



PSWinCom SMS Gateway XML Interface specification

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1 Preface

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

If using a COM compatible developer environment (Microsoft Visual Basic etc.), using the **PSWinCom SMS Gateway Client Component** can be recommended as it wraps all the XML stuff and you can relate to objects, properties, methods and events.

The XML interface is supported both as a direct TCP socket on port 1111 as well as over HTTP. If using the direct TCP socket, it is important that your firewall (if any) is open for outbound TCP connections to the Gateway's IP address and port number. Also, if receiving incoming SMS through the gateway, you will need to open for incoming TCP from the Gateway's IP address on the dedicated port.

To avoid the need for firewall configuration, the XML interface can be used over HTTP with default port number 80. Alternatively, one can use the HTTP interface (non XML) to submit messages using a HTTP POST or GET operation with message parameters supplied. Please refer to the document "HTTP interface" for more information regarding the HTTP interface.

XML may also be posted to the gateway as mail using SMTP. Please see the document "SMTP Interface" for more information regarding this.

Also refer to the product web for more information, "Latest news" and "FAQ".

2 Gateway connect information

XML over TCP socket:

Host: sms.pswin.com
(failover: sms-backup.pswin.com)
Port number: 1111

XML over HTTP: <http://sms3.pswin.com/sms>
(failover: <http://sms3-backup.pswin.com/sms>)

XML over HTTPS: <https://secure.pswin.com/XMLHttpWrapper/process.aspx>
(failover: <https://secure-backup.pswin.com/XMLHttpWrapper/process.aspx>)

Account web: <http://www.pswin.com>

Product web: <http://www.pswin.com>

Support inquiries: support@pswin.com

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>

3 XML Specifications

The XML communication works in a client-server way, where the PSWinCom SMS Gateway acts as the server-part when you send messages and as the client-part when you receive messages.

3.1 Send message request

The XML document consists of two major parts: logon-information and the message-list. The elements of both parts will be explained more in details in chapter 4.

The DTD for a send SMS request is as follows:

```
<!-- PSWinCom DTD SMS Submit-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT NET (#PCDATA)>
<!ELEMENT AP (#PCDATA)>
<!ELEMENT SD (#PCDATA)>
<!ELEMENT TEXT (#PCDATA)>
<!ELEMENT CLASS (#PCDATA)>
<!ELEMENT OP (#PCDATA)>
<!ELEMENT RCPREQ (#PCDATA)>
<!ELEMENT RCPFMT (#PCDATA)>
<!ELEMENT SND (#PCDATA)>
<!ELEMENT RCV (#PCDATA)>
<!ELEMENT CLIENT (#PCDATA)>
<!ELEMENT TARIFF (#PCDATA)>
<!ELEMENT PW (#PCDATA)>
<!ELEMENT NAME (#PCDATA)>
<!ELEMENT TTL (#PCDATA)>
<!ELEMENT CPATAG (#PCDATA)>
<!ELEMENT AGELIMIT (#PCDATA)>
<!ELEMENT SHORTCODE (#PCDATA)>
<!ELEMENT REPLACE (#PCDATA)>
<!ELEMENT DELIVERYTIME (#PCDATA)>
<!ELEMENT SERVICECODE (#PCDATA)>
<!ELEMENT MSG (ID?, NET?, TARIFF?, TEXT, CLASS?, OP?,
RCPREQ?, RCPFRM?, SND?, RCV, TTL?, CPATAG?, AGELIMIT?,
SHORTCODE?, REPLACE?, DELIVERYTIME?, SERVICECODE?)>
<!ELEMENT QRY (NAME)>
<!ELEMENT MSGLST (MSG+)>
<!ELEMENT QRYLST (QRY+)>
<!ELEMENT SESSION (CLIENT, PW, AP?, SD?, MSGLST?, QRYLST?)>
```

A sample of a XML document containing two ordinary text SMS messages:

```
<?xml version="1.0"?>
<!DOCTYPE SESSION SYSTEM "pswincom_submit.dtd">
<SESSION>
  <CLIENT>demo</CLIENT>
  <PW>password</PW>
  <MSGLST>
    <MSG>
      <TEXT>Test message1</TEXT>
      <RCV>4793000000</RCV>
    </MSG>
    <MSG>
```

```

        <TEXT>Test message2</TEXT>
        <RCV>4793000000</RCV>
    </MSG>
</MSGLST>
</SESSION>

```

The sample above shows a minimal XML document with only the elements required to send plain text messages. See chapter 4 for a detailed description of each element and possible values.

