Cellact m-Enterprise HTTP Interface Description

Interface Description

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1. Preface

1.1 Purpose and Scope

This document describes the Cellact m-Enterprise HTTP interface and XML configuration. The m-Enterprise application platform provides the user with the ability to send SMS messages to mobile operators, in Israel or abroad and to query the user's message balance.

The guide includes the following main topics:

Introduction

Commands

The appendices include:

Code Example

Acronyms

1.2 Audience

This guide is intended for the content provider's system operators. It is assumed that users of the interface are familiar with Cellact m-Enterprise systems and with XML.

2. Introduction

2.1 XML Structure and Parameters

The m-Enterprise HTTP/XML protocol requires a HTTP post request with a specific XML format in order to send a message. The message uses the POST method with a single parameter named: "XMLString".

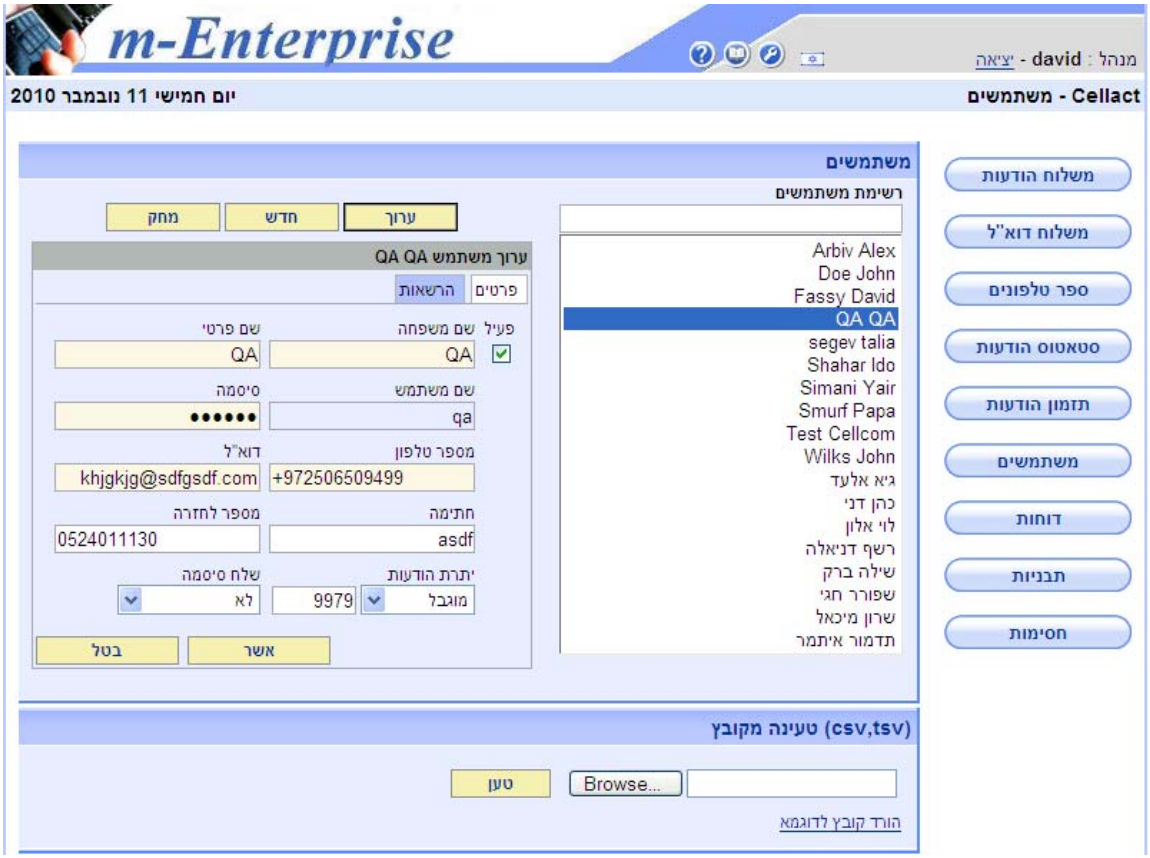
The XMLString parameter contains the XML string that is used in the request.

