

Optus EmailSMS for MS Outlook and Lotus Notes

Service Description, August 2005.

OVERVIEW

This document provides an overview of the Optus EmailSMS service delivered jointly by Optus and redcoal. It highlights service features, service architecture and functionality, including management and administration capabilities.

Short Message Service (SMS) is the transmission of short text messages to and from a mobile phone. Although SMS services have been feasible for many years, recent mobile phone penetration and large-scale adoption of SMS by users has made SMS a necessary communication medium for business.

EmailSMS is essentially a feature rich, convenient and cost effective way to enable reliable 2-way messaging between email and mobile users anywhere in Australia. It expands the existing interfaces of MS Outlook, Outlook Express and Lotus Notes to include SMS. EmailSMS is an application-based solution that requires no additional hardware. With its web based management and administration capability, EmailSMS can be quickly and seamlessly rolled out across an enterprise with virtually any number of users.

Benefits

Many companies have invested significantly in their email infrastructure. This investment can be further leveraged when integrated with the EmailSMS solution.

Company

- Leverage investment of the existing email infrastructure
- Improve internal and customer communications
- Quick solution deployment on proven platform with minimal training requirements
- Cost control

System Administrators

- Simple solution to deploy – no hardware required
- Self provisioned and self maintained
- Wide range of tools, configuration wizards and reports
- Control and monitor usage
- Operates with Microsoft Outlook versions 2000, 2002 (XP) and 2003
- Operates with Lotus Notes 5.0 or higher



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Users

- Improved productivity and communication.
- Re-use of existing email application.
- Maintains the look and feel of the email client and integrates smoothly with existing features and functions.
- Send single or multiple SMS messages to one or many recipients.
- Schedule message sending and delivery.
- Two way messaging – EmailSMS senders can receive SMS replies to their Email inbox.
- Automatically optimise (compress) SMS messages using a user configurable dictionary.
- Configure, calendar and task reminders.
- Create a log file of all SMS activity in XML format.

FEATURE SUMMARY

Features	Outlook Express	MS Outlook 2000	Lotus Notes
Account Activation Wizard	✓	✓	✓
Send As SMS	✓	✓	✓
Message Preview	✓	✓	✓
Character Counter	✓	✓ (Preview window)	✓
Long SMS Messages	✓	✓	Coming soon
SMS Word Optimiser	✓	✓	Coming soon
Contacts (local and global)	✓	✓	✓
Direct SMS Send	✓	✓	✓
SMS Reply	✓	✓	✓
Calendar and Tasks Alerts	✗	✓	Templates*
Multiple Accounts	✗	✓	✗
Schedule Messages	✓	Via calendar events	Coming soon
SMS Progress Window	✗	✓	✗
Check Status of Sent Messages	✗	✓	Coming soon
Save Sent Message	✓	✓	✓
Add Time Stamp	✓	✓	✓
Activity Log	✓	✓	✓
Custom Signature	✓	✓	✓

* See Lotus Domino Integration in this document for Template information

- **Account Activation Wizard**
Easy to follow step by step guide to create user accounts.
- **Send As SMS**
Ability to send a message from the email client as a SMS.
- **Message Preview**
Allows the user to check their message before sending.
- **Character Counter**
Ability to see how many text characters are in the message being composed.
- **Long SMS Messages**
Send a message made up of multiple SMS messages.
- **SMS Word Optimiser**
A tool that automatically suggests SMS word shortcuts to optimise the length of the message.
This is customer customisable.
- **Contacts**
Select contact details from the local or global contact lists or simply type in the recipients mobile phone number.
- **SMS Reply**
Receive SMS replies back to the EmailSMS user's inbox.
- **Calendar and Tasks Alerts**
Receive SMS alerts to the EmailSMS user's nominated mobile device.
- **Multiple Groups**
The enterprise Administrator can create and manage multiple EmailSMS distribution groups.
- **Schedule Messages**
Ability to submit messages to be delivered at a future date and time.
- **SMS Progress Window**
Keep up with the status of the SMS message(s) to be sent with a pop up progress window.
- **Check Status of Sent Messages**
Open a window to review messages sent from the email client.
- **Save Sent Message**
Keep track of all SMS messages sent in the local sent folder.
- **Add Time Stamp**
Add the time and date to your message before sending.
- **Activity Log**
Enterprise EmailSMS Administrator and User logs available to review company SMS activity.
- **Custom Signature**
Add a personalised signature to each EmailSMS.

