AnnyWay Enterprise SMS Gateway

smsbackend v3.x specification

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	smsbackend v3.x specification
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History of changes

Doc. Version	Changed by	Date	Comment
1.0	Vojtech Pithart	1.5.2008	fork of original smsbackend 1.x document (smsbackend1.txt)
1.1	Vojtech Pithart	22.5.2008	added: Output while receiving message(s)
1.2	Vojtech Pithart	23.2.2008	New option --force-tts; Version sync: 2.0 – 3.0; Output for -G mode contains HH:MM:DD stamps
1.3	Vojtech Pithart	24.7.2008	REPORT one-line format extended with "original timestamp"
1.4	Vojtech Pithrat	8.9.2008	U_anumber=NNN added to "connected" message
1.5	Vojtech Pithart	25.9.2008	After message is sent, the ID: line now contains copy of message text
1.6	Vojtech Pithart	10.2.2009	Removed "original timestamp" from REPORT one-line format AWEG terminated (MO-AT) message one-line format – separator changed to ";"
1.7	Vojtech Pithart	30.5.2011	Added "_prio" request possibility. Document formatting, update of examples.
1.8	Vojtech Pithart	30.8.2011	
1.8	Marcela Spicanova	20.12.2016	Max. number of characters in SMS

About

AWEG stands for AnnyWay Enterprise SMS Gateway, the main end-user oriented SMS connectivity solution.

Smsbackend is used as common back-end executable program for easy integration of AWEG OpenInterface to the b-SMS, e-SMS, or other 3rd party applications.

This document is a reference guide for smsbcackend command-line options, use cases and usage examples.

Features:

- Sending of MT SMS from client/application via HTTP
- Receiving MO SMS by client/application via HTTP
- Receiving DR (delivery reports) by client/application via HTTP

Platforms

- smsbackend.exe   - Win32 executable for any windows-based operating system
- smsbackend.py   - python-script (GNU/Linux)

Command-line options (reference)

Examples

```
$ smsbackend -a https://aweg.t-mobile.cz -l login:password -d +420724010456
   "Příliš žluťoučký kůň"

 PARTS:1
 ID:1,0012fd73,3016454622,20110530164546,724010456,test
 STATUS:1:4499:0:OK
```

The blue part is the command you have to type into console. Green part is exact form of returned text.

Tip: for testing purposes, there is a special receiver number "999999999". Any message sent to this number is accepted by the server, discarded and not billed.

Usage scenarios

Send single message to one destination number:

```
smsbackend [options] +421910999158 "message text up to 1530 characters"
```

Send single message to one or more destination numbers:

```
smsbackend [options] -d 601987987,601987999 "Hello, world!"
```

Send a lot of messages from CSV file:

```
smsbackend [options] -f /path/to/file.csv
```

Persistent connection to the server (fetching messages and delivery reports in realtime)

```
smsbackend [options] -G
```

ACKnowledgement of message(s) previously received by -G:

```
smsbackend [options] --Ga M:200f1122,M:200f1123
```

Download delivery reports

```
smsbackend [options] -R 20080131093030
```

Use URL-escaping for "text" parameter.

List of command-line options

short	long	values	Meaning
-h	--help		Show the usage (help message) and exit.
-v	--version		Print program version.
-u	--uri		This parameter says that smstext is given at URI-escaped format.
-x	--hex		This parameter says that smstext is given at hexadecimal format.
-c	--cstoascii		remove accents of central european languages from the message (filter through cstoascii)
-l	--login=	<login:password> or <login_prio:pwd>	Sender's authentification - username and password. Plaintext username:password, concatenated with colon, of user that sends (and pays) the message. <u>High priority</u> Request for high-priority message may be expressed by adding "_prio" to the username. Message with high priority might be extra charged. The "_prio"suffix may not be used in -G or –Ga mode.

-f	--file=	<filename>	Send (a lot of) messages from CSV file. Use either -f or (-d + "text"), not both. The simple file format is:
			
			   #comment
			   destination1;text1
			   destinaton2;text2
			
			Use either -f or -d, not both.

