



**Product Overview**

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# **Sybase Mobiliser Platform 5.1**

**SP03**

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# Acquire and Retain Customers with Sybase Mobiliser Platform

Sybase® Mobiliser Platform is a state-of-the-art service-oriented architecture (SOA) for dynamic, real-time integration and rapid application development. The solution empowers mobile operators and financial institutions to quickly launch mobile commerce services to their customers in both developed and emerging markets.

Mobiliser Platform offers support for mobile channels including short message service (SMS), unstructured supplementary service data (USSD), mobile browser, downloadable client, and Synthesis ToolKit (STK). It works on any mobile device, on any network, language and currency. It is modular, highly scalable, standards based, and customizable. It creates a new, convenient communication and transaction channel that customers can use anywhere, anytime.

This consumer platform enables enterprises, financial institutions, and mobile operators to leverage the mobile channel to:

- Engage customers by expanding existing relationships and creating loyalty, and acquiring new customers.
- Enable a mobile transaction channel by making it simple and convenient for customers to make purchases, pay bills, and transfer funds.
- Reduce the costs of servicing customers while maintaining direct and effective customer communication and service.



# Mobiliser Platform Solutions

Sybase Mobiliser Platform introduces new revenue streams, attracts customers, increases loyalty, increases overall average revenue per user (ARPU), and reduces operational costs for mobile operators and financial institutions. It also opens up new customer segments in emerging markets by establishing a low-cost channel.

Mobiliser Platform is certified as an official Mobile Money vendor by the GSM Association and is developed in compliance with Payment Application Data Security Standards (PA-DSS); Mobiliser Platform deployments are certified by the Payment Card Industry Data Security Standard (PCI DSS). Both standards are set by the PCI Security Standards Council.

Mobiliser Platform offers additional value-added services including business consulting for go-to-market strategies, mobile-marketing services, and business intelligence for continuous analysis and improvement.

## *Mobile Banking*

Mobile Banking enables financial institutions to extend customer interactions to the mobile channel.

- This extends the reach for eBanking customers, from Internet banking to the mobile channel.
- Sybase mBanking 365 is available in Retail, Small and Medium Enterprise (SME), and Business banking editions.

## *Mobile Money*

Mobile Money enables financial institutions to offer services to the unbanked, entirely through mobile channels (branchless banking).

- Enables financial institutions to reach new customer segments, beyond the reach of existing Branch and ATM networks
- Partners, agents, and merchants can monitor and manage servers, register new customers, and top up airtime.

## *Mobile Wallet*

Mobile Payments creates new services to mobilize payments, peer-to-peer payments, remittances, airtime transfer, mobile top-up, and purchase content.

- Mobile wallet support: enables the funding of payments from bank accounts, credit/debit cards, phone bill, and other electronic funding sources.
- Stored-value account (SVA) support: enables the funding of payments from prepaid accounts, including cash and airtime as source.



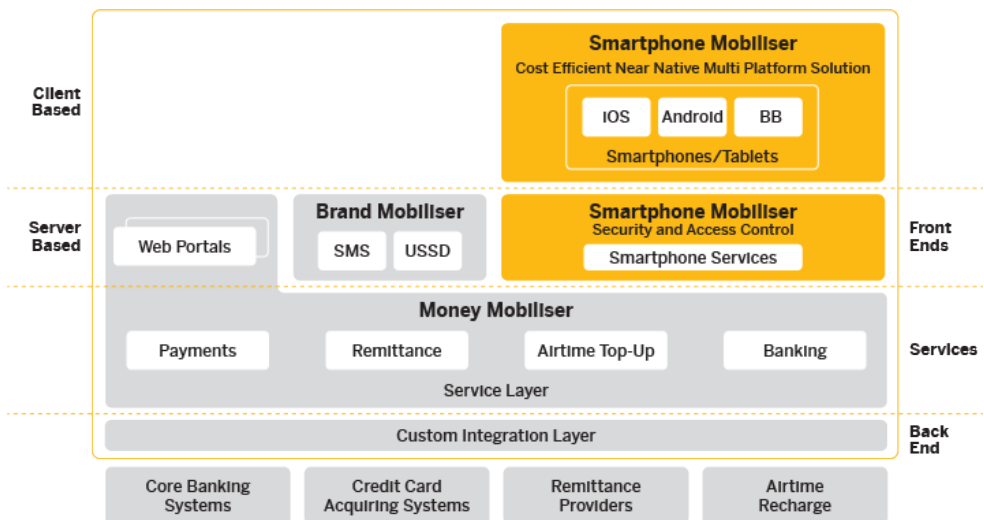


# Product Overview

Sybase Mobiliser Platform provides mobile-commerce solutions to financial institutions, mobile operators, and merchants, enabling mobile users to bank, buy, pay, and remit money using a mobile device.

## High-Level Architecture

Sybase Mobiliser Platform is a fully integrated system that consists of a back-end database, a set of application services as a middle-tier, and several front-end Web applications for configuration, management and utilization. It is based on the Open Services Gateway initiative (OSGi) modular architecture. The Mobiliser Platform solution offers several user interfaces including SMS, USSD, Mobile Web, and interactive voice response (IVR).



## Mobiliser Platform

Sybase Mobiliser Platform provides a service-oriented architecture for dynamic, real-time integration, and rapid application development.

The Mobiliser Platform product—out of the box—includes:

- The Mobiliser Platform application server
- Sybase® Brand Mobiliser
- Sybase® Smartphone Mobiliser

## Product Overview

Mobiliser Platform applications that you can purchase separately, which require the application server to run, include:

- Sybase® Money Mobiliser components:
  - Banking Mobiliser
  - Payments Mobiliser
  - TopUp Mobiliser
  - Remittance Mobiliser
- Sybase® Mobiliser Reporting Module

You can also develop custom applications to run with Mobiliser Platform.

