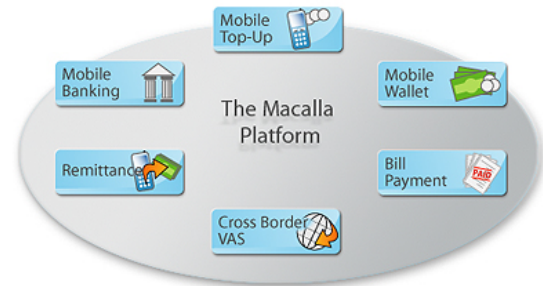




## Macalla Platform

Mobile financial services software including payment, top-up, banking and remittances

The Macalla Platform enables a wide range of innovative mobile financial services including direct top-up, agent top-up, bill payment, person-to-person payments, mobile banking, cross border VAS and both national and international remittances.



### Mobile Wallet

Macalla's mobile wallet application enables organisations to launch banking services to 'un-banked' communities typically excluded from traditional banking facilities. These services allow un-banked customers perform banking transactions over their mobile phone. The services can be provided both in-market and cross-border, and include cash loading, cash withdrawal, peer-to-peer payments, bill payment, and international money transfer.

### Mobile Agent Top-up

Macalla Agent Top-Up allows airtime distributors to sell prepaid top-ups through a much wider base of agents than is currently possible using vouchers or scratch cards. This electronic recharge method links directly with the operator's prepaid billing system, bypassing vouchers, and enables agents to securely recharge subscribers' credit with a wide range of devices including using the agent's mobile phone as a POS device.

### Mobile Direct Top-up

Macalla Direct Top-Up enables subscribers to directly recharge their prepaid call credit and that of others from their mobile phone (or other electronic channels) without the use of vouchers. The system allows subscribers to top-up their account using the easiest way for them to do so. This can be by sending a text message, visiting an ATM or over the Web for example.

### Benefits

#### Mobile operators

- Reduce costs - expensive traditional POS devices and fixed line infrastructure are not required
- Expand distribution network
- Add revenue generating solutions
- Increase customer satisfaction

#### Agents and distributors

- Increase revenue – provide additional chargeable services
- Quickly expand distribution network
- Grow customer base
- Increase customer satisfaction

### Bill Payment

Macalla's bill payment services allow bill payment intermediaries to offer bill payment services to utilities and other organisations (e.g. to pay a post paid bill with one's mobile operator, pay school fees, professional body annual fees).

### Mobile Banking

Macalla's mobile banking application enables subscribers to access their bank account and carry out banking transactions using their mobile phone, including balance enquiries, mini-statements, inter-account transfers, third party transfers, utility bill payments, transaction statements.

### International Remittance

Mobile subscribers in donor countries can transfer cash directly from their mobile phone to mobile wallet of their family and friends in the recipient country. This can be done either by directly debiting mobile phone account or by debiting a previously registered credit or debit card. It is a secure, fast, convenient and cheaper way of remitting cash than using traditional means. The money received can be withdrawn at an ATM or transferred as above to a person's or an agent's Mobile Wallet for cash.

#### Banks

- Reduce costs - quicker and cheaper to rollout than ATMs or new branches
- Create new revenue sources
- Grow customer base
- Increase customer loyalty
- Develop new low cost channel with minimal investment
- Reduce queues in bank and at ATM
- Inform customers through account and bank notifications
- Place the bank's brand on its customers' primary communications devices



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## Features

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### Time to market

Macalla's solutions are designed for rapid implementation. Short Message Service Centre (SMSC), operator billing system and payment service provider simulators can be provided to support demonstration, integration and testing of services before going live. This reduces the time to market for the service provider.

### Work flow

The Macalla Platform's configurable workflow engine manages the end-to-end transaction workflow and provides the necessary interfaces to SMSC, the operators billing systems, and the banks or payment service providers for payment authorisation and settlement. The platform is facilitated using web-based applications that can be localised and customer branded as required. It can be maintained and accessed by appropriately provisioned users and hosted in an environment to support multiple operators.

### Open architecture

The Macalla Platform is designed for ease of integration into existing infrastructures. Because of the use of open standards such as SOAP, XML, J2EE and its pluggable component design, it can easily integrate with existing legacy systems and third party software. Adaptors and plug-ins are used for major transport mechanisms such as JMS, IIOP, MQ Series, Tibco, EJB and standard support for CM, CRM, billing and location based services.

### Scalability

Because of the component-based architecture upon which they are based, Macalla's solutions provide linear scalability. Each component can be distributed and replicated providing multiple deployment modes. There is also full load balancing ensuring an even distribution of traffic across all components.

### Audit Trails, logging and reports

All user, workflow and system interactions are recorded and time stamped. System Administrators can drill down into an extensive and secure audit trail of events, giving an essential retrospective view of traffic and activity within each system. A comprehensive suite of reports is provided which can quickly produce interactive views of activity on the platform. Different views can be readily created or customised and made available to appropriately provisioned users.

### Payment reconciliation

The Macalla Platform provides easy integration and tools for reconciliation and revenue assurance, e.g. Customer Service Representatives (CSR), billing and operations.

### Security

The platform can easily fit into the security policies defined by an organisation. Support for SSL, WTLS, PKI, SHA1, MD5 and symmetric key encryption is provided as standard. Internal users are authenticated by username and password and all interaction is monitored and logged. Subscribers are authenticated using a variety of means e.g. MSISDN and PIN, and all sensitive subscriber, payment and transaction data is encrypted before storage in a hardened security database.

### Limits, locks and fraud management

Management applications allow the service provider to define thresholds for various key transaction areas, including payment types, payment value and frequency, access channels, top-up services and individual customer accounts.

### Web-based applications

Administrators, supervisors, customer service representatives, subscribers and other users can access relevant functionality in a secure and intuitive manner via web interfaces. Functionality includes usage based reports, customer registration, credit source management, transaction lists and user self-care functions.

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## Technical specification

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<b>Channels:</b>	Web, WAP, SMS, STK, Java Card, USSD, i-Mode, ATM, IVR, POS, DoJa, J2ME
<b>Application Servers:</b>	J2EE Standard, BEA Web logic, IBM Web sphere, JBOSS, Apache/Tomcat, SUN Application Server
<b>Database:</b>	Oracle
<b>Operating Systems:</b>	Linux, Unix (Solaris, HP-UX), Windows (XP, Server 2003)