EmailSMS CLIENT APPLICATION

Optus EmailSMS enhances the functionality of MS Outlook and Lotus Notes to allow users to send SMS from their Email client to a mobile phone and receive SMS replies back to the email inbox.

Optus EmailSMS maintains the standard look and feel of Outlook and Lotus Notes and integrates smoothly with many MS Outlook and Lotus Notes features and functions.

For those organisations who wish to subscribe to EmailSMS but do not wish to install the EmailSMS software on each end users desktops it is possible to send an EmailSMS by typing **MSISDN@redcoal.com**** and select 'Send'.

MS Outlook Integration

Optus EmailSMS integrates with:

- MS Outlook 2000 and higher
- MS Outlook Express

Installation of the EmailSMS client into MS Outlook will add the following components:

- EmailSMS Menu Items for options, account settings and help files*.
- EmailSMS toolbar buttons for sending SMS, checking message status, adding SMS reminders and email notifications.
- Dialog boxes for service activation, SMS message preview, EmailSMS options and settings.

* Outlook 2000 and higher only

MS Outlook COM Add-Ins

Integration of EmailSMS with MS Outlook 2000 and higher is based on Microsoft COM Add-In technology. COM add-ins provide a secure way to develop and distribute 3rd party Outlook applications. Essentially, a COM add-in is a compiled DLL (Dynamic Link Library) specifically designed for full integration into Office.

Contact Access

EmailSMS for MS Outlook can retrieve contacts and mobile phone numbers from the local contact folders and from global MS Exchange contact folders. The MS Outlook or MS Exchange contact folders are accessed via the Microsoft Extended MAPI interface.

Communication with Gateway

Communication between the MS Outlook EmailSMS add-in and the EmailSMS Gateway is via the SOAP/XML protocol. SOAP/XML is a layer on top of HTTP, i.e. all communication between the application and the Gateway is via a standard Internet connection using HTTP over port 80. Optus EmailSMS can be configured to work with most proxy network configurations.

Login Details

Upon first using the service, the user must activate the service by providing a username and password. This information is stored in the local registry in RSA encrypted form.

Audit Trail

All SMS activity is logged in a XML history file stored on the local machine. Sent messages are stored in the 'Sent Items' folder* in a specially created subfolder.

* Outlook 2000 and higher only.

** MSISDN is a mobile phone number.

Lotus Domino Integration

Optus EmailSMS integrates into Lotus Domino via a separate EmailSMS database (NSF file). Users link to the EmailSMS database from their desktop via the Lotus Domino workspace. EmailSMS for Lotus allows users to select names from the Lotus Notes client local address book and or corporate domino directory (names.nsf) and to resolve the selected users names to mobile phone numbers stored in the user's contact folders. Outbound SMS messages can be stored in the Sent Message folder.

EmailSMS for Lotus also provides templates for components of Notes mail for enterprises that would like to integrate the SMS functionality into their Notes mail template. All relevant design elements can be cut and paste from this Notes template database (.ntf file) to access EmailSMS functionality.

The template file also includes agents that hook into the Lotus Notes calendar functionality to set up EmailSMS calendar alerts for the user.

Communication with the Gateway

Communication between Optus EmailSMS for Lotus Notes and the EmailSMS Gateway is via the SOAP/XML protocol. SOAP/XML is a layer on top of HTTP, i.e. all communication between the client application and the Gateway is via a standard Internet connection using HTTP over port 80. Optus EmailSMS can be configured to work with most proxy network configurations.