Supported character set on communication channel: ISO 8859-Latin1. Unicode cannot be used, but is supported as SMS encoding (see chapter 6)

3.2 Send message response

The Gateway will return a XML document containing status of the logon request, and, if logon was ok, a status for each message submitted.

The DTD for a send SMS response is as follows:

```

<!-- PSWinCom DTD SMS Submit Response-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT REF (#PCDATA)>
<!ELEMENT LOGON (#PCDATA)>
<!ELEMENT REASON (#PCDATA)>
<!ELEMENT STATUS (#PCDATA)>
<!ELEMENT INFO (#PCDATA)>
<!ELEMENT RESULT (#PCDATA)>
<!ELEMENT MSG (ID, REF?, STATUS, INFO)>
<!ELEMENT MSGLST (MSG+)>
<!ELEMENT QRY (RESULT)>
<!ELEMENT QRYLST (QRY+)>
<!ELEMENT SESSION (LOGON, REASON, MSGLST?, QRYLST?)>

```

The response XML for the above sending XML document will be formatted as follows:

```

<?xml version="1.0"?>
<!DOCTYPE SESSION SYSTEM "pswincom_submit_response.dtd">
<SESSION>
    <LOGON>OK</LOGON>
    <REASON></REASON>
    <MSGLST>
        <MSG>
            <ID>1</ID>
            <STATUS>OK</STATUS>
            <INFO></INFO>
        </MSG>
        <MSG>
            <ID>2</ID>
            <STATUS>OK</STATUS>
            <INFO></INFO>
        </MSG>
    </MSGLST>
</SESSION>

```

3.3 Receive message request

The reception of messages is similar to sending, except that the communication is initiated by the Gateway instead of the customer. There's also less parameters and settings available for incoming messages. When setting up your account for incoming messages and would like to receive them using the XML interface, you must supply an IP/port-number or URL at your end. You will need to listen on this port for incoming TCP connections or HTTP POST from the Gateway.

The Gateway will deliver an XML document built on the following DTD:

```
<!-- PSWinCom DTD SMS Receive Request-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT SND (#PCDATA)>
<!ELEMENT RCV (#PCDATA)>
<!ELEMENT TEXT (#PCDATA)>
<!ELEMENT NET (#PCDATA)>
<!ELEMENT ADDRESS (#PCDATA)>
<!ELEMENT MSG (ID, TEXT, SND, RCV, NET?, ADDRESS?)>
<!ELEMENT MSGLST (MSG+)>
```

Please note that here's no login information wrapped in a session element, but only a list of one or more message elements.

A sample XML receive request from the Gateway may be formatted as follows:

```
<?xml version="1.0"?>
<!DOCTYPE MSGLST SYSTEM "pswincom_receive_request.dtd">
<MSGLST>
  <MSG>
    <ID>1</ID>
    <TEXT>Incoming message 1</TEXT>
    <SND>4512345678</SND>
    <RCV>4512345678</RCV>
  </MSG>
</MSGLST>
```

3.4 Receive message response

Upon receiving the incoming messages XML document, the customer should reply with a confirmation of the reception.

The DTD for the response is as follows:

```
<!-- PSWinCom DTD SMS Receive Response-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT STATUS (#PCDATA)>
<!ELEMENT MSG (ID, STATUS)>
<!ELEMENT MSGLST (MSG+)>
```

A sample confirmation of the above receive request will be as follows:

```
<?xml version="1.0"?>
<!DOCTYPE MSGLST SYSTEM "pswincom_receive_response.dtd">
<MSGLST>
  <MSG>
    <ID>1</ID>
    <STATUS>OK</STATUS>
  </MSG>
</MSGLST>
```

3.5 Receive delivery report request

If the client account has been enabled to forward delivery reports to the client, then the client may receive the delivery reports pretty much in the same way as receiving incoming messages. As with receiving messages, you will need to supply the Gateway with an IP address/port number or URL at your end. You will need to listen on this port for incoming TCP connections or HTTP POST from the Gateway.

The Gateway will deliver an XML document built on the following DTD:

```
<!-- PSWinCom DTD SMS Delivery Report Request-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT REF (#PCDATA)>
<!ELEMENT RCV (#PCDATA)>
<!ELEMENT STATE (#PCDATA)>
<!ELEMENT DELIVERYTIME (#PCDATA)>
<!ELEMENT MSG (ID, REF, RCV, STATE, DELIVERYTIME?)>
<!ELEMENT MSGLST (MSG+)>
```

Please note that here's no login information wrapped in a session element, but only a list of one or more message elements.

