ValueFirst HTTP API Version 1.1

User Guide
Version <1.2>

Table of Contents

Introduction....3
Overview of Service....3
Sender ID Consideration....3
Character set support....3
Message Length....3
Using Service....4
End Point....4
Service Response....4
Extended Parameters....5
Using UDH for Wake-up Messaging....7
Sending Binary Messages for CDMA....8
Ringtone on CDMA Numbers....9
Sending Bulk Message....10
Application Constraints....11

Introduction

Overview of Service

ValueFirst HTTP SMS service is designed to let end user send across SMS messages using HTTP interface. The API supports custom UDH, flash messages, message scheduling (if supported by operator) and various other advance features.
The API is specially designed to let user send custom UDH while sending messages.

Sender ID Consideration

Reliance network in India bars any incoming message alpha-numeric sender ID. It supports incoming messages from Numeric Non-Reliance Number. This needs to be taken care while using a sender ID for Reliance network.
It also has been noticed some networks (GSM/CDMA) internationally do not allow alpha-numeric Sender ID.
Unicode Sender ID is not supported

Character set support

GSM network supports GSM character set. Other than this ValueFirst HTTP API support sending messages in Unicode using Unicode-16 Big-Ending and UTF-8 format.

Message Length

For standard Latin character set 160 characters per SMS is supported.
For Unicode messaging only 70 characters per SMS is supported.
For Binary messaging 140 characters including UDH is supported.
If a message is sent whose length is longer than permitted characters limit, it shall be broken into multiple messages.

To send long messages that auto-concatenate on mobile phone, use UDH according to Smart messaging guide.

Using Service

End Point

The end point of the service is http://www.myvaluefirst.com/smpp/sendsms. The complete URL is as follows:

http://www.myvaluefirst.com/smpp/sendsms?username=[xxxxxxxx]**&password=**[xxxxxxxx]**&to=**[xxxxxxxxxx]**&udh=[xxxxxxxxx]&from=**[xxxxxxxx]**&text=**[xxxxxxxxxxxxxxxx]**&dlr-url=**[xxxxxxxxxxxxx]....

The following are the required parameters:

Parameter	Description
username	Specify the account name. Kindly contact ValueFirst to get one
password	Password attached to username
To	Recipient number. Only single recipient is supported
From	Sender Number or ID. Sender ID can be a 9-13 digits number or 11 digit alpa-numeric sender ID.
Text	Text that needs to be sent on mobile handset. In case of binary content or Unicode messages the Text should be hex-encoded value.
dlr-url	Specify the path on which Delivery report need to be returned. This is a path on your server, which shall be called in when a delivery report is received by ValueFirst against an outgoing message.
Udh	User-defined data header. The data header is used for long messages as well as sending binary content. If you need to send message to specific port (for j2me application to receive), you may specify the information in udh parameters.

Service Response

When data is posted on HTTP API, the following responses are generated.

Response	Description
Sent.	Message sent Successfully
Sent. Split into N	Message was sent, however it was found to be longer than permitted limit and hence was spitted into multiple messages
Number(s) has/have been denied by white- and/or black-lists.	Invalid Recipient numbers.
Empty receiver number not allowed, rejected	Recipient number is empty.
Sender missing and no global set, rejected	Sender number is missing.
Empty text not allowed, rejected.	Message Text is empty.
unknown request	Kannel is down or SMSC connectivity problem.
Authorization failed for sendsms	Invalid Username and Password.

Extended Parameters

The followings are the extended parameter supported by ValueFirst HTTP API. Please note that all variables are in small case.

Variable Name	Type	Description
username	string	Username or account name. Please contact ValueFirst to get an account for sending SMS.
password	string	Password associated with given username.
From	string	Phone number of the sender.
to	string	Phone number of the receiver.
Text	string	Contents of Message, URL encoded as necessary. The Content can be more than 160 characters.
charset	string	Charset of text message. Used to convert to a format suitable for 7 bits or to UCS-2. Defaults to WINDOWS-1252 if coding is 7bits and UTF-16BE if coding is UCS-2.
Udh	string	Optional User Data Header (UDH) part of the message. Must be URL encoded. For detail on how to use UDH for wake-up messaging, kindly see the next section
Mclass	number	Optional. Sets the Message Class in DCS field. Accepts Values between 0 and 3, for Message Class 0 to 3, A value of 0 sends the message directly to display, 1 sends to mobile, 2 to SIM and 3 to SIM toolkit.
mwi number	Number	Optional. Sets Message Waiting Indicator bits in DCS field. If given, the message will be encoded as a Message Waiting Indicator. The accepted values are 0, 1, 2 and 3 for activating the voice, fax, email and other indicator or 4, 5, 6, 7 for deactivating, respectively. This option excludes the flash Option.
compress	number	Optional. Sets the Compression bit in DCS Field.
Coding	number	Optional. Sets the coding scheme bits in DCS field. Accepts values 0 to 2, for 7bit, 8bit or UCS-2. If unset, defaults to 7 bits unless a UDH is defined, which sets coding to 8bits.
Validity	Number (minutes)	Optional. If given, Kannel will inform SMS Center that it should only try to send the message for this many minutes. If the destination mobile is off other situation that it cannot receive the SMS, the SMSC discards the message. Note: you must have your Kannel box time Synchronized with the SMS Center.

