VLRs Global Title:
550100210001

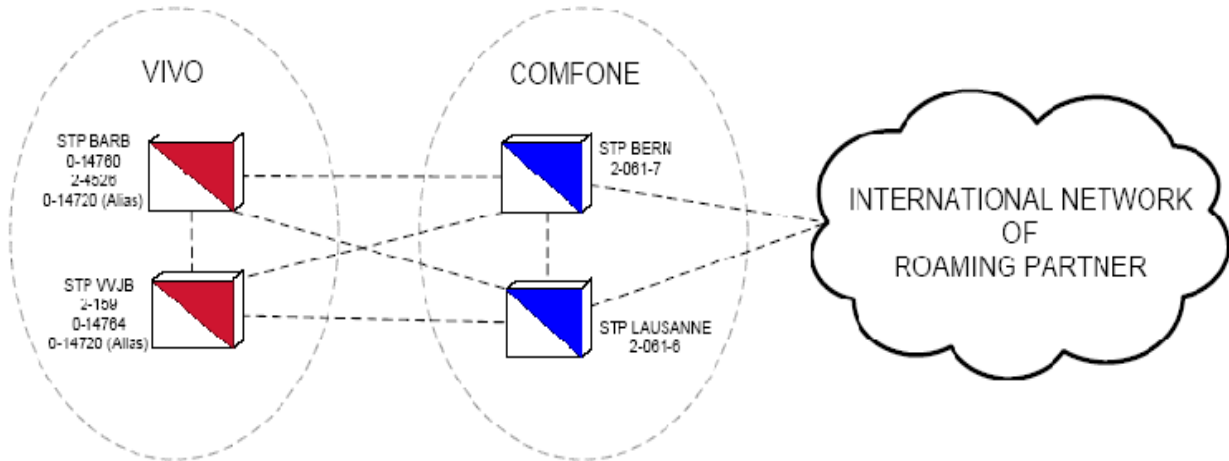**SMSCs Global Title:**
550100212001

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8 hours x 5 days for IREG Tests (for troubleshooting and tests just during Ireg implementation test phase).	IREG Team Phone: +55 21 9906-7936 E-mail: strd-ireg.br@telefonica.com
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GPRS and GRX aspects	Marcelo Dantas Leite Phone: +55 21 9906-7043