## **Mobiliser Core**

Sybase Mobiliser Platform core components provide the infrastructure and tools for developing mCommerce applications.

The Mobiliser Platform core components are:

- Mobiliser gateway – the infrastructure that exposes services to external systems.
- Messaging framework – provides the ability to send correspondence to customers.
- Preferences – standard mechanism for application configuration.
- Persistence layer – stores and retrieves information from database systems, and abstracts operations from other Mobiliser Platform components.
- Reports – uses the SAP® Crystal Reports framework to generate and display reports.
- Events – components have individual requirements for responding to specific states that may occur during the life cycle of requests and transactions.

## **Business Logic**

Sybase Mobiliser Platform offers functionality that is customizable for your business needs.

Sybase Mobiliser Platform implements these business-logic features:

- Security
- Financial transactions
- Invoice payments
- Customer authentication
- Account management system
- Audit manager

## **Platform Runtime**

The Mobiliser gateway provides common interfaces for defining security for services dynamically at runtime.

Mobiliser gateway is the infrastructure that exposes services to external systems. You can configure privileges for mobile consumers, in a protocol-independent way.

Mobiliser gateway provides a simple XML interface for client applications, and a single point of entry to send correspondence to customers.

## **Mobiliser Database**

A Sybase Mobiliser Platform database must meet testing and certification requirements.

The Mobiliser Platform database captures and stores data for:

- Customers – names and phone numbers, PINS and passwords, and payment instruments.
- Payment instruments – instrument types, restrictions, booking, and settlement modes.
- Transactions – types, success or failure, authentication, and the life cycle of transactions.
- Fees – payers and payees, fee types, amounts, exchange rates, and currency.
- Limits – daily, weekly, and monthly limits, and total debits and credits.
- Invoices – payable invoices, amount due, currency, status, and due date.

## **Money Mobiliser**

Money Mobiliser provides a state-of-the-art mCommerce solution that gives member bank consumers the ability to bank, make payments, and transfer money through a mobile device.

**Table 1. Money Mobiliser Components**

<b>Component</b>	<b>Description</b>
Banking Mobiliser	Allows customers to use their mobile phones as microbanks, serving all basic banking services that demand instant information; for example, to enquire about account balances, configure notifications on account activity or threshold alerts, and manage accounts.
Payments Mobiliser	Enables consumers to make domestic peer-to-peer (P2P) payments to both known and unknown customers, make remote and proximity purchases at various merchant acceptance points, pay bills, and repay loans.
TopUp Mobiliser	Enables consumers to top up their own or another mobile phone, share airtime within a network, and transfer airtime across borders directly from their handset, and pay electronically from any location, at home, or in the street, or to pay by cash in a shop.
Remittance Mobiliser	Allows consumers to send money across borders to an intended beneficiary, manage friends lists, buy remittance vouchers online, from an agent or any retail location, and initiate money transfers from an agent location, a wallet, or a bank-card account.

*Money Mobiliser Web Portal Applications*

<b>Portal Name</b>	<b>Description</b>
Consumer Portal	Consumers can register, manage accounts, manage friends lists, set credentials, transfer funds, and top up airtime.
Administration Portal	Used by customer support agents to manage customers, agents, notifications, and coupons. Also configure exchange rates, roles, privileges, and transaction fees and limits.
Distribution Partner Portal	Distribution partners can manage existing customers, register new customers, top up airtime for a customer, validate pending customer registrations, settle commissions, and run reports. Depending on assigned roles and privileges, they can create agent hierarchies.
Operations Dashboard	Partners, agents, and merchants can monitor and manage servers in a deployment; manage and administer preferences; track system-level details; and control jobs.

**See also**

- *Consumer Portal* on page 22
- *Administration Portal* on page 21
- *Distribution Partner Portal* on page 23
- *Operations Dashboard* on page 24

**Banking Mobiliser**

Banking Mobiliser creates cost-saving potential to mobilize consumers with bank accounts, and enables new services to mobilize the unbanked.

Banking Mobiliser can be deployed by banks in developed and emerging markets. It allows consumers to use mobile phone as microbanks, serving all basic banking services that demand instant information, for example, balance requests, notifications on account activity or threshold alerts, and account management. Banking Mobiliser allows customers to transfer funds between their accounts, transfer money to an account at another institution, and pay bills.

Banking Mobiliser integrates all mobile channels and optimizes banks’ approach to mobile messaging. It creates low-cost payment ecosystems in emerging markets to empower the unbanked with savings, money transfer, and microfinance mechanisms.

Banking Mobiliser features include:

- Contact points – enable consumers to manage their devices.

- Account management – consumers can activate their accounts, and transmit account history.
- Mobile alerts – create new alerts and manage existing alert subscriptions.
- Foreign exchange (FX) currency lookup from login page – provides a direct link from the login page to look up FX currency exchange rates. Consumers can go to the currency exchange Web site without logging in.
- Stop-payment services – consumers can submit a stop-payment instruction from within a channel.
- Location-based services – based on zip-code lookup, consumers can find branch and ATM locations for their bank.
- Device detection – mobile Web applications detect incoming browser resolution, and optimize the user interface based on screen size and device.

### **Open Bank API**

The Open Bank API integrates with Banking Mobiliser.

The Open Bank API provides multiple levels of security. All communication between Mobiliser Platform and banks takes place over VPN tunnels, and HTTPS is used for application-layer encryption. If supported by the partner bank, a mutual SSL handshake is recommended, in which the client (Mobiliser Platform) and the server (partner bank) authenticate themselves with cryptographic certificates.

### **Service Packages**

Banking Mobiliser service-package modifications go into effect as soon as they are installed.

Bank employees can build collections of entitlements (permissions and functionality) that are defined, gathered into single collections, and assigned to users or groups of users.

### **Contact Points**

Banking Mobiliser contact points help consumers manage their devices.

