Office of Utilities Regulation

The Jamaican National Numbering Plan

Determination Notice

OFFICE OF UTILITIES REGULATION

November 2003

ABSTRACT

There is broad agreement that the national numbering Plan is a national resource and should be managed in the national interest; in a competitive environment, it is the responsibility of the Regulator to make this happen.

In this connection, the Telecommunications Act, 2000 mandates the Office of Utilities Regulation (the Office) to develop a numbering plan and make rules that will ensure fair and equitable access to telecommunication numbers by carriers and service providers in Jamaica. In fulfilling that mandate the Office has consulted with the local industry on proposals for a national numbering scheme that should provide numbering resources to satisfy the immediate and foreseeable numbering needs and support competition.

As stated in the consultative document, at this early stage of a growing and changing telecoms market, the plan cannot be overly prescriptive**;** therefore only those key aspects of numbering that need to be determined at this stage have been addressed.

This determination notice summarizes the Offices proposals and the respondents' comments, then sets out the Office's decisions that will guide it in the establishment and future development of the Jamaican National Numbering Plan. The document addresses the following:

- Numbering Plan fundamentals
- Allocation of numbers for services and growth
- Determination of numbering resources to be administered by the Office
- Establishment of a basic Rate Centre scheme for distance-based rate structures
- Service migration plan
- Numbering issues for further consultation

Rules relating to the administration of the National Numbering Plan will be the subject of a separate document. The determinations set out in this document will come into effect no later than December 31, 2003.

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CHAPTER 1 INTRODUCTION

1.1 A major outgrowth of the Government's initiative to transform Jamaica into an advanced information society is the full liberalization of the telecommunications market and the promotion of fair and open competition - a necessary complement to liberalization. The consensus is global that non-discriminatory access to telecommunications numbers is a key enabler of the development of competition as these necessary resources, in addition to serving to identify and reach customers, facilitate the development of new products and services and provide the means of access to them.

1.2 Fair and equitable access to telecommunications numbers by carriers and service providers requires, however, a structurally relevant and fairly administered Numbering Plan. Customers too, must benefit from an understandable Numbering Plan, which, through appropriate allocation of numbers on the basis of service types, geography, etc., will provide them with a broad indication of service and charges before they make a call. Moreover, the Plan must be cost effective and practicable for implementation by the industry. [1]Importantly, numbers have become universally recognized as a public resource (owned by the state), and one to be administered for the overall national good.

1.3 Section 8 of the Telecommunications Act, 2000 (the Act), mandates the Office of Utilities Regulation to develop a plan for the numbering of telecommunications services in Jamaica, and, where it is seen fit by the Office, to make rules in accordance with that plan regarding the assignment and use of numbers by carriers and service providers.

1.4 In carrying out the first part of the above-mentioned mandate, the Office reviewed the existing national numbering structure, and consulted on proposals for a National Numbering Plan. The review and proposals, along with questions seeking the opinion of the industry, were published in May 2002 in the OUR consultative document entitled 'The Jamaican National Numbering Plan'. The document also included proposals, albeit not exhaustive, on rules for the management and administration of the National Numbering Plan, and a limited set of resource assignment guidelines.

1.5 The Office has analysed the comments of respondents in the consultation and had discussions with individuals on issues related to abbreviate dialling, Toll Free Numbers and industry notification of number assignments to carriers. Finally, the Office has extracted those issues in the consultative document on which it has reached a decision, and in this document, will advise the industry of its determination. The remaining issues (set out in chapter 7 of this document) will be the subjects of further consultations within the next six months.

CHAPTER 2 BACKGROUND

2.1 The basic numbering scheme applied in Jamaica is the North American Numbering Plan (NANP), which serves the United States and its territories, Canada, the Bahamas, Bermuda, Dominican Republic and 15 other Caribbean countries. The NANP is the region's application of ITU-T Recommendation E.164 for public telecommunications network numbering and encompasses the majority of numbers utilized by the public.

2.2 The primary structure of the NANP has a fixed 10-digit format: NXX-NXX-XXXX, where N = any digit 2 through 9 and X = any digit 0 through 9. It is sometimes expressed as ABC-DEF-GHIJ. The representation of each segment of the 10-digit structure is explained in table 2.1

Table 2.1 Basic Structure of the North American Numbering Plan

NXX	NXX	XXXX
ABC	DEF	GHIJ
NPA Code	Central Office Code	Line Number
	Directory Number	

2.3 The Numbering Plan Area (NPA) Code is commonly called the area code. NPA codes are normally used for identifying specific geographical areas; a few have been allocated in the NANP for other purposes. The NANP has slightly less than 800 assignable area codes. Area code '876' was assigned to Jamaica in May 1997 and represents approximately 8 million assignable telephone numbers – the complement of telephone numbers currently to be administered under The Jamaican National Numbering Plan. Previously, Jamaica shared the '809' Area Code with other Caribbean countries. These other Caribbean territories subsequently were assigned individual Area Codes.

2.4 The numbering schemes of most countries, like the NANP (established in 1947), were developed decades ago. At that time, the growth in basic services and proliferation of new services seen today was never imagined. Consequently, in many countries/regions, numbering schemes -including the NANP - are now near exhaustion, or had reached that point less than a decade ago. In addition, they are often not able to meet the demands for non-conventional numbering arrangements presented by advancing technologies and new services, for example, those associated with mobile telephony. Adding to this pressure on numbering schemes is the demand for equal treatment with the incumbents by new operators, often to mitigate what is perceived as advantages gained through previous monopolies of the former. It stands to reason, therefore, that an inadequate numbering plan can be a hindrance to service growth and innovation, and stifle competition.

2.5 Solving the aforementioned problems is comparatively easier for countries with independent numbering schemes, especially where the determinant is full freedom to design the numbering plan to satisfy the unique national numbering needs and take advantage of the new technological flexibility.

2.6 The NANP is an integrated Numbering Plan, serving a community of interests. Hence, member-states (including Jamaica) have limited freedom in designing their national numbering plans. They must take into account such overriding factors as:

- The fixed structure of the NANP
- The authority, and degree of interfusion, of the regulatory systems that govern the NANP
- The quantity, nature, availability and prescribed purposes of NANP-authorized numbering resources

2.7 There is statutory support in Jamaica for this principle, as stipulated in subsections (2) and (3) (a) of section 8 of the Telecommunications Act, 2000, which state:

> *"(2) ...the Office shall develop a plan for the numbering of telecommunications services and may make rules pursuant to that plan regarding the assignment and use of numbers by carriers and services providers.*
>
> *(3) For the purposes of subsection (2) the office shall –*
>
> *(a) take account of international regulations;*
>
> *(b)…*

2.8 The problem of NANP exhaustion is being addressed by the North American Numbering Council; already an expansion solution has been proposed and in due course will be the subject for broad industry consideration. It is estimated that it will take up to 10 years to implement the NANP expansion programme - on a phased basis, which is the preferred approach. NPA and Central Office code relief and other number conservation measures have been applied to delay the eventual NANP exhaustion.

2.9 One of the most pressing concerns on both the supply and demand sides of the numbering issue in the North American Numbering Plan Area (NANPA), at this time, is the availability and use of Abbreviated Dialling Resources (ADRs or short codes). These are dialable numbering resources of less than 7digits in length (the standard length of NANP telephone number). Currently the only authorized NANPA ADRs are N11, 1XX and *XX and *2XX codes. The use of '*' derivatives is however restricted to activation and de-activation of services and features such as call forwarding.

