



## Avoiding Fraudulence in Ghana Using Mobile Network Service Provider

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**Abstract**—the main aim of this paper is to prevent the nation from fraudulence, reduce the cost of maintaining database and electricity consumption through the mobile service providers. Identifying a person with a particular cell number is proven a challenge to security, mobile service providers and the nation at large. The difficulty in the fact that in spite people are required to purchase sim cards with valid and recognized identification cards. One person can buy as many sim cards and register all with just one identity number or card. And on top sell them to customers. Populating database of the various mobile service providers with duplication of identities. The security intelligences knows the dangers better, and the database administrator of mobile service provider knows the impact of this on their storage facilities.

**Keywords:** Green computing, Green IT

### I. INTRODUCTION

IN Ghana, there are about six network service providers comprising of Vodafone GH, MTN GH, Airtel, Tigo, Glo and Expresso Gh. These companies have operated quite a long time in Ghana having their different database systems to manage the customer baselines. Due to competition over market share these companies have left out a loop-hole in the field of telecommunication in Ghana. Thus despite the rules and regulations binding, retailer in particular have device a means of getting sim cards ready for use by registering them in the name of one identity number. This new approach of a single database on a common platform turn to restrict people from multiple registration of sim cards to a maximum of two for personal use from a particular MSP at a time(example one can only buy two MTN sim cards as well as only two Tigo sim cards).

Currently, the ICT sector globally accounts for 0.9 metric gigatons of 0047HG emissions annually, or about 2% of total global emissions; which includes personal computers, servers, cooling equipment, fixed and mobile telephony, local area networks (LAN) and printers.

Table 1. Global CO2 emissions

Global	Gigatons CO2e 2012	Gigatons CO2e 2020
Global CO2 emissions	40	51.9
Total ICT footprint	0.62	1.43
% of Global emissions	1.70%	2.80%

#### A. Short Survey of Relevent Literature:

The Green IT is two aspects to Green IT – the energy consumption and carbon footprint of the IT function, and the use of IT to reduce the energy consumption and carbon footprint of the whole organization, and of the planet.

IT is a significant user of electricity, and is responsible for more than 2% of the world’s carbon footprint – heavily on IT, such as banks and in many other white-collar industries, IT is often responsible for well over half of all electricity consumption.

In most countries surveyed, its power bill is only rarely included in the IT department’s operational budget. In all countries nearly half have attempted to measure or calculate IT’s power consumption, usually with a measure such as PUE (Power Usage Effectiveness) or its close relative DCiE (Data Center Infrastructure Efficiency). Those who have used “other measures” usually perform rough calculations based on the power bill.

Given that “you can’t manage what you can’t measure”, this indicates that many organizations still have a long way to go to even begin to seriously address the issue of Green IT. Too many organizations have not started to think about the issues involved or, if they have, have not done much about it.

Finance/Business Services' overall Green IT Index (57.3) is only marginally higher than the overall Green IT Index for all industries across all countries. The data indicates that the Finance/Business Services sector is no better or worse than other sectors, but this is disappointing overall given the key role played by IT in these organizations.

Table 2. Global Footprint by sectors in gigatons of CO<sub>2</sub>

<b>Emission by geography % of GTCO<sub>2</sub>e</b>	<b>2002</b>	<b>2011</b>	<b>2020</b>
Telecom Infrastructure and devices	28	37	35
Data Centers	14	16	18
Banking PCs peripherals and printers	57	49	57

Mobile subscriber base crossed 7.5 billion marks in July 2012 and is expected to cross 9 billion by 2020. With increasing demand for telecom services, the energy consumption has also grown significantly and poses an environment challenge in terms of larger carbon emission footprint of the telecommunication industry. The total global carbon footprint of the ICT industry as a whole is in the order of 860 million tonnes CO<sub>2</sub> which is approximately two percent of the global emissions. Of this, the contribution from global telecommunication systems mobile, fixed and communication devices are around 230 million tons CO<sub>2</sub> or approximately 0.7% of global emissions.

