PSWinCom SMS Gateway
HTTP Interface specification

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PSWinCom SMS Gateway service
Company: PSWinCom AS, Norway
E-mail: support@pswin.com
Phone: +47 57748484
Fax: +47 57748485
Web: www.pswin.com

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1 Preface

This document describes how to use the HTTP Interface of the PSWinCom SMS Gateway. This document is intended for developers only, and basic knowledge of the HTTP protocol is required.

The HTTP (HyperText Transfer Protocol) Interface of the PSWinCom SMS Gateway service is suitable for applications that already have HTTP client features built-in. The interface is "firewall-friendly" since standard HTTP protocol and port number 80 is used for client connections. However, the HTTP interface is only recommended for submitting and receiving single messages, and cannot be used for bulk messaging.

For bulk messaging and higher throughput than about 1 message pr second, the XML interface or the "PSWinCom SMS Gateway Client Component" are recommended, ref. PSWinCom Product web. The "Client Component" is also well suited for sending single messages directly from ASP scripts on IIS servers.

2 Gateway connect information

HTTP interface URL: **http://sms.pswin.com/http4sms/send.asp**
(failover: http://sms-backup.pswin.com/http4sms/send.asp)

HTTPS interface URL:
https://secure.pswin.com/http4sms/send.asp
(failover: https://secure-backup.pswin.com/http4sms/send.asp)

Account web: **http://www.pswin.com**

Product web: **http://www.pswin.com**

Support inquiries: **support@pswin.com**

Note:
The basic HTTP send script return a minimal result code/string intended for use in automated applications. When sending "manually" from a web browser, the browser might not understand the response since it is not a complete HTML document. The result might be that the web browser intend to save the response as a file, instead of displaying it directly. To avoid this situation, the script sendhttp.asp can be used instead of send.asp. The sendhttp.asp script will return a normal HTML document to display the answer.

3 Technical information

Using a single HTTP POST operation, the client may submit a SMS of any type to the PSWinCom SMS Gateway. Similarly, when receiving a SMS, the Gateway will initiate a HTTP POST operation to an URL defined by the customer.

The Gateway is HTTP version 1.1 compliant, but when delivering SMS from the Gateway to the customer, HTTP 1.0 is used for backward compatibility. When POSTing, all parameters should be url-encoded and use the ISO-8859 Latin 1 characterset.

A HTTP GET Request may also be used for sending, but is of limited use since a GET operation cannot hold more than 255 characters.

4 Security Considerations

Using the HTTP interface should be done with caution when dealing with sensitive information. All data, including username and password, are sent as clear-text over the Internet and may be intercepted by a third-party.

To increase security when sending SMS, the SSL secured interface (HTTPS) can be used.

All PSWinCom services are secured using a single *.pswin.com SSL Server certificate. Please make sure that you have the following root and intermediate certificates in your certificate store:

- **AddTrustExternalCARoot**
- **ComodoHighAssuranceSecureServerCA**
- **ComodoUTNSGCCA**
- **UTNAddTrustSGCCA**

If you are missing any of these, please download and install them from the following file:
http://download.pswin.com/RootAndIntermediateForStarPSWinCom.zip

5 HTTP POST Request and HTTP Response

5.1 Submitting SMS

This POST operation is initiated by the customer, and the response is returned from the Gateway to the customer over the same HTTP session. In terms of a client-server relationship, the customer here acts as a client and the Gateway as a server.

5.1.1 Request

A valid submission of a message may look like this:

```
POST /http4sms/send.asp HTTP/1.0
Host: sms.pswin.com
Content-type: application/x-www-form-urlencoded
Content-length: 87

USER=demo&PW=password&RCV=4711223344&TXT=Please+send+me+a+c
opy+of+the+datamodel.+Rgds,+John
```

5.1.2 Response

The following response will be valid for the request above:

```
HTTP/1.0 200 OK
Server: Microsoft-IIS/5.0
Date: Mon, 08 Oct 2001 09:52:36 GMT
Content-Type: text/plain
Content-Length: 4

0
OK
```

The response will consist of two lines. First line is a numeric status-code and the second is a corresponding description. A successful submission of the message will have a result code of 0. Any other result means that the submission has failed permanently and should be resubmitted.

5.2 Receiving SMS

This POST operation is initiated by the Gateway, and the response should be returned by the customer to the Gateway over the same HTTP session. In terms of a client-server relationship, the customer here acts as a server and the Gateway as a client. Typically, the customer will receive and handle the incoming SMS using a web-application running on a web-server such as IIS or Apache.

5.2.1 Request

The Gateway will submit a HTTP POST Request as follows:

```
POST /receive.asp HTTP/1.0
Host: youserver.com
Content-type: application/x-www-form-urlencoded
Content-length: 45

RCV=37774757&SND=4712345678&TXT=testing%20SMS
```

The hostname, port and path will depend on the corresponding values set for the actual customer account on the Gateway. The URL parameter values are described further in chapter 6.

5.2.2 Response

The Gateway expects the customer (server) to reply with a HTTP status code of 200 (OK) if the SMS was successfully received. Any other status value than 200 will result in the Gateway retrying delivery of the SMS at a later time.

A sample successful response from the customer may be:

```
HTTP/1.1 200 OK
Server: Microsoft-IIS/5.1
Content-Type: text/plain
```

The response should be as minimal as possible, and not contain any body unless required.

