



**REQUEST FOR PROPOSALS:**  
**To provide a Number Portability**  
**Administration Service for The Bahamas**

**Issue Date – 31 May, 2012**

**Response Deadline – 29 June, 2012**

## Issue Control

<b>Issue No.</b>	<b>Issue Date</b>	<b>Author</b>	<b>Notes</b>
1	10/03/2012	James Wild	Initial Draft for NPWG review
2	13/04/2012	URCA	Draft Revised by URCA following NPWG comments
3	25/04/2012	James Wild	Amendments following NPWG meeting 24/04/2012

# Contents

1.	Introduction .....	1
2.	The Bahamas & Telecommunications Operations.....	3
2.1	Overview .....	3
2.2	Telecoms Market .....	4
2.3	Competition .....	5
3.	Number Portability for The Bahamas .....	7
3.1	The Requirements for the NP Administration Service.....	7
3.2	Future developments.....	8
3.3	URCA and Licence Structure .....	8
3.4	Selection of Possible Service Providers.....	9
3.5	Number Portability Working Group.....	9
3.6	Establishing and operating a business in the Bahamas .....	9
4.	The Specific Service Requirements and Submission Requirements .....	11
4.1	The Service Required .....	11
4.2	Licensing and Service Levels .....	13
4.3	Customisation – NP Administration Service .....	15
5.	Interfacing with Operator IT & Network Environments .....	17
5.1	Automation .....	17
5.2	Dimensions & Scalability.....	17
5.3	Administration Services .....	18
5.4	Availability of a NP Administrative Service for test purposes.....	18
6.	NP Processes .....	19
6.1	NP Processes and Transactions.....	19
6.2	Customer Validation/ Authorisation Facility.....	22
6.3	Cancellation.....	23
6.4	Cooling Off/ Emergency Repatriation .....	23
6.5	Onward Porting.....	24
6.6	Deferred Porting .....	24
6.7	Return of Deactivated Number by Recipient Network.....	25
6.8	Single Numbers and Number Series .....	25

6.9	Range Update – Administrative Function .....	26
6.10	New Operators.....	26
6.11	Local Database Synchronisation .....	27
6.12	Quota Management.....	27
6.13	Response Reasons.....	27
6.14	Information Delivery .....	28
6.14.1	Investigatory Powers.....	28
6.14.2	Service Usage .....	28
6.15	Reporting.....	28
6.15.1	Statistics .....	28
6.15.2	Reporting/Output Format.....	29
6.16	Numbering in The Bahamas.....	29
6.16.1	Number Range .....	29
6.16.2	Number lengths .....	30
6.16.3	Number Look-up Facility .....	30
6.16.4	Differentiation of Geographic/ Location based numbering .....	31
7.	Porting Process .....	32
8.	Technical requirements .....	33
8.1	Data Record Structure.....	33
8.2	Logging of activities and archiving of data.....	34
8.3	NP Administration Service - System Management.....	34
8.3.1	Fault Management Functions .....	34
8.3.2	Hardware & Software Configuration Management.....	34
8.3.3	Hardware/Software/Database Platforms .....	35
8.3.4	Access to IT, Downloads & Uploads.....	35
8.3.5	Connectivity Requirements.....	35
8.3.6	Interface Protocols.....	36
8.4	Backup, Restore & Disaster Recovery .....	36
8.4.1	Real-time Backups Online .....	36
8.4.2	Full Backup .....	36
8.4.3	Restore .....	36
8.4.4	Disaster Recovery.....	36

8.5	Availability.....	37
8.6	Additional Features.....	37
9.	Message formats.....	38
9.1	Porting Approval Request .....	38
9.2	Porting Approval Response.....	39
9.3	Porting Deactivation Request .....	39
9.4	Porting Deactivation Response .....	40
9.5	E.164/ E.214 Ported .....	41
9.6	E.164/ E.214 Terminated .....	41
10.	Format of Submission .....	43
10.1	Section 1 – Executive Summary and Respondent Information .....	43
10.2	Section 2 – Service Description and Technical Details.....	44
10.3	Section 3 – Implementation Schedule .....	45
10.4	Section 4 – Training and Documentation.....	46
10.4.1	Training .....	46
10.4.2	Documentation .....	46
10.5	Section 5 – Commercial Offer .....	47
10.6	Section 6 – Experience and References.....	48
10.7	Section 7 – Contractual Details .....	48
10.8	Section 8 – Miscellaneous.....	49
11.	The RFP and Selection Processes .....	50
11.1	Submission Requirements .....	50
11.2	URCA Contact Details.....	51
11.3	Register of Interested Persons.....	51
11.4	Clarification, Questions and Additional Information .....	52
11.5	Expenses.....	52
11.6	Confidentiality.....	53
11.7	Selection Procedure and Criteria .....	53
11.8	Time Schedule .....	54
11.8.1	Issue of RFP .....	54
11.8.2	Deadline for Submission of Proposals.....	54
11.8.3	Selection and Notification of Short-listed Respondents.....	54

11.8.4	Presentations by Short-listed Respondents.....	55
11.8.5	Selection of and Negotiation with Service Provider .....	55
12	Programme & Project Management.....	56
	Appendix A - Definitions .....	57
	Appendix B – Submission Checklist.....	62

# 1. Introduction

The Communications Act, 2009 (“Comms Act”) establishes the law applicable to the Electronic Communications Sector (ECS), empowering the Utilities regulation & Competition Authority (URCA) as the independent regulator of that sector, and charges URCA with the responsibility for implementing the ECS Policy and enforcing the provisions of the Comms Act.

Number Portability (NP) is addressed in section 80 of the Comms Act and URCA is empowered to make consult on and make a determination requiring number portability in The Bahamas. Consistent with this power, on 15 April 2011, URCA published a consultation document entitled Number Portability for The Bahamas (ECS 08/2011)<sup>1</sup>. Following a consultation period in which comments from interested stakeholders were received and considered by URCA, a Statement of Results was published by URCA on 16 November 2011 (ECS 20/2011) outlining the way forward for the implementation of Number Portability in The Bahamas.

Pursuant to the Statement of Results a Number Portability Working Group (NPWG) was formed by URCA to advise URCA and steer the process toward the implementation of Number Portability in The Bahamas. On 30 May 2012, based on recommendations from the NPWG, URCA published a Preliminary Determination on Number Portability which, inter alia, proposes that service provider number portability will be implemented for fixed networks in The Bahamas, using an All Call Query routing method, supported by a centralised database and clearinghouse run by a licensed third party.

This Request for Proposals (RFP), issued by URCA, outlines requirements for and invites interested persons to submit quotations for, a Number Portability Administration Service (herein referred to as a “NP Administration Service”), providing number portability for fixed, mobile and associated services, which will be used by operators of electronic communications services, specifically fixed and mobile voice calls in The Bahamas to effect:

1. The process of ‘Porting’ of telephone numbers between Electronic Communications Operators licensed in The Bahamas by URCA who provide electronic communications services that are subject to a number portability requirement (“NP Licensees”); and
2. The provision of ‘Destination Information’ from a reference database of all ported numbers so that individual NP Licensees can use this information in their own call-by-call routing databases for All Call Query routing.

---

<sup>1</sup><http://www.urbahamas.bs/download/061343300.pdf>

The purpose of this document is to enable prospective Service Providers to prepare a detailed proposal for the provision of such a NP Administration Service.

The service will be initially provided to all fixed operators in The Bahamas. The contracting arrangement will be through a statutory licensing arrangement with URCA, though it is envisaged that there may be a need for the entering into of a multi-party contract between the selected Service Provider, URCA and the NP Licensees to cover the development and implementation of the NP Administration Service. It is intended that from on or about May 2013, fixed telephone service users across the Bahamas will be able to keep their fixed number when they change service provider.

Whilst this document outlines the specific initial requirements for the provision of the NP Administration Service which will currently be designed for fixed services only, respondents are advised that URCA plans to expand number portability to other market sectors using a staged approach. Specifically, URCA intends to add mobile number portability functionality in conjunction with the introduction of competition into the mobile market in The Bahamas. Respondents are advised that URCA will consider the future capabilities of the proposed NP Administration Service solutions to provide Porting in future market sectors as a key assessment criterion and should ensure that their proposals are structured around these requirements. Currently, URCA does not intend to allow hybrid Porting across different service types (i.e. fixed to mobile and mobile to fixed) but this situation may be reviewed in the future.



## 2. The Bahamas & Telecommunications Operations

### 2.1 Overview

The Commonwealth of The Bahamas comprises more than 700 islands, cays, and islets. Its land area is 13,939 km<sup>2</sup> (5,382 sq. mi.), with a population of 353,658, with the islands of New Providence and Grand Bahama accounting for 70.39% (248,948) and 14.63% (51,756) of total population (353,658), respectively. The island of Abaco represents 4.72% (16,692) whilst the remaining 10.26% is largely scattered across 10 to 20 smaller islands and cays. Its capital is Nassau, which is situated in the island of New Providence.

The Bahamas is a sovereign, independent, nation. Political and legal traditions closely follow those of the United Kingdom and the Westminster system. The Bahamas is a parliamentary democracy. Legislative power is vested in a bicameral parliament, which consists of a 41-member House of Assembly (the lower house), with members elected from single-member constituencies, and a 16-member Senate, with members appointed by the Governor-General, including nine on the advice of the Prime Minister, four on the advice of the Leader of the Opposition, and three on the advice of the Prime Minister after consultation with the Leader of the Opposition. The House of Assembly carries out all major legislative functions.

The Bahamas is a Commonwealth realm with Queen Elizabeth II as head of state (represented by a Governor-General). The Prime Minister is the Head of Government and is the leader of the party with the majority seats in the House of Assembly. Executive power is exercised by the cabinet, selected by the Prime Minister and drawn from his supporters in the House of Assembly.

Constitutional safeguards include freedom of speech, press, worship, movement, and association. Although The Bahamas is not geographically located in the Caribbean, it is a member of the Caribbean Community. The judiciary is independent of the executive and the legislature.

Tourism generates about half of all jobs, but banking and international financial services are also well established and contribute significantly to The Bahamas' economy.

## **2.2 Telecoms Market**

URCA was established as an independent regulator responsible for licensing and the overseeing of all Electronic Communications in The Bahamas which includes Telephone services, Internet, Broadcasting including Cable Television and the management of Radio Spectrum and Numbering, pursuant to the Communications Act, 2009 (Comms Act), which came into force on September 1, 2009.

Electronic communications networks and services form an essential part of the backbone infrastructure underpinning the commercial and social progress of the Bahamian economy. URCA estimates that the size of the sector in 2010 was approximately \$428 million or 5.7% of the country's Gross Domestic Product (GDP) of \$7.53 billion.

The fixed telecommunications market in The Bahamas is dominated by three licensed operators, namely, Bahamas Telecommunications Company Limited (BTC), Cable Bahamas Ltd. (CBL) and IP Solutions International Limited (IPSI). CBL recently acquired another operator, Systems Resources Group Limited (SRG), a Fixed Wireless service provider for Residential Services with service provided using an ATA with internet connectivity, enabling CBL to expand its product portfolio to include voice services. These operators either provide or are in the process of launching fixed voice and data services across the main centres of population in The Bahamas, namely the islands of New Providence, Grand Bahama, Abaco and Eleuthera, with fixed services also provided to some less populated islands.

As at the end of 2010, penetration of fixed telephone services in The Bahamas stood at 37.71 subscribers per 100 inhabitants or 129,314 lines in service.

Currently, only BTC provides mobile services in The Bahamas and pursuant to section 114 of the Comms Act, further mobile licences cannot be granted by URCA until the third anniversary from the date of completion of the sale of a majority of BTC by the Government to Cable & Wireless Communications plc, or 2014 at the earliest. For 2010, the penetration of cellular mobile telephone services in The Bahamas is relatively high, with 124.94 subscribers per 100 inhabitants.

Consequently, with only one mobile operator present in The Bahamas, URCA has decided to proceed with initially implementing and launching fixed number portability, with mobile number portability being launched at a later date, when a second mobile licence has been issued. However, URCA intends that the NP Administration Service deployed in The Bahamas will be capable of supporting both fixed and mobile number portability services, as well other types of portability services which may be required in the future.

## **2.3 Competition**

The following Licensees are providing or planning to provide electronic communications services in The Bahamas market, which will be subject to a number portability requirement at the inception of number portability in The Bahamas. Under the Comms Act, BTC and CBL have been deemed to have Significant Market Power (SMP) in certain markets and URCA has in accordance with the provisions of the Comms Act, placed certain obligations on each of BTC and CBL.

### **Bahamas Telecommunications Company Limited (BTC)**

Bahamas Telecommunications Company Limited (BTC) provides fixed voice and data services and mobile cellular GSM voice and mobile GPRS/ 4G data services to all population centres across The Bahamas via the Bahamas Domestic Submarine Network. BTC provides local, inter-island, and international telephone services to the Bahamian public, both retail and corporate consumers, delivered via POTS, ISDN, DSL, Frame Relay and MPLS technologies.

