



*eMobile Pte Ltd focus is to provide wireless Mobile Banking, Mobile Share Trading, Mobile eCommerce solutions and turnkey services.*

## ***eMobile Solutions Overview***

### ***- Information at your fingertips***

There are over 450 million mobile phones in use today compared with an estimated 150 million PCs. Mobile Commerce (m-commerce) or wireless Internet is widely touted as the next big wave. In 1999, many wireless carriers introduced wireless data services, offering people the ability to do more than just talk using a handphone.

According to IDC, the number of wireless device users with access to inbound & outbound information services and Internet messaging will increase an impressive 700% from 7.4 million to 61.5 million by 2003 in the US alone. Global m-commerce revenues will more than quadruple from US\$ 12.7 billion this year to US\$ 55.4 billion by 2003. Approximately 20% of this is expected to come from the Asia-Pacific region alone.

Experts predict that mobile devices will outstrip the number of PC Internet users by 2003, with WAP, GPRS & G3 being the key to the takeoff of the wireless world. The mobile phone is thus graduating beyond a mere voice communication device to one which users can surf the internet, allow pictures, music and video to be accessed and to execute transactions. Wireless devices provide an added dimension for companies to form closer bonds with their customers through more personalised services.

What are the possibilities?

- a) Mobile Consumers - checking of financial information, news services, conducting online trading, web browsing, sending & receiving email messages/faxes, checking of betting tips, placing bets, checking & paying bills, using digital certificates for secure transactions.
- b) Mobile Employees - sending & receiving email messages/faxes, long distance calls through the internet, sending and receiving project reports, booking of travel tickets/hotels, checking pay status through the company's online payroll system, sending in claims and reimbursement, secure B2B transactions using digital certificates.
- c) Merchants - leverage of WAP-ready phones as an additional store front or sales terminal, over and above existing website access. Merchants can work with financial institutions to administer the presentation of bills to the user.
- d) Financial Institutions - benefit from increased transactions that will translate to greater profits.
- e) Internet Service Providers/Mobile Telephony Network Operators - as more and more users, merchants and financial institutions need to access information on the web via the mobile channel, there are opportunities here to offer value-added services to attract more customers and expand revenue streams.

#### **Our Customers**

*eMobile has implemented Wireless Solutions for the following banks & organizations in the region:*

- PT Bank Panin
- The Hongkong and Shanghai Banking Corporation Ltd (HSBC) in various branches
- PT Bank Buana Indonesia Tbk
- Goodrich Wallcoverings & Carpets Pte Ltd
- The Ministry of Information, Communications and the Arts
- Wakeboard Association of Singapore



*eMobile solutions support a range of wireless devices such as mobilephones, PDAs and small handheld devices.*

There are however significant limitations today, which must be overcome before this technology can really take off. Performance, connection stability, connection availability, security, usage cost, lack of standards and the relative lack of content are just some of these limitations.

## About our Technology

eMobile focuses on promoting the use of SMS-based applications and services, primarily because the user base for SMS-enabled handphones is large and the cost of sending an SMS message is low. Almost all handphones sold, including WAP-enabled handphones can send & receive SMS messages. Our offerings help our clients to increase customer reach, by implementing a new GSM mobilephone communications channels for their businesses. SMS technology also provides the capability to 'push' out messages to the mobilephone subscribers and therefore it enables organisations to advertise and effectively reach out to their subscribers and clients.

SMS technology provides the ability to send messages of up to 160 characters in length. This provides an excellent opportunity to reach, in several seconds, any owner with his or her mobilephone turned on and transmit information. SMS messages are delivered independently, even when the mobilephone is in use. When the phone is switched off, the message is stored in the operators SMS Center and delivered subsequently once the mobilephone is switched on. The technology is secure, offers high availability, reach (through roaming), speed and an excellent price advantage over other forms of media. Our technology allows SMS messages to be used to also access corporate information databases stored in traditional mainframes and enterprise servers, in order to enable meaningful business transactions to be performed.

## eMobile MBank

In the increasingly competitive and demanding banking and financial services environment, we developed **eMobile MBank** (see Figure 1), a mobilephone based channel for secure & encrypted mobile banking transactions such as bill payments, funds transfer, account status and unsolicited messaging to consumers eg to announce new banking offers etc.

**eMobile MBank** is an excellent way for banks to maintain and increase customer loyalty in an industry where customer retention is critical. More importantly, it offers an attractive way to gain new banking customers. eMobile MBank is available today and being implemented in Panin Bank in Indonesia, with a number of other major banks in the pipeline throughout ASEAN.