5.3 Receiving delivery report

Delivery reports (handset status) may be forwarded to the customer application instead of being read manually on the account web.

Please read chapter 6.10 Receipt Requested [RCPREQ] for details of how to generate delivery reports.

This POST operation is initiated by the Gateway, and the response should be returned by the customer to the Gateway over the same HTTP session. In terms of a client-server relationship, the customer here acts as a server and the Gateway as a client. Typically, the customer will receive and handle the delivery report using a web-application running on a web-server such as IIS or Apache.

5.3.1 Request

The Gateway will submit a HTTP POST Request as follows:

```
POST /receiveDeliveryReport.asp HTTP/1.0
Host: youserver.com
Content-type: application/x-www-form-urlencoded
Content-length: 79

RCV=4712345678&REF=123433333&STATE=DELIVRD&DELIVERYTIME=200
6.03.01+23%3a01%3a00
```

The hostname, port and path will depend on the corresponding values set for the actual customer account on the Gateway. The URL parameter values are described further in chapter 6.

5.3.2 Response

The Gateway expects the customer (server) to reply with a HTTP status code of 200 (OK) if the delivery report was successfully received. Any other status value than 200 will result in the Gateway retrying delivery of the delivery report at a later time.

A sample successful response from the customer may be:

```
HTTP/1.1 200 OK
Server: Microsoft-IIS/5.1
Content-Type: text/plain
```

The response should be as minimal as possible, and not contain any body unless required.

5.3.3 Correlating messages and delivery reports

You can use the REF value to correlate the delivery report with the message. If you set RCPREQ=Y when sending, you can get a unique reference value back that you can later use to do the correlation.

Because the response returned from the standard interface URL doesn't include the REF value, you should use the following Interface URLs instead when you need to get the REF value:

HTTP: **http://sms.pswin.com/http4sms/sendRef.asp**
(failover: http://sms-backup.pswin.com/http4sms/sendRef.asp)

HTTPS: **https://secure.pswin.com/http4sms/sendRef.asp**
(failover: https://secure-backup.pswin.com/http4sms/sendRef.asp)

The HTTP response will with this interface respond with a third parameter that will contain the assigned unique reference value.

Sample response:

```
HTTP/1.0 200 OK
Server: Microsoft-IIS/5.0
Date: Mon, 08 Oct 2001 09:52:36 GMT
Content-Type: text/plain
Content-Length: 15

0
OK
4A4B0034DB
```

6 HTTP Parameters

6.1 Client identification [USER and PW]

Mandatory for sending: Yes
Mandatory for receiving: N/A
These two parameters are used to identify the client user account on the Gateway. Both username(user) and password(pw) will be assigned to you by the Gateway operator when you sign up for an account.

6.2 Affiliate Program [AP]

Mandatory for sending: No
Mandatory for receiving: N/A
The AP-parameter is used to specify a certain Affiliate Program code. If you are a software/system developer/integrator and are offering SMS enabled software or services for use by your customers, you can sign up for an Affiliate agreement in order to get a share of the income your customers are generating to the Gateway provider. Your customers will sign up for regular accounts on the PSWinCom SMS Gateway, but your Affiliate code will be transmitted with each session to the Gateway, making it possible to track your customers usage.

You can also specify additional information for internal use/tracking such as product version, vendor, license etc. This is done by adding up to three additional numeric parameters after the affiliation program code, separated by comma.

Example:

```
AP=MYPROG,1,4,2010
```

Where "MYPROG" is your Affiliate Program code, "1" may indicate it's a enterprise edition of your software, "4" may be your software version and "2010" may indicate a client number or that it's distributed through a given partner company. The Gateway just stores these values and does no processing upon them. You may use one, two, all three or none of them depending on how fine-grained you want to separate your customers traffic. You will find these values supplied as extra-information on your Affiliate Program reports on the Gateway's account web.

Please contact the Gateway provider for agreement terms and details.

Note that an Affiliate agreement cannot be used if your SMS software/service is solely to be used within your own company/organization, but only when used by real customers.

6.3 Session Data [SD]

Mandatory for sending: No
Mandatory for receiving: N/A
A free text field that can be used to tag the session with customer specific data such as the application name, username, reference-id for

end-user billing etc. The maximum length is 200 characters. Leave empty unless required.
Example:

```
SD=My-company-data
```

6.4 Text body/message [TXT]

Mandatory for sending: No
Mandatory for receiving: Yes
This parameter contains the message text itself. For sending, the message length should not exceed 160 characters unless you would like to use concatenated SMS messages. Messages exceeding 160 characters will be split up into a maximum of 6 SMS messages, each of 134 characters. Thus, the maximum length is 6*134=804 characters. This is done automatically by the SMS Gateway. Messages of more than 804 characters will be truncated. The message must/will be URL-encoded.

Example:
```
TXT=Please+send+me+a+copy+of+the+datamodel.+Rgds,+John
```

When sending logos, this parameter is not used. Instead the data is submitted with the HEX-parameter. When sending Picture-messages, you can attach an up to 120 characters long text using this parameter.

6.5 Binary message [HEX]

Mandatory for sending: No
Mandatory for receiving: N/A
When sending binary messages like logos and pictures, you specify the data as a hex-string. Depending on the ContentType [CT] parameter, you might have to include the User Data Header part of the binary message. Please refer to the chapter about Raw Binary UDH messages and the ContentType parameter for detailed information.

