

THE NUMBERING THAT COUNTS (Part 2)

By Curtis Robinson

(As Jamaica prepares for the introduction of an additional area code and 10-digit (instead of 7-digit) dialling for local telephone calls, the OUR will be running a series of articles to sensitize the public about the process).

In our previous article we outlined the purpose and importance of telecommunications numbers, and in particular, the regular 10-digit telephone numbers with which people are most familiar—they provide identification of service types, enable communications and make related services available to a whole community of subscribers.

The history of the 10-digit telephone number goes back to 1947 when the **North American Numbering Plan (NANP)** was created by AT&T to provide a standardised telephone numbering arrangement that would also allow for direct dialling (that is, without operator assistance to complete a call) of long distance calls, starting in 1951. The NANP is the basic numbering scheme for the Public Telephone Networks in twenty (20) North American and Caribbean countries, including Jamaica. These countries share the NANP numbering resources cooperatively. The format of the basic tri-segment NANP number is illustrated below:

Format and Structure of the NANP Number

FORMAT	NXX	NXX	XXXX
SEGMENTS	NPA (Area Code)	Central Office (CO) Code	Line Number
		Directory Number (7-digit Local Telephone Number)	

FORMAT: N is any digit 2 through 9 X is any digit 0 through 9

The NANP number format is commonly represented as NPA-NXX-XXXX. The term **NPA** (Numbering Plan Area), is used in context to refer to an **area code** or, a discrete geographic area served by an area code, and the term **NXX** is used synonymously with **Central Office (CO) Code**—the term **Telephone Exchange** is sometimes used synonymously with Central Office. The area code for Jamaica is **876**. At present there are potentially 800 area codes in the NANP but not all are available for telephone numbers. Each area code subsumes eight hundred (800) NXXs, some of which have been reserved for special purposes. Under the current number allocation scheme for the **Jamaican national Numbering Plan**, the assumed capacity of **NPA 876** is 773 CO Codes for regular telephone numbers.

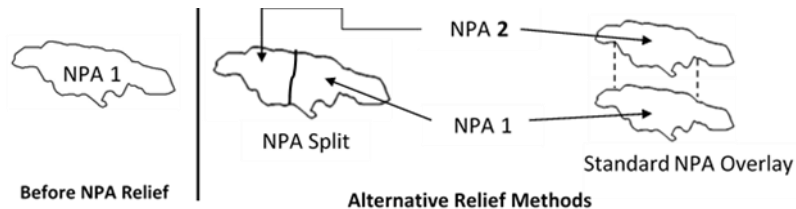
Regulatory authorities, such as the Office of Utilities Regulation, in the participating countries that share the NANP, are responsible for the assignment of **CO Codes** to public telecommunications carriers and service providers to provide them with telephone numbers for their services.

When the available quantity of CO Codes within an NPA is near exhaustion, provisions must be made to augment the supply of those numbering resources. Providing *relief* to such an NPA normally takes the form of assigning an additional NPA code to the area served by the exhausting NPA code; this is carried out through a process called **NPA Relief**. NPA relief normally takes place well in advance of the **Projected Exhaustion Date** in order to avoid running out of numbers.

NPA RELIEF OPTIONS FOR JAMAICA

In Part 1 of this series, we indicated that Jamaica has had to consider the provision of additional numbering resources to augment the Jamaican telephone numbering space. The exhaustion of available CO Codes under NPA 876 is imminent.

There are two basic alternative NPA relief methods that may be considered by the industry; the NPA Split Method and the NPA Overlay Method, as illustrated below:



NPA Split Method – Typically, in this method, the area currently served by an exhausting NPA code is divided into two separate geographic areas and a new NPA code is assigned exclusively to one of them, while the existing NPA code is retained solely in the other—usually the one with the larger number of telephone customers in order to minimise inevitable number changes. This Relief solution generally uses jurisdictional (e.g., parish) or natural boundaries as demarcations for the geographic split.