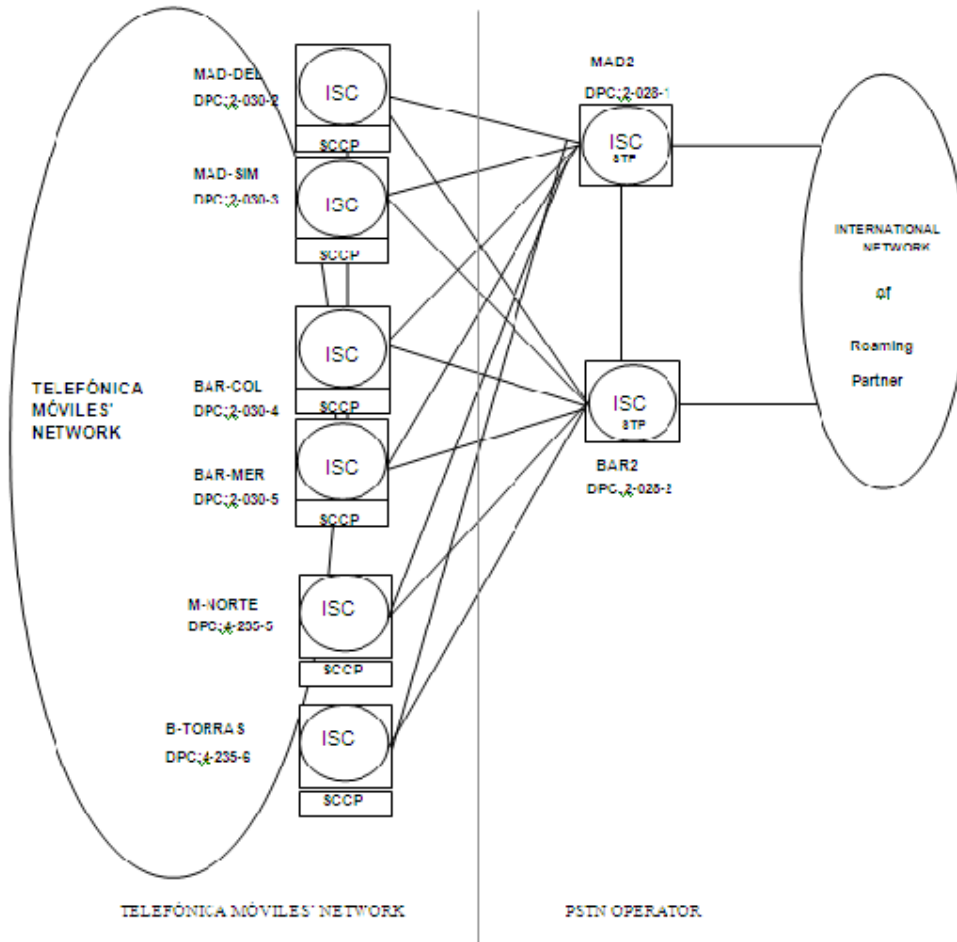|	E-mail: marcelo.dantas@telefonica.com Marçal José Vasconcelos Neto Phone: +55 21 9906-6367 E-mail: marcal.neto@telefonica.com
SIM Cards	Bruno Luis Quintas da Silva Phone: +55 21 9906-6899 E-mail: bruno.luis@telefonica.com
Fraud Aspects	Francelle Brum da Cruz Tel: +55 21 9888-8814 Email Address: francelle.cruz@telefonica.com Waldemar Balbo Junior Tel: +55 11 9963-0097 Email Address: wbalbo@telefonica.com

24 hours x 7 days contacts for Troubleshooting (for troubleshooting and tests related to roaming services that are already commercial).	**STRD Roaming Team** **Phone: +55 21 9906-7930** E-mail: strd-roaming.br@telefonica.com For urgent matters only: **+55 11 97101-1199**
Troubleshooting Coordinator	Anderson Carvalho da Matta Phone: +55 21 9906-7925 E-mail: anderson.matta@telefonica.com

ROUTING DIAGRAM

Using Comfone:

Using TME:

Node Info

ISC Madrid 2	DPC: 2-028-1 STP	Type: Ericsson AXE
ISC Barcelona 2	DPC: 2-028-2 STP	Type: Ericsson AXE
ISC MAD-DEL	DPC: 2-030-2 SCCP	Type: Ericsson AXE
ISC MAD-SIM	DPC: 2-030-3 SCCP	Type: Ericsson AXE
ISC BAR-COL	DPC: 2-030-4 SCCP	Type: Ericsson AXE
ISC BAR-MER	DPC: 2-030-5 SCCP	Type: Ericsson AXE
ISC M-NORTE	**DPC: 4-235-5 SCCP**	**Type: Ericsson AXE 810**
ISC B-TORRAS	**DPC: 4-235-6 SCCP**	**Type: Ericsson AXE 810**

SCCP Translator

The ISCP choice of primary and secondary choice is country-dependant according to:

- For routing most of the SCCP messages:

34609 → ISPCs (Group_ i)

Group_1	Group_2	Group_3	Group_4	Group_5
Primary: 2-030-3 Secondary: 2-030-4	Primary: 2-030-2 Secondary: 2-030-5	Primary: 2-030-4 Secondary: 2-030-3	Primary: 2-030-5 Secondary: 2-030-2	**Primary: 4-235-5** **Secondary: 4-235-6** *SCCP Loadshare preferred*
Germany Portugal and Italy	France	Rest of Europe (except UK)	UK and Rest of the World	**By invitation only**

The classification in the different groups depends on the location of the SCCP Gateways used by each PLMN.