Mainly information and communications technology (ICT) industry alone accounts for about 2% or 860 million tones of the world's greenhouse gas emissions. The main contributing sectors within the ICT industry include the energy requirements of PCs and monitors (40%), data Centers about 23% and fixed and mobile telecommunications contribute about 24% of the total emissions. Compared to the other sectors such as travel and transport, construction and energy production, the ICT sector is relatively energy-lean with telecommunications contributing just 0.7 percent or about 230 million tones of green house gas emissions. The challenge for the banking and telecom service providers, telecom equipment manufacturers and the government is to pursue growth in telecom networks, while ensuring that the 2.5 percent of global emissions does not significantly increase over the coming years.

## II. SCOPE

We would measures and will be undertaken to reduce the telecom sector footprint under the following categories:

- Adoption of energy efficient equipment and innovative technologies
- Infrastructure Sharing
- Use of Renewable sources of energy

Better network planning

## III. EXISTING SYSTEM

Currently in Ghana, all the mobile network service provider are using different databases with different platforms. In addition it is observed that retailers are able to sell already registered sim cards with some one's name to customers without requesting for any identification. Although this promote convenience and customer satisfaction, it create avenue for anonymous users and also customer including foreigners can obtain more sim cards whenever they wish. Criminals uses this medium to engage in many unlawful activities and yet goes undetected. The different databases are also being managed at very expensive cost therefore increasing the company's expenditure. And at high rate consumption of power.

## IV. PROPOSED SYSTEM

With these enumerated challenges, we propose a single platform for all NSP's where one common database is established and manage for all MSP's. On this platform, a customer is limited to register not more than two simcards with a particular NSP. With the single platform, criminal activities through the use of mobile networks will be controlled. This will also check and reduce the cost of managing databases as well as power consumption by network service providers. On this platform all the network service providers are guaranteed a range of storage space they can afford and a room to increase it upon request when their storage space is exhausted. Security, confidentiality, reliability, and integrity are strictly assured without compromise.

## V. CONCLUSION

The idea of green computing is much helpful in economizing computer resources including database storage facilities. Out of this we find the edge to integrate the network provider's databases together to enhance resource economization, such as electricity consumption, electronic storage facilities and etc. In the end, one of the grounds where people indulges in fraud or crime is eliminated. The National Communication Authority can then effectively monitor and track any communication being it a threat to national security or individual security.

## REFERENCES

- [1] National Communication Authority in Ghana <http://www.nca.org.gh/>
- [2] National Identification Authority in Ghana <http://nia.gov.gh/home.php>

- [3] <http://www.myjoyonline.com/business/2014/October-15th/interconnect-clearinghouse-to-serve-as-firewall-against-fraud.php>
- [4] <http://www.nca.org.gh/73/34/News.html>
- [5] Vodafoneghana  
<http://www.vodafonewape.com/privacy-policy>
- [6] The Canadian trade commissioner service  
<http://www.tradecommissioner.gc.ca/eng/canadexport/document.jsp?did=139378>
- [7] Managing the Risk of fraud in mobile money by Lara Gilman and Michael Joyce
- [8] Department of Statistics and Information Management Banking Statistics Division-Uniform Code Section  
<http://rbidocs.rbi.org.in/rdocs/Content/PDFs/RBILIS130910.pdf>
- [9] Goodfriend, M. & McCallum, B. T. (2007), 'Banking and interest rates in monetary policy analysis: A quantitative exploration', *Journal of Monetary Economics* 54(5), 1480{1507. Hamermesh, D. S. & Pfann, G. A. (1996), 'Adjustment costs in factor demand', *Journal of Economic Literature* 34(3)
- [10] Goodfriend, M. & McCallum, B. T. (2007), 'Banking and interest rates in monetary policy analysis: A quantitative exploration', *Journal of Monetary Economics* 54(5), 1480{1507. Hamermesh, D. S. & Pfann, G. A. (1996), 'Adjustment costs in factor demand', *Journal of Economic Literature* 34(3)
- [11] Cathles LM, Brown L, Taam M and Hunter A. (2012). A commentary on 'The greenhouse gas footprint of natural gas in shale formations' by R.W. Howarth, R. Santoro, and A. Ingraffea, *Climatic Change*, doi:10.1007/s10584-011-0333-0.
- [12] Selected Asian Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment – World Economic Outlook (WEO) by IMF, September 2011.
- [13] Zhiwei Xu – Chinese Academy of Sciences, Beijing 0018-9162/12 @ 2012 IEEE .



#### **BIOGRAPHIES**

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