In April 2011, the Government of The Bahamas (the Government) completed the sale of a 51% stake in BTC to Cable and Wireless Communications PLC, retaining 49% of the issued and outstanding shares. Certain transitional provisions relating to BTC that were included in the Comms Act were amended; in particular, section 114 was repealed and replaced so as to provide that no determination of the rules relating to the award of any second cellular licence would be made nor would any direct or indirect external process with respect to granting a second cellular licence be carried out before the third anniversary from the date of completion of the sales transaction.

### **Cable Bahamas Ltd. (CBL)**

Cable Bahamas Ltd. (CBL), which operates a network of fibre-optic and/or coaxial cables and provides voices services, Pay TV and high speed data services and connectivity. In addition, CBL through its acquisition of SRG, now provides fixed wireless voice services to the main population centres within The Bahamas.

CBL now offers voice, broadband data and video products (Analogue/Digital including basic and premium services plus Pay per View and Video on Demand). CBL is able to offer bundled products (triple play provider of fixed line voice, broadband and cable television services) to its subscribers.

CBL operates a high-capacity, fibre-rich HFC (two way) network in New Providence, Grand Bahama, Abaco and Eleuthera, with each island linked by a submarine fibre optic cable system. In addition, CBL has deployed small standalone HFC Networks (one way) on the Family Islands of Bimini, Berry Islands, Andros, Exuma, Long Island, San Salvador and Inagua,

and CBL also provides a six channel digital broadcast service (one way) to the a number of smaller Family Islands/areas.

### **IP Solutions International (IPSI)**

IP Solutions International, Ltd. (IPSI) is a fully-integrated solutions provider operating various access networks throughout the Bahamian island chain, including their innovative ultra high-speed wireless access products in the New Providence area and their fibre-to-the-home gated community networks throughout the Abaco islands.

Leveraging fast and reliable access technologies has allowed IPSI to deliver a robust triple play offering (which can be purchased a la carte or as a bundled package) including Television service, fixed land line telephone service and Internet access. IPSI also caters to small and large enterprises alike with flexible and affordable PBX and commercial Internet access offerings.

## **3. Number Portability for The Bahamas**

### **3.1 The Requirements for the NP Administration Service**

The Service Provider will provide the NP Administration Service which will be a managed service to administer number portability in The Bahamas. This functionality will encompass the need to maintain relevant details regarding mobile subscriber number ranges together with the full history of any Porting activity for any particular number and for providing specific statistical information as required by URCA;

This managed solution may be either:

- located within The Bahamas being provided and managed from the Service Provider's premises or the premises of the Service Provider's nominated local partner (which partner must be approved by URCA); or
- provided by the Service Provider using a hosted solution securely operated from a remote location outside of The Bahamas.

Respondents should note that URCA would be particularly interested in solutions which situate the managed solution, or as much as possible of the solution, within The Bahamas as such would encourage economic activity within and be to the benefit of The Bahamas economy and society. Respondents are advised however, that local hosting of the service will not override cost considerations in URCA's evaluation of proposals received, so Respondents wishing to offer such a solution should consider innovative solutions (such as hosting in The Bahamas of services for multiple regional jurisdictions) which offer local hosting without significant cost increase. In that regard, URCA notes that there are several jurisdictions in the region currently considering number portability implementation, including but not limited to Jamaica, Trinidad and Tobago, the ECTEL countries (comprising Dominica, Grenada, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and The Grenadines), Turks and Caicos, and Anguilla.

Development and Implementation of the service will be covered by a contractual arrangement between URCA, the Service Provider and the NP Licensees (if appropriate), while the NP Administration Service will be provided to the NP Licensees under the terms of a licence awarded by URCA to the successful Service Provider.

The hardware and software that provides the NP Administration Service will remain in the domain of the Service Provider. The Service Provider will place the Software source code and supporting material into escrow within thirty (30) days of Final Acceptance in accordance with the provisions of a separate escrow agreement, which will incorporate all

the usual terms to be found in such agreements (including but not limited to terms on (i) the deposit of the source code and supporting material, (ii) the source code and supporting material being up-dated and (iii) the release of the source code and supporting material to URCA on the Service Provider ceasing to trade in the normal course, being the subject of an insolvency event or the Service Provider by its fault causing or allowing the software to become obsolete.)

In the event that a NP Licensee requires additional hardware or software in order to provide number portability functionality, such requirement shall be contracted for separately between the Service Provider or its other supplier and the NP Licensee and will not form part of the NP Administration Service.

### **3.2 Future developments**

This RFP addresses the provision of NP Administration Service for fixed, mobile and other services for which number portability may be implemented, though fixed services are to be implemented at inception while mobile services will be implemented at a date to be determined by URCA but expected to be upon introduction of competition in the mobile market in The Bahamas. Other services may be implemented at the direction of URCA. The equipment to be used should therefore have supporting features for mobile and other services such as Voice over Internet Protocol (VoIP).

Respondents are required to indicate in their proposals whether and, if so, how the proposed solution could be expanded to include Porting of numbers between mobile and mobile; fixed and mobile; and other services such as VoIP and Electronic Number Mapping (ENUM).

### **3.3 URCA and Licence Structure**

URCA, having regard to the recommendations of the NPWG, will be responsible for the regulatory and contractual arrangements for the provision of the NP Administration Service. It is expected that the arrangements will take the form of:

- A contract between URCA, the NP Licensees and the selected Service Provider covering the development and implementation of the NP Administration Service;
- A statutory licencing arrangement under which the Service Provider will be authorised by URCA through a licence to provide the NP Administration Service to the NP Licensees, and those Licensees will be mandated by URCA to provide number portability using that NP Administration Service; and,

- Contractual arrangements between the Service Provider and each NP Licensee covering the detailed charging and service level arrangements relating to the use by NP Licensees of the NP Administration Service.

The Service Provider would be able to charge NP Licensees directly for the Porting services provided based on a charging/ cost recovery arrangements and contracting framework to be determined by URCA subject to consultation with the NP Licensees, and the Service Provider. URCA requests, however, that a monthly charging arrangement be provided in the respondent's proposal, to enable easier comparison and assessment of proposals received.

URCA would also welcome innovative commercial/ contracting proposals from Service Providers in this respect.

### **3.4 Selection of Possible Service Providers**

This RFP is being published both within and outside The Bahamas. However, URCA is specifically interested in considering and progressing proposals from service providers who have been involved with the successful development and implementation of NP solutions in other similar jurisdictions. The selection of the Service Provider will be made by URCA having regard to recommendations made by the Number Portability Working Group (NPWG).

### **3.5 Number Portability Working Group**

A Number Portability Working Group (NPWG) has been appointed by URCA and is composed of representatives from URCA, representatives of each NP Licensee, and a consultant advisor to the NPWG. The NPWG is chaired by a senior employee of URCA.

URCA may at its discretion, establish further specialist work streams advising and reporting to the NPWG to support the implementation of NP in the Bahamas.

### **3.6 Establishing and operating a business in the Bahamas**

A mandatory requirement for operators licenced by URCA to provide services in the Bahamas is that the licenced entity is established and operated from the Bahamas.

Under the Communications Act (2009), URCA has the power and duty to collect certain fees from licensees for itself and on behalf of other bodies. Consequently, licenced operators are

required to pay annual URCA and Communications Licence (Comms) Fees to URCA. For 2012 the URCA fee (which changes based on total sector revenue and URCA's budget) is set at 1.22% of the licensee's annual revenue, while the Comms fees is set by the Comms Act at 3% of the licensees' annual revenue (note that the URCA fee is subject to a minimum of \$3,000). Further details of the URCA Annual and Comms fee schedule and details can be found on the URCA website<sup>2</sup>.

In addition, under the Business Licence Act (2010), all businesses which operate from The Bahamas are required to be licenced by the Government of The Bahamas and are required to pay business licence fees to the Government.

Details of the licencing process and fee schedules can be found on the website of the Government of The Bahamas<sup>3</sup>.

Respondents are advised to consult the URCA and Government of The Bahamas websites prior to submitting responses to this RFP, to fully understand the implications and obligations of operating licenced businesses in The Bahamas.

---

<sup>2</sup> See URCA's website at <http://www.urbahamas.bs/download/051554600.pdf>

<sup>3</sup> Link to [Business Licensing](http://www.bahamas.gov.bs/Business-Licensing) at [www.bahamas.gov.bs](http://www.bahamas.gov.bs)



## 4. The Specific Service Requirements and Submission Requirements

### 4.1 The Service Required

In view of the nature of The Bahamas market and the potential overall volume of port requests and the consequential need for a cost effective solution to make NP a viable option for consumers, it was determined that the most effective, efficient and economic choice would be one where URCA entered into an arrangement with a Service Provider that is able to offer an NP Administrative Service. URCA will consider a service, which is provided from The Bahamas or provided remotely and is run with processes and software developed for other jurisdictions.

The NP Administration Service shall be capable of providing, at a minimum, the following functionality:

- i. The relaying of messages between Donor Operator and Recipient Operator and the maintaining of state information for each individual and bulk Porting;
- ii. Management of the Porting processes for fixed and mobile services, provided to retail and corporate/ business consumers, to meet the target times;
- iii. Validation of the Porting request by the subscriber by means of IVR, SMS, email or other code mechanisms;
- iv. Communication with the subscriber by email or SMS (at a minimum) to advise the subscriber of the status of their Porting request;
- v. The broadcasting to all NP Licensees of information on the identity of the Recipient Operator who is serving a number after it has been ported;
- vi. The collection of logs on all Porting activities;
- vii. The collection of statistics on Porting;
- viii. The storage of information on the history of each Porting but excluding any personal subscriber data;
- ix. The maintenance of a reference database of all ported numbers and the provision of downloads of this information to URCA, any NP Licensee, especially new entrants; and
- x. Management of ancillary functions, which include but are not limited to, Cooling Off, Emergency Repatriation, Return to Number Range Holder and Porting Database Synchronisation.

Each NP Licensee will use data from the NP Administration Service to populate its own call-by-call routing databases for All Call Query (ACQ) routing.

The NP Administration Service maybe operated from within The Bahamas or hosted/ provided remotely, but particular importance will be placed upon evidence of the security and reliability of the proposed service, and the Service Provider should include information on performance of similar services in, or to, other countries.

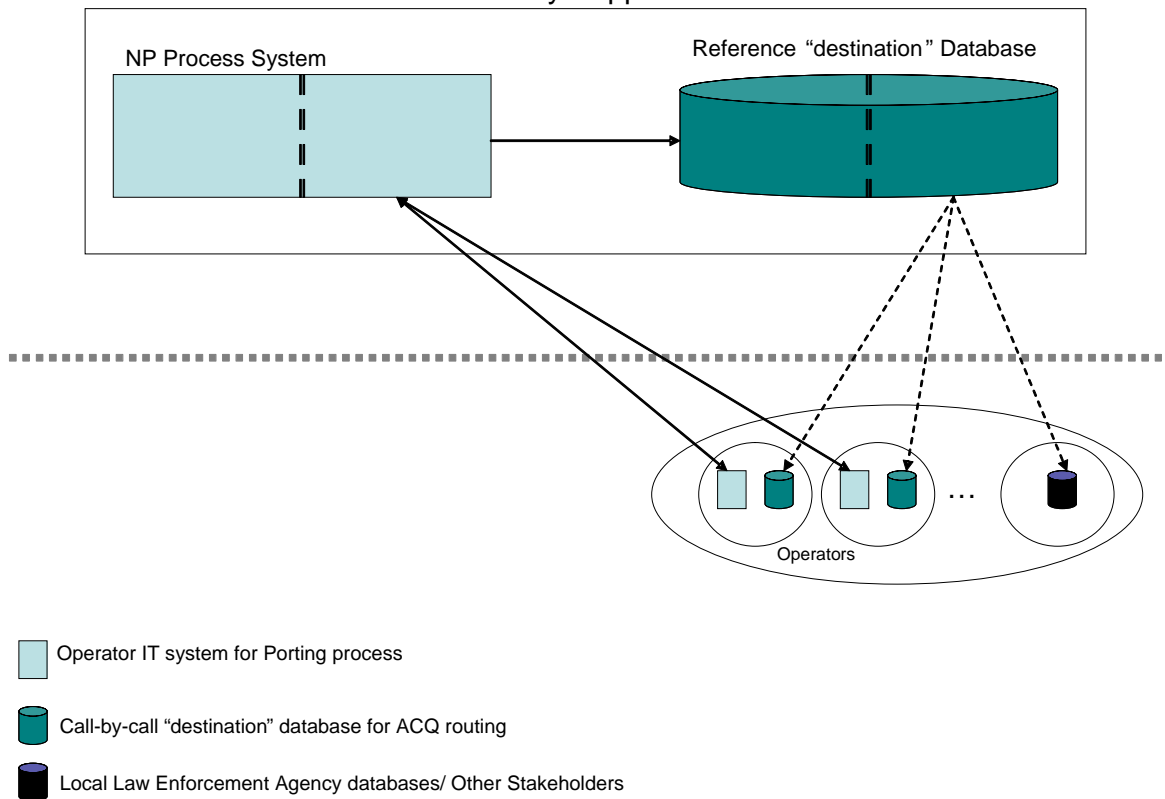
Figure 1, shows the required separation of access functionality and delivery of 'Destination Information', from the actual core operation of the NP Administration Service.