Login Details

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OPERATING SYSTEM REQUIREMENTS

To run Optus EmailSMS users require Microsoft Windows 2000 or higher operating system on their desktop PC with Microsoft Internet Explorer version 5.01 or above. This is detailed below.

EmailSMS for MS Outlook 2000/2002/2003 requires:

- MS Windows Me
- MS NT4 – Service Pack 6 or higher
- MS XP (Home or professional)
- MS Windows 2000 – Service Pack 3 or higher
- Server 2003 (or later)

EmailSMS for Lotus Notes requires:

- Lotus Notes Release 5.0.0 or higher

EmailSMS for Outlook Express:

- MS Windows Me
- MS NT4 – Service Pack 6 or higher
- MS XP (Home or professional)
- MS Windows 2000 – Service Pack 3 or higher
- Server 2003 (or later)

EMAILSMS SERVICE ADMINISTRATION

The EmailSMS web based Administration and Service Management Interface serves as the primary control tool to define messaging services and settings for every enterprise. It allows the administrator to easily add and delete users, auto-generate passwords for user accounts, create “departments” or “cost centers” and allocate users to these departments for combined reporting and management.

EmailSMS Service Management Features

User Provisioning: Ability to provision new end users either individually or via a bulk upload. EmailSMS Service Management auto-generates the end user password, which is sent in an email with activation instructions to the end user.

Reporting: Provides extensive reporting to the administrator with detailed SMS transaction reports on individual users, departments/cost centres or destination numbers.

Daily Quota: Provides tools to manage SMS transactions across the enterprise and within each department/cost centre. SMS limits may be set against a department.

Destination restrictions: EmailSMS message destinations can be limited to specific mobile numbers if required via the Service Management tool.

