IceWarp Server

SMS Service Reference

Version 10

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The SMS Service incorporated into IceWarp Server is a gateway to mobile networks allowing IceWarp Server to:

- send and receive SMS messages.
- use SyncML SMS PUSH technology to instantly synchronize server data to mobile devices.
- be a bridge between email and SMS - using IceWarp Server’s sms: protocol.
- extend CRM and other custom applications by text messaging capabilities.

Multiple SMS gateways can be configured within IceWarp Server, allowing a greater throughput of messages as IceWarp Server will automatically balance the workload between them.

2N Voiceblue GS M Gateway. An example of a hardware gateway which can communicate over USB as a locally connected modem or over Ethernet as an HTTP remote gateway.
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V10 New Features

Non-Delivery Reports

Bounce-backs for text messages sent via email or WebMail work exactly the same way as SMTP NDR. First you receive a warning if message is still not delivered after some time (SMTP - Delivery - Warning option is used for this, same as for SMTP) and if the message cannot be delivered and expires (SMS API setting) you will receive the final NDR on message delivery failure. The original text is always included. This of course applies only if the real sender is known (sent from webmail, email or specified in the SMS API).

SMS Access Mode

Access Mode has been added so that system users don’t need any extra setup for account and authentication. Account settings have been removed, everything needs to be set at the user level in Domains & Accounts - User – Services. System account integration via Access Mode allows global, domain, account level SMS settings. During upgrade Access Mode for SMS is set to List, ensures that after upgrade system accounts do not get full access to SMS service.

IM to SMS Gateway

For SMS over IM, you can define an SMS transport gateway on the IM server and users can send messages using their access mode and SMS gateway integration. You just register the gateway and you can start using it immediately. Supports smsparams module parameters which will be added to each sent SMS to the SMS service, if destination JID does not contain '%' for domain delimiter the destination is not an email address but SMS, you can use the email gateway service definition (email.domain.com) or create a new sms.domain.com

SIP to SMS Gateway

Text messages can be sent directly from capable SIP phones through IM Gateway/SIP rules by the means of MESSAGE method. With a new set of SIP rules you can intercept the MESSAGE method and instead of letting it go to some remote SIP server or user you override it and send the content to the SMS service. You can also send instant messages using that method between SIP nodes and even some more advanced features.

<NUMBER>^[0-9].*</NUMBER><METHOD>MESSAGE</METHOD><SMS>1</SMS><RESPONSE>200 OK</RESPONSE>

Content Filters for Incoming/Outgoing Messages

From version 10, Incoming/Outgoing Messages tabs have been converted to use the fully capable content filter engine. Any existing rules are automatically converted during upgrade to content filter XML format. This allows yet deeper system integration by the means of Execute application, Execute SQL Statement and other actions the rules engine lacks (for security reasons).
Reply To: Conflict Message

Sent only if the correct recipient could not be determined automatically, tells the sender to use #email# within the body of the message to reach the desired recipient, and suggests the address.

Support for 00 Number Prefix

Supports international numbers transparently along with support for local number format added, in the latter case it uses only the last 9 digits, number sanitization implemented. A message sent to a local number would be matched with a received number in international format.

Alphanumeric Number Support

PDU supports alphanumeric type of number as in GSM 03.40 and GSM 03.38.

Mail Archive Support

Outgoing SMS messages are archived and accessible in user mail archive.

SMS Expiration

New C_SMSService_ExpireMins variable lets you define SMS expiration for undeliverable messages in minutes.

User Rules for SMS Matching

SMS Server supports user rules for incoming SMS messages. Based on a custom rule, users can match an incoming SMS and forward it on or place it under a special folder for example.

Send-Out Statistics

Number of messages sent in Previous month sent and Last sent date statistics added to SMS Account dialog.

Maxmsg Parameter Support for HTTP Gateway

Local SMS server to remote HTTP server internal maxmsgs parameter support added so only the limited part of the original message is passed to the HTTP gateway. Direct HTTP access still needs to solve the truncating externally.

Unicode Support for Clickatel

New set of parameter attributes and a pre-defined URL format available directly in the HTTP request dialog for sending accented and double-byte messages through Clickatel SMS gateway provider.
Why Do I Need an SMS Service?

You need a working SMS service if you want to:

- send or receive SMS
- use SyncML SMS PUSH technology
- send bulk text messages
- extend web applications by SMS functionality
- enhance the WebMail/email user experience with mobile communication

SMS is the best communication channel for direct marketing campaigns, social services, consumer competitions, market research and other applications.

Immediate and cost-effective at the same time, text messaging offers retailers a highly effective medium to deliver an attractive, personalized content with a greater reach and response than through print or email. According to a recently released report by the DMA, of the 800 U.S. mobile phone users surveyed, 70% said they had responded to a marketing text message whereas just 41% had responded to a survey and 30% to email offers.

What Hardware Will I Need?

Any standard GSM capable modem should work fine, including attached mobile phones with modem capabilities (e.g. Nokia E51). Note that some cellular phones only allow you to send out, but messages cannot be received by the means of AT commands. CDMA and other network standards were not tested, these are supported only if the modem is using the same standard AT commands to send and/or receive the messages. Please refer to the modem's specifications prior to use.

OR, none.

If you don't have a modem or need to send to an incompatible network, you can still take the full advantage of SMS service. A number of carriers offers bulk SMS services through an HTTP API, accessible remotely over Internet, so you only need to subscribe to an SMS plan with a provider matching your messaging needs.
Why Would I Want More Than One SMS Gateway?

You don't actually need more than one SMS Gateway but if there are multiple gateways (any combination of remote HTTP gateways and/or USB/COM port connected modems), then the SMS workload will automatically be balanced between them.

This would give greater throughput of messages (if required) and provide service failover.

GSM Service

The GSM gateway is used by connecting an external GSM modem device to the computer where IceWarp Server is running.

Using a GSM modem enables you to send and receive SMS messages from IceWarp Server directly to the wireless carrier.

Tested products

The GSM SMS Service functionality has been fully tested with the following products:

- 2N VoiceBlue Lite
- Siemens ES75
- Huawei E220
- Nokia E51 mobile phone connected as a GSM modem

but should work with any standard GSM modem device capable of serial communication with the computer through a set of AT commands.

HTTP SMS Service

An HTTP gateway allows you to use a remote SMS service to send SMS messages, as opposed to having a GSM modem connected locally to your server. This remote service might be provided by your GSM carrier, a third-party SMS service provider, or even another instance of IceWarp SMS Server.

