

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## Table of Contents

GUIDE'S REVISION HISTORY.....	2
COPYRIGHT.....	2
DISCLAIMER.....	2
1. INTRODUCTION.....	3
2. FEATURES.....	3
3. LIMITATIONS.....	4
4. REQUIREMENTS.....	4
5. SYSTEM ARCHITECTURE.....	5
Sending SMS.....	5
Reading / Receiving SMS.....	6
6. INSTALLATION OF SMS Engine - Enterprise Edition.....	7
7. INSTALLATION OF SMS ENGINE MONITOR.....	11
8. USING SMS ENGINE MONITOR.....	12
9. OUTBOX TABLE – SEND SMS.....	13
10. INBOX TABLE – READ SMS.....	15
11. FREQUENTLY ASKED QUESTIONS.....	16
12. TIPS.....	19
13. TERMS AND CONDITIONS ON SUPPORT.....	19
APPENDIX 1: GUIDE TO ADD 1 OR MORE GSM MODEM TO EXISTING SMS ENGINE.....	20
APPENDIX 2: GUIDE TO INCREASE MODEM ACCESS LICENSE FROM 4 TO 8.....	21
APPENDIX 3: VERSION 3.1 RELEASE NOTE.....	23

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## GUIDE'S REVISION HISTORY

<b>EDITION</b>	<b>ISSUED DATE</b>	<b>REMARK</b>
1 <sup>st</sup>	1 <sup>st</sup> of November, 2007	Draft release
2 <sup>nd</sup>	23 <sup>rd</sup> of November, 2007	Minor correction
3 <sup>rd</sup>	5 <sup>th</sup> of December, 2007	SQL statement for sending SMS
4 <sup>th</sup>	13 <sup>th</sup> of January, 2008	Version 2 released
5 <sup>th</sup>	25 <sup>th</sup> of February, 2008	Version 2.1 released. Supports SQL and Windows authentication mode.
6 <sup>th</sup>	13 <sup>th</sup> of March, 2008	Version 3.0 released. Supports Chinese characters.
7 <sup>th</sup>	8 <sup>th</sup> of July, 2008	"FAQ" section expanded. "Feature" section expanded. "Limitations" section expanded. "System Architecture" section added.
8 <sup>th</sup>	18 <sup>th</sup> of July, 2008	Service picture added.
9 <sup>th</sup>	10 <sup>th</sup> of September, 2008	"FAQ" section updated.
10 <sup>th</sup>	9 <sup>th</sup> of October, 2008	Appendix 1 added.
11 <sup>th</sup>	29 <sup>th</sup> of October, 2008	"FAQ" section updated.
12 <sup>th</sup>	13 <sup>th</sup> of November, 2008	Appendix 1 amended. Appendix 2 added.
13 <sup>th</sup>	17 <sup>th</sup> of December, 2008	Version 3.1 released.

## COPYRIGHT

Copyright © MOBITEK System Sdn. Bhd. 2007-2008. All rights reserved. No part of this document may be reproduced, distributed, stored in a retrieval system or translated into any language, in any form or by any means, electronic, mechanical, magnetic, optical, photocopying, manual or otherwise, without the prior written permission of MOBITEK System Sdn. Bhd.

## DISCLAIMER

MOBITEK makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, MOBITEK reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes. Trademarks and Registered Trademarks Products and product names mentioned in this document may be trademarks or registered trademarks of their respective owners.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 1. INTRODUCTION

**SMS Engine-Enterprise Edition** is a *Windows Service* that sends and receives SMS. System integrator and software developer (SI/SD) do not need to write any code to build a SMS Gateway. The **SMS Engine-Enterprise Edition** uses *MS SQL Server* database to store incoming SMS, and to check if there is any pending SMS to be send out. SI/SD only needs to insert record into database to send out SMS, and retrieve record from database to read SMS. The **SMS Engine - Enterprise Edition** has taken care all SMS transactions.

## 2. FEATURES

1. Release – version 3.1
2. Running as **Windows Service** – **SMS Engine Enterprise Edition Service**.
  - a) **Service** will always try to initialise connection with GSM modem, e.g. If PC/server is rebooted, the service will automatically establish connection with GSM modem.
  - b) **Auto-reconnection with GSM modem** – if GSM modem is disconnected from PC/server (for whatever reasons), and then re-connected at later stage, service will automatically establish connection with GSM modem.
  - c) **Auto-reconnection with database**
3. Uses **Microsoft SQL Server** or **MySQL Server** to store incoming SMS, and to process outgoing SMS in database. Support both *Windows* and *SQL* authentication mode.

*Note: the license entitles you to choose either **Microsoft SQL Server** or **MySQL Server** (not both)*
4. Sending of SMS in alphanumeric character (text) and in **Chinese character** (Unicode).
5. **Very stable** as it has been running on Windows server of RICOH (M) Sdn. Bhd. for more than 2 years without any downtime.
6. **Remote monitoring** of **SMS Engine Enterprise Edition Service**, modem status, and SMS status.
  - a) **SMS Engine Monitor** can be installed on client PC(s) to monitor;
  - b) **SMS Engine Monitor** will pop-up a balloon message to notify administrator In the event of problem encountered (refer to section 7 for more details).
7. **Load balancing** – 4 modems work together to broadcast message.
8. **Routing** – modem will send to designated prefix mobile number. Good for cost saving as SMS sent within the intra-network is cheaper than inter-network.
9. **Number of retries** – can specify the number of retries when a message fails to be sent.
10. **Fail-over** – if modem no.1 cannot send out the SMS, modem no. 2 will take over, and so on until modem no. 4.
11. **FIFO** – For sending out SMS, SMS Engine will process the 1<sup>st</sup> record in the outbox until the last record.
12. **Supports up to 4** Wavecom Fastrack GSM Modem Type SGDK (other types of modem will not work).
13. **Flexible or robust configuration** – SMS Engine can be installed on any one of these variations:-
  - a) **1:4:1** – install **SMS Engine** on 1 server connected with 4 units of **GSM Modem Type SGDK** and connected to 1 database
  - b) **2:2:2** – install **SMS Engine** on 2 servers; each server with 2 units of **GSM Modem Type SGDK**; 2