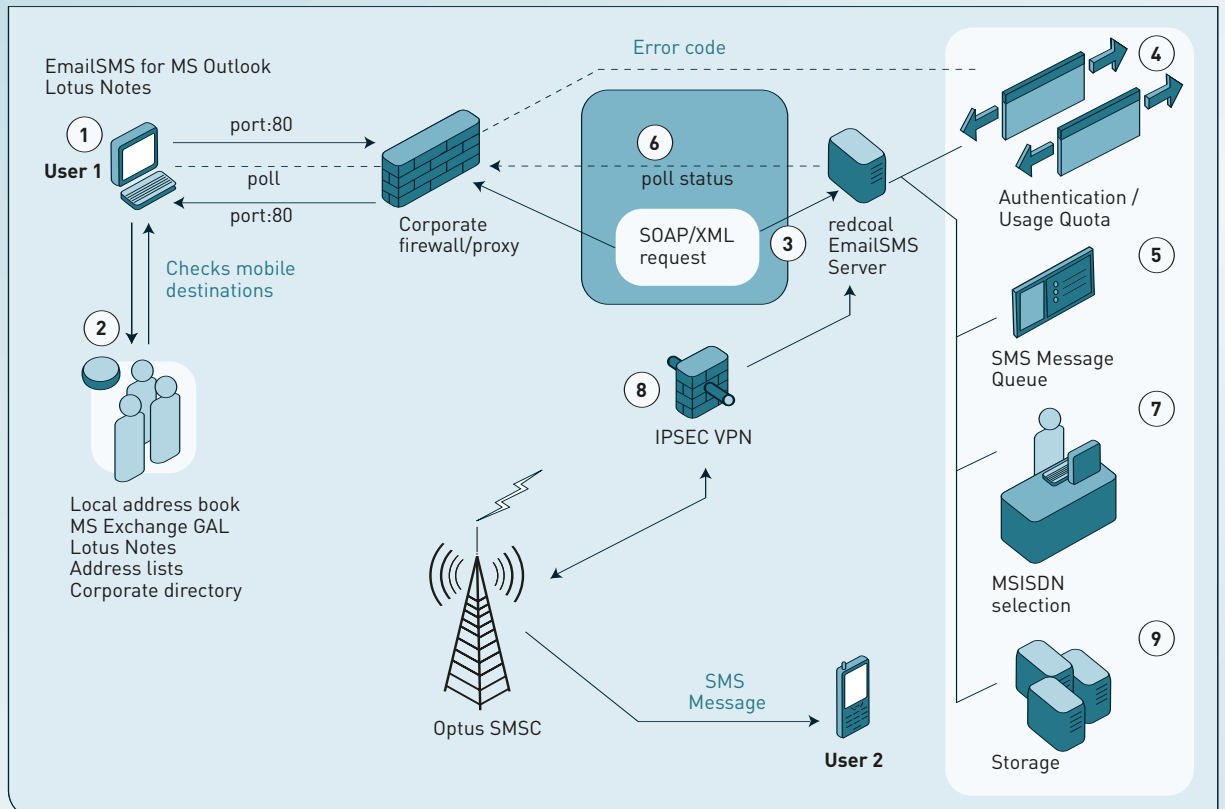
SYSTEM ARCHITECTURE

Unlike other email to SMS solutions that use SMTP as a transport mechanism to deliver SMS messages from the email client to the central gateway, EmailSMS uses SOAP/XML protocol, which provides the following significant benefits:

- Real time status confirmation of SMS messages sent, delivered, failed or pending.
- No additional load on the enterprise SMTP server as SMS messages are delivered via http:80.
- SOAP/XML delivers messages directly to the external Gateway which is a faster and more reliable way of delivering messages.
- Allows for additional security and management features (message quotas, capping).

Message Routing – Desktop to Handset

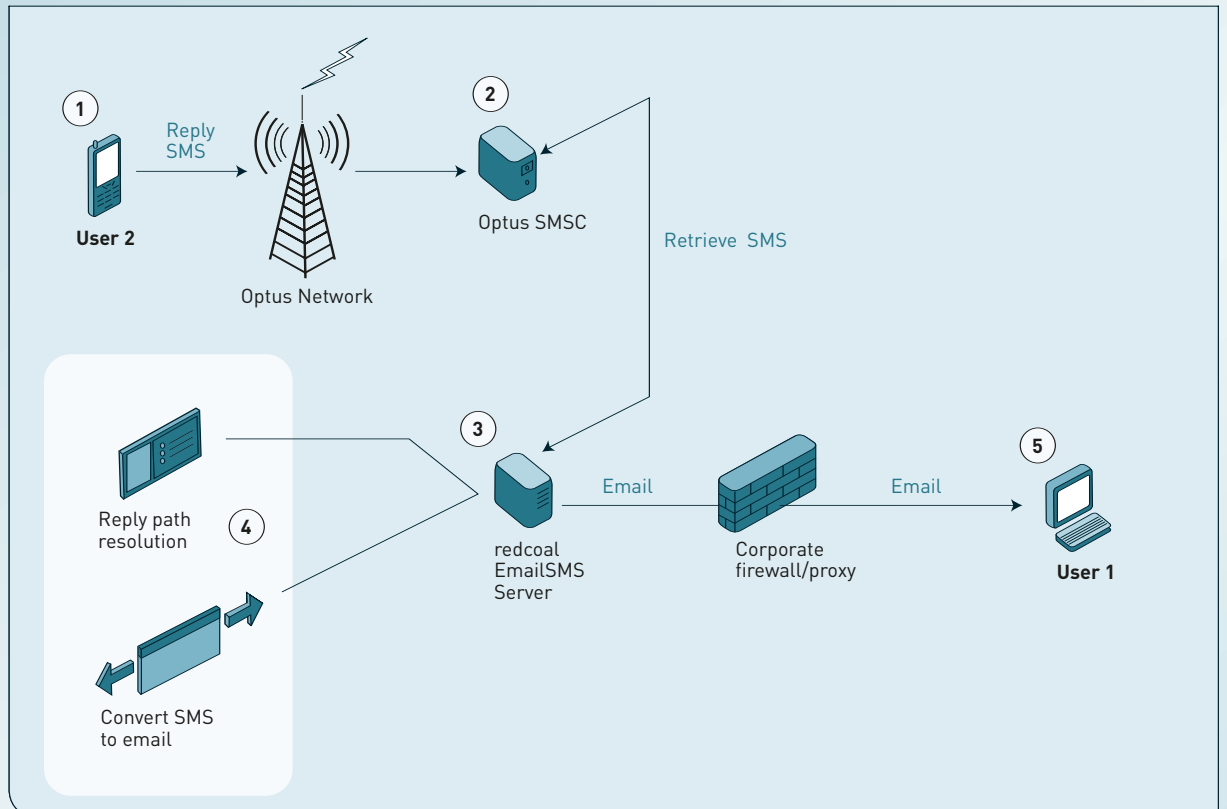
The following diagram illustrates the message route between the desktop and the handset.