The XML structure is described for each command. This format includes a HEAD section for general information on the message including authentication fields, as well as a BODY section that provides the specific data of the command. There is also the OPTIONAL section that contains optional parameters.

- The **API address** is: https://cellactpro.net/GlobalSms/ExternalClient/GlobalAPI.asp

2.2 Managing Account/User Details

- The GUI page is available only for the account manager.



1. **Personal** and **Family** names are for the use of the account manager.
2. **Username** and **Password** parameters - must inserted in each post request <APP USER="user" PASSWORD="pwd"/>
3. **Phone number identifier** - use for password remainder by SMS and as call back number in case the **optional CALLBACK** tag is not in use.
4. **Email -** use for password remainder by Email.
5. **Signature –** the user can chose to add a predefined signature to his messages <SIGNATURE/>.
6. **Call back number -** the user can chose to send his messages with a predefined call back number and to not expose his one phone number.
7. **Send password by SMS/Email** – allow the account manager to send passwords' reminders.
8. **Messages' balance** – define the user/account prepaid balance.

3. Required Account Details and Verification

When the account manager opens a new account for you, you should ensure that you have the following information:

- **Account**: The account manager provides the FROM, USER and PASSWORD data necessary for account authentication.
- **Connectivity** to the Internet via port 443 using HTTPS.

Requests that are in other formats are rejected before they reach the SMSC of the mobile operator, and are not delivered.

The sender's call back number may be any valid telephone number (for example +972506123456) or short code (for example 1234). This number appears in the **Reply** field on the target device.

4. Authentication Mechanism

The Authentication mechanism identifies the incoming requests. Authentication is based on the following parameters:

- FROM tag (the company name)
- Username attribute
- Password attribute

5. Billing Models

There m-Enterprise API support with only one type of billing model:

- **Regular message**: charged for every sent message. This is the regular message model.
- **Prepaid**: the user/account prepaid credit cannot be exceeded.

6. Message Length Limitations

Operator support for SMS varies, depending on the maximum allowed message length and on message concatenation support. These two factors influence the SMS setup and display, as well as billing.

Operators use two methods to process messages that exceed the preset text limit:

- **Concatenation**: Concatenation is a system feature that allows for dividing and sending a longer SMS so it is displayed as two or three pages on the handset screen. Concatenated messages are charged according to message length.
- **Splitting**: Operators who do not support concatenation use the split method where messages longer than the set limit arrive at the subscriber's handset as separate messages, not as a single 2-3-page concatenated message. The split messages are charged independently.

Message that contains one or more non-Latin characters is billed as a Unicode message.

Table 1 lists the concatenation support and the supported maximum message length per operator in characters for each type of interface (Unicode or English).

Table 1: Message Length Limit per Operator

Operator	Concatenation Support	Unicode (non-Latin. Hebrew, mixed)		English (Latin chars only)	
		Single	Concat.	Single	Concat.
Cellcom	Yes	70	200	160	470
Mirs	No - split	70	140	140	140
Orange	Yes	70	200	160	470
Pelephone	No - split	126	252	126	252
Outside Israel (GSM networks)	No	70 characters		160	

The user's account has additional message length limitation according to its setting.

The user/account prepaid credit cannot be exceeded.

7. Commands

The following message commands are available in the m-Enterprise HTTP interface:

Sendtextmt	Send a mobile terminated SMS message.
Getcredit	Returns the user's message credit.

8. Sending messages by POST Method API

8.1 Sendtextmt

The request's DEST_LIST may contain up to 1000 destination numbers.

The CONF_LIST can only contain one http address.