The NP Administration Service should be provided in a manner which will enable secure read access to Porting data from local Law Enforcement Agencies ("LEA"), subject to compliance with applicable legal requirements, and where appropriate, other stakeholders such as value added service operators etc.

The Service Provider must at all times ensure full compliance with applicable data protection laws and other legal requirements in The Bahamas in force from time to time.

Where the Service Provider uses any sub-contractors to provide this NP Administration Service then the Service Provider must demonstrate that the sub-contractors comply with all applicable laws of The Bahamas in force from time to time. Notwithstanding and without prejudice to the foregoing, the Service Provider shall be liable for any breach of any law of The Bahamas, and shall be required under the contractual or licensing arrangement to indemnify URCA and the NP Licensees in respect of any such breach.

## NP Administration Service run by Supplier located in The Bahamas



*Figure 1: NP Administration Service*

The NP Administration Service must support the generic interfacing requirements specified in this RFP. It is expected that URCA will finalise specifications for the Porting process during the First Stage after the contract is signed.

It is assumed for this RFP that each NP Licensee has at least one input connection to the Reference Database.

### **4.2 Licensing and Service Levels**

The intention is for URCA to offer a licence for a fixed period. URCA will schedule and conduct review meetings together with the Service Provider and the NPWG.

The licence for the NP Administration Service will contain details of the terms under which Service Level Agreements (SLA) will be managed and which of the URCA representatives will

take part in the Review Meetings. SLAs will be measured monthly. Penalties for failing to meet the terms of the SLA will apply.

URCA reserves the right to revoke the licence for breach of any condition contained therein or should the levels of performance specified in the SLA not be met.

Although other pricing and charging arrangements will be considered by URCA, the proposal shall, for the purpose of comparison of proposals submitted, specify prices separately for a 3 year and a 5 year initial period, with reviews at 3-month intervals for the first year and at mutually agreed times between URCA and the Service Provider thereafter.

URCA reserves the right to use a third party to monitor the performance level of the Service Provider.

The table below is an indication of the minimum service level requirements that URCA is seeking from the Service Provider. The Service Provider's response should include financial service credits or penalties for failing to meet an agreed service level.

<b>Service Area</b>	<b>Specification</b>	<b>Minimum Requirement</b>
Availability	Twenty-four (24) hours daily	99% per Month
Response time to requests	Interactive - real time	Refer to process documentation
Unplanned Outages	Outages in excess of 30 mins	Less than 2 per month
Planned Outages	Outages in excess of 120 mins	None per month
Reporting	Availability of Administration System	Weekly
Reporting	% of subscribers ported in/out against 2 day target	Daily
Operational Desk opening hours	0800 to 2000 hours – EST Time zone	100% per Month
Response time after problem is reported	Within 30 minutes	100% per Month
Progress update	Hourly	100%
Resolution Time	To be agreed with NP Service Provider.	

Data back-up	Daily	100% per Month
Maintenance window	To be agreed with NP Service Provider.	100% per Month
Notification of planned work	48 hours	100% per Month
Notification of emergency work	To be agreed with NP Service Provider.	

The Respondent should give details of ready developed ‘best practice’ Porting rules. The proposal should describe how the Service Provider will support URCA and NP Licensees in the testing of their systems and processes, and should outline the tests that the respondent would expect to undertake with each of the NP Licensees individually and jointly.

If the proposal includes the need for each NP Licensee to run the Respondent’s proprietary NP software within its own IT operations, then this section must also cover all the necessary specifications regarding software and hardware that would be required. In addition to the regular operation of the NP Administration Service, the respondent must include a section on how they would implement and validate a Disaster Recovery process.

The Respondent may propose another company as its partner’. However, the Respondent shall be the “Service Provider” for the purpose of the engagement and shall be solely liable for the performance of all services agreed to.

### **4.3 Customisation – NP Administration Service**

The software used to provide the service should be ‘parameter driven’ (i.e. the software should allow changes to be made in timings, response reasons and other parameters with minimal additional cost).

URCA may decide to operate separate Porting processes for the Porting of specific types of services and subscribers, which may require the software to support separate processes with differing time, response reasons and stage parameters. For instance, URCA may decide to allow the Porting of business/ corporate services to be processed during different working hours to the Porting of retail services. Also, the Porting process and parameters for the Porting of fixed services may differ from the Porting of mobile services.

The NP Administration Service and associated software shall enable additional NP Licensees to be added to The Bahamas’ NP Service with minimal disruption to existing NP Licensees, minimal additional costs and minimal implementation timeframe.

The requirements given in this RFP are minimum specifications. The Respondent may propose additional features that the Respondent consider will be of benefit to URCA and the NP Licensees.

The Respondent may offer additional support services to the NP Licensees separately for assistance with interconnecting the service to their existing IT and network infrastructure. Such services shall be outside the scope of the services engaged pursuant to this RFP, however, in order to ensure transparency and non-discrimination, the scope and prices of such services must be approved by URCA and offered on the same terms and conditions to all NP Licensees.

## **5. Interfacing with Operator IT & Network Environments**

### **5.1 Automation**

The Service Provider selected should be able to operate in both of the following modes:

- i. Manual control mode - with access being provided via a browser or client module using the appropriate protocol; and
- ii. Automatic control mode - integrated into Operator managed IT infrastructure using protocols or API's to enable appropriate functionality to be integrated into Operator applications as and where needed.

Although manual and automatic control modes are included above, please also specify any combination of these two modes that you wish to include in your proposal.

The Respondent should specify clearly what it can deliver within the timescales outlined in this RFP.

### **5.2 Dimensions & Scalability**

The Respondent should describe any capacity limits for its service and any changes in pricing that is dependent on the number of Portings per year. The latter should be provided based on the following Porting rate bands:

- i. Up to 2,500 Portings per annum;
- ii. 2,500 to 5,000 Portings per annum;
- iii. 5,000to 20,000 Portings per annum;
- iv. 20,000 to 50,000 Portings per annum; and
- v. Greater than 50,000 Portings per annum.

The Respondent should also provide pricing based on an annual subscription which is independent of specific Porting volumes (and therefore not subject to change based on volume increases). Please note – the Porting rate bands are designed to ensure adequate scalability having regard to possible future Porting demand for both fixed and mobile Porting services, and should not be construed as a prediction or guarantee of anticipated Porting volumes.

### **5.3 Administration Services**

In addition to the main NP functions, the following functions should be included:

- i. Adding new operators and number ranges;
- ii. Helpline for operators using the NP Administration Service; and
- iii. Contact point for faults with the NP Administration Service.

The Respondent should also state how it would undertake the following:

- i. Routine backup of the portability data stored;
- ii. Verification of ported numbers against operators in-service numbers;
- iii. Process for updates to the software and change requests from URCA; and
- iv. Handling of equipment and software failures.

### **5.4 Availability of a NP Administrative Service for test purposes**

To enable each of NP Licensees to prepare their own operations for NP it will be necessary to provide them with independent access to a fully functional test environment.

This test environment should allow all of the NP Licensees to, independently of each other, test their interfaces and IT systems with the solution being provided by the Service Provider and to undertake all Porting operations with a "dummy" operator.

This test environment should also be available to allow the NP Licensees to test the inter-operator processes and the passing of messages between each combination of real operators.

It is expected that the Service Provider will also make the test environment and facilities available to URCA and the NP Licensees to support the implementation and launch of other forms of number portability in the future, for instance mobile number portability.



## **6. NP Processes**

This section is intended to provide an outline of the likely processes that will be involved in number portability in The Bahamas, to enable Respondents to present comparable proposals in response to this RFP. Except as specifically identified, the processes set out in this section are indicative only and are subject to change. Final processes for number portability in The Bahamas will be determined by URCA acting on the advice of the NPWG. The NPWG's deliberations and recommendations, and URCA's determinations thereon, will be provided to the successful Respondent during the course of negotiations for the detailed terms and conditions of the provision of the NP Administration Service for The Bahamas.

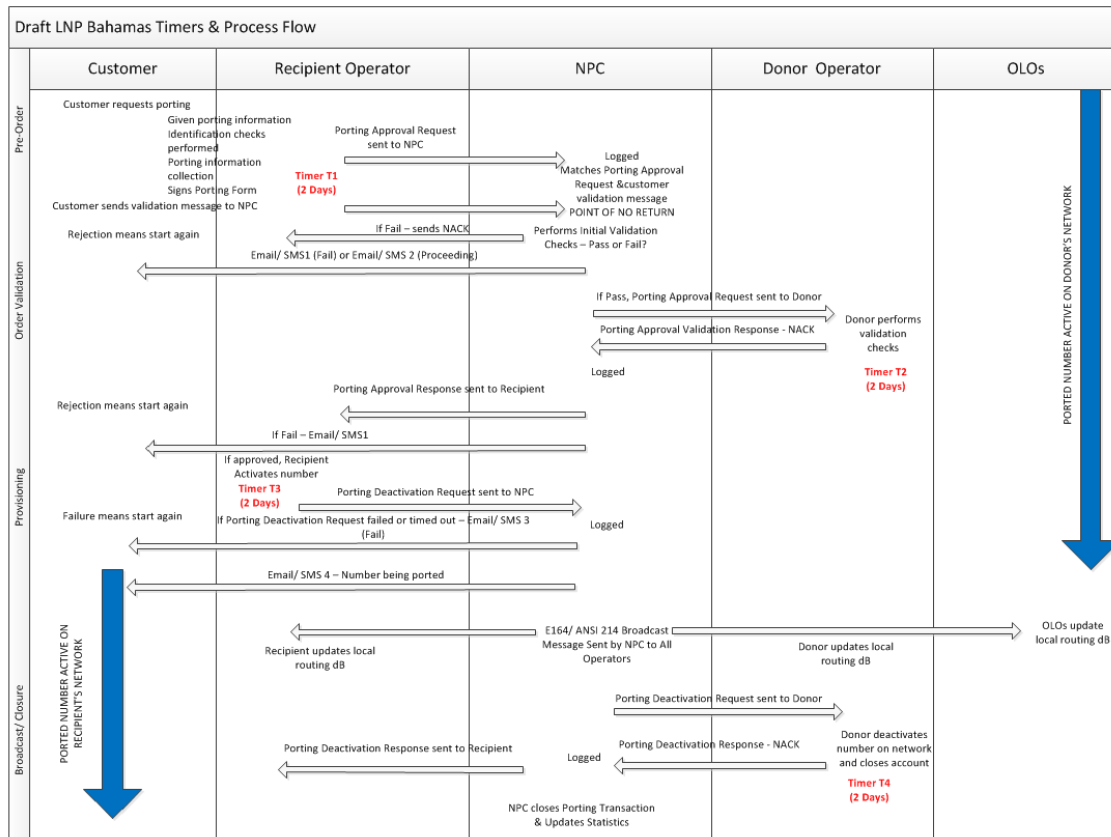
### **6.1 NP Processes and Transactions**

URCA has determined that the NP process in The Bahamas will be Recipient Led and therefore Recipient Operator will initiate all NP procedures and the Donor Operator will provide responses.

The proposed role of the NP Administration Service is to log and enable the management and delivery of the NP transactions between the Recipient and Donor Operators, and to 'Broadcast' the results of each successful Porting. In addition, the NP Administration Service will receive and check the Call Line Identifier (CLI) and subscriber validation message (i.e. IVR transactions/ Pin codes or email/ SMS messages) from the Porting subscriber and notify the subscriber of the status and progress of their Porting request by email or SMS.

URCA intends to simplify the Porting process and minimise the amount of subscriber Porting data transferred in each Porting transaction. URCA intends that transactions in the Porting process will be message driven and no files will be exchanged between Recipient and Donor operators via the NP Administration Service.

The following process diagram shows the various steps that would be taken during a full NP process. It should be noted that the timeframes, and principles set out in the table are indicative only and included to enable presentation by Respondents of comparable responses. Actual timeframes and processes to be implemented are subject to discussion by the NPWG, and determination by URCA based on the NPWG's recommendations, so the successful Respondent must be prepared to adapt its system to the actual timeframes established by URCA. The detailed business rules and Porting process shall be determined by URCA subject to the recommendations of the NPWG and provided to the Service Provider:



A check is made between the NP Administration Service and the subscriber that will not be passed if the Recipient Operator has made an error in entering the number to be ported or the number being ported is either already subject to a Porting request or has been recently ported within a timescale defined by the URCA.