-d	--destination=	<destination>	Destination number(s) for message, separated by comma (no space). Example: 601456789,00420223344559,+3630255412588 Use either -f or (-d + "text"), not both.
-a	--addr	<URL>	URL of AWEG server
-P	--proxy=	<url>	URL for http proxy in form: http://[<username>[:<password>]@]<hostname>[:port]
-G	--get-messages=	<limit>	Receiving MO SMS via HTTP. <limit> is maximum number of messages received at once. Use limit=0 to not receive any message while sending ack (see -Ra). Messages or reports received in -G mode are returned as STDOUT, one per line. For the exact format, see "Data structures" below.
--Gt	--get-timeout=	<seconds>	Timeout (seconds) of GET request for MO messages. Default is 290.
--Ga	--get-ack=	<id1[,id2,id3,...]>	List of unique ID of messages (M) or delivery reports (R) previously received by client; such a message is considered as delivered (to client) and deleted by AWEG server. Comma-separated list of 10-digit snippets (M: or R: and 8-digit hexadecimal numbers). Maximum 256 IDs at a time. Prefix M: or R: can be omitted in second and subsequent

			snippets; in such a case, the same prefix as in previuos snippet is assumed.
-R		<last_timestamp> [,bulk_id]	Receiving Delivery Reports via HTTP. Request all delivery reports from the server that are newer than <last_timestamp> (YYYYMMDDhhmmss). Optional bulk_id says server to show only related reports. Requires -a, -l options as well. -P can be used.
-D			This requests Delivery Reports for the message(s) being sent.
-N	--frontend_name=	<name,version>	Identification and version end-user application. Free format up to 30 ASCII characters, preferred form is "<application name><version>". This is transferred via HTTP and logged on server for customer-care purposes.
-A	--use-anumber		Message will be sent with customer's A-number shown as sender (adds "use_anumber=1" to HTTP URI). This feature needs to be provisioned for particular user on AWEG server. -A has precedence over -L.
-L	--use-alphanum		Message will be sent with customer's Alphanumeric identity. This feature needs to be provisioned for particular user on AWEG server.
	--allow-non-ssl		SMSbackedn will use HTTP protocol with no SSL encryption (if it is given in -a parameter) instead of HTTPS. As a default, HTTPS is forced even if "http://" is given in -a parameter. Do not use for production.
-M	--spaces		Add 4kB of spaces to end of every STDOUT line. This is a workaround for unwanted buffering.
-V	--verbose		Verbose debugging output

Removing accents for central-european languages

With usage of --cstoascii parameter, the special filter (cstoascii) is applied to the message text. Any character from the message:

```
ÁČĎÉĚÍŇÓŘŠŤÚŮÝŽáčďéěíňóřšťúůýžäöÖüÜëË
```

will be replaced with corresponding non-accented one:

```
ACDEEINORSTUUYZacdeeinorstuuyzaoOuUeE
```

This filter accepts UTF-8, as well as ISO-8859-2 and CP1250. Reason of using this is that users prefer to loose accents and use full length of message (160 characters) instead of short variant of UTF16 message (70 characters). Lack of those accents causes just minor information loss.

The option -c (usage of cstoascii) was a hardcoded default in smsbackend 3.1 and older (AWEG server 3.8.x and older).

CSV file format (-f option)

CSV format

destination1;text1\n

destination2;text2\n

```
# comment line - ignored
# One line contains one destination+message text
# destination;text
#
+420429500555;Let's meet today at 18pm on beer festival. Jose.
+420797101202;Let's meet today at 18pm on beer festival. Jose.
+420959800011;Let's meet today at 18pm on beer festival. Jose.
```

destination: 1 telephone number in any format, may contain [_-.,()] (these are removed)

  examples: 606198889, +420 123 456 789, 455-998-102, 0030 (210) 9406406

text: up to 1530 characters, terninated by newline

Delivery report template file (-D)

CSV format
message_id;submit_timestamp;receiver\n
message_id;submit_timestamp;receiver\n

Output (stdout) while sending MT message(s)

In general, smsbackend's output is divided into lines terminated by \n character.
There are some machine-readable output information (line begins by keyword and colon).

on startup

MESSAGES:<total_number>

After start, backend giver number of messages that are about to send. This is for progress-bar in graphical front-ends. Number of messages is number of recipients (witd -d parameter) or number of valid lines in CSV file (-f parameter). Number of messages does not count bodyparts of long (concatenated) messages.

intermediate

(a) after every sent message

ID:<seq.number>,<message_ids>,<bulk_id>,<timestamp_send>,<receiver>,<text>

<seq.number> Progressive number from 1 (first message) to <total_number>
        after last message. This is for progress-bar.

