RWANDA NATIONAL NUMBERING PLAN

June, 2023

CONTENTS

1. INTRODUCTION

1.1 General

Pursuant to the Presidential order nº 04/01 of 15/03/2004 determining the specific duties of the Regulatory Board in Telecommunication matters. RURA, as the regulator for telecommunications has the proprietary right to the number(s) assigned and also reserves the right to alter allocation procedures from time to time or reallocate any number(s) assigned upon their release and also establish criteria for number allocation and management of the reserved assignment of these codes.

Subsequently Rwanda adopted a National Numbering plan inconformity with ITU E-164 on the Guidelines and Recommendations on the Numbering Plan to ensure that signalling protocol aligns with the international community.

The National Numbering Plan (NNP) provides a set of rules and guidelines on the use and assignment of numbers dedicated to public switched networks whether fixed or mobile telephone, or even data, here by providing an attainable routing to designated networks telephone services delivered over the Public Switched Telephone Network (PSTN) i.e Radio Network and the Internet or other Internet Protocol (IP) based network.

This document also provides a Network architecture on future and present number assignment to international or national services, emergency services and other special services.

2. THE NEED FOR NUMBER ALLOCATION AND ASSIGNMENT

There is a broad base of numbers and their high demand, numbering plan enables efficient utilisation, easy management, and allocation of these finite resources since they differ in usage.

Need to meet the anticipated growth in the number of subscribers and services to the national system evolving the telecommunication Industry.

Having a national Numbering Plan ensures fairness and transparency accessibility in the number allocation.

3. DEFINITIONs

1. **Licensee**: Is a licensed provider of electronic communications network or electronic communications services that require numbers for their operations;

2. **Assignment**: the process of assignment of national number resources to an eligible applicant.

3. **Allocation**: here service providers are apportioned to use a number block.

4. **Number block**: a range of numbers grouped together into a unit of allocation

5. **ITU:** International Telecommunication Union

6. **The Non-ITU-T E.164 numbers:** ITU describes such numbers as numbers that may not be passed across any network boundaries without a specific bilateral agreement.

7. **Country Code**: Is a 3-digit code used is used to select the destination country (ie Rwanda's country code is 250).

8. **Mobile Network Code**: Is a 2digit code that uniquely identifies a mobile network within a country (and in some other Administration, the MNC is of 3 digits)
   ie 78 or 79 for MTN, 73 or 72 for AIRTEL and 77 for KTRN

9. **National (Significant) Number**: is used to identify the destination subscriber or to select where a service is provided/ destination subscriber.
   In selecting the destination subscriber, however, it may be necessary to select a destination network. Therefore, the N(S)N code comprises of a national destination code (NDC) followed by the subscriber's number (SN).

   The maximum length of national (significant) numbers is 15 digits minus the length of the country code.

10. **National Destination Code**: is a decimal digit that identifies the end network selection serving at the end subscriber.
    Example:
    – **Local level**: SN
    – **National level**: NDC (78) + SN (5925938).
    – **International level**: CC (250) + NDC (78) + SN (5925938.

11. **Signalling Point Code**: a code used to identify a signalling address used in a network employing common channel Signalling System No.7 (SS7) for call set-up. SPC is needed for establishing interconnection between two SS7 switches

12. **Network Colour Code**: a three-bit code that enables a mobile terminal to distinguish between two GSM networks operating on the same frequency

4. ALLOCATION OF NUMBERS

4.1 Condition for Application requirement

1) Licensees shall not use the assigned or allocated number under this Plan for any service other than the type of service to which the number has been assigned and for the purpose specified in the application.

2) The Licensee shall be responsible for management and distribution of the allocated block numbers.

3) The number resource can be surrendered to RURA, and in such case no annual fee would be refundable.

4) Every license holder shall submit a report of the assigned number resource to the Regulatory Authority on their usage on 31st of January of the following of year of assignment.

4.2 Rejecting an application

Any allocated resources may be withdrawn in any of the following situations:

1. For any licensee who uses an assignment without an authorization to operate.

2. In the case there is a serious or repeated breach of terms and conditions set forth for use of the number resources.

3. When the withdrawal is necessary to ensure fair competition

4. In the case regional or international harmonization necessitates such withdrawal;

5. If there is a need to make a change in the National Numbering Plan

6. When there is a violation of any of the provisions of the laws or regulations in force

7. RURA can reject any assignment overriding national interests

4.3 Transfer of Assignment

Any sell or transfer is subject to the Regulatory Authority's approval in the event that it is not as a result of a merger, acquisition or joint venture

4.4 Withdrawal of Assignment

The licensees are required to return the associated numbering resource to RURA in a written letter upon termination of service or authorisation.