The diagram shows only the main elements of the NP process. The details need to be discussed and will be specified in relation to each of the different types of account:

- Registered vs. non-registered;
- Personal vs. non-personal (e.g. corporate);
- Pre-pay vs. post-pay;
- Single line vs. multi-line; or
- Single service vs. multi-service (i.e. voice vs. voice & broadband)

This information will be given in the detailed inter-operator Business Rules. The process specifications will be developed and finalised between the URCA and the NPWG.

Once the Recipient Operator has submitted the Porting request to the NP Administration Service and this has been matched against an incoming validation mechanism (i.e. CLI/ IVR/ Pin/ Email or SMS from the subscriber), the NP Administration Service performs checks to

confirm the validity of the number to be ported and whether this has been ported recently within the onward Porting time period. If the Recipient Operator has made an error in entering the number or the number being ported is either already subject to a Porting request or has been recently ported within a timescale defined by URCA, then the NP Administration Service will reject the Porting request and notify the Recipient Operator via a reject code and the subscriber via email or SMS.

Where the NP Administration Service verifies that the number is correct and has not been previously ported within the Onward Porting period, the NP Administration Service shall approve the Porting request and forwards the request to the Donor Operator for processing and approval. The NP Administration Service shall also send an email or SMS to the subscriber to confirm the Porting request is being processed.

The Donor Operator shall then verify the Porting request against fixed parameters defined by URCA. Where the Porting request complies with the URCA parameters, the Donor Operator shall approve the Porting request and send approval to proceed to the Recipient Operator via the NP Administration Service. Where the Porting request fails to meet one or more of the URCA parameters, the Donor Operator may reject the Porting request and notify the Recipient Operator of the reason for rejection by sending a specified NP rejection code.

Porting must be completed within a timescale which is to be determined by URCA based on recommendations from the NPWG. For the purpose of this RFP, the timescale should be assumed to be no more than 5 working days (fixed Porting only) of the NP Administration Service validating the Recipient Operator's Porting Approval Request with the subscriber's received validation message.

T1 is the time limit for the Donor Operator to respond to the Porting Approval Request from the Recipient Operator. The response may either be an "Accept" or a "Reject". Where it is a "Reject" response, the codes relating to the reasons for issuing a Reject must be included in the Response message.

There will be a time period during which the Donor Operator must provide a Porting Approval Response to the Recipient Operator's Porting Approval Request.

Assuming the Donor Operator approves the Porting Approval Request (by sending the Porting Approval Response), T2 is the period to allow the Recipient Operator to activate the number on their network and send the Porting Deactivation Request. During T2 the number is active on the Recipient Operator's network and the Donor Operator's network since there is an overlap before it is deactivated on the Donor Operator.

The NP Administration Service then initiates a Broadcast by sending an E.164 message (and/or E.214 ANSI Equivalent) to all NP Licensees informing that the number is now activated on the Recipient Operator. The Porting is now complete.

T3 is the time limit for the Donor Operator to de-activate the number and apply onward routing.

The NP Administration Service will monitor the progress and collect statistics on the processing of Porting transactions across all parties.

In the event problems are experienced whilst a Porting request is being processed, the NP Licensees involved should be able to abandon the process through the use of timing out functions and to start the Porting process from the beginning once the problems have been identified and resolved.

A number may be ported more than once and may be ported back to the original range holder. It will be necessary to specify minimum periods between each Porting, known as Onward Porting and Cooling Off periods.

## **6.2 Customer Validation/ Authorisation Facility**

The proposed NP Administration Service will be required to match the subscriber's CLI and a subscriber validation message with each Porting request to enable the Porting request to be processed.

Different validation message approaches may be used for processing fixed and mobile number Porting requests. For instance, fixed number Porting requests may be validated by:-

- NP Administration Service generated pin-code which is sent to the subscriber by email or SMS. The subscriber would then either:-
  - Provide the unique pin code to the recipient operator who would enter into / send to the NP Administration Service;
  - Call a dedicated telephone based Porting facility and confirm the unique NP Administration Service generated code by voice message or touch tone phone;
- Send a SMS to a unique Porting number indicating a unique NP Administration Service Porting reference number. The NP Administration Service would then send a confirmation or unique NP Administration Service pin code by SMS to the subscriber's nominated number, which the Recipient Operator would then enter into/ send to the NP Administration Service; or

- Another subscriber validation mechanism as suggested by the Service Provider.

The proposed NP Administration Service should store incoming Porting approval requests and subscriber validation messages for a period to be defined in the detailed process. As soon as there is a match between a Porting approval request and a subscriber validation message (i.e. the Porting request numbers match AND the CLI/ Pin of the validation message match), then the system shall send the Porting approval request to the Donor Operator. If a match is not achieved by a time to be specified in the detailed process then the NP Administration Service shall delete the Porting approval request and the validation message.

The proposed NP Administration Service is required to notify Porting subscribers via email or SMS message, of the progress of their Porting request. Such notification may include:(i) confirmation that the Porting request has been approved and is being processed; or (ii) Porting request as been rejected; or (iii) advising the subscriber that their service is about to be transferred to the recipient operator etc.

### **6.3 Cancellation**

Final decisions as to cancellation remain to be determined by URCA.

For the purpose of this RFP, Respondents should assume that the subscriber may only cancel a Porting request by contacting the Recipient Operator before the point at which the NP Administration Service has matched the incoming Porting approval request and validation message and forwarded the Porting approval request to the Donor Operator. The subscriber may therefore cancel a Porting request by NOT sending the validation message. If the subscriber wishes to cancel the Porting after the validated Porting approval request has been forwarded to the Donor Operator, this can only be facilitated by allowing the Porting request to proceed to completion and for the Recipient Operator to arrange for the subscriber's number to be ported back to the Donor Operator via the Cooling Off facility. Thus, there is no need for a specific cancellation process between the Donor Operator and Recipient Operator.

### **6.4 Cooling Off/ Emergency Repatriation**

A determination as to whether or not to allow a cooling-off period, and the exact terms of any such period, remains to be made by URCA.

For the purpose of this RFP, the NP Administration Service should Respondents should assume that a subscriber who wishes to cancel a port(i.e. to return to the Donor Operator after the Porting transaction has been completed), will have to request the Recipient Operator to arrange a second Porting in the reverse direction after the Porting has been completed. Similarly, if a Porting transaction is later found to be fraudulent or not authorised by the legitimate subscriber, then the number(s) will be returned to the Donor Operator.

The NP Administration Service shall verify and allow the second/ return Cooling Off Porting request to proceed, only if the return Porting approval request stipulates the previous Donor Operator is the new Recipient Operator. Other Porting approval requests which stipulate a different operator from the original Donor Operator should be assessed against the Onward Porting rules/ checks and rejected by the NP Administration Service as appropriate.

## **6.5 Onward Porting**

The NP Administration Service should include the facility to prevent subscribers Porting onwards to another Operator (other than the Donor Operator in the case of Cooling Off requests) within a period of time to be specified in the detailed business rules. This facility maybe required to prevent the unnecessary use, or the abuse of Porting resources.

The NP Administration Service should be capable of checking the previous Porting dates of numbers that are subject to new Porting requests, and where the previous Porting date is less than the Onward Porting time limit specified by URCA, the NP Administration Service should reject such Porting requests as part of the validation of Porting approval requests prior to or after matching with the corresponding validation message. In such cases, the NP Administration Service should be capable of generating a reject response code back to the Recipient Operator and notifying the subscriber of the rejection of the Porting request by email or SMS.

## **6.6 Deferred Porting**

The NP Administration Service should be capable of allowing subscribers to port their number within a period of time in the future, specified by URCA, to enable subscribers to be able to select Porting dates which are convenient.

The NP Administration Service should be capable of allowing Recipient Operators to input future Porting dates within the period specified by the URCA. In such cases, the NP Administration Service will only commence the processing of the corresponding Porting approval requests at a time to enable the requested Porting date to be met. Validation checking and matching of the subscriber's validation message by the NP Administration Service may be completed at the time the Porting approval request is submitted to the Donor Operator. The requirement to operationally include the Deferred Porting facility and the corresponding Deferred Porting period will be determined by URCA at a later date after consultation with the NPWG.

## **6.7 Return of Deactivated Number by Recipient Network**

In normal circumstances at the end of the Quarantine period a number that is part of the number block allocated to that NP Licensee can be re-allocated to a new subscriber.

When service on a ported number ceases, the recipient shall send an E.164 terminated message(or E.214/ ANSI Equivalent) to the NP Administration Service and the Service Provider shall: (i)quarantine the terminated number for a specified period of time; (ii)inform the number range holder that the number is available to be returned to their number stock; and (iii)delete the number from the list of ported numbers. The NP Administration Service shall allow the number range holder to process a Porting request to transfer the deactivated number from the Recipient Operator to its own number stock.

## **6.8 Single Numbers and Number Series**

The following processes must be supported by the Service Provider:

- 6.8.1 Porting of a single number as a single two-stage transaction; whereby the Recipient Operator submits a Porting approval request which is then verified by receipt of a validation message from the subscriber's number to be ported (as outlined in section 6.2). Once both the Porting approval request and subscriber validation message are received and matched by the Porting system, the Porting request is processed, the Service Provider performs the specified validation checks and if successful, passes the validated Porting approval request to the Donor Operator for action.

In addition the Service Provider should specify how the NP Administration Service supports either currently or in the future.

6.8.2 Porting of multiple numbers (either random or a DDI block): Non- Contiguous or Contiguous blocks of numbers should be handled as a single transaction, with the first and last number of the block being entered. In either case, the P Administration Service should be able to process the Porting of multiple numbers either in contiguous or non-contiguous blocks by offering both the number verification options detailed below :-

- a. Processing of a single subscriber authorisation validation message to verify number ownership of the entire block of numbers to be ported to enable the Service Provider to process and transfer the entire number block to the Donor Operator for processing; or
- b. Processing of individual subscriber validation messages from each of the numbers within the block to be ported to enable the system to process and transfer individual numbers within the block to the Donor Operator for processing.

NOTE: in 6.8.2a., the Donor Operator may either “Accept” or “Reject” the entire number block only, even if only one or more numbers within the block have failed the Donor Operator’s validation. However, the Donor Operator must be able to identify the number(s) which have failed the validation checks and identify the reason/ rejection code against each rejected number.

## **6.9 Range Update – Administrative Function**

The NP Administration Service should support the addition of new number ranges and/or prefixes granted to an Operator.

## **6.10 New Operators**

The NP Administration Service should support the addition of new operators, and merger or removal of existing Operators and the corresponding number ranges and prefixes.



### **6.11 Local Database Synchronisation**

The NP Administration Service should provide database synchronisation files on a continuous basis to enable Operators to check the synchronisation of their local routing databases with the central reference database.

The NP Administration Service should update the database synchronisation files every 4 hours (both in full database and recent change/ exception Porting data content) and should provide the synchronisation files in .csv format.

### **6.12 Quota Management**

The NP Administration Service should be capable of managing daily/weekly Porting quotas between the NP Licensees to ensure consistent Porting performance and timescales between all Operators at all times.

The NP Administration Service should be capable of managing daily or weekly Porting quotas in line with the requirements set by URCA by setting the projected Porting dates based on current Porting demand versus the specified daily/ quota limits. For instance, where a Recipient Operator exceeds its daily/ weekly Porting quota against a specific Donor Operator, further Porting approval requests should be allocated to the next period (day or week) for which sufficient quota is available.

The NP Administration Service should permit the resetting of quotas, in circumstances to be determined by URCA based on the recommendations of the NPWG.

### **6.13 Response Reasons**

The NP Administration Service should log each message including the response reasons to ensure that statistics will be available for any subsequent enquiry or report that may be needed.

Response and reject reasons will be specified later but the NP Administration Service should handle up to 100 numbers within a block Porting request and be capable of sending multiple rejection reasons in a single response message. URCA has determined that a Donor Operator must provide all known reasons for 'Rejecting' a request.

It should be possible to specify or add new response codes. NB: The codes are selected by the Donor Operator from an agreed list defined by URCA and so the NP Administration Service need not know the exact meanings.

The list of codes and their meanings will be specified later after discussion between URCA and the NP Licensees.

## **6.14 Information Delivery**

### 6.14.1 Investigatory Powers

The Service Provider must provide for the requirements of local Law Enforcement Agencies (LEAs), the precise details of which will be addressed by URCA based on recommendations of the NPWG, and notified to the successful NP Service Provider.

Without prejudice to the generality of the foregoing, the NP Administration Service should be capable of performing two additional steps, subject to further direction from URCA having regard to the recommendations of the NPWG:

1. When a Donor Operator returns an accepted Porting approval response message, the system should be capable of forwarding a copy of the message to a secure database located within the LEA; and
2. When the NP Administration Service generates the final 'Routing Change' information to each Operator, the system should be capable of forwarding a copy of that information to the LEA.