<message_ids> list of 8-digit hexadecimal numbers, separated by slash (/), assigned by AWEG server:
            unique identificator for each part of each message. Message with long text may have up to 32
                separate bodyparts

<bulk_id> 8-digit hexadecimal number, assigned by smsbackend:
        unique identification of this bulk; same for all ID: lines
        within one running instance of smsbackend.

<timestamp_send> 14-digit decimal number in format YYYYMMDDHHMMSS.
            Assigned by AWEG server, used to display date&time
            when message was sent from client to server.

<receiver> copy of the MSISDN of message recipient

<text> copy the message text (url-encoded)

(b) after failed submit of mesage

ID:<seq.number> <message>

<seq.number>   Progressive number from 1 (first message) to <total_number>
        after last message. This is for progress-bar.

<message> Error message from HTTP/S layer or from AWEG server.

(c) at any time

INFO:<text>

Any text that will be displayed in progress-bar windows of front-end

application. Fore example: "sending failed, re-trying in 10 seconds"

at the end

(a) optional

CONFIG:<key=value>;[key2=value2;[...]]

Any data not-interpreted by backend but interpreted by frontend

(b) required exactly once:

STATUS:<number sent>:<rest>:[012]:{error,warning,ok} message\n

<number sent>	number of SMSs really received by server
[012]	0 .. no limit reached, all OK

1 .. display warning (e.g. for level1-warning limit)

2 .. display error (e.g. level2 limit or connection problem, ...)

<rest> today's rest (number of next smss that will be allowed

before reaching daily limit

end of lines:

\r ... ignore

\n ... end of line

Example

$ smsbackend -a https://aweg.t-mobile.cz/ -l username:password -d
+420609197776,+420724098746,+420604111887 "Hello%2c%20world%21" -D

https://aweg.t-mobile.cz/

MESSAGES:3

ID:1,101ab577,14143036,20080414143037,+420606198886
ID:2,101ab578,14143036,20080414143037,+420724010456
ID:3,101ab579,14143036,20080414143037,+420604999887
CONFIG:reports=1
STATUS:3:68:0: OK

$ smsbackend -a https://aweg.t-mobile.cz/ -l username:password -d 999999999 "Seventh seed Gael
Monfils ruined the U.S. Open debut of Grigor Dimitrov of Bulgaria with a battling 7-6, 6-3, 6-4 victory,
while Czech Tomas Berdych, the number nine seed, beat French qualifier Romain Jouan 6-2, 7-6 (7/4), 6-1."

MESSAGES:1

ID:1,00059de1/00059de2,3014334798,20110830143347,999999999,Seventh%20seed%20Gael
%20Monfils%20ruined%20the%20U.S.%20Open%20debut%20of%20Grigor%20Dimitrov%20of
%20Bulgaria%20with%20a%20battling%207-6%2C%206-3%2C%206-4%20victory%2C%20while
%20Czech%20Tomas%20Berdych%2C%20the%20number%20nine%20seed%2C%20beat%20French
%20qualifier%20Romain%20Jouan%206-2%2C%207-6%20%287/4%29%2C%206-1.
CONFIG:S_reports=1;S_smATExpiryList=3h/12h/1d/3d;
STATUS:2:4668:0: OK

Output for receiving delivery reports (-R)

Note: this operation is obsolete since version 3.0 of aweg server; please use "online mode (-G) fpor getting delivery reports"

-R <last_timestamp>[,bulk_id]
Instructions for smsbackend:
$url is HTTP submit URL (-a)
$auth is login information (-l)
$lastts is last timestamp (-R before ,)
$bulkid is bulk_id (-R after ,)
Construct URL this way: "$url/report?auth=$auth&since=$lastts&bulkid=$bulk_id"