Key characteristics of the Split Method considered by NANP area Numbering Administrators:

- a) *A frequent choice for NPA relief in the past but is now significantly less desirable.*
- b) *7-digit dialling may easily be retained for local calls within the old and new NPA codes.*
- c) *Telephone Number changes (and for many existing customers) are required within new NPA code boundaries where there is NPA change.*
- d) *More economic burden may generally be caused by customer number changes, especially in the case of businesses, than by an NPA overlay.*
- e) *Possible dispute over split boundaries and which of the two areas retains the existing NPA code.*

Standard Overlay Method – An NPA overlay takes place when more than one NPA code serves the same geographic area. In an NPA overlay, NPA relief is generally provided by opening a new NPA code to serve the same geographic area as the NPA requiring relief.

NPA overlay is a frequently implemented method of NPA relief in the NANP area. It has the advantage of not requiring number changes for existing customers and is therefore favoured by telecommunications carriers and service providers. Overall, it imposes less of an economic burden and inconvenience for existing businesses, and individuals, than does an NPA split.

However, NPA overlay requires mandatory 10-digit local dialling throughout the area affected by the overlay. But this is not a problem per se as the NANP area is rapidly trending towards 10-digit local dialling as a standard.

The OUR supported the use of the Overlay Method for the purpose of implementing NPA Relief in Jamaica and approved and adopted the Standard Overlay Method as the Relief method for NPA 876. The new area code will therefore serve the same geographic area and will provide numbering resources for all services currently served by NPA 876.

In making its decision on NPA relief, the OUR considered various number conservation strategies to delay that course of action, including mandatory recovery of a significant quantity of unutilised fixed-line numbering resources to provide additional supplies for the mobile market where the demand for numbers is vastly higher. However such recovery entails significant disruption to the major resource holder's existing subscribers in terms of number changes and the adverse economic and social consequences of such changes.

The recovery of those numbers as a conservation strategy has been deemed all the more unlikely by the fact that that company has been implementing a similar number change in its Mobile network, in accordance with both an OUR Determination and Directive. Besides, Section 8(3) paragraph (g) of the Telecommunications Act, makes special provision solely for that company, as the incumbent operator, to limit such number changes, albeit at the OUR's discretion.

STAKEHOLDER IMPACTS

The introduction of a new NPA code is an involved undertaking and stakeholders must therefore be fully aware of the potential issues that regulators, the telecommunications industry and the general public might experience regardless of the method of NPA relief adopted. Failure to recognize and give appropriate attention to these impacts could have far reaching consequences, nationally and internationally. **Here are summary highlights of areas of impact and required actions for key stakeholder communities:**

Customers/Subscribers

- Update of printed materials (e.g., stationery, business cards, labels, bills)
- Reprogramming/updating of equipment, devices, etc., that store and analyse telephone numbers (e.g., PBXs, cellular phones, modems, speed call lists, alarm companies' automatic diallers, and other automatic diallers, voice messaging systems, Call Detail Recording software)
- Updating of directory listings for number changes; change of listings from 7-digit to 10-digit numbers
- Notification of customers and business associates, as well as friends and family regarding number changes
- Updating of advertising (e.g., print ads, classified ads, promotional materials, signage, etc.)
- Impact on market identity/recognition, geographic identity, public familiarity

Telecoms Network Operators, Service Providers and the Regulator:

- Customer premise equipment – modifications and information update
- Domestic and international networks – hardware and software modifications
- Operations support systems – modifications, information update
- Business and support activities (directory services, customer services)
- Modification of non-telecoms databases/applications containing telephone numbers
- National Numbering Plan changes
- National Dialling Plan changes
- Public notification/education

FACILITATING THE CHANGE TO 10-DIGIT LOCAL DIALLING

The Introduction of a new NPA code **will also** move the country from the current standardized 7-digit to a mandatory **10-digit dialling for all local calls**. However, there will be a **permissive dialling period** (a period during which time both the new dialling format and the previous one may be used to reach a required destination) to facilitate the change.

Fortunately, Jamaica has valuable lessons from its own past experience with NPA code change, and from the wider NANP community's, to guide it through the relief process which has begun with the active establishment of the requisite industry working groups.

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