2.10 The mobile industry is particularly affected because of the attractiveness of short codes for the delivery of a growing range of network-based services, and the deployment of cross-carrier services for the rapidly growing Short Message Services in Canada and the United States. The Office is keeping abreast of these and other numbering-related developments in the region and the wider industry. Regarding the immediate needs in the local industry for the use of specified vertical service codes ("*" derivatives) which do not conform with the standard NANP formats, the Office has actively sought to determine the regulatory perspectives in the United States and Canada on recent developments relating to the use of short codes, in those countries, in order to establish a Jamaican position.

2.11 Numbering is no longer viewed as a purely technical matter but increasingly as an issue which also addresses important commercial, political and economic considerations for telecoms operators, regulators and policy makers [*Organization of Economic Cooperation and Development - OECD, 1995*]. The Office must therefore engage in a continuous process of revision of the National Numbering Plan to ensure it remains adaptable to an environment in which there is increasing flexibility in technology and expanding innovation in service creation, changing customer needs, and a growing national economic dependence on the telecommunications sector.

CHAPTER 3 ESTABLISHING THE JAMAICAN NATIONAL NUMBERING PLAN

Criteria for evaluation, development and management

3.1 In the consultative document, the Office proposed a set of criteria that should serve as the basis for evaluating the reorganized numbering scheme and as the basis for the future development and management of the Jamaican National Numbering Plan. The principles/standards appear to be fundamental to the Numbering Plans in major liberalized telecommunications markets. These criteria are:

- Providing customers with a broad indication of service type and cost
- Supporting effective competition (equal access to numbering resource)
- Providing flexibility to meet future demands (to the extent that the prevailing NANP allows)
- Cost effective and practicable for industry implementation.

3.2 The responses to the document showed general support for these criteria but Digicel questioned the applicability of the first criterion to number ranges allocated for mobile services – citing the sharing of particular ranges by carriers who were "free to set their own rates for call types", and the OUR's stated "objection to carrier branding". C&WJ expressed similar concerns about the sharing of Mobile number ranges. However, as is the case in many countries ([2]the UK is an example), numbers serve to indicate the cost of calls only with respect to *broad* service types (geographic, mobile, premium rate, toll free) and/or the geographic location of the call-parties. The latter relates to distance-determined retail rates. Services such as mobile telephony and premium rate service do not relate to geographic locations and therefore, their associated numbers have no geographic significance.

3.3 One of the basic tenets of competition in a telecommunications market is non-discriminatory access to numbering resources. This means that the opportunity for operator branding (identification) by numbers must be equally available to all entrants to the market. Within the structure of the North American Numbering Plan, the smallest number block that can be used to provide the desired exclusive branding of operators contains one million numbers. The chief implication here is that carriers who desire exclusive identification by numbers would have to be assigned at least one million numbers, regardless of the size of their operation. Similarly, an operator who requires one million and one numbers (1,000,001) would have to be assigned two million numbers, and so on. This would result in the immediate exhaustion of the '876' area code even if, for instance, Cable & Wireless Jamaica, with the strictest application of clause (3) (g) of section 8 of the Act, were not allowed to retain their fixed and mobile numbers as currently spread over six of the eight

assignable one-million-number blocks (use of these, excepting the 3XX block, was made prior to the Office assuming responsibility for Numbering).

3.4 Clearly, this kind of operator branding would result in grossly inefficient utilization of numbering resources, and on a scale that could never find favour with the North American Numbering Plan Administrator who assigns NPA Codes for the NANP. Further, 'operator branding' conflicts with the aims of Local Number Portability that allows customers to change operators while keeping their number(s).

3.5 It is noteworthy that the respondents agreed with the Office's assessment that the current '876' NPA code will satisfy current and foreseeable future demands for numbers. This however, holds true only with careful husbandry of the resource.

Determination 3.1: The Office has determined that the following five criteria shall be the principal basis for the future development and administration of the Jamaican National Numbering Plan, and shall be incorporated into the Numbering Rules:

- Providing customers with a broad indication of service type and cost
- Supporting effective competition (equal access to numbering resource)
- Providing flexibility to meet future demands
- Cost effective and practicable for industry implementation.

Determination 3.2: The office will avoid the branding by operators of their services by means of their numbers

Number allocation scheme for NPA 876

3.6 The consultative document identified five categories in which numbers may be classified in the basic national numbering scheme. These are:

a) Geographic Numbers

b) Mobile Numbers (the term 'Mobile' is substituted for the term 'Wireless' as used in the consultative document to identify a category of non-geographic numbers)

c) Special Services Numbers

d) Access Codes

e) Growth

3.7 The responses showed general support for the proposed categorization of numbers. C&WJ argued that the 55X – 59X number ranges should be reserved for growth and not allocated as geographic numbers as proposed in the document. The company felt that the other geographic allocations, which provided 2.7 million numbers, should suffice. It is important to note however, that 60% of these are currently assigned to C&WJ. Conversely, Digicel suggested that the 4XX range, which was proposed for growth, be allocated for mobile services.

Geographic numbers

3.8 Geographic numbers, by definition, are numbers used for services which correspond to a discrete geographical area and where (in the context of the NANP) the central office code indicates a specific location such as an exchange or the approximate location of the person or service being called (and the cost of the call where distance-determined rates apply). In the strictest sense of this definition, the numbers are of local geographic significance. Numbers are of broad geographic significance where they are used for services that require common numbering arrangements across multiple geographically dispersed sites which, otherwise, would be identified by separate *local* numbering arrangements.

3.9 The customary ease with which customers could associate numbers with geographic locations (parish, town), up to the early 1990's, no longer obtains because the pattern of number assignments in the enduing periods, did not embed locality information in numbers in a way that made it easily discernable by customers (although this difficulty was later offset, to some degree, by the discontinuation of the existent distance-based rating regime for domestic calls). A legacy of this development is the limited flexibility currently in the numbering space to provide useful locality information with numbers. In any event, telephone numbers can provide only a limited amount of information some of which are mutually exclusive, for example, operator branding and Local Number Portability discussed in paragraph 3.3.

Determination 3.3: The following NXX ranges are designated as geographic numbering ranges: 55X-59X; 6XX; 70X-76X; 9XX. Geographic numbers shall be limited to fixed (wired and wireless) telephony services. Such services shall not include content and other premium rate services as defined in paragraph 3.14 of this document. Geographic numbers shall have a standard length of seven digits and shall be assigned in blocks of 10,000 to qualified facilities-based service providers who shall in turn assign them to end users. Easily Recognizable Codes (ERCs. - see paragraph 3.14) and NANP-designated premium rate numbers, e.g. 976, are excluded from these ranges.

Mobile Numbers

3.10 Mobile Numbers are non-geographic numbers used for services which when called can connect the caller to someone on the move. At present, these numbers are used for Cellular Mobile Voice Telephony Service.