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

## Guide for System Integrator & Software Developer

SMS Engines are connected to 2 different databases

- c) **4:1:4** – install *SMS Engine* on 4 servers; each server with 1 units of *GSM Modem Type SGDK*; 4 SMS Engines are connected to 4 different databases

### **3. LIMITATIONS**

1. Sending of SMS in alphanumeric character with maximum of 160 characters length.
2. Sending of SMS in Chinese character with maximum of 70 characters length.
3. Does not support concatenate or long SMS.
4. Does not work in Windows XP 64 bit, Windows 2003 64 bit nor Windows Vista

### **4. REQUIREMENTS**

1. System integrators and software developers must possess knowledge of:
  - a) Microsoft SQL Server 2000 / 2003;
  - b) Microsoft SQL Server Enterprise Manager;
  - c) Microsoft SQL Server Query Analyzer;
  - d) MySQL 4.1 and above
  - e) Database programming (ODBC, ADO, ADO.net);
  - f) SQL statement;
  - g) Administrating Windows Service
2. Wavecom Fastrack GSM modem Type SGDK supplied by MOBITEK System
3. SIM card(s)
4. SMS Engine - Enterprise Edition (Windows Service)
5. SMS Engine Monitor (Windows programme)
6. PC running on Windows OS (2000, XP, 2003). Recommended OS is Windows 2000 Server or Windows 2003 Server
7. Microsoft .NET Framework Version 2.0
8. SQL Server:-
  - a) Microsoft SQL Server 2000 / 2003 / 2008; or
  - b) MySQL version 4.1 and above

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

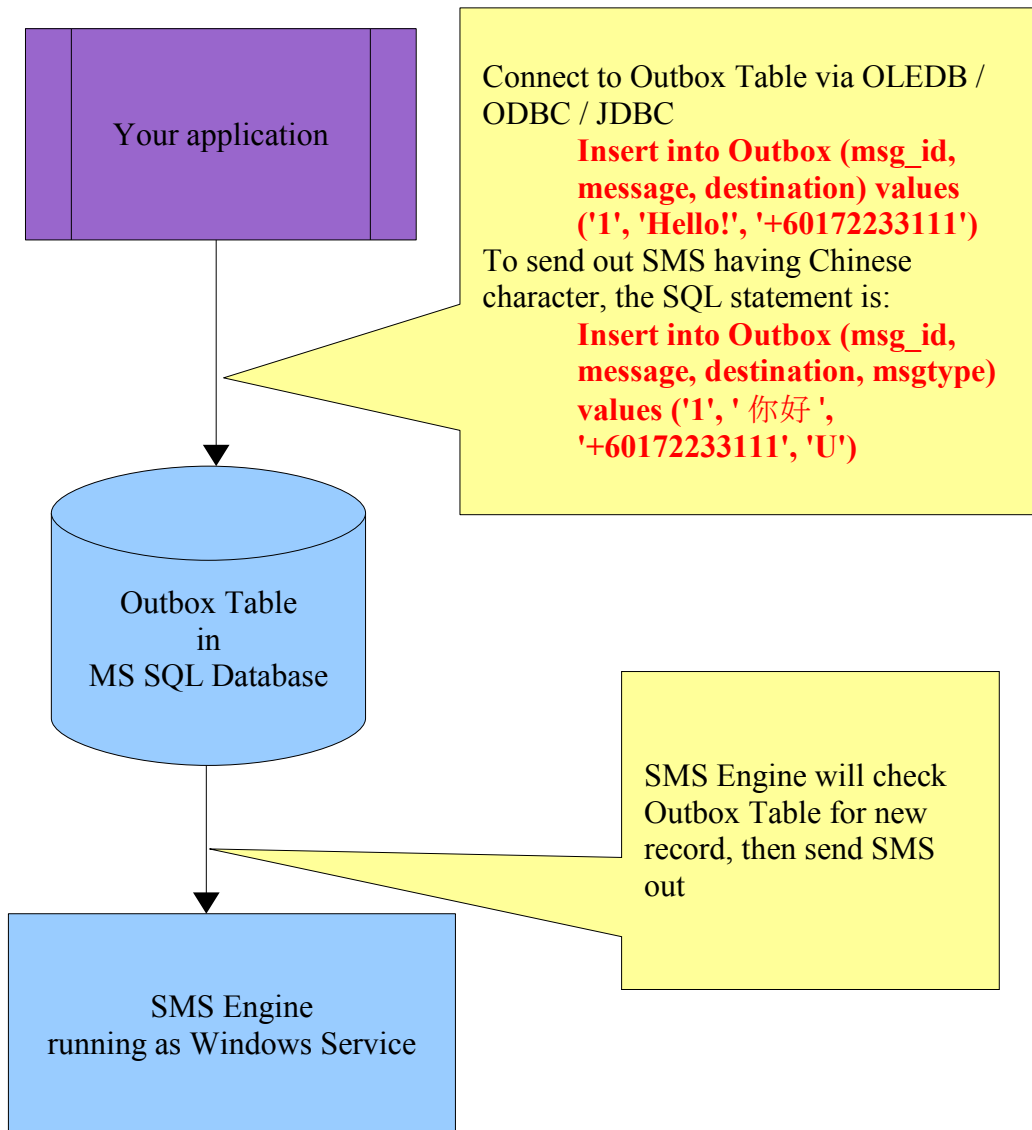
Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 5. SYSTEM ARCHITECTURE