THE NATIONAL NUMBERING SCHEME

NUMBERING PLAN

Rwanda's National Numbering plan is designed to conform with ITU E-164 on the Guidelines and Recommendations on the Numbering Plan to ensure that our signalling protocol aligns with the international community.

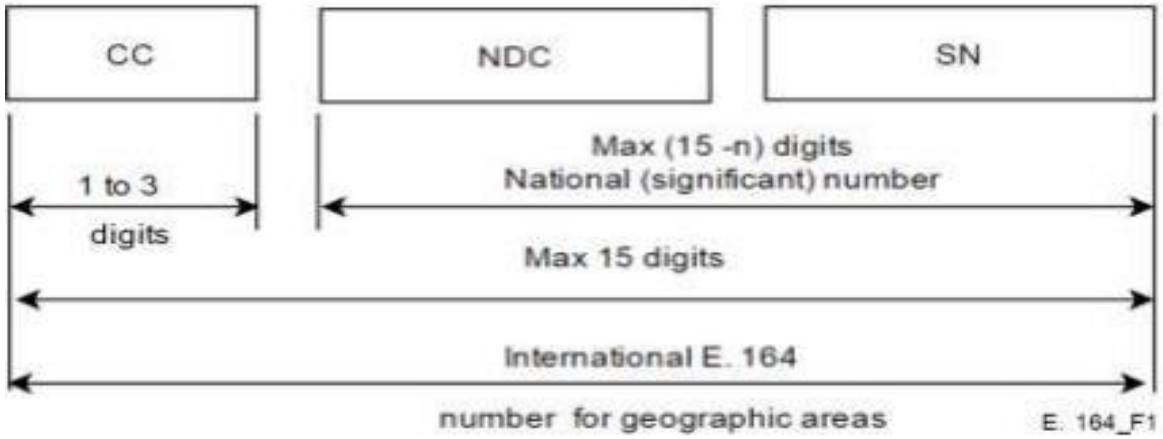

Fig.6.1 E.164 – International E.164 number structure for geographic areas LEGEND:

CC: Country Code for Geographic Area
NDC: National Description Code
SN: Subscriber Number of digits in the Country Code;

NOTE – National and international prefixes are not part of the international E.164.; The National (Significant) Number N(S)N is used to select the destination subscriber through the Destination Network.

ANNEX 2:

RWANDA NATION NUMBERING SCHEME STATUS.

1-COUNTRY CODE

1.1 Country Code = +250

1.2 International Prefix = 000

1.3 Regional (EAC) Prefixes:

Regional Code	Country	Dialling Format
001	Spare	-
002	Spare	-
003	Burundi	003 + NDC + SN
004	Rwanda	004 + NDC + SN
005	Kenya	005 + NDC + SN
006	Uganda	006 + NDC + SN
007	Tanzania	007 + NDC + SN
008	Spare	-
009	Spare	-

SN = Subscriber Number.

NDC= National Destination Code.

2-SUBSCRIBER NUMBERING

2.1 Fixed-Line Networks & Services

The approved National Telecommunications Numbering Plan utilizes digit 2 for the fixed-line Networks and Services in the Republic of Rwanda

Network Code	Operator	Number of Digits	Remarks
21	-	-	Available
22	Airtel Rwanda	9	In use
23		9	In use
24	-	-	Available
25	Liquid Telecom Rwanda	9	
27	-	-	Available
28	MTN Rwanda	9	
29	-	-	Available

3.2 Cellular Mobile Networks & Services

The approved Numbering Plan as per the ITU Recommendations, utilizes digit 7 for the Cellular Mobile networks licensed to operate in the Republic of Rwanda.

