



PSWinCom MMS Gateway XML Interface specification

Version date: 2010-02-24

This document and its content is copyrighted by
PSWinCom AS, Norway

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



Table of contents

1	Preface	3
2	Gateway connect information.....	4
3	XML Specifications.....	5
3.1	Send message request.....	5
3.2	Send message response.....	6
3.3	Receive message request	6
3.4	Receive message response	7
3.5	Receive delivery report request.....	8
3.6	Receive delivery report response.....	8
4	Elements description.....	10
4.1	Session Root element	10
4.2	Logon information	10
4.3	Message list: MSGLIST	11
4.4	Message: MSG	11
4.5	Delivery report states	14
4.6	Name & address lookup format	15
4.7	Query list: QRYLIST	15
4.8	Query: QRY	15
5	Communication	16
5.1	Direct TCP socket	16
5.2	HTTP	16
6	MMS Content file	18

1 Preface

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

A .NET assembly component based on this XML interface is available to handle both sending and receiving MMS messages. It should be used to simplify client side implementation when possible.

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 MMS 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. A SOAP/WebService interface is also available.

MMS in general and Premium MMS (CPA) are currently supported for the following operators: Norway: Telenor Mobil, NetCom, Tele2

Please refer to our website for more information.

2 Gateway connect information

XML over TCP socket:

Host: sms.pswin.com

Port number: 1111

XML over HTTP:

URL: <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>)

Website:

<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 MMS Gateway acts as the server-part when you send messages and as the client-part when you receive messages.

The DTDs presented below are backward compatible with the DTDs for sending SMS. That means that you can validate your SMS messages with the DTDs in this document, but you cannot validate your MMS XML documents with the older SMS DTDs. They do therefore also carry the same name as the SMS DTDs.

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 MMS request is as follows:

```
<!-- PSWinCom DTD MMS/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 TARIFF (#PCDATA)>
<!ELEMENT MMSFILE (#PCDATA)>
<!ELEMENT CLIENT (#PCDATA)>
<!ELEMENT PW (#PCDATA)>
<!ELEMENT NAME (#PCDATA)>
<!ELEMENT MSG (ID?, NET?, TARIFF?, TEXT, CLASS?, OP?,
RCPREQ?, RCPFRM?, SND?, RCV, MMSFILE?)>
<!ELEMENT QRY (NAME)>
<!ELEMENT MSGLST (MSG+)>
<!ELEMENT QRYLST (QRY+)>
<!ELEMENT SESSION (CLIENT, PW, AP?, SD?, MSGLST?, QRYLST?)>
```

A sample of a XML document containing an MMS messages:

```
<?xml version="1.0"?>
<!DOCTYPE SESSION SYSTEM "pswincom_submit.dtd">
<SESSION>
  <CLIENT>demo</CLIENT>
  <PW>password</PW>
  <MSGLST>
    <MSG>
      <ID>1</ID>
      <TARIFF>300</TARIFF>
      <TEXT>My MMS message subject</TEXT>
      <OP>13</OP>
      <SND>2180</SND>
```

```

        <RCV>4793000000</RCV>
        <MMSFILE>[base 64 encoded MMS]</MMSFILE>
    </MSG>
  </MSGLST>
</SESSION>

```

The sample above shows the required XML document with, but the content itself (the MMSFILE element) has been left out for simplicity. See chapter 4 for a detailed description of each element and possible values.

Supported character set: ISO 8859-Latin1.

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 MMS 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>
  </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/MMS Receive Request-->
<!ELEMENT ID (#PCDATA)>
<!ELEMENT SND (#PCDATA)>
<!ELEMENT RCV (#PCDATA)>
<!ELEMENT TEXT (#PCDATA)>
<!ELEMENT NET (#PCDATA)>
<!ELEMENT ADDRESS (#PCDATA)>
<!ELEMENT MMSFILE (#PCDATA)>
<!ELEMENT MSG (ID, TEXT, SND, RCV, NET?, ADDRESS?,
MMSFILE?)>
<!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 MMS subject</TEXT>
    <SND>4512345678</SND>
    <RCV>2077</RCV>
    <MMSFILE>[base 64 encoded MMS]</MMSFILE>
  </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 MMS/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>Retrieved</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, SD and MSGLST. 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 or MMS 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/MMS 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/MMS software or 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 MMS request:

Element	Req ¹	Property ²	Description
TEXT	Y	Subject	This is the subject of the MMS to send or receive.
RCV	Y	ReceiverNum	Number of receiver.

¹ Relevant for sending only.