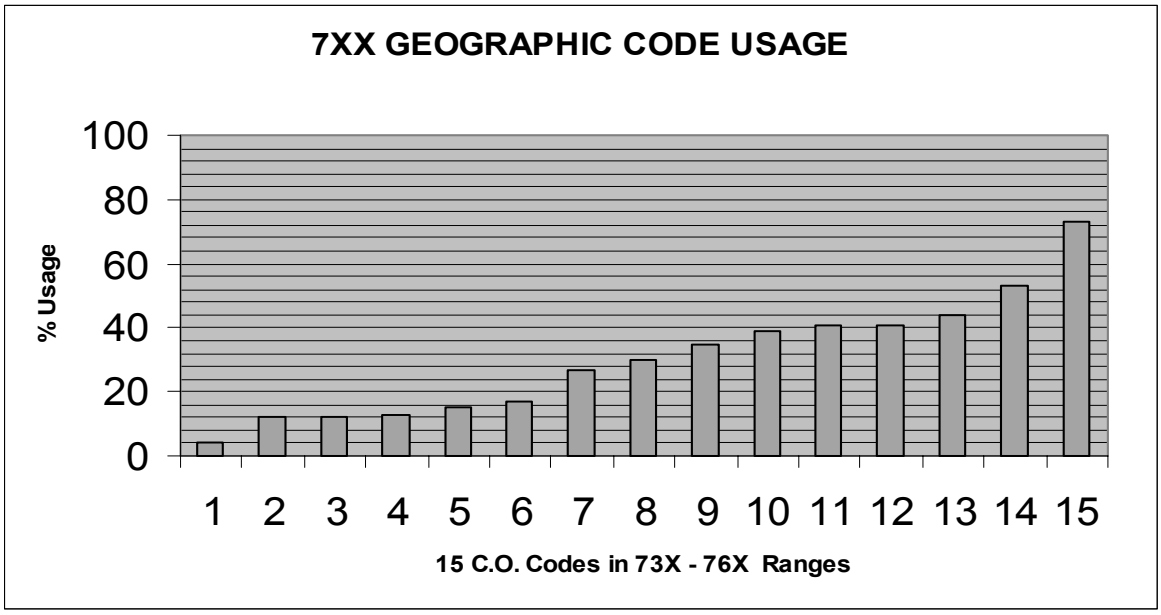
3.11 The Office intends to consult with the industry (within the next six months) with the aim of expanding the scope of use of this category of numbers to include Paging and Personal Numbering services.

Determination 3.4: The following NXX ranges are designated as Mobile numbering ranges: 3XX; 4XX; 77X-79X; 8XX. Mobile Numbers shall be geographically independent (numbers not associated with a fixed geographic location) and, for the time being, limited to Cellular Mobile Telephony Services. Mobile Numbers shall have a standard length of seven digits and shall be assigned in blocks of 10,000 to qualified facilities-based service providers who shall in turn assign them to end users. Easily Recognizable Numbers (ERCs. - see paragraph 3.14) are excluded from these ranges.

3.12 Of the 3.21million numbers allocated to Mobile Services, 2.6 million have been assigned to existing operators. Given the unexpected growth rate in the mobile customer base and the prospect of a fourth mobile operator entering the market, the Office must determine whether the remaining 610,000 mobile numbers will be adequate to satisfy any reasonably predictable future demands.

3.13 There are two alternatives to consider for an expansion of the mobile range should it be deemed necessary: (1) allocation of 400,000 numbers in the 5XX or 2XX range; (2) Allocation of an additional 400,000 (73X – 76X) numbers in the 7XX range. In general, it is considered more efficient to expand number allocations with adjacent numbering spaces. The first option is not desirable, as it would mean creating a second instance of the mixing of Mobile and Geographic services in an NXX range. The alternative solution would avoid the undesirable feature of the first option but would require the migration of approximately 45,000 numbers (involving 15 NXX codes) to the 70X – 72X ranges. At worst this would entail changes to the second and third digits of affected telephone numbers. Figure 3.1 shows, in order of magnitude, the approximate usage, to date, of the 15 individual codes that would be affected:

Figure 3.1



The Office intends to hold further consultation on this matter before making a determination.

Special Services Numbers (Using Easily Recognizable Codes – N00 and YYY)

3.14 In the consultative document the Office proposed that the N00 and YYY (222, 333, 444…) ranges should be used for special services. Such services would typically be value-added services, charged at special rates or premium rates, with or without content.

3.15 Codes of the N00 and YYY formats are called Easily Recognizable Codes (ERCs). An exception to this format is the NXX code 976 currently used for local "976 Service

3.16 Support for the use of ERCs for special services was implicit in the responses to questions in the consultation document regarding the appropriateness of the proposed allocation categories and corresponding levels of number allocations. The responses offered no alternative recommendation regarding the use of the ERCs.

Determination 3.5: The following NXX ranges are designated as Special Services numbering ranges: 200; 300; 400; 500; 600; 700; 800; 900; 222; 333; 444; 777; 888; 999; 976. Special Services Numbers shall be geographically neutral (numbers may or may not be associated with a fixed geographic location). Special Services Numbers shall have a standard length of seven digits and shall be assigned individually to qualified facilities-based service providers. Where deemed necessary, the Office will allocate blocks of 1000 numbers under specified ERCs for specific services.

The Office has not proposed an exclusive definition of special services in order to provide greater flexibility for future use of the ERCs. The Office shall consider the establishment of number-use rules for specified services in this category in order to provide service meaning to callers.

Access Codes (short Codes)

3.17 Access codes are very short numbers that provide access to intra-network, and specified inter-network services. In the consultative document, the Office proposed the apportioning of two number ranges, 1XX and N11, to three use-related categories: Public Interest, Common, and Service-provider-specific. C&WJ agreed with the trichotomous classification of access codes and suggested that the Public Interest category should be given priority. Digicel suggested, however, that apart from a limited Public Interest category there should be no restriction on the use of abbreviated dialling resource: "…An Operator should be allowed to use/assign its own abbreviated dialling numbers in whatever format they desire (e.g. *8663, 8663#, 8663) as long it is within the assigned number ranges". NXX 866 is one of the Mobile ranges assigned to Digicel.

3.18 Two of NANP numbering conventions militate against the first two of Digicel's examples of their suggested use of assigned number ranges to derive short codes:

1. The only dialling formats using a derivative of the leading "*" that have industry approval are the current Vertical Services Code (VSC) formats *XX, *2XX and *3XX.

2. The special character "#" has a standard use, that is, as a network control character. Examples of this use are:
    - an end-of-dialling signal to the switching system
    - to stop any switch timing and immediately process the call.
    - to -re-originate a credit card call with the same billing information used in the preceding call (Operator Services switching systems).

The third example, at the least, is not compatible with Local Number Portability.

3.19 However, the Office has taken account the fact that the immediate needs in the local industry for the use of particular non-standard Vertical Service Codes (VSCs) are, in some instances, based on externally imposed technological and commercial constraints, and in this connection, has consulted with other NANP numbering authorities on current VSC uses that are not specified in the existing Vertical Service Code Assignment Guidelines.

3.20 Consequently, the Office has taken the view that it is in the best interest of the local industry to authorize the use of three new sets of 3digit VSCs to accommodate the above-mentioned numbering needs (see Determination 3.5). The Office recognizes the need to ensure that the development of a competitive telecommunications market is not disadvantaged on numbering grounds and that local operators are able to take advantage of new technologies and keep pace with the rest of the industry in terms of service innovation, to the extent that these endeavours depend on numbering.

3.21 The consultation proposed the dialling format '1XX (#)' as a simple and effective way to make the full set of 1XX resources available to the fixed telephony network. The "#" end of dialling signal would not be required when dialling 11X codes, as is the case currently. This solution allows a caller in the fixed network to dial:

- **1**+235-9876 to reach a 7-digit telephone number, and
- 123 as an access code for a specified service.

C&WJ agreed that there should be an expanded use of the 1XX abbreviated dialing resources in the fixed network and considered the proposed dialing procedure to be an elegant solution.