This could be useful in a large distributed organization where you could have a single IceWarp Server set up to deal with all SMS requests, or even multiple services around the world to take advantage of cheaper national SMS pricing plans - using rules (see Outgoing Messages) to decide which provider to use.
Tested Products

The HTTP SMS Service functionality has been fully tested with the following carriers:

- Clickatel
SMS Service Setup

You will need to know the following information before you can set up SMS Service:

- which COM port your modem is using.
  you can determine this by examining the modem properties in your computer's operating system.
- the PIN number of your modem (if set).
- your service provider's messaging center number.
  this may be already set up in your modem or you can ask your service provider.

OR, if using a remote SMS gateway:

- URL of HTTP request containing, at the very least, the remote server hostname, authentication credentials, message payload format, optionally header information for binary and concatenated messages; please refer to the literature of your provider (usually found under developer/API resources).

Once you have this information you can proceed to set up SMS Service.

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SMS Service - General

Selecting the SMS Service node in the IceWarp Server console will display the SMS Service configuration area, with all current services listed:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Check this option to activate the SMS Service functionality.</td>
</tr>
<tr>
<td>Access Mode</td>
<td>Click the button to set the access mode for this service. For more information about access modes, refer to the Access Mode chapter.</td>
</tr>
<tr>
<td>System account settings</td>
<td>Click this button to set SMS account options for the default account. The SMS Account dialog appears – see lower.</td>
</tr>
<tr>
<td>URL</td>
<td>URL of the local HTTP gateway for integration with custom scripts or applications.</td>
</tr>
<tr>
<td>ID</td>
<td>This column shows the COM port that this service is using.</td>
</tr>
<tr>
<td>Description</td>
<td>Your free-form description for this service.</td>
</tr>
<tr>
<td>Type</td>
<td>The type of modem this service is using.</td>
</tr>
<tr>
<td>Active Column</td>
<td>Whether this service is active (set by you).</td>
</tr>
<tr>
<td>Add</td>
<td>Press this button to add a new service.</td>
</tr>
<tr>
<td>Edit</td>
<td>Select a service and press this button to modify the service's settings.</td>
</tr>
<tr>
<td>Delete</td>
<td>Select a service and press this button to delete a service.</td>
</tr>
</tbody>
</table>

Pressing the Settings... button will open the SMS Account dialog.

These settings are used in case Access Mode is set to All accounts (i.e. there is no way to define the options individually for users).

If you set Access Mode to Use Domain Options, you must define an SMS Account in Management - [domain] - Services - SMS Settings. Otherwise empty settings are used and text messaging is not available for the domain.
Similarly, if you set **Access Mode** to **Use account options**, you must define the **SMS Account** in **Management - [user] - Services - SMS Settings**. Otherwise, empty settings are used and text messaging is not available for the user.

If you set **Access Mode** to **Accounts from list** or **Advanced mode**, the **SMS Settings** will be available depending if you have, or have not, specified AN account, respectively.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>Select from the list.</td>
</tr>
<tr>
<td>Expire</td>
<td>Select the date of the account expiration.</td>
</tr>
<tr>
<td>Monthly messages limit</td>
<td>Enter the maximum number of messages that can be sent per month; if &quot;0&quot; (zero) is left, there is no limit set. For example evaluation accounts can be created by limiting a number of sent messages to 10 and/or setting a 7 day expiration.</td>
</tr>
</tbody>
</table>
| Number of sent messages this month (Auto adjusted) | The use is two-fold:  
1. Message counter. The value shown here tells you how many messages have been sent this month by users or groups within this account. It is automatically reset to 0 at each month’s end.  
2. Counter reset. Type 0 or any other value and click OK to reset the monthly counter. |
| Number of sent messages previous month (Auto adjusted) |  
1. The value shown here tells you how many messages have been sent in the previous month by users or groups within this account. If there has been no activity in that month, it is automatically reset to 0 at each calendar month’s end.  
2. Counter reset. Type 0 or any other value and click OK to reset the monthly counter. |
| Last sent | Shows the date and time when the last message was sent through this SMS account. |
Pressing the Add or Edit buttons will open the **SMS Gateway** dialog:

![SMS Gateway dialog](image)

This dialog is used to setup or modify gateway's properties.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Check this option to activate this SMS gateway.</td>
</tr>
<tr>
<td>ID</td>
<td>Unique identifier of the gateway, needs to be specified when multiple gateways are configured on the same server. Gateway ID is used to route messages to a specific gateway within gateway selection dialogs, in Outgoing/Incoming Messages rules or by URL parameter ?id=XXX. If not specified there, load-balancing takes places automatically and the first available gateway is used to send the message.</td>
</tr>
<tr>
<td>Type</td>
<td>Select the gateway type:</td>
</tr>
<tr>
<td>GSM Modem</td>
<td>This gateway will connect to a GSM local hardware modem.</td>
</tr>
<tr>
<td>HTTP Request</td>
<td>This gateway will connect to a remote HTTP server.</td>
</tr>
<tr>
<td>Device</td>
<td>For a GSM Gateway</td>
</tr>
<tr>
<td>COM port</td>
<td>Select the COM port of the modem to use with this gateway.</td>
</tr>
<tr>
<td></td>
<td>If your device is using virtual COM port rather than a standard one (COM1-4) then you should just type COM port number into the field (e.g. COM16).</td>
</tr>
<tr>
<td>For an HTTP Gateway</td>
<td>Select the URL given in the dropdown and modify it to suit your HTTP SMS Gateway provider.</td>
</tr>
<tr>
<td></td>
<td>The example given in the dropdown is designed to be used with a remote instance of IceWarp Server, and SMS messages will be sent by the remote server specified.</td>
</tr>
<tr>
<td>Description</td>
<td>For details about HTTP SMS syntax and examples, refer to the HTTP Request (on page 27) and HTTP Request Examples (on page 28) chapters.</td>
</tr>
<tr>
<td>Description</td>
<td>Enter a meaningful description for this gateway (for identification purposes).</td>
</tr>
</tbody>
</table>
**PIN**
Enter any PIN for this modem (if required).

**SMS Center**
Enter the Message Center number of the service provider for this modem.

*NOTE - you only need to set this if it is not already set in your modem.*

When using HTTP Request, you do not need to set it.

**From**
This option facilitates SMS and email interoperability and must be used to enable the **Reply-To** feature. It allows you to reply to SMS received as emails into your mailbox, ensuring that your reply will be sent over the SMS gateway back to the originating sender’s mobile number.

The **From:** edit lets you rewrite the **From:** header of SMS received to the gateway, so that it can be routed to email or processed by incoming rules.

Enter `sms:%s@icewarpdemo.com` to rewrite the From: header with an **SMS to email** address so that the gateway can route the message back to SMS when you reply to such email. If you don’t wish to use the **Reply-To** feature, the header can include only %s and in such case the message will include just sender’s mobile number in the From: header.