- User 1** sends a message to **User 2** from the desktop computer using MS Outlook or Lotus Notes.
- The EmailSMS client application checks whether the contact and mobile phone number of **User 2** can be found in the Lotus local address list, Lotus Domino corporate directory (Lotus Notes EmailSMS), MS Outlook local address book or MS Exchange global address list (GAL).
- The EmailSMS Application issues a SOAP/XML request to the redcoal EmailSMS server via HTTP port 80.
- The redcoal EmailSMS server verifies whether the user is authenticated for sending messages, whether the account is active and whether the mobile phone number is a valid local destination and whether any daily quota limits have been reached. If any of these checks fail then the SOAP/XML request responds with the appropriate error code.
- The message is stored in the redcoal EmailSMS server message queue with status 'PENDING'.
- The EmailSMS client polls the Gateway at regular intervals for changes to the status of the message and updates the SMS progress window.
- The redcoal EmailSMS server selects an appropriate number that ensures that a recipient's reply can be forwarded to the sender.
- The redcoal EmailSMS server deposits the message to the Optus SMSC via SMPP over an IPSEC VPN.
- Messages sent to the redcoal EmailSMS server are stored in its system databases for 3 months. Message content is stored in encrypted form.

Message Routing – Handset to Desktop

The following diagram illustrates the message route between the handset and the desktop.



1. **User 2**, the SMS message recipient, replies to a SMS message.
2. The message is sent to the Optus SMSC.
3. The redcoal EmailSMS server retrieves the message from the Optus SMSC and stores it in its inbound SMS queue.
4. The redcoal EmailSMS server performs a reply path resolution and finds **User 1**, the original sender of the message.
5. The SMS message is converted into an email message and forwarded via email to User 1's email client inbox.

Service Activation

Users must activate the Optus EmailSMS service upon first time use. Activation consists of accepting the end user license agreement and entering login details. Each user is provided with their own login credentials by their EmailSMS administrator.

Login credentials are verified against the redcoal EmailSMS server's database. This account lookup is based on SOAP/XML communication with the redcoal EmailSMS server. SOAP/XML for account verification is via secure socket layer (SSL) communication using HTTPS on port 443.

The redcoal EmailSMS server allows for 10 password attempts after which the account is temporarily blocked.

Security Considerations

Integrity, Confidentiality

SMS messages are sent to the server via HTTP. Replies are sent back to the user via standard SMTP email. The enterprise's internal network and Internet links used to transmit SMS messages to the external gateway are generally assumed to be sufficiently secure.

Communication between the redcoal EmailSMS server and the Optus SMSC network is via an IPSEC VPN.

EmailSMS as a minimum matches the security levels of standard enterprise email communication. With standard email, all traffic between the sender's and receiver's desktop is unencrypted. EmailSMS communication between the desktop and gateway is unencrypted, but all traffic between the gateway and the SMS recipient is encrypted.

Authenticity

Authentication is via SOAP requests to the EmailSMS server over a SSL secure Internet connection (HTTPS). User's IP addresses are recorded for all login attempts. Login credentials are never transmitted in SMS message dispatches. User names and passwords are stored locally on the user's desktop in RSA encrypted form.

Message Content Storage

SMS message content is stored and encrypted in databases for three months. After this period, messages are archived and encrypted offline in secure data centers. All databases are hosted in secure server environments behind hardware firewalls.