3.22 The consultation further proposed the retention of the 11X code in their current application unless dictated otherwise by future industry developments, and that such uses have a common meaning for all operators unless otherwise dictated by future industry developments. The responses showed full agreement with this Proposal. There was agreement also that the Office should determine, as it sees fit, the use of N11 codes; they currently have "Reserved" status. There are no NANP guidelines for the assignment of N11 codes. In North America, it is the FCC that determines the assignment of N11 codes. Criteria governing the use of short codes in general will be set out in the Numbering Rules.

Determination 3.6: The following set of 3 digit Vertical Service Codes (VSCs) are authorised by the Office for assignment to facilities-based service providers in Jamaica:

*10X - *19X; *56X; *94X – *99X.
*949, *959, *969, *979, *989, *999 are reserved for multi-network allocations.

2digit VSCs which correspond to the leading two digits of these 3digit codes (e.g. *12, *56, *94) are not valid for use in Jamaica.

Determination 3.7: The 1XX and N11 codes represent a limited but significant set of 3-digit abbreviated dialling resources. These resources will be grouped into three categories and for the purposes described below:

- Public Interest – for public access to specified national health and safety related services and other nationally significant facility. These numbers must be nationally uniform, that is, they should have a common meaning across all telephony networks, eg '119' for Police Emergency.

- Common – for public access to specified non-emergency services (Directory Assistance, Time, and Weather, etc.), network access, etc.; the numbers must be nationally uniform.

- Service Provider-Specific – for service-provider-determined intra-network services.

The office shall determine which services or facilities are assigned access codes in the Public Interest and Common categories. The process of application will be outlined in the numbering rules and respective assignment guidelines.

A network operator may freely select codes from those within the Service provider Specific category to provide services to end-users **within the operator's own telephone network** or for its internal operational use. The Office must be advised of any such use and will maintain a record of the assignments.

Determination 3.8: 11X codes are generally well known and have a firmly established acceptance in Jamaica. The Office will therefore retain these codes in their traditional application as follows:

110 Emergency Services (Fire, Police, Ambulance) – Operator assisted
111 Unassigned (It is not likely that this code will be assigned)
112 Local Operator Assistance Service
113 International Service / International Operator Assistance Service
114 Directory Enquiry
115 Repair Services
116 Special Public Interest Announcements (e.g. meteorological bulletins)
117 Time of Day & Weather Announcements
118 Local office Access (Repair Crew)
119 Police (Emergency) – Direct access

IIX codes shall have a common meaning across all networks.

Determination 3.8: The Office has allocated 1XX and N11 code to the three Access Code categories as shown in the tables 3.1, 3.2

Table 3.1

1XX CODE ALLOCATION									
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149
150	151	152	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	172	173	174	175	176	177	178	179
180	181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198	199

Table 3.2

N11 CODE ALLOCATION							
211	311	411	511	611	711	811	911

Legend

	Public Interest (Nationally uniform)
	Common (Nationally uniform - Public)
	Common (Intra-Network [Engineering])
	Service Provider Specific (Intra-Network)
	Reserved for expansion of categories
	Unavailable

Growth Capacity

3.23 In the consultative document the Office proposed that the 2XX, 4XX and 50X-54X ranges be allocated for growth. The 4XX range, however, has since been designated as a Mobile range.

Determination 3.10 The following NXX Ranges are designated as numbering ranges for growth: 2XX and 50X-54X. Easily Recognizable Numbers (ERCs. - see paragraph 3.14) are excluded from these ranges.

CHAPTER 4 OTHER NUMBERS

4.1 The consultative document identified fourteen different types of numbering resources (Central Office codes under NPA 876 considered a single type) that are available for use in Jamaica and to be formally considered for administration by the Office. In this document the numbers are grouped into two broad categories: NANP resources and Non-NANP resources. These categories are subdivided into two OUR administration categories: Directly Administered and Indirectly Administered.

4.2 NANP Numbering Resources are collectively managed by the North American telecommunications industry with oversight of the North American federal regulatory authorities. They are allocated to national or regional regulatory authorities, mainly by the NANPA, for assignment to network operators/service providers or end users or are assigned directly to operators/service providers and end users by the NANPA.

4.3 Non-NANP Numbering Resources are those which are allocated to national or regional regulatory authorities, by regional and international telecom bodies such as the International Telecommunications Union (ITU), for assignment to network operators/service providers or end users or are assigned directly to operators/service providers at the source.

4.4 Directly Administered numbers are those assigned exclusively by the Office to network operators/service providers in Jamaica. Indirectly Administered numbers are those assigned directly to network operators/service providers at the source; currently, applications for these resources are made through the Office.

4.5 C&WJ recommended that "…the OUR be copied on applications for resources that the Office does not directly administer and that the application for common NANP resources be sent directly to NANPA or the relevant organization". The Office does not favour this approach primarily because it has the responsibility to ensure that developments in telecommunications networks and services are not constrained on numbering grounds and therefore to ensure that there is non-discriminatory access to numbering resources. To this end, and to safeguard competition to the benefit of the local industry, the Office will ensure that only those who are authorised to operate telecommunications networks and provide specified services in Jamaica have access to these resources and are permitted to use them in their own networks or assign them to qualified end-users. This is best achieved by having the Office as the single point of access in Jamaica to the relevant numbering resources. It is important to note that in Canada, applications for these resources are processed through the Canadian Numbering Authority (CNA).

4.6 Digicel's view on the matter was that all of the specified numbering resources, with the exception of some 1XX codes, should be administered by the OUR.

Determination 4.1: The Office shall be the single point of access to the telecommunications numbering resources described hereunder. To obtain these resources, qualified entities must apply through the Office and in accordance with the relevant resource administration guidelines and numbering rules. The resources, which the office shall administer in an efficient and non-discriminatory manner, shall include, but not limited to:

- **Carrier Identification Codes –** A Carrier Identification Code (CIC) is a unique 4-digit numeric code that is normally assigned, in NANP-served countries, to inter-exchange carriers or other service providers that access a local exchange carrier's (LEC) network to provide switched services. The CICs provide routing and billing information for calls from end users to these service providers via trunk-side connections. They are also used to pre-subscribe end users to a specific service provider.

  Carrier Access Codes (CAC) A CAC is the sequence an end user dials to obtain access to the switched services of their chosen service provider. Carrier Access Codes are in the formats 950-XXXX and 101-XXXX, where XXXX is the Carrier Identification Code and X represents digits 0 through 9. 950-XXXX is usually associated with the (non-presubscribed) service access arrangement, Feature Group B. 101-XXXX is usually associated with Feature Group D access arrangements and provides access to both pre-subscribed and non-presubscribed customers, and enables the override of carrier pre-subscription on a call-by-call basis. There is a growing liberalness in the use 101-XXXX codes, and the demand for 950-XXXX codes has reduced significantly.

  The use of Carrier Identification Codes is a considered dialling option in the OUR's proposal for the introduction of Indirect Access service in Jamaica and would enable end-users to select preferred carriers on a call-by-call basis for the carriage of their domestic and/or international calls.

- **Personal Communications Services N00-NXX Codes –** PCS or "500 Service" allows the customer to participate in a user-defined set of subscribed services, and to initiate and/or receive calls based on some combination of a personal number, terminal number, and a service profile across multiple networks at any terminal, fixed or mobile, irrespective of geographic location.

- **555-XXXX Line Numbers** - The '555' NXX has been set aside in every geographic NPA code (area code), including NPA 876 in Jamaica, for the purpose of reaching a wide variety of information services but may include other future services as well.