*NOTE – %s will be replaced by the originating sender’s mobile number.*

The helper sms: email account needs to be configured only for use with desktop email clients, in this case all messages are routed through the internal sms: protocol.
Authentication

About

There is a need for all services to be able to set the access directly per user in the accounts Management section. However, for SMS (and FTP) this is a challenge as they already have their own authentication settings through username/password combination. Sometimes you simply want to create specific accounts for SMS (and FTP) and not to be forced to create extra email users for them.

Access Mode

All services have the Access Mode capability. Service access can be set globally, on the domain level or the user level.

Each service, domain or user now has general service options which are in fact the same as you would define for an FTP or SMS account. Based on the Access Mode you are able to edit either of them. Once Access Mode is set properly you do not need to define any SMS (or FTP) accounts and simply use system users automatically.

If SMTP session is authenticated, the authenticated user is used when the access mode is checked. Therefore users do not even need to authenticate when sending SMS from their accounts and they simply only need to SMTP authenticate and SMS authentication is done automatically in the background. Limits and options are applied accordingly (globally, domain level wise or user level wise, based on the Access Mode).

The Access Mode for SMS – when set to Account from list – ensures that system accounts (such as mailing lists, notifications, ...) do not get full access to SMS Service and only dedicated SMS accounts which are defined on the SMS - Authentication tab and set as Active are able to use SMS service.

Username/password

SMS Gateway also implements its Authentication tab where you can define a list of users (accounts). By default, user authentication is required. The SMS Account feature (dialog) allows you to manage accounts, groups, number of messages sent monthly, expiration etc.

SMS Server supports "authenticated" URL variables. You can indicate that the sender email address is authenticated and must be processed as a local account. sms: protocol automatically uses authenticated parameter if SMTP session is authenticated.

Summary

Username/password authentication and Access Mode are integrated. If the sender is not SMTP authenticated user, the authentication against the list setup in SMS Service - Authentication is attempted. If username/password authentication is not found or invalid, the system authentication is applied. If successful, the sms.dat file is read from a location based on Access Mode (global, domain, user). If the user is not listed, he/she is denied access and cannot send.

Processing Order

SMTP AUTH based on Access Mode -> username/password authentication: users based on Access Mode -> username/password authentication: users listed in SMS Service - Authentication (e.g. external users).
It is really simple and you have an absolute power to create any scenario. This also means that on the domain or user level you can find settings for SMS, FTP and Push services, depending on the Access Mode configured for the respective service.

**SMS Account Setup**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require user authentication</td>
<td>Tick the box if user authentication is required.</td>
</tr>
<tr>
<td>Add...</td>
<td>Click the button to add a new account.</td>
</tr>
<tr>
<td>Edit...</td>
<td>Click the button to edit the selected account.</td>
</tr>
<tr>
<td>Delete</td>
<td>Click the button to delete the selected account.</td>
</tr>
</tbody>
</table>
An SMS account serves the purpose of account management for SMS users. It offers similar functionality as email account options and includes a very basic billing. It lets you define groups of users (or separate users) which will share the same authentication, the same destination gateway and you can define a common expiration and send-out limits for them.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Tick the box to activate the account.</td>
</tr>
<tr>
<td>User</td>
<td>Use the &quot;...&quot; button to select the user/account.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password which will be used to authenticate the user for SMS service. It can differ from the user's email account password. If left blank, the user won't need to authenticate.</td>
</tr>
<tr>
<td>Description</td>
<td>Enter brief account description.</td>
</tr>
<tr>
<td>Gateway</td>
<td>Select a gateway from the list.</td>
</tr>
<tr>
<td>Expire</td>
<td>Select a date of the account expiration; if left blank, there is no expiration applied.</td>
</tr>
<tr>
<td>Monthly message limit</td>
<td>Enter the maximum number of messages that can be sent per month; if &quot;0&quot; (zero) is left, there is no limit set. For example evaluation accounts can be created by limiting a number of sent messages to 10 and/or setting a 7 day expiration.</td>
</tr>
<tr>
<td>Number of sent messages this month (Auto adjusted)</td>
<td>The use is two-fold: Message counter. The value shown here tells you how many messages have been sent this month by users or groups within this account. It is automatically reset to</td>
</tr>
</tbody>
</table>

![SMS Account Form](image-url)
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of sent messages</strong></td>
<td><strong>previous month (Auto adjusted)</strong></td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Last sent</strong></td>
<td></td>
</tr>
</tbody>
</table>
Outgoing Messages

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>This field lists titles of the existing content filters for outgoing messages. Only content filters with the left-hand check boxes ticked are applied.</td>
</tr>
<tr>
<td>Add</td>
<td>Press this button to set a new content filter. The Rule dialog appears. For more details refer to the Filter Conditions and Filter Actions chapters.</td>
</tr>
<tr>
<td></td>
<td>NOTE that some options designed for SMTP Service Content Filters are not available for SMS Service because they are not meaningful here.</td>
</tr>
<tr>
<td>Edit</td>
<td>Press this button to edit the selected rule. The Rule dialog appears. For more details refer to the Filter Conditions and Filter Actions chapters.</td>
</tr>
<tr>
<td></td>
<td>NOTE that some options designed for SMTP Service Content Filters are not available for SMS Service because they are not meaningful here.</td>
</tr>
<tr>
<td>Delete</td>
<td>Press this button to delete the selected content filter.</td>
</tr>
<tr>
<td>Up/Down arrows</td>
<td>Press one of these buttons to move the selected rule up/down in the list. Content filters will be applied in the order from top down.</td>
</tr>
<tr>
<td>Export</td>
<td>Press the button to export one or more content filters. In the Export dialog, select Filters that you want to export and click the Export Selected Filters Now button. In the standard Save As dialog select the directory to save filters to.</td>
</tr>
</tbody>
</table>

NOTE: This section provides instructions on how to manage content filters for outgoing messages. The table outlines the available fields, their descriptions, and relevant notes about the application of these filters. The instructions include options for adding new filters, editing existing ones, deleting filters, and exporting them to a specified directory. The Export dialog is shown with options to select specific filters for export.
Press the button to import one or more content filters. In the standard **Open** dialog, navigate to the directory with the *xml* file that contains desired content filters. In the **Import** dialog, select **Filters** that you want to import and click the **Import Selected Filters Now** button. Imported content filters will appear in the list.

Select/deselect all
Tick the check box to ease operations with more content filters (moving, deleting).

### Applications

**Outgoing Messages** use the standard content filters system which gives you an infinite number of options, including but not limited to the following scenarios.

**Load-balancing**

A gateway can be load-balanced with another gateway or external modem, and routing preferences configured using SMS Service – Outgoing Messages content filters. Gateways have their IDs that you can use to send SMS through a specific ID (id= parameter) or load-balanced automatically to any available gateway if not specified.

The Message **To: header** contains the destination number + "@" and the ID of the destination gateway ID. If gateway is not specified, the 2nd part with "@" is missing – you can use the Edit Message Header function to rewrite and specify the gateway ID. RegEx replace is recommended for this purpose.