Respondents are requested to provide details relating to their previous experience in dealing with this particular aspect of Porting.

### 6.14.2 Service Usage

The Service Provider should be able to provide monthly lists of all failed and successful Porting transactions between each combination of Recipient and Donor Operators.

## **6.15 Reporting**

### 6.15.1 Statistics

The NP Administration Service should produce statistical information related to NP activities. The statistics should include:

- Number of Porting Approval Requests received by each Donor Operator during the reporting period;

- Number of Porting Approval Requests accepted by each Donor Operator during the reporting period;
- Number of Porting Approval Requests refused by each Donor Operator during the reporting period;
- Number of Porting Approval Responses sent late by each Donor Operator during the reporting period;
- Number of Porting Deactivation Requests received by each Donor Operator during the reporting period;
- Number of Porting Deactivation Requests accepted by each Donor Operator during the reporting period;
- Number of Porting Deactivation Requests refused by each Donor Operator during the reporting period;
- Number of Porting Deactivation Responses sent late by each Donor Operator during the reporting period;
- Number of Porting Approval Requests sent by each Recipient Operator during the reporting period;
- Number of successful Portings to each Recipient Operator during the reporting period;
- Number of uses of each Porting Approval Response Reject reason code by Donor Network;
- Number of uses of each Porting Deactivation Response Reject reason code by Donor Network; and
- Total ported numbers served by each Operator at the end of the reporting period.

#### 6.15.2 Reporting/Output Format

Reports and statistics should be:

1. Viewable remotely using a Browser (graphs, tables, etc.); and
2. Downloadable as electronic files (.pdf, .csv or .xls format).

## **6.16 Numbering in The Bahamas**

URCA is responsible for the administration of numbering resources in The Bahamas. The Bahamas is part of the North American Numbering Plan, and its numbers are managed by URCA in accordance with The Bahamas National Numbering Plan (ECS 17/2011)<sup>4</sup>.

### 6.16.1 Number Range

---

<sup>4</sup>Available from URCA's website at <http://www.urcabahamas.bs/publications.php?cmd=view&id=89&pre=y>.

The NP Administration Service being offered should support Fixed and Mobile Number Porting in any Bahamas fixed and mobile telephone number ranges.

#### 6.16.2 Number lengths

Operators in The Bahamas currently use number ranges allocated from URCA. The URCA's numbering policy complies with ITU number range standards. Although the range of numbers available to the NP Licensees is relatively large, there is a chance that the Numbering Plan could changeover time and therefore the system should be able to handle the Porting of numbers that are not always of the same length.

Bahamas telephone numbers currently comprise eleven (11) digits in the following format:

1 + NPA + NXX - XXXX

The first four (4) digits (1 + NPA) comprise the international Bahamas code as defined in ITU-T Recommendation E.164 which is, 1 242. Of the remaining seven (7) digits, the first three (3) digits(NXX) comprise the Central Office Code and indicate the geographic location, followed by four (4) digits (XXXX) for the specific subscriber telephone number.

In addition, the Service Provider should describe how its proposed solution could deal with ENUM and any other future developments that might affect Numbering Plans.

#### 6.16.3 Number Look-up Facility

With the introduction of NP it will become increasingly difficult for an Operator to be clearly identified by its number prefix. Should NP Licensees charge differently for calls that remain on their network (On-net) versus those that are no longer on their network (Off-net), it will become more difficult for subscribers to find out how much a particular call will cost.

Therefore, please indicate whether your NP Administration Service can provide a facility accessible over the internet or by SMS or using a voice response system whereby a potential caller can determine which network serves a given number.

Please state whether there would be any additional charge for this facility, providing details on whether this option can be provided from the centrally held database or would it be implemented independently by Operators allowing access to their own database?

Please advise whether your proposed NP System Administration solution could be linked or interfaced to operator's existing free phone or SMS/ text back information services.

#### **6.16.4- Differentiation of Geographic/ Location based numbering**

URCA may require NP Licensees to offer national number portability whereby it would be possible for a subscriber to port their fixed number from one island/ location to another within The Bahamas, for instance, from Grand Bahama to New Providence.

To support national number portability, it may be necessary for the NP Administration Service to be able to distinguish between different locations within The Bahamas during the Porting process. For instance, the Porting data stored and managed by the NP Administration Service may be required to include details of the current location of the ported number. In addition, the NP Administration Service and Porting process may need to be able to identify Porting requests in which the subscriber's number is being ported to another national location and process such Porting transactions via a different Porting process.

Currently, some operators in the Bahamas use the NXX within the allocated subscriber number to identify the location of the subscriber.

Please advise whether your proposed NP Administration Solution is capable of identifying different number locations and processing identified local (where the recipient and donor will provide service to the subscriber in the same geographical location) and national Porting requests (where the recipient and donor will provide service to the subscriber in different geographical locations) through a different Porting process.

## **7. Porting Process**

The detailed Porting process is yet to be determined by URCA, having regard to the recommendations made by the NPWG. The process shall be provided (either in draft or final form) to the short listed Respondents.

## 8. Technical requirements

### 8.1 Data Record Structure

Please find below a template of how the number record could be laid out. The intention is that it would be possible to extract statistical information about the amount of times a number has been ported, etc. The record would hold the current Operator Code, date and time of port, the number of previous Portings and the port reference number of these Portings.

Please indicate how you would set up the records in your solution and your method of protecting that data (encryption).

Field Description	Field	Size	Example
Subscriber Number	1	11	NPANXXXXXX
Status Code	2	1	1-Free to be Ported, 2-Request to Port in process, 3-blocked from subsequent Porting until retention period has ended
Current Network Designation	3	2	XXX Operators with unique identifiers
Requested Date/Time that the Instruction Request was sent	4	14	20070231142011 8 (yyyymmdd) + 6 hhmmss)
Actual Date/Time that a Instruction Response confirming completion of the port was sent	4	14	20070231142011 8 (yyyymmdd) + 6 hhmmss)
Port Reference Number	5	13	01nnnnnnnnnn Unique to each operator
Counter to indicate the number of times the	6	5	0-99999

number has been ported			
Port Reference Number from previous port	7	13	01nnnnnnnnnn

**8.2 Logging of activities and archiving of data**

Each message sent via the NP Administration Service shall be recorded and logged. Messages more than two years old may be stored off-line or archived.

NB: Assuming 20,000 ports per annum and 5 messages of 60 bytes per message, this is approximately 6MB per annum.

The NP Administration Service shall be capable of extracting and displaying all the messages relating to a given number for a minimum period of seven (7) years, with Porting data stored and available for online access for a minimum period of two (2) years, and the Porting data being archived offline for the remainder of the minimum storage period.

**8.3 NP Administration Service - System Management**

8.3.1 Fault Management Functions

The Service Provider should produce daily detailed error logs and monthly summaries. This data would be used to determine problem frequency, and would form part of the SLA review process.

Please indicate what error logs and reports your solution provides.

8.3.2 Hardware & Software Configuration Management

The Service Provider must follow a structured methodology for installing software patches and/or new functionality in any of the software components, which supply the NP Administration Service.

The Respondent should include in its proposal details of the process it would implement for advising URCA and NP Licensees of the need to temporarily suspend operations in order to upgrade the existing system, and how it would plan a reversal should the upgrade not be successful?



### 8.3.3 Hardware/Software/Database Platforms

The Respondent must describe its hardware architecture and provide the reasons why it has selected that particular environment over other architectural solutions.

If the Respondent's solution requires non-standard hardware or a specialised operating system it should, in its proposal, bring this to the attention of the URCA Representative. This will not necessarily exclude the Respondent from consideration. However, as the infrastructure used by the Service Provider will need to be in place on a continual basis, any such non-standard items must be supportable over the same contract period.

Please outline your database choice and provide the reasons why you have selected that particular solution over other solutions.

In addition, Respondents should provide the following;

- a. Details of its system hardware scalability plan;
- b. Logic flow diagram (as well as how each model interoperates with the other);
- c. Detailed messaging parameter;
- d. Description of hardware architecture; and
- e. Reasons for selection of the system architecture.

### 8.3.4 Access to IT, Downloads & Uploads

The Respondent's solution must be secure and have appropriate independently verifiable access controls for users and systems (e.g. Encrypted databases, Firewalls and other controls, dedicated VPN environment, multi-layered Protocols etc.).The Respondent should outline why it is proposing this particular solution, including features, benefits and any potential challenges.

### 8.3.5 Connectivity Requirements

Please specify the input and output connectivity requirements that are necessary to connect/communicate with the proposed NP Administration Service, including but not limited to:-

1. Type of connectivity required for the Operators to connect to the NP Administration Service for the automatic control mode or Application Programming Interface (API);
2. Security requirements for connectivity for the automatic control mode or API;
3. Connectivity to the manual control mode or Graphical User Interface (GUI), i.e. firewall settings etc;
4. Connectivity and protocols for transiting incoming subscriber validation email/ IVR/ SMS/ Pin messages and outgoing subscriber progress email/ SMS communications;

5. Nature of the IVR/ email/ SMS processing infrastructure used in your solution; and
6. Connectivity and protocols used for sending broadcast messages to operators' local routing databases.

### 8.3.6 Interface Protocols

Please identify all interface protocols that you propose to make available to the Operators for the automatic control mode or API, and indicate why you have selected it/them. We have listed a number of common interface protocols below for consideration:

1. HTTP
2. SOAP
3. XML
4. CORBA.

## **8.4 Backup, Restore & Disaster Recovery**

### 8.4.1 Real-time Backups Online

Real time incremental back-ups must be supported as per the SLA.

### 8.4.2 Full Backup

The NP Administration Service must support full on-site and off-site (i.e. a support location other than the Service Provider's primary operational site/ facility) backups. Please indicate how long you estimate it would take to perform a complete backup, where the backup data would be stored and how often off-site backups will be provided.

The Respondent should provide details of security plans for the NP Administration Service to ensure The Bahamas' Porting data integrity is maintained and protected.

### 8.4.3 Restore

It must be possible to restore in no more than 6 hours but with the restoration being carried out as soon as possible irrespective of the time of day or night.

### 8.4.4 Disaster Recovery

Bearing in mind the critical nature of this solution, please describe in detail your experience in designing Disaster Recovery solutions and any experiences you have had when such a recovery was put into action. Please state your disaster recovery/ contingency planning

including off site/back-up plans, redundancy/resilience plans and testing schedules and procedures.

## **8.5 Availability**

The NP Administration Service should be designed for operation for the following times:

24 x 7 (please refer to table in section 4.2 for SLA definition of availability).

Helpdesk and operational support should be available by phone, email and electronic access to align with The Bahamas' normal working times (Days and Hours), including national public holidays, taking into account any time difference between the Service Provider's support location and The Bahamas.

Please confirm what redundancy you have for the solution (e.g. dual servers - . two or more servers to ensure resilience and redundancy for the NP Administration Service), RAID etc.

Please be advised that penalties will be applied if availability does not comply with the levels in the SLA. Availability of the NP Administration Service will be measured under the SLA process, and reviewed on a regular basis.

Regular maintenance should be handled outside normal Porting hours (local time).

Please provide a comprehensive maintenance plan outlining the nature of maintenance required including how and when this will be completed.

## **8.6 Additional Features**

Please describe your standard user interface together with any additional features and functionality that you wish to offer together with the relevant prices. Please note ease of use will be a key consideration in the evaluation of proposals.

## 9. Message formats

The following is included assuming that messages are sent in xml format with markers for the start and end of each field. A fixed field length format is also acceptable, in which case section 8.1 contains some information on the field lengths required.

### 9.1 Porting Approval Request

transactionId	Long	An incrementing sequence number, which uniquely identifies a complete transaction and is prefixed by the Recipient Operator Code. The Recipient Operator is responsible for generating a correct sequence number.
recipientOperator	Integer	Recipient Operator code – This field represents the sender of the request.
donorOperator	Integer	Donor Operator code – This field represents the receiver of the request. .
dateTime	String	Date and time of operation in the format YYYYMMDDHH24MMSS  NB: The hours are expressed using the 24-hour clock but the "24" is not included in the encoding, eg 24 June 2005 at 19:30:26 will be shown as 20050624193026.
E.164 number (and E.214/ANSI Equivalent)	String	The 11-digit subscriber number to be ported
SpareField1	Integer	To be defined
SpareField2	Integer	To be defined
SpareField3	Integer	To be defined
SpareField4	Integer	To be defined
checksPassed	String	To be defined
extraInformation	String	A free form field that is not used for processing the request, but should be returned as is in the Porting approval response message.