There are 3 options for CALLBACK tag:

1. **If a value is specified in the tag, then this value constitutes the CALLBACK. (eg. `<CALLBACK>*5050</CALLBACK>`)**
2. **If no value is specified in the tag, then it extracts the CALLBACK value from mEnterprise. (eg. `<CALLBACK/>`)**
3. **If CALLBACK tag is not used, then it extracts the user's phone number from mEnterprise.**

```
<PALO>
    <HEAD>
        <FROM>company</FROM>
        <APP USER="user" PASSWORD="pwd"/>
        <CMD>sendtextmt</CMD>
        <CONF_LIST>
             <TO>http://0.0.0.0/conf.asp</TO>
        </CONF_LIST>
        <TTSF>201109231705</TTSF>
    </HEAD>
    <BODY>
        <CONTENT>Hi mister!</CONTENT>
        <DEST_LIST>
               <TO>+97252000000</TO>
               <TO>+97252000001</TO>
               <TO>+97252000002</TO>
        </DEST_LIST>
    </BODY>
    <OPTIONAL>
        <CALLBACK/>
        <SIGNATURE/>
    </OPTIONAL>
```

</PALO>

This is the XML that is sent as a parameter in the HTTP/POST request.

This means that the content of the POST request looks like this:
XMLString=<PALO><HEAD>….</PALO>

- **Unicode**: The XML format should be in UTF-8. This allows supporting a set of languages, including Hebrew.
- **Destination Number**: The destination number may contain an international dialing format in order to support target numbers abroad.

8.2 Table 2 lists the parameters are used in the sendtextmt XML

Table 2: XML Parameters

Field	Description
APP	Holds the user credentials.
BODY	Contains command-related data, such as message content and destination numbers.
CONF_LIST	Optional. Contains the http address for the notifications.
CONTENT	Contains the message content.
CMD	Must be a fix parameter "sendtextmt" for SMS.
DEST_LIST	Contains the recipients' phone numbers.
TTSF	Time To Send Fixed: an option to set a time in the future to deliver the message – scheduled message. The format is YYYYMMDDhhmm
FROM	Enterprise unique name (provided by Cellact).
HEAD	Message-related data.
OPTIONAL	Contains optional options such as CALLBACK and SIGNATURE.
PALO	The root tag of the XML request.
CALLBACK	Optional. Adds the user's CallBack number to the message.

Field	Description
SIGNATURE	Optional. Adds the user's Signature to the message.
USER & PASSWORD	User and password as provided by the account manager.

8.3 Response Message Format

The m-Enterprise returns a HTTP 200 Ok in response to a request and provides an XML with success or failure indication.

Response to Successful

Here is an example of an XML response to a successful request:

```
<RESPONSE>
    <BLMJ>d7e78097-4a7f-4893-8ab9-e47f4306fb87</BLMJ>
    <RESULTCODE>0</RESULTCODE>
    <RESULTMESSAGE>Success</RESULTMESSAGE>
</RESPONSE>
```

The BLMJ is the same for message http 200 OK, mt_ok and mt_del and for concatenated messages

Response to Failed

Here is an example of an XML response to a failed request:

```
<RESPONSE>
    <RESULTCODE>50</RESULTCODE>
    <RESULTMESSAGE>Authentication failed</RESULTMESSAGE>
</RESPONSE>
```

8.4 Confirmation on Delivery

There is an option to request a confirmation on the status of a message, in order to know if the message has reached the subscriber's handset. The confirmation is provided as a **HTTP/GET** request from the Large Account to the URL address of the content provider.

8.4.1 Confirmation Request

The HTTP confirmation request is always delivered on port 80 and there is no option to receive the message on a different port.

The new field that is required is the CONF_LIST that includes a TO destination to the URL address of the server of the content provider. The CONF_LIST is part of the HEAD tag.

In response to the HTTP request generated by the content provider, a HTTP 200 Ok answer is sent.

When the message arrives to a new state, a notification message is sent by HTTP/GET to the content provider according to the URL address that was provided in the request. The single parameter in the request is called "confirmation" and contains the XML string.

8.4.2 MT Event States

Table 3 lists the messaging event type indicators included in the **EVT** tag of the delivery confirmation message.

Table 3: EVT Tags

EVT	Description
mt_ok	The message has arrived to the mobile operator gateway.
mt_nok	The message did not arrive to the mobile operator gateway; message was blocked.
mt_del	The message has arrived to the mobile handset.
mt_rej	The message did not arrive to the mobile handset and will never reach it.