Determination 4.1: ***cont.***

- **900-NXX Premium Service Codes –** '900' numbers are used for access to premium services offered by a carrier's subscriber. When these services are accessed, the calling party pays for call set-up and the specific services associated with the '900' call, and the cost of calls to these services is normally billed to the calling party. The cost of making such calls is normally significantly higher than other PSTN- based services.

- The intended services to be supplied by '900' subscribers are information services.
- **International Inbound NPA 456** - NPA 456 and its associated NXXs enable the routing of inbound international calls for carrier-specific services, particular to a service provider's network, to and between NANP area countries.

- **Vertical Service Codes** - Vertical Service Codes (VSCs) are customer-dialled codes in the *XX or *2XX dialling format for touch-tone and the 11XX or 112XX dialling format for rotary phones. They are used to provide customer access to specified features and services (e.g. call forwarding, automatic call-back, etc.) provided by network service providers such as local exchange carriers, inter-exchange carriers, and wireless (cellular) carriers. For example, Call Forwarding is activated by dialling *72 or 1172. In addition, the *3 number range has been reserved for expansion of the VSC resource (i.e. *3XX). The current use of 11X codes in Jamaica precludes the use of the 11XX and 112XX formats for Vertical Service Codes.

- **800-855 Line Numbers -** 800-855 numbers are used for access to public services on the Public Switched Telephone Network (PSTN) intended for the deaf, hard of hearing, or speech impaired. These services may include Telecommunications Relay Service (TRS), Message Relay Service (MRS) or any other entity via text telephone service (TTY).

- **International Mobile Subscriber Identifier (IMSI) -** IMSIs are currently utilized by GSM-, CDMA-, and TDMA-based wireless networks for the purpose of identifying a roaming subscriber and that subscriber's home network.

- **SS7 (Signalling System No. 7) Point Codes -** SS7 point codes are unique numbers assigned to each SS7 network node or signalling point and are effectively the network name and address of that signalling point. The codes are used for routing, discrimination and distribution functions performed on SS7 signalling messages at each signalling point.

Determination 4.1: ***cont.***

- **Signalling Area Network Code - International Signalling Point Codes (SANC ISPCs)** - SANC ISPCs are used to identify international signalling points in the International Signalling System No. 7 Network, as opposed to the national (ANSI) SS7 Network. In the International Network, the point code, used to identify a signalling point, is intended to be processed within the Message Transfer Part (MTP) of the signalling point or signalling transfer point.

- **System Identifiers (SIDs)** - System Identifier Codes (SIDs) are assigned to cellular and PCS service providers as a unique identifier of the geographic Market or network. SIDs are used in the communications between mobile terminals and base stations to determine home or roam status.

- **Data Network Identification Codes (DNICs)** - Data Network Identification Codes (DNICs) are used to identify a country and a public data network, or a group of public data networks within the country, on an international basis.

- **New Numbering Resources as may be defined by the Office of Utilities Regulation** – These will include numbering resources that are determined by industry consensus, NANP wide or locally.

4.7 Table 4.1 categorizes the Numbering resources administered by the Office of Utilities Regulation.

Table 4.1

NUMBERING RESOURCE ADMINISTRATION CATEGORY		
SOURCE	**DIRECTLY ADMINISTERED**	**INDIRECTLY ADMINISTERED**
NANP		
	876 -NXX	CIC
	555-XXXX	N00-NXX (PSC)
	VSC	900-NXX
	800 Toll Free	456-NXX
		800-855
		ANSI SS7
NON-NANP		
	SANC-ISPC	
	IMSI	
	SID	
	DNIC	

CHAPTER 5 ESTABLISHMENT OF RATE CENTRES

5.1 In the consultative document, the office proposed the establishment of a standard Rate Centre scheme with the geographic centre of each parish as a Rate Centre. There were two reasons for this proposal:

1. New fixed-line network operators are not restricted to the two-tier (inter-parish and intra-parish) tariff structure applied by Cable & Wireless Jamaica and may opt for a more comprehensive arrangement in which rates are distance-dependent. Having in place a basic Rate Centre scheme, with parish-delimitation, would facilitate a simplified and standardized distance-based rating environment for domestic calls.

2. At the OUR's October 2001 numbering meeting at which the relevance of the Rate Centre information in the Traffic Routing Administration (TRA) database was discussed, the existing network operators unanimously agreed to the establishment of a Rate Centre scheme. As recorded in the minutes of that meeting, "…It was generally agreed that although a single Rate Centre designation would suffice for the present TRA requirements - (*and only to satisfy the technical requirements of the database*, since the Rate Centre information *is* not applicable to the existing international rating regime) - current trends in the wider market, in terms of new and innovative service offerings and rating/billing schemes, could eventually apply in the local industry and spawn requirements for multiple Rate Centres. It was therefore considered prudent to put in place, at this time, a Rate Centre scheme that would make easy Jamaica's adaptation to the afore-mentioned prospective rating environment"**.**

5.2 The consultative document, however, did not suggest that there should be a reversion to distance sensitive rates where services, to which that rating regime had applied, have been postalized. Nor is the Rate Centre concept out of harmony with the time as Cable & Wireless Jamaica opined in its response. In reality, Rate Centres are a major feature of the North American telecommunications landscape. They continue to be used:

- as points between which distances in airline mileage are measured for pricing most of the distance-based telecommunications services;
- for the purpose of tracking numbers and establishing inter-company compensation as either local or toll traffic;
- increasingly by Local Voice Service Providers and Internet Service Providers as the basic telecoms region in determining areas of operation.

Determination 5.1: The Office will proceed with the establishment of a basic Rate Centre scheme for Jamaica. The governing principles are:

- A Rate Centre is the approximate midpoint of a uniquely defined geographic area (Rate Area), and the point in that area for which mileage measurements and usage dependent rates are determined.

- Rate Centres are identified by meaningful nominal designations.

- The location of a Rate Centre is defined by the latitudinal and longitudinal coordinates of the point representing the geographic centre of the specified Rate Area

- The name of the Rate Centre will be used synonymously with the geographic area itself.

- The latitudinal and longitudinal coordinates are converted algorithmically into Vertical (V) and Horizontal (H) coordinates and expressed in a paired number value (XXXXX, XXXXX) referred to as the V&H coordinates.

- The distance between two Rate Centres is determined by calculating the square root of, the sum of the squares on the differences in the vertical and horizontal coordinates, divided by ten. That is:

$$\text{Distance in miles} = \sqrt{(((V_2 - V_1)^2 + (H_2 - H_1)^2) / 10)}$$

Where: V_1, H_1 = V&H coordinates of the first Rate Centre
V_2, H_2 = V&H coordinates of the second Rate Centre