Example:
```
HEX=0000000000000000000000000000000000000000000601000080600000
1C0707C003E0E038003E0734E0072CE07C000E031DA005B8C070000207F
BA005DFE040001FFC1EA005783FF801F0046BE007D6200F8000070DA005
B0E0000000070F4002F0E000000007078001E0E0000000200000000400
0000000000000000000
```

The sample parameter above shows a hex-encoded 72x14 Caller Group Graphic.

The content-type (CT) parameter must always be specified when the HEX-parameter is used. Otherwise the Gateway will not be able to identify what kind of message this is.

6.6 Receiver Number [RCV]

Mandatory for sending: Yes

Mandatory for receiving: Yes
The receiver must be a GSM cellular phone with SMS capabilities. The number must be prefixed with the country code for the recipients country and entered without the "+" or any spaces. For example, "RCV=+47 112233 44" is not valid, but "RCV=4711223344" is valid. The Gateway will perform basic verification of the number given upon sending. It is not possible to provide multiple receiver numbers.

6.7 Sender Number [SND]

Mandatory for sending: No
Mandatory for receiving: Yes
Number of sender to be displayed on receiver's handset when sending and the originating number when receiving. Numeric with no "+" or space, max 15 digits. Alphanumeric up to 11 characters can also be used when sending. Please note that no special/national characters are allowed for alphanumeric sendernumber. Only the characters a-z, A-Z, 0-9 and !"#%&'()*+ -./?><; are allowed.

6.8 Content Type [CT]

Mandatory for sending: No
Mandatory for receiving: N/A
Specifies the type of content in the TXT- and/or HEX-parameter. This parameter is mainly used to indicate use of binary messages like logos and ringtones. Possible values:

- **1 – Plain text (default if not set)**
- **2 – Ringtone**
- **3 – Operator logo**
- **4 – Caller Group Graphic**
- **5 – Picture**
- **6 – Business card (vCard)**
- **7 – Calendar event (vCalendar)**
- **8 – Raw Binary UDH**
- **9 – Unicode**
- **10 – Wap Push**
- **11 – OTA Bookmark**
- **12 – OTA Settings**

6.9 Message class [CLASS]

Mandatory for sending: No
Mandatory for receiving: N/A
In order to send text messages as Flash messages (displayed directly on the handset screen), the Message Class must be set to the value 0 (zero). Otherwise, do not supply this parameter when sending as other values will have no effect.

6.10 Receipt Requested [RCPREQ]

Mandatory for sending: No
Mandatory for receiving: N/A

One must also specify in the message that a delivery report is requested by setting the RCPREQ parameter to the value "Y". Only messages submitted with this parameter set to "Y" will generate a delivery report to be forwarded to the customer application. However, all messages will have delivery reports available for viewing on the account web.

Forwarding of delivery reports must be enabled for the account on the Gateway. To set this up, send a request to support@pswin.com with the account username and the desired URL that the delivery reports will be POSTed to.

6.11 Reference [REF]

Mandatory for sending: N/A
Mandatory for receiving: Yes
A reference value that uniquely identifying the message that this delivery report relates to. This value must be treated as a string with at least 36 characters.

6.12 State [STATE]

Mandatory for sending: N/A
Mandatory for receiving: Yes
This property is the final state (handset status) of the message in question. Possible values includes (but not limited to):

- **DELIVRD: Message was successfully delivered to destination.**
- **EXPIRED: Message validity period has expired.**
- **DELETED: Message has been deleted.**
- **UNDELIV: Message was undeliverable.**
- **ACCEPTD: Message was accepted (i.e. has been manually read on behalf of the subscriber by customer service).**
- **UNKNOWN: Message is/was invalid.**
- **REJECTD: Message was rejected.**

Only the value DELIVRD should be considered a positive delivery acknowledgement.

6.13 DeliveryTime [DELIVERYTIME]

Mandatory for sending: No
Mandatory for receiving: No
Optional parameter. When sending SMS with this parameter is present the message will be considered to be a deferred message that will be queued for future delivery instead of immediately being forwarded to operator.
The format is as follows:
"YYYYMMDDHHmm"
Sample: The date and time "20th of June 2008 at 14:32" should be specified as: "200806201432" Deliverytime is always in CET.
Maximum delay of message is currently one week (7 days).
The Gateway account must be provisioned to use this feature for sending.

When receiving a delivery report, this property will give the date and time when the message was given its final state. Please note that the date and time is given in the local time zone of the SMSC used for delivery. The format is: ”yyyy.dd.mm hh:mm:ss”

6.14 Address [ADDRESS]

Mandatory for sending: N/A
Mandatory for receiving: No
Optional. This property may contain detailed information about the sender, such as name and address. The information is retrieved by the Gateway which is requesting such data from a phone directory service. The format is as follows (line break added for readability):

```
Firstname;middlename;lastname;address;
ZipCode;City;RegionNumber;CountyNumber
```

Sample result:
```
Kari;;Nordmann;Hjemmeveien 46;5211;
BERGEN;12;1201
```

Additional values may be added at the end in the future. This is a value added feature that requires an additional agreement with PSWinCom.