### Sending SMS



**MOBITEK** System Sdn .Bhd. (207015-D)

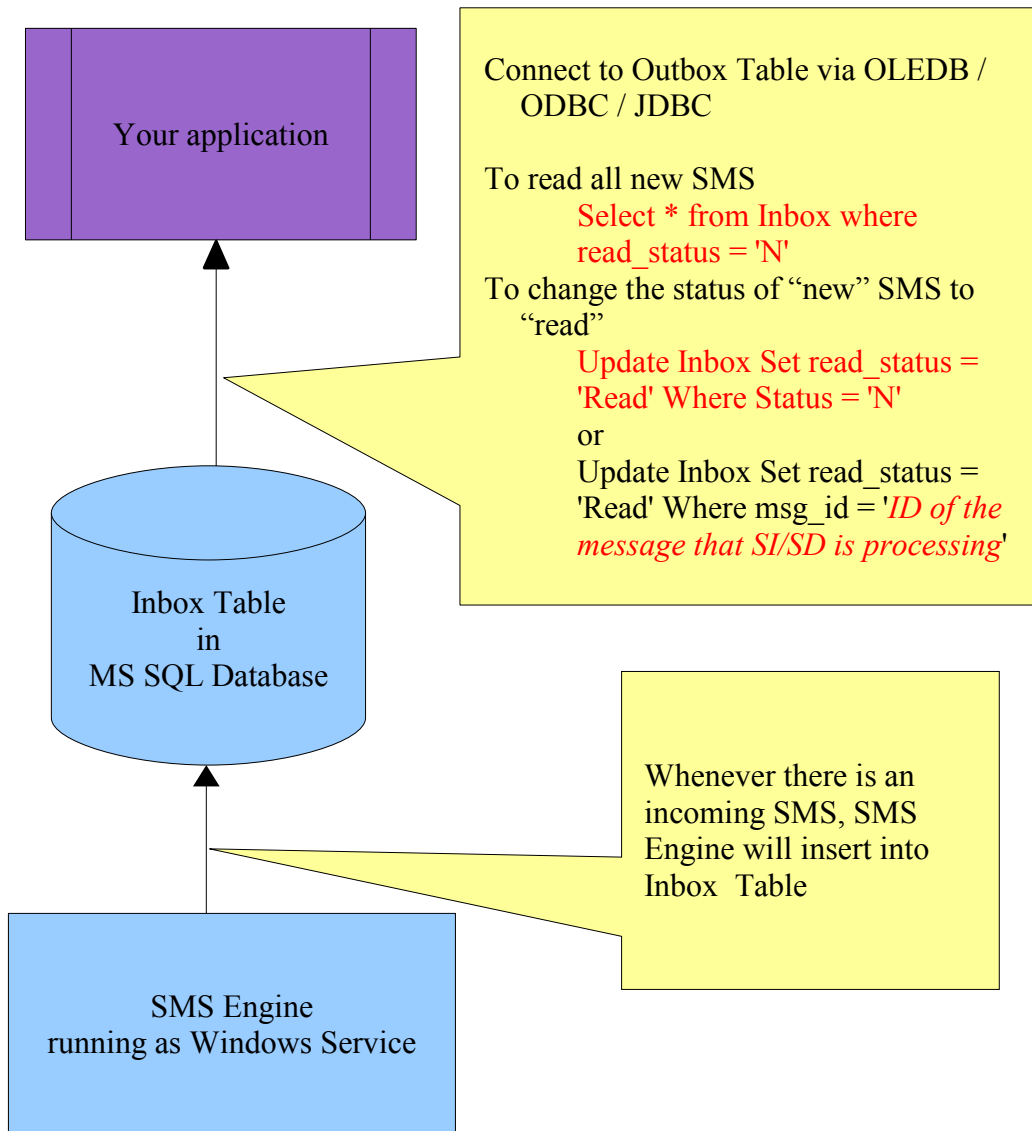
6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## Reading / Receiving SMS



**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 6. INSTALLATION OF SMS Engine - Enterprise Edition

1. SMS Engine can be installed in these variations depending on your system design:-
  - d) **1:4:1** – install *SMS Engine* on 1 server connected with 4 units of *GSM Modem Type SGDK* and connected to 1 database
  - e) **2:2:2** – install *SMS Engine* on 2 servers; each server with 2 units of *GSM Modem Type SGDK*; 2 SMS Engines are connected to 2 different databases
  - f) **4:1:4** – install *SMS Engine* on 4 servers; each server with 1 units of *GSM Modem Type SGDK*; 4 SMS Engines are connected to 4 different databases