**eMobile MBank** is a GSM mobilephone banking application that provides banks and financial institutions an additional distribution channel to provide financial services directly to the customers on their GSM mobilephones. While providing similar level of services compared to typical Internet Banking solutions, **eMobile MBank** is much easier install, implement and is highly available and convenient to use, since it is far more likely that one would carry his mobilephone everywhere he goes, for example during a game of golf, as opposed to carrying a laptop. Compared to traditional telephone banking, MBank services are visual and therefore provide better interaction to the clients when accessing the banking services.



*Now, you can do more than just talk on your handphone.*



*Over 450 million of such devices are in use today and this number is expected to grow to well over 1 billion in 2003.*

**eMobile MBank Services**

With eMobile MBank the Bank's customers will be able to access banking transactions on their GSM mobilephones. All banking transactions can be made available to the bank's customers provided that the corresponding APIs are available to eMobile MBank Server to request the appropriate banking application to process the transactions. The following outlines the services provided by eMobile MBank Application:

- Banking Transactions such as Account Balance, Fund Transfer, Bill Payment, etc. As a rule-of-thumb, all banking transactions that the bank currently supports on its Telephone Banking Services and/or Internet Banking Services can be made available on eMobile MBank Services since eMobile Server can support these transactions using existing interface to the Bank's banking applications.
- Transactions that require extensive interaction with the users, such as Account Open and/or Loan Application, are not supported/suitable on the GSM Mobilephone Banking channel for usability reason.
- Additional financial transactions that the Bank decides to make available to their customers through mobilephones such as Mutual Fund Purchases and/or Redemptions
- Access to the Bank's product information/rates
- Notification services that enable the Bank to notify the clients of certain events or promotions by sending out unsolicited SMS messages.
- Other e-Commerce transactions the bank would like to make available to their clients.

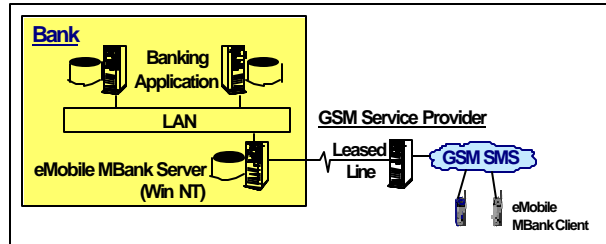
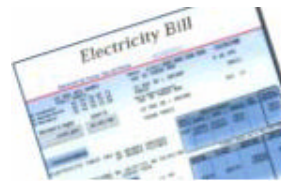


Figure 1: eMobile MBank



Using the mobilephone to bill payment is a feature of eMobile MBank.

The following 2 diagrams illustrate typical user interface through the mobilephone's eMobile MBank's main menu and banking services sub-menu respectively.