Contact-point features enable consumers to:

- Register more than one device/phone for the same account or across multiple accounts – joint account owners can customize alerts and other features for their devices.
- Send a test message to a registered device – consumers can confirm that their devices are properly configured during the enrollment/configuration process.
- Manage device information – consumers can create a custom name for the device, establish a secret authentication word for SMS transactions, and manage device alerts preferences.
- Delete a mobile device/phone – consumers can delete a registered contact point.
- Register alternate contact channels – consumers can indicate to send alerts by another method, such as e-mail messages or custom interactive voice response (IVR).

## **Payments Mobiliser**

Payments Mobiliser simplifies consumers' mobile-commerce transactions at many merchant points, permitting them to make domestic peer-to-peer payments to other consumers, make remote and proximity purchases at merchant acceptance points, pay bills, and repay loans.

Payments Mobiliser provides opportunities to create new service potential to mobilize payments, topups, and customer-specific content. Payments Mobiliser interacts more efficiently and effectively with consumers via any mobile channel, managing the user experience along the entire customer-development life cycle.

### **Bill Payment**

Payments Mobiliser permits consumers to make domestic peer-to-peer payments to other consumers and pay bills.

Consumers specify which payment instrument to use for a payment, and set an authorization threshold—bills that fall below the threshold are paid automatically when received. Consumers can also initiate requests for payments from other registered customers. A request creates an invoice in Payments Mobiliser that is payable by the other customer.

### **Fund Transfers**

Payments Mobiliser allows consumers to transfer funds using a mobile device.

Consumers can transfer funds between payment instruments in their wallet, for example, from a credit card to a bank account. They can also transfer money from their stored-value accounts (SVAs) to:

- Another user's SVA. A consumer enters the recipient's MSISDN, the amount, and optionally, reference text in the message field. A summary of the transaction appears; the consumer must confirm the transaction before it executes.
- An unregistered consumer, without an SVA. The recipient is informed via SMS that money is being sent, and an SVA is generated for the recipient's MSISDN. The recipient's account is activated when he or she initially logs in to the Consumer Portal.
- A preconfigured buddy, which you can configure in the friends list. Friends lists enable consumers to manage their beneficiaries for peer-to-peer (P2P) transfers, remittance, airtime transfer, and airtime top-up transactions. The list stores the MSISDN, the name, and nickname of each participant.
- A bank account. This requires the user to enter details of the destination bank account, and the amount to be transferred. The transaction is executed after the sender confirms the transaction. You can create bank account lists to avoid entering account details for every transfer request.

### **Merchant Support**

Consumers can pay merchants using any payment instruments held in their wallets.

Money Mobiliser offers a SOAP Web service based interface for merchants. The interface can be customized to the needs of the merchant. Money Mobiliser delivers a number of reference solutions in common programming languages.

All interfaces are secured with SSL (HTTPS). Some interfaces include a public-key infrastructure (PKI), in which servers and clients are authenticated by certificates.

### **TopUp Mobiliser**

TopUp Mobiliser enables consumers to top up airtime on their own or any mobile phone, share airtime within a network, and transfer airtime across borders directly from their handset, or via automatic rules, paying electronically from home or in the street, or paying with cash in a shop.

TopUp Mobiliser optimizes distribution costs and transparency for virtual goods such as airtime or credits, and provides convenient top-up mechanisms via any channel.

### **Remittance Mobiliser**

Remittance Mobiliser enables consumers to transfer money and airtime internationally.

Remittance Mobiliser enables consumers to initiate money transfers from an agent location, from a wallet, or from a bank/card account. At a sender's request, a remittance is advised to an agent location for pick up, or credited to a wallet or bank/card account of a participating bank.

Remittance Mobiliser airtime transfer enables consumers to send mobile credit from their mobile phone or through retailers to their friends and relatives across borders.

### **Brand Mobiliser**

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Sybase® Brand Mobiliser enables consumers to use their mobile phones to interact with mobile applications by sending and receiving SMS messages.

Brand Mobiliser makes it easy for companies to mobilize all aspects of their businesses, including brand awareness, customer relationship management (CRM), mobile banking, mobile payment, and mobile commerce, using mobile messaging.

The Brand Mobiliser Web UI provides tools for visually composing a mobile application, testing it using a built-in simulator, and deploying it to the processing engine, ready to be used by mobile consumers. You can modify applications in real time to meet changing business needs, and redeploy them without disrupting service availability.

The Brand Mobiliser Processing Engine is designed to serve the continued growth of mobile-messaging traffic. The node architecture is designed to manage billions of messages daily, and

is suitable for deployment to cloud infrastructure, such as the SAP® Java Platform as a Service (JPaaS).

Brand Mobiliser is based on the Open Services Gateway initiative (OSGi) modular architecture, and is fully extensible using the provided APIs. Plug-in components can integrate with both existing enterprise systems and third-party systems using a service oriented architecture.

## Smartphone Mobiliser

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Use Smartphone Mobiliser to develop smartphone mobile telephone applications for the Money Mobiliser platform.

Smartphone Mobiliser is a reference application framework that runs out of the box with Money Mobiliser server, provided both products have the same service pack. The framework uses familiar Web technologies that are likely to be used within any Information Technology department. The underlying mobile-development framework is Adobe PhoneGap, which is an open-source multiplatform mobile-application framework.

Build a PhoneGap application using:

- HTML5 to specify the structure of the application
- Cascading Style Sheets (CSS) to design the look and feel of the application
- JavaScript to implement the applications logic

## Mobiliser Reporting Module

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Sybase® Mobiliser Reporting Module is based on the Java Reporting Component (JRC) and the Crystal Reports Viewer SDK.

