

commzGATE™ M-Commerce Server

for Service Providers

Whitepaper

July 2001

Introduction

The commzGATE™ M-Commerce Server is a robust Wireless Application Server that provides service providers a rapid and integrated way of offering mobile payment to customers via SMS.

The commzGATE™'s *App Gateway* feature receives purchase codes from a customer's SMS phone, upon which the payment is transacted using the integrated payment gateway, drawing the pre-registered customer's Credit Card information from a secured database.

Transactions are cleared over secured leased or dial-up lines via the ISO8583 protocol, traditionally used and proven by banks worldwide.

This paper gives an overview of the commzGATE™ M-Commerce Server's capabilities, its target market, and ends with an example of an implementation process adopted by a commzGATE™ M-Commerce Server user.

Target market

The commzGATE™ M-Commerce Server is aimed at Service Providers, such as Telcos and Cinemas, that provides customers with one-off Service Purchases.

For example, Telcos that offer a pre-paid service for mobile phone users can offer a wireless top-up service, using which customers can top-up the value of their pre-paid cards by sending a top-up command to the Telco via SMS.

This potential service has a large market in some countries such as Malaysia, where pre-paid service users make-up up to 40% of the total subscriber base!

For Cinemas and Theatres, customer can purchase tickets by sending a purchase code to the Cinema, via SMS. Each customer will then receive a confirmation code, to be used for collecting tickets at the box-office before showtime.

In essence, any Service Provider that makes one-off sales of a particular service is an ideal user of the commzGATE™ M-Commerce System.

Main Features

The main features of the commzGATE™ are summarized as follows:

- i) **App Gateway**
The App Gateway allows customized SMS commands to be received by the commzGATE™ and the appropriate instruction will be executed as a result.
This means that the Top-up Code for subscribers to send to the Service Provider as an SMS can be easily customized and deployed.
- ii) **Enterprise Middleware APIs**
The commzGATE™ M-Commerce Server contains a comprehensive set of secure sockets, HTTP and native APIs for seamless integration with legacy IT systems in an enterprise environment. This means that integration with the existing Service Provider 's sales system will be a seamless and fast affair.
SMS top-up reminders can also be easily programmed to be sent to subscribers based on custom trigger-level settings by the Service Provider
- iii) **Proven Payment Gateway**
The commzGATE™ Payment Gateway is a proven and tested solution in used by major Telcos such as Mobile-One Singapore. An EDC (Electronic Data Capture) terminal transacts credit card payments with the selected acquiring bank via secure leased lines or dial-up. Multiple EDC terminals can be deployed as the solution scales.
- iv) **Web-based Secure Registration Module**
The commzGATE™ has an integrated encryption-enabled Web-registration module, where subscribers can sign up for the wireless top-up service. Registration information such as user profile and credit card number will be stored for the payment process, while being available for retrieval and sharing by other Service Provider systems at the same time.

Security

The commzGATE™ M-Commerce Server will be deployed behind the Service Provider's firewall. Encrypted credit card information is passed to the commzGATE™ behind this firewall, where it will be used for transacting payment by the acquiring bank.

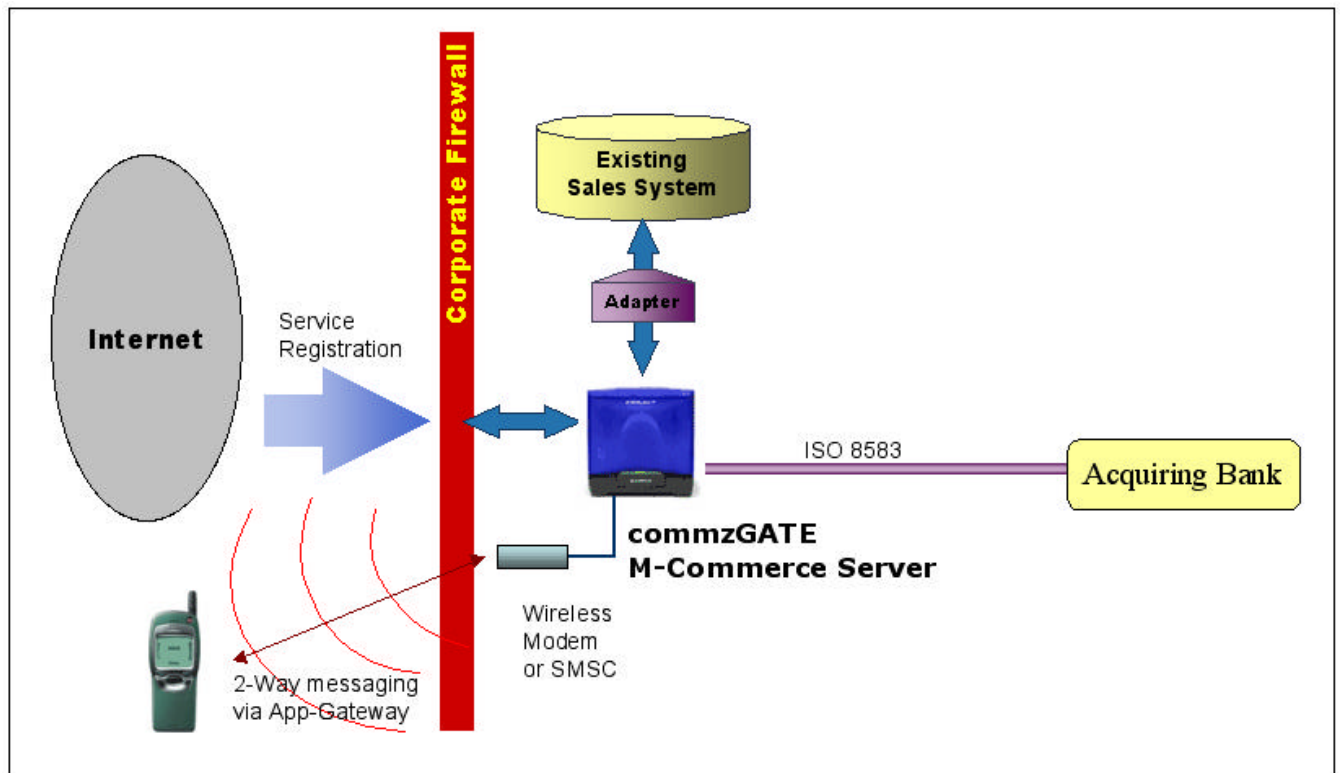
An additional layer of security can be deployed by requiring the subscriber to provide a password for each top-up.