Usage Restrictions and Abuse Prevention

The EmailSMS solution provides administrators with an effective means of managing end users. EmailSMS enables administrators to monitor user activity, manage all login credentials on a server and disable individual users or groups. The following features have been built to prevent abuse. The ability to:

- Define total daily usage quota for all accounts.
- Define daily usage quota for specific departments/cost centers.
- Disable users or departments.
- Change end user login criteria.
- Restrict usage to a limited number of mobile phone destinations.
- Monitor the transactions of end users and departments.

Server and Network Architecture

All redcoal EmailSMS servers and Optus infrastructure are co-located in a carrier grade environment minimising any single point of failure. A combination of hardware and software based firewalls and intrusion detection systems provide high-level security for all services. All critical services and network components are monitored by external applications including: internet connectivity, Optus/redcoal VPN/SMPP connection, system resources, disk space, mail servers, SOAP servers and database components.

Service Assurance

Faults encountered by users are to be reported to their own internal IT Help Desk. The IT Manager will be able to use the EmailSMS Service Management Tool to resolve most end user faults. Optus will provide assistance to the IT manager for Optus EmailSMS.

COVERAGE

EmailSMS is integrated within the Optus and redcoal networks so customers can send SMS messages to any mobile in Australia in coverage areas.

FURTHER PRODUCT INFORMATION

Corporate Customers

Optus Corporate customers can obtain EmailSMS product information either from their Optus Business account executive or visit www.optusbusiness.com.au

Small Business Customers

Optus Small Business customers can obtain product information from www.optus.com.au/emailsms.

ABOUT REDCOAL

Further information on redcoal including company profile, services and contact details can be found at <http://www.redcoal.com>

GLOSSARY OF ACRONYMS

GAL	Global Address List
HTTP	HyperText Transfer Protocol
IP	Internet Protocol
IPsec	IP Security
MAPI	Messaging Application Programming Interface
RSA	Rivest, Shamir, and Adelman public encryption key
SMS	Short Message Service
SMSC	Short Message Service Centre
SSL	Secure Socket Layer
SOAP	Simple Object Access Protocol
XML	Extensible Markup Language

TERMS & CONDITIONS

1. EmailSMS allows you to send an SMS text message of up to 160 characters from your desktop to one or more recipients, provided that you have appropriate hardware and software. Recipients of EmailSMS messages can reply to the EmailSMS message and the reply will be directed to your email "inbox"
2. Compatible email software is Microsoft Outlook 2000, 2002(XP), 2003, Microsoft Outlook Express 5.0, 6.0 and Lotus Notes R5.0, R6.0
3. Users are responsible for determining whether their information technology and communications systems and mobile devices are compatible with the EmailSMS service
4. The EmailSMS service is provided by both Optus and redcoal Pty Ltd. To obtain the service, users are required to enter into and accept the End User Licence Agreement (EULA) with redcoal
5. Messages may be sent to mobile phones on any compatible Australian GSM and CDMA mobile network and overseas where Optus roaming agreements exist
6. Before sending marketing messages you must ensure each recipient has agreed to receive that message, can identify the genuine source of the message and can opt out of receiving such messages in the future
7. EmailSMS customer support is provided Monday to Friday from 8:00am to 6:00pm nationally by visiting the website www.optus.redcoal.net/contact.aspx or call **1300 139 549**
8. Users must comply with the Optus SMS Fair Go™ policy and the Optus Data Acceptable Use Policy. See the Optus Mobile Digital Standard Agreement www.optus.com.au/standardagreements for the full terms and conditions for EmailSMS
9. All prices quoted include GST, unless otherwise stated
10. Pricing and information correct as at 1 August 2005. Prices subject to change without notice
11. By accepting these terms I certify to redcoal Pty Ltd (ABN 68 090 244 590) that I can act on behalf of the account holder to complete this application
12. I agree to procure that each end user of the Software complies with the terms of the licence agreement



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ESMS_002 08/05