² Corresponding property name in the PSWinCom .NET Client Component.

		ber	<p>Must be specified including the international prefix, but without any leading “+” or “00”.</p> <p>At least 9 digits.</p>
SND	N	SenderNumber	Number of sender to be displayed on receiver’s handset. For MMS messages, this will be fixed to the CPA account used, currently 2077 or 2180.
RCPREQ	N	RequestReceipt	Set to “Y” (Yes) to indicate that a delivery report forward is desired for this message. Note that you need to request to have this feature enabled as it is not default allowed. Contact support@pswin.com for more details.
OP	N	N/A	Specifies the type of operation to perform for message. For MMS messages, this is always “13”.
CLASS	N	N/A	The GSM message class to use. This is not relevant for MMS Messages.
ID	N	N/A	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.
TARIFF	Y	Tariff	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 the CPA Agreement from PSWinCom that is required to use this property.
MMSFILE	Y	Data	The MMS Message content. This is a base64 encoded ZIP-file containing the various parts (images, text, sounds etc) of the MMS. Currently, the maximum size in bytes of an MMS (summarized length of all content elements) is 300kB.

Elements valid for a submit MMS response:

Element	Req	Property	Description
ID	N	N/A	Unique ID within one XML

			document/session. Autogenerated by Gateway if not set in Request.
REF	N	Reference	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	Status code indicating whether processing of a message was successful or not. Possible values: OK, FAIL
INFO	N	FailedReason	Additional information describing reason for a failed message.

Elements valid for a receive MMS request:

Element	Req	Property	Description
ID	Y	<N/A>	Unique ID within one XML document/session.
TEXT	Y	Text	Subject of the MMS message.
RCV	Y	ReceiverNumber	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	SenderNumber	Number of the subscriber that sent the message. This will be an internationally formatted number (with country prefix).
ADDRESS	N	Address	Name and Address lookup information. See chapter 4.6.

Elements valid for a receive MMS response:

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

Elements valid for a receive MMS Delivery Report request:

Element	Req	Property	Description
ID	Y	<N/A>	Unique ID within one XML document/session
REF	N	Reference	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	ReceiverNumber	The number of the subscriber that this delivery report is related to.
STATE	Y	State	Final state as assigned by the GSM Network or Gateway. See 4.5
DELIVERYTIME	N	DeliveryTime	The actual time (in local timezone of the MMSC used) when the message was delivered. Only present for positive delivery reports (State is RETRIEV).

Elements valid for a receive MMS Delivery Report response:

Element	Req	Property	Description
ID	N	<N/A>	Unique ID within one XML document/session. Must correspond to the ID of the incoming delivery report(s).
STATUS	N	<N/A>	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
RETRIEV	MMS was successfully downloaded to the receivers phone. If the message is a CPA (Premium MMS), this will be the only state that will result in a charge on the subscribers account and a pay-out to the content-provider.
REJECTE	The MMS was rejected by the operator or the receiver.
EXPIRED	The MMS expired while waiting to be delivered.
FAILED	The MMS failed to be delivered because no operator accepted the message or due to invalid content file.
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)
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	Req	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: 345

<?xml version="1.0"?>
<!DOCTYPE SESSION SYSTEM "pswincom_submit.dtd">
<SESSION>
  <CLIENT>demo</CLIENT>
  <PW>password</PW>
  <MSGLST>
    <MSG>
      <ID>1</ID>
      <TARIFF>300</TARIFF>
      <TEXT>My MMS message subject</TEXT>
      <OP>13</OP>
      <SND>2180</SND>
      <RCV>4793000000</RCV>
      <MMSFILE>[base 64 encoded MMS]</MMSFILE>
    </MSG>
  </MSGLST>
</SESSION>
```

All headers in the sample above must be supplied, or you will get 402 (Bad Request) HTTP response code in return.

The corresponding HTTP response will look something like:

```
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 MMS 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.

6 MMS Content file

MMS is, compared to SMS, a much more content rich communication technology. However, there are many similarities between how MMS and SMS is used. For existing SMS Gateway customers, the MMS Gateway interface will seem familiar in how it is structured. The MMS Gateway is also an integrated part of the existing PSWinCom SMS Gateway platform, and shares a common user database and web administration tool (account web).

To simplify the packaging and transmission of MMS Messages, we have decided to use a simple ZIP file as the packaging of the MMS content. This means that all the content files/parts of the MMS must be zipped together into one zip-file before transmission to the MMS Gateway. The zip-file should not have any internal directory structure; all content files must reside in the root directory of the zip file, like this:

```
MyZippedMMS.zip contains
    Pres.smil
    Image.gif
    Message.txt
```

Please note that the filenames within the zip file must not contain any national/special characters.

How to construct an MMS presentation with text, audio and image content is beyond the scope of this interface documentation. Most will use some kind of MMS composer or other software to create the files required. Refer to <http://www.w3.org/AudioVideo/> for more information about creating mobile content and SMIL files.

When using the XML interface, you must base64 encode your file with the MMS content, and put the base64 encoded string in the MMSFILE element. How to do this depends on your development tools and platform. PSWinCom currently offers a .NET assembly that simplifies greatly the client side handling. There are also a number of tools and command line utilities available on the web that can create zip files and base64 encode them.

The .NET MMS Client can be downloaded from the PSWinCom website. Follow links to Products / MMS / Downloads.