Network Code	Operator	Number of Digits	Remarks
070 - 071	MTN Rwanda	-	Reserved
072	Airtel Rwanda	10	In use
073		10	In use
074	Airtel Rwanda	-	Reserved
075 - 076	-	-	-
077	KTRN	10	In use
078	MTN Rwanda	10	In use
079		10	In use

4. SIGNALLING SYTEM No.7 POINT CODES

Signalling Point Codes (SPCs) are signalling addresses used in a signalling network employing common channel Signalling System No.7 (SS7) for call set-up. SPC is needed for establishing interconnection between two SS7 switches

4.1 International Signalling Point Codes (ISPC's).

International Signalling Point Codes (ISPCs) are 14-bit binary codes used to establish direct SS7 signalling links and interconnection with overseas networks. The 14 bits of the ISPC are commonly represented by three decimal numbers (e.g., 6-070-0):

The country's Signal Area/Network Codes (SANC) for Rwanda are 6-070 and 6-071; therefore, the International Signalling Point Codes (ISPC's) have been assigned as shown below:

ISPC (3-8-3)	ISPC (Decimal)	Assignee/ Operator	Name of Network	Description	Physical Location	Remarks
6-070-0	0- 12848	MTN Rwanda	-		-	Reserved
6-070-1	0- 12849	-	-		-	-
6-070-2	0- 12850	MTN Rwanda	NMSC Switch 1	SP of Media gateway	Nyarutarama	Not in use
6-070-3	0- 12851	MTN Rwanda	G-MGW Switch1 (NYMGW3)	SP of Media gateway	Nyarutarama	In use
''	-	-	-		-	-
6-070-6	0- 12854	-	-		-	-

ISPC (3-8-3)	ISPC (Decimal)	Assignee/ Operator	Name of Network	Description	Physical Location	Remarks
6-071-0	0- 12856	AIRTEL	KG1MSC1	MGW	Remera	In use
6-071-1	0- 12857	AIRTEL	KG1MGW1	MGW	Remera	In use
‘’	-	-	-		-	-
6-071-6	0- 12862	AIRTEL	KIMBC01	MSC-S	Gacuriro	In use
6-071-7	0- 12863	AIRTEL	KIMGW03	MGW-S	Gacuriro	In use
6-072-0	-	-	-		-	-
‘’	-	-	-		-	-
6-073-0	0- 12872	MTN Rwanda	GMSC Switch1 (NYMBC1)	SP of Soft Switch	Nyarutarama	In use
6-073-1	0- 12873	MTN Rwanda	GMSC Switch2 (RMMBC1)	SP of Soft Switch	Remera	In use
6-073-2	0- 12874	MTN Rwanda	G-MGW Switch2 (RMGW1)	SP of Media gateway	Remera	In use
6-073-4	0- 12876	MTN Rwanda	-	-	-	Reserved
6-073-5	0- 12877	MTN Rwanda	-	-	-	Reserved
‘’	-	-	-		-	-

4.2 National Signalling Point Codes (NSPC’s)

National Signalling Point Codes (NSPCs) are 14-bits binary codes used to establish direct SS7 signalling links and interconnection with local networks. The 14 bits of the NSPC is commonly represented by three decimal numbers

NSPC (3-8-3)	NSPC (Decimal)	Assignee/ Operator	Name of Network	Description	Physical Location	Remarks
0-158-0	1264	-	-		-	-
0-158-6	1270	MTN Rwanda	MSC- blade Switch 1 (NYMBC 1)	SP of Soft Switch	Nyarutarama	In use
‘’	-	-	-		-	-
0-159-1	1273	MTN Rwanda	MGW Switch 1 (NYMBC1)	SP of Media gateway	Nyarutarama	In use

NSPC (3-8-3)	NSPC (Decimal)	Assignee/ Operator	Name of Network	Description	Physical Location	Remarks
0-159-2	1274	MTN Rwanda	MSC- STP Switch 1 (NYMBC1)	SP of Soft Switch	Nyarutarama	In use
0-159-3	1275	MTN Rwanda	MSC- STP Switch 2 (RMMBC1)	SP of Soft Switch	Remera	In use
0-159-4	1276	MTN Rwanda	MSC- blade Switch 2 (RMMBC1)	SP of Soft Switch	Remera	In use
0-161-2	1290	MTN Rwanda	MGW Switch 2 (RMGW1)	SP of Media gateway	Remera	In use
0-161-3	1291	-	-	-	-	-
‘’	-	-	-	-	-	-
0-164-6	1318	Liquid Telecom	SG7KGL1	SP of SG7000-1		In use
0-164-7	1319	Liquid Telecom	FSXKGL1	SP of Softswitch		In use
0-165-0	1320	Liquid Telecom	MGC-KYV	SP of Metaswitch		In use
0-168-2	1346	AIRTEL	KIMSC02	MSC-S-	Gacuriro	In use
0-168-3	1347	AIRTEL	KIMGW02	MGW	Gacuriro	In use
‘’	-	-	-		-	-
0-168-5	1349	AIRTEL	KIMBC01	MSC-S	Gacuriro	In use
0-168-6	1350	AIRTEL	KIMGW03	MGW	Gacuriro	In use
0-168-7	1351	-	-		-	-
‘’	-	-	-		-	-
0-171-5	1373	-				-
0-171-6	1374	-	-		-	-
‘’	-	-	-		-	-
0-178-0	1424	AIRTEL	KG1MGW1	MGW	Remera	In use
0-178-1	1425	-	-		-	-
‘’	-	-	-		-	-
0-179-2	1434	AIRTEL	KG1MSC1	MSC-S	Remera	In use
0-179-3	1435	-	-		-	-