You can check if the outgoing SMS is already going through a specific gateway and if not, based on the number prefix route it to a specific gateway (using the Edit Message Headers and the new RegEx Rewrite).

**Sent SMS Archivation**

To store all SMS sent through the server, create a rule forwarding the content of SMS to an email address of a dedicated SMS archive mailbox. Use Edit Message Headers to record additional information about the sender and recipient.

**Filtering the content of SMS**

Also any content filter actions are supported, you can forward SMS to email addresses based on content filters criteria and any other scenario, you can even use the Forward To action to send an email back to the SMS gateway if required. To check if @ is present use "[.?!\d}*](@)"
Least Cost Routing

You can check if the outgoing SMS is already going through a specific gateway and if not, based on the number prefix route it to a specific gateway (using the Edit Message Headers and the new RegEx Rewrite).

_RegEx rewrite is a very strong tool that lets you define a RegEx search pattern and based on the pattern it can create a rewritten result using parts of the original RegEx pattern. If the RegEx condition does not match, the Edit message header action is simply skipped. This provides great flexibility for custom content filters, especially with rewriting parts of a telephone numbers (prefixes or suffixes) in SMS and SIP gateways._

Text message To: header contains the destination number + "@" + domain name or ID of the destination gateway. If the message is routed to email or to specific gateway, further routing cannot take place and you need to use the _Stop processing more rules_ action. To check whether the message is already routed to email or specific gateway, look for presence of "@" using the following RegEx:

```
^!(?!.*@)(.*)$
```

If gateway is not specified and the 2nd part with "@" is missing, you can safely use Edit message header action to rewrite and specify the gateway ID, using RegEx Rewrite:

_Add/Edit_

_Header: To:_

_Regex: False_

_Value: %%To%%@gatewayid_

_or_

_Add/Edit_

_Header: To:_

_Regex: True "^(!.*@)(.*)$

_Value: $1@gatewayid_

This action checks for presence of number@domain and then creates number@gatewayid. Substitute gatewayid for ID of gateway where you want the text message to be routed to.

Typically you may want to route the message to a specific gateway based on the number format:

_Add/Edit_

_Header: To:_

_Regex: True "^\+(\d{1})(.*)"

_Value: $1$2@usgatewayid_

This action checks presence of number@domain and then creates number@gatewayid. Substitute gatewayid for ID of gateway where you want the text message to be routed to.
This action checks the number prefix and if it begins with +1, routes the message to ‘umsgatewayid’. Substitute gatewayid for ID of gateway where you want the text message to be routed to.

NOTE – that the syntax of regular expressions requires you to escape the special character "+" with a backslash to acquire its literal meaning.

Validating the sender

You can check the number of incoming message against a RegEx condition or a list of valid senders.

Each gateway is using the From: option defined in SMS Service - General tab - gateway properties. What you define here will appear as From: header of the incoming message. You only need to create a content filter in Incoming Messages tab, which will validate the sender against a RegEx pattern or whether it Contains list from file or pattern:

If From RegEx: "(+15551234567)|(+15551238866)" (if the sender number is from the list) than for example:
Forward To: john.doe@icewarp.com

This will route the message from one of those foreign numbers to the appropriate recipient.

Rewriting the Caller ID

You can rewrite the sender's Caller ID so that the message will appear to recipient as sent from a number you specify.

It must be supported by the wireless carrier (GSM or HTTP service provider). If not available, the number associated with the SIM card or SMS account will be used.

You can use the phone number global variable as found in Management - [user] - General - Phone # field and then create action which adds the &sender=%phone% parameter.

Add/Edit

Header: To:

Regex: True "^\.*[@]([.])*\$"

Value: $1@$2&sender=%%phone%%

Again you need to first verify if the message is not already routed to email- see Least Cost Routing.

Non-Delivery Reports

Thanks to integration with Mail Server, IceWarp SMS Server is using a bounce-back system for text messages sent via email or WebMail which works exactly the same as SMTP NDR:

1. A warning is sent by e-mail if the text message is still not delivered after some time (SMTP - Delivery - Warning option).
2. If the message cannot be delivered and expires (SMS API setting), sender will receive the final NDR on message delivery failure.

To override the default global message expiration (7200 minutes, i.e. 5 days), use the command line in root of IceWarp Server installation:
tool modify system C_SMSService_ExpireMins

The original text is always included. This applies only if the real sender is known (sent from WebMail, email or specified in the SMS API).
## Incoming Messages

### Field

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliver according to #email# in received messages</td>
<td>If an SMS is received containing the hash delimited email address anywhere in its body, the message will be routed to the corresponding user's mailbox. Users can use the rules to match incoming SMS messages and forward them or place them into special folders. Example: User can create a new email folder for SMS messages (e.g. SMS) and create a rule for moving these messages there: Condition: From: contains sms: Action: Move to: &lt;user's_email_address&gt;/SMS</td>
</tr>
<tr>
<td>Deliver to original sender of received reply message (keep a list of sent messages)</td>
<td>If enabled, the system creates a &quot;call log&quot; of sent messages history (links between sender's email and destination number) and if incoming SMS is received from a number we previously sent a message to, the sender from history is read and message is delivered to that sender (within a time frame). NOTE - that each link between sender's email and destination number has its own expiration and when an incoming SMS is received, the links are checked. If there is none (or all expired), the usual incoming rules are used to process it. If there is one link, the message is delivered to the recorded sender's email. If there are more links, a bounce back SMS is sent to the original sender with the message defined in the GUI (see further).</td>
</tr>
<tr>
<td>Keep the records for (Min)</td>
<td>Define the time (in minutes) how long the link between sender's email and destination number should be active.</td>
</tr>
<tr>
<td>Conflict message sent back to sender when more than one record exists</td>
<td>Define a conflict message which is sent back to the mobile replier if there are more active links. Basically, it says that he/she should re-send the message with the #email# string inside the SMS body.</td>
</tr>
<tr>
<td>Title</td>
<td>This field lists titles of the existing content filters for incoming messages. Only content filters with the left-hand check boxes ticked are applied.</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Add</td>
<td>Press this button to set a new content filter. The Rule dialog appears. For more details refer to the Filter Conditions and Filter Actions chapters.</td>
</tr>
<tr>
<td></td>
<td>NOTE that some options designed for SMTP Service Content Filters are not available for SMS Service because they are not meaningful here.</td>
</tr>
<tr>
<td>Edit</td>
<td>Press this button to edit the selected content filter. The Rule dialog appears. For more details refer to the Filter Conditions and Filter Actions chapters.</td>
</tr>
<tr>
<td></td>
<td>NOTE that some options designed for SMTP Service Content Filters are not available for SMS Service because they are not meaningful here.</td>
</tr>
<tr>
<td>Delete</td>
<td>Press this button to delete the selected content filter.</td>
</tr>
<tr>
<td>Up/Down arrows</td>
<td>Press one of these buttons to move the selected content filter up/down in the list. Content filters will be applied in the order from the top down.</td>
</tr>
<tr>
<td>Export</td>
<td>Press the button to export one or more content filters. In the Export dialog, select Filters that you want to export and click the Export Selected Filters Now button. In the standard Save As dialog select the directory to save filters to.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Export Dialog" /></td>
</tr>
<tr>
<td>Import</td>
<td>Press the button to import one or more content filters. In the standard Open dialog, navigate to the directory with the xml file that contains desired content filters. In the Import dialog, select Filters that you want to import and click the Import Selected Filters Now button. Imported content filters will appear in the list.</td>
</tr>
</tbody>
</table>
Reply-To Feature

