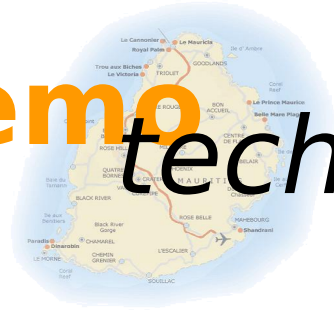


Nemotech



Electronic Top-up System (ETS)

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October 2008, Nairobi

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Agenda

- Introduction
- E-POS LMT 3000s
- Functionality
- The ETS concept
- Technology Requirements
- Other Uses
- Business Justification

E-POS Terminal Product Composition (LMT 3000)

* Actual Weight: 350g (including Roll paper)

* Actual Size : 175mm(H) × 77mm(L) × 40mm(W)



E-POS LMT 3000 Features

- High Speed Thermal Printer
- Embedded Linux O/S
- Wireless - communicates securely using CDMA or GSM
- Fast, powerful, reliable Processor: 206Mhz 32bit Intel StrongARM
- Back-lit display for easy to read in a day and night
- Long lasting Lithium-ion Battery
- Easy to Use and Standard Battery Charger
- Magnetic Stripe Card Reader
- Easy to administer Web interface
- Intuitive and dynamic terminal Menus
- On-Terminal Management of Users, Reports and Access Control

Services

- **Voucher Distribution – Case Study**
- **Remote Topup**
 - Me2u/Sambaza equivalent via Telco API
- **Concert Ticket Sales**
 - From the street vendor
- **Utility Payments**
 - Water Bills
 - Electricity Bills

VOUCHER DISTRIBUTION - INTRODUCTION

- Prepaid airtime is currently distributed through the **classical distribution chain**
- Electronic Top-up System (ETS) proposes reduction of the airtime distribution logistical issues such as voucher printing and transportation
- This presentation will specify all the elements required to realise the ETS. The ETS solution is based on a wireless terminal that distributes prepaid airtime.
- The system has the following requirements:
 - Hardware:
 - Terminal hardware
 - Server hardware
 - Terminal software
 - Backend/Server software

VOUCHER DISTRIBUTION - Current Situation

- The classical distribution chain requires the participation of
 - A producer
 - Distributors (middle-men)
 - retailers
- Each of the participants realises their return by hiving off a percentage of the value of the prepaid airtime.
- It is also plagued by logistical issues such as
 - Voucher printing
 - Voucher distribution
 - Anticipation and servicing demand
- The classical way of airtime distribution doesn't provide accurate and timely information for business intelligence.

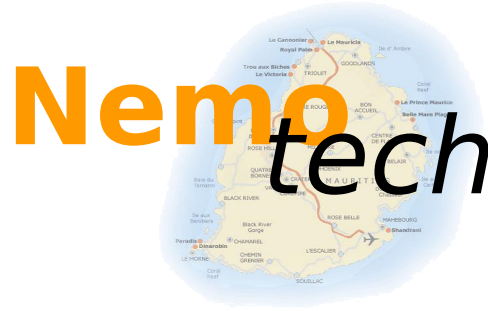
VOUCHER DISTRIBUTION CONCEPT

ETS:

A system that allows for the distribution of air time vouchers electronically

- Printing out **prepaid access numbers** from the E-POS (Electronic Point of Sales) Terminal
- This wireless terminal is GPRS based
 - Allowing vendors to **sell vouchers from remote areas**
 - Allowing for **ultra-fast transactions**
 - Allowing for **on-demand sale. - No more dead stock**
- The system allows for
 - Monitoring usage rates
 - Volume-fluctuations
 - Geographical disparity
 - Allocation of credit to various points of sale
 - **Direct Loading**
 - **Loyalty Systems**

DEMO



Video: Presentation Video

Xvid: <http://blog.my.co.ke/downloads/linudix-laban-divx.avi>

Flash Video: <http://blog.my.co.ke/downloads/linudix-laban.flv>

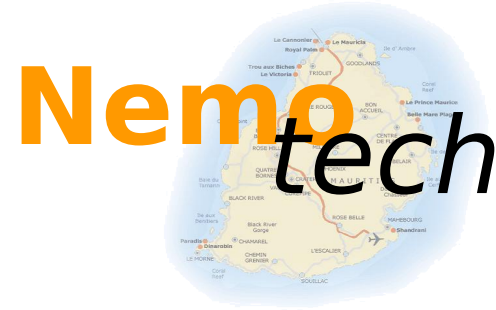
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VOUCHER DISTRIBUTION - BUSINESS JUSTIFICATION

- **Secure Transactions**
- Drives up the use of **cashless transactions**
- Increased security, reduces code losses and theft – **stock is on the remote server**
- Can leverage existing distribution channel and agents
- Online **revenue sharing** made easier
- Maximizing top-up: sell what is needed. Say **bye-bye to dead stock**
- Light machine which is portable and integrated with a low power consumption and a battery life of 40 hours
- Opportunity for **advertising** and **brand enhancement** – Printed Voucher/Loyalty Cards
- **Business Intelligence**
 - **Geographical Distribution** of vouchers (Value/Reload Frequency) - GIS
 - **Demand/Supply** over different seasons

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- Mauritius Startup
- Joint Venture
- **Logistics/Marketing/Sales**



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- Kenyan Company
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- Managed Solutions
- Messaging Solutions
 - › Telephony/VOIP/FAX
 - › Mail/SMS/MMS/Chat

Technical Information

Terminal

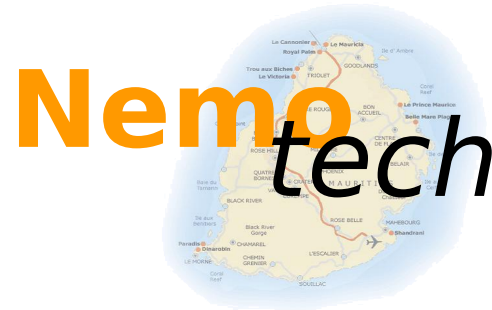
- Terminal Client in C
- Terminal Code cross-compiled by gcc for arm
- About 15 KLOC for the current terminal codebase
- Uses a custom XML over SSL Protocol

Server

- Daemon written in Python - Twisted
- About 1.5KLOC
- Backend database is Postgres

General

- End to end Encryption using client and server certificates
- Stored procedures/functions in the database
- Protocol defined as an XML DTD



Thank You

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