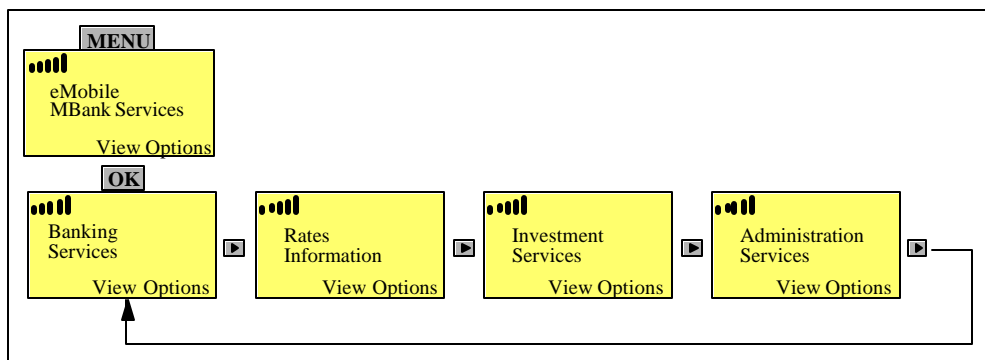


Figure 2: eMobile MBank Sample Main Menu

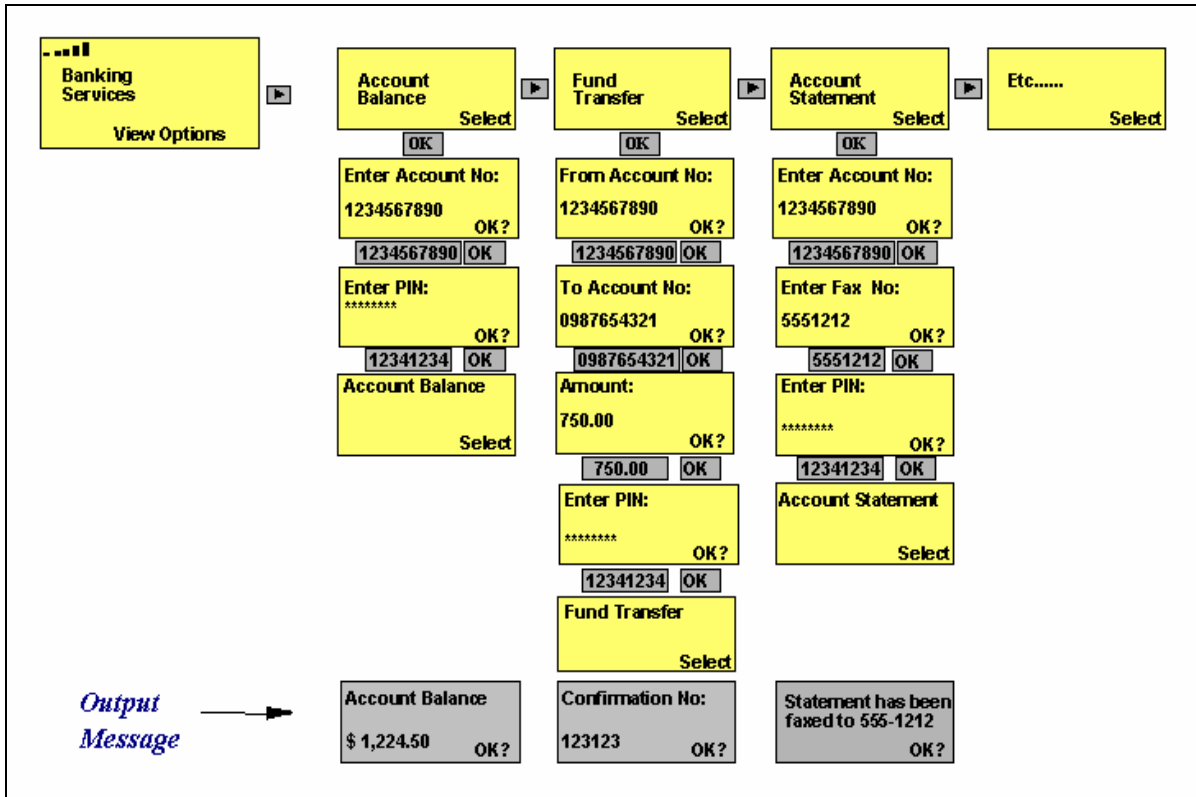


Figure 3: eMobile MBank Sample Mobilephone Client Menu

**eMobile MBank's External System Interfaces**

To communicate with the bank's existing hosts and application servers (see Figure 4), a wide range of connectivity and interfaces are supported by eMobile MBank server. This generally results in a fast and effective customization and integration of eMobile MBank server into the Bank's existing system environment, thereby enabling the Bank to launch GSM Mobilephone Banking services relatively quickly.

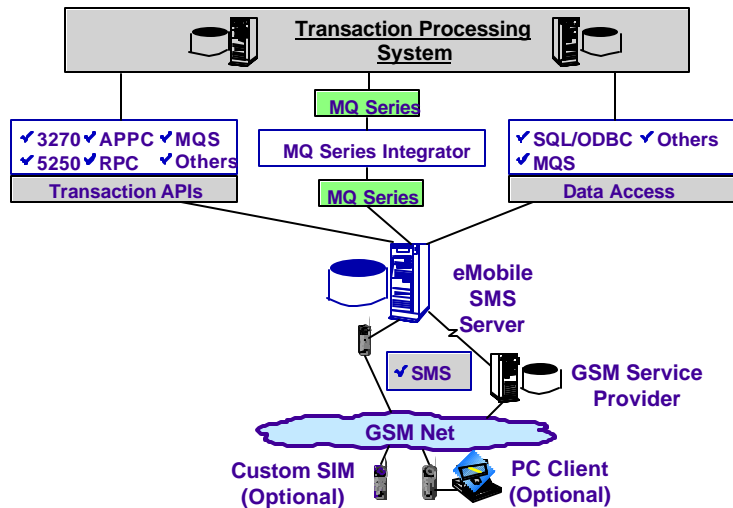


Figure 4: eMobile MBank's External System Interfaces

**eMobile MBiz**

eMobile MBiz (see Figure 5) is a solution which is applicable cross-industry for manufacturers, distributors, B2B portals, retailers etc. It offers a simple, easy menu-based facility for Purchase Order submissions, pricing queries, stock status queries, bill payments and unsolicited messages for information sharing.