6.15 Replace SMS [REPLACE]

Mandatory for sending: No
Mandatory for receiving: N/A

Optional parameter. If set this will be an Integer with allowed value 1-7 that indicates a set of messages that can replace each other. This parameter can be used to specify that the message should replace a previous message with the same set-number as given for this parameter in the Inbox of the handset. See chapter 13 - Replacing SMS on handset for more details.

7 CPA – Premium SMS

The PSWinCom SMS Gateway supports Premium SMS for specific countries and operators. Currently supported countries and operators are:

Norway:

- **NetCom**
- **Telenor Mobil**
- **Tele2**
- **Ventelo**
- **NetworkNorway**
- **TDC**

With Premium SMS you can deliver content to mobile subscribers and use their telecom operator for charging.

The Gateway will use the NRDB (Nasjonal Referansedatabase) to resolve which operator the receiver belongs to.

To use Premium SMS with the PSWinCom SMS Gateway you must sign up for a separate CPA agreement. Terms of settlement and general CPA terms are discussed in the CPA Agreement document available from www.pswin.com.

One extra parameter is required to submit a Premium SMS:

7.1 Tariff/Price [TARIFF]

Mandatory for sending: Yes if Premium SMS
Mandatory for receiving: N/A
When the Gateway is used for Premium SMS, a Tariff/Price may be specified as the amount to charge the end-user in units of cents/"ører". For example, to charge the end-user NOK 5,- you specify "500" as the TARIFF value. Only valid values must be used. Valid values are described in the CPA Agreement.

8 CPA – Goods and Services

The PSWinCom Gateway supports billing of Goods and Services (CPA GAS) using mobile phones in Norway. As opposed to traditional CPA/Premium SMS which can only be used to bill mobile content, CPA GAS can only be used to bill goods and services.

Tariff values up to NOK 300,- can be used.

Each transaction must contain a special ServiceCode. The ServiceCode specifies what kind of goods or services the transaction is related to. Valid ServiceCodes are given in chapter Feil! Fant ikke referansekilden..

The Gateway will use the NRDB (Nasjonal Referansedatabase) to resolve which operator the receiver belongs to.

To use CPA Goods and Services with the PSWinCom Gateway you must sign up for a separate CPA GAS agreement. Terms of settlement and general CPA terms are discussed in separate CPA GAS Agreement document available from www.pswin.com.

Note that CPA GAS messages/transactions must be performed against a newer version of the HTTP Interface:

HTTP interface URL:
http://sms.pswin.com/http4sms2/send.aspx
(failover: http://sms-backup.pswin.com/http4sms2/send.aspx)

HTTPS interface URL:
https://secure.pswin.com/http4sms2/send.aspx
(failover: https://secure-backup.pswin.com/http4sms2/send.aspx)

Two extra parameters are required to submit a CPA GAS message:

8.1 Tariff/Price [TARIFF]

Mandatory for sending: Yes if Premium SMS or CPA Goods and Services
Mandatory for receiving: N/A
When the Gateway is used for Premium SMS or CPA Goods and Services transactions, a Tariff/Price may be specified as the amount to charge the end-user in units of cents/"ører". For example, to charge the end-user NOK 5,- you specify "500" as the TARIFF value. Only valid values must be used. Valid values are described in the CPA SMS or CPA GAS Agreement.

8.2 ServiceCode [SERVICECODE]

Mandatory for sending: Yes CPA Goods and Services
Mandatory for receiving: N/A
Specifies the type of Goods or Service that the transaction is related to. Current valid ServiceCode values are listed in the table below:

ServiceCode	Description

05001	Teaterbillett
05002	Kinobillett
05003	Konsertbillett
05004	Bok
05005	Lydbok - CD
05006	Film - DVD
05007	Musikk - CD
05008	Avis
05009	Magasin
06001	Togbillett
06002	Bussbillett
06003	T-bane/trikkebillett
06004	Taxi
06005	Parkering
06006	Fergebillett
07001	Medisinsk behandling
07002	Medisiner
07003	Off. avgifter medisinsk behandling
08001	Reklame
08002	Gavekort
09001	Gavekort
09002	Forsikringstjeneste
10001	Mat og drikke
11001	Servering
12001	Overnatting
13001	Fiskeravgift
13002	Fiskekort
13003	Tilgangsavgift sport
14001	Medlemsavgift
15001	Fysiske varer

9 Sending Unicode messages

Unicode is a 16bit character set that can represent virtually any character or sign and is required for Arabic and Chinese characters amongst others. The PSWinCom SMS Gateway can be used to submit messages using Unicode (UCS2). A brief instruction of how to do this follows.

To send Unicode messages, set the CT (Content Type) parameter to the value 9 to indicate Unicode.

Since each Unicode character is 16 bits (opposed to the usual 7 or 8 bit), and many characters are not displayable or possible to enter on many computers, the message must be hex-coded and supplied using the HEX parameter and not the TXT parameter as for normal messages. Each Unicode character is encoded into a 4-digit hex-value. Example: Unicode letter A has the value of 0x0041 and is written as "0041" in the HEX parameter string. All other parameters are used as for other messages. Please note that it is not possible to use Unicode characters as alphanumeric sender number even if the CT parameter is set to 9 – Unicode.

To send a message containing the characters "ABC" in Unicode, the following set of parameters are required:

```
CT=9&HEX=004100420043
```

Due to the size of each Unicode character, a Unicode SMS can only contain 70 Unicode characters.