This feature works like a bridge between email and SMS. It makes it possible to send SMS over the SMS gateway (from WebMail or other client) and receive a reply to that SMS to the original sender’s mailbox without defining any rules on the SMS server.

Recipients simply reply to the SMS received using the destination number of the SMS gateway, and the Reply-To mechanism automatically routes the message to the mailbox of the original sender. Any existing Incoming content filters are skipped.

Alternatively recipients can send messages or reply to received messages with #email# string included in the text message (e.g. #demo@icewarpdemo.com# Hello world) and the message will be routed directly to that email address, skipping the Reply-To mechanism.

Any existing Incoming rules are applied.

For each SMS coming to an email address, the resulting email has the To: header set with the value of the final recipient.

**NOTE** that this is not applied if content filters are used to deliver the message and you need to define additional action to add the To: header if desired, using Condition: All messages and Action: Edit message header : To:.

To use the Reply-To feature you need to enable these options:

1. **SMS Service - General**, in the gateway properties the From: header rewrite has to be configured such as: sms:%s@icewarpdemo.com.
2. **SMS Service - Incoming Messages - Deliver according to #email# in received messages** must be enabled.
3. **SMS Service - Incoming Messages - Deliver to original sender of received reply message (keep a list of sent messages)** must be enabled.
Chapter 11

Sending SMS from Server

This section describes two ways in which you can send SMS from IceWarp Server. sms: Protocol is used in place of an email address within the server (i.e. locally). HTTP Request can be used both locally and remotely to reach the SMS gateway by the means of URL POST request. Both can use a set of optional parameters.

In This Chapter

sms: Protocol .................................................................26
HTTP Request ..............................................................27
Available Parameters ....................................................29

sms: Protocol

IceWarp Server has an internal sms: protocol URI defined to allow you to forward messages (emails, XMPP, server variables) to SMS by replacing the recipient email address (To:) with sms:<number> URI.

The sms: protocol can be used anywhere in IceWarp Server where an email address can be used, from Forwards, Rules, Filters to Notifications, Watchdogs and other actions, allowing an extremely flexible way to communicate instantly via SMS messages.

For example you, as an administrator, could set up the Report email address of the Remote Server Watchdog to send an SMS to your mobile so you are instantly aware of any problems found by the Watchdog.

Another application of SMS gateway is for new email notifications—information about the arrived email (subject, sender, size of the body) that will be included in the SMS can be fully customized using the Notification account type. Then you only need to set a Forward To from the user's mailbox to this account, or the user himself can set a rule in his e-mail client.

The basic format of the protocol is:

sms:<number>

Where –

<number> - is the number that you want to send the sms to - REQUIRED.

Authenticated format of the protocol is:

sms:<number>?user=<username>&pass=<password>

Where –

<username> - is a valid username for authentication - Only required if authentication is active.
<password> - is the valid password associated with the username - Only required if authentication is active.
The full format of the sms: protocol with all optional parameters is:

`sms:<number>?user=<username>&pass=<password>&maxmsgs=<N>&binary=<binary>&udh=<udh>&pid=<pid>&dcs=<dcs>&sender=<sender>&authenticated=<authenticated>&reply=<reply>&id=<ID>`

The sms: URI supports a set of additional HTTP-like parameters appended after the ? delimiter.

See the Available Parameters chapter for details.

**sms: Protocol Examples**

- `sms:+15551234567` forwards the first (by default 3) SMS-sized blocks of the email to number +15551234567.
- `sms:+15551234567?user=john&pass=johnpw` forwards the first (by default 3) SMS-sized blocks of the email to number +15551234567, if the user/password combination is defined in SMS Service authentication.
- `sms:+15551234567?user=john&pass=johnpw&maxmsgs=10` forwards the 10 SMS-sized blocks of message data to number +15551234567, but only if the user/password combination is defined in SMS Service authentication.

**HTTP Request**

This method allows you to send SMS message over the HTTP protocol. This way your IceWarp Server can be used as a remote SMS gateway, which gives you infinite options to extend any web applications by SMS functionality, while the receiving, archivation, processing and sending is all taken care of by IceWarp Server. Server-side processing can be extended by the means of Rules and Executable accounts.

Basic format of the HTTP request (for an instance of IceWarp Server) is:

`http://<YourDomain>/sms/?number=<number>&data=<message>`

Authenticated format of the protocol is:

`http://<YourDomain>/sms/?number=<number>&data=<message>&user=<username>&pass=<password>`

Where -

- `<number>` - is the cellular number of the receiving mobile device. You can use the Server Variable %number% here.
- `<message>` - is the message you want to send. You can use the Server Variable %data% here.
- `<username>` - is a valid username for authentication - Only required if authentication is active.
- `<password>` - is the valid password associated with the username - Only required if authentication is active.

The full format of the HTTP request (for an instance of IceWarp Server) with all optional parameters is:
http://<YourDomain>/sms/?number=<number>&data=<message>&user=<username>&pass=<password>&maxmsgs=<N>&binary=<bin>&udh=<udh>&pid=<pid>&dcs=<dcs>&sender=<sender>&authenticated=<authenticated>&reply=<reply>&id=<ID>

See the Available Parameters (on page 29) chapter for details.

NOTE - that the above example is only valid for an instance of IceWarp Server (local or remote). If you are configuring an SMS gateway for use with a service of an external SMS gateway or provider, you should modify the URL data according to your providers requirements. An example would be a remote Clickatel gateway used to deliver messages through an external server, please read on for details.