5- MOBILE NETWORK CODES (MNC's).

The Mobile Country Code (MCC) for Rwanda is 635; therefore, the Mobile Network Codes (MNC's) have been allocated as shown below:

MNC	Assignee/ Operator	Network	Remarks
635-00 up to 635-09	-	-	Available
635-10	MTN Rwanda	GSM	In use
635-11	Liquid Telecom	CDMA	Not Operational
635-12	Liquid Telecom	GSM	Not Operational
635-13	AIRTEL Rwanda	GSM	In use
635-14	AIRTEL Rwanda	GSM	In use
635-15 to 635-16			
635-17	KTRN Rwanda	LTE	In use
635-18 up to 635-19	-	-	Available.

6- NATIONAL NETWORK COLOUR CODES

This is part of the Base Station Identification Code (BSIC) consisting of three (3) bits which are used to differentiate between operators in two neighbouring countries utilizing the same frequencies at the country border areas. The Regulatory Authority assigns 3 bits to the operators who will then formulate their Base Station Colour Code (BSCC).

In consultation with East African Communications Organization (EACO) Member States, All Telecom Operators in Rwanda was allocated 6 (110 in binary) as Network Color code as part of the Base Station Identity Code (BSIC).

7- SIM HEADERS.

This is the Issuer Identification Numbers which are used to distinguish among multiple operating agencies within the country. For Rwanda, it is 89250XX, where 89 is the Number assigned by the ITU for telecommunication-related cards, while 250 is the Country Code (CC) for Rwanda; XX is the identification code for specific operator cards which is assigned by the Regulatory Authority and then the operators formulate the next twelve (12) digits to make a 19-digit SIM card number.

SIM Header	Assignee/Operator	Network	Remarks
8925000 up to 8925009			Available
8925010	MTN Rwanda	GSM	In use
8925011 - 8925012			Available
8925013	AIRTEL Rwanda	GSM	In use
8925014	AIRTEL Rwanda	GSM	In use
8925015 up to 8925016			
8925017	KTRN	LTE	In use
8925018 up to 8925019			Available

8- DATA NETWORK IDENTICATION CODES (DNIC's)

This is a set of digits which is part of the Country Data Code identifying specific data network within the country.

The Data Country Code (DCC) for Rwanda is 635 and this code is used to generate Data Network Identification Codes (DNIC's) for the public Data Networks within the country and private Data

Networks connected to the public Data Network

9- TOLL FREE & PREMIUM RATE ACCESS CODES

Toll free numbers identifies a service that is called free of charge, and the charge for using a toll-free number is paid by the called party.

Toll free access codes have been allocated as follows:

Telecom Operator	Premium rate prefix	Network services
MTN	080078XXXX 080079XXXX	Mobile Cellular Network
	080028XXXX	Fixed Line Network
AIRTEL	080072XXXX 080073XXXX	Mobile Cellular Network
	080022XXXX 080023XXXX	Fixed Line Network

10- PREMIUM RATE ACCESS CODE

These identify a service that is charged at a rate higher than the normal price; normally the revenue from this service is usually shared between the network provider and the service provider.

Premium rate access codes have been allocated as follows:

Telecom Operator	**Premium rate prefix**	**Network services**
MTN	090078XXXX 090079XXXX	Mobile Cellular Network
	090028XXXX	Fixed Line Network
AIRTEL	090072XXXX 090073XXXX	Mobile Cellular Network
	090022XXXX 090023XXXX	Fixed Line Network