*Note: For 2:2:2 configuration and 4:1:4 configuration, the database must be separated, i.e. centralised database is not supported.*
2. To avoid confusion, we strongly recommend that you install according to **1:4:1 configuration**.
3. Install *Microsoft .NET Framework Version 2.0*
  - a) install it from the CD; or
  - b) download from (<http://www.microsoft.com/downloads/details.aspx?familyid=0856eacb-4362-4b0d-8edd-aab15c5e04f5&displaylang=en>)
4. Set-up a new database or use existing database.
  - a) if you prefer to add a new database, then use *Microsoft SQL Server Enterprise Manage* to do so;
  - b) if you plan to use **SMS Engine - Enterprise Edition** with your existing database, then back-up your database.
5. Use *Microsoft SQL Server Query Analyzer*, select your preferred database, and execute the SQL script, "**smsengine.sql**". The script will generate 4 tables:
  - a) inbox
  - b) outbox
  - c) modem\_state

*Note: Please make sure you have back-up your database before executing "smsengine.sql". we will not be held responsible for any data loss nor data corruption.*
6. Install Wavecom Fastrack GSM modem.
  - a) For assistance, please view a video demonstration at <http://www.mobitek.com.my/support/kb/KB002.htm>
7. Determine the COM port number which the modem is connected to.
  - a) For assistance, please refer to <http://www.mobitek.com.my/support/kb/KB001.htm>
8. Install **SMS Engine - Enterprise Edition**.
  - a) Run the file "SMSService.exe".

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

## Guide for System Integrator & Software Developer

9. Using *Notepad*, edit the configuration file “config.xml”, located at “C:\Program Files\SMS Engine Enterprise Edition\config.xml”. The contents of config.xml is as follows:

```
<SMSConfig>
  <RETRY_SEND>3</RETRY_SEND>
  <ROUTING>>false</ROUTING>
  <MODEM_LIST>
    <MODEM>
      <ID>1</ID>
      <PORT>9</PORT>
      <ENABLED>>true</ENABLED>
      <TARGET_PREFIX>017,012</TARGET_PREFIX>
    </MODEM>

    <MODEM>
      <ID>2</ID>
      <PORT>10</PORT>
      <ENABLED>>true</ENABLED>
      <TARGET_PREFIX>017,012</TARGET_PREFIX>
    </MODEM>
  </MODEM_LIST>
  <DATASOURCE>
    <SERVER>192.168.1.66</SERVER>
    <USERNAME>sa</USERNAME>
    <PASSWORD>sa</PASSWORD>
    <DATABASENAME>SMSEE</DATABASENAME>
    <AUTHMODE>SQL</AUTHMODE>
  </DATASOURCE>
</SMSConfig>
```

- a) <RETRY\_SEND>3</RETRY\_SEND>

Enter the number of retry in the event if SMS cannot be sent. The total number of sending is 1 + number of retry. This is a global setting that will affect all GSM modems.

- b) <ROUTING>>false</ROUTING>

Enter “false” to disable routing feature. Or “true” to enable it. This is a global setting that will affect all GSM modems. If it is set to “true”, then the GSM modem will send SMS only to numbers with prefix according to <TARGET\_PREFIX>017,012</TARGET\_PREFIX>.

- c) <MODEM> node – setting of each GSM modem. If there are 4 modems, then there must be 4 <MODEM> nodes

```
<MODEM>
<ID>1</ID>
<PORT>9</PORT>
<ENABLED>>true</ENABLED>
<TARGET_PREFIX>017,012</TARGET_PREFIX>
</MODEM>
```

- Modem ID 1 is connected to COM port number 9. It is enabled, and it will only send SMS to numbers

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my



# SMS ENGINE - ENTERPRISE EDITION

## Guide for System Integrator & Software Developer

starting with 017 and 012 (provided that `<ROUTING>true</ROUTING>`)

- `<ID>1</ID>` Enter the identity of GSM modem. Numeric value, 1-4 only.
- `<PORT>9</PORT>` COM port of which the GSM modem is connected. Numeric value, 1-255 only.
- `<ENABLED>true</ENABLED>` enable or disable the GSM modem. "true" to enable. "false" to disable.
- `<TARGET_PREFIX>017,012</TARGET_PREFIX>` Enter the prefix of mobile number. This modem will only SMS to numbers with prefix 017 and 012. Subject to `<ROUTING>true</ROUTING>`. If `<ROUTING>false</ROUTING>`, then prefix rule is not implemented.

d) `<DATASOURCE>` node – settings for MS SQL Server.

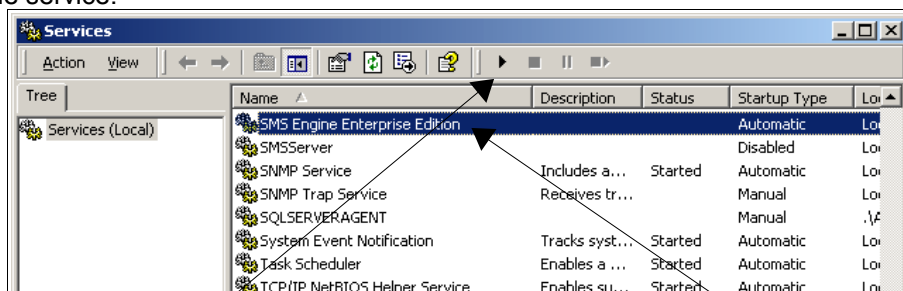
```
<DATASOURCE>
<SERVER>192.168.1.66</SERVER>
<USERNAME>sa</USERNAME>
<PASSWORD>sa</PASSWORD>
<DATABASENAME>SMSEE</DATABASENAME>
</DATASOURCE>
```

- `<SERVER>192.168.1.66</SERVER>` Enter IP address or name of server.
- `<USERNAME>sa</USERNAME>` Enter user name. SQL Server Authentication mode (Windows Authentication mode not supported)
- `<PASSWORD>sa</PASSWORD>` Enter password.
- `<DATABASENAME>SMSEE</DATABASENAME>` Enter name of database.
- `<AUTHMODE>SQL</AUTHMODE>` Enter "SQL" or "WIN"; "SQL" for SQL authentication mode; "WIN" for Windows authentication mode.