HTTP Request Examples

- http://<YourDomain>/sms/?number=+15551234567&data="hello world"
  sends the message "hello world" to number +15551234567

- http://<YourDomain>/sms/?number=+15551234567&data="hello world"&user=john&pass=johnpw
  sends the message "hello world" to number +15551234567 using authentication
## Available Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;number&gt;</code> or <code>number=&lt;number&gt;</code></td>
<td>the number of the receiving mobile device. You can use the <code>%number%</code> server variable here.</td>
</tr>
<tr>
<td><code>data=&lt;message&gt;</code></td>
<td>the message you want to send. You can use the <code>%data%</code> server variable here. Not applicable for the <code>sms: URL</code>. You can use the <code>;hex</code> and <code>;b64</code> parameter modifiers here to convert the data to hexadecimal or Base64 encoding and the <code>;len</code> modifier to insert the length of the data into the beginning of the data (if required). See the next chapter for details.</td>
</tr>
<tr>
<td><code>binary=&lt;bin&gt;</code></td>
<td>used by system integrators for binary messages - ignore this unless you know what it is. SMS Gateway supports UDH, 7bit, 8bit and Unicode encoding. <code>binary=1</code> indicates the message will carry a binary (8-bit) payload, and UDH must be constructed. By default it requires the <code>&lt;message&gt;</code> value to be base64 encoded, <code>&lt;udh&gt;</code> value must be always base64 encoded.</td>
</tr>
<tr>
<td><code>udh=&lt;udh&gt;</code></td>
<td>used by system integrators for binary messages - ignore this unless you know what it is. You can use the <code>;hex</code> and <code>;b64</code> parameter modifiers here to convert the data to hexadecimal or Base64 encoding and the <code>;len</code> modifier to insert the length of the data into the beginning of the data (if required). See the next chapter for details.</td>
</tr>
<tr>
<td><code>pid=&lt;pid&gt;</code></td>
<td>used by system integrators for binary messages - ignore this unless you know what it is.</td>
</tr>
<tr>
<td><code>dcs=&lt;dcs&gt;</code></td>
<td>used by system integrators for binary messages - ignore this unless you know what it is.</td>
</tr>
<tr>
<td><code>user=&lt;username&gt;</code></td>
<td>a valid username - REQUIRED if authentication is active.</td>
</tr>
<tr>
<td><code>pass=&lt;password&gt;</code></td>
<td>the valid password for the supplied username - REQUIRED if authentication is active.</td>
</tr>
<tr>
<td><code>maxmsgs=&lt;N&gt;</code></td>
<td>the maximum number of SMS messages that should be sent if the message is too long to fit 1 standard sized SMS message. When specified (an integer number), tells IceWarp Server to truncate the exceeding data and forward the first N standard SMS-sized blocks of data only. Allows you to control the maximum number of messages the long (concatenated, SAR) messages can consists of. By default, when this parameter is not specified, HTTP request is not limited, <code>sms: protocol messages</code> are reduced to 1 standard message, and text messages sent through Web Client are limited to 5 standard-sized messages. If you want to forward a complete message, you should set this option to a bigger number, the maximum acceptable value is 128. The text message <code>&lt;data&gt;</code> will be truncated according to this parameter and delivered as one concatenated message to the device. SMS gateway takes care of the concatenation with GSM modem, with remote HTTP gateway in use you might need to pass it also the <code>%parts%</code> server variable, which specifies how many standard-sized messages the <code>%data%</code> payload consists of.</td>
</tr>
</tbody>
</table>

**NOTE** that the maximum message body payload in the SAR specification is set to 2048 bytes, therefore the maximum value you should use is 12- any longer message body can be truncated by the carrier, service provider or device itself.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sender=&lt;sender&gt;</td>
<td>The originating number. Allows to rewrite the sender’s Caller ID so that the message will appear to recipient as sent from a number you specify here. NOTE: that this feature must be supported by the wireless carrier (GSM or HTTP service provider). If not supported or specified, the number associated with the SIM card or provider’s account will be used.</td>
</tr>
<tr>
<td>authenticated=&lt;authenticated&gt;</td>
<td>Boolean value. &quot;1&quot; tells the IceWarp Server that access to the gateway is already granted and authentication should be skipped. If the parameter is &quot;0&quot; or omitted, authentication be evaluated before sending the message.</td>
</tr>
<tr>
<td>reply=&lt;reply&gt;</td>
<td>The sender’s Reply-To address to be included in the message body, usually an email as this parameter is used by the Reply-To feature for bridging SMS and email. See Incoming Rules for details.</td>
</tr>
<tr>
<td>id=&lt;ID&gt;</td>
<td>The identifier of SMS gateway in case there are multiple gateways configured. Allows to route messages to a specific gateway, for example by rules, to facilitate Least Cost Routing based on international/network prefix of the recipient’s mobile number. Use hex encoding of HTML special chars (e.g. %20 for space). When not specified, the first available gateway is used (load-balancing).</td>
</tr>
<tr>
<td>value=&lt;string&gt;</td>
<td>An optional parameter which allows passing any custom parameters that are interpreted by the destination gateway, not by IceWarp SMS Server. For example, if you wish to pass unicode=1 parameter in HTTP request to a remote SMS gateway, you will specify value=&amp;unicode=1. You can use the value parameter multiple times inside the same request.</td>
</tr>
</tbody>
</table>

### Configuring Clickatel HTTP Gateway

This section describes configuration of the IceWarp SMS Server with a remote HTTP gateway provided by Clickatel, a bulk SMS provider.

IceWarp Server uses special kinds of SMS messages for the SyncML Push technology that requires special URL parameters for use with remote HTTP gateways:

- Configuration messages according to OTA (over-the-air) or OMA standards
- Push notification messages compliant to SyncML 1.1 or OMA DS 1.2 standards

These are binary (8-bit) messages, which need to be passed in a special way for the Clickatel HTTP gateway to accept them. In addition, configuration messages can span multiple SMS (only 140 bytes of payload are available), which requires additional URL parameter to support them.
Compatibility

Support for binary and long binary messages is officially available since IceWarp Server 9.4.0 and the preceding beta versions.

For older IceWarp Server versions, the Clickatel HTTP gateway works for short text messages (up to 160 characters). By adding an optional parameter (`&concat=%parts%`), the older version can be made to work for long (concatenated/spanned) SMS text (not binary) messages as well.

Special Variables

Use the `%udh;hex;len%` parameter for special way of construction of the UDH parameter for remote Clickatel gateway.

Use the `%parts%` parameter to specify the number of messages in total.

The `%parts%` parameter returns the number of standard messages or message chunks (with length 160 in case of text, 140 in case of binary message) a long/concatenated message will be divided to. Used by Clickatel, but can be handy for other remote gateways or in special situations.

The ;len parameter attribute adds the length character to any variable, usually used for UDH, eg. `%udh;len;hex%`. The ;len attribute puts the length of the parameter value to the beginning of the parameter, as required for proper UDH handling by Clickatel gateway. It can be used for any parameter such as `%body;len%`.

The ;hex parameter attribute encodes the parameter to hexadecimal format. The ;b64 parameter attribute encodes the parameter to the base64 format. Both attributes are applicable to all HTTP parameters and can be used if required but the remote gateway.