The security features of the system can be summarized as follows:

- Encrypted Credit Card Information registration.
- ISO 8583 for the connection between commzGATE™ and bank (via leased line or dial-up).
- Firewall protecting entire infrastructure.
- Password verification for each Top-up

Architecture Overview

- The commzGATE™ integrated *Service Registration Module* can be deployed on the Service Provider on third-party website. This stores subscriber credit card information.
- commzGATE™ middleware APIs integrates with the Service Provider's sales system.
- SMS commands for Top-up are customized and activated with the commzGATE™ *App Gateway*.
- Payment is transacted via ISO 8583 via CommzGATE™ EDC terminals (Leased lines or Dial-up).
- The commzGATE™ handles SMS messaging via a direct connection to an SMSC or via wireless GSM modems.



Example: commzGATE™ Implementation Process Flow of a Telco user

In this scenario, a Telco has deployed the commzGATE™ to allow users of its pre-paid mobile service to top-up their accounts for extra airtime.

List of Processes

1. Registration of Customer's Credit Card Information (P1)
2. Top-up Reminder (P2)
3. Prepaid Top-via SMS (P3)

P1-Registration of Customer's Credit Card Information

User Registration Application for the Telco Wireless Top-up service will be necessary to pre-capture credit card information of "phone number owner". The commzGATE™'s integrated registration module can be integrated to the Telco website for such a purpose. Below is the proposed service registration database:

Phone number (key field)
Credit Card Number
Credit Card Type
Expiry Date

P2-Top-up Reminder

Integration between the commzGATE™ and the Telco Prepaid Database will enable commzGATE™ to access the list of phone numbers to be reminded at a set time and schedule.

Access Time

The Telco has an Access Time database that stores expiry date of Access Time. commzGATE™ will set a condition to query and retrieve all phone numbers that will expire in 7 days (requirement to be set by the Telco) and SMS Top-up Reminder to the "phone number owner" with the message to be determined by the Telco.

Airtime Credit

The Telco has an Airtime database that tracks the balance available. commzGATE™ will set a condition to query and retrieve all phone numbers that has reached a pre-determined balance amount (to be decided by the Telco) and thereafter message a Top-up Reminder to the "phone number owner" via SMS, with the exact message to be customised by the Telco.

P3- Prepaid Top-up via SMS

Customers will SMS a particular code to the commzGATE™ as an instruction to top-up the airtime or access time.

Example of codes:

Description of Transaction	Proposed Code
Access Time	
30 days	C030
or	top up access 30
Description of Transaction	Proposed Code
Airtime (Free credits are given for certain amount)	
RM 30	R030
or	top up airtime 30

-commzGATE™ retrieves the credit card information for the particular phone number and sends the information and amount to be charged to the bank.

-The bank will validate and authenticate the credit card information.

-Approval code will be sent to commzGATE™ to inform whether the transaction was successful.

-If the transaction was not successful, commzGATE™ will send the customer a transaction-rejected message.

-If the transaction was successful, commzGATE™ will instruct the Telco Top-up System to execute the requested top-up.

-The Telco Prepaid Top-up will increase the Access Time or Airtime appropriately.

Thereafter, the commzGATE™ will send the new Access Time or Airtime credit balance to the subscriber via SMS.

For example:

“Your new credit balance is RM 230” or “Your new access time expiry date is 31-12-2001”

The commzGATE™ M-Commerce Server is available via the following commzGATE integration partners and resellers. For more information about the commzGATE™ series of Wireless application Servers, please visit www.commzgate.com

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