



GSM Association

Permanent Reference Document: IR.21

Unrestricted



PRD IR.21

Title GSM Association Roaming Database, Structure and Updating Procedures

Version 4.0

Date April 2019

GSM Association Classifications

Binding

Security Classification Category:	
Unrestricted - Industry	X

Information Category	Roaming - Technical
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Reference:

GSM Association PRD IR.28, IR.29

CCITT E.164, E.212, E.214



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ANNEX A

Operator name: ¹	CELTEL NIGER S.A (Airtel)
Country (abbreviated according to ISO 3166):	NER

ROUTING INFORMATION		
CCITT E.164 Number series:	Country Code (CC)	National Destination Code (NDC)
<i>MSISDN number ranges:</i>	227	96 97 98 99 89 88 87 86
<i>Network nodes GT number range(s):</i>	227	96
<i>MSRN number range(s):</i>	227	96
E.212 Number series:	Mobile Country Code (MCC)	Mobile Network Code (MNC)
	614	02
E.214 Mobile Global Title: (MGT)	Country Code of MGT ² (CC)	Network Code of MGT (NC)
	227	96
Does Number Portability apply³?		NO <input type="checkbox"/>

¹ Maximum 22 letters. This field is only used for administrative purposes, however, it must always be filled in in order to identify the operator.

² Note: identical to the E.164 Country Code. Additional information due to Number Portability is included in the "Number Information" field of the "Miscellaneous Information" table.

³ Cross the YES box if your network belongs to a Number Portability cluster, that is a group of operators among which Number Portability is applicable. If your network does not belong to a Number Portability cluster then make a cross on the NO box.



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INTERNATIONAL SCCP GATEWAY For ITU				
Name Of SCCP Carrier	BICS			
Signature: ³	Genève		Zurich	
Type: ⁴	ISC		ISC	
International DPC:	2-056-6		2-056-7	
Date for the ability to transmit and handle XUDT/XUDTS: ⁵				
INTERNATIONAL SCCP GATEWAY For Roaming with ANSI Network				
	If Conversion from BICS (ANSI SPC)		If Conversion from Other Providers (ITU SPC)	
Signature:	SYNIVERSE	SYNIVERSE	Genève	Zurich
Type:	ISC	ISC	ISC	ISC
International DPC:	235-250-000	235-250-000	2-056-6	2-056-7

DATE FOR THE AVAILABILITY OF WHITE BOOK SCCP IN THE PLMN	
The ability to receive segmented XUDT/XUDTS:	Unknown
The ability to send segmented XUDT/XUDTS:	Unknown

SIGNALLING SYSTEM NO. 7 ACCESS SOLUTION		
Initial solution:	Initial solution valid until (date):	Subsequent solution:
B		



AUTOMATIC ROAMING TESTING		
Entity	Subscriber- Number (MSISDN)	Location
Automatic Answering Circuit (AAC) ⁴ 1. AAC 2. AAC 3. AAC ...	NA	
Data Automatic Answering Circuit (DAAC) 1. Calls for Data 1. DAAC 2. DAAC 3. DAAC ... 2. Fax Gr.3 1. Fax DAAC 2. Fax DAAC 3. Fax DAAC ...	NA NA	

⁴ The number of AAC and DAAC installed in the network is decided by each operator



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MOBILE APPLICATION PART (MAP)			
Introduction of higher supported MAP version			
Application Context	Current version	The time planned for changing to the next higher version	
Application Context	Current version	Not Planned	
CAMEL	Phase2		
Location updating	V2	Not Planned	
Roaming number enquiry	V2	Not Planned	
Location registers restart	V2	Not Planned	
Information retrieval	V2	Not Planned	
Stand Alone Subscriber Data management	V2	Not Planned	
Network functional SS handling	V2	Not Planned	
Short Message Gateway	V2	Not Planned	
Short Message alert	V2	Not Planned	
Short Message waiting data management	V2	Not Planned	
CAMEL Information			
gsmSSF/MSC:			
CAP (CAMEL Application Part) version ^[1] :		Yes	No
CAP version 1		<input type="checkbox"/>	<input type="checkbox"/>
CAP version 2		<input checked="" type="checkbox"/>	<input type="checkbox"/>
CAP version 3		<input checked="" type="checkbox"/>	<input type="checkbox"/>
CAP version 4		<input type="checkbox"/>	<input type="checkbox"/>
		Unknown	
Partial implementations supported in CAP version 4 ^[2] :		Yes	No