The ;unicode parameter attribute encodes the parameter to Unicode format. All these attributes are applicable to all.

By default, UDH parameter is formatted in base64 without the length prefix.

UDH SAR parsing addresses compatibility with long/concatenated binary messages and the general HTTP gateway, ensuring proper UDH construction in the case the HTTP gateway is selected to send the binary message.

The set of query parameter modifiers `;isunicode, ;isascii, ;isbinary, ;value` allows to select from the following attribute modifiers based on the encoding of a parameter, or to append a custom value= parameter only if a condition (isunicode, isascii, isbinary) is met.

Prerequisites

- IceWarp Server 9.4.0 (2008-10-27) or higher
- An account registered at www.clickatel.com and charged with a sufficient credit
- Login credentials to your Clickatel account: username, password
- API_ID created in your Clickatel account
API_ID is NOT your Clickatel account Client ID. Prior to using HTTP requests for sending messages via Clickatel, you need to create the API_ID:

1. Login to your Clicatelt account at https://www.clickatell.com/login.php.
2. At the login page, select the Clickatell Central (API) item and enter your credentials as received in your account activation email and password.

3. From the top menu, select the Manage My Product item.
4. Lookup the HTTP/S line in the Help Information box and click Add connection.

5. In the HTTP API dialog, you need to provide a descriptive name for the connection only.
   - **IP Lock Down** limits the sending machine to the server's IP address.
   - **Dial Prefix** limits the message recipient to the selected country.
   - **Callback Type** should be set to HTTP GET.
– Callback URL (as well as Callback Username and Callback Password) is not supported and can be left blank.

### HTTP API

<table>
<thead>
<tr>
<th>Add HTTP API - Bold Items Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
</tr>
<tr>
<td>IP Lock Down:</td>
</tr>
<tr>
<td>Dial Prefix:</td>
</tr>
<tr>
<td>Callback Type:</td>
</tr>
<tr>
<td>Callback URL:</td>
</tr>
<tr>
<td>Callback Username</td>
</tr>
<tr>
<td>Callback Password</td>
</tr>
</tbody>
</table>

**NOTE:** submission of this form will delete any session_id currently valid for this api_id. Any application using this session_id will have to re-authenticate.

Submit

6. When done, the new connection is created in the **Manage My Products - My Connections** list and also on the home page (Central Home) under **API Connections**.

**Note the API_ID.**

### Configuration of Binary/Text Message Gateway

In the IceWarp Server Administration GUI, create a new HTTP gateway:

1. Access the **SMS Server** node.
2. Click the **Add...** button.
3. Use e.g. "Clickatel" as gateway ID to differentiate it from other settings.
4. Select HTTP Request from the **Type:** dropdown.
5. Select the pre-defined HTTP request URL from the **Device** field.

   http://api.clickatell.com/http/sendmsg?user=XXX&password=XXX&api_id=XXX&to=%number%&udh=%udh;len;hex%;data=%data;hex;isascii%data;hex;isunicode;unicode;value=%unicode=1%&concat=%parts%

   *Change "XXX" for the actual username, password and api_id.*
6. Enter any comments to the **Description** field.

If you have multiple gateways, you will need to select this gateway in all SyncML SMS Push related settings dialogs, it's identified by its ID name.
You can use the same gateway also for text messages, the hex encoding will not be applied to the message body and the UDH value will be empty. If the SMS payload is binary data, it is automatically base64 encoded.

Optionally you can set the Clickatel &concat=n parameter to a preset number so that a long message cannot span more than this number of messages – longer SMS will be rejected and not sent. For correct handling of binary messages, set &concat=2 or higher.

Troubleshooting

Delivery Reports

Delivery reports can be found in the web interface to your Clickatel account – Message Reports menu. The easiest access is via the Last 10 Messages left menu item.

Correct status is "Received by recipient" without further errors. Also the charge can be helpful - each part of a long message is charged as one message, so a two-part message will be charged like two messages and so on.

SMS Server Log

First enable the SMS Server logging in System – Logging. Then observe the logs under Logs – Service: SMS and/or Sync Push.

Technical Specifications

Hardware Modems

SMS Gateway supports Timer.

For Linux, the Serial communication library is used.

SMS Gateway supports the SIM PIN.

ReadTimeout is set to 16 seconds.

The SMS Gateway supports SMS Center number.

Modem Recovery

Modem auto recovery is supported; if more than two check calls fail, the modem is re-initialized and reopened; this fixes a problem with unplugged modem and plugged back in; SIM PIN has two second sleep applied; device close - 1 second sleep. If SMS sending fails, waiting for a new event is initiated (loop preserved).

The recovery mode fires up only if no data is read, the ERROR response does not trigger it.
- Enhanced modem communication logs – the complete message size is possible to find in logs [nnn].
- GSM modem auto-recovery – if SMS cannot be sent 3 times then modem is re-initialized.
- AT+CMGF is a part of device initialization (applies to READ and SEND).
- Handles the +CMS ERROR: 304 properly – deletes the SMS and removes it from the queue.
- Ctrl+Z is sent when initializing the device (to recover from receive mode).

Selective Gateways

Gateways have their IDs that you can use to send SMS through a specific gateway by specifying the URL parameter &id=<ID> or selecting the gateway in the GUI where available. SMS Service - Logging was enhanced, each log contains the gateway ID prefix, so you can see which gateway the log belongs to.

Content filters

SMS Gateway supports content filters for incoming and outgoing messages. Any existing SMTP rules are converted to XML format during upgrade to version 10.

This allows deeper system integration by the means of Execute application, Execute SQL Statement actions.

SMS Gateway directs incoming messages without any body to trash.

SMTP Transport

Also on each gateway there is the From: edit which lets you rewrite the From: address of the SMS email. This allows you to reply to received SMS emails and the reply will be sent directly to the SMS sender.

Each incoming SMS to e-mail has the To: header set with the value of the final recipient (not applied if Rules are used to deliver message).

Non-Delivery Reports for text messages sent via email or WebMail work exactly the same way as SMTP NDR: a warning if message is still not delivered after some time (the SMTP - Delivery - Warning option) and if the message cannot be delivered and expires (SMS API setting) you will receive the final NDR on message delivery failure. The original text is always included. This applies only if the real sender is known (sent from webmail, email or specified in the SMS API).

In the Incoming Rules tab, there are two options. The first one checks for #email# inside the SMS and if found, the SMS will be delivered to that email account. The other option is a smart approach to record all sent messages history (the sender and the destination number) and if incoming SMS is coming from a phone number we previously sent a message to, the sender from history is read and message is sent to that sender (within a time frame). This makes it possible to send SMS over the SMS gateway and receive an answer to that SMS without defining any rules on the SMS Server.