dlr-mask	Number (bit-mask)	Optional. Request for delivery reports with the state of the sent message. The value is a bit mask composed of: 1: Delivered to phone, 2: Non-Delivered to Phone, 4: Queued on SMSC, 8: Delivered to SMSC, 16: Non-Delivered to SMSC. Must set dlr-url on sendsms-user group or use the dlr-url CGI variable.
dlr-url	String URL	Optional. If dlr-mask is given, this is the url to be fetched. (Must be url-encoded)
alt-dcs	number	Optional. If unset, Kannel uses the alt-dcs defined on SMSC configuration or 0X per default. If equals to 1, uses FX. If equals to 0, force 0X.
Rpi	number	Optional. Sets the Return Path Indicator (RPI) value. (See ETSI Documentation).
priority number	number	Optional. Sets the Priority value (Range 0-3 is allowed).
category	String	Optional parameter to send bulk messages. It can consists of value: **bulk**

Using UDH for Wake-up Messaging

UDH is used for sending long messages that are assembled at Mobile device level into one SMS. UDH is also used for sending specialized messages like Ringtone, logo, picture messages, vCard, vCAL and messages to custom mobile applications.
The most common use of UDH is to send message to a specific port (called destination port). Since each port has a different meaning on mobile phone, mobile phone understands message content according to port of the message.
The following are the standard ports:

Port Number (decimal)	*Port Number (hexadecimal)*	*Application/Protocol*
0	*0*	*Default port for transparent (legacy) messages*
80	*50*	*WWW Server (HTTP)*
226	*E2*	*Business Card exchange (MIME vCard) Card reader*
228	*E4*	*Calendar Items (MIME vCalendar) Calendar reader*
5501	*157D*	*Compact Business Card reader (not specified in this document)*
5502	*157E*	*Service Card reader (not specified in this document)*
5503	*157F*	*Internet Access Configuration Data reader*
5504	*1580*	*<RESERVED>*
5505	*1581*	*Ringing Tone reader*
5506	*1582*	*Operator Logo*
5507	*1583*	*CLI Logo*
5508	*1584*	*Dynamic Menu Control Protocol (not specified in this document)l*
5509	*1585*	*<RESERVED>*
5510	*1586*	*<RESERVED>*
5511	*1587*	*Message Access Protocol*
5512	*1588*	*Simple Email Notification*
5513	*1589*	*<RESERVED>*
5514	*158A*	*<RESERVED>*
5580	*15CC*	*Character-mode WWW Access (TTML) (not specified in this document)*
5601	*15E1*	*<RESERVED>*
5603	*15E3*	*<RESERVED>*
8500	*2134*	*<RESERVED>*
8501	*2135*	*<RESERVED>*
8502	*2136*	*<RESERVED>*

The UDH parameter which is usually 12 bytes hex content need to be setup in following manner:

Octet Number	Value	Description
1	0B	Length of the User Data Header
2	05	Information Element Identifier (IEI; application port addressing scheme, 16-bit port address)
3	04	Information Element Data Length (IEDL)
4 – 5	23 F5	Information Element Data (octets 4 & 5 --> 23F5 – destination port)
6 – 7	00 00	Information Element Data (octets 6 & 7 --> 0000 – originator port)
8	00	Information Element Identifier (IEI; concatenated short message, 8-bit reference number)
9	03	Information Element Data Length (IEDL)
10	02	Information Element Data (concatenated short message reference number)
11	02	Information Element Data (total number of concatenated messages (0-255))
12	01	Information Element Data (sequence number of current short message)

In above example you need to send `&udh=%0B%05%04%23%F5%00%00%00%03%02%02%01`
The Underlined part indicates destination and source ports. Other fields like SMS reference number, total number of messages in block and current sequence number shall change according to number of messages used for transferring current information.

However if the message can be accommodated in 1 SMS only then you may change the UDH length as well as remove elements related to message concatenation information. The new UDH may look like following:

Octet Number	Value	Description
1	06	Length of the User Data Header
2	05	Information Element Identifier (IEI; application port addressing scheme, 16-bit port address)
3	04	Information Element Data Length (IEDL)
4 – 5	15 82	Information Element Data (octets 4 & 5 --> 1582 – destination port)
6 – 7	00 00	Information Element Data (octets 6 & 7 --> 0000 – originator port)

For single message case your UDH has now become `&udh=%06%05%04%15%82%00%00`

Sending Binary Messages for CDMA

ValueFirst HTTP SMS service can be used to send binary messages to CDMA numbers. To send binary messages to CDMA numbers, client need to send well formed user data header failing on which service will return an error. Binary message text must be prefixed with well formed user data header.