## 9.2 Porting Approval Response

transactionId	Long	The sequence number, which uniquely identifies a complete transaction and is prefixed by the Recipient Operator Code. This should be the same transaction id as the one sent in the Porting approval request.
recipientOperator	Integer	Recipient Operator code – This field represents the receiver of the response.
donorOperator	Integer	Donor Operator code – This field represents the sender of the response.
dateTime	String	Date and time of the message in the format YYYYMMDDHH24MMSS
E.164 number (and E.214/ANSI Equivalent)	String	The 11-digit subscriber number to be ported
Response Code	Integer	To be defined
SpareField1	Integer	To be defined
SpareField2	Integer	To be defined
SpareField3	Integer	To be defined
SpareField4	String	To be defined
Extra Information	String	A free form field that is not used for processing the request, but should be returned as is in the Porting approval response message.

## 9.3 Porting Deactivation Request

transactionId	Long	The sequence number, which uniquely identifies a complete transaction and is prefixed by the Recipient Operator Code. This should be the same transaction id as the one sent in the Porting approval response.
---------------	------	--

recipientOperator	Integer	Recipient Operator code – This field represents the sender of the request.
donorOperator	Integer	Donor Operator code – This field represents the receiver of the request.
dateTime	String	Date and time of the message in the format YYYYMMDDHH24MMSS
E.164 Number (and E.214/ANSI Equivalent)	String	The 11-digit subscriber number to be ported
SpareField1	Integer	To be defined
SpareField2	Integer	To be defined
SpareField3	Integer	To be defined
SpareField4	String	To be defined
extraInformation	String	A free form field that is not used for processing the request, but should be returned as is in the Porting approval response message.

#### 9.4 Porting Deactivation Response

transactionId	Long	The sequence number, which uniquely identifies a complete transaction and is prefixed by the Recipient Operator Code. This should be the same transaction id as the one sent in the Porting approval request.
recipientOperator	Integer	Recipient Operator code – This field represents the receiver of the response.
donorOperator	Integer	Donor Operator code – This field represents the sender of the response.
dateTime	String	Date and time of the message in the format YYYYMMDDHH24MMSS
E.164 number (and E.214/ANSI)	String	The 11-digit subscriber number to be ported

Equivalent)		
ResponseCode	Integer	To be defined
SpareField1	Integer	To be defined
SpareField2	Integer	To be defined
SpareField3	Integer	To be defined
SpareField4	String	To be defined
ExtraInformation	String	A free form field that is not used for processing the request, but should be returned as is in the Porting approval response message.

## 9.5 E.164/ E.214 Ported

transactionId	Long	The sequence number, which uniquely identifies this transaction.
recipientOperator	Integer	Recipient Operator code.
dateTime	String	Date and time of the message in the format YYYYMMDDHH24MMSS
E.164 Number (and E.214/ANSI Equivalent)	String	The 11-digit subscriber number ported

## 9.6 E.164/ E.214 Terminated

transactionId	Long	The sequence number, which uniquely identifies this transaction.
recipientOperator	Integer	Recipient Operator code.
blockOperator	Integer	Block Operator code. (=range holder)

dateTime	String	Date and time of the message in the format YYYYMMDDHH24MMSS
E.164 Number (and E.214/ANSI Equivalent)	String	The 11-digit subscriber number ported



## **10. Format of Submission**

All proposals must comply with the format set out in this section in order to ensure that the information is presented in a manner which can be evaluated fairly and effectively. While failure to comply with this format will not disqualify a Respondent, it may prejudice the Respondent's proposal in relation to others submitted in accordance with the required format.

The Proposals should be clearly divided into sections, headed as follows and containing the relevant information in each part.

Section 1 – Executive Summary

Section 2 – Service Description and Technical Details

Section 3 – Implementation Schedule

Section 4 – Training and Documentation

Section 5 – Commercial Offer

Section 6 – Experience and References

Section 7 – Contractual Details

Section 8 – Miscellaneous Information

Section 9 – Submission Checklist

The remainder of this section sets out a brief summary of the information that should be included in each section of the Proposal.

### **10.1 Section 1 – Executive Summary and Respondent Information**

The proposal should be prefaced with an Executive Summary which highlights the salient points of the Respondent and its proposal.

This section should also include detailed information about the Respondent, including:

Incorporation: Provide full company incorporation and business registration information<sup>5</sup>

Contact Details and Location: Provide contact details for the Respondent and information which outlines the control and guidance of the Respondent.

Ownership: Identify all shareholders of the Respondent if private, or for a public company, all shareholders owning more than 5% of the issued share capital, including names, addresses and shareholding.

Financial Statements: Provide complete audited Financial Statements for the Respondent for the preceding financial year, if available. For Respondents which are not required by law to produce and file audited statements in their Country of incorporation, unaudited financial statements certified by the Chief Financial Officer of the company may be submitted.

Financial References: Provide two (2) original reference letters from recognized, regulated financial institutions. References must be addressed to Director of Policy and Regulation, URCA and must be dated no more than thirty (30) days prior to the date of the application.

## **10.2 Section 2 – Service Description and Technical Details**

This section of the proposal should cover the specific details of the NP Administration Service which would be supplied by the Respondent, including all technical specifications, in accordance with Sections 4 through 9 of this RFP. Respondents can organise the information in any format within this section but should be sure to cover or respond to all of the issues set out in the relevant sections of the RFP.

The Service Provider should demonstrate that it is compliant with the necessary conditions for proprietary elements that are included in their solution.

---

<sup>5</sup>The successful Respondent will be required to be granted a licence under the Communications Act, 2009 on which note section 26(3)(a) of the Communications Act, 2009, and URCA's Licensing Guidelines (ECS 15/2009). Any necessary arrangements to comply with section 26(3) can be made after the selection of the Service Provider, but before the grant of a licence by URCA.

### **10.3 Section 3 – Implementation Schedule**

A detailed schedule for the implementation of the NP Administration Service which meets URCA's requirements for NP launch must be included in the proposal. All relevant activities should be included, together with any relevant dependencies between tasks. Where possible the information should be presented both as a list of tasks as well as in Gantt Chart format.

The activities must include, at a minimum, the following milestones:

- i. Development and Implementation Contract signed between URCA, Service Provider and NP Licensees (TBD) – Anticipated Date: 30 November, 2012;
- ii. Specification gathering phase sign-off by the Service Provider, NPWG and URCA – Anticipated Date: 21 December, 2012;
- iii. Commissioning of the NP Administration Service and provision of initial documentation by 22 February, 2012;
- iv. NOC acceptance testing passed no later than 22 March, 2012 (These tests will need to be defined and agreed during the specification gathering phase of the service implementation plan);
- v. Training completed by or before 15 February, 2013;
- vi. Final documentation available by 29 March, 2013;
- vii. Licence Issued by URCA – Anticipated Date 1 March, 2013; and
- viii. Launch of NP – Anticipated Date: 1 May, 2013.

The final schedule will be agreed between URCA and the Service Provider, based on the anticipated timeframes for completion of deliverables indicated by the above dates. All dates are based on the licence date of 30 November, 2012. Should this date prove to be later, the milestones (other than the launch date of 1 May, 2013) may then be adjusted accordingly. The time schedule must be in accordance with the ability to deliver the required functionality.

The Respondent must guarantee delivery to ensure completion of subscriber acceptance testing at a minimum no later than 22 February, 2013 and be ready to start the service no later than 22 April, 2013.

A project plan will be prepared by the NPWG, URCA and the Service Provider with critical milestones identified and responsibilities assigned. For each week of delay relative to a critical milestone caused by the successful Service Provider a global discount of 5% will be applied to the overall amounts to be invoiced, either before or after the service launch date. So if the successful Service Provider misses three critical milestones by a week each but still reach the final date on time, the successful Service Provider loses 15%.

If the cumulative delay exceeds 12 weeks the contract may be terminated with no further payments being made to the Service Provider.

## **10.4 Section 4 – Training and Documentation**

### 10.4.1 Training

The proposal must contain proposals for conducting all necessary and appropriate training for relevant staff of the NP Licensees and URCA staff.

The training should be appropriate for:

- Regulatory personnel involved in the monitoring of NP;
- Operator NP Sales & Administrative Support teams; and
- Operator IT & Network Management Control teams where applicable.

Training should be quoted for, at a minimum, the following two cases:

- i. Launch Training – training supplied to URCA and the NP Licensees in order to launch NP to be included in the basic “usage” or annual subscription based pricing; and
- ii. Individual Training – training supplied to meet refresher/ update needs of individual Operators following the launch of NP and/ or to train new Operators who may join and use the NP Administration Service after launch.

### 10.4.2 Documentation

Detailed technical and operations manuals for the service should be delivered by the time the initial set-up has been completed with one hard copy and one soft copy being made available to each of URCA and the NP Licensees. Please describe the documentation structure:

- i. If provided in electronic form, please describe how the documents can be handled by a viewing tool or similar; please include a description of the user interface to the documentation;
- ii. Manuals must be in English; and
- iii. Manuals must describe actually delivered versions of the service. If modifications have been made to the initial offering, these modifications must be documented and included with any standard documentation.

## 10.5 Section 5 – Commercial Offer

Proposals should include a detailed commercial offer setting out all prices for the NP Administration Service, including charges for all necessary services included, as well as other likely incidental or additional charges, and any optional features.

The price must be based on the information and requirements listed throughout this RFP. Any assumptions made must be explicitly stated. All prices must be stated in United States Dollars (US\$) and valid for 180 days from the submission deadline.

The commercial offer should be structured as follows:

- i. Price Structure –monthly/ annual subscription basis charged to Operators using a charge allocation methodology to be agreed with URCA, to cover initial set-up costs including project management, development/ customisation; documentation on the use of the service, basic operator training; and subsequent operating and management costs for providing the service in compliance to the proposed URCA licencing arrangement;
- ii. Licence fees for software if separate from the subscription charges;
- iii. Additional fees and impact of adding additional Operators (fixed and mobile) to the NP Administration Service;
- iv. Training;
- v. Customisation / development work to provide API for Mobile Operators (Should be included but this is not part of the main contract and may be taken up by individual Operators as necessary); and
- vi. Legal/ Contractual requirements, including Escrow safeguarding of source code etc, including pricing and timescales to conclude contracts.

Prior to submitting its proposal, the Respondent should carefully consider the nature and scope of the work to be done as well as any difficulties involved in its proper execution. Respondents must include all costs necessary to cover all contingencies essential to successfully implement and commission the NP Administration Service. Any cost that is not specifically itemised shall not be considered part of the proposal unless specifically referenced in a separate document and agreed in writing by the URCA. No claims for compensation will be considered or allowed for extra work resulting from non-observation of this stipulation.

## **10.6 Section 6 – Experience and References**

This section of the proposal should describe all other **similar** NP projects that you have undertaken within the past five (5) years and give contact details for the regulatory and operator customers involved.

The details of each project should include a description of the service/system provided, the period when the project was handled, the contractual framework used, the current status (completed or on-going), and the entities (regulator and all operators) involved in the projects.

Contact details should include the name and address of the regulator or operator(s) involved; the name of relevant contact person(s); and their email addresses. URCA reserves the right to contact and request references and verification of information from the persons identified. Respondents should identify those customers that may be willing to provide a demonstration of the service/system to URCA and/or the NPWG.

The Respondent should include a clear statement in their proposal that the Respondent has no conflict of interest with any operator or party licenced by URCA to provide electronic communications services in The Bahamas, and that it shall not place itself in such a position. The Respondent shall disclose in its proposal any matter which may result in such a conflict of interest, and shall advise URCA forthwith in writing if such matter arises after the submission of its proposal.

## **10.7 Section 7 – Contractual Details**

The proposals should include full details of any specific contractual arrangements required or proposed by the Respondent, having regard to URCA's expressed intention regarding licensing and contracting for the NP Administration Service.

The successful Service Provider will comply with all laws, codes, ordinances, rules and regulations applicable to the work being performed.

If the successful Service Provider decides to use the services of one or more sub-contractors, the involvement of such sub-contractors shall be subject to URCA's approval. The Service Provider retains full responsibility for all actions and quality of workmanship of sub-contractors, and the meeting of all deliverables.

The Service Provider should include the services of a competent Project Manager who has the authority to act for the Service Provider during the whole duration of the project, from

specification collection through to public launch of the service. The Project Manager will manage the project until the final sign-off of the service.

## 10.8 Section 8 – Miscellaneous

In this section the Respondent may include any further or additional matters relevant to the proposal not covered in the sections above.

## 10.9 Section 9 – Submission Checklist

In this section, the Respondent is required to submit a completed Submission Checklist in the form set out in Appendix B to verify that their proposal is complete and to indicate the level of compliance of the Respondent's proposal with the key requirements of the RFP.

For items where the checklist specifies **"Noted?"** the Respondent is required to enter the phrase **"Noted and Understood"** to confirm that the Respondent understands the requirement or obligation specified in the relevant section of the RFP.