The Mirs network and some international mobile operators do not support confirmation on delivery.

8.4.3 Confirmation: Message Was Delivered to GW

Here is an example of a confirmation that the message has arrived at the mobile operator's gateway (SMSC):

```
CONFIRMATION=
<PALO>
   <BLMJ>d7e78097-4a7f-4893-8ab9-e47f4306fb87</BLMJ>
   <SENDER>0501111111</SENDER>
   <RECIPIENT MNP="97254">+972501234567</RECIPIENT>
   <FINAL_DATE>20090614122112</FINAL_DATE>
   <EVT>mt_ok</EVT>
   <REASON>5000</REASON>
   <SERVICE_NAME>Company$User_name</SERVICE_CODE>
   <MESSAGE_COUNT>1</MESSAGE_COUNT>
</PALO>
```

8.4.4 Confirmation: Message Did Not Reach GW

Here is an example of a confirmation that the message did not reach the mobile operator's gateway (SMSC) and therefore will not reach the mobile handset:

```
CONFIRMATION=
<PALO>
   <BLMJ>d7e78097-4a7f-4893-8ab9-e47f4306fb87</BLMJ>
   <SENDER>0501234567</SENDER>
   <RECIPIENT MNP="97250">+972501234567</RECIPIENT>
   <FINAL_DATE>20090615095516</FINAL_DATE>
   <EVT>mt_nok</EVT>
   <REASON>2010</REASON>
   <SERVICE_NAME>Company$User_name</SERVICE_CODE>
   <MESSAGE_COUNT>1</MESSAGE_COUNT>
</PALO>
```

8.4.5 Confirmation: Message Was Delivered

Here is an example of a confirmation that the message has reached the subscriber's handset:

```
CONFIRMATION=
<PALO>
   <BLMJ>d7e78097-4a7f-4893-8ab9-e47f4306fb87</BLMJ>
   <SENDER>0501235467</SENDER>
   <RECIPIENT MNP="97250">+972507124895</RECIPIENT>
   <FINAL_DATE>20080803123145</FINAL_DATE>
   <EVT>mt_del</EVT>
   <REASON>1000</REASON>
   <SERVICE_NAME>Company$User_name</SERVICE_CODE>
   <MESSAGE_COUNT>1</MESSAGE_COUNT>
</PALO>
```

In addition to the mt_del confirmation, a mt_ok confirmation is received from the operator's SMSC (both of them are include the same BLMJ)

8.4.6 Confirmation: Message Was Not Delivered

Here is an example of a confirmation that the message was not delivered to the subscriber's handset and will never reach the handset:

```
CONFIRMATION=
<PALO>
   <BLMJ>d7e78097-4a7f-4893-8ab9-e47f4306fb87</BLMJ>
   <SENDER>0501234567</SENDER>
   <RECIPIENT MNP="97250">+972501234567</RECIPIENT>
   <FINAL_DATE>20080731095516</FINAL_DATE>
   <EVT>mt_rej</EVT>
   <REASON>2010</REASON>
   <SERVICE_NAME>Company$User_name</SERVICE_CODE>
   <MESSAGE_COUNT>1</MESSAGE_COUNT>
</PALO>
```

In addition to the mt_rej confirmation, a mt_ok confirmation is received from the operator's SMSC (both of them are include the same BLMJ).

8.4.7 Table 4 lists the parameters are used in the Confirmation XML

Table 4: XML Parameters

Field	Description
BLMJ	Message unique identifier. **Notice:** The BLMJ is the same for message http 200 OK, mt_ok and mt_del and for concatenated messages.
EVT	Message status (for more details see MT Event States)
FINAL DATE	The time of the current message status.
MESSAGE_COUNT	Indicate the message total parts (for concatenation)
OPTIONAL	Contains optional options such as CALLBACK and SIGNATURE.
PALO	The root tag of the XML request.
REASON	Confirmation code.
RECIPIENT	The message recipient (MNP indicate the recipient operator).
SERVICE_NAME	Include the company (FROM) and User name (USER) separated by $.

