TRADEROOT

PERFECTING COMMERCE

TRADEROOT AFRICA

MOBILE MERCHANT SOLUTION

That supports secure Card Present PIN based transactions on a Mobile Device

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1ST FLOOR, BLOCK C, LITTLE FOURWAYS OFFICE PARK, LESLIE ROAD, FOURWAYS, 2055. TEL +27 11 467 5009 FAX + 27 11 467 6317

TRADEROOT COMPANY OVERVIEW

Traderoot is a strategic e-commerce group that designs, develops and licenses advanced business solutions on behalf of clients who depend on their business communities for procurement, payment, settlement and issuance of both financial and non-financial transaction events in order to claim the cost effective yield of administration automation, and for their communities to inter-operate successfully in local and international environments.

Since inception in 1997, Traderoot has differentiated itself through practical application and skills honed and refined by applying a dedicated focus on the application of business-to-business and business-to-consumer e-commerce deployments. In a variety of industry sectors such as travel, retail, pharmaceutical, finance, commuter and petroleum, Traderoot invests significantly in research in order to realise and deliver the power of e-commerce and is internationally endorsed as a leading authority in multi-industry disciplines.

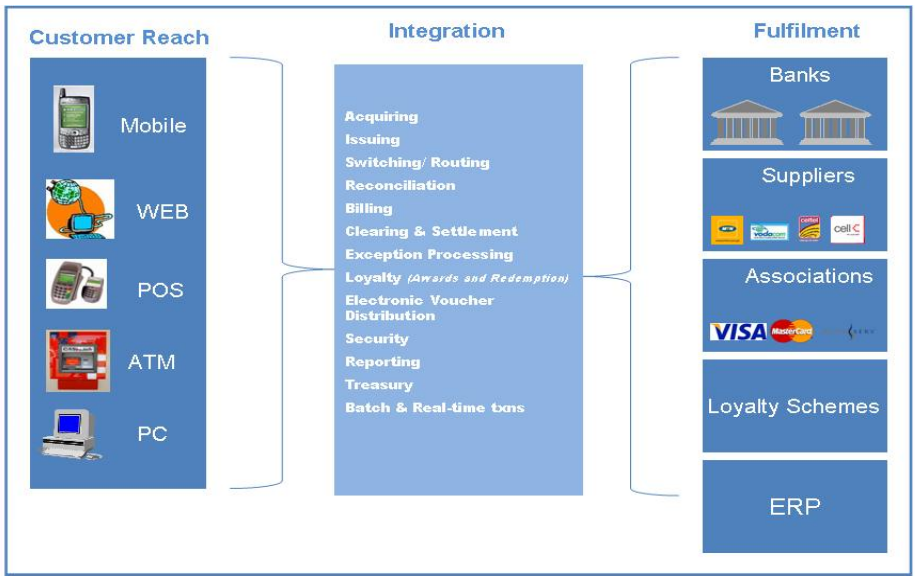
Designed on a Java open platform, Traderoot's Enterprise Solution ("TRES") seamlessly integrates with legacy systems and interfaces with many existing operating systems and hardware environments. The solutions are scaled to accommodate business needs and industry specific requirements. Underpinned by a core, secure, real-time and authenticated frame-work, the enterprise solution enables secure, real-time authenticated transactions for virtual, physical and/or wireless communities achieving reliability, a competitive edge and ultimately, significantly increased profitability and reducing liability and financial exposure.

TRADEROOT'S SOLUTION OFFERING

Traderoot offers the following payment and value-add solutions:-

- Electronic Funds Transfers
- Issuing for credit card, debit card, private label card, gift cards, PayPass etc
- Multi-lane integrated pos switching solutions
- POS, WEB, Mobile and ATM acquiring, switching, clearing & settlement and management.
- Mobile – merchant , banking and payments
- WEB Payments
- Treasury and Billing
- Real-time Payments (RTC)
- Money Transfers
- Electronic Voucher Distribution - Pre-paid for airtime, electricity, fuel, food, e-vouchers etc
- Loyalty Schemes

The following diagram illustrates the business architecture of Traderoot's product offering:-



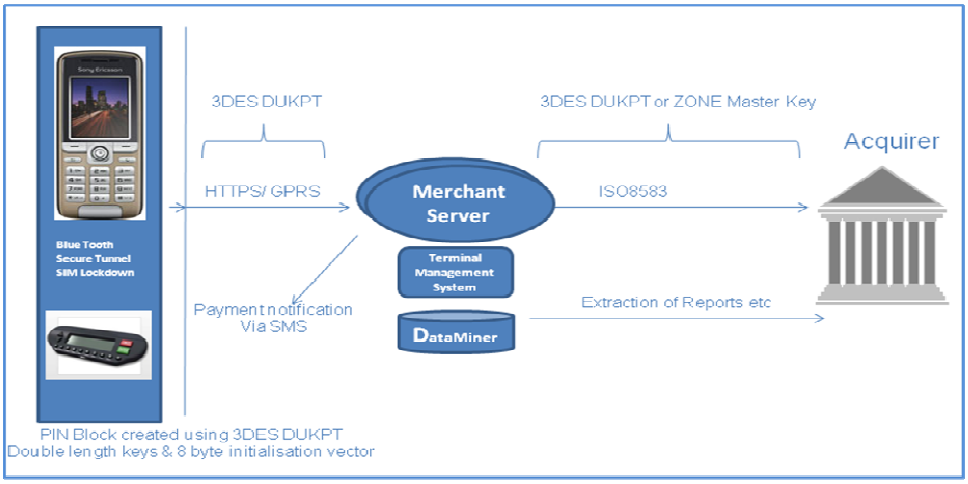
INTRODUCTION TO MOBILE MERCHANT

Traderoot is proud to announce our latest product offering - "**Mobile Merchant**". The Mobile Merchant application consists of a robust, affordable PIN Entry Device (PED) that facilitates secure Bluetooth connections to a mobile phone. The mobile phone together with the PED supports secure credit card and card present debit cards transactions with PIN to enable payment processing as a cost-effective alternative to traditional POS devices.