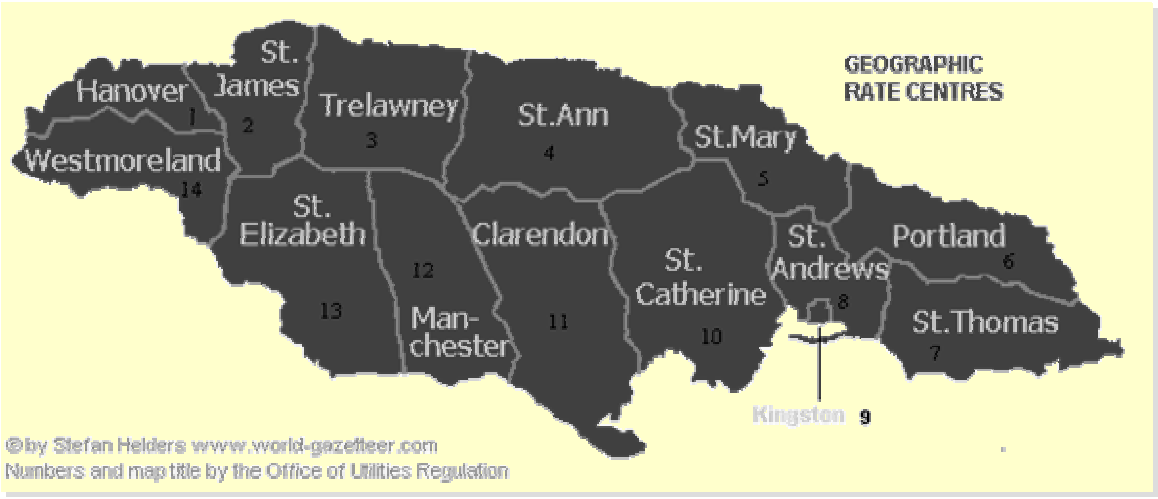
In accordance with these principles, the Office shall establish fourteen Rate Centres (or Rate Districts). The names and geographic boundaries of the Rate Centres will be coincident with those of the fourteen parishes of Jamaica. Table 5.1 shows the official numbering of the Rate Centres and the nominal representations for the Local Exchange Routing Guide (LERG) database where applicable.

Determination 5.2: The Rate Centre scheme will have only domestic application or local significance and will not be associated with Jamaica's central office codes in the Local Exchange Routing Guide (LERG). A standard rate centre designation – KINGSTON - will be used to satisfy the rate centre data-fill requirements of the LERG. That is, all Jamaica central office codes appearing in the LERG will have 'KINGSTON' as their associated rate centre.

5.3 Table 5.1 show the basic Rate Centre structure for Jamaica. The number in column 1 is the official numerical identity of the Rate Centre. Column 3 shows the designation to be entered in the LERG databases to identify the Rate Centre. The map identifies the respective geographic location of the respective Rate Centres.

Table 5.1 Basic Rate Centre Structure for Jamaica

RATE CENTRE NUMBER	RATE CENTRE NAME	LERG ENTRY
1	Hanover	Hanover
2	Saint James	St James
3	Trelawney	Trelawney
4	Saint Ann	St Ann
5	Saint Mary	St Mary
6	Portland	Portland
7	Saint Thomas	St Thomas
8	Saint Andrew	St Andrew
9	Kingston	Kingston
10	Saint Catherine	St Catherine
11	Clarendon	Clarendon
12	Manchester	Manchester
13	Saint Elizabeth	St Elizabeth
14	Westmoreland	Westmoreland



CHAPTER 6 NUMBER CHANGES - RQUIREMENTS AND IMPLICATIONS

6.1 The consultative document identified number ranges whose current allocations were not consistent with the proposed allocations for the Jamaican National Number Plan. The associated services were also marked (see Figure A2.1 – Annex 2) for migration to appropriate ranges.

6.2 Subsequent to the publication of the consultative document, the Office conducted a review of the use of Shorts code by network operators. The review revealed some inappropriate uses of these codes. Some instances however, are clearly the legacy of C&WJ's monopoly and not cases of misappropriation; these, nonetheless, are undesirable under the new numbering regime.

6.3 Responses in the consultation showed, at the least, tacit support for the migration of the specified services to ranges designated for those services. C&WJ agreed with the Office's proposal for a phased implementation of the changes. There were, however, divergent views as to the likely impact of the number changes.

6.4 It is reasonable to expect that the reallocation of number ranges and the migration process due to the consequent number changes will have some cost impact on end-users, network operators and service providers, and the Office agrees that any migration plan will have to take into account these costs. The success of number changes, and the scale on which these were undertaken, in the UK in 1995 (on "PhONEday"), and subsequently, is a clear testimony however that necessary number changes, on any scale, can be implemented satisfactorily with careful planning and management.

6.5 It is instructive to note that in 1995, following PhONEday, Oftel consulted on new numbering arrangements, with proposals that carefully avoided changes to numbers that had been changed on PhONEday. Nevertheless, as Oftel reported, most of the responses were more concerned about the impact the change would have on features such as the local dialling plan than they were about number changes: "They argued that changes are an acceptable feature of the management of numbering schemes provided that there is sufficient notice of change and that migration is handled sensitively" [Oftel, 1997].

6.6 In the consultative document the Office expressed the view that to all appearances, customers have adapted quickly to number changes. This is reasonably concluded from the fact that there has not been any significant adverse response from C&WJ's customer's to the company's relatively frequent number changes to facilitate the development of its network.

6.7 The foregoing notwithstanding, the Office agrees with C&WJ that the local situation should not be trivialized. The Office is also guided by sections 8 (3) (f) and (g) of the Act, which requires that the Office should:

> "*as far as possible and subject to paragraphs (a) to (e), avoid the imposition of costs on customers as a result of changes in the numbering system; and*
>
> *to such extent as may be reasonable and subject to paragraphs (a) to (f), preserve the numbering system maintained by the existing telecommunications carrier and the numbering allocations existing immediately before the appointed day".*

6.8 The common tendency to cite these clauses for support, without due regard for the subordinating sections 8 (3) (b), (d) and (e), must however, be avoided. The paramount aim in these three clauses seems to be to ensure that the numbering plan is managed for the overall national good.

6.9 Table A2.1 – Annex 2, shows the Mobile and Geographic number ranges that were marked, in the consultative document, as ranges from which particular services needed to be transferred, that is, to their allocated ranges. The affected numbers are all assigned to C&WJ.

6.10 Again, the Office believes that number change is disruptive and if not properly planned, can be costly. The Office will therefore adopt an evolutionary (rather than revolutionary) approach, which will keep the disruption and cost of change to a minimum.

Determination 6.1 In accordance with the Migration plan outlined in chapter 6 of this document: all cellular services currently provided in the 70X and 9XX ranges must be migrated to the mobile ranges. Similarly, Geographic services provided in the 77X to 79X mobile ranges must be migrated to the Geographic ranges. See Tables A2.1- Annex 2, and A4.1- Annex 4, for details

Determination 6.2 In accordance with the Migration plan outlined in chapter 6 of this document, all Geographic services currently provided in the 511 Special Services range must be migrated to the Geographic ranges. Similarly, cellular services provided in the 333 Special Services range must be migrated to the mobile ranges. See Tables A2.1- Annex 2, and A4.1- Annex 4, for details

Determination 6.3 The following services shall be classified as Special Services and must be migrated from their current Geographic ranges to the Special Services ranges in accordance with the Migration Plan outlined in chapter 6 of this document:

- Audiotext
- DataPath
- FaxMail
- Single Number Service (SNS)
- Personal Number Service (PNS)
- InWATTS

Determination 6.4 In accordance with allocation of access codes as set out in tables 3.1 and 3.2 under determination 3.7, the current uses of the codes listed hereunder, by network operators in Jamaica, are deemed inappropriate:

- 101 Dealer Administration
- 102 Corporate Customer care
- 112 GSM Emergency Access Number
- 120 Fast Balance
- 128 FAX Mail Access
- 171 Internal Test Prepaid Platform
- 611 Access Customer Service (*Inbound Roamers*)
- 611 Customer Service (*Local*)
- 911 Police (*Inbound Roamers*)

The current uses of the Vertical Services Codes (VSCs) listed hereunder, by network operators in Jamaica, are deemed inappropriate:

- *75 "Pre-Pay" Recharge
- *80 Voice Mail Retrieval
- *86 Voice Mail Retrieval
- *89 Voice Mail Retrieval
- *96 World Direct Service

The Office will allow the continued use of 121 for access to mobile prepaid platforms for account management (account recharge, balance enquiry, etc.) because of the established association of this number with the service. This use must be common across mobile networks. The Office will inform operators individually, no later than November 15, 2003, of any inappropriate use of access codes and VSCs as outlined above, and advise them of arrangements for code changes.