Normally, smsbackend returns the http body as-is, with no modifications.
REPORT:<message_id>,<bulk_id>,<status>,<original_timestamp>,<timestamp_end>,<receiver msisdn>
REPORT:<message_id>,<bulk_id>,<status>,<original_timestamp>,<timestamp_end>,<receiver msisdn>
REPORT:<message_id>,<bulk_id>,<status>,<original_timestamp>,<timestamp_end>,<receiver msisdn>
...
<status> 0 ... no delivery report information (yet)
1 ... ENROUTE: The message is in enroute state.
2 ... DELIVERED Message is delivered to destination *(this is the one mostly seen in wild nature)*
3 ... EXPIRED Message validity period has expired.
4 ... DELETED Message has been deleted.
5 ... UNDELIVERABLE Message is undeliverable
6 ... ACCEPTED Message is in accepted state (i.e. has been manually read on behalf of the subscriber by customer service)
7 ... UNKNOWN Message is in invalid state
8 ... REJECTED Message is in a rejected state

On errors, all lines not starting by "REPORT" are treated as errors.

Instructions for front-end
After getting delivery reports, store&remember maximum value of
<timestamp_end>. Next time, use this value as -R last timestamp.

Example:
$ smsbackend -p http -a https://aweg.t-mobile.cz/ -l user:password -R 20080411000000
https://aweg.t-mobile.cz/

REPORT:101aa408,11101955,2,20080411101940,20080411102001,+420606198865
REPORT:101aa407,11101955,2,20080411101940,20080411082001,+420606198823
REPORT:101aa406,11101955,2,20080411101940,20080411102001,+420606198861
END

Output while receiving messages online (-G)

In general, smsbackend's output is divided into lines terminated by \n character.

There are some machine-readable output information (line begins by keyword and colon).

(1) on startup

<time> **TRYING**:<url>

Before first attempt to contact the AWEG server, the "TRYING" line is printed out. Parameter <url> says AWEG's URL – informational only.

(2) intermadiate

 (a) after every received message

<time> **SM**:<uniqueID>;<sedner>;<receiver>;<timestamp>;<encoding>;<text>

(see *AWEG terminated (MO-AT) message one-line format*)

 (b) after every received delivery report

<time> **REPORT**:<messageID>,<bulkID>,<delivery result>,<final timestamp>,<receiver msisdn>

(see *AWEG terminated delivery report one-line format*)

 (c) at any time (regular intervals)

<time> **CONNECTED**:1:<presence_info>

AWEG server is still connected (presence is set up). <presence_info> contains some of user's information (see below).

<time> **CONNECTED**:0:<error_message>

Connection with AWEG server is lost. The <error_message> (english) should be displayed to the end-user in GUI.

<time> **INFO**:<text>

Unspecified information about smsbackend's progress or status. This is for debugging and support purposes, don't display this via GUI to end user.

<presence_info> may contain:

presence_info	*meaning*
U_anumber=NNNNNNNNN	Information about client's A-number (format E.164 - without leading +)
U_prepaid_account=NNNNNN/123.45CCC/YYYY-MM-DD	(for pre-paid users) Number of pre=paid account (NNNNNNN), up to 10 digits. Current account available balance (*123.45*) is the number (range -999999.9999 … 999999.9999, 4 decimal places, decimal dot). *CCC* is the ISO4217 currency code (front-ends should display Kč for CZK, € for EUR, etc.) Date of expiration of pre-paid account

	Example:
	U_prepaid_account=89581209/123.45CZK/2015-12-31

(3) at the end
smsbackend -G blocks forever – there is no end

Any other line of output should be silently ignored by calling application (GUI).

<time> is the current timestamp of smsbackend's host system in form "HH:MM:DD". This may be ignored by calling application (GUI)

Examples

Example 1 – login session with temporary error


```
smsbackend.py -a https://aweg.t-mobile.cz/ -l tester:password -G
10:26:00 TRYING:https://aweg.t-mobile.cz/
10:26:00 CONNECTED:1:U_anumber=420493493001
15:06:21 CONNECTED:0:HTTP Error 500: Internal Server Error
15:06:27 CONNECTED:1:U_anumber=420493493001
```

Data structures

AWEG terminated (MO-AT) message one-line format

Definition

```
SM:<uniqueID>;<sedner>;<receiver>;<timestamp>;<encoding>;<text>
SM:<uniqueID>;<sedner>;<receiver>;<timestamp>;<encoding>;<text>
...
```

SM: Fixed string "SM:" with optional whitespace between colon (:) and first digit of uniqueID.