Mobiliser Platform provides ad hoc online reports and asynchronous reports. Standard reports answer questions across daily, weekly, and monthly time periods, such as:

- How many customers tried to sign up via which organization/unit?
- How many customers were activated successfully?
- How many of the successfully activated customers have become active with a transaction?
- How many transactions were run successfully?
- Why did transactions fail?
- For how many subscribers with failed transactions do we have phone numbers, so we can reactivate them?
- Which merchants have successfully run transactions?
- Through which merchants/channels were customers referred?



# Mobile Commerce Functionality

Sybase Mobiliser Platform includes a set of standard capabilities used in mobile-commerce solutions.

## Location Based Services

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Responses from location-based services differ based on the location of the Mobiliser Platform customer requesting the service.

Typical location-based services are:

- Finding locations of the nearest ATMs
- Finding advertisements of nearby stores
- Sending service-outage notifications to all subscribed customers in an area
- Verifying that payer and payee are in the same area for a transaction
- Verifying that a payer does not travel more than 1000km in one hour (fraud prevention)
- Tracking consumers

Typically, mobile users are interested in finding the nearest location of certain types of services. Services return lists of results, in ascending order based on distance. Users may filter results based on:

- Business type, such as gas station, ATM, grocery store, or movie theater
- Merchant name, such as Safeway, Target, or Walmart
- Maximum distance from current location
- Maximum number of results

## NFC Closed-Loop Payments – Offline SVA

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Near-field communication (NFC) technology establishes radio communication between two devices that are in close proximity. On-device charging (ODC) provides the capability to store sensitive data, such as stored-value account (SVA) balances, on a smartphone, which can interact with external systems through NFC.

ODC services are exposed through the Mobiliser Platform service framework, and include authentication, authorization, and auditing. ODC libraries are embedded into Smartphone Mobiliser and integrated with an ODC PhoneGap plug-in.

In the Money Mobiliser Consumer Portal, you can create, and activate or deactivate an offline SVA. You can view the current balance, and add or withdraw funds. If you create a merchant-specific offline SVA, you can use its funds to purchase goods and services at that merchant's acceptance points, and you may receive discounts on purchases.

## Mobile Commerce Functionality

The Smartphone Mobiliser user interface contains an ODC option, which when selected, displays your ODC wallet with offline SVAs that are available without logging in to the server. For each SVA, you can view details, such as the current balance, subscriptions, and recent transactions. To view all transactions, you must log in to the server. To secure your SVAs, wallets remain active for a configurable amount of time before they automatically deactivate.



To purchase goods and services with an offline SVA:

1. Register with Money Mobiliser.
2. Set up and fund an offline SVA: your mobile device must have an NFC antenna and a secure element.
3. Use the offline SVA at Mobiliser-enabled points of sale, such as vending machines and cashier terminals.

## Service Packages and Terms and Conditions

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Mobiliser Platform users who agree to terms and conditions are granted permissions when they register for service packages. Permissions are valid for an organizational unit and customer type.

Service packages can be associated with users in multiple ways:

- Automatically during registration
- Self-assignment using a smartphone or the Money Mobiliser Consumer Portal

- Through the call center, using the Money Mobiliser Administration Portal

Terms and conditions for service packages exist in multiple versions. Typically, terms and conditions are valid within a date range. Before customers can use a service, they must accept its terms and conditions, which are either valid for the current date or open ended. The three types of terms and conditions are:

- Optional – can reject only if you accept mandatory terms and conditions.
- Mandatory – must accept to use a service.
- Future – accept a newer active version if current terms and conditions expire in less than a month.

If users do not accept a service package's terms and conditions, permissions provided with the service package are not granted.

## Multichannel Access

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The Mobiliser Platform multichannel access system allows you to execute your business and transactions securely, from anywhere, with the help of a mobile device.

- Smartphone applications – download to smartphones, such as iPhone, Android, Blackberry, and others.
- Mobile Web applications – hosted on Mobiliser Platform and run on mobile devices.
- SMS applications – Short Message Service (SMS) is a text-based mobile communication system that allows the exchange of short text messages.

## User Profile Management

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Mobiliser Platform provides extensive capability for managing user profiles.

You can use Mobiliser Platform tools to configure user profiles:

- User registration – captures all the "know your customer" (KYC) data required to identify a customer during the registration process.
- User authentication with multiple credentials – consumers use PINs for mobile-device authentication, and passwords in Web portals.
- Manage and link credit cards – authorize a credit card for payments and transfers.
- Manage stored-value accounts (SVAs) – authorize an SVA, and set limits.
- Change a user's PIN or password – reset a consumer's PIN or password.
- Change a user's address – update a home, secondary, or e-mail address.
- Change security questions and answers – used for authentication.

- Manage user preferences – consumers can select their preferred language, choose whether to receive marketing messages, and select which channel (SMS or e-mail) to use for notifications.

## User Application Services

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User application services enable mobile consumers to access services.

### *Registration*

Enables consumers to sign up using various channels: Internet, Mobile Web, or Smartphone clients. The data that is captured depends on national regulations and processes. The mobile phone number is usually the central piece of data, because this is how Mobiliser Platform identifies consumers. Consumer registration can usually be concluded within a few minutes—including online checks against third-party systems—creating an active consumer in the system.

### *Account Balances and Transactions*

Consumers can view their account balances and latest transactions. If a consumer's wallet has multiple payment instruments, the consumer can select the account. Distribution partners can view consumer master data and the balance of a consumer's stored-value account.

### *Airtime Top Up*

Consumers can purchase airtime for a mobile device using funds in an account.

### *ATM Location Service*

Enables consumers to look up ATM locations.

### *Coupon and Promotion Receipts*

Mobiliser Platform can send coupons and promotional offers to mobile devices, which can be exchanged for financial discounts or rebates when purchasing products.

## Payments and Transaction Processing

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Mobiliser Platform manages payment and transaction processing.

### *Disbursing*

Disbursement is paying out funds.