10 Sending Smart Messages

10.1 Ringtones

To send a ringtone, set content type to 2 (CT=2) and TXT property to the RTTTL encoded ringtone. The RTTTL format is widely used for defining ringtones.

Example:

```
CT=2&TXT=Ecuadore:d=4,o=5,b=140:8g.,8d.,8a%23,8a,8c6,8a,8f,
8g.,8d.,8a%23,8a,8c6,8a,8f,8a%23.,8f.,8d6,8c6,8d6,8c6,8a,8a
%23.,8g.,8a%23,8a,8a%23,8a,8f
```

Please note that the parameters are URL-encoded.

10.2 Logos (Operator Logos and Caller Group Graphics)

To send an operator logo, set content type to 3 (CT=3) and to send a Caller Group Graphic, set content type to 4 (CT=4) and let the HEX-parameter be the hex-encoded binary data for the logo bitmap only (no UDH or other formatting). Do not specify any other information than the bitmap itself as hex. The Used Data Header is set by the Gateway.

For Operator Logos, you specify which network the operator logo belongs to by adding the three-digit country-code and two-digit network code after the hex-data, separated by a semicolon.

Example of Operator Logo:

```
CT=3&HEX=000000000000000000000000000000000000006010000806
000001C0707C003E0E038003E0734E0072CE07C000E031DA005B8C07000
0207FBA005DFE040001FFC1EA005783FF801F0046BE007D6200F8000070
DA005B0E0000000070F4002F0E000000007078001E0E000000002000000
00400000000000000000000;242:02
```

Example of Caller Group Graphic:

```
CT=4&HEX=000000000000000000000000000000000000006010000806
000001C0707C003E0E038003E0734E0072CE07C000E031DA005B8C07000
0207FBA005DFE040001FFC1EA005783FF801F0046BE007D6200F8000070
DA005B0E0000000070F4002F0E000000007078001E0E000000002000000
00400000000000000000000
```

10.3 Pictures

A picture message can consist of both an image and up to 120 characters of text. To send a picture message, you must set the content-type parameter to 5 (CT=5), the TXT-parameter to the text-portion of the message and the HEX-parameter to the hex-encoded image.

10.4 Business Cards (vCard)

Most GSM phones can handle Smart Messages that contains phone book-entry data like vCard. These messages are formatted like this:

BEGIN:VCARD<CRLF>
VERSION:2.1<CRLF>
N:Duck;Donald<CRLF>
TEL;PREF:55512345<CRLF>
END:VCARD<CRLF>

The <CRLF> termination of each line is required by the phone to understand the vCard message. The phone will consider the vCard corrupted if the linefeeds are missing. When sending vCards using the HTTP interface, you must URL-encode the <CRLF> into %0d%0a. Set the content type (CT) parameter to the value 6 when sending vCard messages.

Example of a vCard:
```
CT=6&TXT=BEGIN:VCARD%0d%0aVERSION:2.1%0d%0aN:Duck;Donald%0d
%0aTEL;PREF:55512345%0d%0aEND:VCARD%0d%0a
```

The message will be received and handled as a phone book entry on the receiving phone (if supported). The SMS Gateway will perform no validation of the vCard formatting.

10.5 Calendar Events (vCalendar)

Most GSM phones can handle Smart Messages that contains calendar event data like vCalendar. These messages are formatted like this:

BEGIN:VCALENDAR<CRLF>
VERSION:1.0<CRLF>
BEGIN:VEVENT<CRLF>
DESCRIPTION:Meeting<CRLF>
DTSTART:20040906T100000<CRLF>
DTEND:20040906T120000<CRLF>
END:VEVENT<CRLF>
END:VCALENDAR<CRLF>

The <CRLF> termination of each line is required by the phone to understand the vCalendar message. The phone will consider the vCalendar corrupted if the linefeeds are missing. When sending vCalendar using the HTTP interface, you must URL-encode the <CRLF> into %0d%0a. Set the content type (CT) parameter to the value 7 when sending vCalendar messages.

Example of a vCalendar:
```
CT=7&TXT=BEGIN:VCALENDAR%0d%0aVERSION:1.0%0d%0aBEGIN:VEVENT
%0d%0aDESCRIPTION:Meeting%0d%0aDTSTART:20040306T100000%0d%0
aDTEND:20040306T120000%0d%0aEND:VEVENT%0d%0aEND:VCALENDAR%0
d%0a
```

The message will be received and handled as a calendar entry on the receiving phone (if supported). The SMS Gateway will perform no validation of the vCalendar formatting.

11 Sending Raw Binary Data with User Data Header (UDH)

It is possible to submit binary messages that include a User Data Header.

This is most useful when:

a) **Your application already has the ability to generate a complete data-block that includes the User Data Header.**
b) **You need to support binary content that is not currently supported by the Gateway Operator.**

Raw Binary Data is sent as a hex-encoded string much in the same way as for logos, but the hex-encoded data-string must also contain a valid UDH and the ContentType [CT] parameter must be set to the value of 8.