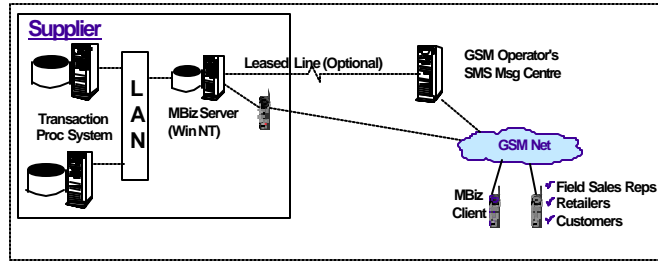
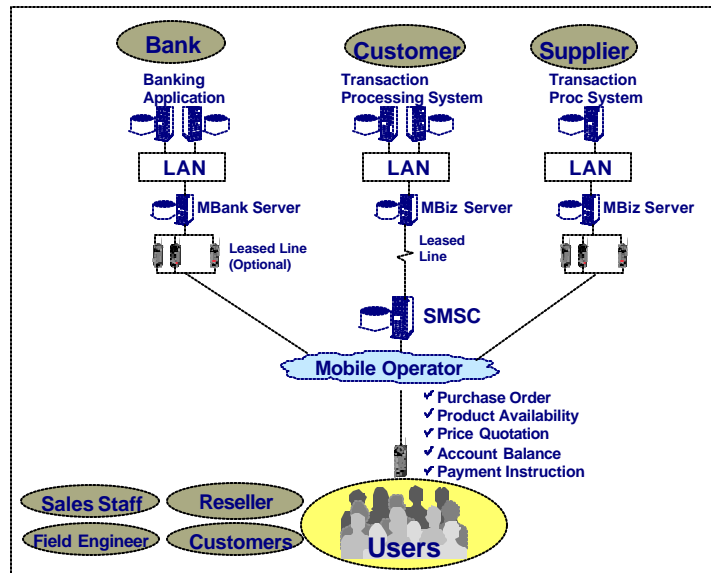


Figure 5: eMobile MBiz B2B Solution



Sample MBankMBiz Configuration

*Corporations with large population of mobile workers (sales/engineering)*

- Business transaction services from mobilephones
- Sales staff, Resellers, Customers :
  - ✓ Purchase orders
  - ✓ Product inventory and price quotation
  - ✓ Purchase order processing status
  - ✓ Account balance (amount due and payment due-date)
- Field Engineers
  - ✓ Job status report
  - ✓ Ordering parts
  - ✓ Parts availability & price quotation
  - ✓ Retrieve next job's particulars (push or pull)
- Suppliers (facilities to accept requests over GSM network):
  - ✓ Online Purchase Orders
  - ✓ Product inventory and price quotation
  - ✓ Purchase order processing status
  - ✓ Payment Advice (from bank)
- Bank - payment processing for completed transactions

**Commercial Arrangement:**

- Upfront (nominal) payment for set up - covers direct cost for implementation
- Monthly subscription charge (based on number of users)
- Usage charge (SMS messages and/or business transactions)

**Key Advantage :** Quick service rollout & small incremental cost to operate

Sample B2B Offerings

**System Requirements**

*Hardware Requirements for eMobile SMS Server*

- Intel Pentium III 600MHZ & above or equivalent
- At least 128MB RAM
- 50MB Harddisk free space (only installation of SMS server; database not included)
- Leased line connection to SMS Center or GSM modem connection to server

*Software Requirements*

- Windows NT 4.0 or higher
- eMobile SMS Server & relevant MBank or MBiz module(s)
- Relevant software for connectivity to Host application



*Mobile Field Maintenance is a potential application of wireless technologies.*

© eMobile Pte Ltd  
1 Jalan Kilang  
#04-01  
Singapore 159402

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**For more information**

Contact:  
[sales@emobile.com.sg](mailto:sales@emobile.com.sg)

Or Visit our website:  
<http://www.emobile.com.sg>



The logo for the Mobile Payment Forum (MPF) features the word "mobile" in a blue, lowercase, sans-serif font. Above the letter "i" in "mobile" is a green circular icon with concentric lines, resembling a signal or a target. Below "mobile" is the word "PAYMENT" in a bold, blue, uppercase, sans-serif font. At the bottom of the logo, the word "FORUM" is written in a green, uppercase, sans-serif font, with wide letter spacing.

eMobile Pte Ltd is a member of the **Mobile Payment Forum (MPF)**. The Forum was launched in November 2000 and is a global, cross-industry organization dedicated to developing a framework for standardized, secure, and authenticated mobile commerce using payment card accounts. The Forum intends to act quickly and efficiently as the bridge between the mobile and financial industries to accelerate the maturity of the mobile marketplace. Members of the Forum include MasterCard International, Visa International, American Express Company, JCB Co. Ltd, as well as banks, mobile operators and other leading enterprises.

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