Where the checklist specifies **"Compliant?"** the Respondent should enter one of the following responses ONLY based on the extent of their compliance with the requirements or obligations specified in the relevant section of the RFP :-

- **"Fully Compliant"** – The Respondent's solution fully meets all requirements or obligations in the relevant section of the RFP;
- **"Partially Compliant"** – The Respondent's solution meets some but not all of the requirements or obligations in the relevant section of the RFP. The Respondent is free to include an explanation for their partial compliancy of the RFP requirements or obligations in the notes field in the checklist; and
- **"Non-Compliant"** The Respondent's solution meets NONE of the requirements or obligations in the relevant section of the RFP. The Respondent is free to include an explanation for their non-compliancy of the RFP requirements or obligations in the notes field in the checklist.

# 11. The RFP and Selection Processes

## 11.1 Submission Requirements

Respondents must submit their response and all associated documents in accordance with the following guidelines **ONLY**:

1. **SIX (6) PRINTED COPIES** of the Response, placed in sealed, opaque packages marked:

PROPOSAL FOR A NUMBER PORTABILITY ADMINISTRATION SERVICE

CHIEF EXECUTIVE OFFICER  
UTILITIES REGULATION AND COMPETITION AUTHORITY  
UBS ANNEX BUILDING  
EAST BAY STREET  
P.O. BOX N-4860  
NASSAU, THE BAHAMAS

2. **ONE (1) CD-R** containing an electronic copy of the submission made at 1. above (in .pdf format), in a sealed opaque envelope marked:

PROPOSAL FOR A NUMBER PORTABILITY ADMINISTRATION SERVICE (ELECTRONIC COPY)

CHIEF EXECUTIVE OFFICER  
UTILITIES REGULATION AND COMPETITION AUTHORITY  
UBS BUILDING ANNEX  
EAST BAY STREET  
P.O. BOX N-4860  
NASSAU, THE BAHAMAS

3. **COMPLETE PROPOSALS MUST BE RECEIVED BY NO LATER THAN 3:00 PM, BAHAMAS TIME, ON THE RESPONSE DEADLINE DATE OF 29 JUNE, 2012. LATE RESPONSES OR SUBMISSIONS SHALL NOT BE ACCEPTED.**

Only physical submissions are accepted and only in accordance with the above. In no circumstances should a Respondent submit its response or any part of it to any person at URCA via email, fax, or any other method of submission whether in addition to or instead of the above.



The contents of the Proposal will be incorporated into the contractual and licensing arrangements between URCA and the Service Provider. URCA underlines the importance of receiving honest, true and full answers to the questions asked in the RFP.

**Failure to comply with all of the above submission requirements (including packaging) may result in rejection or disqualification of the application.**

## **11.2 URCA Contact Details**

All other correspondences with URCA relating to this RFP (other than submission of Responses) may be forwarded in writing via email, fax or mail to the “Project Manager – Number Portability” at the following addresses:

Project Manager – Number Portability  
Utilities Regulation and Competition Authority  
UBS Building Annex  
East Bay Street  
P.O. Box N-4860  
Nassau, The Bahamas

Email: [info@urcabahamas.bs](mailto:info@urcabahamas.bs)

Fax: 242.393.0153

## **11.3 Register of Interested Persons**

While URCA may from time to time publish key information about this process on its website where appropriate, URCA does not intend to so publish all relevant supplemental information relating to this process. Persons interested in submitting proposals are advised to send an email to [info@urcabahamas.bs](mailto:info@urcabahamas.bs) to register their interest with URCA as soon as possible, and in any event, prior to 15 June 2012.

The email should have as its subject “**REGISTRATION – NP REQUEST FOR PROPOSALS**” and should contain all of the following information:

**Name of Interested Party (Company Name)**

**Name of Contact Person**

**Email address**

**Mailing address**

**Telephone number**

**Fax number**

URCA will create and maintain a confidential register of all persons who have registered their interest, which will be used to advise of any relevant information relating to this RFP and the selection process, including responses to relevant questions and requests for clarification, and date and other changes to the process. The names of persons included in the register will not be disclosed by URCA to any person other than the members of the NPWG, who are employees of the NP Licensees themselves under a duty of confidentiality to URCA.

Failure to register will not disqualify an interested person from submitting a proposal in response to the RFP, however, URCA only commits to provide updates and supplemental information to persons that have registered by the date set out above, and will not be responsible for any deficiency in any proposal which occurs as a result of failure to receive information which would have been provided to registered persons.

#### **11.4 Clarification, Questions and Additional Information**

Persons requiring clarification or additional information regarding any matter involving this RFP or the process should forward them in writing to the Project Manager using the contact details set out in 10.2 above, with the subject "**NP BAHAMAS RFP question**". Questions must include full contact details (mailing address, email address and fax number) of the enquirer. Please indicate if the question is of a general nature or if it relates to a specific point in the RFP and if so which one.

Receipt of questions will be acknowledged and questions answered, **via email** as soon as practicable.

Responses that URCA determines to be of general interest to all prospective RFP Respondents will be distributed via email to all registered Interested Parties (concealing the identity of the questioner). If a question cannot be answered within five (5) working days of receipt or at the latest seven (7) days before the Submission Deadline, URCA will inform the questioner.

**Requests for further information or clarification will not be accepted after 26 June 2012.**

#### **11.5 Expenses**

Each Respondent shall remain liable for all costs it may incur in connection with this RFP process and URCA cannot assume any responsibility to compensate.

URCA is not obliged to accept any proposals.

## 11.6 Confidentiality

Each Respondent shall regard all information provided by URCA to Respondents pursuant to their involvement in this RFP process as strictly confidential.

Respondents will be required to sign a formal Agreement of Confidentiality (also referred to as a “Non-Disclosure Agreement”) prior to being invited to give a presentation or qualifying for further dialogue. If you are short-listed, a copy of the Agreement of Confidentiality will be sent to you. This document should be reviewed by your organisation and be signed prior to discussion with URCA or any of the NP Licensees.

Any material or information received from URCA is considered URCA’s property and must not be shared with or distributed to any third party without URCA’s prior written consent.

URCA reserves the right to have any proposal received, reviewed and evaluated by any person at the discretion of URCA including non-allied and independent consultants retained by URCA, now or in the future.

## 11.7 Selection Procedure and Criteria

URCA, with the advice and assistance of the NPWG, will evaluate the proposals based upon the submission, and any specifically requested presentations only, and based on their compliance and satisfaction of the matters set out in this RFP. All aspects of the proposal will be taken into consideration, including the price and commercial terms and conditions, based on the following weightings:

NP Administration Service specifications, including technical and administrative features and capabilities – This criterion will focus, but is not limited to, consideration of information contained in Sections 1, 2 and 4 of the Proposal.	[35]%
Commercial proposal, including price and all terms and conditions – This criterion will focus, but is not limited to, consideration of information contained in Sections 5 and 7 of the Proposal.	[30]%
Respondent’s experience and expertise – This criterion will focus, but is not limited to, consideration of information contained in Section 6 of the Proposal.	[20]%

Implementation schedule and timeframes – This criterion will focus, but is not limited to, consideration of information contained in Section 3 of the Proposal.	[15]%
---	-------

URCA reserves the right to choose freely amongst Respondents, selecting any or none - or to use the quotation as a basis for a further dialogue with any or all Respondents. Commencement of negotiations with any Respondent shall not be construed as a commitment by URCA to enter into a contract with the Respondent.

## **11.8 Time Schedule**

### 11.8.1 Issue of RFP

This RFP has been issued by URCA on 31 May, 2012 and may be downloaded from URCA’s website at [www.urbahamas.bs](http://www.urbahamas.bs).

Persons interested in submitting proposals are urged to register with URCA as soon as possible and in any event prior to 15 June 2012 in accordance with section 11.3 above.

### 11.8.2 Deadline for Submission of Proposals

COMPLETE PROPOSALS MUST BE RECEIVED BY NO LATER THAN 3:00 PM, BAHAMAS TIME, ON THE RESPONSE DEADLINE DATE OF 29 June 2012. LATE RESPONSES OR SUBMISSIONS SHALL NOT BE ACCEPTED.

Only physical submissions are accepted and only in accordance with section 11.1 above.

### 11.8.3 Selection and Notification of Short-listed Respondents

URCA, with the advice and assistance of the NPWG, will conduct a preliminary evaluation of all proposals received by the deadline time and date and will select a shortlist of those Respondents with whom URCA wishes to engage further. URCA expects to short-list no more than three (3) Respondents, but reserves the right to short-list more persons should URCA consider it appropriate to do so.

URCA will advise all short-listed Respondents via email as soon as the short-list is selected, which email will also consider details regarding the further phases of the selection process. Short-listed Respondents will also be required at this stage to provide a copy of proposed draft terms and conditions for development, implementation and provision of the NP Administration Service, in the form of a draft contract.

Respondents not included in the short-list will also be notified at this time, though URCA may decide (based on the outcome of the remainder of the selection process) to reconsider Respondents that are not short-listed in the event that it is unable to finalise a selection of one of the short-listed Respondents.

URCA expects to complete the short-list by 14 September, 2012.

#### 11.8.4 Presentations by Short-listed Respondents

The short-listed Respondents shall be subject to further technical and commercial evaluation (and clarification if required) conducted by URCA with the assistance of the NPWG. This further evaluation may include the making of a presentation by each short-listed Respondent, as well as URCA making enquiries of references provided by the Respondent.

It is expected that presentations, if required will be held during the week commencing on 24 September, 2012 in The Bahamas.

URCA reserves the right to operate a second shortlist phase, in which the URCA and the NPWG may require to meet with the Respondents selected to attend to engage in more detailed technical, operational and commercial discussions. An agenda for the second short-list phase will be provided to the selected service providers ahead of the proposed meetings.

#### 11.8.5 Selection of and Negotiation with Service Provider

Following the presentations and any meetings, URCA with the assistance of the NPWG, will conduct its final evaluation and select its preferred Service Provider. The selection shall at this stage remain subject to successful commercial negotiation of the terms and conditions of the development and implementation contract, and the NP Administration Service licence. The NP Administration Service should become available initially to the URCA as soon as possible and no later than 22 April, 2013. From this date through to the public launch date of 1 May, 2013, the Service Provider should work closely with the URCA (via the NP Programme Director where necessary) to ensure full compliance is achieved.

## 12 Programme & Project Management

The NP Programme Director, together with the NPWG will work with the relevant members of the Service Providers project team on an as required basis. When necessary, members of the Service Providers project team will be invited by the NP project team meetings to discuss the NP Administration Service and associated activities.

An overall NP Programme plan, covering all aspects of delivering the NP Administration Service, has been prepared and will be made available to the successful Service Provider during the inaugural project meeting.

The acquisition of the NP Administration Service forms one critical element of the overall NP Programme.

Respondents are advised of the following:

- i. This RFP does not constitute a contract between URCA and any Respondent or the Service Provider;
- ii. URCA reserves the right to request further or additional information or details as it may require from any Respondent, or all of them;
- iii. The time lines indicated in this RFP are not immutable and may be altered and amended solely at the discretion of URCA;
- iv. URCA reserves the right to use any factor or combination of factors for determining the successful Service Provider. URCA's decision on the successful Service Provider is final, entirely at its discretion and not subject to dispute or challenge howsoever by any other Respondent or any other person;
- v. The provision of a NP Administration Service is subject to negotiation between URCA and the selected Respondent of the detailed terms and conditions for the provision of the service, acceptance by the selected Respondent of the terms and condition of the licence and negotiation of supplemental contractual arrangements with the NP Licensees.
- vi. URCA shall not be bound to accept the lowest bid or any proposal submitted in response to this RFP and expressly reserves the right to reject any or all proposals submitted.