User data header for CDMA numbers contains following parameters:

<Keyword><port-information><delimiter>
Where,

- Keyword: It must be "//SCKL"
- Port-Information: it contains following parameters:
  <destination-port-address> or <destination-port-address><source-port-address> or <destination-port-address><source-port-address><SAR-info>
- Delimiter: <space>

Message Text would be:

Bytes Number	Value	Description
1-6	//SCKL	WDP datagram addressing scheme to the receiving device.
7-10	158A	Information Element Data (bytes 7 to 10 → 158A – destination port).
11-14	0000	Information Element Data (bytes 11 to 14 → 0000 – source port). It is optional.
15-16	00	Information Element Identifier i.e. 8-bit reference number.
17-18	02	Information Element Data (total number of concatenated messages(0-255))
19-20	01	Sequence number of current short message.
21	<space>	
22 byte onwards	1-n 8-bit characters of user data	Hexadecimal value of message text.

However, if message text can be sent in one SMS only then, we may change the user data header as i.e.

Bytes Number	Value	Description
1-6	//SCKL	WDP datagram addressing scheme to the receiving device.
7-10	158A	Information Element Data ((bytes 7 to 10 → 158A – destination port).
11	<space>	
12 byte onwards	1-n 8-bit characters of user data	Hexadecimal value of message text.

Ringtone on CDMA Numbers

Following is an example of ringtone message, which can be sent by single SMS. Ringtone reader listens on port 1581 of the mobile terminal.

Ex: 024A3A650995D1D195C93D999804144288F511610611624D30831445

Bytes Number	Value	Description
1-6	//SCKL	WDP datagram addressing scheme to the receiving device.
7-10	1581	Information Element Data ((bytes 7 to 10 → 158A – destination port).
11	<space>	It is a delimiter between user data header and binary message text.
12 byte onwards	1-n 8-bit characters of user data	024A3A650995D1D195C93D999804144288F511610611624D30831445

```
Udh part for given ring tone would be //SCKL1581+ so the URL encoded
text parameter would be as:

%2F%2FSCKL158A000000+024A3A594D8549951D84040018D90491613615616618 61A61C
6288B000
```

Sending Bulk Message

HTTP API incorporates function to send bulk messages to multiple users throughout single HTTP session. It can send bulk messages to maximum 100 recipients (mobile number) in single sessions.

Customer can use following sample URL in the http request to send bulk message:

Sample URL:
http://xxx.xxx.x.xxx/sendsms?username=vf&password=vf123&to=9198xxxxxxxx,9199xxxxxxxx&from=Senderid&text=this%20is%20a%20test%20message&category=bulk

Parameters in Requested URL	Description
username	Stores valid user name to access HTTP API service
password	Stores valid password to access HTTP API service
to	Stores mobile number of recipients prefixed by "91" digit and separated by comma
from	Stores send id of message sender
text	Stores the actual message text to be delivered on the mobile phone of user
category	Stores the value as "**bulk**" that specifies bulk messages are to be sent to multiple recipients. By default, this parameter stores value: **blank** that specifies bulk messages will not be sent in currently established HTTP session.

Customer can use following sample URL for receiving the DLR:

Sample DLR URL:

http://ip/app/status?unique_id=%7&reason=%2&to=%p&from=%P&time=%t&status=%d

Encoded dlr-url parameter will be:
http%3A%2F%2Fip%2Fapp%2Fstatus%3Funique_id%3D%EF%BB%BF%257%26reason%3D%EF%BB%BF%252%26to%3D%EF%BB%BF%25p%26from%3D%25P%26time%3D%25t%26status%3D%25d

To receive dlr, please add following required parameters in the aforementioned URL:

Parameters in dlr-url	value	Description
$unique_message_id	%7	Stores unique message ID assigned to messages sent to recipient
$vf_reason_code	%2	Stores the reason code to specify the reason of message delivery failure
$to	%p	Stores the mobile number of recipient separated by comma
$from	%P	Stores the sender ID of user who is sending messages
$time	%t	Stores the time at which messages are sent
$status	%d	Stores the status of messages

Note:
In the requested HTTP URL to send bulk messages, the attributes used in the URL can be named accordingly but values used corresponding to used attributes or variables are case sensitive.

Application Constraints

HTTP API v1.1 specifies following constraints:

- Doesn't send messages on duplicate number
- Doesn't send binary messages
- Can send bulk messages to maximum 100 recipients throughout single HTTP session
- Employs only "Get" method to send requested HTTP URL
- Requires "91" digit as prefix to the mobile number of recipient separated by comma

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