### *Paying Bills*

Consumers can pay utility bills and repay loans. Participating merchants can send bills into the bill payment system and accept payments. You can set up bill reminders to be sent to mobile phones.

Consumers can configure bills to pay on presentment. A consumer specifies which payment instrument to use for the payment, and sets an authorization threshold—bills that fall below the threshold are paid automatically on presentment. A consumer can also initiate a request for payment from another registered customer.

### *Paying Merchants*

Consumers pay at merchants using any payment instruments held in their wallets.

### *Processing Payments*

Supported capabilities include:

- Customer authorization – the Mobiliser Platform authorization process is transparent. Mobiliser Platform has internal security measures— no external systems are required.
- Capture – using the Distribution Partner Portal, you can view transaction details.
- Authorization cancellation – an agent with correct privileges can cancel open authorizations, so no funds are transferred.
- Refunds – an agent with appropriate privileges can refund captured transactions; fund transfers that have already taken place are reversed.
- Advice of charge – informing customers about a charge that will be made to their account if they use a requested service.

### *Sending/Receiving/Transferring Money*

Consumers can transfer funds between payment instruments in their wallet; for example, from a credit card to a bank account or SVA, or from one bank account to another. Consumers can deposit funds into their SVA as cash, from a voucher, Western Union transfer, or from a bank or credit card account.

### *Remitting Funds*

Enables consumers to send money across international borders to an intended beneficiary. Senders can manage their friends lists, initiate money transfers from an agent location, from a wallet, or from a bank/card account. Senders can remit funds to an agent location for pick up, or credit funds to a wallet or a bank/card account at a participating bank.

### *Vouchers*

Consumers can buy electronic vouchers or physical scratch cards in a shop, and send money via their mobile phone to any bank account that is linked to Mobiliser Platform, or to a mobile phone. You can use vouchers to pay bills, transfer money, and top up airtime.

Since vouchers represent a real value, managing vouchers requires security and validation measures. Voucher codes are always encrypted.

## Multiparty Settlement

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Mobiliser Platform includes a complete account-management system that supports a clearing and settlement engine, and general ledger capability.

### *Booking*

When a financial transaction successfully completes, the account management component retrieves all the transaction data and creates a single booking for each part of the financial transaction. The transaction itself is split into a debit and a credit booking. The same applies to all fees related to a transaction. Each booking affects one account.

### *Clearing*

Clearing closes all open bookings that match the specified criteria, and creates payment entries in the database. The clearing frequency determines the interval at which an account is cleared: daily, weekly, or monthly. Clearing can be done hierarchically, meaning that multiple payment instruments are cleared to a single account.

### *Settlement*

Results of the clearing process are payments, which are exported as either settlement instructions to a financial institution, or reconciliation files to a third party.

Payment instructions include a payment method and the details necessary to perform the payment. For example, if a payment method is a credit card, the payment instructions include the payment amount, the card holder's name, billing address, account number, and expiration date.

### *Reconciliation*

Compares two sets of records to verify they are in agreement: used to ensure that the money leaving an account matches the actual money spent.

## Alerts

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If you register for alerts, Mobiliser Platform sends notifications to your mobile device.

You can set up alerts for:

- Account balances – threshold alerts or periodic balances.
- Fraud – for example, if an unauthorized user tries to access your account.
- Account events – withdrawals, deposits, transfers, and so on.
- General notifications – customizable by users.

In addition to modifying alert preferences, consumers can choose their preferred delivery method—SMS or e-mail—and modify alert settings via their mobile device.

## Fees and Limits

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Mobiliser Platform enables you to configure fees, limits, and restrictions on transactions.

Configurable Mobiliser Platform attributes are:

- Fees – Mobiliser Platform calculates fees during transaction processing for the payer and the payee.
- Commissions – considered negative fees, which can be shared across the value chain as part of a fee.
- Limits – can be assigned to each customer and to each payment instrument. There are daily, monthly, and absolute limits for the sum of all credits, and the sum of all debits.
- Restrictions – the system verifies restrictions concerning the number of transactions in a given time frame. You can set restrictions on specific transaction types, merchants, merchant categories, or customer groups.
- Velocity conditions – number of transactions per time frame, for example, maximum of 3 remittance transactions per 12-hour period.

## Coupons

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Mobiliser Platform enables retailers and manufacturers to upload coupons so that consumers can receive them on their mobile devices.

Coupon administrators can upload batches of coupons, or create new coupons. Users can search or browse for coupons, and add them to their accounts, or coupons can be added automatically by a back-office user. Coupons can be delivered to individual or multiple customers.

## Bulk Processing

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Mobiliser Platform includes bulk-processing capabilities for customer registrations and deactivations, and transaction processing (perform and cancel).

Customers upload files through the Distribution Partner Portal for transaction processing, or the Administration Portal for customer data changes.

For implementation in the back end, Mobiliser Platform provides a data model and APIs for easily creating new types of bulk-processing files, configuring the required privileges to create and approve bulk-processes, implementing appropriate file handlers that execute files, and dynamically integrating these into the front-end Web applications.





# Portals

Mobiliser Platform provides Web application portals that can be used by administrative personnel, customer-support agents, merchants, and consumers.

## Administration Portal

Agents can use the Administration Portal to manage Money Mobiliser customers and agents. You can also create and manage coupons and notifications.

Customer-support agents can also configure exchange rates, roles, privileges, and transaction fees and limits. Within the portal, the notification manager enables you to create, edit, and delete message templates and attachments. These templates can be used to send messages to a customer via SMS or e-mail, in multiple languages.

Using the **Customer Care > Customer Registration** option, you can register anyone as an administrator, agent, consumer, or merchant.