## Appendix A - Definitions

**“Accept Message”** is a message from the Donor Operator in response to the Request to Port indicating that the Porting may proceed;

**“Activation”** means that the accepted Request to Port status has been acted upon by the Donor Operator and the Recipient Operator and the number is now recognised by all Operators as being active on the Recipient Operator’ Network;

**“All Call Query”** means the system for the setting up of calls on a network in which for every call the Operator’s ‘Routing’ database is interrogated during the call set-up process to determine the correct network designation for the particular number dialled;

**“Application”** means a software package which performs a set of routines required by the user;

**“Application Programming Interface (API)”** is an interface which a computer system provides to enable other computer programs to request services and/or to allow data to be exchanged between them;

**“Broadcast”** means the automatic transmission of routing information from the NP Administration Service to an Operator managed database;

**“Browser”** means an application which is designed to enable users to access systems across the Internet. Windows Internet Explorer is one such Browser application;

**“Client”** means an application provided by a Service Provider, which can be installed on hardware located in the user’s domain and under the control of the user, which will provide specific functionality;

**“Communications”** means data transfer/exchange between one computer system and another;

**“Cooling Off”** means the function or process as determined by URCA, which enables a ported Subscriber to return to the Donor Operator within a specified period after the port has been completed;

**“Customisation”** means work that is done to the standard application to ensure that it can fulfil the requirements of URCA and those of the NP Licensees;

**“Deferred Porting”** means the capability of enabling a subscriber to define or set a Porting date at a point in the future;

**“Dipping”** means the retrieval of number routing details from a special database;

**“Disaster Recovery”** means the measures the Service Provider will take in circumstances where normal NP Administration Service infrastructure is damaged to the extent it is not possible to re-start operations to provide the required service within a time period that is acceptable to the URCA;

**“Donor Operator”** means the Operator that is providing service for the Subscriber before Porting;

**“Electronic Requests”** means NP Processes using computer applications to inquire, request, acknowledge and activate the Porting processes;

**“Electronic Numbering (ENUM)”** refers to a system designed to enter ITU Recommendation E.164 telephone numbers which are used by public switched telephone networks into the Internet Domain Name System;

**“Escrow”** means the arrangement between URCA and the Service Provider whereby the software, source code and supporting material relating to the NP Administration Service and NP Central Database as agreed, is to be held by a trusted third party until the occurrence of a specified condition(s);

**“Final Acceptance”** means the point at which URCA has agreed with the Service Provider that the service has been supplied, delivered, fully functional as agreed and free from faults;

**“Firewall”** means specialised communications equipment which is used to validate any attempt to access systems by users using communication links;

**“First Stage”** means the initial set of NP project activities carried out by the NP Administration Service project team;

**“Fixed Operator”** means an NP Licensee which provides fixed services (including but not limited to voice services) in The Bahamas;

**“Fully Integrated”** means all components of the NP Administration Service (software, hardware and communications) are working and subscribers using the system can access the system through designated entry points and enter/receive information in the specified manner;

**“Hardware”** means equipment selected, configured and used by the Service Provider, covering processing requirements and data storage;

**“Inquiry”** means the activity which is undertaken by a prospective Recipient Operator to ascertain if a number meets a given set of conditions which will either enable a Request to Port to be initiated or blocked;

**“IVR”** means Interactive Voice Response, an automated telephony solution capable of interacting with subscribers through the use of voice and DTMF keypad inputs;

**“Law Enforcement Agency”** means any department or organisation within the Ministry of National Security authorised under the laws of The Bahamas to undertake law enforcement;

**“Licensee”** means the grantee or holder of a license issued by the URCA under the Communications Act, 2009;

**“Managed Services”** means the provision of services to manage and operate the NP Administration Service (irrespective of location selected);

**“Manual Requests”** means NP Processes which cover the manual handling of actions replicating the electronic NP Processes where applicable;

**“NP Administration Service”** means the provision of a service in The Bahamas to enable the process of Porting of numbers between Operators, and the provision of routing information from a reference database of all Ported numbers, and shall include the application, the database and the necessary hardware and communications equipment required to deliver the functionality deemed necessary for administrating the act of Number Portability;



**“NP Processes”** means the actions to be undertaken by each Operator to ensure that the Subscriber receives an effective, efficient and seamless service when their subscriber number is ported from a Donor Operator to a Recipient Operator;

**“NP Programme”** means a defined set of time-lined activities from initial design through to final launch, which will deliver NP functionality for The Bahamas;

**“NP Programme Director”** means the person designated by URCA (having regard to the recommendation of the NPWG) to direct the NP Programme;

**“NP Service”** means the service offered by each Operator to prospective subscribers to enable the subscriber to port their number across to a new network;

**“Mobile Operator”** means an NP Licensee which provides mobile services (including but not limited to voice services) in The Bahamas;

**“Number Portability (NP)”** means the ability for a subscriber to retain an existing telephone number when transferring services (Fixed or Mobile) from one NP Licensee to another;

**“Network”** means the transmission system, including any apparatus, equipment or facility, used for the conveyance by use of electrical magnetic or electromagnetic energy of signals of any description by an Operator which provides electronic communications services ;

**“Non-Disclosure Agreement” (“NDA”)** means an agreement to be entered into between URCA, the NP Licensees and the Service Provider in order to facilitate the sharing of confidential information between the parties to that agreement;

**“NP Licensee”** means a licensee who has been allocated numbering resources by URCA to provide an electronic communications service.

**“Number Portability Working Group (NPWG)”** means the joint URCA/Industry group appointed by URCA to coordinate (subject to URCA’s direction) the development, implementation and launch of NP in The Bahamas. The team comprises representatives of URCA, NP Licensees, and other persons as determined by URCA;

**“Numbering Plan”** means the National Numbering Plan for The Bahamas as published from time to time by the URCA;

**“Number repatriation”** means the return of a number to the Original Number Range Holder when service is terminated on any other network to which the number has been ported;

**“Off-net”** means a call made on one Operator’s Network that needs to be terminated on the Network of another Operator;

**“On-net”** means a call made on an Operator’s Network that is terminated on the same Network;

**“Onward Porting”** means a Porting request where the subscriber requests to port to another Operator who is neither the current Recipient Operator nor previous Donor Operator within a time period from the completion of the previous Porting request;

**“Operator”** means a NP Licensee which provides fixed or mobile services in The Bahamas;

**“Operator Code”** means the internationally recognised code given to each authorised telecommunications Operator;

**“Original Number Range Holder”** means the Operator who was originally granted a specific number range by URCA;

**“Personal Identification Number (PIN)”** means a secret numeric password shared between a user and a system that can be used to authenticate the user to the system;

**“Porting”** means the process comprising a request to a Donor Operator’s Network for approval to transfer a number from its Network to the Recipient Operator’s Network, the subsequent receipt of an answer from the Donor Operator’s Network, and informing all Operators that a number has been successfully transferred and is now active on the Recipient Operator’s Network;

**“Quarantine”** means the withholding of a number from further use for a specified period of time after its use has been terminated;

**“Recipient Network”** means the Network providing service for the subscriber's number after Porting;

**“Reference Database”** means an electronic storage medium that contains information used in the execution of the NP Administration Service;

**“Reject Message”** is a message from the Donor Operator to the Recipient Operator in response to a Request to Port indicating that the Porting may not proceed;

**“Request to Port”** means the function initiated by the Recipient Operator to officially request that a Donor Operator transfer a number that is currently in service on the Donor Operator’s Network;

**“Respondent”** means a person or organisation responding to this RFP;

**“Review Meeting”** means meetings held periodically between the representatives of the Service Provider, URCA and the NPWG to discuss matters related to the NP Administration Service;

**“Routing”** is the process of selecting paths in a network along which to send network traffic;

**“Routing Change Information”** means that information on the Routing for a particular number has been changed to reflect a different Operator Code due to the number having been Ported;

**“Routing Databases”** means the databases used by Operators to route calls to their current service Network. The “Master” database is maintained within the NP Administration Service and “Local” databases are located within each Operator’s Network;

**“Routing Information”** means the specific data used for routing calls which describes which Network is providing service to a particular number;

**“Secure Service”** means a service which is fully protected from unauthorised person’ access, configured so that the information stored is fully backed-up to a secure location separate from the main system;

**“Service Level Agreement (SLA)”** means an agreement between the Service Provider and NP Licensees, entered into in accordance with requirements determined by URCA, which covers the business and technical requirements placed upon the NP Administration Service;

**“Service Provider”** means the entity, selected pursuant to this RFP, which provides the NP Administration Service;

**“Simple Object Access Protocol (SOAP)”** is a standardised protocol to enable compatibility between different programs which allows data to be passed from one computer program to another allowing both programs to extract data in a predefined manner;

**“Software”** means computer applications supplied by the Service Provider to the NP Licensees which enables the NP Administration Service to be used;

**“Subscriber”** means a legal or natural person who acquires electronic communications services from an Operator;

**“Subscriber Identity Module (SIM)”** is a small electronic card inserted into mobile phones which provides a unique ID to a phone such as the number and Operator Network;

**“URCA”** means the Utilities Regulation and Competition Authority established under section 3 of the Utilities Regulation and Competition Authority Act, 2009; and,

**“URCA’s Representative”** means an officer or agent of URCA assigned the responsibility of interacting with persons interested in this Request for Proposals.

## Appendix B – Submission Checklist

RFI Clause Reference	Description	Noted/ Compliant	Respondent Response	Respondent Comments
1	Introduction	Noted		
2	The Bahamas & Telecommunications Operations	Noted		
3.1	The Requirements for the NP Administration Service	Noted		
3.2	Future Developments	Noted		
3.3	URCA and Licence Structure	Noted		
3.4	Selection of Possible Service Providers	Noted		
3.5	Number Portability Working Group	Noted		
3.6	Establishing and Operating a Business in the Bahamas	Noted		
4.1	The Service Required	Compliant		
4.2	Licensing and Service Levels	Compliant		
4.3	Customisation – NP Administration Service	Compliant		
5.1	Automation	Compliant		
5.2	Dimensions & Scalability	Compliant		
5.3	Administration Services	Compliant		
5.4	Availability of NP Administrative Service for test purposes	Compliant		
6.1	NP Processes and Transactions	Noted		
6.2	Customer Validation/ Authorisation Facility	Compliant		
6.3	Cancellation	Compliant		
6.4	Cooling Off/ Emergency Repatriation	Compliant		

6.5	Onward Porting	Compliant		
6.6	Deferred Porting	Compliant		
6.7	Return of Deactivated Number by Recipient Network	Compliant		
6.8	Single Numbers and Number Series	Compliant		
6.9	Range Update	Compliant		
6.10	New Operators	Compliant		
<b>RFI Clause Reference</b>	<b>Description</b>	<b>Noted/ Compliant</b>	<b>Respondent Response</b>	<b>Respondent Comments</b>
6.11	Local Database Synchronisation	Compliant		
6.12	Quota Management	Compliant		
6.13	Response Reasons	Compliant		
6.14.1	Investigatory Powers	Compliant		
6.14.2	Service Usage	Compliant		
6.15.1	Statistics	Compliant		
6.15.2	Reporting/ Output Format	Compliant		
6.16.1	Number Range	Compliant		
6.16.2	Number Lengths	Compliant		
6.16.3	Number Look-Up Facility	Compliant		
6.16.4	Differentiation of Geographic/ Location based numbering	Compliant		
8.1	Data Record Structure	Compliant		
8.2	Logging of activities and archiving of data	Compliant		
8.3.1	Fault Management Functions	Compliant		
8.3.2	Hardware & Software Configuration Management	Compliant		
8.3.3	Hardware/ Software/ Database Platforms	Compliant		
8.3.4	Access to IT, Downloads & Uploads	Compliant		
8.3.5	Connectivity Requirements	Compliant		
8.3.6	Interface Protocols	Compliant		
8.4.1	Real-time Backups	Compliant		

	Online			
8.4.2	Full Backup	Compliant		
8.4.3	Restore	Compliant		
8.4.4	Disaster Recovery	Compliant		
8.5	Availability	Compliant		
8.6	Additional Features	Noted		
9.1	Porting Approval Request	Compliant		
9.2	Porting Approval Response	Compliant		
9.3	Porting Deactivation Request	Compliant		
9.4	Porting Deactivation Response	Compliant		
9.5	E164/E214 Ported	Compliant		
9.6	E164/ E214 Terminated	Compliant		
<b>RFI Clause Reference</b>	<b>Description</b>	<b>Noted/ Compliant</b>	<b>Respondent Response</b>	<b>Respondent Comments</b>
10.1	Section 1 – Executive Summary and Respondent information	Compliant		
10.2	Section 2 – Service Description and Technical Details	Compliant		
10.3	Section 3 – Implementation Schedule	Compliant		
10.4	Section 4 – Training and Documentation	Compliant		
10.5	Section 5 – Commercial Offer	Compliant		
10.6	Section 6 – Experience and References	Compliant		
10.7	Section 7 – Contractual Details	Compliant		
10.8	Section 8 – Miscellaneous	Noted		
10.9	Submission Checklist	Compliant		
11.1.1	Submission Requirements – 6 printed copies of the Response	Compliant		
11.1.2	Submission Requirements – 1 CD-R copy of the Response	Compliant		

11.1.3	Submission Requirements – Submission of Response by Deadline Date – 29 June 2012 15.00hrs Bahamas Time	Compliant		
11.2	URCA Contact Details	Noted		
11.3	Register of Interested Persons	Compliant		
11.4	Clarification, Questions and Additional Information	Noted		
11.5	Expenses	Compliant		
11.6	Confidentiality	Compliant		
11.7	Selection Procedure and Criteria	Noted		
<b>RFI Clause Reference</b>	<b>Description</b>	<b>Noted/ Compliant</b>	<b>Respondent Response</b>	<b>Respondent Comments</b>
11.8.1	Issue of RFP	Noted		
11.8.2	Deadline of Submission of Proposals	Compliant		
11.8.3	Selection and Notification of Short-listed Respondents	Noted		
11.8.4	Presentations by Short-listed Respondents	Noted		
11.8.5	Selection of and Negotiation with Service Provider	Noted		
12	Programme & Project Management	Noted		