10. Save "config.xml" after all changes are made.

11. Make sure that all GSM modems are powered on.

12. Start the service.



a) Go to "Administrative Tools > Services", look for service called "SMS Engine Enterprise Edition", and click start.

b) At later stage, you can configure the service to start automatically at "Start-up type: Automatic".

13. Open log file to see if service is successfully started.

a) Goto "C:\Program Files\SMS Engine Enterprise Edition\log", log file is saved as "yyyy\_mm\_dd.log".

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

b) Open current log file. If service is successfully started, then you will see this message:

```
14:08:27 Modem with ID = 2 initialized
14:08:27 Modem with ID = 1 initialized
14:08:28 SMS Engine Enterprise Edition service started
```

14. Please report any broken links on this section to [support2007@mobitek.com.my](mailto:support2007@mobitek.com.my)

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

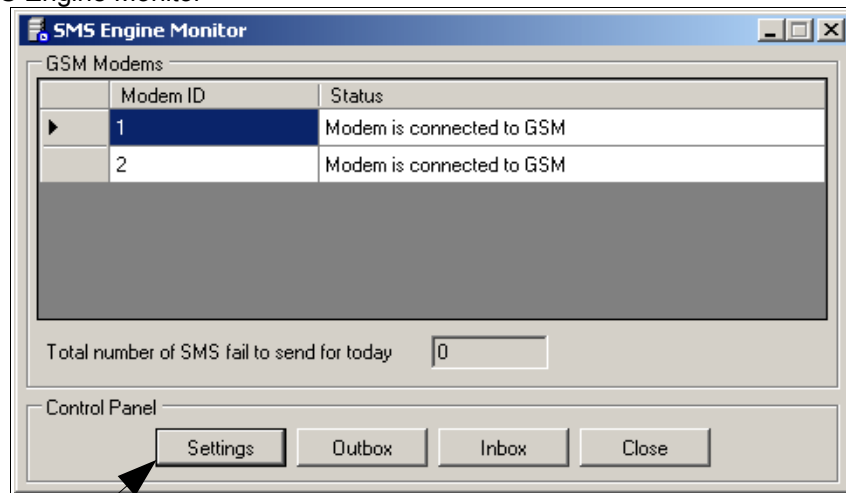
Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

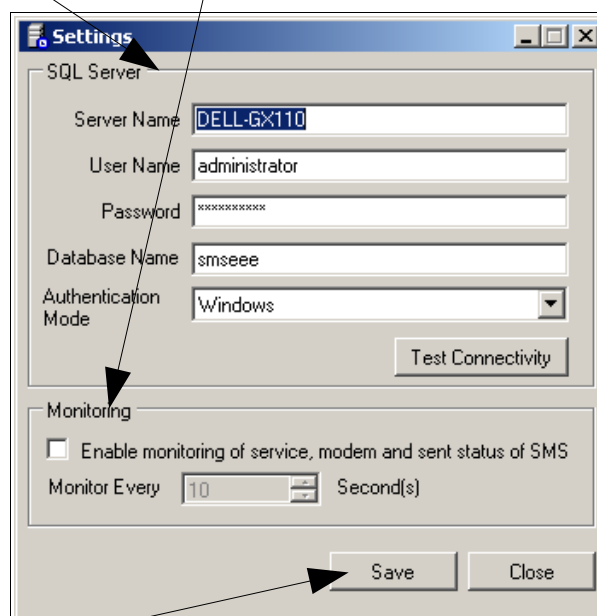
Guide for System Integrator & Software Developer

## 7. INSTALLATION OF SMS ENGINE MONITOR

1. Make sure you have successfully installed SMS Engine - Enterprise Edition.
2. Install SMS Engine Monitor
  - a) Run "smsmonitor.exe"
3. Open SMS Engine Monitor



4. Click "Settings" button.
5. Configure the SQL Server and Monitoring



6. Click "Save" button.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

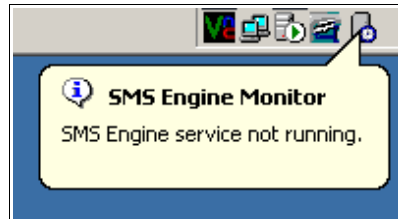
Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 8. USING SMS ENGINE MONITOR

The SMS Engine Monitor is running at System Tray. It will alert administrator via balloon message (figure below).



<b><i>ALERT MESSAGE</i></b>	<b><i>POSSIBLE CAUSE</i></b>
SMS Engine service not running.	<b>1.</b> Service not start
GSM modem failure detected.	<b>1.</b> GSM modem power is not turn on. <b>2.</b> GSM modem not connected to serial port. <b>3.</b> GSM modem not connected to GSM network.
SMS fail to send detected.	<b>1.</b> One of more messages in Outbox table having sent_status = 'F'.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 9. OUTBOX TABLE – SEND SMS

To send out SMS in text mode, the SQL statement is:

**Insert into Outbox (msg\_id, message, destination) values ('1', 'Hello!', '+60172233111')**

To send out SMS having Chinese character, the SQL statement is:

**Insert into Outbox (msg\_id, message, destination, msgtype) values ('1', '你好', '+60172233111', 'U')**

SMS Engine implements FIFO (first in first out) rule for processing messages to be send out. That is the 1<sup>st</sup> message that is inserted into the table will be the 1<sup>st</sup> message to be send out.