The screenshot shows the SYBASE 365 Administration Portal interface. The top navigation bar includes 'SELF CARE', 'CUSTOMER CARE', 'SYSTEM CONFIGURATION', 'BULK PROCESSING', 'COUPON ADMIN', 'USER MANAGER', 'NOTIFICATION MANAGER', 'REPORTS', and 'AUDIT'. The 'CUSTOMER CARE' tab is active. The main content area is titled 'Customer Registration' and contains several sections of form fields:

- General Information:** Fields for First Name, Last Name, Gender, Language, Date of Birth, Time Zone, and Customer Type.
- Address Information:** Fields for Street Address, Street Address2, House No, City, State, Zip, and Country.
- Contact Information:** Fields for MSISDN, Email, and Info Mode.
- Security Information:** Fields for Security Question, Security Answer, and Username.

A yellow 'Register' button is located at the bottom of the form. The footer of the page includes copyright information for 2013 SAP AG and a 'WICKET AJAX DEBUG' tool.

### See also

- *Consumer Portal* on page 22
- *Distribution Partner Portal* on page 23
- *Operations Dashboard* on page 24

## Consumer Portal

The Consumer Portal includes functions for managing your Money Mobiliser account.

Consumers can manage their mobile wallets using multiple payment instruments, such as bank accounts, credit cards, and stored-value accounts (SVAs).

The screenshot displays the SYBASE 365 Mobile Services Consumer Portal. The header includes the SYBASE 365 logo, the text 'MOBILE SERVICES', and the title 'Consumer Portal'. A user is logged in as 'Jane Doe (500010950)' with options for 'Logout' and 'Languages'. The main navigation bar contains 'SELF CARE', 'MANAGE ACCOUNTS', 'TRANSACTIONS', and 'BILL PAYMENT'. The 'SELF CARE' menu is expanded, showing options like 'Home', 'Friends List', 'Change Password', 'Change Security Question & Answer', 'Change PIN', 'Change Address', 'Change Preferences', 'Contact Points', and 'Mobile Alerts'. The main content area features a 'Welcome To Your Mobiliser Personal Portal!' message and a list of services: 'Wallet management with multiple sources of funds - for example; Bank Accounts, Credit Cards and Stored Value Accounts', 'Self-service access to information related to your wallet such as account balances, transaction history, account and card management', 'Bill payments, Remittance to a merchant's account or to an agent, loan repayments and airtime topup', 'Manage a Friends-and-Family list and your own personal information, security and preferences', and 'Subscribe to mobile alerts to get notified for activity on your account, like invalid access attempt or account activity'. The footer contains copyright information for 2013 SAP AG and SAP logos.

Self-care services that consumers can perform include:

- Recovering lost passwords
- Viewing transaction history
- Managing payment instruments
- Managing friends lists
- Managing bank account lists
- Changing passwords
- Changing preferences
- Configuring bill-payment rules
- Topping up airtime
- Adding funds to an SVA

- Sending or requesting money

### See also

- *Administration Portal* on page 21
- *Distribution Partner Portal* on page 23
- *Operations Dashboard* on page 24

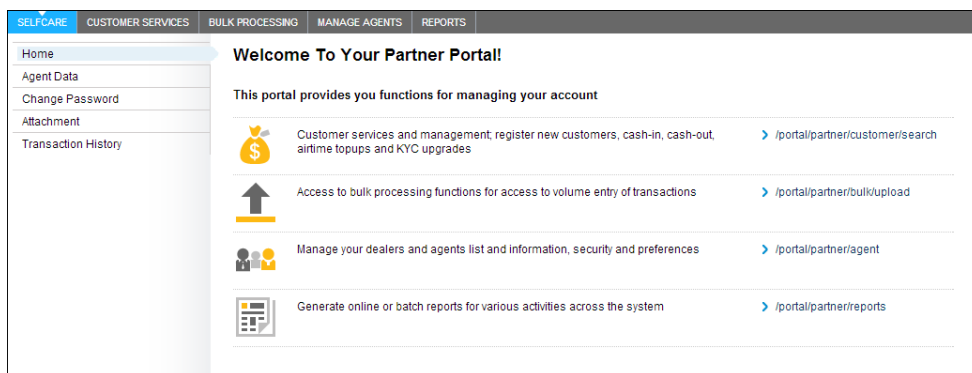
## Distribution Partner Portal

In the Distribution Partner Portal, merchants, and agents working on their behalf, can set up coupons, exchange rates, roles and privileges, and notification messages. They can also approve pending customer registrations, wallet entries, and transactions.

Merchants who have Money Mobiliser installed can use the Distribution Partner Portal. In the portal, you can manage existing customers, register new customers, perform airtime top up for a customer, settle commissions, and run a number of reports. Depending on your assigned roles and privileges, you can create agent hierarchies.

The Distribution Partner Portal options are:

- Self-care – change your password, view assigned user name, attachments to your user profile, and a history of transactions that you have performed.
- Customer services – search for customers, view transaction history, update "know your customer" (KYC) information, register new customers, and add airtime minutes.
- Bulk processing – upload transaction data in CSV or XML format.
- Manage agents – create new agents, edit existing agents, and activate or delete pending agents. You can also view the agent hierarchy
- Reports – generate reports in a variety of formats: PDF, CSV, Microsoft Excel, SAP® Crystal Reports, or RTF.



### See also

- *Consumer Portal* on page 22

## Portals

- *Administration Portal* on page 21
- *Operations Dashboard* on page 24

## Operations Dashboard

In the Operations Dashboard, you can view the operational status of Mobiliser Platform servers, set preferences, and change the password for the opsmgr user.

