



ISSN: 2319-6505

Available Online at <http://journalijcar.org>

International Journal of Current Advanced Research
Vol 5, Issue 5, pp 922-923, May 2016

International Journal
of Current Advanced
Research

ISSN: 2319 - 6475

REVIEW ARTICLE

MOBILE NUMBER PORTABILITY IMPLEMENTATION PROBLEMS AND SOLUTION SUDAN'S EXPERIENCE

Fatima Khalaf Alla Abdelazim Hamad^{1*} and Mohammed Abaker Hussian D²

Engineering - Al Neelain University-Khartoum, Sudan

ARTICLE INFO

Article History:

Received 16th February, 2016
Received in revised form 27th March, 2016
Accepted 25th April, 2016
Published online 28th May, 2016

Key words:

SMS HUB, HUB Providers, SS7/SMPP Protocols, Operator

ABSTRACT

In this paper was presented the most common problem faced operators when Implementation MNP service. Incompatibility Networks using Different protocols. Leads to drop SMS, As we know the important of SMS services. That need to be important issue must therefore ensure that they reach correct and complete as they are used for the purposes of the task of querying the bank balance and to vote, donations and others. So it was like to propose solutions to avoid the problem solving optimal and complete. We can solve this problem by using SMS HUB.

© Copy Right, Research Alert, 2016, Academic Journals. All rights reserved.

INTRODUCTION

At the beginning of work in MNP project was to identify the central system standards for number portability in with a joint team consists of the National telecommunications corporate (NTC) and service provider's operators. Was agreed that the standards and structure of the points system and the basic way the project schedule and work plan, discipline deadlines for the project as well as the method of making calls and text messages when the Implementation of the project.

NTC and the operators networks were identified method of routing calls and sending SMS messages and use the ACQ as a routing for calls and messages for ported Number without passing the Donor network operator And identifies ID number for each company new prefix (401 Sudani, 402 Zain, and 403 MTN). The centralized system installation and commissioning of systems operators to prepare complementary to the project (contact with all network components and manage number portability operations and add a number subscriber identifier number before any process) [1].

Problems

When was tested send SMS, There was a problem sending some messages and its lost because of a separate network of CDMA2000 in one service provider networks and it use SMPP protocol and the incompatibility of this system to the protocol of the SS7/IP is used in other networks service providers, the problem appear the need to find a solution makes all providers networks service compatibility. So as not to deprive any user from SMS service, when implementation MNP service.

Proposed Solution

Solution (1)

Using SMS Hub

SMS HUB centralization location (point to multi point) of SMSC interconnection international flow of SMS between operators by reshaping method of connection through intermediate SMS traffic (hub provider) processes SMS traffic and routing to the correct destination. Suggestion solution to support compatibility of SMS in MNP, because it provides full SMS interoperability regardless of network technologies or specific operator configuration. It can use SS7 and SMPP/IP protocols [3].

Benefit SMS Hub

International SMS connection, support MNP, reduce cost and complex in operator network, simplest management, and reduces cost routing (cheaper transport model) [4].

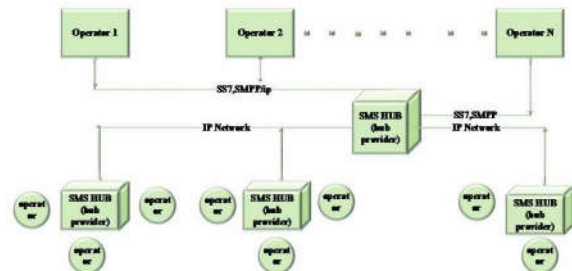


Figure 1 SMS HUM Structure

In normal case: compatibility networks (GSM to GSM subscribers: Operator (A) SMSC send request to operator (B) FNR/(data base of ported number) MNP should relay the messages to the GSM HLR and reply with the appropriate

MSC/VLR number and IMSI of the subscriber by using GSM protocols [1][2].

Solution (2)

In case of incompatibility networks (GSM to CDMA) subscriber: The FNR/MNP will reply with the fake IMSI “634070189020111” to notify other operators SMSCs that this is a CDMA subscriber. The SMCs system should then route the SMS to SMSC Operator (B) using SMPP protocol whenever receiving the fake IMSI [2].

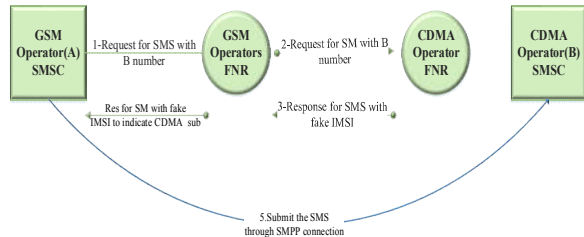


Figure 2 SMS Interconnection Solution

CONCLUSION

It has been presented two proposals solution to the problem of network incompatibility. The first solution is the best solution because it supports a set of characteristics that have been mentioned in the paper. Because it supports sending messages on a global scale, not just a local, regardless of network technologies or configuration. Second solution can be used as a temporary solution.

References

1. Ahmed Attya, "MNP project report", NTC, 2015.
2. Mohammad Jafar al-Nourani, " Sudatel Proposal for SMS Interconnection Solution", Sudatel company, 2015.
3. Syniverse Technologies, " Understanding Connectivity Models for SMS Interoperability", WW. Syniverse. Com, 2009.
4. Wwww. Wikipedia.com, 2016.