CAMEL Phase 4 CSIs:			
O-CSI	<input type="checkbox"/>	<input type="checkbox"/>	
D-CSI	<input type="checkbox"/>	<input type="checkbox"/>	
VT-CSI	<input type="checkbox"/>	<input type="checkbox"/>	
MT-SMS-CSI	<input type="checkbox"/>	<input type="checkbox"/>	
Functionalities:			
Initiate Call Attempt	<input type="checkbox"/>	<input type="checkbox"/>	
Split Leg	<input type="checkbox"/>	<input type="checkbox"/>	
Move Leg	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect Leg	<input type="checkbox"/>	<input type="checkbox"/>	
Entity Released	<input type="checkbox"/>	<input type="checkbox"/>	
DFC With Argument	<input type="checkbox"/>	<input type="checkbox"/>	
Play Tone	<input type="checkbox"/>	<input type="checkbox"/>	
DTMF Mid Call	<input type="checkbox"/>	<input type="checkbox"/>	
Charging Indicator	<input type="checkbox"/>	<input type="checkbox"/>	
Alerting DP	<input type="checkbox"/>	<input type="checkbox"/>	
Location At Alerting	<input type="checkbox"/>	<input type="checkbox"/>	
Change Of Position DP	<input type="checkbox"/>	<input type="checkbox"/>	
OR Interactions	<input type="checkbox"/>	<input type="checkbox"/>	
Warning Tone Enhancements	<input type="checkbox"/>	<input type="checkbox"/>	
CF Enhancements	<input type="checkbox"/>	<input type="checkbox"/>	
GPRSSSF/SGSN:			
CAP (CAMEL Application Part) version ^[3]:	Yes	No	Date of planned support (if any)
CAP version 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CAP version 4	<input type="checkbox"/>	<input type="checkbox"/>	
Partial implementations supported in CAP version 4^[4]:	Yes	No	Date of planned support (if any)
CAMEL Phase 4 CSIs:			
MT-SMS-CSI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MG-CSI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PSI Enhancements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



List of APN's available for testing and troubleshooting:		
WEB	APN	internet
	Username	N/A
	Password	N/A
	ISP DNS IP address (primary)	N/A
	ISP DNS IP address (secondary)	N/A
	Username	N/A
	Password	N/A
GTP version ^[6]	SGSN	GTP V1
	GGSN	GTP V1
BSS information ^[7] : (optional field)		
Contact person(s) for GPRS ^[8] : (optional field)		

GPRS INFORMATION	
APN Operator Identifier ^[1] :	mnc002.mcc614.gprs
EPC Realms for Roaming:	epc.mnc002.mcc614.3gppnetwork.org
DNS IP address & name (primary) ^[2] :	197.214.2.42
	eDNS3.mnc002.mcc614.gprs
	eDNS3.epc.mnc002.mcc614.3gppnetwork.org
DNS IP address & name (secondary):	197.214.2.43
	eDNS4.mnc002.mcc614.gprs
	eDNS4.epc.mnc002.mcc614.3gppnetwork.org
Inter PLMN GSN Backbone IP address range(s) ^[3] :	197.214.2.0/27 197.214.2.40/29 197.214.2.96/28 197.214.2.176/28 (new)
Autonomous System Number ^[4] (ASN):	<u>64881</u>
Pingable & traceroutable IP address ^[5] :	
GRX provider(s) Name:	Belgacom International (BICS)
IPX Provider Name:	Belgacom International (BICS)



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S6a Supported without IWF	S6a MAP IWF supported to HSS	S6a MAP IWF supported to MME
True	False	False
S6d used for legacy SGSN	S8 GTP interface available	S8 PMIP interface available
False	True	False

SMS ITW		
	SMS delivery over IP	SMS delivery over SGs
	False	true

Voice ITW	
	CSFB

Roaming CS Fallback	
	supported

QoS Class Identifiers	
QCI values supported in PMN List:	
	6
	7
	8
	9

MISCELLANEOUS INFORMATION ⁵

➤ **MSRN Structure:**

The MSRN complies with GSM 03.03 and CCITT E.164 and has a length of 11 digits. It is composed as follows:

+227 YY X₁ X₂ X₃ X₄ X₅ X₆ where X=0...9

YY=96, 97, 98, 99, 89, 88, 87, 86

⁵

This field has the purpose of giving more detailed information. The content and structure is decided by each operator.