<uniqueID> 8-digit hexadecimal number, unique for each message. This ID is assigned by AWEG server. Client should ACKnowledge this ID immediately by sending next HTTP request with "ack" option.

<sender>   Sender's international MSISDN in E.164 (international) format with leading "+" added. Note that "+" character is URL-escaped into "%2B"

<receiver>   Receiver's number. Can be one of:

–   international MSISDN in E.164 (international) format with leading "+" added.

–   national number or service number (shortcode) without leading "+".

<timestamp> Local date and time of when message was received by SMSC. Format is YYYYMMDDhhmmss.

<encoding> Character encoding used for message <text>. Character encodings are defined by IANA at http://www.iana.org/assignments/character-sets. The default encoding is UTF-8.

<text>   URL-escaped string – content of short message.

Example

```
SM: 5000ab11;%2B420602123456;%2B495495495;20080331235900;UTF-8;This%20is
%20testing%20message%20A%21
```
Short message from +420602123456 to +495495495, sent at 23:59[1]; Message ID is 5000ab11.

AWEG terminated delivery report one-line format

Definition

```
REPORT:<messageID>,<bulkID>,<delivery result>,<final timestamp>,<receiver
msisdn>
```

<messageID>:   8-digit hexadecimal number, unique for each message. This ID is assigned by AWEG server on receiving MT message. See "2xx codes (positive acknowledgment)" above.

<bulkID>:   decimal number specifying the bulk (group of MT SMS sent together) - see MT SMS reference, parameter "bulk". If you are not sure, you can safely ignore this.

---

1   This is service centre timestamp (SCTS) from originating SMSC

<delivery result>:   0 ... no delivery report information (yet)
                      1 ... ENROUTE: The message is in enroute state.
                      2 ... DELIVERED Message is delivered to destination *(this is the one mostly seen in wild nature)*
                      3 ... EXPIRED Message validity period has expired.
                      4 ... DELETED Message has been deleted.
                      5 ... UNDELIVERABLE Message is undeliverable
                      6 ... ACCEPTED Message is in accepted state (i.e. has been manually read on behalf of the subscriber by customer service)
                      7 ... UNKNOWN Message is in invalid state
                      8 ... REJECTED Message is in a rejected state

The delivery result conforms to the SMPP message_state, received with SMSC Delivery Receipt via aweg's SMPP-ESME process.

<final timestamp>:   Date and time in format YYYYMMDDhhmm00, when final state of message delivery was reached. Note that SMSC timestamp does not contain seconds – double zero "00" is used instead.

<receiver msisdn>:   Telephone number of SMS recipient – international E.164 form with leading "+". The character "+" is <u>not</u> URL-escaped here.

Example

`REPORT:1001f6a8,30163840,2,20080312180700,+4915702100210`
       Message to +4915702100210 (id 1001f6a8), was delivered at 18:07.

`REPORT:1001f6a7,30162554,2,20080312180800,+303685541088`
       Message to +303685541088 (id 1001f6a7), was delivered at 18:08.

`REPORT:1001f6a1,30162554,3,20080315181500,+421910301145`
       Message to +421910301145 (id 1001f6a1), was NOT delivered (due to expiration time); the final state of non-delivery is valid as of 18:15.

Glossary

Glossary	
AWEG	AnnyWay Enterprise SMS Gateway, second version: client/server solution, which is used for sending short messages (SMS) from desktop PCs or applications to the mobile (GSM) or fixed (PSTN/ISDN) telephones.
SMS	Short Message Service
MT SMS	Mobile Terminated SMS, i.e. when message is being sent **to** mobile station
MO SMS	Mobile Originated SMS, i.e. when message is being sent **from** mobile station
A-number	Telephone number of sender (of message) or of callee (of voice call)
HTTP	hypertext transfer protocol
HTTPS	hypertext transfer protocol with SSL (=secure sockets layer) encryption
DR	delivery report
MSISDN	Mobile station international subscriber number
TTS	Text To Speech - system that "reads" the short text message using synthetic voice