Field name	Data Type	Description	Remarks for System Integrator
msg_id	varchar (primary key)	Outgoing SMS unique identifier key.	Value required to send out SMS.
mrf	integer	Message reference given by the SMSC.	Automatically generated by SMS Engine. Reserved. Do not modified.
message	nvarchar	Outgoing message. Maximum length is 160 characters for text. If exceeded, then SMS Engine will truncate to 160 characters. Maximum length is 70 characters for Chinese.	Value required to send out SMS. If you want to send out this SMS as Chinese (Unicode) format, then you must insert a 'U' in the "msgtype" field.
datetime_queued	datetime	Date and time of outgoing SMS queued to be send. Format according to system's setting.	Automatically generated by SMS Engine. Reserved. Do not modified.
destination	varchar	Recipient's mobile number	Value required to send out SMS. The format must be '+country code then prefix then number' e.g. +60123477527 +6598770270 If you do not insert +country code, e.g. 0123477527, the message can still be send out but there will not be any delivery report.
sent_status	varchar	Status of outgoing SMS 'P' – Pending 'L' – Processing 'S' – Sent 'R' – Retry 'F' – Fail to send	Default value is 'P'. Automatically generated by SMS Engine. Reserved. Do not modified.
datetime_sent	datetime	Date and time of outgoing SMS being sent.	Automatically generated by SMS Engine. Reserved. Do not modified.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

<b>Field name</b>	<b>Data Type</b>	<b>Description</b>	<b>Remarks for System Integrator</b>
delivery_status	varchar	'D' – delivered 'F' – fail to deliver 'U' – unknown status	Whenever there is a delivery status report from the network, it will be automatically inserted by SMS Engine. Reserved. Do not modified.
datetime_delivered	datetime	Date and time of outgoing SMS being delivered to recipient.	Whenever there is a delivery status report from the network, it will be automatically inserted by SMS Engine. Reserved. Do not modified.
modem_id	varchar	Modem that sends out SMS.	Automatically generated by SMS Engine. Reserved. Do not modified.
modem_retry	varchar	Modem that has tried to send out SMS but fail. E.g. If value is "1,2,3" it means that 3 modems with ID 1,2,3 have all tried to send out this message but fail to do so. This field is for the "fail-over" feature.	Automatically generated by SMS Engine. Reserved. Do not modified.
msgtype	varchar	To indicate whether to send out this SMS in text or Chinese (Unicode) format.	Default value is 'P'. Insert 'U' to send out SMS in Chinese format.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## 10. INBOX TABLE – READ SMS

SQL Statement:

- To read all new SMS  
**Select \* from Inbox where read\_status = 'N'**
- To change the status of new SMS to "read"  
**Update Inbox Set read\_status = 'Read' Where Status = 'N'**  
or  
**Update Inbox Set read\_status = 'Read' Where msg\_id = 'ID of the message that SI/SD is processing'**

Field name	Data Type	Description	Remarks for System Integrator
msg_id	varchar	Incoming SMS unique identifier key.	Automatically generated by SMS Engine. Reserved. Do not modified.
message	varchar	Incoming SMS. Maximum of 160 characters.	Whenever there is an incoming SMS, it will be automatically inserted by SMS Engine. Reserved. Do not modified.
datetime_recv	datetime	Date and time of incoming SMS received by server.	Whenever there is an incoming SMS, it will be automatically inserted by SMS Engine. Reserved. Do not modified.
receive_from	varchar	Sender Mobile number of incoming SMS .	Whenever there is an incoming SMS, it will be automatically inserted by SMS Engine. Reserved. Do not modified.
read_status	varchar	Status of incoming SMS.  'N' – New (default value)	Whenever there is an incoming SMS, 'N' will be automatically inserted by SMS Engine.  SI/SD can change the value after reading the SMS.  Value can be modified.
modem_id	varchar	Modem that receives incoming SMS.	Automatically generated by SMS Engine. Reserved. Do not modified.
scts	datetime	Date and time of incoming SMS received by SMS centre. It is <b>NOT</b> the date, and time of the server.	Automatically generated by SMS Engine. Reserved. Do not modified.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

### **11. FREQUENTLY ASKED QUESTIONS**

Last updated on 29<sup>th</sup> of October, 2008.

**Q: The log file is good for trouble shooting. Any setting for us to control the size of the file?**

A: It is good to keep log for audit and trouble shooting purposes. And nowadays, server has large hard disk capacity, so the log file hogging space is not an issue.

**Q: The service will always try to initialise with GSM modem. What about database connection? What if the service started before SQL Server started? Will the service try to re-connect with SQL server?**

A: Yes, it will. When the SMS Engine Enterprise Edition service is started, it will always try to initialise the GSM modem, and will always try to connect to SQL server.

In order that the service is not stopped (for whatever reasons), goto "Administrative Tools > Services", right click on "SMS Engine > Properties > Recovery tab".