➤ **MSISDN Structure:**

The MSISDN complies with GSM 03.03 and CCITT E.164 and has a length of 11 digits. It is composed as follow:

+227 96 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 97 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 98 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 99 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 89 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 88 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 87 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9
+227 86 X₁ X₂ X₃ X₄ X₅ X₆ X=0...9

➤ **Translation IMSI →MGT**

MCC = 614 →CC = 227

MNC = 02 →NDC = 96, 97, 98, 99, 89,88,87

Translation IMSI to MGT for **Postpaid**:

MCC = **614** --> CC = **227**

MNC = **0202** --> NDC =**96, 97, 98, 99, 89, 88, 87, 86**

Translation IMSI to MGT for **Prepaid**:

MCC = **614** --> CC = **227**

MNC = **0201** --> NDC =**96, 97, 98, 99, 89, 88, 87, 86**

HQMGW PC: 12517

➤ **International Signaling Point Code**

➤ **SCCP Translation GT to ISPC**

➤ **SCCP return Option**

Return Option supported



➤ **Network Nodes addressing:**

The GT structure has a length of 11 digits and is fully integrated in the MSISDN series.

HLR GT:

227 96790924 HQUSPP41

227 96790929 CTUSPP42

MSC:

227 96790976 (HQMSC71)

227 96790966 (CTMSC72)

VLR GT:

227 96790976

227 96790966

SGSN GT:

227 96790965

SCP GT:

227 96790006

227 96790007

227 96790004

227 96790003

227 96790925

227 96790926

227 96790917

227 96790918

SMSC GT:

227 96960200

227 96790913

22796950200

SMSCFW GT:

227 96960206

*Contact persons:*⁶

⁶ In this field at least the contact points for the following functions should be given:

- Roaming Service Agreements and Scheduling
- International Gateway SS7 Service Agreements and Scheduling



CONTACTS

Roaming Contacts

Name	Habibou OUMAROU NAINO
Function	ILD & Roaming Lead, Marketing
Mob	22 797 777 262
Tel	NA
FAX	NA
Email	habibou.oumarounaino@ne.airtel.com

IREG Contact point

Name	Ms Aissatou Boubacar
Function	IREG Engineer
Mob	+22797777489
Tel	N/A
FAX	N/A
Email	Aissatou.boubacar@ne.airtel.com

TADIG Contact point

Name	Moumouni Azia Abdou
Function	RAFM Head
Mob	+22797777606
Tel	+22796799122
FAX	NA
Email	Abdou.moumouniazia@ne.airtel..com RA@ne.airtel..com

Name	Harouna Sorka
Function	Fraud Supervisor
Mob	(+227) 97777748
Tel	+22796799122
FAX	
Email	harouna.sorka@ne.airtel.com



Customer Care Contact

Name	Salamatou Amadou GERARD
Function	B2B Manager
Mob	+22797777113
Tel	+ 22789899571
FAX	N/A
Email	gerardsalamatou.amadou@ne.airtel.com

Network Faults - (Contact point for technical personnel only) Network/MS:

Name	ISSAKA Kamaye
Function	CS Core Lead
Mob	+22797777755
Tel	+ 22789899571
FAX	N/A
Email	Issaka.ibrahima@ne.airtel.com

Name	Aminou Liman
Function	Head Of Network Services
Mob	+22797777459
Tel	+22789899571
FAX	N/A
Email	Aminou.liman@ne.airtel.com

Network Faults - (Contact point for technical personnel only) IN:

Name	Rabiou Idi
Function	IN engineer
Mob	+22797777460
Tel	N/A
FAX	N/A
Email	Rabiou.idi@ericsson.com



FRAUD PREVENTION HUR ALERTS:

HUR_NIGER@ne.airtel.com
Mob: +227 777622; +22797777606

Other information: ⁷
Contact for STP connection (C7):
Same as above

Effective date of change:

4th Apr. 2019

⁷ In this field other miscellaneous information should be given as e.g.:

- The date for when a planned change (in the network or in the roaming data) will take place.
- More detailed network description