A sample XML delivery report request from the Gateway may be formatted as follows:

```
<?xml version="1.0"?>
<!DOCTYPE MSGLST SYSTEM "pswincom_report_request.dtd">
<MSGLST>
  <MSG>
    <ID>1</ID>
    <REF>984342374</REF>
    <RCV>4512345678</RCV>
    <STATE>DELIVRD</STATE>
    <DELIVERYTIME>2006.02.23 15:23:23</DELIVERYTIME>
  </MSG>
</MSGLST>
```

3.6 Receive delivery report response

Upon receiving the delivery report XML document, the customer should reply with a confirmation of the reception.

The DTD for the response is as follows:

```
<!-- PSWinCom DTD SMS Delivery Report Response-->  
<!ELEMENT ID (#PCDATA)>  
<!ELEMENT STATUS (#PCDATA)>  
<!ELEMENT MSG (ID, STATUS)>  
<!ELEMENT MSGLST (MSG+)>
```

A sample confirmation of the above receive request will be as follows:

```
<?xml version="1.0"?>  
<!DOCTYPE MSGLST SYSTEM "pswincom_report_response.dtd">  
<MSGLST>  
  <MSG>  
    <ID>1</ID>  
    <STATUS>OK</STATUS>  
  </MSG>  
</MSGLST>
```

4 Elements description

4.1 Session Root element

The root element of the XML send message document is the SESSION element. It embodies both the login information and the list of messages to send. The SESSION element can have the following child-elements: CLIENT, PW, AP and MSGST. They are all described in the following topics:

4.2 Logon information

Three elements are accepted as logon information:

Element	Req	Property	Description
CLIENT	Y	Username	Contains the login name assigned to you by the PSWinCom Gateway operator.
PW	Y	Password	Password assigned to you by the PSWinCom Gateway operator. Note: Since the password is transmitted in clear text it is advised that you also instruct the PSWinCom Gateway operator to perform IP-address filtering for your account, if you are using a permanent address or address range.
AP	N	AffiliateProgram	If you are part of an Affiliate-Program offered by the PSWinCom Gateway provider, you can use this element to specify your Affiliate Program code.
SD	N	SessionData	A free text field that can be used to tag the session with customer specific data such as the application name, username, reference-id etc. The maximum length is 200 characters. Leave empty unless required.

More about the AffiliateProgram parameter:

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</AP>
```

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.

The response XML when submitting a message will contain the following two child elements under the SESSION element:

Element	Description
LOGON	Status for logon. Possible values: "OK" or "FAIL".
REASON	Optional element describing reason for a failed login.

4.3 Message list: MSGLST

One or more element of type MSG is contained as sub-elements/children of a single MSGLST element.

4.4 Message: MSG

This is the main element and contains information about a single message. Please note that not all possible child elements are valid for all requests or responses. Read the DTDs carefully before using the parameters.

Element valid for a Submit SMS request:

Element	Req ¹	Description
ID	N	Numeric ID, must be unique within one XML document/session. The Gateway will use this ID when returning the response XML document. If not set, the Gateway will assign each message a unique number.

¹ Relevant for sending only.

TEXT	Y	The message text, either as plain text or as hex-encoded data depending on Format. For plain text messages, the message length should not exceed 160 characters unless you would like to use concatenated SMS messages. Text 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. Text messages of more than 804 characters will be truncated.
RCV	Y	Number of receiver. Must be specified including the international prefix, but without any leading "+" or "00". At least 9 digits.
SND	N	Number of sender to be displayed on receiver's handset. Numeric with no "+" or space, max 15 digits. Alphanumeric up to 11 characters can also be used. Please note that no special/national characters are allowed for alphanumeric sendernumber. Only the characters a-z, A-Z, 0-9 and !"#%&'()*+ - ./?><; are allowed.
RCPREQ	N	Set to "Y" (Yes) to indicate that a delivery report forward is desired for this message.
OP	N	Specifies the type of operation to perform for message. This property is set to indicate use of logos and ringtones. Possible values: 1 – Plain text (default if not set) 2 – Ringtone 3 – Operator logo 4 – Caller Group Graphic 5 – Picture 6 – vCard 7 – vCalendar 8 – RawBinaryUDH 9 – Unicode
CLASS	N	The GSM message class to use. To send a plain text message as a Flash message (displayed directly on the terminal), set this parameter to 0 (zero). Otherwise skip this element.
TTL	N	Specifies the number of minutes this message will be valid. The time is counted from the moment the message has been received and stored on PSWinCom Gateway. Set to 0 or empty to use default value.
CPATAG	N	Premium SMS messages may have an additional description associated with itself. This value will be shown on the subscribers phone bill to help identify the service purchased. Please note that not all operators support this property, and it may be restrictions to how it is formatted. Pelase

		consult PSWinCom technical support if you intend to use this feature. Others should set it to null.
AGELIMIT	N	You may specify an age limit when sending Premium SMS messages. If you set this property to a value larger than 0 (zero), then the value will be matched against the age of the subscriber. The subscriber must then be at least the given age in order to receive the message.
SHORTCODE	N	This parameter can be used to specify which shortcode account to message should be sent through. It is only relevant for customers with dedicated access numbers hosted on the PSWinCom Gateway.
REPLACE	N	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 11 for more details.
DELIVERYTIME	N	String representing a date and time when the Gateway should try to deliver the message. If 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: 20 th 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.

Elements valid for a submit SMS response:

Element	Req	Description
ID	N	Unique ID within one XML document/session. Autogenerated by Gateway if not set in Request.
REF	N	If the account is enabled for delivery report forwarding, and the RCPREQ element is set to Y, then this element will contain a unique reference id for this message that later can be used to correlate this message with a delivery report. This value must be treated as a string with a length of at least 36 characters.
STATUS	N	Status code indicating whether processing of a message was successful or not. Possible values:

		OK, FAIL
INFO	N	Additional information describing reason for a failed message.

Elements valid for a receive SMS request:

Element	Req	Description
ID	Y	Unique ID within one XML document/session.
TEXT	Y	The message text received.
RCV	Y	Number that the message was sent to. This may be an international formatted number (with country prefix) or an operator specific short/long number (for example 2077)
SND	N	Number of the subscriber that sent the message. This will be an internationally formatted number (with country prefix).
ADDRESS	N	Name and Address lookup information. See chapter 4.6.

Elements valid for a receive SMS response:

Element	Req	Description
ID	N	Unique ID within one XML document/session. Must correspond to the ID of the incoming message(s).
STATUS	N	Status code indicating whether processing of a message was successful or not. Possible values: OK, FAIL

Elements valid for a receive SMS Delivery Report request:

Element	Req	Description
ID	Y	Unique ID within one XML document/session
REF	N	The unique reference value assigned to the message that this delivery report corresponds to. This value must be treated as a string with a length of at least 36 characters.
RCV	Y	The number of the subscriber that this delivery report is related to.
STATE	Y	Final state as assigned by the GSM Network or Gateway. See 4.5
DELIVERYTIME	N	The actual time (in local timezone of the SMSC used) when the message was delivered. Only present for positive delivery reports (State is DELIVRD).

Elements valid for a receive SMS Delivery Report response:

Element	Req	Description
ID	N	Unique ID within one XML document/session. Must correspond to the ID of the incoming delivery report(s).
STATUS	N	Status code indicating whether processing of a delivery report was successful or not. Possible values: OK, FAIL

4.5 Delivery report states

A delivery report indicates the final state of each message, described with a set of predefined states as follows:

State	Description
DELIVRD	SMS was successfully delivered to the receivers phone. If the message is a CPA (Premium SMS), this will be the only state that will result in a charge on the subscribers account and a pay-out to the content-provider.
EXPIRED	The SMS expired while waiting to be delivered. The phone may be out of coverage or not switched on.
UNDELIV	The SMS was undeliverable (not a valid number or no available route to destination).
FAILED	The SMS failed to be delivered because no operator accepted the message or due to internal Gateway error.
BARRED	The receiver number is barred/blocked/not in use. Do not retry message, and remove number from any subscriber list. (Relevant for CPA messages only)
BARREDT	The receiver number is temporarily blocked. May be an empty pre-paid account. (Relevant for CPA messages only)
BARREDC	The receiver has blocked for Premium (CPA) messages. (Relevant for CPA messages only)
BARREDA	The receiver could not receive the message because his/her age is below the specified AgeLimit. (Relevant for CPA messages only)
ZERO_BAL	The receiver has an empty prepaid account. (Relevant for CPA messages only)
INV_NET	Invalid network. Receiver number is not recognized by the target operator.

4.6 Name & address lookup format

This is an optional feature on receiving messages. The Address property on the receive message request 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.

4.7 Query list: QRYLST

One or more element of type QRY is contained as sub-elements/children of a single QRYLST element.

4.8 Query: QRY

This element holds the query definitions. Querying is rather limited as of the current version, and the specifications are subject to change.

Element	Required	Description
NAME	Y	Name of the query to execute. Allowed query names are: <i>qry_balance</i> - Ask for balance on current account.

5 Communication

5.1 Direct TCP socket

The client must establish a TCP/IP connection to the Gateway on the given host and port number. When connected, no prompt will be given from the Gateway.

The XML document should be streamed as a continuously stream of data without delays.

After sending the XML document, the client may choose to disconnect from the Gateway. Alternatively, the client may wait for the Gateway to process the logon information and message-list. A XML document with logon results and status for each message will then be returned to the client over the connection. After receiving the response XML document the client should close the connection, as the Gateway will do so anyway.

It is not possible to send more than one session per connection. It is recommended to send up to 500 messages in each XML document/session. If sending thousands of messages continuously (bulk), it is recommended to send 500 messages in each session and pause for 2 minutes between each session.

5.2 HTTP

The XML document may also be put into a HTTP request and submitted to the Gateway that way. The XML document will be the exact same, but instead of being streamed over a socket, it is put as the body of a HTTP request.

A HTTP request may look like this:

```
POST /sms HTTP/1.0
Host: sms3.pswin.com
Content-type: application/xml
Content-length: 184
```

```
<?xml version="1.0"?>
<SESSION>
<CLIENT>demo1</CLIENT>
<PW>demo1</PW>
<MSGLST>
<MSG><ID>1</ID>
<TEXT>Test message</TEXT>
<SND>4711111111</SND>
<RCV>4712345678</RCV>
</MSG>
</MSGLST>
</SESSION>
```

And the corresponding HTTP response:

```
HTTP/1.1 200 Ok
Server: sms3.pswin.com
Content-type: application/xml
Content-length: 156
```

```
<?xml version="1.0"?>
<SESSION>
<LOGON>OK</LOGON>
<REASON></REASON>
<MSGLST>
<MSG>
<ID>1</ID>
<STATUS>OK</STATUS>
<INFO></INFO>
</MSG>
</MSGLST>
</SESSION>
```

HTTP may also be used for receiving SMS and delivery reports. The XML is then placed as the body of a HTTP request from the Gateway to a destination URL as specified by the customer.

5.3 Retry scheme for incoming messages

Incoming messages (messages received from a subscriber) and delivery reports can be forwarded to the client using the XML interface. The Gateway will try to deliver the message/report up to 5 times if the receiver doesn't reply properly. The delay between each delivery attempt will be as follow:

Attempt no	Delay (since latter attempt)
1	Immediately
2	5 minutes later
3	10 minutes later
4	60 minutes later
5	120 minutes later

If a message or delivery reports is received repeatedly, then the client is probably not replying correctly back to the Gateway within reasonable time.

The customer may request a backup/failover destination to be configured as a secondary delivery destination. This destination will then be tried for each delivery attempt if the main destination doesn't reply properly.

6 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 OP (Operation Type) element to the value 9 to indicate Unicode:

```
<OP>9</OP>
```

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. 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". All other elements are used as for other messages. Please note that it is not possible to use Unicode characters as alphanumeric sender number even if the OP element is set to 9 – Unicode.

To send a message containing the characters "ABC" in Unicode, the following element-values are required:

```
<OP>9</OP>  
<TEXT>004100420043</TEXT>
```

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

8 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 OP (operation) child-element of the <MSG> element must be set to the value of 8:

```
<OP>8</OP>
```

The hex-encoded string must be placed in the Text-element:

```
<TEXT>0605041582000042F22000480E0100000000000000000000  
00000000000000000000000006010000806000001C0707C003E0E0380  
03E0734E0072CE07C000E031DA005B8C070000207FBA005DFE040  
001FFC1EA005783FF801F0046BE007D6200F8000070DA005B0E00  
00000070F4002F0E000000007078001E0E0000000020000000040  
0000000000000000000000</TEXT>
```

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

The Gateway will treat each binary message as one 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.

9 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 mobile 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.

9.1 XML elements

One extra element is required on the MSG element to submit a Premium SMS:

Element	Req	Description
TARIFF	Y	Specifies 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 a separate Agreement.

Also note that the CPATag and AgeLimit elements are optional elements that applies to Premium messages only.

10 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 10.2.

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.

10.1 XML Elements

Two extra elements are required on the MSG element to submit a CPA GAS message/transaction:

Element	Req	Description
TARIFF	Y	Specifies 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.
SERVICECODE	Y	Specifies the type of Goods or Service that the transaction is related to. Refer to chapter 10.2 for a list of valid values.

10.2 ServiceCodes

The table below shows valid ServiceCodes as per this document date.

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

11 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:

<u>Message 1:</u>	<u>Message 2:</u>	<u>Message 3:</u>
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.