Determination 6.5 In accordance with allocations for access codes as set out in tables 3.1 and 3.2, under determination 3.7, the current uses of the codes listed hereunder, by network operators in Jamaica, as access codes, are deemed inappropriate:

- 74# Speed Dialling
- 75# "

- 321 Call Centre IVR Access

- # 1 Home Direct Service from Payphones
- # 2 "
- # 3 "
- # 4 "
- # 5 "
- # 6 "
- # 7 "
- # 8 "
- # 9 "

The Office will inform operators individually, no later than November 30, 2003, of any inappropriate use of access codes and VSCs, as outlined above, and advise them of arrangements for code changes.

CHAPTER 7 SERVICE MIGRATION PLAN

7.1 The consultative document proposed a transition plan for a smooth migration of services to their allocated ranges, both in the interest of customer satisfaction and to minimise the cost impact mentioned earlier. Digicel "broadly agrees with the proposal". Cable & Wireless Jamaica did not comment on the proposal. The company responded to the question - ***Do you agree with the scope, timing and method of migration of services to new number ranges? If not, what are your recommendations as to migration strategies that could be followed? -*** as follows:

> "C&WJ recommends that the Company be allowed by the OUR to consider and document all the steps and resources necessary on its part to implement the agreed changes, using a timeline. Based on this project document submitted by the Company and negotiations with the OUR, a time frame is agreed and a final project document submitted and the plan implemented.
>
> Further and very importantly, the Company intends to use churn and attrition as a fundamental migration strategy to reduce the need to transfer any customers to new number ranges. Once a customer has churned, the number will be aged and not reassigned; in this way the Company can progress to the complete vacation of some number ranges, within a few years, without having to uproot customers".

7.2 C&WJ's "churn and attrition" method of migration is undoubtedly the least disruptive approach but clearly one that could serve to delay indefinitely the migration process or fossilize the old system of number allocation. The use of normal customer churn as a migration method is a practical solution only where the average life of a telephone number is short with respect to the time frame suggested in the consultative document for completion of the migration process (less than 3 years). Otherwise, at best, it would mean setting an excessive time limit for "forced" migration. This time limit would have to be greater than the average life of a telephone number.

7.3 It needs to be emphasised here that making the "churn and attrition" method of service migration a standard could frustrate future efforts to rationalise the Jamaican numbering space.

7.4 Based on the responses received, the Office sees no overriding cost or technical rationale that precludes it from going forward with the proposed transition plan, which, as mentioned before, is structured, consistent with the statutory obligation, to limit cost and customer inconvenience to reasonable levels.

Determination 7.1 The Office will convene a meeting with Cable and Wireless Jamaica no later than January 15, 2003 to discuss the details of the transition plan. The issues to be discussed will include, but not limited to, the services to be migrated and the NXXs affected; the customers that will be affected and the likely impact on both the customers and the company; methods of public notification; time lines; progress reporting.

Determination 7.2: The office adopts the following measures to facilitate the migration of services identified in Table A2.1 – Annex 2 for transfer:

- Discontinuation of number assignments in number ranges marked for transfer.
- All new resource assignments to be made in the ranges specified for the respective service being provided.
- Numbers not in their designated categories, to be frozen for reclamation and reallocation.
- No number changes to be made before March 1, 2004 to allow the industry time plan for such changes
- Customers to be affected by number changes to be given at least one year's notice. This is especially necessary for large business customers.
- Affected customers to be advised of the new numbers at the beginning of the notification period
- Permissive dialling of old and new numbers for at least 90 days
- Old numbers to be aged (or quarantined) for 90 days during which time "changed number" announcement should be applied, where practicable, in the case of business numbers.

CHAPTER 8 ISSUES FOR FUTURE CONSULTATION

8.1 The Office and the respondents agreed that a number of issues raised in the consultative document would be better dealt with in separate consultations because of the scope and complexity of those issues, among other things. To include them among the other issues in a general numbering consultation would delay the implementation of the new Numbering Plan and associated rules, and with undesirable consequences for all stakeholders.

8.2 The Office proposes to consult separately on the following Numbering issues:

1. Administration and use of Toll Free Numbers (preparatory work for local industry consultation in progress)

2. Industry Notification of Code Changes

3. National Dialling Plan

4. Future arrangements for Independent Short Codes (OUR investigations in progress)

5. Responsibility for Part 2 Rating & Routing data input to the TRA databases

6. Local Number Portability

7. NANP Exhaust and Expansion

Consultation on these issues will take place within the next six months.

ANNEX 1: Summary of NPA 876 Number Allocations

Table A1.1

NUMBER RANGE	ALLOCATION	COMMENTS
N00	Special Services	Easily Recognizable Codes.
N11	Access Codes	
1XX	Access Codes	
2XX	Reserved for growth	
3XX	Competitive Mobile	
4XX	Competitive Mobile	
50X-54X	Reserved for growth	
55X-59X	Competitive Geographic	
6XX	Competitive Geographic	
70X-76X	Competitive Geographic	
77X-79X	Competitive Mobile	
8XX	Competitive Mobile	
9XX	Competitive Geographic	
976	Special Services	Easily Recognizable Codes.
YYY		