The Operations Dashboard supports operational-monitoring requirements. It is intended to be used by agents from all service participants and merchants, and by service providers for troubleshooting issues. The Dashboard is a Web application that operates on all data retrieved by the message gateway. Mobiliser Platform server information in the dashboard includes:

- System and environment
- Mobiliser requests
- Data access
- Messaging and channels
- Events
- Tasks
- Trackers

The screenshot displays the Sybase 365 Mobile Services Operations Dashboard. The top navigation bar includes 'HOME', 'SERVERS', and 'TRACKERS'. The main content area is divided into several sections:

- Server:** Hostname: localhost, Port: 8080.
- General Settings:** Statistics Enabled (true), Region Caches Enabled (true), Hibernate STAT Supported (true).
- Counts:** PrepareStatement Count (0), Query Execution Count (0), Close Statement Count (0), Session Open Count (0), Session Close Count (0), Transaction Count (0), Successful TXN Count (0), Flush Count (0), Optimistic Failure Count (0).
- Timing:** Max Request Duration (ms) (0), Min Request Duration (ms) (0), Query Execution Rate (0.0).

The footer contains copyright information: © 2012 Sybase Inc., an SAP company | Contact Support | About Mobiliser | Session Timeout: 14:50 Minutes. The Sybase logo and 'SAP Company' are also present.

### See also

- *Consumer Portal* on page 22
- *Administration Portal* on page 21

- *Distribution Partner Portal* on page 23



# Security

Mobiliser Platform secures Web applications, communications, and sensitive data.

## *Web Applications*

To prevent the most common attacks from the Internet, Mobiliser Platform Web applications follow the security standards defined by the Open Web Application Security Project (OWASP).

## *Communications*

Mobiliser Platform components communicate via secure protocols. Communication via HTTPS allows mutual authentication of servers via SSL certificates. Firewalls secure communication with external systems.

The Mobiliser Platform Web server hosts consumer registration and portal applications. Customer log in to these applications from their browsers via HTTPS. The Web server and the back end communicate via HTTPS Simple Object Access Protocol (SOAP) with Web services that are hosted on the application server.

## *Encryption and Hashing*

Mobiliser Platform uses symmetric and asymmetric encryption, and hashing algorithms for securing data. Customer passwords are stored only as hashed values. To protect access passwords and other confidential configuration data from prohibited access, they are stored using symmetric encryption. Highly confidential data, such as credit card numbers, are stored using asymmetric encryption. Mobiliser Platform installations are PCI certified.

## *Access Control*

To control access to resources, Mobiliser Platform supports maker-checker authorization, roles, and privileges.

## Maker Checker

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Mobiliser Platform supports dual-approval (maker-checker) task flows, which enable the validation of sensitive data.

For each service that supports dual approval, the system defines a required privilege to start the service (make), and a privilege required to complete the service (check). However, a user can always directly execute a service, bypassing the dual-approval process. Some common scenarios for dual approval include:

- Consumer registration – when regulations dictate additional validation of "know your customer" (KYC) information.

## Security

- Wallet entry additions – for security reasons, consumers and agents might not have permission to directly activate new payment instruments for consumers.
- Transactions – for sensitive transactions, when the initiating agent is not the same as the agent completing the transaction.

## Roles and Privileges

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Mobiliser Platform consumers can have one or more roles. The standard roles are Money Consumer, Money Merchant, Top-up Merchant, and System Agent.

Mobiliser Platform distinguishes between business roles and security roles.

- Business roles correspond to a person's function in the context of an mCommerce product, such as Mobile Wallet, Mobile Money, or Mobile Banking. Business roles incorporate one or more security rules to allow users to perform business processes typical for a specific business role.
- Security roles enable Mobile Wallet users to perform actions, such as allocating airtime. Security roles are used throughout Mobile Wallet to restrict both system access and the execution of business processes.

You can customize user management by assigning roles and privileges to consumers. Not only can you customize roles and privileges for each consumer, you can also customize the scope of each privilege.



# Customization

You can extend the business and persistence layer of Mobiliser Platform by developing customized components.

Mobiliser Platform is based on the OSGi modular architecture, and aspect messaging provides the ability to execute custom features. You can develop functional aspects that plug into an application dynamically, without interrupting service. Aspect messaging uses the Session Initiation Protocol (SIP). Compared to HTTP servlets, SIP servlets offer several advantages: enabling telecommunication between clients and servers, initiating requests, generating multiple responses for a single request, and communicating asynchronously.

Using the Mobiliser Platform built-in capability for customizations, you can develop components to interface with external services. Services make business logic publicly available, either as a single business-logic action or as an orchestration of actions. Services are published through the Mobiliser Gateway, and are also available for internal consumption through the OSGi service registry. This makes it easy for tasks, event handlers, and other components to call Mobiliser Platform services in-memory, without going over HTTP.

You can customize:

- Data model – customer and transaction data.
- Business logic – develop connections to new payment instruments, intelligent networks, exchange-rate providers, and authentication interfaces.
- Service orchestration – extend existing service orchestrations, and add new ones.

To replace or extend functionality, you can deploy customized components on top of the existing Mobiliser Gateway.

## Reference Implementation

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Mobiliser Platform application is a reference application framework that runs out of the box with any Money Mobiliser server.

The framework uses familiar Web technologies that are likely to be used within any Information Technology department. The underlying mobile-development framework is Adobe PhoneGap, which is an open-source multiplatform mobile-application framework. The reference smartphone application connects to the back-end server, and includes a set of features:

- Banking Mobiliser – provides mobile banking functions with various service levels.
- Core Money Mobiliser – provides basic mobile wallet functionality and alerts.
- Open Bank API – allows signing in via a third-party banking system, and managing checks, various bank accounts, and favorites.

The application has a standard and easy to navigate look and feel.

## Customization



# Documentation Road Map

Learn about the Mobiliser Platform and Brand Mobiliser documentation sets.