The hex-encoded string must be placed in the [HEX]-parameter.
Example of parameters using Raw Binary UDH content-type:

```
ct=8&hex=060504158200042F22000480E0100000000000000000000000
0000000000000000006010000806000001C0707C003E0E038003E0734E0
072CE07C000E031DA005B8C070000207FBA005DFE040001FFC1EA005783
FF801F0046BE007D6200F8000070DA005B0E0000000070F4002F0E00000
0007078001E0E0000000020000000040000000000000000000000000
```

The underlined values above are the UDH for an operator logo.

The Gateway will treat each binary message as <u>one</u> SMS and will not perform any splitting if the content is too long. Thus the application must perform the splitting and include information about this in the UDH if needed. The hex-encoded data-block must not exceed 280 characters in length (140 bytes when decoded).

Note: UDH is disabled by default for new accounts unless it is checked off the order form, but can be enabled any time and free of charge upon request.

12 Sending Wap Push and OTA Bookmark and Settings

Wap Push and OTA Bookmark and Settings messages are widely used to send WAP service notifications and configurations to subscriber handsets. The PSWinCom SMS Gateway supports the following types:

- **WAP Push (both service indication and service load)**
- **OTA Bookmark**
- **OTA Settings**

The gateway accepts such messages as XML and will automatically encode them into WBXML (Wireless Binary XML) format for transmission over the GSM network. In other words, you only need to create the XML representation of your Push or OTA message, and the Gateway will handle the rest.

Nokia Mobile Internet Toolkit (NMIT 4.0) can be used to create the XML documents required for Wap Push. The toolkit is available from www.forum.nokia.com free of charge.

To send such messages, you must use the following parameters as described here:

Content Type [CT] must be set to the following value depending on the type of message you are sending:

10 – Wap Push
11 – OTA Bookmark
12 – OTA Settings

Text [txt] must be an URL-encoded string representation of the XML you would like to send. The XML must correspond to the content-type you have selected.

Other parameters (such as Sender Number, Receiver Number etc) may be set as general. Please note that the HEX parameter is not used at all for Wap Push and OTA messages.

12.1 Wap Push message

The following XML is a Service-Indication Wap Push message.

```
<?xml version="1.0"?>
<!DOCTYPE si PUBLIC
      "-//WAPFORUM//DTD SI 1.0//EN"
      "http://www.wapforum.org/DTD/si.dtd">
<si>
      <indication
            action="signal-medium"
            href="http://wap.pswin.com">
      PSWinCom WAP
      </indication>
</si>
```

The Content Type for Wap Push is 10, so as an URL-encoded parameter-list the XML will look like this: (line feeds present for readability only)

```
CT=10&
TXT=%3C%3Fxml+version%3D%221.0%22%3F%3E%3C%21DOCTYPE+si+
PUBLIC+%22-%2F%2FWAPFORUM%2F%2FDTD+SI+1.0%2F%2FEN%22+%22
http%3A%2F%2Fwww.wapforum.org%2FDTD%2Fsi.dtd%22%3E%3Csi%3E
%3Cindication+action%3D%22signal-medium%22+href%3D%22http
%3A%2F%2Fwap.pswin.com%2F%22%3EPSWinCom+WAP%3C%2Findication
%3E%3C%2Fsi%3E
```

12.2 OTA Bookmark message

The following XML is a sample Over-The-Air Bookmark:

```
<?xml version="1.0"?>
<!DOCTYPE
      CHARACTERISTIC-LIST PUBLIC ""
      "characteristic_list.dtd">
<CHARACTERISTIC-LIST>
      <CHARACTERISTIC TYPE="BOOKMARK">
            <PARM NAME="NAME" VALUE="PSWinCom WAP"/>
            <PARM NAME="URL" VALUE="http://wap.pswin.com"/>
      </CHARACTERISTIC>
</CHARACTERISTIC-LIST>
```

The Content Type for OTA Bookmark is 11, so as an URL-encoded parameter-list the XML will look like this: (line feeds present for readability only)

```
CT=10&
TXT=%3C%3Fxml+version%3D%221.0%22%3F%3E%3C%21DOCTYPE+
CHARACTERISTIC-LIST+PUBLIC+%22%22+%22
characteristic_list.dtd%22%3E%3CCHARACTERISTIC-LIST
%3E%3CCHARACTERISTIC+TYPE%3D%22BOOKMARK%22%3E%3C
PARM+NAME%3D%22NAME%22+VALUE%3D%22PSWinCom+WAP%22%2F
%3E%3CPARM+NAME%3D%22URL%22+VALUE%3D%22http%3A%2F%2F
wap.pswin.com%22%2F%3E%3C%2FCHARACTERISTIC%3E%3C%2F
CHARACTERISTIC-LIST%3E
```

12.3 OTA Settings message

The following XML is a sample Over-The-Air Settings message (sample taken from the OTA Settings Specifications 7.0)

```
<?xml version="1.0"?>
<!DOCTYPE
 CHARACTERISTIC-LIST PUBLIC ""
 "characteristic_list.dtd">
<CHARACTERISTIC-LIST>
      <CHARACTERISTIC TYPE="ADDRESS">
            <PARM NAME="BEARER" VALUE="GSM/CSD"/>
            <PARM NAME="PROXY" VALUE="192.122.10.120"/>
            <PARM NAME="CSD_DIALSTRING" VALUE="+35850812"/>
            <PARM NAME="PPP_AUTHTYPE" VALUE="PAP"/>
            <PARM NAME="PPP_AUTHNAME" VALUE="wapuser"/>
```

```
            <PARM NAME="PPP_AUTHSECRET" VALUE="wappassw"/>
      </CHARACTERISTIC>
      <CHARACTERISTIC TYPE="NAME">
            <PARM NAME="NAME" VALUE="Mobilbank Settings"/>
      </CHARACTERISTIC>
      <CHARACTERISTIC TYPE="URL" VALUE="http://wap.dk"/>
      <CHARACTERISTIC TYPE="BOOKMARK">
            <PARM NAME="NAME" VALUE="Mobilbank"/>
            <PARM NAME="URL" VALUE="http://wap.dk"/>
      </CHARACTERISTIC>
</CHARACTERISTIC-LIST>
```