As in many countries, PIN based debit cards are the preferred payment method due their lower cost and enhanced fraud protection capabilities.

MOBILE MERCHANT ARCHITECTURE

The following diagram illustrates the Mobile Merchant architecture:-



TRANSACTIONS TYPES SUPPORTED BY MOBILE MERCHANT

The following transactions are supported by the mobile merchant application:-

- Normal Purchase Credit Card Authorisations & Debit Card (with PIN) Authorisations
- Refunds
- Cheque
- Cash (cash-back and cash advance)
- Bill Payment, e.g. utility payments
- Vending of PINless recharge for air-time
- SMS notifications of purchases to the merchant and/or card holder
- Transaction log of transactions
- WEB based reporting

POTENTIAL TARGET MARKETS

The potential target market is for Banks and 3rd Party Payment Processors (TPPs) to offer the mobile phone with the secure PED to the various industries, to name a few:-

- Distribution companies that deliver goods can obtain instant card swipe with PIN payments at delivery time. This negates the need to receive cash for deliveries thereby alleviating any need to carry cash
- Services businesses - plumbers, electricians
- Micro Lenders/Finance companies
- Vendor services such as sporting events
- Small businesses
- Street vendors / Wheel Barrow Merchants or other similar users need not only having dealings in cash
- Tradeshows / Exhibitors (gate and stall holders)
- Retailers where communication infrastructure and costs of a normal POS device are a concern
- Taxis, busses, trains, tour groups etc

PED SPECIFICATIONS

The Bluetooth enabled PED is a PCI approved encrypting PINpad capable of reading magnetic stripe cards (e.g. credit, debit, bank cards etc), accepting and encrypting PIN codes, and securely encrypting and sending the data to a Bluetooth capable mobile phone. Some features of the PED include:-

- PCI Compliant Device
- Size - 13.5cm x 5cm x 1.9cm
- Weight – 85g
- Battery Life – >10 years (depending on environmental and usage)
- Supports ANSX.9/TG-3-2004 Part 1
- Triple Des DUKPT with double length keys and an 8 byte initialization vector for communication along with key exchanges
- Unique Serial number per PED
- Firmware contained in secure flash memory with 256-bit keys
- Secure Tunnel USB / BlueTooth Connection to Mobile Device
- SIM Lockdown

MOBILE PHONE SPECIFICATIONS

Specifications of the mobile phone application include:-

- The application on the mobile phone is a Java MIDlet. The MIDlet uses the J2ME (Java 2 Mobile Edition) API. MIDP 2.0 / CLDC 1.1
- Secure tunnel BlueTooth
- HTTPS / GPRS to Traderoot Merchant Server
- 3DES DUKPT with double length keys and 8 byte initialisation vector
- Over the Air (OTA) upgrade to mobile phone application (JAD & JAR)
- Application support for various models for Sony Ericsson and Nokia mobile phones, other models will be supported in future product releases
- The mobile phone application is signed with a Thawte Code Signing certificate

The mobile phone application communicates with Traderoot's Merchant Server via GPRS/HTTPS using 3DES DUKPT, the Traderoot Merchant Server in-turn securely communicates to the back-end financial institution in an ISO 8583 messaging format, thus facilitating seamless integration into existing acquiring infrastructures.

The Traderoot Merchant Server application includes the following high-level functionality:-

- Terminal Management – Terminal Management is used to configure the usability and features of the payment application on each mobile phone. It is responsible for administrative (users, supervisors, administrators), transactional (terminal-Id, merchant-id, currency, etc), communications (IP, protocol, URL, etc), system (transaction log size), PED association and default profile settings (notification nr, etc)
- Flexible message translation capabilities between the mobile phone and back-end acquiring institution
- Security – supports 3DES DUKPT double length keys, Zone Master and Message Authentication Code (MAC)
- Configurable SMS notification to cardholder and merchant
- WEB based reporting
- Uses the Traderoot Configuration GUI application to configure the application behaviour, interface protocols and connectivity
- Uses the Traderoot XML based configuration file, which includes various Association card rules and card parameters for interacting with PIN Entry devices
- Uses the ISO 8583 messaging protocol to interface with the Banking fraternity or TPPs
- Supports on-line processing of payment transactions, loyalty transactions, inventory transactions and delivery notification transactions
- Manages persistency (in event of transaction failure)

BENEFITS OF TRADEROOT'S MOBILE MERCHANT APPLICATION

Some benefits of Traderoot's Mobile Merchant solution include:-

- Creation of additional revenue streams for Banks and TPPs
- Low cost acquiring solution for non-traditional acquiring markets
- Reduced fraud – as the solution enables Face-to-Face, card-present swipe transactions with PIN
- Seamless & proven integration to back-end acquiring infrastructures
- Alternative for existing merchants in case of load shedding
- PCI Compliant with secure transaction messaging
- Improves customer satisfaction by speeding up service (no offline)
- Enables merchants to accept transactions anytime and from anywhere

TRADEROOT CONTACTS

For further information on Traderoot's Mobile Merchant application, please contact:-

Gary Cook

gary.cook@traderoot.co.za

+27 11 467 5009 or +27 82 881 0081

Mark Schech

mark.schech@traderoot.co.za

Phone : +27 11 467 5009 or +27 82 337 1006