Document	Description
<i>Mobiliser Platform Release Bulletin</i>	<p>Information about known issues, and updates. The document is updated periodically.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user who needs up-to-date information.</p> <p>Use: during the planning and installation phase, and throughout the product life cycle.</p>
<i>Mobiliser Platform New Features</i>	<p>New or updated features.</p> <p>Audience: all users.</p> <p>Use: any time to get an overview of the new features available since the last release, and pointers to where they are documented.</p>
<i>Mobiliser Platform Product Overview</i>	<p>Summarizes all Mobiliser Platform features.</p> <p>Audience: all users.</p> <p>Use: any time to learn about the platform architecture and its high-level features and functionality.</p>
<i>Mobiliser Platform Supported Hardware and Software</i>	<p>Hardware and software on which you can run Mobiliser Platform.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user installing the system.</p> <p>Use: during the planning and installation phase.</p>
<i>Mobiliser Platform System Administration</i>	<p>Configuring system security, maintenance, and tuning.</p> <p>Audience: system administrators.</p> <p>Use: after system installation.</p>
<i>Mobiliser Platform Glossary</i>	<p>Terms for Mobiliser Platform components.</p> <p>Audience: all users.</p> <p>Use: any time to learn term definitions.</p>

## Documentation Road Map

Document	Description
<p><i>Mobiliser Platform Installation Guide</i></p>	<p>Install or upgrade Sybase Mobiliser Platform. Check the <i>Mobiliser Platform Release Bulletin</i> for additional information and corrections.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user installing the system.</p> <p>Use: during the planning and installation phase.</p>
<p><i>Mobiliser Platform Developer Guide: Smartphone Mobiliser Applications</i></p>	<p>Develop and customize smartphone applications.</p> <p>Audience: new and experienced developers.</p> <p>Use: after system installation.</p>
<p><i>Sybase Money Mobiliser Administration Portal User Manual</i></p>	<p>Manage customers, agents, notifications, and coupons.</p> <p>Audience: customer support agents.</p> <p>Use: after system installation.</p>
<p><i>Sybase Money Mobiliser Distribution Partner Portal User Manual</i></p>	<p>Register new customers, and top up airtime.</p> <p>Audience: distribution partners.</p> <p>Use: after system installation.</p>
<p><i>Sybase Money Mobiliser Consumer Portal User Manual</i></p>	<p>Describes the Web portal in which consumers can manage their own accounts.</p> <p>Audience: Money Mobiliser customers who want to implement a portal for their consumers.</p> <p>Use: after system installation.</p>
<p><i>Sybase Mobiliser Platform Open Bank API Reference</i></p>	<p>Describes the Open Bank API, which enables developers to use mBanking features in their smartphone applications.</p> <p>Audience: new and experienced developers.</p> <p>Use: after system installation</p>
<p><i>On Device Charging Core Tool Components Guide</i></p>	<p>Describes the on-device charging process.</p> <p>Audience: new and experienced developers.</p> <p>Use: after reading the On Device Charging Core Tool Guide.</p>

Document	Description
<i>Brand Mobiliser Release Bulletin</i>	<p>Information about known issues, and updates. The document is updated periodically.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user who needs up-to-date information.</p> <p>Use: during planning and installation</p>
<i>Brand Mobiliser Installation Guide</i>	<p>Install or upgrade Brand Mobiliser. Check the <i>Brand Mobiliser Release Bulletin</i> for additional information and corrections.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user installing the system.</p> <p>Use: during the planning and installation phase.</p>
<i>Brand Mobiliser System Administration Guide</i>	<p>Configuring system security, creating users, workspaces, printing reports, and system monitoring.</p> <p>Audience: system administrators, platform administrators, and workspace administrators.</p> <p>Use: after system installation.</p>
<i>Brand Mobiliser Developer Guide</i>	<p>Use Brand Mobiliser to develop SMS applications with the Application Composer, create events to act as triggers, and develop custom application states.</p> <p>Audience: application developers and Java developers for creating custom states.</p> <p>Use: for ongoing application and custom state development.</p>
<i>Brand Mobiliser API Reference</i>	<p>Describes the API you can use to develop custom mobile-messaging applications.</p> <p>Audience: new and experienced developers.</p> <p>Use: after system installation.</p>

## Documentation for Partners

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Learn about our Partner documentation set. Partner documentation is available through the partner program.

Document	Description
<i>Mobiliser Framework Architecture and Design</i>	<p>The architecture and core components of Mobiliser Platform.</p> <p>Audience: business analysts, project managers, and developers who want details about the Mobiliser framework.</p> <p>Use: during the planning and installation phase, and throughout the product life cycle.</p>
<i>Mobiliser Framework Development Guide</i>	<p>Extend Mobiliser Platform without Money Mobiliser-specific functions and features.</p> <p>Audience: solution experts, platform designers, and developers who work on and extend the persistence and business layer of Mobiliser Platform.</p> <p>Use: after system installations.</p>
<i>Mobiliser Framework Installation and Configuration</i>	<p>Install and configure Mobiliser Platform.</p> <p>Audience: IT installation team, training team, system administrators involved in planning, and any user installing the system.</p> <p>Use: during the planning and installation phase.</p>
<i>Money Mobiliser Architecture and Business Logic</i>	<p>Describes the Money Mobiliser architecture and business logic. To better understand the architecture, first read <i>Mobiliser Framework – Architecture and Design</i>.</p> <p>Audience: business analysts, project managers, and developers.</p> <p>Use: any time to better understand the product.</p>
<i>Money Mobiliser Customization Guide</i>	<p>Describes the most common customization tasks done in Money Mobiliser.</p> <p>Audience: developers who want to modify and add logic and services to Money Mobiliser.</p> <p>Use: after system installation.</p>

Document	Description
<i>Money Mobiliser Alerts WSDL</i>	Describes how customers register for and receive alerts. Audience: mobile messaging customers Use: after system installation.
<i>Money Mobiliser Service Catalogue</i>	Listing of Money Mobiliser services. Audience: Money Mobiliser developers. Use: for ongoing system development.
<i>Money Mobiliser WSDL Service Catalogue</i>	Listing of Money Mobiliser services in WSDL. Audience: Money Mobiliser developers. Use: for ongoing system development.





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