The Content Type for OTA Settings is 12, so as an URL-encoded parameter-list the XML will look like this: (line feeds present for readability only)

```
CT=12&
TXT=%3C%3Fxml+version%3D%221.0%22%3F%3E%3C%21DOCTYPE+
CHARACTERISTIC-LIST+PUBLIC+%22%22+%22
characteristic_list.dtd%22%3E%3CCHARACTERISTIC-LIST
%3E%3CCHARACTERISTIC+TYPE%3D%22ADDRESS%22%3E%3CPARM+NAME%3D
%22BEARER%22+VALUE%3D%22GSM%2FCSD%22%2F%3E%3CPARM+NAME%3D%2
2PROXY%22+VALUE%3D%22192.122.10.120%22%2F%3E%3CPARM+NAME%3D
%22CSD_DIALSTRING%22+VALUE%3D%22%2B35850812%22%2F%3E%3CPARM
+NAME%3D%22PPP_AUTHTYPE%22+VALUE%3D%22PAP%22%2F%3E%3CPARM+N
AME%3D%22PPP_AUTHNAME%22+VALUE%3D%22wapuser%22%2F%3E%3CPARM
+NAME%3D%22PPP_AUTHSECRET%22+VALUE%3D%22wappassw%22%2F%3E%3
C%2FCHARACTERISTIC%3E%3CCHARACTERISTIC+TYPE%3D%22NAME%22%3E
%3CPARM+NAME%3D%22NAME%22+VALUE%3D%22Mobilbank+Settings%22%
2F%3E%3C%2FCHARACTERISTIC%3E%3CCHARACTERISTIC+TYPE%3D%22URL
%22+VALUE%3D%22http%3A%2F%2Fwap.dk%22%2F%3E%3CCHARACTERISTI
C+TYPE%3D%22BOOKMARK%22%3E%3CPARM+NAME%3D%22NAME%22+VALUE%3
D%22Mobilbank%22%2F%3E%3CPARM+NAME%3D%22URL%22+VALUE%3D%22h
ttp%3A%2F%2Fwap.dk%22%2F%3E%3C%2FCHARACTERISTIC%3E%3C%2F
CHARACTERISTIC-LIST%3E
```

To create and send your own OTA Settings you will need to build a complex and comprehensive XML. The sample shown above is very simple and shows only a limited set of possible parameters and values for the OTA Settings message. A full description is beyond the scope of this documentation. Please download the OTA Settings Specification from www.forum.nokia.com for a thoroughly description of creating custom OTA Settings.

12.4 OTA DTD

The referenced DTD `characteristic_list.dtd` **is defined as follows:**

```
<!ELEMENT CHARACTERISTIC-LIST (CHARACTERISTIC)+>
<!ELEMENT CHARACTERISTIC (PARM*)>
<!ATTLIST CHARACTERISTIC
  TYPE      CDATA #REQUIRED
  VALUE     CDATA #IMPLIED
>
<!ELEMENT PARM EMPTY>
<!ATTLIST PARM
  NAME      CDATA #REQUIRED
  VALUE     CDATA #REQUIRED
>
```

The OTA Bookmark and OTA Settings XML should be validated against this DTD before submission.

13 Replacing SMS on handset

It is possible to replace previous received SMS messages on the handset using a special feature called replacement sets. When a message is received with identical replacement set ("REPLACE" parameter) and sender-ID ("SND" parameter), it will replace any matching previously received message in the inbox.

Typical usage of this is applications where several SMS messages are sent to the same user, and only the latest is relevant at all times. This can be a stock-ticker notification service or a one-time password service. The subscriber will not get is Inbox flooded even if the number of received messages is large.

Sample:

Message 1:	Message 2:	Message 3:
TXT=Test1	TXT=Test2	TXT=Test3
REPLACE=3	REPLACE=3	REPLACE=4
SND=123456	SND=123456	SND=123456

Message 1 will receive as normal. Message 2 will replace message 1 in the inbox since REPLACE and SND matches those of message 1. Message 3 will receive as normal since REPLACE is different from message 1 and 2.

This feature depends on whether the handset supports it or not. If not supported, the message will be received as normal. There may also be limited support in certain networks.

14 Sample scripts

This chapter shows samples of how to utilize the HTTP interface from various script languages and environments. You must sign up for an account on the PSWinCom SMS Gateway to get a valid username/password.

14.1 PHP script for sending SMS

The following sample shows how to send a SMS from a web-page using PHP script.