N = any digit 2 through 9

X = any digit 0 through 9

YYY = 222, 333, 444… 999

ANNEX 2: 876 Numbering Plan Area (NPA) Code Plan

Table A2.1

NX	ALLOCATION	(X) 0	1	2	3	4	5	6	7	8	9
20	RESERVED FOR GROWTH	S/S									
21	RESERVED FOR GROWTH	Transfer	A/C								
22	RESERVED FOR GROWTH			S/S							
23	RESERVED FOR GROWTH			Transfer							
24	RESERVED FOR GROWTH										
25	RESERVED FOR GROWTH										
26	RESERVED FOR GROWTH										
27	RESERVED FOR GROWTH										
28	RESERVED FOR GROWTH										
29	RESERVED FOR GROWTH										
30	CCOMPETITIVE MOBILE	S/S									
31	CCOMPETITIVE MOBILE		A/C								
32	CCOMPETITIVE MOBILE										
33	CCOMPETITIVE MOBILE				S/S						
34	CCOMPETITIVE MOBILE										
35	CCOMPETITIVE MOBILE										
36	CCOMPETITIVE MOBILE										
37	CCOMPETITIVE MOBILE										
38	CCOMPETITIVE MOBILE										
39	CCOMPETITIVE MOBILE										
40	CCOMPETITIVE MOBILE	S/S									
41	CCOMPETITIVE MOBILE		A/C				Transfer				
42	CCOMPETITIVE MOBILE										
43	CCOMPETITIVE MOBILE										
44	CCOMPETITIVE MOBILE					S/S					
45	CCOMPETITIVE MOBILE										
46	CCOMPETITIVE MOBILE										
47	CCOMPETITIVE MOBILE										
48	CCOMPETITIVE MOBILE										
49	CCOMPETITIVE MOBILE										
50	RESERVED FOR GROWTH	S/S									
51	RESERVED FOR GROWTH	Transfer	A/C	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer
52	RESERVED FOR GROWTH	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer		
53	RESERVED FOR GROWTH										
54	RESERVED FOR GROWTH										
55	COMPETITIVE G OGRAPHIC						S/S				
56	COMPETITIVE GEOGRAPHIC				Transfer						
57	COMPETITIVE GEOGRAPHIC										
58	COMPETITIVE GEOGRAPHIC										
59	COMPETITIVE GEOGRAPHIC										
60	COMPETITIVE GEOGRAPHIC	S/S									
61	COMPETITIVE GEOGRAPHIC		A/C								
62	COMPETITIVE GEOGRAPHIC										
63	COMPETITIVE GEOGRAPHIC										
64	COMPETITIVE GEOGRAPHIC										
65	COMPETITIVE GEOGRAPHIC										
66	COMPETITIVE GEOGRAPHIC				Transfer			S/S			
67	COMPETITIVE GEOGRAPHIC										
68	COMPETITIVE GEOGRAPHIC										
69	COMPETITIVE GEOGRAPHIC										
70	COMPETITIVE GEOGRAPHIC	S/S	Transfer						Transfer		Transfer
71	COMPETITIVE GEOGRAPHIC		A/C								
72	COMPETITIVE GEOGRAPHIC										
73	COMPETITIVE GEOGRAPHIC										
74	COMPETITIVE GEOGRAPHIC										
75	COMPETITIVE GEOGRAPHIC										
76	COMPETITIVE GEOGRAPHIC										
77	CCOMPETITIVE MOBILE								S/S		
78	CCOMPETITIVE MOBILE	Transfer					Transfer	Transfer			
79	CCOMPETITIVE MOBILE					Transfer	Transfer				

S/S	Special Service
A/C	Access Code
Transfer	Current service to be transferred

876 Numbering Plan Area (NPA) Code Plan (*cont.)*

Table A2.1 **(***cont.)*

NX	ALLOCATION	(X) 0	1	2	3	4	5	6	7	8	9
80	CCOMPETITIVE MOBILE	S/S	Transfer	Transfer	Transfer	Transfer	Transfer				
81	CCOMPETITIVE MOBILE		A/C								
82	CCOMPETITIVE MOBILE										
83	CCOMPETITIVE MOBILE										
84	CCOMPETITIVE MOBILE										
85	CCOMPETITIVE MOBILE										
86	CCOMPETITIVE MOBILE										
87	CCOMPETITIVE MOBILE										
88	CCOMPETITIVE MOBILE									S/S	
89	CCOMPETITIVE MOBILE										
90	COMPETITIVE GEOGRAPHIC	S/S									Transfer
91	COMPETITIVE GEOGRAPHIC		A/C								Transfer
92	COMPETITIVE GEOGRAPHIC		Transfer								
93	COMPETITIVE GEOGRAPHIC										
94	COMPETITIVE GEOGRAPHIC										
95	COMPETITIVE GEOGRAPHIC									Transfer	Transfer
96	COMPETITIVE GEOGRAPHIC										
97	COMPETITIVE GEOGRAPHIC							S/S			
98	COMPETITIVE GEOGRAPHIC										
99	COMPETITIVE GEOGRAPHIC	Transfer					Transfer		Transfer		Transfer

ANNEX 3: NPA 876 Numbering Resource Allocation - Capacity

Figure A3.1

Number Type	*Quantity*
Geographical numbers	3,100,000
Mobile numbers	3,190,000
Special Services (YYY & 976) numbers	90,000
Reserved and usable numbers	1,450,000
1XX Access numbers (Codes)	100
N00 Access Numbers (Codes)	8
N11 Access Numbers (Codes)	8

ANNEX 4: Summary of '876-NXX' transfers

Table A4.1 Summary of '876-NXX' number ranges to be brought in conformity with the new number allocation scheme of the Jamaican National Numbering Plan.

CODE / NUMBER RANGE	COMMENTS
GEOGRAPHIC TO MOBILE	
700	Services currently assigned to be transferred to the Mobile range
707	
909	
919	
990	
995	
997	
999	
MOBILE TO GEOGRAPHIC	
780	Services currently assigned to be transferred to the Geographic range
785	
786	
794	
795	
TRANSFERS TO SPECIAL SERVICES	
468	Services currently assigned to be transferred to the Special Services range
563	
663	
701	
709	
801-803	
921	
758	
GROWTH TO GEOGRAPHIC	
210, 232	Services currently assigned to be transferred to the Geographic range
510-519	
520-527	

ANNEX 5: Summary of Prefixes and Miscellaneous Codes

DIGITS DIALLED	USE	EXAMPLE
0 -	Connection to operator	0
0 +	Operator connected calls (WNZ 1)	(0) + NPA-NXX- XXXX (0) + NXX-XXXX
00	Reserved for future use	-
01	Operator connected international (non-WNZ 1) calls	(01) + CC + NSN
011	International (non-WNZ 1) Direct Distance Dialling	(011) + CC + NSN
1+	Toll Prefix for Direct Distance Dialling (WNZ 1)	(1) + NPA-NXX-XXXX (1) + NXX-XXXX

CC = Country Code
NSN = National Significant Number
() = Indicates a Prefix

WNZ = World Numbering Zone

ANNEX 6: Glossary of Terms

CABLE & WIRELESS JAMAICA	The incumbent provider of telecommunications services in Jamaica. It operates fixed and mobile telephone, and data networks
EASILY RECOGNIZABLE CODE	A code with a memorable pattern of digits e.g., 333
FACILITIES-BASED SERVICE PROVIDER	A telecommunications service provider owning, as opposed to leasing, the switching network used to provide telecommunications services
FORCED MIGRATION	Unconditional transfer from one place to another
ITU	International Telecommunications Union
LATITUDINAL COORDINATES	Data elements derived from longitude
LOCAL EXCHANGE ROUTING GUIDE	A special industry database for rating and routing information associated with the NANP
LONGITUDINAL COORDINATES	Data elements derived from longitude
MOSSEL JAMAICA LIMITED	Jamaica's second Mobile Carrier
NORTH AMERICAN NUMBERING PLAN ADMINISTRATOR	An impartial and independent non-governmental entity (Currently NuStar Inc) which is responsible for the administration of specified Numbering resources for the North American Numbering Plan
NETWORK CONTROL CHARACTER	A dialled digit that is not part of the telephone (number) network address and used to bring about some change of state or action in the network
NORTH AMERICAN NUMBERING PLAN AREA	The Geographic area or member states served by the North American Numbering Plan
PERMISSIVE DIALLING PERIOD	A period during which an old telephone number and its replacement may be dialled to reach the same destination, before final termination of the old number.
PhONEday	April 16, 1995 –New national codes activated in the UK to provide a potential stock of 9 billion numbers
SHORT MESSAGE SERVICES	A text messaging service for sending short text messages to mobile telephones
TELCORDIA TECHNOLOGIES	In this document: The SS7 signalling point code administrator in the United States.
VERTICAL SERVICES	Switched-based services offered in connection with a telecommunications service, such as call forwarding services, caller ID services, and three-way calling services.

Endnotes

[1] European Telecommunications Office (ETO) (1996) "*Non-discriminatory Access to Numbering Resources"*

Melody, W.H. (2001) *"Principles, Policies and Regulatory Practices"* Technical University of Denmark

[2] OFTEL (1997) *"The National Numbering Scheme"*