9. Sending Credit request by POST Method API

9.1 Getcredit

Entering the <CMD>**getcredit**</CMD> command in the CMD tag in the HEAD section sends a request message.

Here is an example of the complete request for this command:

```
<PALO>
   <HEAD>
      <FROM>company</FROM>
      <APP USER="user" PASSWORD="pwd"/>
      <CMD>getcredit</CMD>
   </HEAD>
</PALO>
```

9.2 Table 5 lists the parameters are used in the getcredit XML

Table 5: XML Parameters

Field	Description
APP	Holds the user credentials.
CMD	Must be a fix parameter "getcredit" for SMS.
FROM	Enterprise unique name as provided by account manager.
HEAD	Message-related data.
PALO	The root tag of the XML request.
USER & PASSWORD	User and password as provided by the account manager.

9.3 Response Message Format

The m-Enterprise returns a HTTP 200 Ok in response to a request and provides an XML with success or failure indication.

Response to Successful

```
<RESPONSE>
   <CREDIT>91</CREDIT>
   <RESULTCODE>0</RESULTCODE>
   <RESULTMESSAGE>Success</RESULTMESSAGE>
</RESPONSE>
```

10. Appendices

10.1 Code Example

Here is an example of a VB script for an MT SMS message:

```
Dim args
Set args = WScript.Arguments
Set winObj = CreateObject("WinHttp.WinHttpRequest.5.1")
' Also you can use HTTPS
Call winObj.Open("POST",
"https://cellactpro.net/GlobalSms/ExternalClient/GlobalAPI.asp",
False)
winObj.Option(WinHttpRequestOption_SslErrorIgnoreFlags) = &H3300
'Set request header.
winObj.setRequestHeader "User-Agent", "Message Test"
winObj.setRequestHeader "Content-Type", "application/x-www-form-
urlencoded"
'Build the XML for sending
lsXml="<PALO><HEAD><FROM>company</FROM><APP USER=""user_name""
PASSWORD=""password""/><CMD>sendtextmt</CMD><CONF LIST><TO>http:
//0.0.0.0/ConfTest/COD.asp</TO></CONF LIST></HEAD><BODY><CONTENT
>Test</CONTENT><DEST_LIST><TO>+972520000000</TO></DEST_LIST></BO
DY><OPTIONAL><CALLBACK/><SIGNATURE/></OPTIONAL></PALO>"
'Call Replace Data
lsXml = ReplaceData(lsXml)
'Concatenating the XMLString to its paramater
SendString = "XMLString=" & lsXml
winObj.send (SendString)
'Print Response
result=winObj.responseText
wscript.echo result
'Replace Problematic Chars
Function ReplaceData(ByRef data)
data = Replace(data, "%", "%25")
data = Replace(data, " ", "%20")
data = Replace(data, "#", "%23")
data = Replace(data, "&", "%26")
data = Replace(data, "?", "%3F")
data = Replace(data, "+", "%2B")
ReplaceData = data
wscript.echo lsxml
End Function
```

10.2 Acronyms

Table 6 lists the acronyms that may be used in this document.

Table 6: Acronyms

Acronym	Definition
BLMJ	Billing Major
CP	Content Provider
EVT	Event
GSM	Global System for Mobile Communication
GW	Gateway
LA	Large Account
MO	Mobile Originated (transaction)
MMSC	Multimedia Message Service Component (network)
MNP	Mobile Number Portability
MT	Mobile Terminated (transaction), Message Type
RB	Reverse Billing
SM	Short Message
SMS	Short Message Service
SMSC	Short Message Service Component (network)
SMPP	Short Message Protocol
SMTP	Short Message Transfer Protocol
TDMA	Time Division Multiple Access
TR	Transaction (as in TR_ID)
TTL	Time To Live
TTSF	Time To Send Fixed: an option to set a time in the future to deliver the message – scheduled message. The format is YYYYMMDDhhmm

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