14.1.1 SendTest.html

Put this in a file in the same directory as the PHP script code below.

```
<html>
<head>
<title>PSWinCom HTTP</title>
</head>
<body>
<FORM METHOD="post" ACTION="SendTest.php">
Message: <INPUT TYPE="TEXT" NAME="message" SIZE="30"><br>
<INPUT TYPE="SUBMIT" VALUE="Send">
</FORM>
</body>
</html>
```

14.1.2 SendTest.php

```
<?
$username = "user"; // Replace with your account name
$password = "password"; // Replace with account password
$receiver = "123"; // Replace with your phone number
$smsscript =
"http://sms.pswin.com/http4sms/send.asp?USER=".$username."&
PW=".$password."&RCV=".$receiver."&CT=1&TXT=".urlencode($_P
OST["message"]);

$fp = @fopen("$smsscript", "r");
if ($fp) {
      $rawreply = fread($fp, 250);
      fclose($fp);
      $replyarray = explode ("\n", $rawreply);
      $result = $replyarray[0];
      $purifier = chr(13);
      $result = eregi_replace($purifier,'',$result);
      /* another method
      $result = substr($replyarray[0], 0, 1);
      */
      if ($result == "0") {
            echo "message sent";
            // message sent
      } else {
```

```
            echo "message not sent";
            // message not sent
      }
} else {
      echo "connection error";
      // connection error
}
?>
```

14.2 HTML Form for sending SMS

The following HTML shows how you can submit a SMS directly from a form on a web-page:

```
<html>
<head>
<title>PSWinCom HTTP</title>
</head>
<body>

<FORM METHOD="post"
ACTION="http://sms.pswin.com/http4sms/sendhttp.asp">
<INPUT TYPE="hidden" NAME="USER" VALUE="demo">
<INPUT TYPE="hidden" NAME="PW" VALUE="password">
Message: <INPUT TYPE="TEXT" NAME="TXT" SIZE="30"><br>
Receiver: <INPUT TYPE="TEXT" NAME="RCV" SIZE="30"><br>
<INPUT TYPE="SUBMIT" VALUE="Send">
</FORM>
</body>
</html>
```

14.3 ASP script for sending SMS

The following sample shows how to send an SMS using VBScript in an ASP page. It is useful when you need to send SMS from your site, but cannot install the PSWinCom Client COM Component. Simply replace your username/password , put the code on your site and call the script with message and receiver passed as the TXT and RCV URL parameters like this:

http://www.mysite.com/sendsample.asp?txt=test&rcv=441234567

14.3.1 Sendsample.asp

```
<%@ Language=VBScript %>
<%
Dim objXmlHttp
Dim result
Dim username
Dim password

' This is the server safe version from MSXML3.
Set objXmlHttp = _
Server.CreateObject("Msxml2.ServerXMLHTTP")
```

```
' The old not so safe version!
' Set objXmlHttp = Server.CreateObject("Msxml2.XMLHTTP")

username = "your username"
password = "your password"

objXmlHttp.open "GET", _
"http://sms.pswin.com/http4sms/send.asp?user=" & username _
& "&pw=" & password & "&txt=" & _
Server.URLEncode(Request("txt")) & "&rcv=" & _
Request("rcv"), False

objXmlHttp.send

' Print out the request status if you need it
' Response.Write "Status: " & objXmlHttp.status & " " & _
' objXmlHttp.statusText & "<br />"

' Get response from gateway. Result will be either
'  "0<CR>OK" or "1<CR>FAIL"
result = objXmlHttp.responseText

Set objXmlHttp = Nothing

%>

<html><head><title>SMS</title></head>
<body>
<h1>Send SMS result:</h1>
<p>
<%=result%>
</body>
</html>
```

14.4 Reply to incoming SMS sample using ASP

This sample ASP code shows how to reply to an incoming SMS with a new dynamically created SMS.

This sample requires the PSWinCom SMS Gateway Client Component to be installed on the server. The component can be downloaded for free from the product web (see chapter 2).

To test the sample live, you need to register the URL together with a keyword that you deploy the sample to with the PSWinCom SMS Gateway. Contact support@pswin.com to arrange for this.

14.4.1 Reply.asp

```
<%@ Language=VBScript %>
<%
Response.Expires = 0
Response.ContentType = "text/plain"
Response.Buffer = false

' Create COM objects to handle reply
```

```
dim oSMSClient, oMsg
set oSMSClient = server.CreateObject("GW4SMS.SMSClient")
set oMsg = server.CreateObject("GW4SMS.Message")

' Retrieve SMS details from incoming HTTP Post
sText = Request.Form.Item("TXT")
sSenderNumber = Request.Form.Item("SND")

' Configure client, replace with your username and password
oSMSClient.PrimaryGateway = "sms.pswin.com:1111"
oSMSClient.Username = "demo"
oSMSClient.Password = "password"

' Create a message object as a reply to the incoming SMS
oMsg.Text = "This is an automatic reply from the PSWinCom"
oMsg.Text = oMsg.Text & "SMS Gateway. You wrote: "
oMsg.Text = oMsg.Text & left(sText, 50)
oMsg.SenderNumber = "PSWinCom"
oMsg.ReceiverNumber = sSenderNumber

' Send reply using PSWinCom SMS Gateway
if oSMSClient.SendSingleMessage(oMsg) = true then
      Response.Write "OK"
      Response.End
else
      Response.Status = 402
      Response.End
end if

' Clean up
set oMsg = nothing
set oSMSClient = nothing

%>
```