SIP Transport

Rules functions for SIP transport are implemented: METHOD (create a regex restriction to SIP method), STOP (stop processing the SIP packet) and SMS (send SMS with parameters e.g. "1" or "maxmsgs=1").

The RESPONSE function is implemented (allows to send your own response to a SIP request). Example of SIP "MESSAGE" command with a SMS gateway:

```xml
<NUMBER>^[\(0-9]\).*</NUMBER><METHOD>MESSAGE</METHOD><SMS>1</SMS><RESPONSE>200 OK</RESPONSE>
```
The SMS rule action integrates smoothly with the SMS service and its authentication just like SMTP or XMPP SMS gateway, that means users already authenticated and granted access to the SMS service do not need to authenticate to SMS service again.

**XMPP Transport**

XMPP - SMS Gateway support is implemented. It shares the library with an email gateway (email.dll/email.so), supports **smsparams** module parameters which will be added to each sent SMS to the SMS service, if destination JID does not contain '%' for domain delimiter the destination is not an email address but SMS; e.g. JID: john%doe.com@email.domain.com (results in email delivery), JID: 12342342@sms.domain.com (results in SMS delivery), you can use the email gateway service definition (email.domain.com) or create a new sms.domain.com.

**Queue Handling**

Queue mechanism is implemented which ensures that each item not sent gets requeued as a new item.

If **Use MDA queue for internal message delivery** (SMTP Service) is turned on, forwarding to SMS and IM works properly too.

By default, SMS queue expiration is set to 5 days.

**International characters**

SMS Gateway supports both the Unicode and GSM 0338 charsets. Conversion between these two charsets is implemented along with UDH 7bit 00h padding.

**Concatenated (long) messages**

The gateway allows sending long (concatenated) messages in Binary, Unicode and 8bit formats and also receiving of long messages. SAR support is implemented for:

- message delivery, long messages are automatically supported via the **SMSHTTP** function, if **data=variable** longer then allowed (Unicode 70, 8bit 140, 7bit 160) then the message is automatically split into smaller parts and sent with SAR (message concatenation - long messages).
- incoming messages.

**SyncML Push**

SMS Service can be used for SyncML 1.2 notifications (e.g. SAN via SMS sent to a Funambol SyncML client).

SyncML Push supports both OMA and OTA configuration SMS, allows sending configuration SMS via GUI and also supports SMS gateway ID.

**APIs**

You can send an SMS via PHP (API->SendSMS), so HTTP gateway can be created easily. A new function – **SMSHTTP** can be used. It has the second parameter – **BypassAuth** – if authorization is required for SMS Gateway and **Bypass** is true, the request will still be processed.

**ValidateAccount()** supports SMS.
Sending SMS from Client Interfaces

First you need to set up a new user account that will auto-forward to the SMS Service. This will be a helper account which will simulate the functionality of the internal sms: protocol for use with external clients, by the means of the email address extension. This account should be created in the primary domain so that users don't have to specify its domain name.

In the Administration GUI create a new User account with the protocol prefix, e.g. sms, but any other name will work too.

<table>
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<tr>
<th>User</th>
<th>Groups</th>
<th>Mailbox</th>
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<tbody>
<tr>
<td>Alias:</td>
<td>sms</td>
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<td>Phone #:</td>
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<td>Username:</td>
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<td>Permissions:</td>
<td>Standard</td>
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</tbody>
</table>

On the Mailbox tab, select the NULL option so that messages to this address are not saved.

Into the Forward To: field, enter the following address: sms:%%extensionnosep%%

Now your users can send an SMS simply by sending an email to sms:+15551234567@icewarpdemo.com. The data between the colon (:) and the @ sign will be used as the parameter value in the sms: protocol.

Your users should be aware that to send concatenated (long) messages as multiple SMS messages they should ask their administrators for setting of maximum number of messages (the maxmsgs parameters).

You, and they, should also be aware of any costs incurred to send SMS messages.
SMS Mailing Lists

System users (i.e. non-user accounts) are not allowed to send SMS for security reasons (there's no password associated with these accounts).

However you can setup a mailing list, so that external users can receive their subscriptions by SMS. You only need to include them as members to the list with username/password parameters of a user who is allowed access (by being an email user with SMS Access Mode allowed and using SMTP AUTH, or, more typically, through a dedicated SMS user setup in SMS Service - Authentication). The SMS limits will be applied to that user instead of the mailing list.

E.g. if you setup the following member of a mailing list, the alerts will be sent to the number you specify and accounted to the user 'smsalerts'.

sms:+15551234567@icewarptest.com?user=smsalerts&pass=alertpwd

NOTE that the authentication parameters can also be entered directly in the 'sms' account Forward to: field, however this will have the consequence that anyone will be able to send through the 'sms' account without any authentication!

Outlook and Other Desktop Clients

1. In Outlook, it is always necessary to add a domain as Outlook does not accept addresses without domain parts. (Contrary to WebMail for example.)

2. You need to escape any special characters by enclosing that part in quotes- this means that the sms: prefix needs to be enclosed in quotes.

The correct formats of entries to the To, Cc and Bcc fields are as follows:

- "sms:+15551234567"@icewarp.com
- John <"sms:+15551234567"@icewarp.com>
- "John Doe" <"sms:+15551234567"@icewarp.com>

Directly from Outlook Contact Lists

This assumes you have already set up an "sms" address for your users.

They should simply set up contacts in their mail clients (MS Outlook, Mozilla Thunderbird etc.) with the To: address set as specified earlier such as sms:+15551234567@icewarpdemo.com.

They can then send text directly to a contact’s mobile device number and receive mobile replies back to their mailbox if you have configured the Reply-To feature on the SMS gateway (see the chapter Incoming Rules).
Directly from WebMail

To send SMS from WebMail, do the following:

In the main WebMail menu, click the **New – Message** items. The **Composer** window opens.

1. In the **Composer** window main menu, click the **SMS** item. Above the **Subject** field, the **SMS** field appears.
2. Into this field, fill in the recipient’s phone number in the appropriate form (example: +15551234567) or select it from the contact list. (Reveal the **Select Contacts** dialog by clicking the icon. For more details about this dialog, refer to the **GroupWare – Reference – Public Folders – IMAP chapter – Sharing Folders** section.)

Fill in the **Subject** field, write the message and click the **Send** menu item to send the SMS.

3. The **Subject** is sent as a part of the SMS message. You can see it in the **SMS Preview** field.
4. It is also possible to use the **To**, **Cc**, **Bcc** fields. The recipient’s phone number (recipient’s phone number plus domain respectively) have to be enclosed with the <> brackets. The correct formats here are as follows:
   - `<sms:+15551234567>`
   - or `<sms:+15551234567@icewarptest.com>` if the 'sms' account is not in the primary domain.
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