Under "First failure:" select "Restart service"

Under "Second failure:" select "Restart service"

Under "Subsequent failures:" select "Restart service"

This will make sure that the *SMS Engine – Enterprise Edition* service is always running, and it will always attempt to initialise the GSM modem and to connect to the database.

However, if your *MS SQL Server* fails, then not only *SMS Engine – Enterprise Edition* will not run properly, other applications are affected as well. Therefore, it is your responsibility to ensure *MS SQL Server* does not fail.

**Q: Can I modify the structure database or tables?**

A: It is important that the database schema or structure of 3 tables (inbox, outbox, modem\_state) are intact. You must not modify the fields nor data type. Otherwise the SMS Engine will fail to operate properly.

You must use the SQL script provided to create 3 tables, and you must back-up your database before you do so. We do not assume any liability if there are any data corruption or data loss.

**Q: How does the SMS Engine process each record in outbox table in order to send out SMS?**

A: The process flow is as follows

P > L > S

or

P > L > R > S

or

P > L > R > F

The final value is either 'S' or 'F'.

*Note: System Integrator must not enter any values into "sent\_status" field, doing so will disrupt the flow or will cause SMS Engine to process the record improperly.*

**Q: Do I need to enter "P" in "sent\_status" field?**

A: You do not need to enter the value 'P' for "sent\_status", it is automatically inserted. The SMS Engine will automatically update the "sent\_status" field.

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my



**Q: May we know how to sequence the SMS Engine process the records in “outbox” table? In other words, which message is sent out first.**

A: The rule for processing record in "outbox" table is **FIFO**. The first record inserted into "outbox" table will be the 1st record sent out.

**Q: In the “outbox” table, I notice this field “modem\_retry = 1,2,3”. What does it mean?**

A: "modem\_retry" means modem that has tried to send out SMS but fail. Value “1,2,3” means that 3 modems with ID 1,2,3 have all tried to send out this message but fail to do so. This field is use by SMS Engine for its “fail-over” feature.

The “outbox” table will not log the number of times a message has been retried.

**Q: What is the delay for next retry?**

A: There is no delay nor “sleep”, it will retry immediately.

Note: if you have 3 records in outbox, if the 1st record fail to send out, it will retry until the number of times stated in <RETRY\_SEND>3</RETRY\_SEND> before moving to 2nd record, will do the same, before moving to 3rd record.

**Q: What is the purpose of “modem\_state” table?**

A: You must not touch the "modem\_state" table, it is irrelevant to your application.

**Q: Can we have a centralised database if we install the SMS Engine in a 2x2 configuration?**

A: The current SMS Engine – Enterprise Edition **does not support centralised database**. I.e. if 2 or more *Engines* are installed on different servers, then each *Engine* must have its own database.

Nevertheless, if you need a "centralised database mode", we are able to develop a special edition with a centralised queue manager. Please let us know, we will quote the license fee to you.

An alternative solution is that your application will manage the queue — you will decide whether to insert record into "database 1" or "database 2".

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

**Q: Will you be releasing a SMS Engine - Enterprise Edition that will work on Windows 64bit very soon?**

A: No. But there is a solution. Install a **virtual machine** in 64 bit machine. Install Windows 32 bit inside virtual machine. Install SMS Engine – Enterprise Edition inside virtual machine. List of recommended virtual machine:

- VMware Server (<http://www.vmware.com/products/server/>)
- Microsoft Virtual PC 2007  
(<http://www.microsoft.com/windows/downloads/virtualpc/default.mspx>)
- Microsoft Virtual Server 2005  
(<http://www.microsoft.com/windowsserversystem/virtualserver/>)

Guide on using serial port on VMWare --

[http://www.vmware.com/support/ws3/doc/ws32\\_devices3.html](http://www.vmware.com/support/ws3/doc/ws32_devices3.html)

Guide on using serial port on Microsoft Virtual Server 2005 --

<http://www.microsoft.com/windowsserversystem/virtualserver/evaluation/virtualizationfaq.mspx>

Look under "Q.Is there a list of the Virtual Server 2005 R2 emulated hardware?"

**Note:-**

*1. We have not tested SMS Engine running in an environment as described above. Therefore you are responsible for configuring virtual machine and request support from the vendor of virtual machine.*

*2. A customer our ours have successfully run SMS Engine on this OS configuration:-*

- *Host server -- windows 2003 Server (64 bit)*
- *Install Microsoft virtual PC in windows 2003 Server (64 bit)*
- *Install windows XP Pro (32 bit) inside virtual PC*
- *Install SMS Engine in windows XP Pro (32 bit)*

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## **12. TIPS**

These are import factors to ensure SMS Engine operates smoothly:

1. GSM modem with SIM card connected to server
2. config.xml properly configured
3. SQL script is executed, and 3 tables (inbox, outbox, modem\_state) are created or added to your preferred database name
4. SMS Engine service is started
5. Other factors which are beyond are our control that will also affect SMS Engine are:
  - a) whether MS SQL server is running
  - b) whether network is running, and firewall is opened for SMS Engine (if database server and SMS Engine are on separate machines)
  - c) whether there is database connection
  - d) whether PC / server / Windows is running
  - e) whether GSM network TELCO is running
  - f) whether SIM card is barred
  - g) whether SIM card has money

## **13. TERMS AND CONDITIONS ON SUPPORT**

Please write to [support2007@mobitek.com.my](mailto:support2007@mobitek.com.my) with:

1. company name
2. invoice number (located at back of modem)
3. version number of the SMS Engine - Enterprise Edition (right click on "C:\Program Files\SMS Engine Enterprise Edition\SMSSvc.exe", select "Properties > Version tab")
4. attach log file (located at "C:\Program Files\SMS Engine Enterprise Edition\log")
5. attach screen capture

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

## **APPENDIX 1: GUIDE TO ADD 1 OR MORE GSM MODEM TO EXISTING SMS ENGINE**

As 1 copy of SMS Engine comes with 4 modem access license (MAL), it can only control up to 4 GSM modems. If you begin with 1 GSM modem, and later you want to add 1 or more, please follow these steps:

1. Stop "SMS Engine Enterprise Edition" service.
2. Back-up your database.
3. Switch off the power to all existing GSM modems.
4. Connect additional or new GSM modem to server / machine.
5. Run the set-up file -- "Add.exe"
6. Use notepad (any text editor) to edit "config.xml" by adding 1 or more <MODEM> node. Refer to **text highlighted in yellow** at table below. Save file after changes are made.

```
<MODEM_LIST>
  <MODEM>
    <ID>1</ID>
    <PORT>5</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>2</ID>
    <PORT>6</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>
</MODEM_LIST>
```

7. Switch on power to all GSM modems.
8. Make sure that all the GSM modems' red LED is blinking.
9. Start the service.
10. Open log file to see if service is successfully started and all modems are initialised. Goto "C:\Program Files\SMS Engine Enterprise Edition\log", log file is saved as "yyyy\_mm\_dd.log".

```
(time stamp) Modem with ID = 1 initialized
(time stamp) Modem with ID = 2 initialized
(time stamp) SMS Engine Enterprise Edition service started
```

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

### **APPENDIX 2: GUIDE TO INCREASE MODEM ACCESS LICENSE FROM 4 TO 8**

This section applies if you are increasing the number of GSM modem from 4 to 8 units.

As 1 copy of SMS Engine comes with 4 modem access license (MAL), it can only control up to 4 GSM modems. To add more modem, you need to purchase 1 additional copy which will allow you to control up to 8 GSM modems ( 4 MAL x 2 ).

1. Stop SMS Engine service.
2. Back-up your database.
3. Back-up your “config.xml” file. E.g. Rename the file to “config\_backup.xml”.
4. Uninstall **SMS Engine – Enterprise Edition**.
5. Switch off the power to all GSM modems.
6. Connect 1 or more additional GSM modems to the server/PC. If your server does not have enough serial port, it is highly recommended to purchase *1 PCI to 4 serial port expansion card* from us.
7. Run the new set-up file “SMSService.exe” in the CD.
8. Rename “config\_backup.xml” to “config.xml”. This will preserve your configuration.
9. Use notepad (any text editor) to edit “config.xml” by adding 1 or more <MODEM> node. Refer to **text highlighted in yellow** at table below. Save file after changes are made.

```
<MODEM_LIST>
  <MODEM>
    <ID>1</ID>
    <PORT>5</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>2</ID>
    <PORT>6</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>3</ID>
    <PORT>7</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>4</ID>
    <PORT>8</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>5</ID>
    <PORT>9</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
    <ID>6</ID>
    <PORT>10</PORT>
    <ENABLED>true</ENABLED>
    <TARGET_PREFIX></TARGET_PREFIX>
  </MODEM>

  <MODEM>
```

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: www.mobitek.com.my

# SMS ENGINE - ENTERPRISE EDITION

Guide for System Integrator & Software Developer

```
<ID>7</ID>
<PORT>11</PORT>
<ENABLED>>true</ENABLED>
<TARGET_PREFIX></TARGET_PREFIX>
</MODEM>

<MODEM>
<ID>8</ID>
<PORT>12</PORT>
<ENABLED>>true</ENABLED>
<TARGET_PREFIX></TARGET_PREFIX>
</MODEM>
</MODEM_LIST>
```

10. Switch on power to all GSM modems.
11. Make sure that all the GSM modems' red LED is blinking.
12. Start the service.
13. Open log file to see if service is successfully started and all modems are initialised. Goto "C:\Program Files\SMS Engine Enterprise Edition\log", log file is saved as "yyyy\_mm\_dd.log".

```
(time stamp) Modem with ID = 1 initialized
(time stamp) Modem with ID = 2 initialized
(time stamp) Modem with ID = 3 initialized
(time stamp) Modem with ID = 4 initialized
(time stamp) Modem with ID = 5 initialized
(time stamp) Modem with ID = 6 initialized
(time stamp) Modem with ID = 7 initialized
(time stamp) Modem with ID = 8 initialized
(time stamp) SMS Engine Enterprise Edition service started
```

**MOBITEK** System Sdn .Bhd. (207015-D)

6th Floor, Suite 16, IOI Business Park, Persiaran Puchong Jaya Selatan, Bandar Puchong Jaya, Puchong 47100, Selangor, Malaysia.

Tel: 03-80644288 Fax: 03-80642109 Web: [www.mobitek.com.my](http://www.mobitek.com.my)

### **APPENDIX 3: VERSION 3.1 RELEASE NOTE**

1. `dateTime_sent` -- only record time when "sent\_status = S".
2. Retry -- pause for 2 seconds before retrying. Previously, Engine will retry immediately
3. Retry Value default is 0. Previously, default value is 3.
4. `dateTime_queue` -- automatically insert current date and time of the system
5. Queue Manager will not assign any record to modem that is not connected with GSM network. Effective, this will increase the speed of sending out SMS. Previously, it will, and this result in slow down of the speed.